Hoffmann Group

HAND TOOLS AND MEASUREMENT TOOLS

2

Catalogue 52

Prices valid from 01.08.2021 to 31.07.2022

Your customer number

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EX Works Nuremberg

All workstations and storage prices in this catalogue are EX Works Nuremberg, Germany – please ask your customer service for freight cost estimation.

FURTHER SUBSIDIARIES
Germany, Europe, worldwide
see the last page

Order conveniently via
our online shop at:
www.hoffmann-group.com

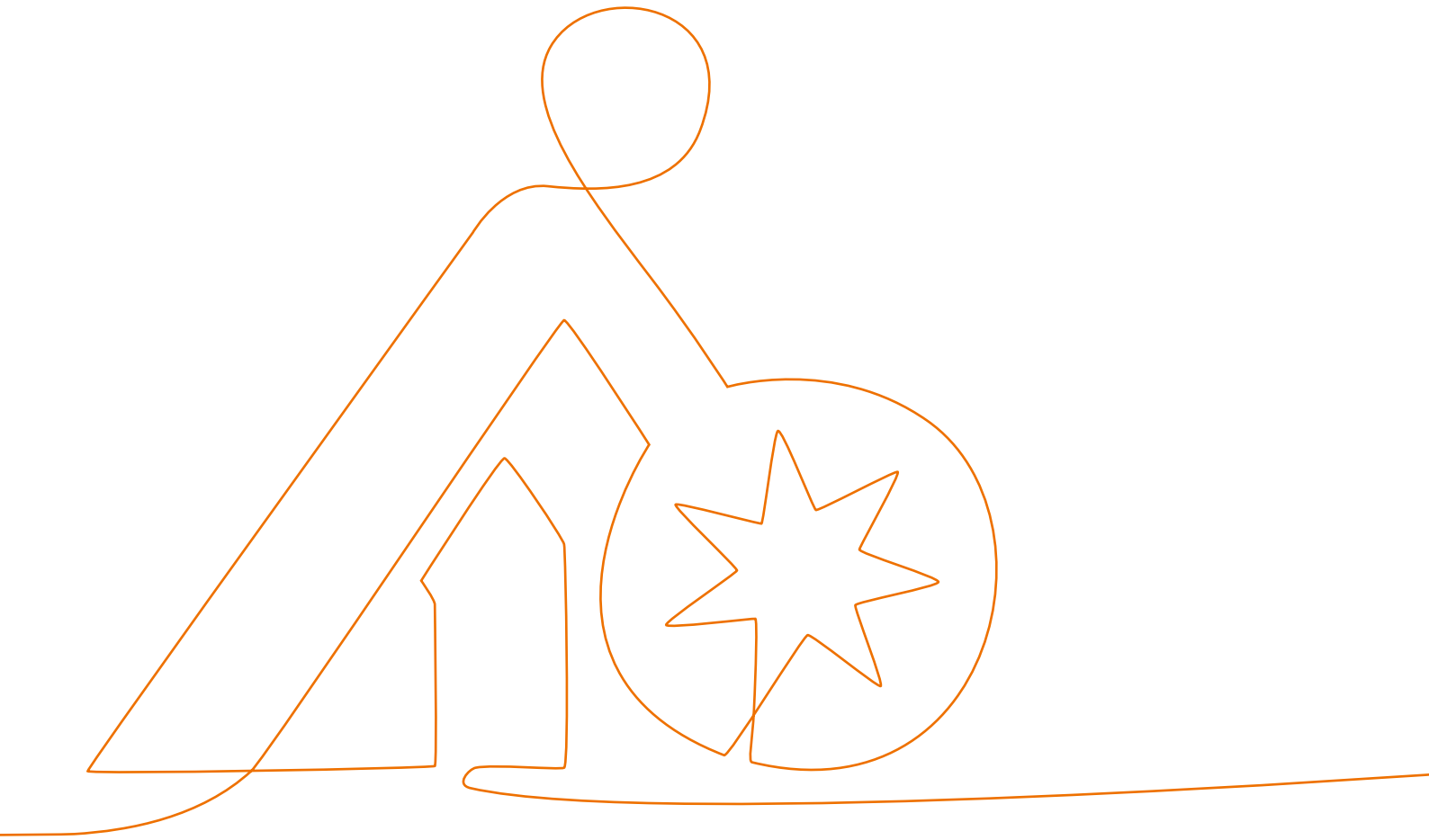
SIMPLE SELECTION.
SIMPLE PROCUREMENT.
PERSONAL SERVICE.

We make everything simple when it comes to industrial work places. This is because our tools and services can make your life really easy.

So how will we start helping you? We will advise you personally, so that together we can find precisely the right solutions for your plans – and the right product from our extensive product range.

We set the standard when it comes to making procurement simple. We create the right eBusiness solutions for you, meaning you can buy your quality tools with groundbreaking simplicity. And us? Our deliveries are fast, flexible and accurate. When it comes to use, our tools are flexible and easy – an example here is the ability to network our measurement tools. This makes your everyday work much easier.

Are you already familiar with our services? We provide a personal and customised service – on site or digitally, whatever suits you best. All this means you can concentrate fully on your projects.



SIMPLY AT A GLANCE: OUR RANGE. FOR YOU.

These are our products, solutions and services – simply everything to make you even more successful.

A top range of selected tools, best price-performance ratio

- **Approx. 100,000 state-of-the-art quality tools** carefully pre-selected for you.
- Product management available **around the world**.
- 1 year **price guarantee.**
- Catalogue available in **18 languages**, in printed form, and online and as an app.

Personal and flexible services

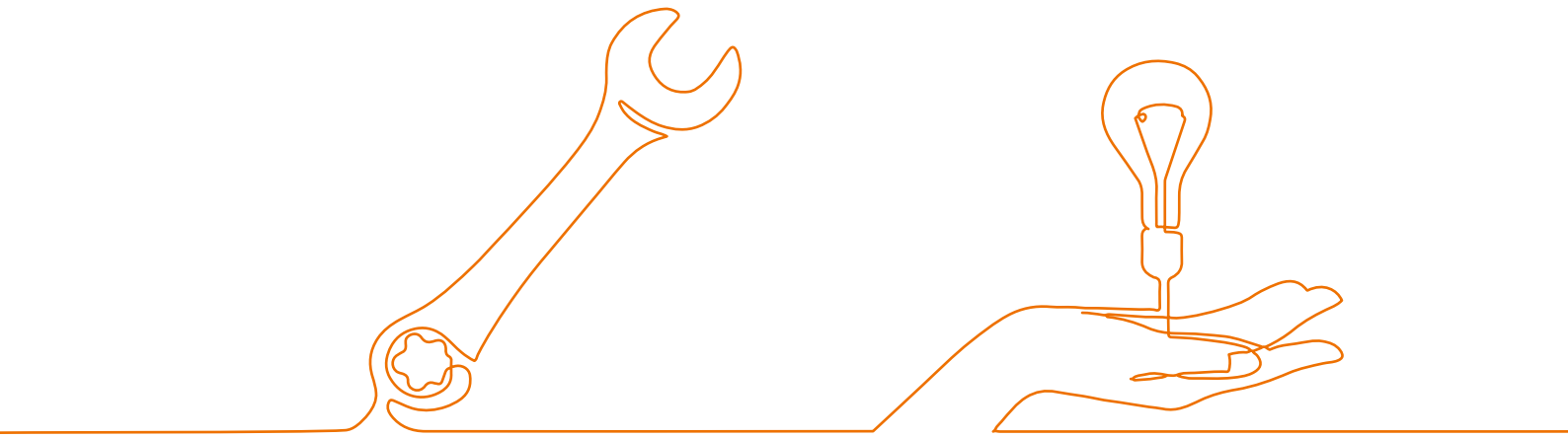
- eTool
- ToolScout
- Machining planning
- Regrinding service
- Calibration service
- GARANT Tool24 goods issuing machine
- Branded work wear
- Planning and assembly
- Connected Manufacturing**
- Connected Data
- Connected Metrology

Very high reliability

- **99% delivery reliability**
- **99.9% delivery accuracy**
- **95%** of our customers class us as a preferred supplier.

Efficient eBusiness solutions

- eShop for **quick and secure ordering.**
- **Electronic catalogue** in 18 languages.
- simple system – **free of charge procurement market place** for C items with over 80 million items.**
- Electronic data interchange for efficient business processes.
- GARANT Tool24 goods issuing systems.



Hoffmann Group

Competent support team

- **Throughout** Europe.
- Consistent support from field sales, key account managers, application technicians, metrology and grinding technicians, technical advisers for workstations and storage, technical advisers for occupational safety, eBusiness experts, technical advisers in internal sales.
- A total of **more than 1,400** qualified technical advisers.

Garant Our system brand

- **The range:** More than 45,000 top certified tools of the highest quality for all application areas.
- **GARANT expertise:** Developed with users, suppliers and 12 of our own technology centres.
- **A success story:** At your side every day for almost 50 years, and recognised with more than 50 awards.
- **The quality promise:** 10-year warranty on GARANT products.*

Market leader for quality tools

- **Number 1** in Europe.
- **Global** availability.

HOLEX Our quality brand

- **A wide range:** More than 14,000 tools for every standard application.
- **Focus on functionality:** Exactly those products that you really need.
- **Solid and proven:** Industrial quality for everyday use.
- **Really clever:** Impressively attractive price with impressively good performance.

* 10-year warranty on materials and manufacture of GARANT products when used as intended, excluding regular wear as a result of mechanical stress and excluding all electronic components.

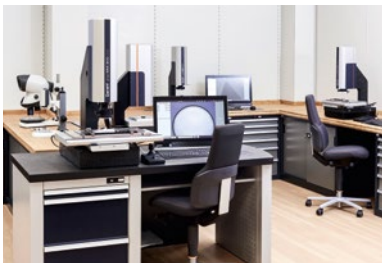
** only available in Europe

WE GIVE ADVICE ON MEASUREMENT TECHNOLOGY DOWN TO THE SMALLEST DETAIL.

We offer you an expert all-round measurement technology service.
Simply everything you need for your requirements – from tailored measurement technology solutions to audit-proof production.

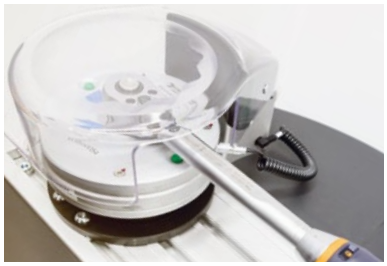
To bring your projects to life:
Personal consulting from metrology specialists

- Professional and **cross-manufacturer advice** at your site.
- Sophisticated **measurement technology concepts** from a single source.
- Always the right solution – from hand measuring tools to high-quality measurement technology.



Experience measurement technology live:
Presentations in our TechnologyCenters

- **The entire world of measurement technology:** From roughness measuring devices and stereo microscopes, to hardness testing and thickness measuring devices, right up to height gauges and contour measuring machines.
- **Personal advice** on all functionalities and advantages.
- **Across Europe** at numerous locations.



Hoffmann Group calibration service:
Simply everything you need for perfect measurement processes

- Calibration services for the **entire production industry.**
- **Efficient pick-up and delivery service,** international network of calibration laboratories.
- Extensive UKAS accreditation.
- **Peace of mind for audits.**

Hoffmann Group Connected Tools:
Valuable time savings when it comes to the checking, documentation and transfer of your measurement data

- **Bluetooth® compatible tools** with HCT app for greater freedom of movement.
- Utmost reliability **without reading errors or transmission errors.**
- Simple documentation at the press of a button.

All the information can be found at: ho7.eu/hct

Garant

THE PERFECT TOOLS, TO HELP YOU WORK PROFESSIONALLY EVERY DAY.

GARANT hand and measurement tools win over real professionals – with sophisticated and valuable solutions.

Performance tools to impress

- **GARANT HCT electronic torque/rotational angle wrenches:** Systematic data transmission – saves valuable time when checking, documenting and transferring measurement data.
- **GARANT disc brushes:** Optimisation of process costs in automated finishing.
- **GARANT pliers wrenches:** Special gripping faces enable you to get a better grip following the ratchet principle.

More than 45,000 certified system-based tools for all application areas in the highest quality (VDA 6.4; ISO 9001) provide systematic solutions for your work place. GARANT tools stand for the utmost reliability. This is why we also provide a 10-year warranty on all GARANT products.*

Industrial Tooling & Equipment by Hoffmann Group

* 10-year warranty on materials and manufacture of GARANT products when used as intended, excluding regular wear as a result of mechanical stress and excluding all electronic components.

SIMPLY THE RIGHT FIT:

HOLEX hand tools and measurement tools impress with their natural function – no more and no less. Discover reliable tools at impressively attractive prices for your everyday tooling needs.

Clever workplace heroes

- **HOLEX digital calipers ABS:** Convenient measurement with large, sharp-contrast digital display.
- **HOLEX abrasive flap discs long life ZA:** High-quality zirconium carborundum (ZA) for high abrasive performance, suitable for both steel and stainless steel.
- **HOLEX cordless work lamps:** Robust and long-life lamps for a wide range of applications.

More than 14,000 products for day-to-day working life: HOLEX has the right products for every standard application at a great price and good industrial quality.

Industrial Tooling & Equipment by Hoffmann Group

mm/inch
30.08
OFF/ON
ZERO
HOLEX
0
10
20
100
110
120
100Nm

HOLEX
HOLEX

GUARANTEED EASY, QUICK AND RELIABLE PROCUREMENT.

With our e-business solutions we optimise your procurement, production and manufacturing processes. We will be happy to advise you and find individual solutions perfectly matched to your requirements.

Our eShop:
Intuitive, flexible and fast

- **Individual** and **printable quotations** with the ordering function via eShop.
- Purchasing statistics, cost centre and budget management.
- Individually configurable **authorisation process.**

Electronic catalogues:
With individual content and prices

- The basic range comprises **over 100,000 items**
- Available in all **popular formats** (BMEcat, CIF, CSV, XLSX, txt)
- **Easy access** to extensive product information.

simple system:
The complete solution for indirect procurement**

- **80 million items** from 750 leading suppliers.
- **Individual integration** into enterprise resource management and materials management systems.
- Strategic consultant for **digital transformation.**
- Find out more at www.simplesystem.com

Catalogue browser app:
All products on your smartphone or tablet

- **Quick** browsing and **effective** searching.
- Save, print or send pages directly **as a PDF**.
- Available in **18 languages.**
- All **current brochures** at a glance.

** only available in Europe

OUR DELIVERY PROMISE: SIMPLY EVERYTHING JUST IN TIME.

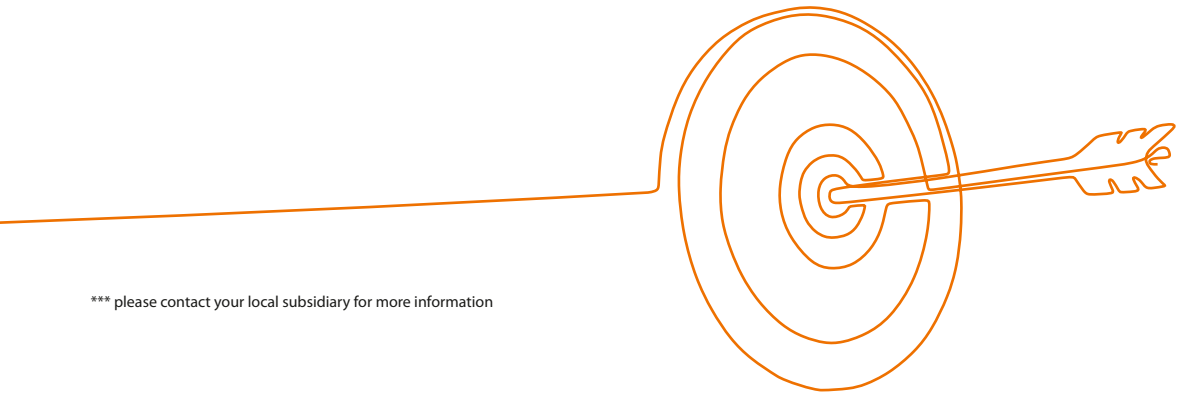
Your success builds on everything running smoothly in procurement. We ensure this happens with the highest delivery capability and perfect delivery accuracy.

Hoffmann Group LogisticCity:
Taking logistics to the next level

- **100,000 m²** of logistics area, fully automatic warehouse with **500,000** container and **30,000** pallet spaces, **14 kilometres** of conveyor systems, **40,000 packages** a day.
- **TechnologyCenter** and **ServiceCenter** for calibration, regrinding, textile upgrading and laser labelling.

99% delivery capability with 99.9% delivery accuracy
for the highest productivity

- Delivery availability within 24 hours in Germany and Austria; 48 hours for the rest of Europe.***
- LogisticCity, **Europe's largest tool logistics centre** in Nuremberg.
- Numerous logistics sites **worldwide.**



*** please contact your local subsidiary for more information

OVERVIEW OF CATALOGUE VOLUMES

VOLUME 1

MACHINING / CLAMPING TECHNOLOGY

Drilling: HSS drills, solid carbide drills, indexable drills, countersinks, reamers Threading: Taps, dies
Milling: Sawing, bore type end mills, HSS mills, solid carbide mills, indexable mills
Turning: Toolholders, boring bars, indexable inserts, grooving, broaching and knurling tools
Clamping technology: Arbors, lathe chucks, lathe centres, tapping heads, drill chucks, devices, vices, clamping elements, magnetic clamping technology

VOLUME 2

HAND TOOLS AND METROLOGY

Metrology: Calipers, micrometers, internal micrometers, dial indicators, height gauges, stands, rules, scales, voltage testers, gauges, gauge blocks, optical measuring tools, microscopes, contour and roughness measuring devices
Grinding and cutting: Files, burrs, grinding media, grinding discs and cutting discs, finish grinding and polishing tools, technical brushes, sawing technology, precision grinding
Fastening tools for screws: Spanners, sockets, torque tools, screwdrivers, bits, tool selections, tool boxes
Gripping, cutting and striking tools: Pliers, cable processing, bolt cutters, hammers, shears, riveting tools
Hand and assembly tools: Installation tools, knives, blades, clamps
Electronic tools and workshop supplies: Electrical and pneumatic tools, lamps and cables, adhesive technology, technical sprays, marking, lifting gear, cleaning devices

VOLUME 3

WORKSTATIONS AND STORAGE

Roller cabinets, small parts storage, transport devices, modular arrangement systems, workstations, workbenches, tool cabinets, cabinets, seating and ladders, vices, CNC tool storage, Tool24 goods issuing systems, environmental technology, storage technology, office organisation, partition wall systems, container solutions

VOLUME 4

PERSONAL PROTECTIVE EQUIPMENT

Eye protection, hearing protection, head and face protection, breathing protection, hand protection, work clothing, protective workwear, foot protection, fall protection, skin protection and first aid, signs and notices

Volume 4 available in the EU

... and many more.

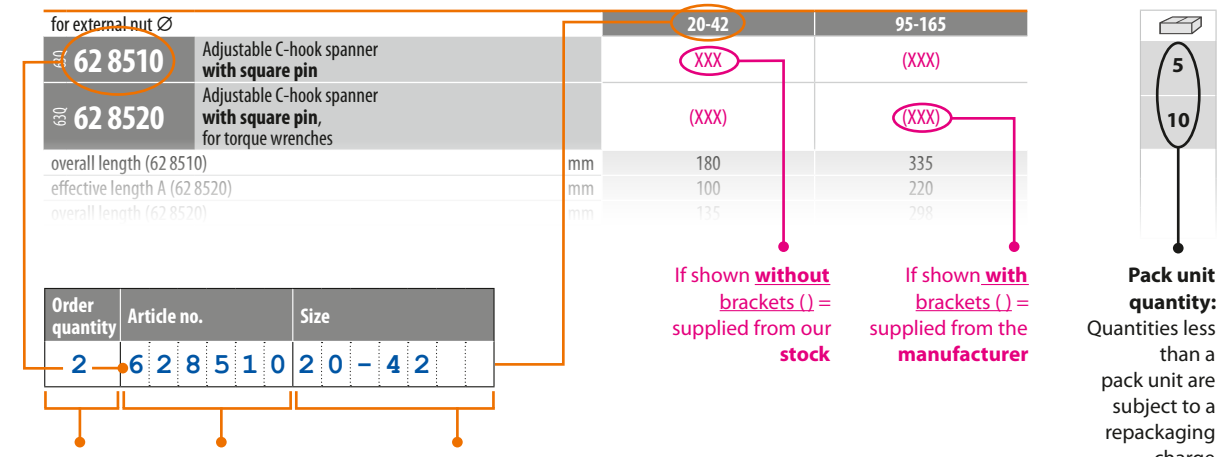
... and many more.

... and many more.

... and many more.

IT'S QUITE SIMPLE: CHOOSE YOUR ORDERING PATH. PLACE THE ORDER. DONE.

Place your order quickly, easily and conveniently in the eShop, by e-mail, fax or phone. You can find further information on page 2.



Attention:

All electronic devices are fitted with a German plug.

Please note:

- For items with prices in brackets ( ) the manufacturer's conditions of sale and delivery are applicable and the items are supplied from the manufacturer.
- The catalogue and its layout and item numbering system are protected by copyright.
- The alloy metal surcharge (LZ) is already included in the price.

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Our general terms and conditions are printed in full at the back of the catalogue. This catalogue is fully recyclable!

Hand tools and measuring tools for every application.
Within our range of the best quality brands, we guarantee you the right tooling solution.

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Page 18 – 289
Measurement technology

5
Page 290 – 449
Grinding and cutting

6
Page 450 – 713
Screwdriving tools and storage containers

7
Page 714 – 839
Gripping, cutting and striking tools

8
Page 840 – 917
Hand and assembly tools

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All workstations and storage products can be found in the separate Workstations and Storage Catalogue
Page 918 – 969
Workstations and storage

0
Page 970 – 1167
Power tools, pneumatic tools and workshop accessories

Index from A – Z
ISO standard shafts and holes, comparison table Vickers / Brinell / Rockwell hardness and tensile strength

TORX screwdrivers, widths across flats slot-head bits / cross-head bits, torques

Changed catalogue numbers, numbers and sizes that differ from catalogue 51

Fax templates, General terms and conditions, addresses – Hoffmann Group partners

From page 1168
Information and index

4 Innovations –

NEW

We use this symbol to tag new items in our catalogue range

Page **40**
Analogue
plastic caliper

Page **43**
Digital
workshop caliper

Page **45**
Digital
workshop caliper

Page **64**
External
blade micrometer

Page **93**
Analogue dial indicator

Page **105**
Digital
precision dial comparator
Millimess

Page **114**
Display unit
for precision measurement values

Page **127**
Digital quick caliper
with Bluetooth

Page **184**
Cumulative stopwatch

Page **193**
Multimeter with
Bluetooth

Page **253**
MM1 200CNC/TP and
MM1 200CMZ/TP

Page **265**
Shadowgraph
PJ-Plus

Page **192**
Clamp meter with
detachable jaw

Page **201**
CO2 set with Bluetooth

Page **274**
Roughness software option
for CM1

Page **278**
Hardness testing machine
Rockwell Hawk

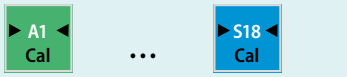
Page **272**
Surface roughness measuring
tool SJ210

Measurement technology

Mitutoyo Mahr TESA

You can obtain the whole catalogue of these brands from the Hoffmann Group – just ask for it!

4



Information overview
Pictograms
Calibration service

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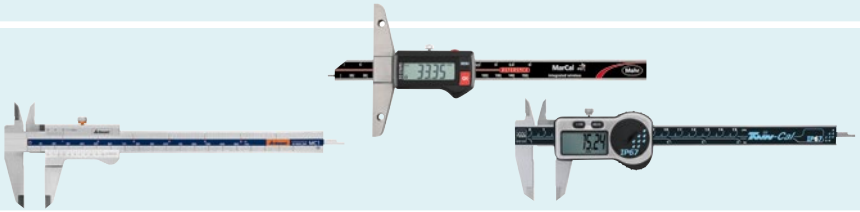

Garant Mahr Mitutoyo TESA sylvac

Calipers, Depth gauges, Measuring tool sets

41
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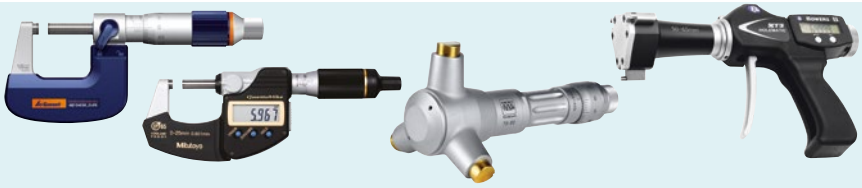

Garant Mahr Mitutoyo TESA Bowers Group

Micrometers, Internal micrometers, Universal measuring gauges

42
56 – 87

4

Garant Mahr Mitutoyo TESA Käfer Schwenk GIROD

Comparison scales, Dial indicators, Precision dial comparators, Bore gauges, Fast dial calipers

43
88 – 128

Garant NOGA HORGER & GÄSSLER Mitutoyo TESA Schwenk

Magnetic stands, Bench centres, Scribing and height gauges, Vee blocks

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129 – 151

Garant TICOM PB SWISS TOOLS HOLEX

Squares, Protractors, Dividers, Scribers

45
152 – 159

Garant BMI STABILA BOSCH Leica Geosystems

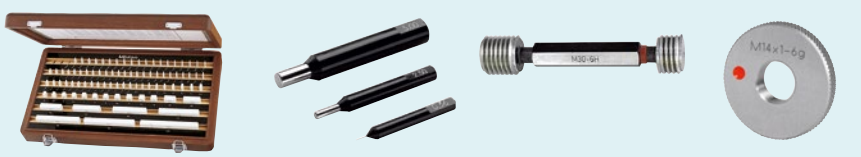
Rulers, Measuring tapes, Spirit levels, Lasers, Stopwatches

46
160 – 184

BENNING FLUKE KERN HASSEROT testo ALLURIS

Rotational speed sensors, Voltage testers, Multimeters, Temperature gauges, Small gauges Force gauges, Scales

47
185 – 217



Garant Mitutoyo ARO KOBA Martin+Tschopp

Gauge blocks, Gauging pins, Gauges

48
218 – 234

Garant Mitutoyo Mahr RENISHAW Visi-n ENGINEERING ZEISS

Magnifying glasses, Microscopes, Endoscopes, Shadowgraphs, Hardness testers, Surface roughness measuring tools

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235 – 289

Overview of information / error limits

IP Index of Protection to EN 60529 (IP → Index of Protection)

1. Index

Degree of protection against foreign bodies and dust

IP **4..** Protected against penetration by solid foreign bodies ≥ 1mm.

IP **5..** Protection against harmful dust deposits (dust protected).

IP **6..** Protection against penetration by dust (dust-tight).

2. Index

Degree of protection against water

IP **..0** No protection.

IP **..2** Protection against dripping water at up to 15° angle to the casing.

IP **..4** Protection against sprayed water from all directions.

IP **..5** Protection against jets of water from all directions.

IP **..6** Protection against strong jets of water from all directions.

IP **..7** Protection against intermittent immersion in water.

IP 42

IP 54

IP 67

Error limits to EC Directives 2004/22

Folding rules / steel rules / tape measures											
Length	**m**	**1**	**2**	**3**	**4**	**5**	**8**	**10**	**20**	**30**	**50**
Tolerance EC I	**mm**	± 0.2	± 0.3	± 0.4	± 0.5	± 0.6	± 0.9	± 1.1	± 2.1	± 3.1	± 5.1
Tolerance EC II	**mm**	± 0.5	± 0.7	± 0.9	± 1.1	± 1.3	± 1.9	± 2.3	± 4.3	± 6.3	± 10.3
Tolerance EC III	**mm**	± 1	± 1.4	± 1.8	± 2.2	± 2.6	± 3.8	± 4.6	± 8.6	± 12.6	±20.6

EG I | EG II | EG III

Thickness tolerances for feeler gauges or feeler gauge shim strips of steel

Nominal thickness	**mm**	0.000– 0.024	0.025– 0.039	0.040– 0.062	0.063– 0.124	0.125– 0.159	0.160– 0.199	0.200– 0.249	0.250– 0.314	0.315– 0.389	0.400– 0.499	0.500– 0.629	0.630– 0.799	0.800– 0.999	1.000– 1.249
Tolerance T2	**µm**	± 2	± 3	± 4	± 5	± 6	± 7	± 8	± 9	± 11	± 12	± 14	± 17	± 19	± 24
Tolerance T3	**µm**	± 1.5	± 2	± 3	± 4	± 5	± 5	± 6	± 7	± 8	± 9	± 10	± 12	± 13	± 17

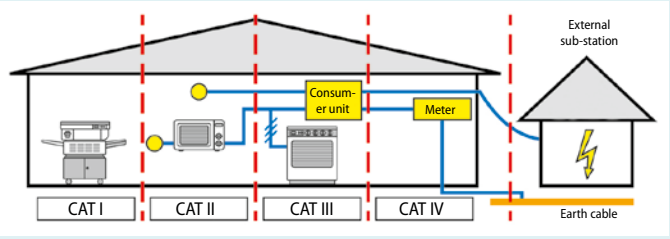
Measurement categories CAT I to CAT IV

CAT I: Applicable to measurements on circuits that are not directly connected to the mains (e.g. especially protected devices).

CAT II: Applicable to measurements on circuits that are directly connected to the low voltage mains (e.g. household devices)

CAT III: Applicable to measurements during installation work in buildings (e.g. consumer units, circuits, sockets, switches).

CAT IV: Applicable to measurements during installation work on the incoming low voltage mains (e.g. meters, main connections, main fuses).



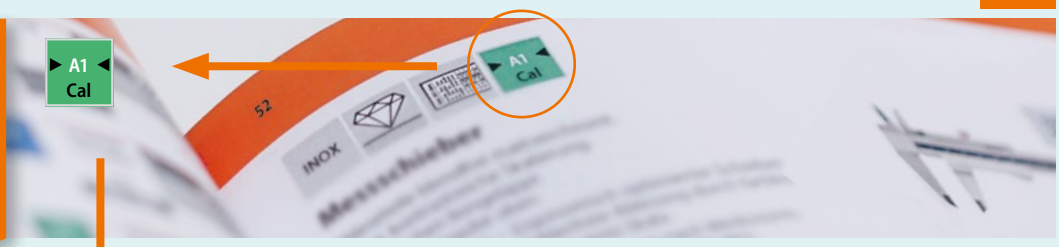
Pictograms

Calibration service	▶ A1 ◀ Cal	▶ A2 ◀ Cal	…	▶ B8 ◀ Cal	…	Assignment of **new goods calibration** to the individual products and prices.	
Standard	DIN 862	Accuracy and version according to DIN.	Standard	Accuracy and version to manufacturer's standard.	EG II	Accuracy to EC directive.	
Material	S/STL	Stainless steel.		All parts hardened.			
Version	mm / Inch	Switchable mm/inch or mm / inch graduations.	Absolute System	Measurement system with absolute scale.	Reference Lock	With **Mahr** Reference-Lock system.	
		Scope of supply including table of threads.	IP 67	IP Index of protection (Index of Protection).	AOS Absolute	With **Mitutoyo** Advanced Onsite Sensor system.	
Barrel	0 90	Micrometer with large barrel, 1/100 graduations. Pitch 1 mm per revolution.			0 45	Micrometer with 1/50 graduations. Pitch 0.5 mm per revolution	
Depth gauge	Ø 1.5 mm	Rod type depth gauge with Ø 1.5 mm.	Ø 1.9 mm	Rod type depth gauge with Ø 1.9 mm.		Square depth gauge, standard.	
Data interface	Digimatic	Digimatic interface.	RS232C	RS232C interface.		USB interface.	
		Bluetooth interface	i-wi	With **Mahr** i-wi radio system	TLC	With **TESA** Link Connector.	
	HCT	Compatible with the Hoffmann Group Connected Tools (HCT) app					
Packaging / scope of supply		Wallet		Sturdy box (wood, plastic or aluminium).		Manufacturer's test certificate, traceable to national standards, included in delivery.	

Ordering new items incl. calibration

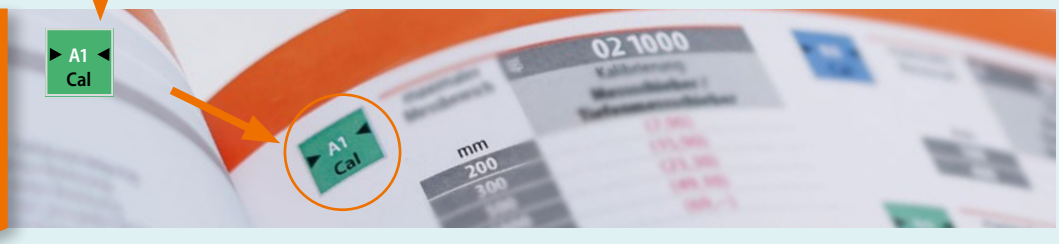
1. Catalogue

Selecting a measuring tool in the Hoffmann Group catalogue (Example: No. 41 0100 size 150)



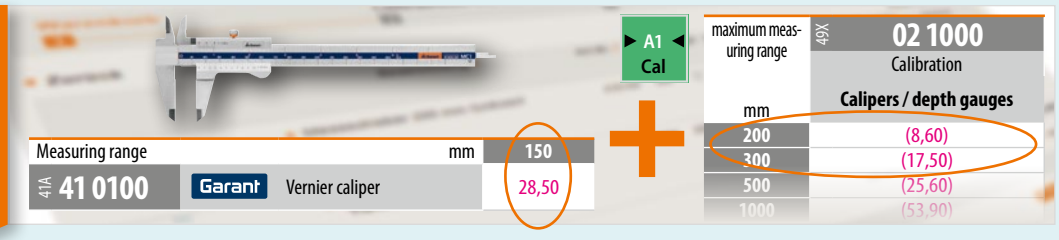
2. Calibration

Selecting the required calibration.



3. Ordering

Ordering measuring tools AND calibration.



4. Laboratory

The latest devices, experienced employees and lean processes ensure perfect calibration of your valuable measuring devices.

5. Dispatch

Your measuring tool is securely packed and sent to you.

A1 Cal	**Green:** Processing time max. **5 working days from receipt of order.**	I1 Cal	**Blue:** Processing time max. **8 working days from receipt of order.**	i Cal	Prices on request.

DAkkS calibrations: Processing time max. **8 working days from receipt of order.**

The **new items calibrations** are performed to the applicable standards / guidelines as factory calibrations (e.g. VDI / VDE / DGQ 2618 ff.)
Angle calibration to the guidelines VDI / VDE / DGQ 2618 sheet 7.1 Ü for **standard applications (internal and external angles).**
Complete calibration according to guideline upon request.

DAkkS calibration

Ordering a measuring tool with additional labelling (if desired):
→ Order service No. 018940 and state the desired identification number.

Calibrated measuring tools are supplied with inspection stickers:
Inspection sticker with calibration date → Date of the calibration that has been carried out.
Inspection sticker with recalibration date → state the desired inspection cycle.

Calibration service

▶ A1 ◀ Cal

maximum measuring range mm	49X 02 1000 Calibration	49X 02 1010 DAkkS calibration
	Calipers / depth gauges	
200	(XXX)	(XXX)
300	(XXX)	(XXX)
500	(XXX)	(XXX)
1000	(XXX)	(XXX)
2000	(XXX)	–
3000	(XXX)	–

▶ A2 ◀ Cal

maximum measuring range mm	49X 02 1220 Calibration	49X 02 1230 DAkkS calibration
	Vernier hook depth gauge	
200	(XXX)	(XXX)
300	(XXX)	(XXX)
500	(XXX)	(XXX)
1000	(XXX)	(XXX)

▶ A3 ◀ Cal

maximum measuring range mm	49X 02 1400 Calibration
	Universal caliper
600	(XXX)

▶ B1 ◀ Cal

maximum measuring range mm	49X 02 2000 Calibration	49X 02 2010 DAkkS calibration
	External tube micrometer	
25	(XXX)	–
100	(XXX)	(XXX)
200	(XXX)	–
300	(XXX)	–
400	(XXX)	–

▶ B2 ◀ Cal

maximum nominal size mm	49X 02 2080 Calibration
	Micrometer standard for external micrometer
100	(XXX)
300	(XXX)
500	(XXX)
1000	(XXX)

▶ B3 ◀ Cal

maximum measuring range mm	49X 02 2280 Calibration
	Micrometer head
25	(XXX)
100	(XXX)

▶ B4 ◀ Cal

Note: Up to spindle travel 25 mm.

maximum measuring range mm	49X 02 2360 Calibration
	Internal micrometer
50	(XXX)
75	(XXX)
100	(XXX)

▶ B5 ◀ Cal

maximum measuring range mm	49X 02 2460 Calibration	49X 02 2470 DAkkS calibration
	Extension for internal micrometer	
100	(XXX)	–
300	(XXX)	(XXX)

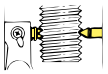
▶ B6 ◀ Cal

maximum measuring range mm	49X 02 2500 Calibration	49X 02 2510 DAkkS calibration
	3-point inside micrometer	
20	(XXX)	–
50	(XXX)	–
100	(XXX)	–
200	(XXX)	(XXX)
300	(XXX)	–

▶ B7 ◀ Cal

Type	49X 02 2340 Calibration
	Pair of Vee and cone anvils
K	(XXX)

▶ B8 ◀ Cal



maximum nominal size mm	49X 02 2330 Calibration
	Micrometer standard for external thread micrometers
100	(XXX)
400	(XXX)

▶ B9 ◀ Cal

maximum measuring range mm	49X 02 2100 Calibration
	Indicator micrometer
25	(XXX)
200	(XXX)

▶ B10 ◀ Cal

Note: Up to spindle travel 25 mm.

maximum measuring range mm	49X 02 2440 Calibration	49X 02 2450 DAkkS calibration
	Internal micrometer	
100	(XXX)	–
200	(XXX)	(XXX)
600	(XXX)	–
950	–	(XXX)
2000	(XXX)	–

▶ B12 ◀ Cal

Type	49X 02 2580 Calibration
	Measuring force tester
M	(XXX)

▶ C1 ◀ Cal

maximum measuring span mm	49X 02 3000 Calibration	49X 02 3010 DAkkS calibration
	Dial indicator analogue 0.01 and digital 0.01 / 0.001	
3	(XXX)	–
10	(XXX)	–
12,5	(XXX)	(XXX)
30	(XXX)	–
50	(XXX)	–
100	(XXX)	(XXX)

Calibration service 2

▶ C2 ◀ Cal

maximum measuring span mm	49X 02 3020 Calibration
	Dial indicator, analogue 0.001
5	(XXX)

▶ C3 ◀ Cal

Type	49X 02 3180 Calibration	49X 02 3190 DAkkS calibration
	Precision dial comparator	
FZ	(XXX)	(XXX)

▶ C4 ◀ Cal

maximum measuring range mm	49X 02 3210 Calibration	49X 02 3220 DAkkS calibration
	Precision bore gauge (types B + C)	
60	(XXX)	(XXX)
160	(XXX)	–
800	(XXX)	–

▶ C5 ◀ Cal

Type	49X 02 3330 Calibration	49X 02 3340 DAkkS calibration
	Lever dial indicator	
ANALOG	(XXX)	(XXX)

▶ C6 ◀ Cal

maximum measuring range	49X 02 3420 Calibration	49X 02 3430 DAkkS calibration
	Dial thickness gauge	
30	–	(XXX)
200	(XXX)	–

▶ C7 ◀ Cal

Type	49X 02 3450 Calibration	49X 02 3460 DAkkS calibration
	External / internal quick caliper	
S	(XXX)	(XXX)

▶ C8 ◀ Cal

Type	49X 02 3360 Calibration
	Measurement head
B	(XXX)

▶ D1 ◀ Cal

maximum table size mm	49X 02 4580 Calibration
	Comparator stand
400×400	(XXX)

▶ E1 ◀ Cal

maximum measuring range mm	49X 02 4630 Calibration
	Height gauge / height scriber
300	(XXX)
1000	(XXX)

▶ E2 ◀ Cal

maximum measuring range mm	49X 02 4000 Calibration	49X 02 4010 DAkkS calibration
	Digital height gauge	
400	(XXX)	(XXX)
800	(XXX)	(XXX)
1000	(XXX)	(XXX)

▶ F1 ◀ Cal

maximum arm length mm	49X 02 5000 Calibration	49X 02 5010 DAkkS calibration
	Stock, try, and bevel edge squares	
100	(XXX)	–
300	(XXX)	–
750	(XXX)	(XXX)

▶ F3 ◀ Cal

Type	49X 02 5810 Calibration
	Protractor
GRAD	(XXX)

▶ F4 ◀ Cal

Type	49X 02 5710 Calibration
	Universal protractor
UNI	(XXX)

▶ F5 ◀ Cal

maximum arm length	49X 02 5850 Calibration
	Centring, angle, and mitre squares
300	(XXX)

▶ F6 ◀ Cal

maximum length mm	49X 02 6000 Calibration	49X 02 6010 DAkkS calibration
	Straight edge	
200	(XXX)	–
500	(XXX)	(XXX)
1000	(XXX)	–

▶ F7 ◀ Cal

maximum length mm	49X 02 6080 Calibration	49X 02 6090 DAkkS calibration
	Flat straight edge	
500	(XXX)	–
750	–	(XXX)
1000	(XXX)	–
2000	(XXX)	–
3000	(XXX)	–

▶ F8 ◀ Cal

maximum length mm	49X 02 6200 Calibration
	Steel scale
500	(XXX)
1000	(XXX)
2000	(XXX)

Calibration service 3

F10 Cal

Note:
Size 500/2; 1000/2; 2000/2; 3000/2 – Width ≥ 25 mm and 2 scales

maximum length mm	49X 02 6200 Calibration Steel scale
500/2	(XXX)
1000/2	(XXX)
2000/2	(XXX)
3000/2	(XXX)

G1 Cal

Note: Size 2/2 – 10/2 width ≥ 25 mm.

maximum length m	49X 02 6240 Calibration Tape measure
2	(XXX)
2/2	(XXX)
5	(XXX)
5/2	(XXX)
10	(XXX)
10/2	(XXX)
50	(XXX)

G2 Cal

maximum length mm	49X 02 6280 Calibration Circumference tape measure
1000	(XXX)
3000	(XXX)
6000	(XXX)

H1 Cal

Accuracy mm/m	49X 02 6600 Calibration Square frame level
0,02	(XXX)
0,10	(XXX)

H2 Cal

Accuracy mm/m	49X 02 6620 Calibration Engineer's level / electronic clinometer
0,02	(XXX)
0,10	(XXX)
0,40	(XXX)

I1 Cal

Type	49X 02 7120 Calibration Voltage tester
S	(XXX)

I2 Cal

Type	49X 02 7900 Calibration Tachometer / stroboscope	49X 02 7910 DAkkS calibration Rotational speed sensor
D	(XXX)	(XXX)

I3 Cal

Number of decimal places	49X 02 7000 Calibration	49X 02 7010 DAkkS calibration
	Digital multimeter	
3	(XXX)	(XXX)

I4 Cal

Type	49X 02 7050 Calibration	49X 02 7060 DAkkS calibration
	Clamp meter	
D	(XXX)	(XXX)

I5 Cal

Type	49X 02 7600 Calibration	49X 02 7610 DAkkS calibration
	Infra-red temperature measuring tool	
A	(XXX)	(XXX)

I6 Cal

Type	49X 02 7660 Calibration	49X 02 7670 DAkkS calibration
	Thermo-hygrometer	
A	(XXX)	(XXX)

I7 Cal

Type	49X 02 7520 Calibration	49X 02 7540 DAkkS calibration
	Temperature sensor with / without display	
A	(XXX)	(XXX)

I8 Cal

Number of inlets	49X 02 7500 Calibration	49X 02 7510 DAkkS calibration
	Temperature display unit	
1	(XXX)	(XXX)

I9 Cal

Note: For DAkkS calibration, please use No. 027670.

Type	49X 02 7650 Calibration Temperature measuring device, room temperature
B	(XXX)

I10 Cal

Type	49X 02 7140 Calibration Test device VDE 0701 / 0702
S	(XXX)

I11 Cal

Type	49X 02 7150 Calibration Insulation resistance meter
S	(XXX)

I12 Cal

Type	49X 02 9120 Calibration Noise level meter
S	(XXX)

Calibration service 4

K1 Cal

Type	49X 02 7730
	Calibration
	Spring balance
F	(XXX)

K2 Cal

maximum weighing range	49X 02 7700	49X 02 7710
	Calibration	DAkkS calibration
kg	**Scales**	
50	(XXX)	(XXX)
100	(XXX)	–
150	(XXX)	–

L2 Cal

Note: Calibration to option 3. From 1 mm.

maximum length	49X 02 8060	49X 02 8140	49X 02 8150
	Calibration	DAkkS calibration	
mm	**Gauge block steel / ceramic**	**Steel gauge block**	**Ceramic gauge block**
100	(XXX)	(XXX)	(XXX)
150	(XXX)	(XXX)	(XXX)
200	(XXX)	–	–
400	(XXX)	–	–

L3 Cal

maximum Ø	49X 02 8920
	Calibration
mm	**Optical flats**
60	(XXX)

L5 Cal

maximum Ø	49X 02 8240	49X 02 8260
	Calibration	DAkkS calibration
mm	**Test pin**	
20	(XXX)	(XXX)

L6 Cal

maximum Ø	49X 02 8300	49X 02 8340
	Calibration	DAkkS calibration
mm	**"Go" / "No Go" plug gauge**	
20	(XXX)	–
60	(XXX)	(XXX)
200	(XXX)	(XXX)

L7 Cal

maximum Ø	49X 02 8400	49X 02 8470
	Calibration	DAkkS calibration
mm	**Setting ring**	
2	(XXX)	–
50	(XXX)	(XXX)
100	(XXX)	–
200	–	(XXX)
500	(XXX)	–

L8 Cal

maximum nominal size	49X 02 8700
	Calibration
mm	**Gap gauge**
50	(XXX)
200	(XXX)

L9 Cal

Type	49X 02 8730
	Calibration
	Adjustable snap gauge
RL	(XXX)

L10 Cal

maximum Ø	49X 02 8550	49X 02 8590
	Calibration	DAkkS calibration
mm	**Go / No Go thread plug gauge**	
3	(XXX)	–
20	(XXX)	–
60	(XXX)	–
90	–	(XXX)
200	(XXX)	–

L11 Cal

maximum Ø	49X 02 8500	49X 02 8540
	Calibration	DAkkS calibration
mm	**"Go" / "No Go" thread plug gauge**	
60	(XXX)	–
90	–	(XXX)
100	(XXX)	–
300	(XXX)	–

L12 Cal

maximum Ø	49X 02 8600	49X 02 8640
	Calibration	DAkkS calibration
mm	**Thread ring gauge**	
3	(XXX)	–
20	(XXX)	–
60	(XXX)	–
100	(XXX)	(XXX)
200	(XXX)	–

L13 Cal

Type	49X 02 8680
	Calibration
	Setting master
E	(XXX)

L14 Cal

maximum Ø	49X 02 8820	49X 02 8830
	Calibration	DAkkS calibration
mm	**Taper thread limit plug gauge NPT**	
90	–	(XXX)
100	(XXX)	–

Calibration service 5

L15 Cal

Note:
02 8840 – From ∅ 10 mm.

maximum ∅ mm	49X 02 8840 Calibration	49X 02 8850 DAkkS calibration
	Taper thread ring gauge NPT	
60	(XXX)	–
100	–	(XXX)

L16 Cal

Type	49X 02 8900 Calibration
	Thread measurement wire
GMD	(XXX)

N1 Cal

Type	49X 02 9100 Calibration
	Stop-watch
U	(XXX)

O1 Cal

Note: Right-hand calibration
02 0020 – DAkkS calibration for measuring range 1-1000 Nm.

maximum torque Nm	49X 02 0010 Calibration	49X 02 0020 DAkkS calibration
	Torque wrench	
400	(XXX)	–
1000	(XXX)	(XXX)
2000	(XXX)	–

O3 Cal

Note: **.../2** Clockwise / anti-clockwise calibration.
02 0040 – DAkkS calibration for measuring range 1-1000 Nm.

maximum torque Nm	49X 02 0030 Calibration	49X 02 0040 DAkkS calibration
	Torque wrench both ends	
400/2	(XXX)	–
1000/2	(XXX)	(XXX)

O4 Cal

Note:
02 0120/0130 – Right-hand calibration.
02 0130/0150 – DAkkS calibration for measuring range 4-1000 Nm.
02 0140/0150 – Clockwise / anti-clockwise calibration.

Type	49X 02 0120 Calibration, right	49X 02 0130 DAkkS calibration, right	49X 02 0140 Calibration on both sides	49X 02 0150 DAkkS calibration on both sides
			Torque analyser / sensor	
400/2	–	–	(XXX)	–
1000/2	–	–	(XXX)	(XXX)
1000	(XXX)	(XXX)	–	–

O5 Cal

Note: Only order together with calibration No. 020030 "O3".

Type	49X 02 0070 Calibration
	Rotation angle
W	(XXX)

O6 Cal

Type	49X 02 0080 Adjustment
	Torque wrench without scale
SET	(XXX)

O7 Cal

Note: For DAkkS calibration, please use No. 020020.

maximum torque Nm	49X 02 0090 Calibration and adjustment
	Torque wrench without scale
400	(XXX)
1000	(XXX)
2000	(XXX)

P1 Cal

Type	49X 02 9000 Calibration	49X 02 9010 DAkkS calibration
	Shore A+D hardness tester	
H	(XXX)	(XXX)

Q1 Cal

Type	49X 02 9200 Calibration
	Surface roughness measuring tool
R	(XXX)

Q2 Cal

Type	49X 02 9220 Calibration
	Roughness standard
R	(XXX)

S1 Cal

Set contents	49X 02 0400 Calibration
	Measuring tool set
2	(XXX)
3	(XXX)
6	(XXX)

S2 Cal

Note: Supplied with micrometer standards for calibration.

Measuring range mm	49X 02 0430 Calibration
	External micrometer set
0-50	(XXX)
0-100	(XXX)
0-150	(XXX)
100-200	(XXX)
150-300	(XXX)

Calibration service 6

S3 Cal

Note: Supplied with micrometer standards for calibration.

Measuring range mm	49X 02 0450 Calibration **External micrometers with extensions**
0-150	(XXX)
25-150	(XXX)
100-200	(XXX)
150-300	(XXX)
200-300	(XXX)
300-400	(XXX)
400-500	(XXX)
500-600	(XXX)
600-700	(XXX)
700-800	(XXX)
800-900	(XXX)
900-1000	(XXX)

S4 Cal

Measuring range mm	49X 02 0480 Calibration **Internal micrometer set**
50-150	(XXX)
50-300	(XXX)
50-500	(XXX)
50-1000	(XXX)
50-1500	(XXX)
100-500	(XXX)
100-900	(XXX)

S5 Cal

Note: Calibration to option 2.

Set contents	49X 02 0510 Calibration **Test set**
5	(XXX)

S6 Cal

Note: Supplied with setting rings for calibration.

Measuring range mm	49X 02 0550 Calibration **Internal micrometer set**
2-3	(XXX)
2-6	(XXX)
3-6	(XXX)
3,5-6,5	(XXX)
6-10	(XXX)
6-12	(XXX)
10-20	(XXX)
12-20	(XXX)
12-25	(XXX)

Measuring range mm	49X 02 0550 Calibration **Internal micrometer set**
20-50	(XXX)
25-50	(XXX)
40-100	(XXX)
50-75	(XXX)
50-100	(XXX)
75-100	(XXX)
100-150	(XXX)
100-200	(XXX)
150-200	(XXX)

S9 Cal

Measuring range mm	49X 02 0580 Calibration **Internal precision bore gauge set**
18-150	(XXX)
50-230	(XXX)

S12 Cal

Measuring range mm	49X 02 0650 Calibration **"Go" / "No Go" Plug gauge set**	49X 02 0660 DAkkS calibration **"Go" / "No Go" Plug gauge set**
3-12	(XXX)	(XXX)

S13 Cal

Set contents	49X 02 0700 Calibration **Thread Go / NoGo plug gauge set**	49X 02 0710 DAkkS calibration **Thread Go / NoGo plug gauge set**
M3-M12	(XXX)	(XXX)

S14 Cal

Set contents	49X 02 0740 Calibration **Thread "Go" ring gauge set**	49X 02 0750 DAkkS calibration **Thread "Go" ring gauge set**
M3-M12	(XXX)	(XXX)

S15 Cal

Measuring range mm	49X 02 0780 Calibration **Depth micrometer set**
0-100	(XXX)
0-150	(XXX)
0-300	(XXX)

S16 Cal

Type	49X 02 0800 Calibration **Measuring tool set**
SET	(XXX)

S17 Cal

Note: Size 10 including calibration optical flat.

Set contents	49X 02 0850 Calibration **Gauge block set, steel / ceramic**	49X 02 0860 DAkkS calibration **Gauge block set, steel**	49X 02 0870 DAkkS calibration **Gauge block set, ceramic**
8	(XXX)	(XXX)	–
10	(XXX)	(XXX)	(XXX)
32	(XXX)	(XXX)	(XXX)
47	(XXX)	(XXX)	(XXX)
87	(XXX)	(XXX)	(XXX)
103	(XXX)	(XXX)	–

S18 Cal

Set contents	49X 02 0880 Calibration **Test pin set**	49X 02 0890 DAkkS calibration **Test pin set**
41	(XXX)	(XXX)
45	(XXX)	(XXX)
50	(XXX)	(XXX)
81	(XXX)	(XXX)
91	(XXX)	(XXX)
100	(XXX)	(XXX)
101	(XXX)	(XXX)

Note: Laser marking not available for gauge blocks or test pins.

Type	49X 01 8940 Labelling **laser-etched**
	(XXX)

Note: **1 sheet each with 32 pieces.**

Type	49X 41 0006 Inspection sticker Ø 10 mm **32 pieces**
2021	XXX
2022	XXX
2023	XXX
2024	XXX
2025	XXX
2026	XXX

02

21 22

HCT Wireless data transmission with Connected Tools

Precise as always, easier than ever: The Hoffmann Group Connected Tools.

The state-of-the-art Bluetooth-capable devices from the Hoffmann Group Connected Tools family are easy to use and make life easier in many ways.

Hoffmann Group Connected Tools: Precise, simple, error-free.

- **Greater freedom of movement:**
  No messy data transmission cables.
- **Very high reliability:**
  No read errors or transmission errors.
- **Time saving thanks to simple documentation:**
  At the push of a button, the measuring result is transmitted directly to your application (such as Excel or Word) or you can export the test report directly to your database as a CSV file via the app.

1. Measurement is performed.
2. Measured data is saved and evaluated in the HCT app.
3. Measured data can be sent as a.csv file.

65 5010 GARANT
Electronic torque/ rotational angle wrench HCT

65 5025 HOLEX
Torque wrench HCT

41 2780 GARANT
Digital caliper HCT

41 8684 GARANT
Digital depth gauge HCT

Data transmission can be performed via **HID** (Human Interface Device) or the **HCT app**!

All tools can also be used without the HCT app!

All products from the HCT family are indicated by this symbol.
More information on the tools on the next few pages.

S/STL ▸ A1 ◂ Cal

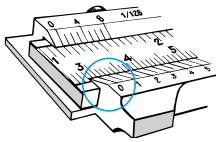
Vernier calipers

Satin chromium plated anti-glare scales.
Fine, high-contrast scale.
Locking screw at the top.

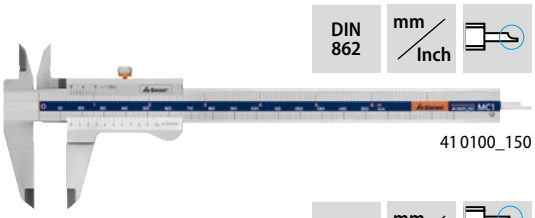
41 0100 Size 300 – without depth gauge.
41 0100–0251 – Precision lapped measuring faces.
41 0251/0300 – **Without** inch graduation.
Size 150HM – With **carbide** tipped jaws.
41 0300/2101 – Precision ground measuring faces.
41 0100/0105 – Ergonomically optimised caliper.
Better reading due to a colour-contrast scale.

Standard:

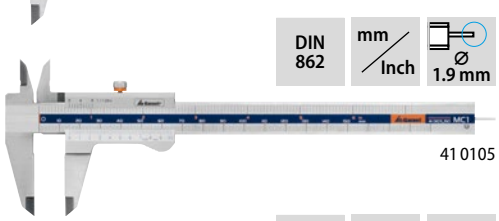
41 0251 – Error limits to **manufacturer's standard**, **not** equivalent to DIN 862.
41 2101 Size 300 – Error limits to **manufacturer's standard**, **not** equivalent to DIN 862.



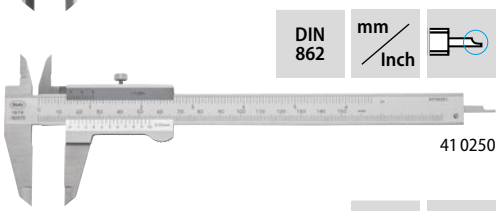
Bevelled vernier.



41 0100_150



41 0105



41 0250

41 0300_150

41 0300_150HM

41 2101_150

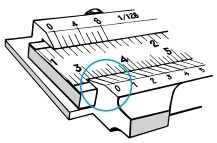
Measuring range		mm	150	150HM	200	300
41A 41 0100	Garant Vernier caliper		XXX	–	XXX	XXX
41A 41 0105	Garant Vernier caliper **Vernier 1/50**		XXX	–	XXX	–
43A 41 0250	Mahr Vernier caliper		XXX	–	–	–
43A 41 0251	Mahr Vernier caliper **Vernier 1/50**		XXX	–	XXX	XXX
44A 41 0300	Mitutoyo Vernier caliper		XXX	XXX	–	–
44A 41 2101	Mitutoyo Vernier caliper		XXX	–	XXX	XXX
Scale divisions (41 0100, 41 0250, 41 0300, 41 2101)		mm	0.05			
Scale divisions (41 0105, 41 0251)		mm	0.02	–	0.02	0.02
Graduation (41 0100, 41 0250, 41 0300, 41 2101)		mm	1/20			
Graduation (41 0105, 41 0251)		mm	1/50	–	1/50	1/50
Graduation (41 0100, 41 0105, 41 0250, 41 2101)		inch	1/128	–	1/128	1/128
Error limit (41 0250, 41 0251, 41 0300)		mm	0.05			
Error limit (41 2101)		mm	0.05	–	0.05	0.08
Jaw length		mm	40	40	50	64

DIN 862 S/STL ▸ A1 ◂ Cal

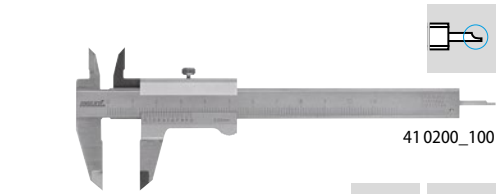
HOLEX Vernier calipers

Satin chromium plated anti-glare reading parts.
Locking screw at the top.

Size 100 – Without inch graduation.
41 0405 – Fine, high-contrast scale.
Precision lapped measuring faces.
For left-handers.

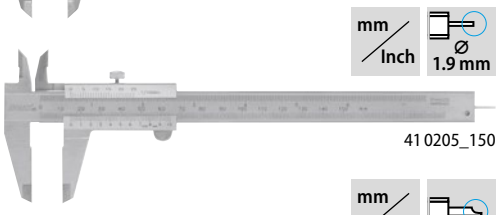


Bevelled vernier.

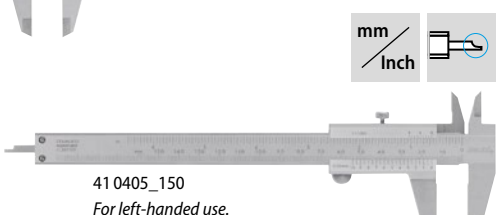


41 0200_100

41 0200_150



41 0205_150



41 0405_150
For left-handed use.

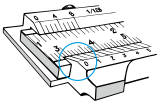
Measuring range		mm	100	150	200	300
41Z 41 0200	Vernier caliper **Vernier 1/20**		XXX	XXX	XXX	XXX
42A 41 0205	Vernier caliper **Vernier 1/50 with rod type depth gauge**		–	XXX	–	–
42A 41 0405	Vernier caliper **for left-handed use**		–	XXX	–	–
Scale divisions (41 0200, 41 0405)		mm	0.05			
Scale divisions (41 0205)		mm	–	0.02	–	–
Graduation (41 0200, 41 0405)		mm	1/20			
Graduation (41 0205)		mm	–	1/50	–	–
Graduation (41 0200, 41 0405)		inch	–	1/128	1/128	1/128
Graduation (41 0205)		inch	–	1/1000	–	–
Jaw length		mm	30	40	50	64

DIN 862 | mm / Inch | S/STL | A1 Cal

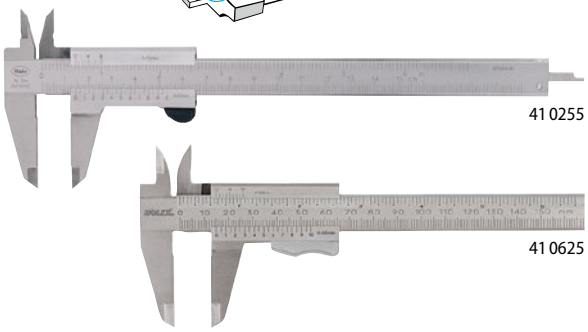
Vernier calipers with thumb-lock

Satin chromium plated anti-glare reading parts. Fine, high-contrast scale. Precision lapped measuring faces.

Measuring range		mm	150
43A 41 0255	Mahr	Vernier caliper with spring-loaded thumb-lock	XXX
41Z 41 0625	HOLEX		XXX
Scale divisions		mm	0.05
Graduation		mm	1/20
Graduation		inch	1/128
Jaw length		mm	40



Chamfer edge vernier.



41 0255

41 0625

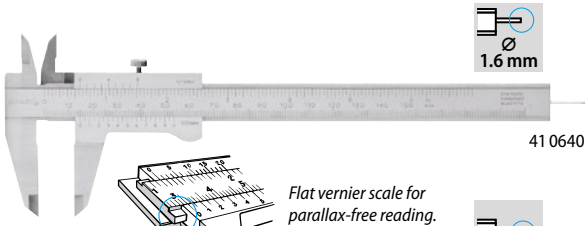
DIN 862 | mm / Inch | S/STL | A1 Cal

HOLEX Vernier calipers with parallax-free reading

Satin chromium plated anti-glare reading parts. Fine, high-contrast scale, precision lapped measuring faces. Flat vernier scale for **parallax-free reading.**

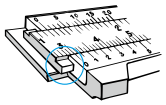
41 0640 – With locking screw at top and rod type depth gauge.
41 0650 – With thumb lock and sturdy flat depth gauge.

Measuring range		mm	150
42A 41 0640	Vernier caliper parallax-free with rod type depth gauge		XXX
42A 41 0650	Vernier caliper parallax-free with spring-loaded thumb-lock		XXX
Scale divisions		mm	0.05
Graduation		mm	1/20
Graduation		inch	1/128
Jaw length		mm	40

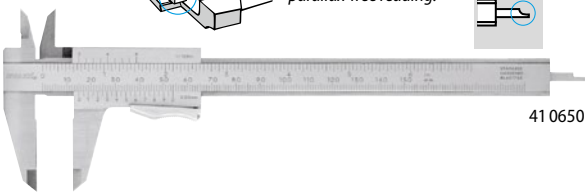


Ø 1.6 mm

41 0640



Flat vernier scale for parallax-free reading.



41 0650

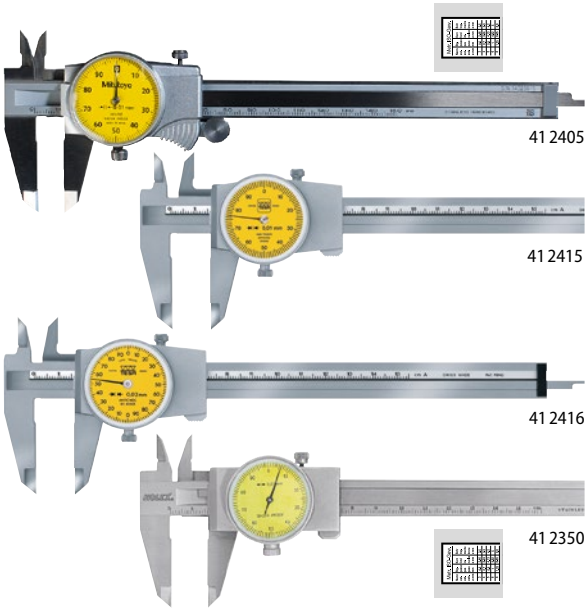
DIN 862 | S/STL | A1 Cal

Dial calipers

Satin chrome-plated scale. Shock-proof, with protected rack. Precision dial indicator with rotating dial and locking screw.

Size 150/01 – Readings of 1 mm on the beam, 1/100 mm on the round dial.
41 2405 – With thumb roller.
Size 150/02 – Readings of 1 mm on the beam, 2/100 mm on the round dial.
41 2415/2416 – Especially slim depth gauge.

Type			150/01	150/02
44A 41 2405	Mitutoyo	Dial calipers	XXX	–
45A 41 2415	TESA		XXX	–
45A 41 2416			–	XXX
42A 41 2350	HOLEX		XXX	–
Measuring range		mm	0 – 150	
Reading (round dial)		mm	0.01	0.02
Pointer revolution		mm	1	2
Jaw length		mm	40	



41 2405

41 2415

41 2416

41 2350

DIN 862

wiha Plastic dial calipers

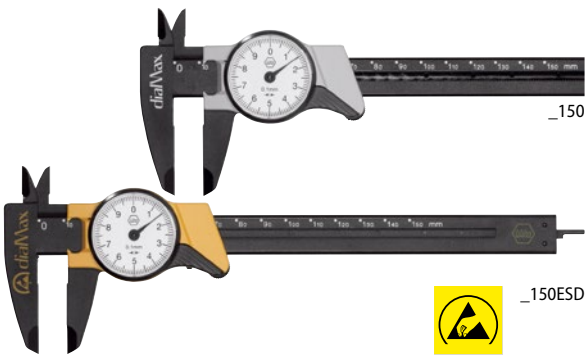
Very light, non-magnetic, and not electrically conductive. With shock-resistant dial indicator.

Size 150 – Non-metallic plastic with 60 % glass fibre content.
Size 150ESD – Non-metallic plastic with 50 % glass fibre content.

Application:

Size 150ESD – For working in areas with static electricity hazard.

Type			150	150ESD
46P 41 2430	Plastic dial caliper		XXX	XXX
Measuring range		mm	0 – 150	
Reading (round dial)		mm	0.1	
Pointer revolution		mm	10	
Jaw length		mm	40	



_150

_150ESD

mm / Inch | RS232C | IP 54 | S/STL | ▶ A1 ◀ Cal

Garant Digital calipers

Digital calipers to IP54 with data output.
Easy-to-read, high-contrast LCD display with 11.5 mm character height.
Very long battery running time due to modern energy-efficient measurement system. The system switches automatically into power-saving mode after 20 minutes; moving the caliper reactivates it. There is no loss of the measurement value or zero point.
With preset (dimension selection in advance).
Ergonomic housing with easy-grip Haptoprene® component.
The measuring faces are precision-lapped.

Size 300 – without depth gauge.

Standard:

Size 300 – to manufacturer's standard.

Supplied with: 1 battery No. 081560 size CR2032.

Optional extras: Data cable No. 498948, keyboard interface No. 498963

Spare part: Data output cap No. 412237 size D, battery holder No. 412237 size B.

DIN 862

41 2680

DIN 862 | Ø 1.5 mm

41 2682

Long battery life.

Data output

New modern design.

Ergonomic casing
with easy-grip Haptoprene® components.

Large, high-contrast LC display
with 11.5 mm digit height.

Measuring range		mm	150	200	300
41A 41 2680	Digital caliper **IP54 with data output**		XXX	XXX	XXX
41A 41 2682	Digital caliper **IP54 with rod type depth gauge and data output**		XXX	–	–
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03	0.03	0.04
Jaw length		mm	40	50	64

DIN 862 | mm / Inch | Reference Lock | S/STL | ▶ A1 ◀ Cal

Mahr Digital calipers with large display – MarCal

Easy-to-read, high-contrast LCD display with 11 mm high characters.
Modern energy-efficient measurement system, operational life approx. 3 years.
The reference-lock function prevents measurement errors arising from accidentally touching the control buttons. Lapped slides, the measuring faces are precision lapped.

Size 300 – Without depth gauge.

Supplied with: 1 battery No. 081560 size CR2032

Ø 1.5 mm

41 2716

41 2717

Measuring range		mm	150	200	300
43A 41 2716	Digital caliper **with large display and rod type depth gauge**		XXX	–	–
43A 41 2717	Digital caliper **with large display**		XXX	XXX	XXX
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03	0.03	0.04
Jaw length		mm	40	50	64

Garant HCT – Hoffmann Connected Tools

Discover our HCT digital caliper and HCT depth gauge with wireless transmission via Bluetooth.
Optional HCT app available free of charge for iOS and Android.

Advantages of wireless transmission with Bluetooth:

- Simple and secure data transmission.
- Freedom of movement.
- Independence of location.
- Mobile working possible with the HCT app.

41 2780_150

mm / Inch | Digimatic | RS232C | Reference Lock | S/STL | ▶ A1 ◀ Cal

Mahr

Digital calipers – MarCal

Easy-to-read, high-contrast LCD display with 8.5 mm high characters. Modern energy-efficient measurement system, operational life approx. 3 years. The reference-lock function prevents measurement errors arising from accidentally touching the control buttons. Lapped slides, the measuring faces are precision lapped.

Size 300 – Without depth gauge.

Standard:

Size 300 – To manufacturer's standard

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Data cable No. 498940.

DIN 862 | Ø 1.5 mm

41 2728

DIN 862

41 2729

Measuring range		mm	150	200	300
43A 41 2728	Digital caliper **with rod type depth gauge and data output**		XXX	–	–
43A 41 2729	Digital caliper **with data output**		XXX	XXX	XXX
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03	0.03	0.04
Jaw length		mm	40	50	64

AOS Absolute | S/STL | ▶ A1 ◀ Cal

Mitutoyo

Digital calipers with absolute electronics – AOS

Measured result is displayed in easy-to-read characters (height 9 mm). The **AOS (Advanced Onsite Sensor)** electromagnetic measurement system offers enhanced protection against water and dust.

- Absolute scale, no zeroing necessary, resulting in faster, more reliable measuring.
- Low power consumption (20,000 hours continuous use), battery charge indicator

41 2639 – With mm / inch selection.

41 2639/2671 – With **thumb roller.**

Standard:

Size 300 – To manufacturer's standard

Supplied with: 1 battery No. 081560 size 357.

Optional extras: Battery compartment cover No. 412239 size B.

41 2642/2671 – Data cables No. 497080 and No. 497100 with data button.

DIN 862

41 2632

DIN 862 | mm / Inch

41 2639

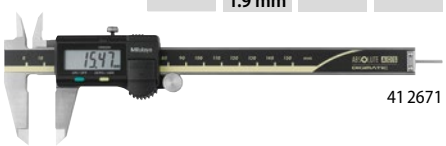
DIN 862 | Ø 1.9 mm

41 2637

DIN 862 | Digimatic

41 2642

DIN 862 | Ø 1.9 mm | Digimatic



41 2671

Measuring range		mm	150	200	300
44A 41 2632	Digital caliper **with AOS system**		XXX	XXX	–
44A 41 2637	Digital caliper **with AOS system and rod type depth gauge**		XXX	–	–
44A 41 2639	Digital caliper **with AOS system and mm / inch selection**		XXX	–	–
44A 41 2642	Digital caliper **with AOS system and data output**		XXX	XXX	XXX
44A 41 2671	Digital caliper **with AOS system with rod type depth gauge and data output**		XXX	–	–
Scale divisions		mm	0.01		
Scale divisions (41 2639)		inch	0.0005	–	–
Error limit		mm	0.03	0.03	0.04
Jaw length		mm	40	50	64

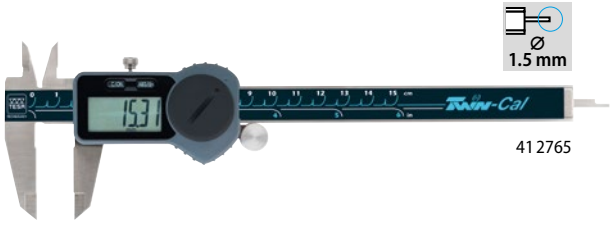
Standard | mm / Inch | Digimatic | TLC | Absolute System | S/STL | ▶ A1 Cal ◀

TESA TESA TWIN-CAL digital calipers

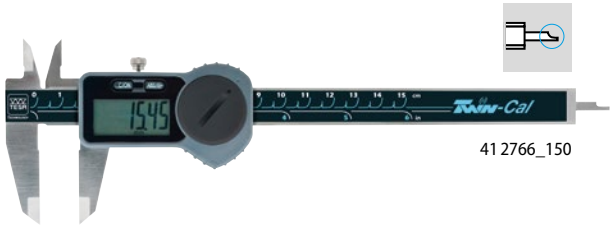
Large high-contrast display with 11 mm character height. More than 12,000 operating hours, automatic standby after 10 min and automatic shutdown after 2 h. ABS measurement mode, integral TLC port for data transmission.

41 2765 – With thumb roller.
41 2766 Size 150 – Without thumb roller.
Size 200; 300 – With thumb roller.

Supplied with: 1 battery No. 081560 CR2032.
Optional extras: Data cable No. 498918, radio No. 498921 size BT.



41 2765



41 2766_150

Measuring range		mm	150	200	300
45A 41 2765	TESA TWIN-CAL digital caliper **with rod type depth gauge**		XXX	–	–
45A 41 2766	TESA TWIN-CAL digital caliper		XXX	XXX	XXX
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03		
Jaw length		mm	40	50	64

mm / Inch | S/STL | ▶ A1 Cal ◀

HOLEX Digital calipers

Large high-contrast digital display. The measuring faces are precision-lapped.

41 2812 – With plastic housing, **for left-handed use.**
Size 100 – Incremental measuring system without absolute scale.
Size 150HM – With **carbide measuring faces** on jaws and tips.
41 2805 Size 150/2818 Size 150/2821 Size 150–300 –
Digital caliper with **absolute scale**, no zeroing required. Electronics switch off automatically after approx. 5 minutes and switch on again as soon as the tool is moved.

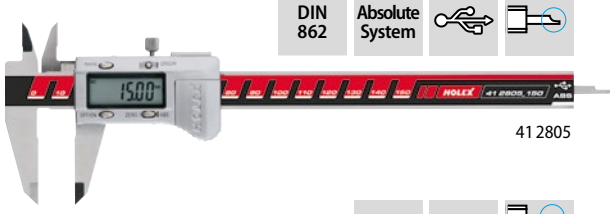
- Very high accuracy due to the glass scale.
- The electronics are decoupled from the casing and incorporated directly in the sliding part. The gauging force is transmitted directly to the measurement jaws. This reduces the liability of the caliper to errors and increases the working life.
- With sturdy metal body.

Standard:
Size 300 – To manufacturer's standard.

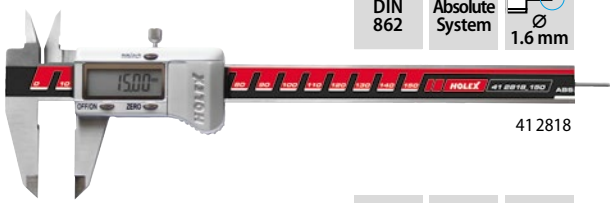
Supplied with:
41 2805 – Battery No. 081560 size CR1632.
41 2812 Size 150/2821 Size 100 – Battery No. 081560 size LR44.
41 2818 Size 150/2821 Size 150–300 – Supplied with battery No. 081560 size CR2032.

Optional extras:
41 2805 – Keyboard interface No. 498969 size USB.

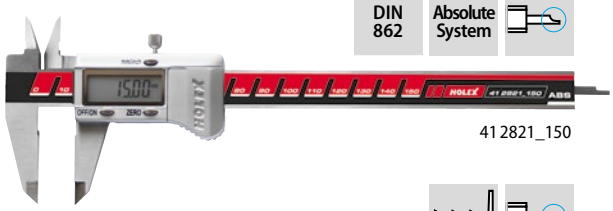
DIN 862 | Absolute System


41 2805

DIN 862 | Absolute System | Ø 1.6 mm


41 2818

DIN 862 | Absolute System


41 2821_150

Standard

41 2821_100

41 2812

DIN 862

Measuring range		mm	100	150	150HM	200	300
42A 41 2805	Digital caliper **ABS with data output**		–	XXX	–	–	–
42A 41 2818	Digital caliper **ABS with rod type depth gauge**		–	XXX	–	–	–
42A 41 2821	Digital caliper **ABS**		XXX	XXX	XXX	XXX	XXX
42A 41 2812	Digital caliper **for left-hand use**		–	XXX	–	–	–
Scale divisions		mm	0.01				
Scale divisions		inch	0.0005				
Error limit		mm	0.02	0.03	0.03	0.03	0.04
Jaw length		mm	30	40	40	50	60

DIN 862 | mm / Inch | RS232C | S/STL | ▶ A1 ◀ Cal

Garant Digital calipers with accessory set

Digital caliper with comprehensive accessories - **permits measurement of recesses, slots and hole pitches.**

- Easy-to-read, high-contrast LCD display with 11.5 mm character height.
- Very long battery running time due to modern energy-efficient measurement system.
- Ergonomic housing with easy-grip Haptoprene® component.

Supplied with: 1 battery No. 081560 size CR2032.
2 pairs of contact point carriers short and long.
3 pairs of measuring tips with measuring discs Ø 6 mm, Ø 10 mm, Ø 12.5 mm.
2 pairs of measuring tips with anvil cones Ø 9 mm, 60° and Ø 12 mm, 60°.
1 pair of measuring tips with measuring cylinders Ø 1.5×9 mm.
1× spring system for constant gauging force.
1× hexagon key L-wrench.
1× depth extension base 75 mm.
Supplied in a sturdy plastic box.

41 2840 – 1× **IP54** digital caliper with data output No. 412680 size 150.
41 2845 – 1× **IP67** digital caliper with data output No. 412690 size 150.

Spare part: Data output cap No. 412237 size D, battery holder No. 412237 size B.

IP 54

41 2840

IP 67

41 2845

Measuring range		mm	150
41A 41 2840	Digital caliper **IP54 with data output including a set of accessories**		XXX
41A 41 2845	Digital caliper **IP67 with data output including a set of accessories**		XXX
Scale divisions		mm	0.01
Scale divisions		inch	0.0005
Error limit		mm	0.03
Jaw length		mm	40

DIN 862 | mm / Inch | Absolute System | S/STL | ▶ A1 ◀ Cal

HOLEX Digital ABS calipers with accessory set

Set consisting of a digital caliper and accessories set.

- Digital caliper with **absolute scale,** no zeroing required. Large high-contrast digital display. The measuring faces are precision-lapped. With sturdy metal casing.
- Accessories set for digital caliper **– permits measurement of recesses, slots and pitches between holes.**

Supplied with: 1× digital caliper No. 412821 size 150.
1 battery No. 081560 size CR2032.
1× accessory set No. 412747 size 3.5 **consisting of:**
2 pairs of contact point carriers short and long.
3 pairs of measuring tips with measuring discs Ø 6 mm, Ø 10 mm, Ø 12.5 mm.
2 pairs of measuring tips with anvil cones Ø 9 mm, 60° and Ø 12 mm, 60°.
1 pair of measuring tips with measuring cylinders Ø 1.5×9 mm.
1× spring system for constant gauging force.
1× hexagon key L-wrench.
1× depth extension base 75 mm.
Supplied in a sturdy plastic box.

41 2815

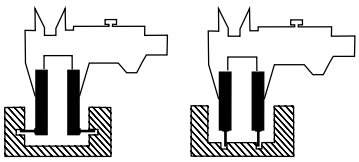
Measuring range		mm	150
42A 41 2815	Digital caliper **ABS + accessories set**		XXX
Scale divisions		mm	0.01
Scale divisions		inch	0.0005
Error limit		mm	0.03
Jaw length		mm	40

HOLEX Accessories set for digital calipers

Accessories for digital calipers. **For measurement of recesses, grooves, and hole spacings.**

Suitable for:
Size 3,5 – Digital calipers up to 150 mm measurement range or jaw thickness up to 3.5 mm.
Size 4,5 – Digital calipers > 150 mm measurement range or jaw thickness up to 4.5 mm.

Supplied with: 3 pairs of measuring tips with measuring discs Ø 6 mm, Ø 10 mm, Ø 12.5 mm, 2 pairs of measuring tips with anvil cones Ø 9 mm, 60° and Ø 12 mm, 60°, 1 pair of measuring tips with measuring cylinders Ø 1.5×9 mm, 1× hexagon key L-wrench.
Size 3,5 – 2 pairs of contact point carriers long and short, 1 spring system for constant gauging force.
Size 4,5 – 1 pair measuring tip carriers, long.



Application example

maximum jaw thickness		mm	3,5	4,5
42A 41 2747	Accessories set for digital calipers		XXX	XXX

mm / Inch | RS232C | IP 67 | S/STL | ▶ A1 ◀ Cal

Garant Digital calipers to protection class IP67

Digital calipers to IP67with data output. **Easy-to-read, high-contrast LCD display with 11.5mm character height.** Very long battery running time due to modern energy-efficient measurement system. The system switches automatically into power-saving mode after 20 minutes; moving the caliper reactivates it. There is no loss of the measurement value or zero point.
2-component body with **non-slip Haptoprene surface**. The calipers are resistant to water, coolant, oil, and dust – even when fitted with a data cable. The measuring faces are precision-lapped. With preset (dimension selection in advance).

Size 300 – without depth gauge

Standard:

Size 300 – to manufacturer's standard

Supplied with: 1 battery No. 081560 size CR2032.

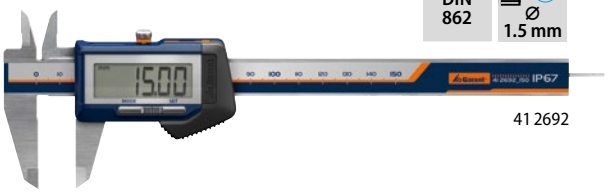
Optional extras: Data cable No. 498948, keyboard interface No. 498963.

Spare part: Data output cap No. 412237 size D, battery holder No. 412237 size B.

DIN 862

41 2690

DIN 862 | Ø 1.5 mm



41 2692

Measuring range		mm	150	200	300
41A 41 2690	Digital caliper **IP67 with data output**		XXX	XXX	XXX
41A 41 2692	Digital caliper **IP67 with rod type depth gauge and data output**		XXX	–	–
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03	0.03	0.03
Jaw length		mm	40	50	65

IP 67 | Absolute System | S/STL | ▶ A1 ◀ Cal

Mitutoyo Digital calipers with absolute electronics, protection class IP67

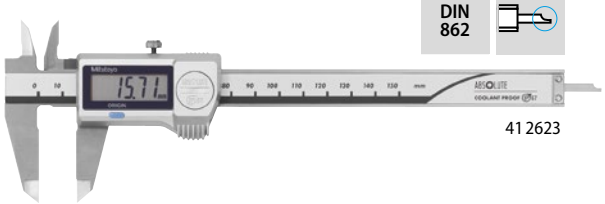
Electronic caliper with absolute electronics and large easy-to-read display. Resistant to water, oil, and dust. Low energy consumption permits 18000 h continuous use on a single battery (size 300: 5000 h). The device is turned on automatically when it is moved and switches off automatically when not used for about 20 minutes.

Supplied with: 1 battery No. 081560 size 357.

Optional extras:

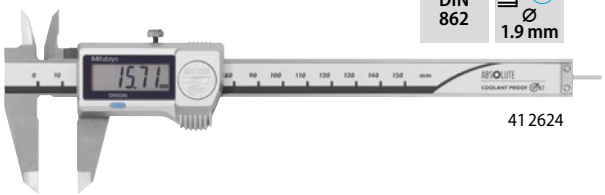
41 2628 – Connecting cable (screw-on) No. 497085.

DIN 862



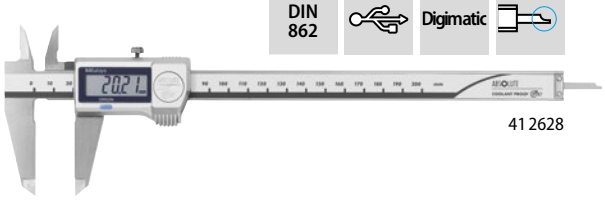
41 2623

DIN 862 | Ø 1.9 mm



41 2624

DIN 862 | Digimatic



41 2628

Measuring range		mm	150	200	300
44A 41 2623	Digital caliper **IP67**		XXX	XXX	XXX
44A 41 2624	Digital caliper **IP67 with rod type depth gauge**		XXX	–	–
44A 41 2628	Digital caliper **IP67 with data output**		XXX	XXX	–
Scale divisions		mm	0.01		
Error limit		mm	0.03	0.03	0.04
Jaw length		mm	40	50	64

Depth base attachments

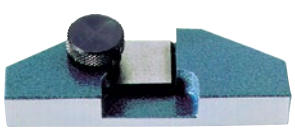
▶ C8 ◀ Cal

Suitable for:

41 2695 – All analogue and digital calipers sizes 150 and 200, digital HOLEX calipers size 300.

41 2710 – All analogue and digital calipers size 150, digital HOLEX calipers size 200, size 300, all Garant calipers No. 412680; 412682; 412690; 412692; 418682.

44A 41 2695	Mitutoyo	Depth gauge base	XXX
42A 41 2710	HOLEX		XXX
Bridge width		mm	75
Recess for measuring beam (41 2695)		mm	18.1×5.5
Recess for measuring beam (41 2710)		mm	16.3×3.3



41 2695

41 2710

mm / Inch | IP 67 | Reference Lock | S/STL | ▶ A1 ◀ Cal

Mahr Digital calipers to protection class IP67

Clearly legible, high-contrast LCD display. Waterproof inductive measurement system with reference-lock function. The measuring faces are precision lapped.

Size 300 – Without depth gauge.

41 2742 Size 200 – With square depth gauge.

Standard:

Size 300 – To manufacturer's standard

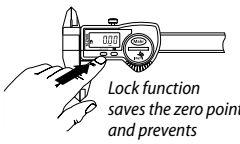
Supplied with: 1 battery No. 081560 size CR2032

Optional extras:

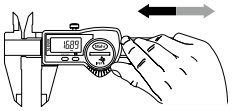
41 2742–2744 – Data cable No. 498940.

Advantages of the reference lock system:

Particularly energy-efficient: up to 3 years battery life.



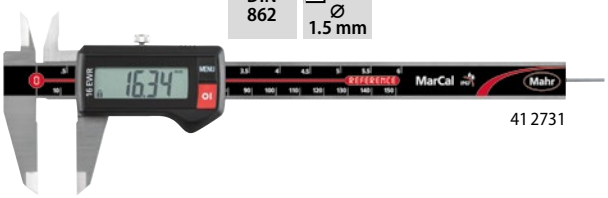
Lock function saves the zero point and prevents operating errors



Ready to measure as soon as the slide is moved.

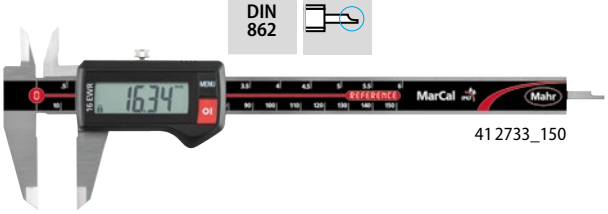
Measuring range		mm	150	200	300
43A 41 2731	Digital caliper **IP67 with rod type depth gauge**		XXX	–	–
43A 41 2733	Digital caliper **IP67**		XXX	XXX	XXX
43A 41 2742	Digital caliper **IP67 with data output**		XXX	XXX	XXX
43A 41 2743	Digital caliper **IP67 with rod type depth gauge, data output and ceramic measuring faces**		XXX	–	–
43A 41 2744	Digital caliper **IP67 with data output**		XXX	–	–
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03	0.03	0.04
Jaw length		mm	40	50	64

DIN 862 | Ø 1.5 mm



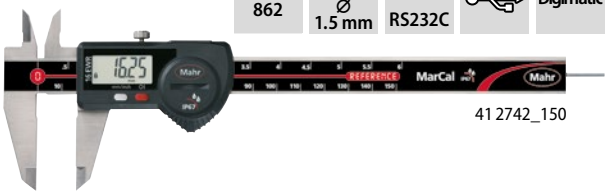
41 2731

DIN 862



41 2733_150

DIN 862 | Ø 1.5 mm | RS232C | Digimatic

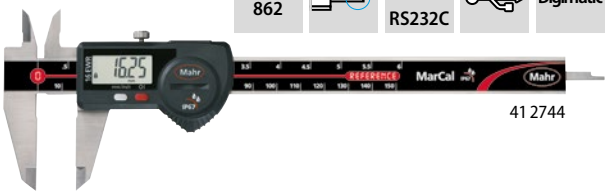


41 2742_150

DIN 862 | Ø 1.5 mm | RS232C | Digimatic

41 2743

DIN 862 | RS232C | Digimatic



41 2744

Standard | mm / Inch | IP 67 | Absolute System | S/STL | ▶ A1 ◀ Cal

TESA TESA-CAL IP67 digital caliper

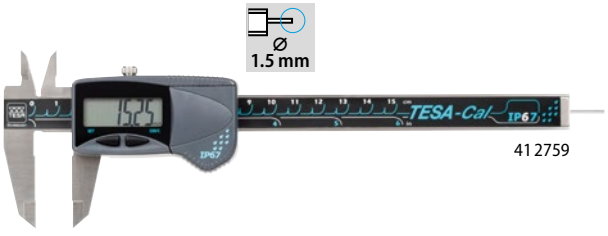
Large high-contrast display with 11 mm character height. More than 12000 hours service life, automatic standby after 10 minutes and automatic shutdown after 2 hours. ABS measuring mode. All-round protection against liquids.

Size 200; 300 – With thumb roller.

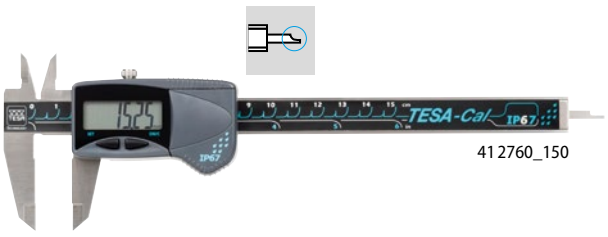
Supplied with: 1 battery No. 081560 size CR2032.

Measuring range		mm	150	200	300
45A 41 2759	Digital caliper **TESA-CAL IP67 with rod type depth gauge**		XXX	–	–
45A 41 2760	Digital caliper **TESA-CAL IP67**		XXX	XXX	XXX
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03		
Jaw length		mm	40	50	64

Ø 1.5 mm



41 2759



41 2760_150

DIN 862 | mm / Inch | IP 67 | S/STL | ▶ A1 Cal ◀

HOLEX Digital calipers to protection class IP67

Large high-contrast digital display. The measuring faces are precision-lapped. The caliper is resistant to water and dust. After 2 hours without movement, the control system shuts down the caliper automatically. Shock-resistant plastic casing.

Supplied with: Including battery No. 081560 size CR2032.

41 2749_150

41 2751_150

Measuring range		mm	150	200	300
42A 41 2749	Digital caliper **IP67 with rod type depth gauge**		XXX	–	–
42A 41 2751	Digital caliper **IP67**		XXX	XXX	XXX
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03	0.03	0.04
Jaw length		mm	40		

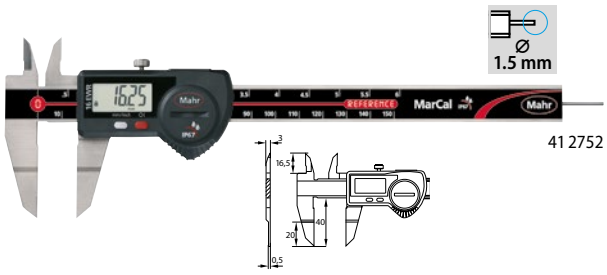
Standard | mm / Inch | Digimatic | RS232C | IP 67 | Reference Lock | S/STL | ▶ A1 Cal ◀

Mahr Digital calipers protection class IP67, special versions

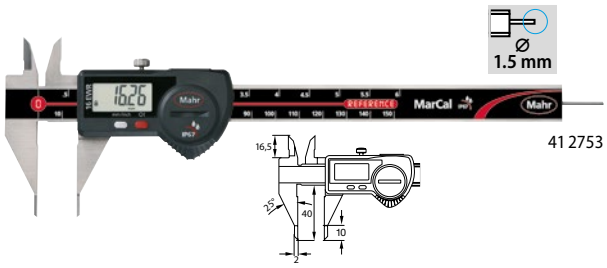
Clearly legible, high-contrast LCD display. Waterproof inductive measurement system with reference-lock function.

Supplied with: 1 battery No. 081560 size CR2032

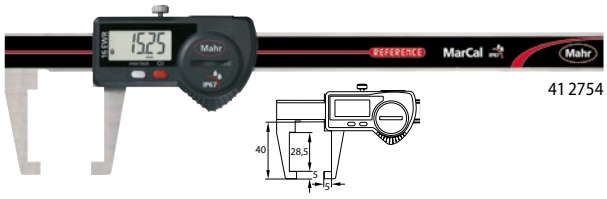
Optional extras: Data cable No. 498940.



41 2752



41 2753



41 2754

41 2755

Measuring range		mm	150
43A 41 2752	Digital external groove caliper **with rod type depth gauge**		(XXX)
43A 41 2753	Digital caliper **with pointed measurement jaws and rod type depth gauge**		XXX
43A 41 2754	Digital caliper **with inwards-facing measuring jaws**		(XXX)
43A 41 2755	Digital caliper **with outwards-facing measuring jaws**		XXX
Scale divisions		mm	0.01
Scale divisions		inch	0.0005
Error limit		mm	0.03
Jaw length		mm	40

mm / Inch | Bluetooth | IP 67 | S/STL | A1 Cal

HCT

Garant

HCT digital caliper protection class IP67 with Bluetooth

Digital calipers to IP67with**Bluetooth. Easy-to-read, high-contrast LCD display with 11.5mm character height.** Very long battery running time due to modern energy-efficient measurement system. The system switches automatically into power-saving mode after 10 minutes; moving the caliper reactivates it. There is no loss of the measurement value or zero point.
2-component body with **non-slip Haptoprene surface.** The caliper is resistant to water, coolant, oil, and dust. The measuring faces are precision-lapped.

Size 300 – without depth gauge

Standard:

Size 300 – to manufacturer's standard

Supplied with: 1 battery No. 081560 size CR2032.

Spare part: Battery holder No. 412237 size B.

DIN 862

41 2780

DIN 862 | Ø 1.5 mm

41 2782

		150	200	300
41A 41 2780	HCT digital caliper **IP67 with Bluetooth**	XXX	XXX	XXX
41A 41 2782	HCT digital caliper **IP67 with Bluetooth and round depth gauge**	XXX	–	–
Scale divisions mm		0.01		
Scale divisions inch		0.0005		
Error limit mm		0.03		
Jaw length mm		40	50	65

Hoffmann Group Connected Tools (HCT)

The Hoffmann Group presents tools with Bluetooth capability, together with an innovative optional app for quick and precise documentation and data transmission.
Free of charge for iOS and Android.

1. Measurement is performed.
2. Measured data is saved and evaluated in the HCT app.
3. Measured data can be sent as a.csv file.

HCT All products compatible with the HCT app are indicated by this pictogram.

mm / Inch | i-wi | IP 67 | Reference Lock | S/STL | A1 Cal

Mahr

Digital calipers i-wi protection class IP67

Very large LCD display with 11 mm character height. Integral i-wi wireless data interface. Resistant to dust and moisture. Service life approx. 3 years.

Size 300 – Without depth gauge, accuracy to factory standard.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: i-wi radio receiver No. 498912.

DIN 862 | Ø 1.5 mm

41 2736

DIN 862

41 2738

Measuring range mm		150	200	300
43A 41 2736	Digital caliper **IP67 i-wi with rod type depth gauge**	XXX	–	–
43A 41 2738	Digital caliper **IP67 i-wi**	XXX	XXX	XXX
Scale divisions mm		0.01		
Scale divisions inch		0.0005		
Error limit mm		0.03	0.03	0.04
Jaw length mm		40	50	64

Standard | mm / Inch | Digimatic | TLC | IP 67 | Absolute System | S/STL | A1 Cal

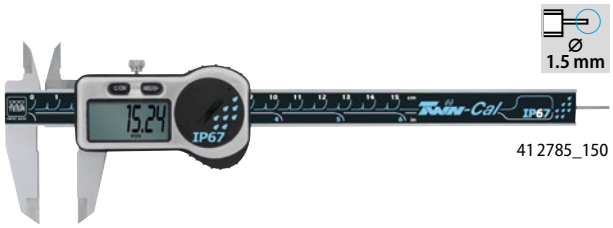
TESA TESA TWIN-CAL IP67 digital caliper

Large high-contrast display with 11 mm character height. More than 12,000 hours service life, automatic standby after 10 minutes and automatic shutdown after 2 hours. ABS measurement mode, integral TLC port for data transmission. All-round protection against liquids. Casing with steel protection plate and "Soft Touch" surface.

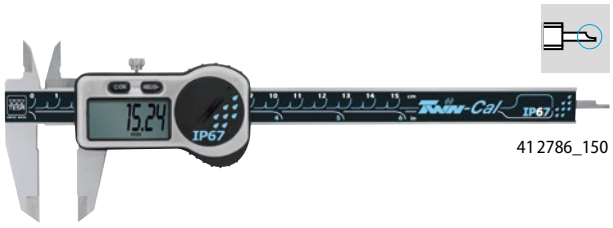
Size 200; 300 – With thumb roller.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Data cable No. 498918, radio No. 498921 size BT.



Measuring range		mm	150	200	300
45A 41 2785	Digital caliper **TWIN-CAL IP67 with rod type depth gauge**		XXX	–	–
45A 41 2786	Digital caliper **TWIN-CAL IP67**		XXX	XXX	XXX
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.03		
Jaw length		mm	40	50	64



41

Standard | S/STL | mm / Inch | Reference Lock | i-wi | IP 67 | A1 Cal

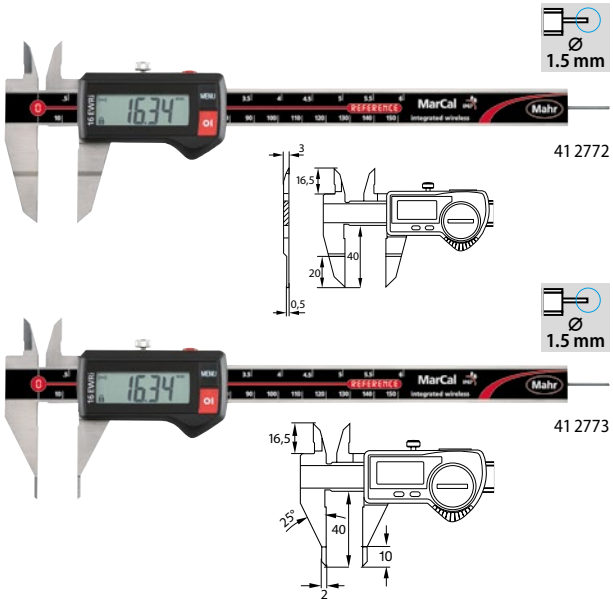
Mahr

Digital i-wi calipers, protection class IP67, special versions

Very large LCD display with 11 mm character height. Integral i-wi wireless data interface. Resistant to dust and moisture. Service life approx. 3 years.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: i-wi radio receiver No. 498912.



Measuring range		mm	150
43A 41 2772	Digital external groove caliper **with rod type depth gauge**		(XXX)
43A 41 2773	Digital caliper **with pointed measurement jaws and rod type depth gauge**		(XXX)
43A 41 2774	Digital caliper **with inwards-facing measuring jaws**		(XXX)
43A 41 2775	Digital caliper **with outwards-facing measuring jaws**		(XXX)
Scale divisions		mm	0.01
Scale divisions		inch	0.0005
Error limit		mm	0.03
Jaw length		mm	40

Standard | mm / Inch

wiha Plastic caliper

Non-metallic high-tech material with 50 % fibre content.
Measuring range 0 – 150 mm.
Supplied with:
41 2830 – 1 battery No. 081560 size 357.

41 2830_150D

41 2832_150A

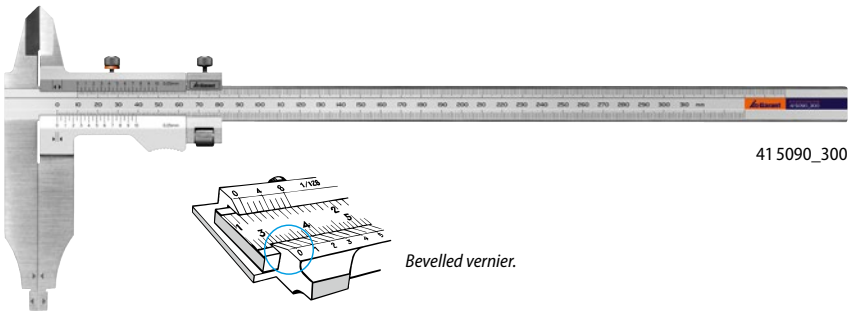
Type			150D	150A
46P 41 2830	Digital plastic caliper digiMax®		XXX	–
46P 41 2832	Analogue plastic caliper CaliMax®		–	XXX
Scale divisions		mm	0.01	0.1
Scale divisions		inch	0.0005	0.0156
Error limit		mm	0.05	0.1
Jaw length		mm	40	

41

DIN 862 | S/STL | ▶ A1 ◀ Cal

Garant Workshop calipers with measuring tips

Chamfered measuring tips for measurements to the root of threads and in narrow grooves. Offset and rounded jaw ends for internal measurements.
High-contrast scale for ease of reading both internal and external measured values. Direct reading of internal dimensions by additional scale. With fine adjustment. With locking screw. Size 300 through hardened, from size 500 measuring faces hardened.


41 5090_300

Bevelled vernier.

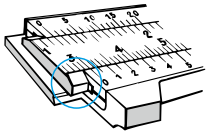
Measuring range		mm	300	500	750
41A 41 5090	Workshop caliper **with fine adjustment**		XXX	XXX	XXX
Graduation		mm		1/20	
Error limit		mm	0.05	0.07	0.1
Jaw length		mm	90	150	150
Internal jaw ∅		mm	10	20	20

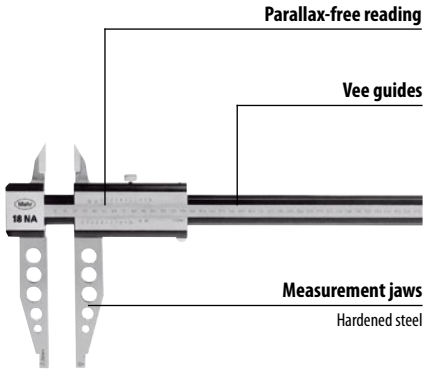
Standard | ▶ A1 ◀ Cal

Size 500; 800; 1000;

Mahr Workshop calipers with measuring tips, in lightweight design

Lightweight workshop caliper with measuring tips and Vee guides.
Parallax-free reading.
Aluminium beam and slide. 50% weight advantage.
Wear and scratch resistant with hard anodised surface 1100 HV (similar to ceramic).
Jaws and tips stainless, hardened and ground.
Vernier with high-contrast scale and internal scale.
Slide runs easily and precisely.


Flat vernier scale for parallax-free reading.



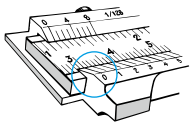
Measuring range		mm	500	800	1000	1500	2000
43A 41 2750	Workshop caliper in lightweight design		XXX	XXX	XXX	(XXX)	(XXX)
Scale divisions		mm			0.02		
Graduation		mm	1/50	1/50	1/50	1/20	1/20
Error limit		mm	0.05	0.07	0.08	0.16	0.16
Jaw length		mm			150		
Internal jaw ∅		mm	20	20	20	30	30
Weight		kg	1.4	1.6	1.75	2.1	2.5

DIN 862 | S/STL | ▶ A1 ◀ Cal

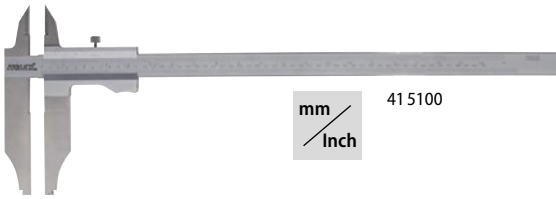
Workshop calipers with measuring tips

Chamfered measuring tips for measurements to the root of threads and in narrow grooves. Offset and rounded jaw ends for internal measurements. High-contrast scale. With locking screw. Up to size 300 through hardened, from size 500 measuring faces hardened.

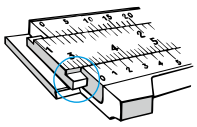
41 5170 – Flat vernier scale for **parallax-free reading,** direct reading of **the internal dimensions**by means of additional scaling; with fine adjustment.



Chamfer edge vernier.



41 5100



Flat vernier scale for parallax-free reading.

41 5170

Measuring range		mm	200	300	500	750	1000
41Z	41 5100	Workshop vernier calipers **with mm and inch graduations**	XXX	XXX	XXX	XXX	XXX
41Z	41 5120		–	XXX	XXX	–	–
42A	41 5170	Workshop vernier calipers **with parallax-free reading and fine adjustment**	–	XXX	XXX	–	–
Graduation (41 5100, 41 5170)		mm	1/20				
Graduation (41 5120)		mm	–	1/50	1/50	–	–
Graduation (41 5100, 41 5120)		inch	1/128				
Error limit (41 5100, 41 5170)		mm	0.05	0.05	0.07	0.1	0.12
Error limit (41 5120)		mm	–	0.04	0.05	–	–
Jaw length		mm	60	90	150	150	150
Internal jaw ∅		mm	10	10	20	20	20

DIN 862 | S/STL | ▶ A1 ◀ Cal

Vernier calipers

Reading parts **anti-glare satin chrome-plated** with sharp contrast, jet black scale. Lapped measuring faces. Offset and rounded jaw ends for internal measurements.

41 5184

Measuring range		mm	200	300
42A	41 5184	Vernier caliper	XXX	XXX
Scale divisions		mm	0.05	
Graduation		mm	1/20	
Error limit		mm	0.05	
Jaw length		mm	60	90
Internal jaw ∅		mm	10	

S/STL | ▶ A1 ◀ Cal

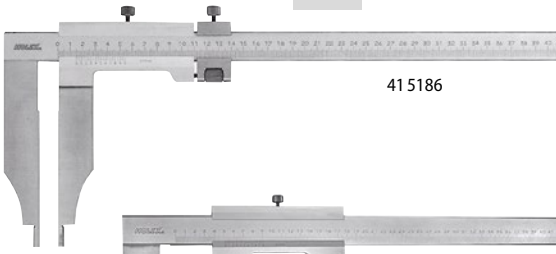
Vernier calipers with long jaws

Vernier satin chrome-plated, anti-glare. Measuring faces hardened and ground. **Long jaws for measuring large components and component Ø.** With fine adjustment. Offset and rounded jaw ends for internal measurements.

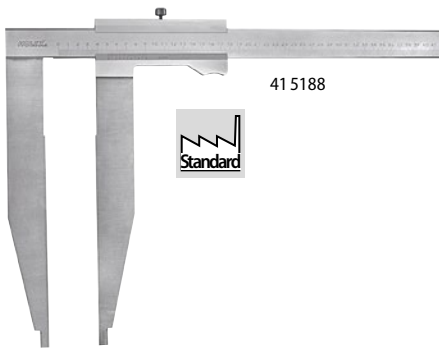
41 5186 – With fine adjustment.

41 5188 – With **extra long jaws,** without fine adjustment.

DIN 862



41 5186



41 5188

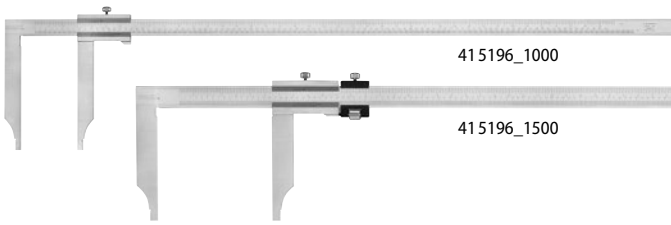
Measuring range		mm	500	800	1000
41Z	41 5186	Vernier caliper	XXX	XXX	XXX
41Z	41 5188	Vernier caliper with extra long jaws	XXX	XXX	XXX
Scale divisions		mm	0.05		
Graduation		mm	1/20		
Error limit (41 5186)		mm	0.07	0.1	0.12
Error limit (41 5188)		mm	0.12	0.17	0.17
Jaw length (41 5186)		mm	150	150	200
Jaw length (41 5188)		mm	300		
Internal jaw ∅		mm	20		
Weight		kg	1.9	3.5	3.9

mm / Inch | S/STL | ▶ A1 ◀ Cal

Standard _1000 | DIN 862 _300; _500; _800; _1500; _2000

HOLEX Calipers with large measuring ranges

Vernier and reading face non-glare, satin chromium plated. Measuring faces hardened and ground. **Long jaws for measuring large workpieces and workpiece Ø.** With locking screw. Offset and rounded jaw ends for internal measurements.
Size 1500; 2000 – With fine adjustment.



Måleområde		mm	300	500	800	1000	1500	2000
42A 41 5196	Vernier caliper		XXX	XXX	XXX	XXX	XXX	(XXX)
Scale divisions		mm	0.05					
Graduation		mm	1/20					
Error limit		mm	0.05	0.07	0.1	0.24	0.18	0.22
Jaw length		mm	90	150	150	200	200	200
Internal jaw Ø		mm	10	20	20	20	30	30
Weight		kg	0.44	1.1	2.1	2.5	5.3	9.3

41

DIN 866 | S/STL | ▶ G2 ◀ Cal

Schwenk Length tape measures CJL for measuring plane parallel distance up to 6 m

Length tape measure CJL-INOX for measuring plane parallel distances. Graduations 1 mm. Precise, high contrast laser graduations. Reading 0.1mm. Graduation error limits to DIN 866.

Note: For measuring tape for measuring diameter and circumference, see No. 465680; 465682.
Length tape measures with black coating available on request

Band length		mm	1000	2200	3500	4800	6000
46P 41 5198	Length tape measure CJL-INOX		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range		mm	60 – 960	900 – 2200	2200 – 3500	3400 – 4800	4700 – 6000
Tape width		mm	16				

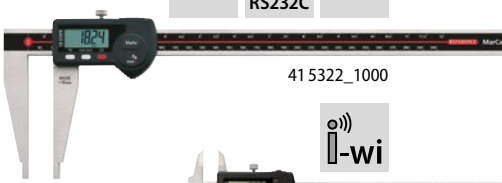
Standard | mm / Inch | IP 65 | Reference Lock | S/STL | ▶ A1 ◀ Cal

Mahr Digital workshop calipers MarCal

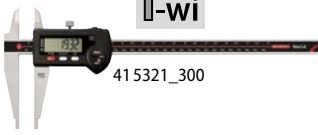
Direct reading from large and clear digital display. Precision lapped measuring faces.
Size 500; 750; 1000 – Perforated measurement jaws.
Supplied with: 1 battery No. 081560 size CR2032
Optional extras: Data cable No. 498940.
41 5321 – i-wi radio receiver No. 498912

Digimatic | RS232C

Digimatic | RS232C



i-wi



Measuring range		mm	300	500	750	1000
43A 41 5320	Digital caliper MarCal **with measuring tips**		XXX	XXX	XXX	XXX
43A 41 5321	Digital caliper MarCal **i-wi with measuring tips**		(XXX)	(XXX)	(XXX)	(XXX)
43A 41 5322	Digital caliper MarCal **without measuring tips**		XXX	XXX	(XXX)	(XXX)
Scale divisions		mm	0.01			
Scale divisions		inch	0.0005			
Error limit		mm	0.03	0.04	0.05	0.06
Jaw length		mm	90	150	150	150
Internal jaw Ø		mm	10	20	20	20

HELIOS-PREISSER Wooden case for vernier caliper

Wooden case for vernier caliper, with smooth foam inlay.

Note: Further sizes available on request.
Size 1500–3000 – Delivery excluded.

for vernier caliper size		mm	160	200	300	500	800	1000	1500	2000	3000
46P 41 5330	Wooden case		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Internal length		mm	250	315	435	690	1000	1250	1800	2300	3310
Width internal		mm	90	145	175	250	270	270	380	380	400
Internal height		mm	20	20	20	25	25	25	25	25	25

Standard | mm / Inch | S/STL | ▶ A1 ◀ Cal

HOLEX Digital workshop calipers with measuring tips

Direct reading from large and clear digital display. **With sturdy metal housing.**

Supplied with: 1 battery No. 081560 size LR44.

Measuring range		mm	300
42A 41 5611	Digital caliper **with measuring tips**		XXX
Scale divisions		mm	0.01
Scale divisions		inch	0.0005
Error limit		mm	0.04
Jaw length		mm	90
Internal jaw ∅		mm	10

41 5611

Absolute System

Digital caliper with **absolute scale**, no zeroing required. Large, sharp-contrast digital display. Electronics switch off automatically after 5 minutes. Switches on when moved. The measuring faces are precision-lapped. **With sturdy metal housing.**

Supplied with: 1 battery No. 081560 size CR2032

Measurement range		mm	300	500	750
42A 41 5621	Digital caliper **ABS with measuring tips**		XXX	XXX	XXX
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.04	0.06	0.07
Jaw length		mm	90	150	150
Internal jaw ∅		mm	10	20	20

41 5621

Standard | Digimatic | Absolute System | S/STL | ▶ A1 ◀ Cal

Mitutoyo Digital workshop calipers with measuring tips

Measured result is displayed in easy-to-read digits.

Supplied with: 1 battery No. 081560 size 357.

Optional extras:

41 5350 – Data cables No. 497080 and 497100.

41 5355 – Data cable No. 497085.

41 5350

41 5355

IP 67

Measuring range		mm	NEW 200	NEW 300	500	750	1000
44A 41 5350	Digital workshop caliper **with measuring tips**		–	–	XXX	XXX	XXX
44A 41 5355	Digital ABS workshop caliper **IP67 with jaw/standard measuring faces**		XXX	XXX	–	–	–
Scale divisions		mm	0.01				
Error limit		mm	0.04	0.04	0.06	0.07	0.08
Jaw length		mm	60	90	150	150	150
Internal jaw ∅		mm	10	10	20	20	20

Standard | mm / Inch | Digimatic | TLC | IP 67 | S/STL | ▶ A1 ◀ Cal

TESA TWIN-CAL IP67 digital workshop calipers

Large digital display 11 mm, "Soft touch" casing, automatic shut-down (2 h), TLC-TWIN interface for data transmission.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Data cable No. 498918, radio No. 498921 size BT.

41 5357

41 5358

Measuring range		mm	200	300	500	600	800	1000
45A 41 5357	TWIN CAL digital workshop caliper **IP67 with measuring tips**		XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
45A 41 5358	TWIN CAL digital workshop caliper **IP67 without measuring tips**		XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.01					
Scale divisions		inch	0.0005					
Error limit		mm	0.04	0.04	0.04	0.04	0.05	0.05
Jaw length		mm	80	80	150	150	150	150
Internal jaw ∅		mm	10	10	20	20	20	20

Standard | mm / Inch | IP 67 | S/STL | ▶ A1 ◀ Cal

Digital workshop calipers IP67

Very large high-contrast LCD display. Digit height 8 mm or 14 mm (from size 500 mm). With preset (dimension selection in advance). The caliper is resistant to water, emulsion, oil, and dust.

Supplied with: Incl. battery No. 081560 size CR2032.
Optional extras: Data cable No. 498948 size USB2.

Measuring range		mm	200	300	500	600	800	1000
46P 41 5365	Digital workshop caliper **IP67 with measuring tips**		XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
46P 41 5366	Digital workshop caliper **IP67 without measuring tips**		XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.01					
Scale divisions		inch	0.0005					
Error limit		mm	0.03	0.03	0.04	0.04	0.04	0.04
Jaw length		mm	100	100	150	150	150	150
Internal jaw ∅		mm	10					

41 5365

41 5366

41

Standard | mm / Inch | ▶ A1 ◀ Cal

Digital workshop calipers with measuring tips, in lightweight design

Jaws and tips stainless, hardened and ground. Easy precise running on Vee guides. Aluminium beam and slide. 50 % weight advantage. Wear and scratch resistant with hard anodised surface 1100 HV (similar to ceramic).

Supplied with: 1 battery No. 081560 size CR2032

Measuring range		mm	500	800	1000
43A 41 5510	Lightweight digital workshop caliper		XXX	XXX	XXX
Scale divisions		mm	0.01		
Scale divisions		inch	0.0005		
Error limit		mm	0.05	0.07	0.08
Jaw length		mm	150		
Internal jaw ∅		mm	20		
Weight		kg	1.4	1.6	1.75

_500

Standard | Digimatic | IP 66 | Absolute System | ▶ A1 ◀ Cal

Carbon digital workshop calipers

With drive slide for constant measuring force. Extremely light. Selectable set-point (preset), selection of internal / external measurements (offset).

Supplied with: 1 battery No. 081560 size 357.
Optional extras: Data cable No. 497085.

Measuring range		mm	600	1000	1500	2000
44A 41 5400	Carbon digital caliper		(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.01			
Error limit		mm	0.05	0.06	0.1	0.13
Jaw length		mm	100	150	150	150
Internal jaw ∅		mm	20			
Weight		kg	0.67	1.25	1.46	2.56

41 5400

Standard | mm / Inch | RS232C | IP 67 | ▶ A1 ◀ Cal

Ultra Light digital calipers

Extremely light-weight caliper. The measuring beam is of aluminium hollow section, very high stiffness due to four hardened and ground steel rods. Very large LCD display, character height 20mm. External jaws of hardened stainless steel with titanium coating. Measuring force limitation for consistent measuring force (7.5 – 11.5 N). Exchangeable measuring tips for inside measurements. Functions: Preset, Max/Min, Delta, display of the upper and lower tolerance limits.

Supplied with: 1 battery No. 081560 size CR2032, 2 pins for internal measurements on the jaw.
Optional extras: Data cable No. 498948.

Måleområde		mm	600	1000	1500	2000	2500	3000
46A 41 5542	Digital caliper **"Ultra Light"**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.01					
Scale divisions		inch	0.0005					
Error limit		mm	0.04	0.05	0.09	0.12	0.15	0.2
Jaw length		mm	175					
Weight		kg	1.5	1.8	2.2	2.5	2.8	3.2

41 5542

Standard | mm / Inch | ABS | ▶ A1 Cal

HOLEX Digital workshop calipers in lightweight design

Caliper for inside and outside measurements (with preset). Easy-to-read LCD display with extra-large characters. Optimum guidance and sliding characteristics due to **double Vee guides** mounted in plastic. Stainless steel jaws, precision ground. With two movable and **interchangeable jaws**.

Supplied with: Incl. 1 battery No. 081560 size CR2032.

Optional extras: Setting gauge No. 415527 size Set.

Size 300–800 – Jaws No. 415526 size 90 with M2.5 thread for special contact points No. 439000 – 434910.

Size 1000–3000 – Jaws No. 415526 size 150 with M2.5 thread for special contact points No. 439000 – 434910.

41 5525_1000

Interchangeable jaws (41 5526)

Measuring range		mm	300	500	800	1000	1500	2000	3000
42A 41 5525	Digital workshop caliper		XXX	XXX	XXX	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.01						
Scale divisions		inch	0.0005						
Error limit		mm	0.04	0.05	0.06	0.06	0.1	0.13	0.25
Jaw length		mm	90	90	90	90	150	150	150
Internal jaw ∅		mm	10	10	10	10	20	20	20

41

Standard | mm / Inch | IP 65 | S/STL | ▶ i Cal

RS232C | Digimatic

41 5546

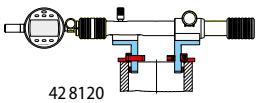
Mahr Digital universal caliper Multimar 25 EWR and i-wi

Interchangeable mixing arms, contact points and contact elements (optional accessories). The digital display can always be read from the user's side. Working area can be extended by rotation. Even distribution for small dimensions, since both jaw holders can be moved along the rail. Stainless hardened slide and rail.

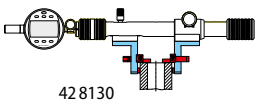
Optional extras: Measuring arms No. 428101, depth stop No. 428111, caliper jaws No. 428141, measuring tips No. 428120; 428130; 428160; 428170.

41 5548 – i-wi radio receiver No. 498912.

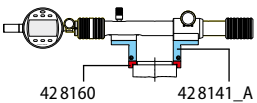
41 5548_300



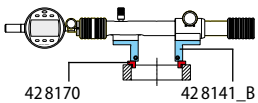
42 8120



42 8130



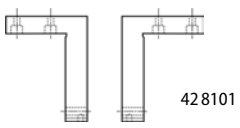
42 8160



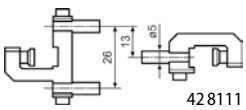
42 8141_A

42 8170

42 8141_B



42 8101



42 8111

Measuring range		mm	300	600	1000	1250
43A 41 5546	Digital universal caliper **Multimar 25 EWR**		(XXX)	(XXX)	(XXX)	(XXX)
43A 41 5548	Digital universal caliper **Multimar i-wi**		(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.01			
Scale divisions		inch	0.0005			
Error limit		mm	0.03	0.03	0.04	0.04

Standard | mm / Inch | RS232C | IP 67 | S/STL | ▶ A1 Cal

Digital universal calipers DIGI ULISSE I/E

Digital universal caliper for a variety of internal and external measurements, with exchangeable measuring tips.

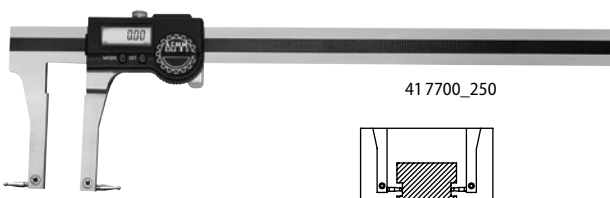
Size 650 – RS232C data output.

Supplied with: Digital caliper including 1 battery No. 081560 size CR2032.

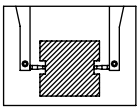
Size 250 – Interchangeable measuring tips with ball ∅ 2.5 mm.

Size 400–650 – Interchangeable measuring tips with ball ∅ 3 mm and clamping sleeve with M2.5 internal thread.

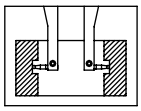
Optional extras: For size 400 - 650 all replacement and special contact points No. 434900 - 4910 with M2.5 thread can be used, data cable No. 498948.



41 7700_250



Gauging force adjustment



Internal measurement

Measuring range		mm	250	400	500	650
46P 41 7700	Digital universal caliper **DIGI ULISSE I/E**		XXX	XXX	(XXX)	(XXX)
Measuring range outside		mm	0 – 210	0 – 320	0 – 420	0 – 570
Measuring range inside		mm	24 – 250	42 – 400	42 – 500	42 – 650
Scale divisions		mm	0.01			
Error limit		mm	0.03	0.03	0.03	0.04
Jaw length		mm	64	103	103	103
Ball ∅ measuring tips		mm	2.5	3	3	3

DIN 862 | mm / Inch | Digimatic | RS232C | IP 67 | Reference Lock | S/STL | ▶ A1 Cal ◀ | ▶ C8 Cal ◀

Mahr

Digital universal caliper sets

Digital universal caliper for a wide variety of internal and external measurements (recesses, grooves, threads etc.).

41 5552 – Digital universal caliper with integral i-wi wireless data interface.

Supplied with: Caliper, depth extension base No. 415556, setting gauge No. 415557, measuring force adjusting device No. 415558, 6 pairs of measuring tips for internal and external measurements, 1 battery No. 081560 size CR2032.

Optional extras:

41 5551 – Data cable No. 498940.

41 5552 – i-wi radio receiver No. 498912

41 5551

41 5556

41 5557

41 5558

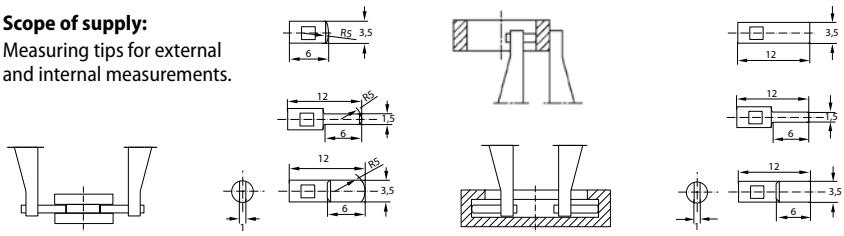
41

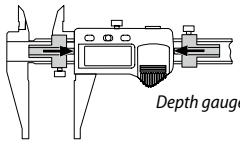
i-wi

41 5552

Measuring range		mm	200
43A 41 5551	Digital universal caliper set **IP 67**		XXX
43A 41 5552	i-wi digital universal caliper set **IP 67**		(XXX)
Scale divisions		mm	0.01
Error limit		mm	0.03
Jaw length		mm	48

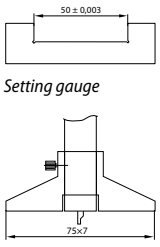
Scope of supply:
Measuring tips for external and internal measurements.





Depth gauge base

Gauging force adjustment



Setting gauge

Standard | mm / Inch | Digimatic | RS232C | IP 67 | S/STL | ▶ A1 Cal ◀

HELIOS-PREISSER

Digital universal caliper sets

"Pocket Talent" digital universal caliper for a wide variety of internal and external measurements (recesses, grooves, threads etc.). Easy-to-read, high-contrast LCD display with 7.5 mm character height. Including a PRESET function (measured value pre-setting).

Supplied with: Digital caliper, 50 mm setting gauge, 2 pairs of measuring tips for internal and external measurements. 1 battery No. 081560 size CR2032.

Optional extras: All spare and special contact points No. 434900 to 434915 with M2.5 thread. Data cable No. 498940.

Measuring tips for internal and external measurements, setting master.

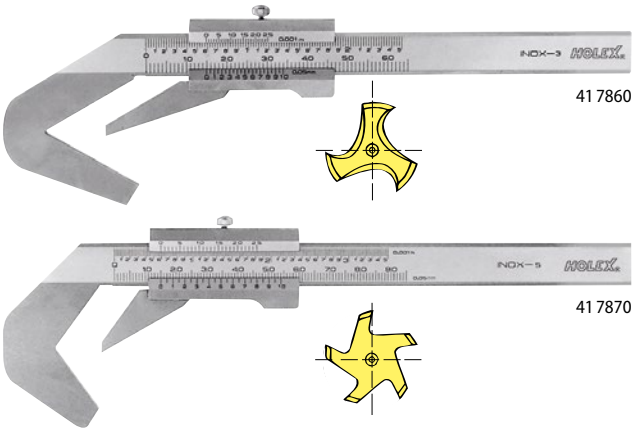
41 5555

Måleområde		mm	150
46P 41 5555	Digital universal caliper set **IP 67**		XXX
Scale divisions		mm	0.01
Scale divisions		inch	0.0005
Error limit		mm	0.05
Jaw length		mm	40

Standard | mm / Inch | S/STL | A1 Cal

HOLEX Vernier calipers for 3- and 5-point measurements

Application: For measuring cutters with 3 or 5 cutting edges.



41 7860

41 7870

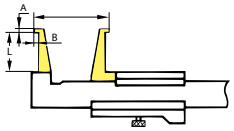
∅×Measuring range		mm	4-40	2-40
41Z 41 7860	Vernier caliper 3-point 60° Vee angle		XXX	–
41Z 41 7870	Vernier caliper 5-point 108° Vee angle		–	XXX
Scale divisions		mm	0.05	
Graduation		mm	1/20	
Graduation		inch	1/1000	
Error limit		mm	0.05	

Standard | S/STL | A1 Cal

HOLEX Groove vernier calipers

Application: For measuring internal groove ∅.

41 7900



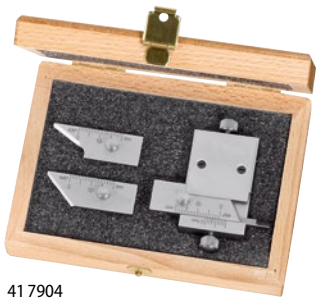
Measuring range		mm	10-160	26-200
41Z 41 7900	Groove vernier caliper		XXX	XXX
Scale divisions		mm	0.05	
Graduation		mm	1/20	
Error limit		mm	0.1	
Jaw length L		mm	25	60
Measuring tip A		mm	1.1	3
Measuring tip B		mm	3	7

Standard | S/STL | i Cal

HOLEX Chamfer calipers

With interchangeable inspection straight edges for 30°, 45°, and 60° chamfers.

Application: For simple and precise dimensional inspection of chamfers.



41 7904

42A 41 7904	Universal chamfer vernier calipers		XXX
Scale divisions		mm	0.1
Error limit		mm	0.1

Standard | S/STL | A1 Cal

MARUI-KEIKI Radius calipers

Application: For measuring the radius or ∅ of circle segments.

41 7905

Measuring range radius		mm	R150
46R 41 7905	Radius calipers		XXX
Measuring range diameter		mm	300
Scale divisions		mm	0.1

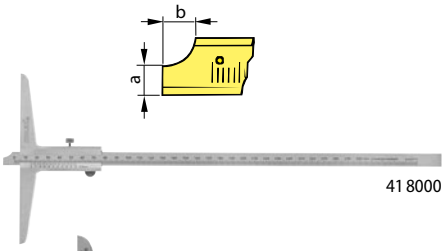
DIN 862 | S/STL | ▶ A1 ◀ Cal

HOLEX Vernier depth gauges

Measuring beam and vernier with clearly engraved scales. Precision ground contact faces.
Vernier satin chrome-plated.

Size 100 – Measuring beam equipped with a hardened, fine gauging pin at the front (1.0 mm ∅, 8 mm long). **Reversible beam.**

Supplied with: From size 500 in a case.



41 8000

41 8000_100

Needle hole probe 1.0 mm ∅ 8mm long.

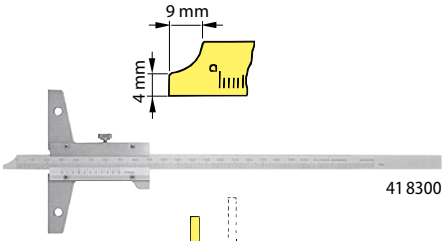
Measuring range	mm	100	200	300	500	800	1000
42A **41 8000** Vernier depth gauge		XXX	XXX	XXX	XXX	XXX	XXX
Graduation	mm	1/20					
Vernier length	mm	39					
Measuring tip a	mm	1	5	6	6	10	10
Measuring tip b	mm	8	7	9	9	13	13
Bridge length	mm	50	100	150	150	250	250
Cross-section measuring beam	mm	8×3	8×3	12×4	12×4	20×5	20×5

DIN 862 | S/STL | ▶ A1 ◀ Cal

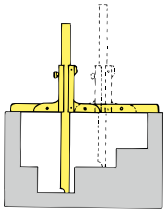
HOLEX Vernier depth gauges

Measuring beam and vernier satin chrome-plated. Vernier adjustable. High-contrast scale.
Measuring and contact faces precision lapped. Wider bridging widths achievable by using extension base (see No. 418744).

Optional extras: Additional extension base No. 418744 (180 – 320 mm).



41 8300



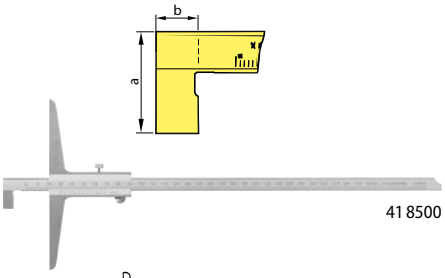
Measuring range	mm	150	200	300
41Z **41 8300** Vernier depth gauge		XXX	XXX	XXX
Graduation	mm	1/20		
Vernier length	mm	39		
Bridge length	mm	100		
Cross-section measuring beam	mm	11×4		

DIN 862 | S/STL | ▶ A2 ◀ Cal

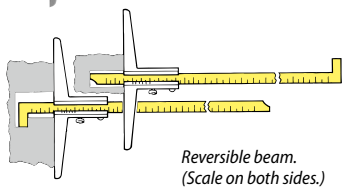
HOLEX Vernier hook depth gauges

Vernier satin chrome-plated. Measuring beam and vernier with clearly engraved scales.
Offset slim measuring beam with graduations on both sides.
Can also be **used as normal vernier depth gauge** by reversing the measuring beam.
Precision ground contact faces.

Supplied with: Size 500L in a case.



41 8500



Reversible beam. (Scale on both sides.)

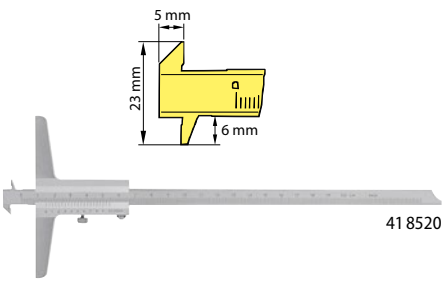
Measuring range	mm	200	300	500L
41Z **41 8500** Vernier hook depth gauge		XXX	XXX	XXX
Graduation	mm	1/20		
Vernier length	mm	39		
Hook size a	mm	20	28	36
Hook size b	mm	5	10	10
Bridge length	mm	100	150	250
Cross-section measuring beam	mm	8×3	12×4	20×5

DIN 862 | S/STL | ▶ A2 ◀ Cal

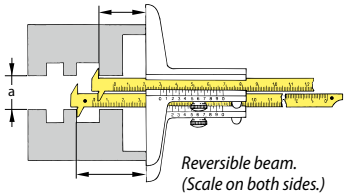
HOLEX Vernier double hook depth gauges with offset measuring faces

Measuring beam and vernier satin chrome- plated, with cleanly engraved scales.
Precision ground contact faces.

Application: Universal for depth measurements, distances, recesses, and grooves - particularly in bores. Please note dimension "a".



41 8520



Reversible beam. (Scale on both sides.)

Measuring range	mm	200	300
41Z **41 8520** Vernier double hook depth gauge		XXX	XXX
Graduation	mm	1/20	
Vernier length	mm	39	
Hook size a	mm	23	
Bridge length	mm	100	
Cross-section measuring beam	mm	10×3	

Standard | mm / Inch | IP 67 | S/STL | ▶ A1 Cal ◀

Garant Digital depth gauges

41 8682 – **Very large high-contrast LCD display with 11.5 mm character height.** Very long battery running time due to modern energy-efficient measurement system. The system switches automatically into power-saving mode after 20 minutes; moving the caliper reactivates it. There is no loss of the measurement value or zero point. 2-component body with **non-slip Haptoprene surface.** The measuring faces are precision-lapped. Measuring beam has a slender hardened measuring pin at the front, Ø 1.5 mm, 5 mm long. With preset (dimension selection in advance).

41 8684 – **Very large high-contrast LCD display with 11.5 mm character height.** Very long battery running time due to modern energy-efficient measurement system. The system switches automatically into power-saving mode after 10 minutes; moving the caliper reactivates it. There is no loss of the measurement value or zero point. 2-component body with **non-slip Haptoprene surface.** The measuring faces are precision-lapped. Measuring beam has a slender hardened measuring pin at the front, Ø 1.5 mm, 5 mm long. With preset (dimension selection in advance).
Version **with Bluetooth.** For ease of use, the optional Hoffmann Group Connected Tools (HCT) app for Android and iOS is available free of charge.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Extension base 300 mm long No. 418610, measuring tip for caliper jaws No. 418630

41 8682 – Data cable No. 498948, keyboard interface No. 498963.

RS232C

41 8682_150

Measuring range		mm	150	200	300
41A 41 8682	Digital depth gauge **IP67 with data output**		XXX	XXX	XXX
41A 41 8684	HCT digital depth gauge **IP67 with Bluetooth**		XXX	XXX	XXX
Reversible reading		mm	0.01		
Reversible reading		inch	0.0005		
Error limit		mm	0.03		
Bridge length		mm	100		
Cross-section measuring beam		mm	16×4		

41 8684_150

Mahr Digital depth gauges

Standard | mm / Inch | IP 67 | Reference Lock | S/STL | ▶ A1 Cal ◀

Modern energy-efficient measurement system. The measuring faces are precision lapped. With preset (dimension selection in advance), e.g. for distance measurements with measuring tip No. 418630. Measuring beam has a slender hardened measuring pin at the front, Ø 1.5 mm, 5 mm long.

41 8702 – Easy-to-read, high-contrast LCD display with 8.5 mm high digits.

41 8703 – Very large LCD display with 11 mm character height, i-wi integral wireless data interface resistant to dust and moisture, service life approx. 3 years.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Extension base 300 mm long No. 418610, measuring tip for caliper jaws No. 418630

41 8702 – Data cable No. 498940.

41 8703 – Wireless data transmission to i-wi radio receiver No. 498912.

RS232C | Digimatic

41 8702_150

i-wi

41 8703_150

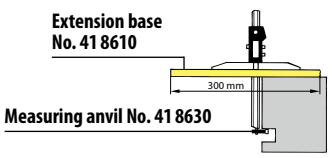
Measuring range		mm	150	200	300	500
43A 41 8702	Digital depth gauge **IP 67 with data output**		XXX	XXX	XXX	XXX
43A 41 8703	Digital depth gauge **IP 67 with wi-fi**		XXX	XXX	XXX	(XXX)
Reversible reading		mm	0.01			
Reversible reading		inch	0.0005			
Error limit		mm	0.03	0.03	0.04	0.05
Bridge length		mm	100	100	150	150
Cross-section measuring beam		mm	16×4			

Optional extras

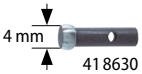
Suitable for:

41 8610 – No. 418702 and 418703.

41 8630 – No. 418682, 418684, 418702 and 418703.



43A 41 8610	Extension base 300 mm	XXX
43A 41 8630	Measuring anvil for distance measurement Ø 4 mm	XXX



41 8630

▶ C8 Cal ◀

41 8610

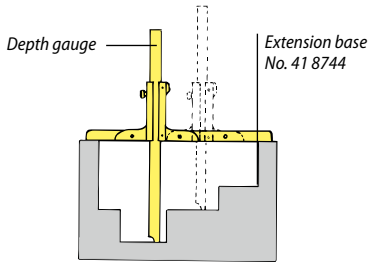
Standard | S/STL | A1 Cal

Mitutoyo Digital depth gauges with absolute electronics

Measured result is displayed in easy-to-read digits. The measuring faces are precision lapped.
Supplied with: 1 battery No. 081560 size 357.
Optional extras:
41 8710/8711 – Data cables No. 497080 and 497100.
41 8713 – Data cable No. 497085.
41 8710/8713 – Additional extension base No. 418744.

41 8711_300

41 8711_150



41 8713_200

Measuring range		mm	150	200	300	750	1000
44A 41 8710	Digital depth gauge **with data output**		–	–	–	(XXX)	(XXX)
44A 41 8711	Digital depth gauge **AOS with data output**		XXX	XXX	XXX	–	–
44A 41 8713	Digital depth gauge **IP 67 with data output**		XXX	XXX	–	–	–
Scale divisions		mm	0.01				
Error limit		mm	0.03	0.03	0.03	0.06	0.07
Bridge length		mm	100	100	100	250	250
Cross-section measuring beam		mm	16×3.5	16×3.5	16×3.5	20×6	20×6

Standard | mm / Inch | Absolute System | S/STL | A1 Cal

HOLEX Digital depth gauge with absolute electronics

Measured result is displayed in easy-to-read digits. The measuring faces are precision lapped.
Supplied with: 1 battery No. 081560 size CR2032
Optional extras: Extension base No. 418744.

41 8742_150

Measuring range		mm	150	300
41Z 41 8742	Digital depth gauge		XXX	XXX
Scale divisions		mm	0.01	
Reversible reading		mm	0.01	
Reversible reading		inch	0.0005	
Error limit		mm	0.03	0.04
Bridge length		mm	100	
Cross-section measuring beam		mm	16×4	

HOLEX Extension bases for depth gauges

Suitable for: No. 418300; 418710 size 300; 418711; 418713; 418742.

41 8744

Bridge length		mm	180	260	320
42A 41 8744	Single extension base		XXX	XXX	XXX
Number of tapped holes		pcs.	2	5	4

Standard | mm / Inch | Digimatic | TLC | IP 67 | S/STL | ▶ A1 ◀ Cal

TESA TWIN CAL IP67 digital depth gauges

Large digital display 11 mm, IP67 protection, "Soft touch" casing, 12,000 hours service life, automatic standby after 10 min. and automatic shutdown after 2 h, TLC-TWIN interface, offset measuring face 4 mm wide.

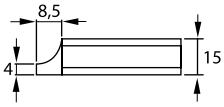
41 8697 – **With 360° adjustable stop plate** for comprehensive measurement tasks.

Application: General purpose use for depth measurement, holes, offsets, width and spacing measurements.

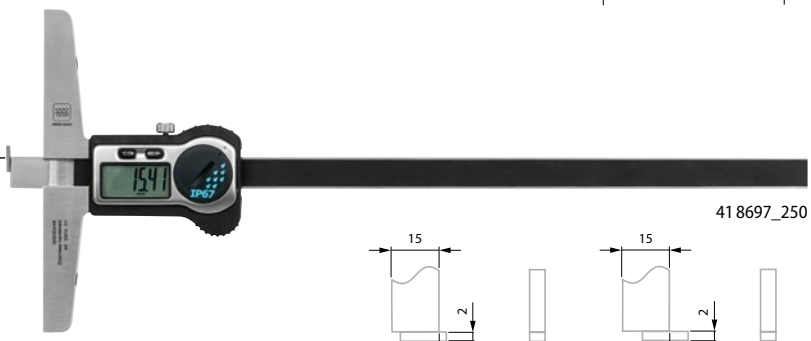
Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Data cable No. 498918, radio No. 498921 size BT.

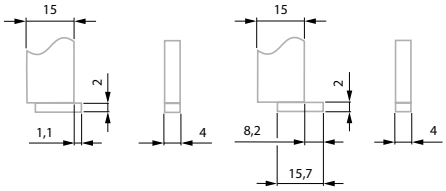
41 8695_200



Stop plate can be rotated through 360°.



41 8697_250



Measuring range	mm	200	250	300	350	500
45A 41 8695	Digital depth gauge **TWIN CAL IP 67**	XXX	XXX	XXX	–	(XXX)
45A 41 8697		–	XXX	–	XXX	XXX
Reversible reading	mm	0.01				
Reversible reading	inch	0.0005				
Error limit	mm	0.03				
Bridge length	mm	100	100	150	150	150
Cross-section measuring beam	mm	15×4				

Standard | mm / Inch | RS232C | IP 67 | S/STL | ▶ A1 ◀ Cal

Digital depth gauges

Very large high-contrast LCD display. Character height 8 mm. With preset (dimension selection in advance). The caliper is resistant to water, emulsion, oil, and dust.

Function: IP67: Protected against intermittent immersion in water and protected against penetration by dust (dust-tight), also completely protected against touching.

Supplied with: Incl. battery No. 081560 size CR2032.

Optional extras: Data cable No. 498948 size USB2. Measurement head.

41 8746

Måleområde	mm	150	200	300
46P 41 8746	Digital depth gauge **IP 67 with data output**	XXX	XXX	XXX
Scale divisions	mm	0.01		
Scale divisions	inch	0.0005		
Error limit	mm	0.02	0.02	0.03
Bridge length	mm	100		
Cross-section measuring beam	mm	12×4		

Mahr Digital groove depth gauges MarCal

mm / Inch | Digimatic | RS232C | IP 67 | Reference Lock | S/STL

For measuring cut-outs, grooves, recesses, shoulders etc. Error limits as listed in **DIN 862**.

41 8754 – Very large LCD display with 11 mm character height. Integral i-wi wireless data interface.

Size 200; 300 – Measuring beam with double hook. Both contact faces in a single plane.

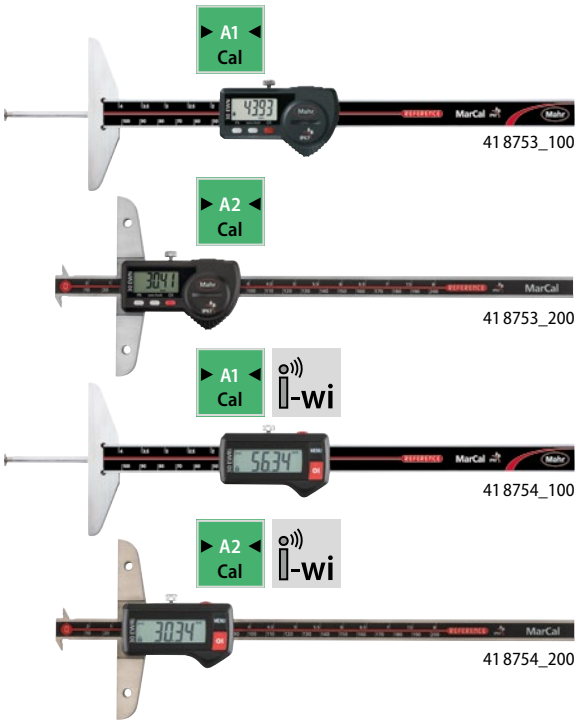
Supplied with: 1 battery No. 081560 size CR2032.

Size 100 – 3 measuring tips (Ø 4 mm, Ø 7.5 mm, and radius 6 mm).

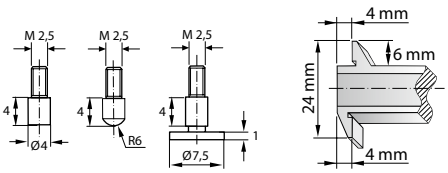
Optional extras: Data cable No. 498940.

Size 100 – Disc measuring anvil No. 418660 size 0.5. Special contact point No. 434900 – 4915 with M2.5 thread.

41 8754 – i-wi radio receiver No. 498912.



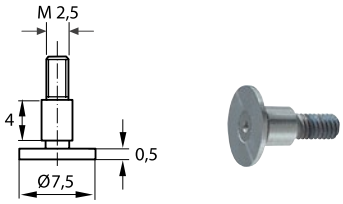
Measuring range		mm	100	200	300
43A 41 8753	Digital groove depth gauge **IP67**		XXX	XXX	XXX
43A 41 8754	Digital groove depth gauge **IP 67, i-wi**		(XXX)	(XXX)	XXX
Reversible reading		mm	0.01		
Reversible reading		inch	0.0005		
Error limit		mm	0.03		
Measuring rod Ø		mm	4	–	–
Bridge length		mm	85	100	150
Cross-section measuring beam		mm	16 × 3	11.5 × 3.6	11.5 × 3.6



Disc measuring anvil for depth gauge

Suitable for: Depth gauge No. 418753 size 100, No. 418754 size 100.

Pad thickness		mm	0,5	1
43A 41 8660	Disc measuring anvil		XXX	XXX
Backing pad Ø		mm	7.5	



Standard | mm / Inch | A1 Cal

HOLEX Digital groove depth gauges

Aluminium profile with steel reinforcement and anodised surface. Double Vee guides. Exchangeable measuring tips (M2.5).

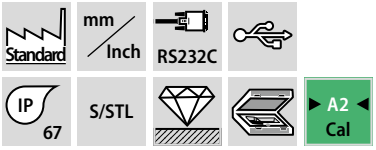
Application: Measuring cut-outs, grooves, holes and offsets.

Supplied with: Measuring tip with steel ball, disc insert, measurement heads 150 mm and 350 mm, battery No. 081560 size LR44.

Note: Measurement heads 550 mm, 750 mm and 900 mm on request.

Measuring range		mm	100	200	300	500	800	950
42A 41 8755	Digital groove depth gauge		XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
Error limit		mm	0.03	0.03	0.04	0.05	0.06	0.06
Disc anvil Ø		mm	10	10	10	20	20	20
Measuring rod Ø		mm	4	4	4	6	6	6
Cross-section measuring beam		mm	23.5 × 9					

Digital universal depth gauges DIGI RICOR



41 8770 – Flexible universal depth gauges with exchangeable measuring tips. For measuring cut-outs, grooves, recesses, shoulders etc. Precision lapped measuring faces.

Function:

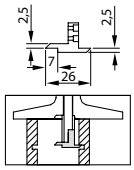
Size 300; 400; 500; 600; 800 – IP67: Protected against intermittent immersion in water and protected against penetration by dust (dust-tight), also completely protected against touching.

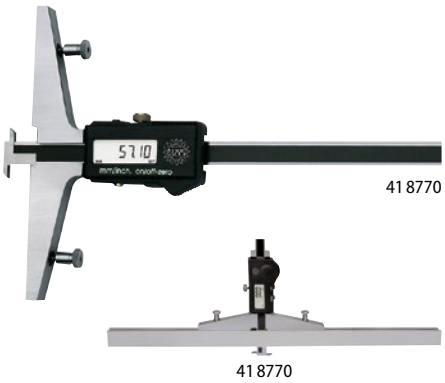
Supplied with:

41 8770 – Depth gauge, double hook measuring tip No. 418772 size A, 1 battery No. 081560 size CR2032.

Optional extras:

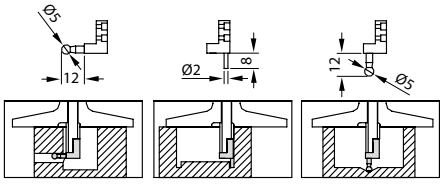
41 8770 – Data cable No. 498948.
Measuring tips No. 418772.
Measurement head No. 418774.





With slid-on measurement head No. 41 8774.

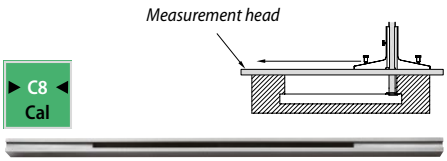
Measuring range	mm	300	400	500	600	800
46P 41 8770	Digital universal depth gauge	XXX	XXX	(XXX)	(XXX)	(XXX)
Reversible reading	mm	0.01				
Reversible reading	inch	0.0005				
Error limit	mm	0.03	0.03	0.03	0.03	0.04
Bridge length	mm	150				
Cross-section measuring beam	mm	12×4				



Type		A	B	C	D
46P 41 8772	Measuring tip for depth gauge No. 418770	XXX	XXX	XXX	XXX

The measurement head can be fitted quickly - no other tools required. Two spring-loaded screws allow it to be securely locked.

Bridge length	mm	400	500	600
46P 41 8774	Measurement head for depth gauge No. 418770	XXX	(XXX)	(XXX)
Cross section measurement head	mm	20×13		

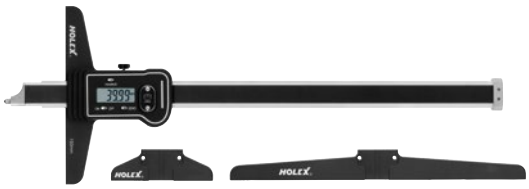


Digital general-purpose depth gauges in lightweight design

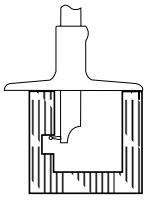
Easy-to-read display. Optimum sliding characteristics are ensured by **double Vee guides.** Measurement head of hard-coated aluminium with two tapped holes at 90° (M2.5) to take the measuring tips.

Supplied with: Contact point No. 434900 size 2, 3 measurement heads (150, 300 and 450 mm), 1 battery No. 081560 size LR44 and manufacturer's test certificate.

Optional extras: All spare and special contact points No. 434900 - 4915 with M2.5 thread.



Additional side-facing mounting of measuring tips for measuring grooves and spacings.



Measuring range	mm	300	500	800
42A 41 8802	Digital depth gauge	XXX	XXX	(XXX)
Reversible reading	mm	0.01		
Reversible reading	inch	0.0005		
Error limit	mm	0.04	0.05	0.06
Cross-section measuring beam	mm	23.5 × 9		

Digital small depth gauges

Digital depth gauge with **absolute scale**, no zeroing required. Very high accuracy due to the glass scale. Electronics switch off automatically after approx. 5 minutes and switch on again as soon as the tool is moved.

Supplied with: 1 battery No. 081560 size CR2032.

Måleområde	mm	50
42A 41 8760	Digital depth gauge	XXX
Reversible reading	mm	0.01
Reversible reading	inch	0.0005
Error limit	mm	0.02
Needle hole probe length	mm	6
Needle hole probe ∅	mm	1.5
Bridge length	mm	50

▶ S1 ◀
Cal

Garant Measuring tool set, 6 pieces

Supplied with: Supplied in a wooden case.
1 pc. **digital GARANT caliper** No. 412680 size 150 mm.
1 pc. **GARANT external micrometer** No. 420402 size 0 – 25 mm.
1 pc. **GARANT bevel square** No. 450010 size 100×70 mm, accuracy DIN 875/00.
1 pc. **GARANT straight-edge** No. 460095 size 100 mm long.
1 pc. **GARANT steel rule** EG I No. 461770 size 150 mm.
1 pc. **precision spring dividers** No. 457000 size 120 mm long with interchangeable tips.

Number of measuring tools		6
41A 41 9151	Measuring tool set	XXX

41 9151

▶ S1 ◀
Cal

Garant Measuring tool sets, 2 or 6 pieces

Supplied with: Wooden case
Size 2 – 1 **GARANT vernier caliper** No. 410100 size 150 mm.
1 **GARANT external micrometer** No. 420402 size 0–25 mm.
Size 6 – 1 **GARANT vernier caliper** No. 410100 size 150 mm.
1 **GARANT external micrometer** No. 420402 size 0 – 25 mm.
1 **GARANT bevel edge square** No. 450010 size 100×70 mm, accuracy to DIN 875/00.
1 **GARANT straight edge** No. 460095 Size 100 mm long.
1 **GARANT steel rule** EG I No. 461770 size 150 mm.
1 **Precision spring divider** No. 457000 size 120 mm long with interchangeable tips.

Optional extras:
Size 2 – Can be extended to include bevel edge square No. 450010 size 75×50.

Number of measuring tools		2	6
41A 41 9160	Measuring tool set	XXX	XXX

41 9160_2

41 9160_6

▶ S1 ◀
Cal

Mahr Measuring tool set, 3 pieces

Supplied with: Wooden case
1 **Mahr digital vernier caliper** No. 412728 size 150 mm.
1 **digital external micrometer** No. 421310 size 0 – 25 mm.
1 **depth base attachment** No. 412710.

Number of measuring tools		3
43A 41 9170	Measuring tool set	XXX

41 9170

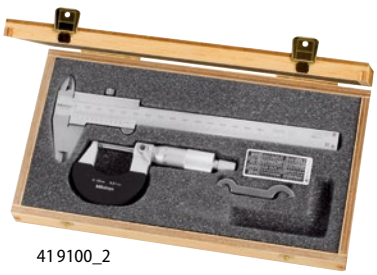
▶ S1 ◀
Cal

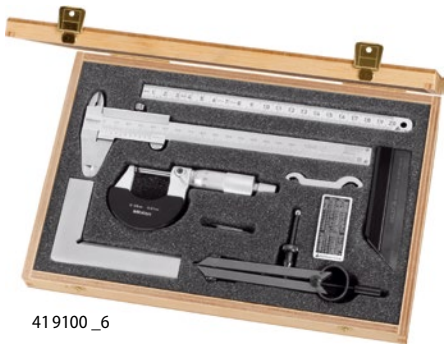
Mitutoyo Measuring tool sets, 2 or 6 pieces

Supplied with: Wooden case
Size 2 – 1 **Mitutoyo vernier calipers** No. 410300 size 150 mm.
1 **Mitutoyo external micrometer** No. 420500 size 0 - 25 mm.
Size 6 – 1 **Mitutoyo vernier calipers** No. 410300 size 150 mm.
1 **Mitutoyo external micrometer** No. 420500 size 0 - 25 mm.
1 **Bevel edge square** No. 450010 size 100×70 mm, accuracy to DIN 875/00.
1 **Straight edge** No. 460095 Size 100 mm long.
1 Flexible **steel rule** No. 461800 size 200 mm long.
1 **Precision spring divider** No. 457000 size 125 mm long with interchangeable tips.

Optional extras:
Size 2 – Can be extended to include bevel edge square No. 450010 size 75×50.

Number of measuring tools		2	6
46P 41 9100	Measuring tool set	XXX	XXX

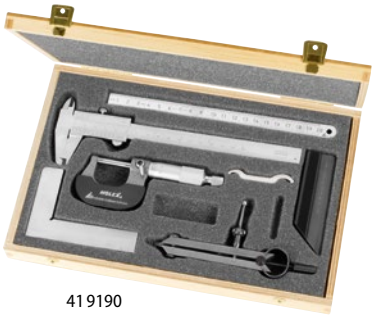

41 9100_2


41 9100 _6

S1 Cal

HOLEX Measuring tool set, 6 pieces

Supplied with: Supplied in a wooden case.
1 pc. **HOLEX caliper** No. 410200 size 150 mm.
1 pc. **HOLEX external micrometer** No. 420200 size 0 – 25 mm.
1 pc. **HOLEX stock square** No. 452590 size 100×70 mm, accuracy DIN 875/2.
1 pc. **HOLEX straight-edge** No. 460100 size 100 mm long.
1 pc. flexible **steel rule** No. 461800 size 200 mm long.
1 pc. **precision spring dividers** No. 457000 size 120 mm long with interchangeable tips.



41 9190

Number of measuring tools		6
42A 41 9190	Measuring tool set, 6 pieces	XXX

DIN 863 | 0 45 | B1 Cal | B2 Cal ≥ 25 - 50

External micrometers 1/100 graduation

Precision lapped, carbide-tipped measuring faces.
Hardened and ground measuring spindle.
Locking by clamping lever.
With ratchet and hand temperature protection.
With clearly engraved, black divisions and numerals.
42 0500 – From size 100-125, enamelled cast frame.

Supplied with:
42 0200/0410/0500 –From size 25-50 including 1 setting standard.

42 0500 42 0410

42 0450 42 0200

Measuring range		mm	0-25	25-50	50-75	75-100	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300
44A 42 0500	Mitutoyo	External micrometer	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)	(XXX)
43A 42 0410	Mahr		XXX	XXX	XXX	XXX	XXX	XXX	(XXX)	(XXX)	–	–	–	–
45A 42 0450	TESA		XXX	(XXX)	(XXX)	(XXX)	–	–	–	–	–	–	–	–
42B 42 0200	HOLEX		XXX	XXX	XXX	XXX	–	–	–	–	–	–	–	–
Scale divisions		mm	0.01											
Spindle ∅ (42 0500)		mm	6.35											
Spindle ∅ (42 0410, 42 0450, 42 0200)		mm	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	–	–	–	–
Barrel ∅ (42 0500, 42 0200)		mm	18											
Barrel ∅ (42 0410)		mm	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	–	–	–	–
Barrel ∅ (42 0450)		mm	18.5	18.5	18.5	18.5	–	–	–	–	–	–	–	–

DIN 863 | 0 90 | B1 Cal | B2 Cal ≥ 25 - 50

HOLEX External micrometers 1/100 graduation

Precision lapped, carbide-tipped measuring faces.
Hardened and ground measuring spindle; with locking lever
With ratchet and hand temperature protection.

Supplied with: From size 25 – 50 supplied with 1 setting standard.

42 0750

Measuring range		mm	0-25	25-50	50-75	75-100
42B 42 0750	External micrometer **1/100 graduations**		XXX	XXX	XXX	XXX
Scale divisions		mm	0.01			
Spindle ∅		mm	8			
Barrel ∅		mm	30			

DIN 863 | 0 45 | B1 Cal

External micrometers 1/100 graduation

Precision lapped, carbide-tipped measuring faces.
Hardened and ground measuring spindle. Locking by clamping lever.
With ratchet and hand temperature protection. Barrel non-reflecting chrome-plated.
With clearly engraved, black divisions and numerals.
With combined sensitive ratchet for one-hand operation and operation within the bracket.
Supplied with: From size 25-50 including 1 setting standard.

B2 Cal
≥ 25–50

42 0402

B2 Cal
≥ 25–50

42 0540

B2 Cal
≥ 25–50

42 0430_0–25

Measuring range		mm	0-25	25-50	50-75	75-100	100-125	125-150
41B 42 0402	Garant	External micrometer	XXX	XXX	XXX	XXX	XXX	XXX
44A 42 0540	Mitutoyo		XXX	XXX	–	–	–	–
42B 42 0430	HOLEX		XXX	XXX	XXX	XXX	–	–
Scale divisions		mm	0.01					
Spindle ∅ (42 0402, 42 0430)		mm	6.5					
Spindle ∅ (42 0540)		mm	6.35	6.35	–	–	–	–
Barrel ∅ (42 0402)		mm	19					
Barrel ∅ (42 0540)		mm	18	18	–	–	–	–
Barrel ∅ (42 0430)		mm	20.5	20.5	20.5	20.5	–	–

DIN 863 | 0 45 | S2 Cal

External micrometer sets

42 0250 – External micrometer No. 420200.
42 0404 – External micrometer No. 420402.
42 0415 – External micrometer No. 420410.
42 0432 – External micrometer No. 420430.
42 0800 – External micrometer No. 420500.

42 0404

42 0415

42 0800

42 0432

42 0250

Measuring range		mm	0-100	0-150	100-200	150-300
41B 42 0404	Garant	External micrometer set	XXX	XXX	–	–
43A 42 0415	Mahr	External micrometer set Micromar	XXX	–	XXX	–
44A 42 0800	Mitutoyo	External micrometer set	XXX	XXX	–	XXX
42B 42 0250	HOLEX		XXX	–	–	–
42B 42 0432			XXX	–	–	–
Number of micrometers			4	6	4	6
Number of micrometer standards (42 0404, 42 0800, 42 0250, 42 0432)			3	5	–	6
Number of micrometer standards (42 0415)			2	–	2	–

Standard | 0 45 | B1 Cal

Hartig

External micrometers 1/200 graduation

Precision lapped, carbide-tipped measuring faces. Hardened and ground measuring spindle. Higher accuracy than DIN 863. Locking by clamping screw. With sensitive ratchet and hand temperature protection. Clearly engraved black divisions and numerals.

Application: Particularly suitable for inspection work due to the direct 5 µm reading.

42 0542_0-25

Måleområde		mm	0-25	25-50	50-75	75-100
46P 42 0542	External micrometer		(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.005			
Error limit		µm	1.5	1.5	2	2
Spindle ∅		mm	8			
Barrel ∅		mm	25			

DIN 863 | 0 45 | B1 Cal

Mitutoyo

External micrometers 1/1000 graduation

Precision lapped, carbide-tipped measuring faces. Hardened and ground measuring spindle. Locking by locking lever. With ratchet and hand temperature protection. Barrel non-reflecting chromium plated. Clearly engraved black divisions and numerals.
With combined ratchet for **one-hand operation** and operation in the bracket. **Reading 0.001 mm.**

42 0545

Measuring range		mm	0-25
44A 42 0545	External micrometer		XXX
Scale divisions		mm	0.001
Error limit		µm	2
Spindle ∅		mm	6.35
Barrel ∅		mm	18

Standard | B1 Cal

External micrometer with inch graduations

Precision lapped, carbide-tipped measuring faces. Hardened and ground measuring spindle. Locking by locking lever. With ratchet. Precision engraved black divisions and numerals.

42 0600 – Barrel non-reflecting chrome plated.
42 0650 – With hand temperature protection.

Supplied with: From size 1-2 including 1 setting standard.

B2 Cal ≥ size 1 – 2

42 0600_0-1

B2 Cal ≥ size 1 – 2

42 0650_0-1

Measurement range		inches	0-1	1-2	2-3	3-4
44A 42 0600	Mitutoyo External micrometer **Inch graduations**		(XXX)	(XXX)	–	–
42B 42 0650	HOLEX		XXX	XXX	XXX	XXX
Scale divisions		inch	0.0001			
Spindle ∅ (42 0600)		mm	6.35	6.35	–	–
Spindle ∅ (42 0650)		mm	6.5			
Barrel ∅		mm	18			

Standard | 0 90 | ▶ B1 ◀ Cal

Hartig

Precision external micrometers

Stable spheroidal cast frame, hammer finish with hand temperature protection, friction clutch, and locking device. Precision lapped, carbide-tipped measuring faces. Accuracy better than DIN 863.

Advantage: 50 mm spindle travel, ideal for larger measurement ranges. Direct reading of the 1/100 mm on the large scale barrel.

Supplied with: Without setting standard.

Measuring range	mm	0-50	50-100	100-150	150-200	200-250	250-300
46P 42 0900	Precision external micrometer with 50 mm spindle travel	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.01					
Error limit	µm	3	4	4	5	5	5
Spindle ∅	mm	8					
Barrel ∅	mm	24					

42

DIN 863 | ▶ B2 ◀ Cal

HOLEX

Micrometer setting standards

Setting standard with precision lapped measuring faces. With hand temperature insulation and actual value legend.

Application: For setting external micrometers and for general inspection work.

Note: Adjustment range up to 2000 mm on request.

overall length	mm	25	50	75	100
42B 42 1100	Micrometer setting standard	XXX	XXX	XXX	XXX

42 1100

Note: Adjustment range up to 78 inches on request.

overall length	inches	1	2	3	4
42B 42 1150	Micrometer setting standard	XXX	XXX	XXX	XXX

42 1150

DIN 863 | 0 90 | ▶ S3 ◀ Cal

HOLEX

Large external micrometers

Hardened and ground measuring spindle. Precision lapped, carbide-tipped measuring faces. Locking by locking lever. Large barrel with 1/100 scale and ratchet. Lightweight external micrometers, hammer finish.

Measuring range	mm	25-150	100-200	150-300	200-300
42B 42 0770	Large external micrometer **1/100 graduations**	XXX	XXX	XXX	XXX
Scale divisions	mm	0.01			
Spindle ∅	mm	8			
Spindle travel	mm	25			
Barrel ∅	mm	25			
Number of measuring tips		5	4	6	4
Number of micrometer standards		5	4	6	4

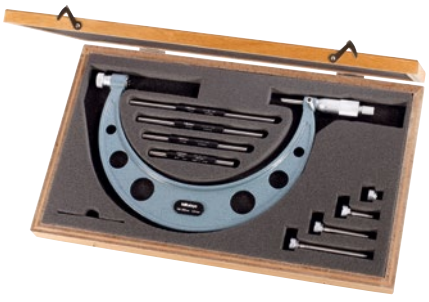
DIN 863 | 0 45 | ▶ S3 ◀ Cal

Mitutoyo

Large external micrometers

Hardened and ground measuring spindle and measuring faces; locked by locking lever. With ratchet. Glare-free satin chrome-plated barrel with 1/50 scale and cleanly engraved black graduations and numerals.

4 easily interchangeable anvils give a measurement range of 100 mm per size.



Measuring range	mm	100-200	200-300	300-400	400-500	500-600	600-700	700-800	800-900
44A 42 0810	Large external micrometer	XXX	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.01							
Spindle ∅	mm	6.35	6.35	8	8	8	8	8	8
Spindle travel	mm	25							
Barrel ∅	mm	18	18	21	21	21	21	21	21
Weight	kg	1.38	2.2	3.4	4.5	5.8	7.1	8.8	10.3
Number of measuring tips		4							
Number of micrometer standards		4							

Standard | 0 90 | S3 Cal

Hartig

Large precision external micrometers

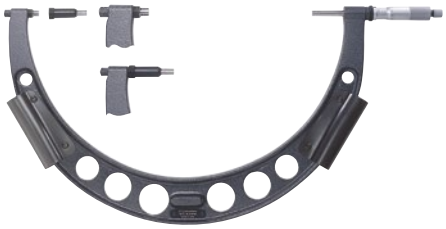
Stable light metal cast frame, hammer finish with hand temperature protection, friction clutch, and locking device. Precision lapped, carbide-tipped measuring faces. Accuracy better than DIN 863. The screw-on rear anvil extension is lapped and carbide-tipped; it doubles the measuring range. Inner scale sleeve with scales for both measurement ranges.

Size 100-200 – Version with steel hoop.

Advantage: Very large measuring range. After the rear anvil extension has been fitted, the micrometer is immediately ready for use. No additional setting block required. Direct reading of the 1/100 mm on the large scale barrel.

Supplied with: Micrometer with 1 rear anvil extension. Without setting standard.

Note: Versions up to 2000 mm measurement range available on request.



Measuring range		mm	100-200	200-300	300-400	400-500	500-600	600-700	700-800	800-900	900-1000
46P 42 0920	Large precision micrometer with rear anvil extension		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.01								
Error limit		µm	6	6	7	8	9	9	9	10	10
Spindle ∅		mm	10								
Spindle travel		mm	50								
Barrel ∅		mm	24								
Weight		kg	1.9	1.5	1.9	2.4	3.1	3.8	4.2	5	6.2

42

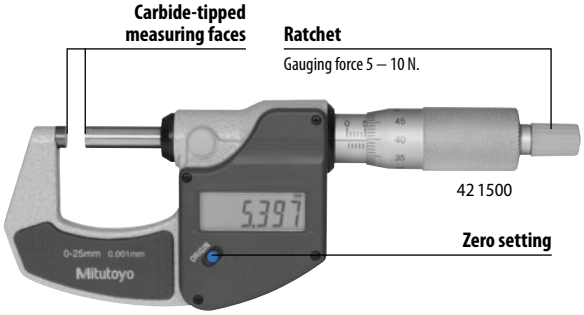
DIN 863 | B1 Cal

Mitutoyo

Digital external micrometer

Digital external micrometer with compact design. Extra large LCD display (7.5 mm). Carbide-tipped anvils.

Supplied with: 1 battery No. 081560 size 357.



Measuring range		mm	0-25
44A 42 1500	Digital external micrometer		XXX
Scale divisions		mm	0.001
Error limit		µm	3
Spindle ∅		mm	6.35
Spindle pitch		mm	0.5

DIN 863 | IP 54

B1 Cal | B2 Cal

≥ 25 – 50

HOLEX

Digital external micrometers

Easy-to-read display. Carbide-tipped anvils.

Digital and analogue graduations. Dust-proof and splash-proof metal casing.

Supplied with: 1 battery No. 081560 size 357. 1 plug-in sphere for measuring curved surfaces.
From size 25–50, 1 micrometer standard.

42 1490

Measuring range		mm	0-25	25-50	50-75	75-100
42B 42 1490	Digital external micrometer		XXX	XXX	XXX	XXX
Scale divisions		mm	0.001			
Error limit		µm	4	4	5	5
Spindle ∅		mm	6.5			
Spindle pitch		mm	0.5			

Digital external micrometer set

S2 Cal

Supplied with: External micrometers No. 421490 with appropriate micrometer standards.

42 1495

Measuring range		mm	0-100
42B 42 1495	Digital external micrometer set		XXX
Number of micrometers			4
Number of micrometer standards			3

Standard | mm / Inch

Mahr

Digital external micrometers Micromar

Innovative external micrometer with **10 mm tall characters** on sharp contrast display. Practical HOLD function for freezing the measured value for reliable, error-free reading. Measuring spindle hardened and ground. Carbide anvils. High performance ratchet with quick operation. Painted steel frame with thermal insulation. Button for changeover between relative and absolute measurement. Zero setting in any position.

42 1318/1325 – A well-arranged **tolerance display with additional warning limits** allows the user to recognise whether the workpiece is within the tolerance limits.

Supplied with: 1 battery No. 081560 size CR2032, 1 setting standard from size 25-50.

Optional extras:

42 1318 – Data cable No. 498941.

42 1325 – i-wi radio receiver No. 498912 STICK.

▶ B1 ◀ Cal

42 1310

IP 65 | ▶ B1 ◀ Cal | ▶ B2 ◀ Cal

≥ 25-50

42 1315

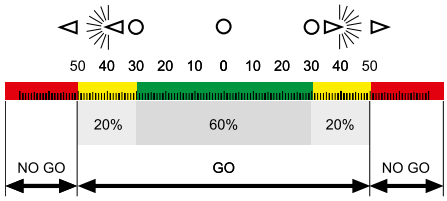
IP 65 | Digimatic | ▶ B1 ◀ Cal | ▶ B2 ◀ Cal

≥ 25-50

42 1318

42 1315 / 42 1318 / 42 1325

Tolerance display with additional warning limits.



42 1318 / 42 1325

IP 65 | i-wi | ▶ B1 ◀ Cal | ▶ B2 ◀ Cal

≥ 25-50

42 1325

Measurement range		mm	0-25	25-50	50-75	75-100	100-125	125-150	150-175	175-200
43A 42 1310	Digital external micrometer		XXX	–	–	–	–	–	–	–
43A 42 1315	Digital external micrometer **IP65**		XXX	XXX	XXX	XXX	–	–	–	–
43A 42 1318	Digital external micrometer **IP65 with data output**		XXX	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)	(XXX)
43A 42 1325	Digital external micrometer **IP65 i-wi**		XXX	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.001							
Scale divisions		inch	0.00005							
Error limit		µm	2	2	3	3	6	6	7	7
Spindle ∅		mm	6.5							
Spindle pitch		mm	0.5							

Digital micrometers Micromar

IP 65 | ▶ S2 ◀ Cal

42 1328 – External micrometer No. 421318.

42 1330 – External micrometer No. 421325.

Supplied with: Setting standards.

Digimatic

42 1328

i-wi

42 1330

Måleområde		mm	0-100
43A 42 1328	Digital external micrometer set **IP65 with data output**		XXX
43A 42 1330	Digital external micrometer set **IP65 i-wi**		XXX
Number of micrometers			4
Number of micrometer standards			3

Standard | IP 65 | ▶ B1 ◀ Cal

▶ B2 ◀ Cal
≥ 25 – 50

Mitutoyo Digital external micrometers

Error limits more accurate than the requirements of **DIN 863.**
Extra large LCD display (7.5 mm high) for quick, error-free reading, keyboard lock.
Carbide-tipped measuring faces.
Shock-proof version.
Measuring spindle hardened and ground.

42 1527 – With ratchet barrel.

Supplied with: 1 battery No. 081560 size 357, 1 setting standard from size 25 -50.

Optional extras: No. 421525 and 421527. Data cable No. 497445.

42 1525_100-125

Digimatic

Hold measurement data memory

Zero / ABS zero setting
Button for changeover between relative and absolute measurement.

Origin basic setting
to check dimension (for example 25 mm).

42 1525_0–25

Digimatic

42 1527_0–25

Digimatic

Measuring range		mm	0-25	25-50	50-75	75-100	100-125	125-150
44A 42 1515	Digital external micrometer **IP65**		XXX	XXX	XXX	XXX	–	–
44A 42 1525	Digital external micrometer **IP65 with data output**		XXX	XXX	XXX	XXX	(XXX)	(XXX)
44A 42 1527	Digital external micrometer **IP65 with data output and ratchet barrel**		XXX	XXX	–	–	–	–
Scale divisions		mm	0.001					
Error limit		µm	2	2	2	3	3	3
Spindle ∅		mm	6.35					
Spindle pitch		mm	0.5					

Standard | Digimatic | IP 65 | ▶ S2 ◀ Cal

Mitutoyo Digital external micrometer sets

External micrometer No. 421525.

Supplied with: Setting standards and storage box.

_0–50

Measuring range		mm	0-50	0-100
44A 42 1555	Digital external micrometer set **IP65 with data output**		XXX	XXX
Number of micrometers			2	4

Standard | IP 65 | ▶ B1 ◀ Cal

▶ B2 ◀ Cal
≥ 25-50

Mitutoyo Digital external micrometers QuantuMike

Error limits more accurate than the requirements of **DIN 863.** Extra large LCD display (7.5 mm). "Function Lock" prevents accidental readjustment of the zero point. **Combination ratchet** (torque limitation in the barrel and in the quick drive) for one-handed use and use in a holder.

Advantage: **Measuring time reduction of up to 40% due to 2 mm spindle pitch.**

Supplied with: 1 battery No. 081560 size 357. From size 25-50, 1 setting standard.

Optional extras:

42 1572 – Data cable No. 497445.

42 1571_0-25

Digimatic

42 1572_0-25

Measuring range		mm	0-25	25-50	50-75	75-100
44A 42 1571	Digital external micrometer		XXX	XXX	(XXX)	(XXX)
44A 42 1572	Digital external micrometer **with data output**		XXX	XXX	(XXX)	(XXX)
Scale divisions		mm	0.001			
Error limit		µm	2			
Spindle ∅		mm	6.35			
Spindle pitch		mm	2			

Standard | mm / Inch | Digimatic | Absolute System | i Cal

Mitutoyo MDH digital precision external micrometer

High precision digital external micrometer.
Precision spindle with absolute rotary encoder.
Special ratchet barrel for constant measuring force 7–9 N.
Supplied with: Including thermally insulated cover to minimise the effects of temperature and 1 battery No. 081560 size CR2032.

42 1608

Measuring range		mm	0-25
44A 42 1608	Digital precision external micrometer		(XXX)
Scale divisions		mm	0.0001
Scale divisions		inch	0.000005
Error limit		µm	0.6
Flatness of measuring faces		µm	0.3
Spindle ∅		mm	6.35
Spindle pitch		mm	0.5
Measuring face ∅		mm	3.2

42

DIN 863 | Digimatic | IP 65 | S3 Cal

Mitutoyo Large digital external micrometers

Hardened and ground measuring spindle and measuring faces; locked by locking lever. With ratchet. **6 easily interchangeable measuring anvils give a measuring range of 150 mm per set.**
Accuracy: (4 + L / 75) µm
Supplied with: Measuring spindles, setting standards, 1 battery No. 081560 size 357.
Optional extras: Data cable No. 497445.

_0-150

Measuring range		mm	0-150	150-300
44A 42 1558	Digital external micrometer **large**		XXX	XXX
Scale divisions		mm	0.001	
Spindle ∅		mm	6.35	
Spindle pitch		mm	0.5	
Spindle travel		mm	25	
Barrel ∅		mm	18	
Weight		kg	0.96	1.88
Number of micrometer standards			5	6

DIN 863 | mm / Inch | IP 65 | B1 Cal

Digimatic

42 1321

Mahr Universal digital external micrometer with interchangeable anvils

External micrometers **with non-rotating** spindle and **interchangeable anvils. Spindle pitch 5 mm per revolution** reduces the approach time. **10 mm tall characters** on high-contrast display. Practical HOLD function for freezing the measured value for reliable, error-free reading. Button for changeover between relative and absolute measurement. Zero setting in any position. A well-arranged tolerance display with additional warning limits allows the user to recognise whether the workpiece is within the tolerance limits.

i-wi
42 1323

Supplied with: Supplied with 1 battery No. 081560 size CR2032.
6 pairs of interchangeable anvils with:
- Flat measuring faces ∅ 6.5 mm.
- Disc anvils ∅ 11.3 mm.
- Reduced measuring faces ∅ 2 mm.
- Convex measuring faces ∅ 7 mm.
- Blade anvils 0.75×7 mm.
- Cone 60° ∅ 0.5 – 5.5 mm.

Optional extras:
42 1321 – Data cable No. 498941.
42 1323 – i-wi radio receiver No. 498912.

42 1323

Measuring range		mm	0-25
43A 42 1321	Digital external micrometer **with interchangeable anvils**		XXX
43A 42 1323	Digital external micrometer **i-wi with interchangeable anvils**		XXX
Scale divisions		mm	0.001
Scale divisions		inch	0.00005
Error limit		µm	4
Spindle ∅		mm	6.5
Spindle pitch		mm	5

Standard | IP 65 | Reference Lock | ▶ B1 ◀ Cal | ▶ B2 ◀ Cal ≥ 25-55

Mahr Micromar digital external micrometers with QUICK DRIVE

Innovative external micrometer with **10 mm tall characters** on sharp contrast display. Practical HOLD function for freezing the measured value for reliable, error-free reading. Measuring spindle hardened and ground. Carbide anvils. High performance ratchet with quick operation. Painted steel frame with thermal insulation. Button for changeover between relative and absolute measurement. Zero setting in any position. A well-arranged **tolerance display with additional warning limits** allows the user to recognise whether the workpiece is within the tolerance limits.

Description:
- **Spindle pitch 5 mm** per revolution reduces the approach time.
- **Non-rotating spindle** protects the surfaces being measured.

Supplied with: 1 battery No. 081560 size CR2032, 1 setting standard from size 25-50.

Optional extras:

42 1602 – Data cable No. 498941.

42 1605 – i-wi radio receiver No. 498912 STICK.

Digimatic

42 1602

i-wi

42 1605

Measuring range		mm	0-25	25-50
43A 42 1602	Digital external micrometer **with sliding spindle, data output**		XXX	(XXX)
43A 42 1605	Digital external micrometer **i-wi with sliding spindle**		(XXX)	(XXX)
Scale divisions		mm	0.001	
Scale divisions		inch	0.00005	
Error limit		µm	2	
Spindle ∅		mm	6.5	
Spindle pitch		mm	5	

Standard | mm / Inch | Digimatic | IP 65 | Absolute System | ▶ B1 ◀ Cal | ▶ B2 ◀ Cal ≥ 25-55

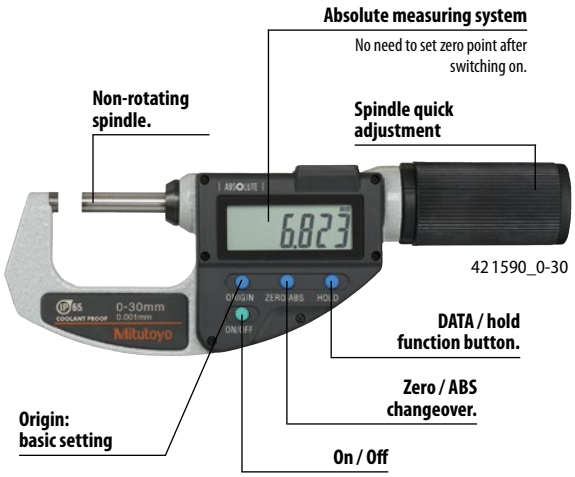
Mitutoyo QuickMike digital micrometers

Error limits more accurate than the requirements of **DIN 863. On / Off, Origin (basic setting), Zero / Abs** (for zeroing in any position), **Hold / Data** (save measurement value or send data).

Description:
- Spindle pitch 10 mm per revolution reduces the approach time.
- **Non-rotating spindle** protects the surfaces being measured.
- **Absolute measuring system.** No need to set zero point after switching on. Prevents measurement errors.

Supplied with: 1 battery No. 081560 size 357. 1 micrometer standard from size 25-55.

Optional extras: Data cable No. 497445.



42 1590_0-30

Measuring range		mm	0-30	25-55	50-80	75-105
44A 42 1590	Digital external micrometer **with data output**		XXX	XXX	(XXX)	(XXX)
Scale divisions		mm	0.001			
Error limit		µm	2	2	3	3
Spindle ∅		mm	6.35			
Spindle pitch		mm	10			

HOLEX External micrometer stands

42B 42 1850	External micrometer stand 1.3 kg		XXX
42B 42 1870	External micrometer stand, solid 1.7 kg		XXX
Length (42 1850)		mm	165
Length (42 1870)		mm	120
Width (42 1850)		mm	115
Width (42 1870)		mm	80
Height (42 1850)		mm	115
Height (42 1870)		mm	83

42 1850

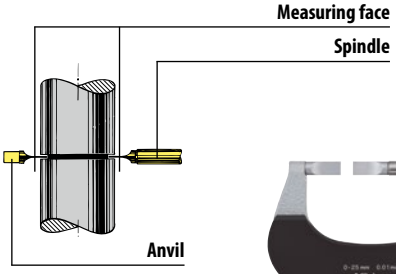
42 1870

DIN 863 | 0 45 | B1 Cal

External blade micrometers for narrow grooves

With non-rotating spindle and flat blade anvils. Measuring spindle and anvil of hardened steel, controls and reading parts satin chrome-plated.

Supplied with: From size 25-50 including 1 setting standard.



B2 Cal ≥ 25-50

42 1896_0-25

B2 Cal ≥ 25-50

42 1900_0-25

Measuring range	mm	0-25	25-50	50-75	75-100
44A 42 1896 Mitutoyo	External blade micrometer	XXX	XXX	XXX	XXX
42B 42 1900 HOLEX	External blade micrometer	XXX	XXX	XXX	XXX
Scale divisions	mm	0.01			
Spindle ∅ (42 1896)	mm	6.35			
Spindle ∅ (42 1900)	mm	8			
Spindle pitch	mm	0.5			
Flat blade anvils width	mm	0.75			
Flat blade anvils length	mm	6.5			

Standard | 0 90 | B1 Cal

Hartig

External micrometers with disc anvils

Disc anvil of hardened steel in flat version, **without recess**. Hardened and ground measuring spindle. Higher accuracy than **DIN 863**. Locking by clamping device. With ratchet and hand temperature protection. Clearly engraved black divisions and numerals.

Application: For determining the tooth widths of spur and helical gears from module 0.6.

42 2990_0-25

Measuring range	mm	0-25	25-50	50-75	75-100	100-125	125-150
46P 42 2990	External micrometer with disc anvils ∅ 25 mm	(XXX)	(XXX)	(XXX)	(XXX)	–	–
46P 42 2992	External micrometer with disc anvils ∅ 30 mm	–	–	–	–	(XXX)	(XXX)
Scale divisions	mm	0.01					
Error limit	µm	4	4	5	5	6	6
Spindle ∅	mm	8					
Barrel ∅	mm	24					

DIN 863 | 0 45 | B1 Cal

HOLEX

External micrometers with disc anvils

With large-area, hardened disc anvils. Forged and enamelled frame.

42 3000 – Design with rotating spindle.

42 3005 – Design with non-rotating spindle.

Application: For determining the tooth widths of spur and helical gears from module 0.8.

Supplied with: From size 25-50 including 1 setting standard.

B2 Cal ≥ 25-50

42 3000_0-25

B2 Cal ≥ 25-50

42 3005_0-25

Measuring range	mm	0-25	25-50	50-75	75-100	100-125	125-150
42B 42 3000	External micrometer with disc anvils	XXX	XXX	XXX	XXX	XXX	XXX
42B 42 3005	External micrometer with disc anvils and non-rotating spindle	XXX	XXX	XXX	XXX	–	–
Scale divisions	mm	0.01					
Parallelism of the measuring faces	µm	5	5	5	5	6	6
Spindle ∅	mm	8					
Spindle pitch	mm	0.5					
Disc anvil ∅ (42 3000)	mm	20	20	20	20	30	30
Disc anvil ∅ (42 3005)	mm	19.5	19.5	19.5	19.5	–	–

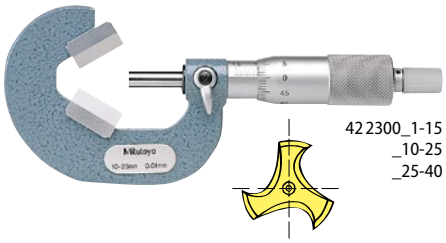
DIN 863 | 0 45 | ▶ B1 ◀ Cal | ▶ B8 ◀ Cal

Mitutoyo External micrometers with Vee anvil

With Vee anvil for measuring three or five-flute cutters. Enamelled frame. Spindle pitch correction for Vee angle.
Size 1-15–25-40 – **Triangular** with a Vee angle of 60°.
Size 5-25; 25-45 – **Pentagonal** with a Vee angle of 108°.
Application: For measuring **3 or 5 flute cutters** (end mills, reamers).
Supplied with: Setting standard.

Measuring range		mm	1-15	10-25	25-40
44A 42 2300	External micrometer **with Vee-anvil**		XXX	XXX	(XXX)
Scale divisions		mm	0.01		
Spindle ∅		mm	6.35		
Barrel ∅		mm	18		
Vee angle		degrees	60 (triangular)		

Measuring range		mm	5-25	25-45
44A 42 2300	External micrometer **with Vee-anvil**		(XXX)	(XXX)
Scale divisions		mm	0.01	
Spindle ∅		mm	6.35	
Barrel ∅		mm	18	
Vee angle		degrees	108 (pentagonal)	



42 2300_1-15
_10-25
_25-40

42 2300_5-25
_25-45

DIN 863 | 0 45 | ▶ B1 ◀ Cal

HOLEX External micrometer for measuring the wall thickness of tubes

With conical anvil for measuring the wall thickness of pipes and other curved parts. Measuring spindle with carbide-tipped anvils, anvil ∅ 8 mm, hardened. With hand temperature insulated frame, locking lever, and high quality ratchet.

Measuring range		mm	0-25
42B 42 3010	External micrometer		XXX
Scale divisions		mm	0.01
Spindle ∅		mm	6.5
Spindle pitch		mm	0.5

42 3010

DIN 863 | 0 45 | ▶ B1 ◀ Cal

HOLEX Universal external micrometer with interchangeable anvils

Universal external micrometer with non-rotating spindle. Lapped measuring faces. Socket ∅ 5×15 mm. Steel frame forged and enamelled. Quick-change anvils. Zeroing by clamping slide sleeves.
Supplied with: 7 pairs of interchangeable anvils.

Wedge tip 60°

Disc ∅ 12.0 mm

Flat anvil ∅ 6.5 mm

Convex anvil, < R6

Shouldered anvil ∅ 2.0 mm

Groove measuring anvil ∅ 0.75 mm

Conical tip 60°

Measuring range		mm	0-25
42B 42 1750	Universal external micrometer		XXX
Scale divisions		mm	0.01
Spindle ∅		mm	8
Spindle pitch		mm	0.5

42 1750

DIN 863 | 0 45 | ▶ B1 ◀ Cal

Hartig

External thread micrometers

Hardened and ground measuring spindle with bore for the measuring tips. Glare-free satin chrome-plated barrel. With sensitive ratchet (friction lock) and quick drive for rapid adjustment. Heat-insulated frame.

Application: **For practical measurement of flank Ø of external threads.** One pair of anvils (Vee and cone) fits several pitches, providing the flank angle remains unchanged.

Supplied with: From size 25–50 with 1× 60° setting standard; without thread measurement inserts.

Optional extras: Vee and cone anvils No. 421652.

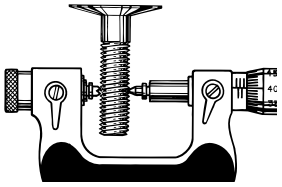
Note: Further measurement ranges available on request.

▶ B8 ◀ Cal
≥ 25-50

For Vee and cone anvils see No. 421652.

42 2340_0-25

Measuring range		mm	0-25	25-50	50-75	75-100
46P 42 2340	External thread micrometer **without anvils**		XXX	XXX	XXX	XXX
Scale divisions		mm	0.01			
Spindle Ø		mm	6.5			
Spindle pitch		mm	0.5			
Barrel Ø		mm	20			



▶ L16 ◀ Cal

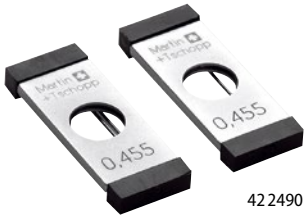
Martin Tschopp

Thread measurement wires with holders, ZEISS measurement wires

The thread measurement wires are hardened and precision lapped, the holders are matt chrome-plated. A snap ring in the mounting bore ensures secure easy-twist seating on the measuring spindle.
When ordering, please specify the Ø of the measuring spindle (6.35 mm / 6.5 mm / 6.8 mm / 7.5 mm / 8.0 mm).

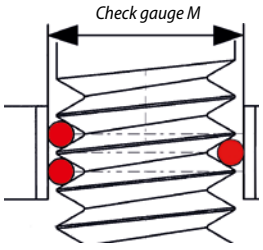
Application: For determining the flank Ø of external threads using the three-wire method in conjunction with an external micrometer or a length measurement bench.

Supplied with: A set consists of a holder with one measurement wire and a holder with two measurement wires, in a plastic box.



42 2490

Check gauge M



For determining the flank dia. of external threads using the three-wire method in conjunction with an external micrometer.

Wire Ø		mm	0,170	0,250	0,290	0,455	0,620	0,725
46P 42 2490	Thread measurement wires set		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Error limit		µm	±1					
for threads			M1 / M1.1 / M1.2 / M1.4	M2 / M2.3	M2.6 / M3	M4 / M5	M6	M8
for thread pitch P			0.25 / 0.30	0.4	0.45 / 0.5	0.7 / 0.75 / 0.8	1	1.25
Check gauge M to DIN 13 sheet 1		mm	1.133 / 1.206 / 1.332 / 1.456	2.145 / 2.444	2.789 / 3.113	4.305 / 5.153	6.346	8.282

Wire Ø		mm	0,895	1,100	1,350	1,650	2,050	2,550
46P 42 2490	Thread measurement wires set		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Error limit		µm	±1					
for threads			M10	M12	M14	M18 / M20 / M22	M24 / M27 / M30 / M33	M36 / M39 / M42 / M45
for thread pitch P			1.5	1.75	2	2.5	3 / 3.5	4/ 4.5
Check gauge M to DIN 13 sheet 1		mm	10.414	12.650	15.021	19.037 / 21.163 / 23.163	25.606 / 28.605 / 30.848 / 33.848	37.591 / 40.590 / 42.853 / 45.832

DIN 863 | Digimatic | ▶ B1 ◀ Cal

Mitutoyo Digital special external micrometers

Large, high-contrast digital LCD display

Data storage button
for awkward measuring positions.

Zeroing / changing over
in absolute measurement.

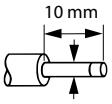
Origin:
Basic setting / zeroing.

Clear (7.5 mm high), digital measured value display provides quick readings. Addition reading by vernier. Sintered, precision lapped, carbide tipped anvils, measuring spindle hardened and ground. Locking by clamping screw. Measuring force at the ratchet 5 - 10 N.

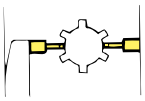
Supplied with: From size 25-50 including 1 setting standard. 1 battery No. 081560 size 357.
42 1650 – **Without setting standards.**

Optional extras: Data cable No. 497445.
42 1650 – Anvils for thread measurement No. 421652.

▶ B2 ◀ Cal
≥ 25 – 50

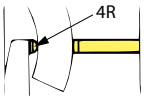


Measuring range	mm	0-25	25-50
44A 42 1610	Digital external micrometer **with offset measuring faces**	XXX	(XXX)



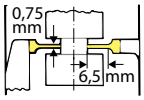
42 1610 IP 65

Measuring range	mm	0-25	25-50
44A 42 1630	Digital external micrometer **for curved surfaces**	XXX	(XXX)



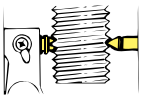
42 1630 IP 65

Measuring range	mm	0-25	25-50	50-75
44A 42 1640	Digital external micrometer **for groove measurement**	XXX	(XXX)	(XXX)



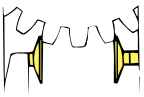
42 1640

Measuring range	mm	0-25	25-50	50-75
44A 42 1650	Digital external micrometer **for thread measurements**	XXX	(XXX)	(XXX)



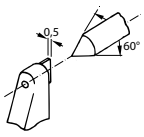
IP 65 ▶ B8 ◀ Cal
42 1650 ≥ 25-50

Measuring range	mm	0-25	25-50	50-75	75-100
44A 42 1660	Digital external micrometer **with disc anvils**	XXX	XXX	(XXX)	(XXX)
Parallelism of the measuring faces	µm	4	4	6	6



42 1660 IP 65

Measuring range	mm	0-20
44A 42 1675	Digital external micrometer **with measuring tip**	XXX



42 1675 IP 65

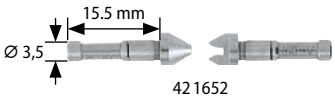
▶ B7 ◀ Cal

Mitutoyo Pair of anvils for external thread micrometers

With 60° flank angle for measuring several different pitches with a single pair of anvils (Vee and cone). For metric and UN threads

Suitable for: External thread micrometers No. 421650 and 422340.

Note: Anvils for Whitworth threads on request.



42 1652

Pitch	mm	0,4-0,5	0,6-0,9	1-1,75	2-3	3,5-5	5,5-7
44A 42 1652	Pair of anvils for external thread micrometers	XXX	XXX	XXX	XXX	XXX	XXX

Standard | IP 65 | mm / Inch | ▶ B1 ◀ Cal

Mahr

Digital special external micrometers

Innovative external micrometer with **10 mm tall characters** on sharp contrast display. Practical HOLD function for freezing the measured value for reliable, error-free reading. Painted steel frame with thermal insulation. Button for changeover between relative and absolute measurement. Zero setting in any position. A well-arranged **tolerance display with additional warning limits** allows the user to recognise whether the workpiece is within the tolerance limits.

42 1681/1691 – Measuring spindle and anvil carbide tipped.

42 1685/1695 – Non-rotating spindle. **QUICK DRIVE** with **spindle pitch of 5 mm** per revolution.

Supplied with: 1 battery No. 081560 size CR2032, 1 setting standard from size 25-50.

Optional extras:

42 1681–1687 – Data cable No. 498941.

42 1691–1697 – i-wi radio receiver No. 498912 STICK.

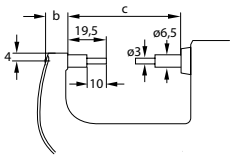
Digimatic | RS232C

42 1681 / 1683 / 1685 / 1687

i-wi

42 1691 / 1693 / 1695 / 1697

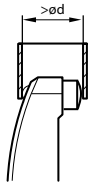
Measuring range		mm	0-25	25-50
43A 42 1681	Digital external micrometer **with offset measuring faces**		(XXX)	(XXX)
43A 42 1691	Digital external micrometer **i-wi with offset measuring faces**		(XXX)	(XXX)
Scale divisions		mm	0.001	
Scale divisions		inch	0.00005	
Spindle pitch		mm	0.5	
Error limit		µm	4	



▶ B2 ◀ Cal ≥ 25 - 50

42 1681

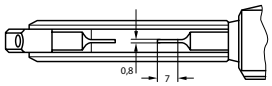
Measuring range		mm	0-25	25-50
43A 42 1683	Digital external micrometer **for curved surfaces**		(XXX)	(XXX)
43A 42 1693	Digital external micrometer **i-wi for convex surfaces**		(XXX)	(XXX)
Scale divisions		mm	0.001	
Scale divisions		inch	0.00005	
Spindle pitch		mm	0.5	
Error limit		µm	4	



▶ B2 ◀ Cal ≥ 25 - 50

42 1683

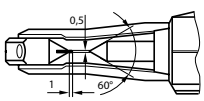
Measuring range		mm	0-25	25-50	50-75	75-100
43A 42 1685	Digital external micrometer **for groove measurement**		(XXX)	(XXX)	(XXX)	(XXX)
43A 42 1695	Digital external micrometer **i-wi for measuring slots**		(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.001			
Scale divisions		inch	0.00005			
Spindle pitch		mm	5			
Error limit		µm	4	4	5	5



▶ B2 ◀ Cal ≥ 25 - 50

42 1685

Measuring range		mm	0-20
43A 42 1687	Digital external micrometer **with measuring tip**		(XXX)
43A 42 1697	Digital external micrometer **i-wi with measuring tip**		(XXX)
Scale divisions		mm	0.001
Scale divisions		inch	0.00005
Spindle pitch		mm	0.5
Error limit		µm	4



42 1687

DIN 863 | mm / Inch | 0 45 | ▶ B1 ◀ Cal

HOLEX Digital special external micrometers

Easy to read digital display with additional analogue reading. Robust metal casing.
42 1720/1726 – Rotating measurement spindle, carbide-tipped measuring faces
42 1724/1728 – Stationary measurement spindle
Supplied with: 1 battery No. 081560 size 357

Måleområde		mm	0-25
42B 42 1720	Digital external micrometer **with offset measuring faces**		XXX
Scale divisions		mm	0.001
Scale divisions		inch	0.00005
Error limit		µm	4

Måleområde		mm	0-25
42B 42 1724	Digital external micrometer **for groove measurement**		XXX
Scale divisions		mm	0.001
Scale divisions		inch	0.00005
Error limit		µm	4

Måleområde		mm	0-25
42B 42 1726	Digital external micrometer **with measuring tip**		XXX
Scale divisions		mm	0.001
Scale divisions		inch	0.00005
Error limit		µm	4

Måleområde		mm	0-25
42B 42 1728	Digital external micrometer **with disc anvils**		XXX
Scale divisions		mm	0.001
Scale divisions		inch	0.00005
Parallelism of the measuring faces		µm	4
Error limit		µm	4
Disc anvil ∅		mm	20

Steinmeyer Digital snap gauge

For high-precision measurement of components. Suitable for series inspection of turned and milled parts.

Advantages:
- Very high measurement accuracy and repetition accuracy.
- High repetition accuracy due to constant gauging force.
- Reliable measurement due to internal temperature monitoring.
- Can be use flexibly on the machine or in the inspection room.
- Numeric display of the measured values at high resolution (reading: 0.1µm).

Further information can be found in the measurement technology competence brochure.

No. 42 4925 – for checking smaller, delicate components.

No. 42 4930 – the large measuring face of 10 mm ensures stable contact with the test piece.

DIN 863 | 0 45 | B9 Cal

Micrometer with dial comparator

Measuring spindle through hardened and ground.
With precision lapped **carbide tipped anvils**.
Spindle and anvil of stainless steel.
One piece frame and spindle guide.
Button for retracting the measurement anvil for repetitive measurements.
With adjustment screw for zeroing.
Tolerance pointers for good/ reject measurements.
With hand temperature protection. Lever for spindle clamping.

Accuracy:

42 2500 – **Dial comparator 1 µm – micrometer 2 µm.**
42 2510 – **Dial comparator 1 µm – micrometer 3 µm.**

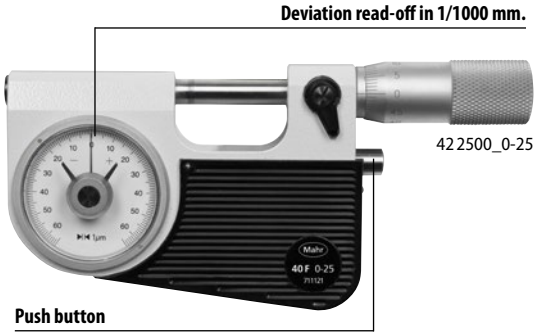
42 2501 Size 0-25; 25-50 – **Dial comparator 1 µm – micrometer 2 µm.**
Size 50-75; 75-100 – **Dial comparator 2 µm – micrometer 2 µm.**

Supplied with:

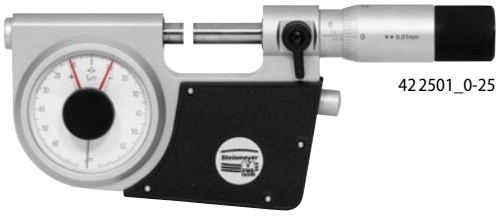
42 2501/2510 – Adjustment wrench.

Note:

42 2501 – Measuring faces of CBN on request.



42 2500_0-25



42 2501_0-25

42 2510_0-25

Measuring range		mm	0-25	25-50	50-75	75-100
43A 42 2500	Mahr	Micrometer with dial comparator	XXX	XXX	–	–
46P 42 2501	Steinmeyer		XXX	XXX	(XXX)	(XXX)
42B 42 2510	HOLEX		XXX	–	–	–
Measuring range dial comparator (42 2500)		mm	±0.065	±0.065	–	–
Measuring range dial comparator (42 2501)		mm	±0.07	±0.07	±0.14	±0.14
Measuring range dial comparator (42 2510)		mm	±0.045	–	–	–
Graduation of the micrometer		mm	0.01			
Graduation of the precision dial comparator		mm	0.001	0.001	0.002	0.002
Clearance depth of micrometer frame (42 2500)		mm	16	30	–	–
Clearance depth of micrometer frame (42 2501)		mm	15	25	37.5	50
Clearance depth of micrometer frame (42 2510)		mm	18	–	–	–

DIN 863 | 0 45 | B1 Cal | C3 Cal

Mahr Micrometers with dial comparator

Measuring spindle of stainless steel, hardened and ground. Carbide-tipped measuring faces. Controls and reading parts satin chrome-plated. With hand temperature protection. Constant measuring force. Moveable stop anvil, retractable. Particularly suitable for series manufactured parts.

Accuracy: **Dial comparator DIN 863 – micrometer 2 µm.**
Supplied with: Dial comparator Millimess No. 434674 size 50/1.

Measuring range		mm	0-25	25-50	50-100	100-150	150-200
43A 42 4800	Micrometer with dial comparator		XXX	XXX	(XXX)	(XXX)	(XXX)
Measuring range dial comparator		mm	±0.05				
Graduation of the micrometer		mm	0.01				
Graduation of the precision dial comparator		mm	0.001				
Spindle ∅		mm	7.5				
Barrel ∅		mm	18				

DIN 863 | 0 45 | B1 Cal | C3 Cal

Mahr Precision bench micrometer

Strong steel frame, can be inclined up to 45° against sturdy base. Height-adjustable stop. Measuring spindle of stainless steel, hardened and ground. Carbide-tipped measuring faces. Controls and reading parts satin chrome-plated. With hand temperature protection. Constant measuring force. Moveable stop anvil; lifting with retraction lever. Especially suitable for series manufactured parts and quick inspection.

Accuracy: **Dial comparator DIN 863 – micrometer 2 µm.**
Supplied with: Dial comparator Millimess No. 434674 size 50/1.

Measuring range		mm	0-50
43A 42 4805	Precision bench micrometer		XXX
Measuring range dial comparator		mm	±0.05
Graduation of the micrometer		mm	0.005
Graduation of the precision dial comparator		mm	0.001
Spindle ∅		mm	7.5
Barrel ∅		mm	25

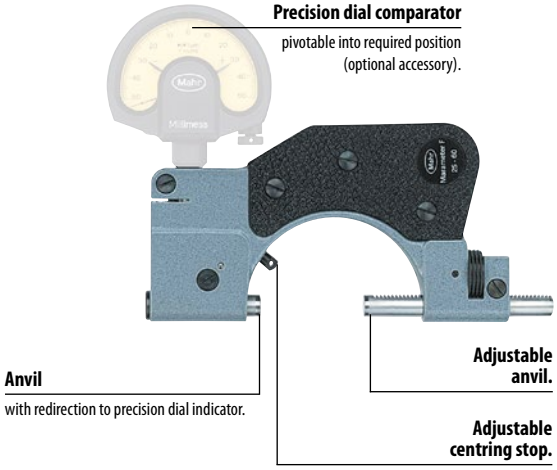
Standard | ▶ M5 ◀ Cal

Mahr Indicating snap gauges Marameter

Powerful, forged steel frame with thermal insulation. Anvils made of stainless, hardened steel. Anvil spring mounted, can be pulled back by a lever to insert the component. Anvil adjustable over the measuring range by rack and knurled screw. Setting by gauge blocks. Adjustable centring back-stop for setting component centre. **Constant measuring force** ensured by built-in measuring force spring. Can be used with all dial indicators (not included in the price) with 8 mm clamping shank. Dial comparators No. 434674 sizes 25/0.5 and 50/1 or No. 434670 are preferred. **Out-of-tolerance component values can be read numerically on the dial indicator.**

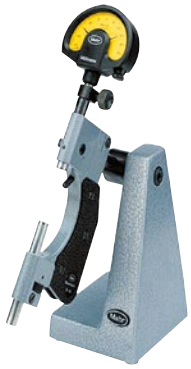
Supplied with: **Without** dial indicator, **with a** wooden box.

Optional extras: Setting standards for dial comparators No. 434670 and 434674. Cast micrometer stand, holder for dial comparator for straight-line transmission of the measurement movement, anvils.



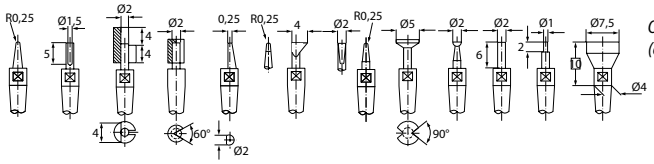
With carbide-tipped measuring faces. For cylindrical parts such as shafts, bolts, and shanks, for measuring thickness and length.

Measuring range		mm	0-25	25-60	50-100
43A 42 4900	Indicating snap gauge		XXX	XXX	XXX
Plane parallelism of measuring faces		µm	1	2	2
Flatness of measuring faces		µm		0.2	
Contact point travel		mm	2	2	2.5
Gauging force		N		7.5	
Measuring face ∅		mm	8	9	10



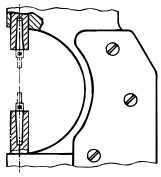
Cast micrometer stand (on request).

Measurement anvil and fixed anvil with precision taper holes for exchangeable tips. Universal applications to solve all kinds of measurement problems.



Other measuring tips (on request).

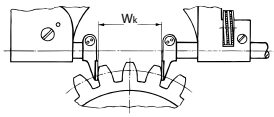
Measuring range		mm	0-30	30-80
43A 42 4904	Indicating snap gauge **without anvils**		(XXX)	(XXX)
Contact point travel		mm	2	2.5
Gauging force		N	7.5	

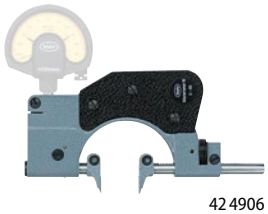


42 4904

With wide, carbide-tipped jaws. For measuring diameters of narrow shoulders, centring wheels, pockets in shafts, spacing of grooves and tooth pitches WK for determining the tooth widths of spur and helical gears.

Measuring range		mm	0-40	40-80	80-130
43A 42 4906	Indicating snap gauge **with measuring jaws**		XXX	XXX	XXX
Plane parallelism of measuring faces		µm	2	3	3
Contact point travel		mm	2	2.5	2.5
Gauging force		N	7.5	7.5	9
Measurement face		mm	12×12	12×12	15×17
Tooth pitch measurement from module m			0.5	0.5	1





42 4906

Mahr Precimar SM 60 length measurement bench

Small length measurement bench for quick and precise measurements in the production area. Quick adaptation to different workpieces, thanks to individual measuring probes and stepless adjustment of the support table (∅ 60 mm). The measuring tool used is protected by the integral coupling. Hardened gauging faces. Can be used with all dial indicators with 8 mm clamping shank (available on request).

Supplied with: **Without** precision dial comparator or dial indicator.

Optional extras: Dial indicator No. 434314 size 25; 434318 size 25; 434320 size 25; 434324 size 25; 434656 size 25; 434655 size 25; compact length measuring gauge 434707 size 1200; inductive length measuring probe 434760 size 2004M

Application range		mm	0-60
43A 42 4920	Small length measurement bench **Precimar SM 60**		(XXX)
Span of measurement		mm	25
Plane parallelism of measuring faces		µm	1
Gauging force		N	1 ±0.2
Measuring face ∅		mm	6
Weight		kg	9

Standard | ▶ M5 ◀ Cal

Mahr

Indicating snap gauges Marameter S

Powerful, rigid frame with handle. Anvils made of stainless, hardened steel. **Anvils carbide tipped and chamfered at the front for easier insertion.** For measuring narrow registering edges that protrude beyond the frame. Setting by gauge blocks. Adjustable centring back-stop for setting component centre.
High measuring accuracy. Device weight rests on fixed anvil base during measuring and does not influence the measuring result.
Constant measuring force ensured by built-in measuring force spring. Can be used with all dial gauges (not included in the price) with 8 mm clamping shank. Dial comparator No. 434674 and inductive dial comparator No. 434670 are preferred.
Out-of-tolerance component values can be read numerically on the dial gauge. Lateral frame projection to protect against shocks during measuring and when setting down.

Application: For measuring all kinds of cylindrical parts. As a quick measuring device directly on the machine tool and in production control.
Supplied with: **Without** dial indicator, **with a** wooden box.
Optional extras: Setting standards, gauge blocks, gauging discs, dial indicators No. 434670 and 434674.

Note:	Measuring range up to 500 mm on request

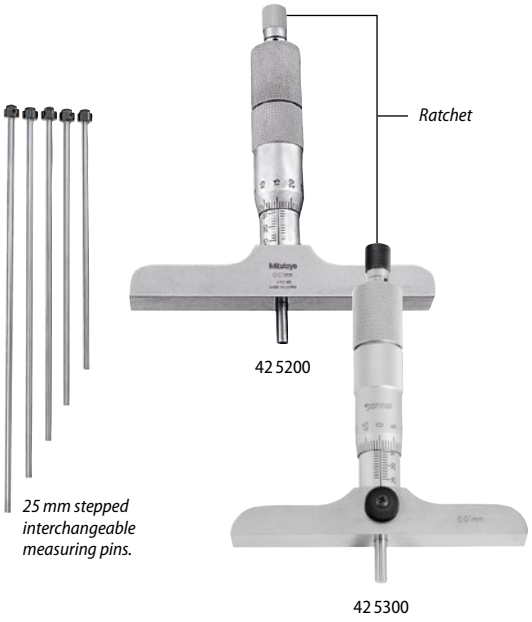
Measuring range	mm	10-30	30-60	60-100	100-150	150-200
43A 42 4910	Indicating snap gauge with handle	(XXX)	(XXX)	(XXX)	XXX	XXX
Plane parallelism of measuring faces	µm			3		
Flatness of measuring faces	µm			0.5		
Gauging force	N	13.5	13.5	13.5	15	15
Measuring face ∅	mm	18	18	22	22	22

DIN 863 | 0 45 | ▶ S15 ◀ Cal

Depth micrometers

Various measuring depths can be achieved by exchanging the measuring pins with 25 mm increments. Measuring spindle fully hardened and ground. Base of hardened tool steel with lapped measuring anvil. Micrometer satin chrome-plated. Barrel with clearly engraved black scale and numerals. Constant measuring force due to integral ratchet.

Supplied with: Measuring pins.



Measuring range	mm	0-100	0-150	0-300
44A 42 5200 Mitutoyo	Depth micrometer	XXX	XXX	(XXX)
42B 42 5300 HOLEX		XXX	XXX	–
Scale divisions	mm		0.01	
Measuring needle ∅ (42 5200)	mm		4	
Measuring needle ∅ (42 5300)	mm	4.5	4.5	–
Barrel ∅	mm		18	
Bridge length	mm		100	
Number of gauging pins		4	6	12

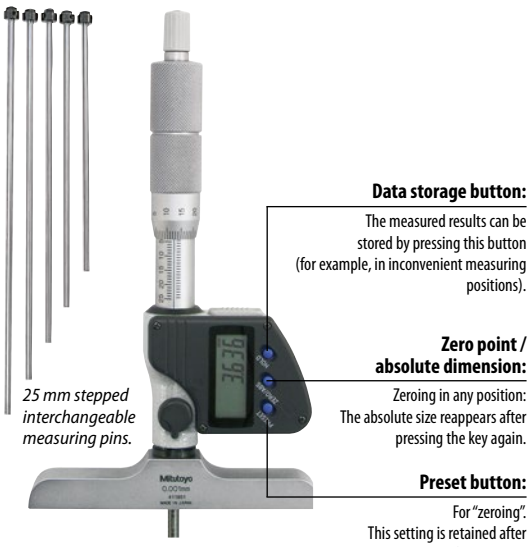
Standard | Digimatic | ▶ S15 ◀ Cal

Mitutoyo

Digital depth micrometer

Various measuring depths can be achieved by exchanging the measuring pins with 25 mm increments. Measuring spindle fully hardened and ground. Base of hardened tool steel with lapped measuring anvil. Micrometer satin chrome-plated. Barrel with clearly engraved black scale and numerals. Constant measuring force due to integral ratchet.

Supplied with: Measuring pins and 1 battery No. 081560 size 357.
Optional extras: Data cable No. 497445.



Measuring range	mm	0-150
44A 42 5400	Digital depth micrometer **with data output**	XXX
Scale divisions	mm	0.001
Measuring needle ∅	mm	4
Bridge length	mm	100
Number of gauging pins		6

Standard | 0 45 | B3 Cal

Micrometer heads

Fully hardened spindle and glare-free satin chrome-plated barrel.

Size 0-6,5 – **Rotating spindle** without carbide contact face, without ratchet, **extra short version, spherical contact face.**

Size 0-13 – **Rotating spindle,** without carbide contact face, without ratchet, **short version.**

Size 0-25 – **Rotating spindle,** with carbide tipped contact face and ratchet.

Size 0-25/F – **Stationary (non-rotating)** spindle with carbide tipped contact face and ratchet. For checking materials with delicate surfaces.

Application: For installation in machines, inspection fixtures, measuring instruments etc. as an adjustable comparator stand stop.

Note:
42 6200 – Special sizes on request.

42 6200_0-6.5
Convex contact face.

42 6200_0-13

42 6200_0-25
with rotating spindle.

42 6200_0-25/F
with non-rotating spindle.

Measuring range (travel)	mm	0-6,5	0-13	0-25	0-25/F
44A 42 6200 Mitutoyo / 42B 42 6250 HOLEX Micrometer head		XXX	XXX	XXX	XXX
		XXX	XXX	XXX	XXX
Scale divisions (42 6200)	mm	0.01			
Scale divisions (42 6250)	mm	0.01	0.01	0.01	0.002
Error limit	mm	0.002	0.002	0.002	0.003
Spindle ∅ (42 6200)	mm	3.5	5	6.35	8
Spindle ∅ (42 6250)	mm	3.5	5	6.5	8
Barrel ∅	mm	9	13	18	18
Radius contact face (42 6200)	mm	3	–	–	–
Radius contact face (42 6250)	mm	2.5	–	–	–
Mounting shank ∅ (42 6200)	mm	6	9.5	10	12
Mounting shank ∅ (42 6250)	mm	6	9.5	12	12
Length of mounting shank (42 6200)	mm	6	9.5	15	10
Length of mounting shank (42 6250)	mm	6	9.5	17	10
Overall length (42 6200)	mm	37	58.5	109	125
Overall length (42 6250)	mm	37	58.5	113	113

Standard | Digimatic | B3 Cal

Mitutoyo Digital micrometer heads

Direct reading from clear digital display. Reliable and error-free measurements - without a vernier. Hardened and ground measuring spindle, locking by clamping screw, ratchet.

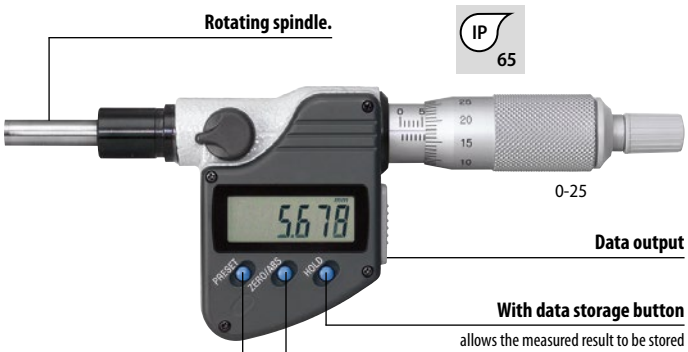
Application: For installation in machines, inspection fixtures, measuring instruments etc. as an adjustable micrometer stop.

Supplied with: 1 battery No. 081560 size 357.

Optional extras:

Size 0-25 – Data cable No. 497445.

Size 0-50 – Data cable No. 497100.



Measuring range (travel)	mm	0-25	0-50
44A 42 6510 Digital micrometer head **with data output**		XXX	XXX
Scale divisions	mm	0.001	
Error limit	mm	0.002	0.003
Spindle ∅	mm	6.35	11
Barrel ∅	mm	18	49
Mounting shank ∅	mm	12	18
Length of mounting shank	mm	16	14
Overall length	mm	170	172

Standard | 0 45 | B4 Cal

Internal micrometers

Fully hardened, ground and lapped spindle. Offset and rounded jaw ends with carbide tips. Constant measuring force due to precision ratchet. Barrel with clearly engraved, black graduations. Satin chrome-plated micrometer. With adjusting screw and locking screw.

42 6805_5–30

Internal micrometers

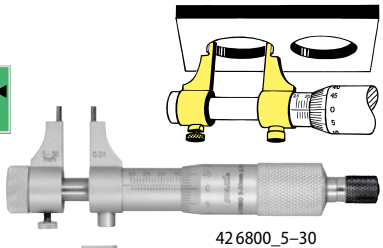
Supplied with:

42 6800 – Supplied with setting ring for adjustment.

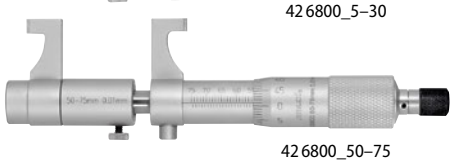
Optional extras:

42 6805 – Setting ring No. 484030.

M3 Cal



42 6800_5–30



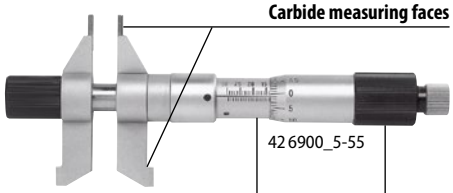
42 6800_50–75

Measuring range		mm	5-30	25-50	50-75	75-100
44A 42 6805	Mitutoyo Internal micrometer		XXX	XXX	(XXX)	(XXX)
42B 42 6800	HOLEX Internal micrometer		XXX	XXX	XXX	XXX
Scale divisions		mm	0.01			
Error limit (42 6805)		µm	5	6	7	8
Error limit (42 6800)		µm	10	12	14	16
Barrel ∅		mm	18			

Double-jawed internal micrometer

Optional extras: Setting ring No. 484030.

Note: Versions up to 600 mm measuring range available on request.



42 6900_5-55

Carbide measuring faces

Scale 5 - 30 mm

(Reverse has a scale 30 – 55 mm).

High quality ratchet

(friction clutch)

Measuring range		mm	5-55	50-75	75-100
46P 42 6900	Hartig Double-jawed internal micrometer		XXX	(XXX)	(XXX)
Scale divisions		mm	0.01		
Error limit		µm	2.5	3	3
Barrel ∅		mm	21		

Standard | Digimatic | B4 Cal

Mitutoyo Digital internal micrometers

Direct reading from digital display. Fully hardened, ground and lapped spindle. Carbide tipped jaws, ground and precision lapped. Constant measuring force due to precision ratchet. With locking screw.

Accuracy: Up to 30 mm: 5 µm / from 30 mm: 6 µm.

Supplied with: 1 battery No. 081560 size 357.

Optional extras: Data cable No. 497445, Setting rings No. 484030.

Preset

to any initial value.

With data storage button

allows the measured result to be stored (e.g. in awkward measuring positions).

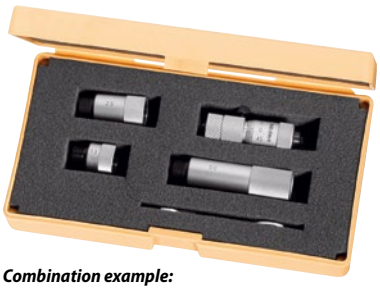
Zeroing in any position

without losing the absolute value.

Measuring range		mm	5-30	25-50
44A 42 6850	Digital internal micrometer **with data output**		XXX	(XXX)
Scale divisions		mm	0.001	

Standard | 0 45 | S4 Cal

Mitutoyo Internal micrometer sets measuring range 50 -1500 mm



One standard micrometer head 50 – 63 mm and various extensions. **One or more extensions are screwed into the standard micrometer head, depending on the desired measuring range.** Extensions consist of cylindrical gauge blocks.

Accuracy: (3 + number of extensions + L / 50) µm.

Supplied with: Standard micrometer head and extensions.

Combination example:

Standard micrometer head 50 - 63 mm

Extension 25 mm

Extension 13 mm

Protective cap for thread

Measuring range		mm	50-150	50-300	50-500	50-1000	50-1500
44A 42 7500	Internal micrometer set		XXX	XXX	XXX	XXX	XXX
Scale divisions		mm	0.01				
Barrel ∅		mm	15				
Pipe ∅		mm	12.5				
Number of extensions			3	5	6	8	10

DIN 863 | 0 45 | ▶B10◀ Cal

Mahr Internal micrometers Micromar

Lightweight, kink-proof tubular construction. Measuring spindle through hardened and ground. **Measuring faces hardened and spherical lapped.** Control elements and reading parts satin chrome-plated. From measuring range 100 - 125 mm with thermal insulation and locking lever.

Supplied with: Micrometer in a sleeve.

_30-40

_150-175

Measuring range	mm	30-40	40-50	50-70	70-100	100-125	125-150	150-175	175-200
43A 42 7800	Internal micrometer	(XXX)	(XXX)	(XXX)	XXX	XXX	XXX	(XXX)	(XXX)
Scale divisions	mm	0.01							
Error limit	µm	4	4	5	5	6	6	7	7
Spindle ∅	mm	7	7	7	7	8	8	8	8
Barrel ∅	mm	12.5	12.5	12.5	13.5	20	20	20	20

Mahr Micromar internal micrometers for large diameters

Standard | 0 45 | ▶S4◀ Cal

Measuring range from 100 mm

Lightweight, kink-proof tubular construction. Measuring spindle through hardened and ground. **Measuring faces hardened and hemispherical ground.** One adjustable measuring face. Jaws, control elements, and reading parts satin chrome-plated. **Immediately ready for use without adjustment.**

Accuracy: (4 + L / 100) µm.

Supplied with: Micrometer, extensions No. 427950.

_100-500

Measuring range	mm	100-500	100-900
43A 42 7900	Internal micrometer for large measuring ranges	XXX	XXX
Scale divisions	mm	0.01	
Spindle ∅	mm	7.5	
Barrel ∅	mm	17.5	
Extension	mm	25; 50; 100; 200	25; 50; 100; 200; 400

Extensions for internal micrometers No. 427900

▶B5◀ Cal

The extensions consist of cylindrical gauge blocks on spring mountings in the satin chrome-plated outer sleeves. The probe faces are under the same measuring pressure.

Application: **To extend the measuring range to maximum 2500 mm.**

_100

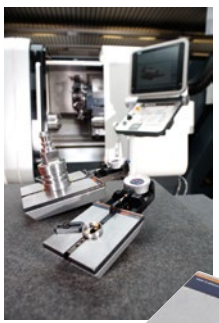
Length	mm	25	50	100	200	400	800
43A 42 7950	Extension for internal micrometer	XXX	XXX	XXX	XXX	XXX	XXX
Length	mm	25	50	100	200	400	800

Garant 2-point quick measuring devices DM1

Solid construction for use directly on turning / milling centres. For checking internal and external diameters, concentricity, grooves, and wall thicknesses, with a **repeatability of 2 µm.**
Can be used with any dial indicator or precision dial indicator with shank ∅ 8 h6 mm and maximum body ∅ 62 mm (supplied without dial indicator).

Advantage: Short measuring and set-up times, robust and easy to maintain.

Supplied with: Measuring device fully assembled;
2 pairs of TiN-coated disc anvils (1× ∅ 8 mm / 1×∅ 13 mm), 3 × key L-wrenches (3, 4 and 5 AF).



_135

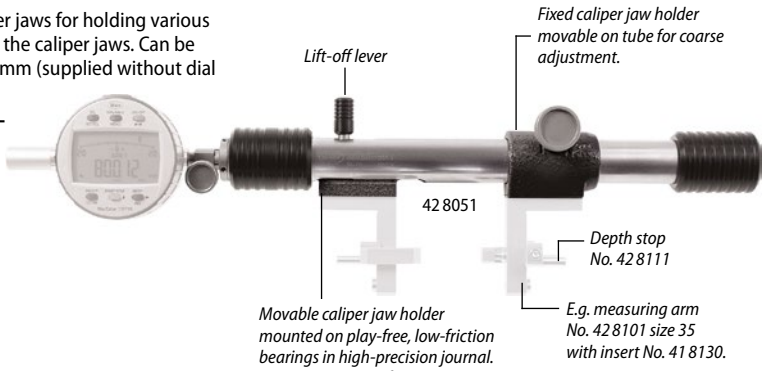
maximum measuring range	mm	75	135
41B 42 8030	2-point quick measuring device DM1	XXX	XXX
Application range internal	mm	18 – 75	18 – 135
Application range external	mm	6 – 70	6 – 130
Gauging force	N	2.6	
Length	mm	142	202
Width	mm	110	167

Mahr Universal measuring instruments Multimar

▶ A3 ◀
Cal

Strong tubular structure, ground and hard chrome-plated. Two caliper jaws for holding various measuring tips. Measuring range can be extended by 75 mm by reversing the caliper jaws. Can be used with any dial indicator or precision dial indicator with shank Ø 8 h 6 mm (supplied without dial indicator).

- **High measuring reliability and repetition accuracy thanks to high-cision ball track.**
- Heat protection handles
- Gauging force direction selectable for external and internal measure-ment.
- Constant gauging force ensured by built-in gauging force spring.



Measuring range		mm	30-115	110-265	260-615
43A 42 8051	Multimar universal measuring instrument		XXX	XXX	XXX
Span of measurement		mm		12	
Application range internal		mm	30 – 115	110 – 265	260 – 615
Application range external		mm	0 – 85	80 – 235	230 – 585

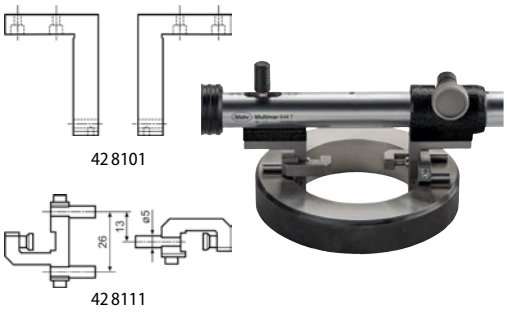
Accessories for universal measuring instruments

1 pair of ground caliper jaws.
Application: For holding measuring tips No. 428120 and 428130.

Throat		mm	25	35	70	100
43A 42 8101	Pair of measuring arms with bore Ø 3.5 mm		XXX	XXX	(XXX)	(XXX)

Suitable for: Measuring arms No. 428101.

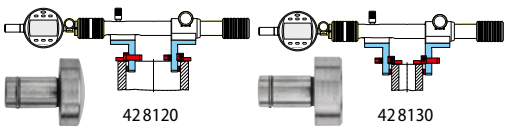
43A 42 8111	Pair of depth stops for measuring arms	(XXX)



Measuring tips

Suitable for: Measuring arms No. 428101.
Application: For inside and outside measurements. For mounting bore Ø 3.5 mm, **2 pieces required.**

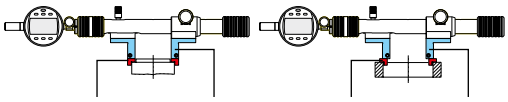
43A 42 8120	Internal measuring tip spherical Ø 7.5 mm, 1 piece	XXX
43A 42 8130	External measuring tip flat Ø 7.5 mm, 1 piece	XXX



Caliper jaws

1 pair of matching ground caliper jaws.
Size A – For external measurements.
Size B – For internal measurements.
Application: For holding shoulder anvils No. 428160 and 428170.

		A	B
43A 42 8141	Pair of caliper jaws with bore	XXX	XXX



Measuring tips

1 pair of matching ground shoulder anvils (for mounting bore Ø 5 mm, measuring face length 5 mm).
Suitable for: Caliper jaws No. 428141.
Application: To measure shoulders and narrow steps.

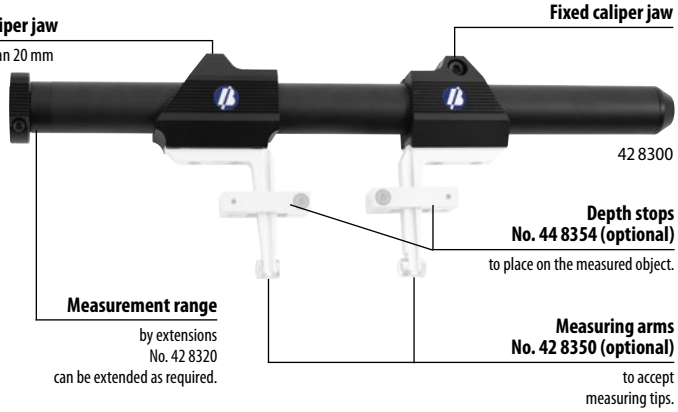
43A 42 8160	Pair of flat shoulder anvils for external measurements	XXX
43A 42 8170	Pair of semi-cylindrical shoulder anvils for internal measurements	XXX

Garant Setting Bench SB 1

Horizontal adjustment device with touch screen suitable for the workshop environment
for setting internal and external measurement devices.

Universal measuring gauges

A3 Cal



Lightweight stable tubular construction. Two caliper jaws for holding various measuring tips. Fixed caliper jaw holder (without guide slot) movable on tube for coarse adjustment. Movable caliper jaw holder mounted on play-free low friction bearings in high precision journal to give maximum accuracy. **Constant gauging force ensured by built-in gauging force spring.** For non-contact loading into measurement position, the movable caliper jaw can be retracted. Measurement range can be extended by optional extension as required (max. 3000 mm). Can be used with any dial indicator or precision dial indicator with shank Ø 8 mm h6.

Application: **Universal gauge for comparative measurements.** For external and internal measurements on a high variety of component forms using narrow shoulders. With special accessories for measuring centring wheels, recesses, grooves, dovetails, cones, gear teeth and internal/external threads.

Supplied with: Basic unit, wooden case.

Size SET – Including caliper jaws No. 428350 size 50, 2 × measuring tips No. 428360 size S, 2 × clamping nut No. 428358, 2 pcs. adjustable depth stops No. 428354 size A, digital dial indicator with scale display, reading 0.001 mm, min / max function, protective cap for dial indicator.

Optional extras:

Size 30-250 – Dial indicator or precision dial indicator with measurement range 25 mm.

42 8300

			30-250	SET
46B	42 8300	Universal measuring gauge in a wooden case	XXX	(XXX)
	Span of measurement	mm	20	
	Application range internal	mm	30 – 255	
	Application range external	mm	0 – 220	

42 8320_150

42 8320_500_1000

For extending the measurement range continuously (max. 3000 mm).

Size 500; 1000 – Light, robust extension of **CRP**.

NEW

			150	500	1000
	Length	mm			
46B	42 8320	Extension piece for 428300	XXX	XXX	(XXX)

Measuring arms / depth stops / measuring tips

1 pair of ground measuring arms.

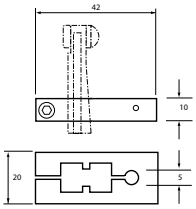
Application: For holding measuring tips No. 428360.

42 8350_50

42 8350_100

			50	75	100
	Throat	mm			
46B	42 8350	Pair of measuring arms	XXX	XXX	XXX

			A
	Type		
46B	42 8354	Pair of depth stops for measuring arms 428350	XXX



42 8354

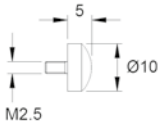
42 8360 – **Clamping nut 428358 size K is required.**

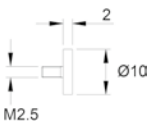
Size S – Spherical.

Size P – Flat.

Application:

42 8360 – For inside and outside measurements. Mounting bore Ø 3.5 mm, **2 pieces required**.



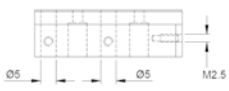


			K	S	P
	Type				
46B	42 8358	Clamping nut for 428360, pair	XXX	–	–
46B	42 8360	Measuring tip for measuring arms, pair	–	XXX	XXX

Mounting attachments / shoulder anvils

1 pair of matching mounting attachments.

Application: For holding sholder anvils No. 428160, 428170 and 428380.



42 8370

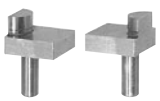
46B	42 8370	Pair of mounting attachments with bore Ø 5 mm	XXX

Size A – Shoulder anvils for external measuring.

Size I – Semi-cylindrical shoulder anvils for internal measuring.

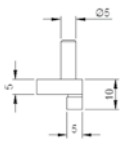
Suitable for: Pair of mounting attachments 428370.

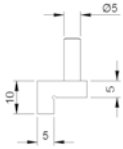
Application: To measure shoulders and narrow steps.



42 8380_I

42 8380_A





			I	A
	Type			
46B	42 8380	Shoulder anvils, pair	XXX	XXX

DIN 863

XT internal micrometers for three-point measurement

3-Point **XT inside micrometers**. Measuring spindle hardened and ground. Micrometer barrel with black scale, all reading parts satin chrome-plated. Ratchet for consistent measuring force. All gauges supplied with serial number and test certificate.

Application: Blind holes and through holes, centring edges.

Optional extras: Setting rings No. 484030, extension No. 428510.

_10-12,5

_65-80

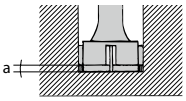
▶ B6 ◀ Cal

Size 2-2,5–16-20 – "Micro" - version with better resolution of 2 µm.

Size 12,5-16–275-300 – For blind hole measurements from size 12.5 – 16. Internal micrometers for maximum precision. Fixed carbide measuring jaws, from size 12.5 with carbide inserts.

Attention:

Size 2-2,5–5-6 – XT internal micrometer for **2-point measurement.**



For blind hole measurements from size 12.5.

Measuring range	mm	2-2,5	2,5-3	3-4	4-5	5-6	6-8	8-10	10-12,5
46B 42 8500	XT internal micrometer	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	XXX	XXX	XXX
Scale divisions	mm	0.002							
Error limit	mm	0.004							
Dimension a	mm	0	0	0	0	0	1.9	1.9	1.9
Standard measuring depth	mm	9	9	12	18	18	58	58	58

Measuring range	mm	12,5-16	16-20	20-25	25-35	35-50	50-65	65-80	80-100
46B 42 8500	XT internal micrometer	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Scale divisions	mm	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.005
Error limit	mm	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
Dimension a	mm	0.5							
Standard measuring depth	mm	62	66	66	80	80	80	80	100

Measuring range	mm	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300
46B 42 8500	XT internal micrometer	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.005							
Error limit	mm	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009
Dimension a	mm	0.5							
Standard measuring depth	mm	115							

XT internal micrometer set

▶ S6 ◀ Cal

Size 2-3–10-20 – "Micro" - version with better resolution of 2 µm.

Supplied with: Internal micrometers No. 428500 and setting rings with UKAS test certificate.

Attention:

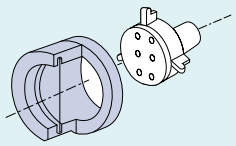
Size 2-3; 3-6 – XT internal micrometer set for **2-point measurement.**

_20-50

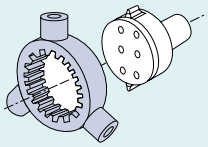
Measuring range	mm	2-3	3-6	6-10	10-20	20-50	50-100	100-150	150-200
46B 42 8550	XT internal micrometer set	(XXX)	(XXX)	XXX	XXX	XXX	XXX	XXX	XXX
Number of micrometers		2	3	2	3	3	3	2	2
Number of setting rings		1	2	1	2	2	2	1	1
Setting ring ∅	mm	2.5	4 / 5	8	12.5 / 20	20 / 35	60 / 80	125	175

Special micrometer heads for 2- or 3-point measurements on request

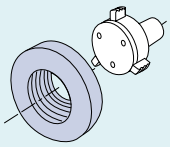
Groove measurement
∅ 3 – 300 mm



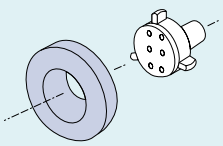
Internal splines
∅ 8 – 300 mm



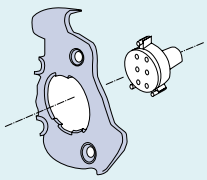
Internal thread
M4 – M300 / UN-12"
(core, flank, and outside ∅)



Measurement with convex measuring tips
∅ 6 – 300 mm
(exact repetition accuracy)



Measurement points at irregular spacings
∅ 16 – 300 mm



DIN 863 | 0 45

TESA Internal micrometer IMICRO

Analogue 3-point internal micrometer for **high-precision measurement** of bores, even **at large depths** (can be extended with up to three extensions). Self-centring and self-aligning. Individual internal micrometer to Abbé's principle **(no first order** tilt error).

42 8800

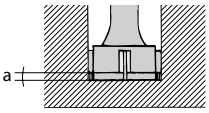
▶ B6 ◀ Cal

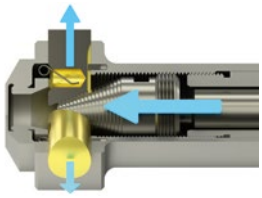
Size 3,5-4–10-12 – Anvils of hardened steel (HV30–770).
Size 11-14–90-100 – Anvils titanium nitride (TIN) coated (HV5–2300).
Size 100-125–275-300 – Anvils of titanium carbide (HV5–1300).

Supplied with:
Size 200-225–275-300 – Includes extension 150 mm No. 428802 size 5/150, supplied in a wooden box.

Optional extras: Setting rings No. 484030, extensions No. 428802.

Note: Centring devices for large measurement depths on request.





Measuring range	mm	3,5-4	4-4,5	4,5-5,5	5,5-6,5	6-8	8-10	10-12	11-14	14-17	17-20
45A 42 8800	Internal micrometer IMICRO	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Scale divisions	mm	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005
Error limit	mm	0.004									
Dimension a	mm	2	2	2	2	2.5	2.5	2.5	3.5	3.5	3.5
Standard measuring depth	mm	20	20	25	25	52	52	52	77	77	77

Measuring range	mm	20-25	25-30	30-35	35-40	40-50	50-60	60-70	70-80	80-90
45A 42 8800	Internal micrometer IMICRO	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Scale divisions	mm	0.005								
Error limit	mm	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005
Dimension a	mm	7	7	7	7	11	11	11	11	11
Standard measuring depth	mm	78	78	78	78	84	84	84	84	84

Measuring range	mm	90-100	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300
45A 42 8800	Internal micrometer IMICRO	XXX	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Error limit	mm	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.008	0.008
Dimension a	mm	11	26	26	26	26	26	26	26	26
Standard measuring depth	mm	84	81	81	81	81	81	81	81	81

TESA internal micrometer sets IMICRO

▶ S6 ◀ Cal

Supplied with: Internal micrometers No. 428800 and setting rings.
Size 6-12 – Extension 100 mm No. 428802.
Size 11-20–100-200 – Extension 150 mm No. 428802.

42 8803_20–40

Measuring range	mm	3,5-6,5	6-12	11-20	20-40	40-100	100-200
45A 42 8803	Internal micrometer set IMICRO	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001	0.001	0.005	0.005	0.005	0.01
Error limit	mm	0.004	0.004	0.004	0.004	0.004 / 0.005	0.006 / 0.007
Number of micrometers		4	3	3	4	6	4
Setting ring ∅	mm	4 / 5,5	8 / 10	11 / 17	25 / 35	50 / 70 / 90	125 / 175

Standard | 0 45

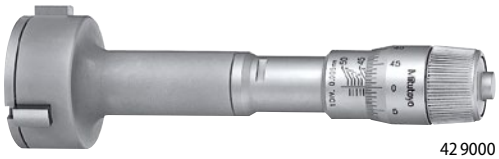
B6 Cal

Mitutoyo Internal micrometers Holtest

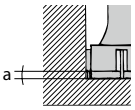
Stainless, all reading parts glare-free satin chrome-plated. Barrel with jet black scale and ratchet.

42 9000 – For through holes, measuring faces of hardened steel.
42 9005 – Blind hole version. **Measuring faces of hardened steel with titanium coating for long tool life.**

Optional extras: Extensions No. 429010. Setting rings No. 484030.


42 9000

42 9005



Measuring range		mm	6-8	8-10	10-12	12-16	16-20	20-25	25-30	30-40	40-50
44A 42 9000	Internal micrometer Holtest		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
44A 42 9005	Internal micrometer Holtest **for measuring blind holes**		–	–	–	XXX	XXX	XXX	XXX	XXX	XXX
Scale divisions		mm	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005
Error limit		mm	0.004	0.004	0.004	0.004	0.004	0.006	0.006	0.006	0.006
Barrel ∅		mm	17	17	17	23	23	23	23	23	23
Dimension a (42 9000)		mm	2	2	2	2.6	2.6	2.6	2.6	3.4	3.4
Dimension a (42 9005)		mm	–	–	–	0.3	0.3	0.3	0.3	0.3	0.3
Standard measuring depth		mm	57	57	57	80	80	90	90	98	98
Overall length		mm	106	106	106	127	127	140	140	140	140

Measuring range		mm	50-63	62-75	75-88	87-100	100-125	125-150	150-175	175-200
44A 42 9000	Internal micrometer Holtest		XXX	XXX	XXX	XXX	XXX	XXX	(XXX)	(XXX)
44A 42 9005	Internal micrometer Holtest **for measuring blind holes**		XXX	XXX	XXX	XXX	–	–	–	–
Scale divisions		mm	0.005							
Error limit		mm	0.006	0.006	0.006	0.006	0.01	0.01	0.01	0.01
Barrel ∅		mm	23							
Dimension a (42 9000)		mm	3.4	3.4	3.4	3.4	19.6	19.6	19.6	19.6
Dimension a (42 9005)		mm	0.3	0.3	0.3	0.3	–	–	–	–
Standard measuring depth		mm	105	105	105	105	147	147	147	147
Overall length		mm	156	156	156	156	249	249	249	249

Internal micrometer sets

S6 Cal

42 9050 – For through holes, measuring faces of hardened steel.
42 9055 – Blind hole version. **Measuring faces of hardened steel with titanium coating for long tool life.**

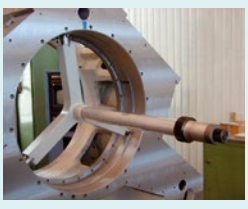
Supplied with:
42 9050 – Internal micrometers No. 429000.
Size 6-12 – Setting rings similar to No. 484030, extension 100 mm No. 429010.
42 9055 – Internal micrometers No. 429005.
Size 100-200; 12-20; 20-50; 50-100 – Setting rings similar to No. 484030, extension 150 mm No. 429010.

Measuring range		mm	6-12	12-20	20-50	50-100	100-200
44A 42 9050	Internal micrometer set Holtest		XXX	XXX	XXX	XXX	(XXX)
44A 42 9055	Internal micrometer set Holtest **for measuring blind holes**		–	XXX	XXX	XXX	–
Scale divisions		mm	0.001	0.005	0.005	0.005	0.005
Error limit		mm	0,004	0,004	0,006	0,006	0.01
Number of micrometers			3	2	4	4	4
Setting ring ∅		mm	8 / 10	16	25 / 40	62 / 87	125 / 175

TESA Schwenk

Measuring devices for measuring particularly large internal and external dimensions are available on request.

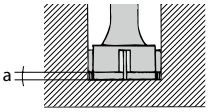
- Three-point internal micrometers up to 1150 mm
- Two-point internal micrometers up to 3250 mm
- External micrometers up to 6000 mm



DIN 863

Mahr Internal micrometers Micromar

Satin chrome-plated scales and operating parts. Measuring spindle through hardened and ground. Quick drive with integral clutch. Self-centring micrometer head from 12 mm with carbide measuring jaws. From 12 mm **for measuring down to the bottom of the hole.** From 40 mm the micrometer head is of aluminium, to save weight.



▶ B6 ◀ Cal

Optional extras: Extension No. 428950, Setting rings No. 484030.

42 8900_30–40

Measuring range	mm	6-8	8-10	10-12	12-16	16-20	20-25	25-30	30-40	40-50
43A 42 8900	Internal micrometer Micromar	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005
Error limit	mm					0.004				
Dimension a	mm	1.5	1.8	1.8	0	0	0	0	0	0
Standard measuring depth	mm	58	58	58	64	64	68	68	76	76

Measuring range	mm	50-60	60-70	70-85	85-100	100-125	125-150	150-175	175-200
43A 42 8900	Internal micrometer Micromar	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm				0.005				
Error limit	mm	0.005	0.005	0.005	0.005	0.006	0.006	0.007	0.007
Dimension a	mm				0				
Standard measuring depth	mm	79	79	97	97	132	132	132	132

Internal micrometer sets

▶ S6 ◀ Cal

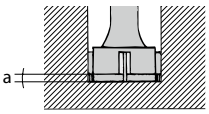
Supplied with: Internal micrometers No. 428900 with appropriate setting rings.

42 8910_20–50

Measuring range	mm	6-12	12-20	20-50	50-100
43A 42 8910	Internal micrometer set	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001	0.001	0.005	0.005
Number of micrometers		3	2	4	4
Number of setting rings		2	1	2	2
Setting ring ∅	mm	8 / 10	16	25 / 40	60 / 85

Standard

HOLEX Internal micrometers



▶ B6 ◀ Cal ▶ M3 ◀ Cal

Satin chrome plated scales and operating parts (from ∅ 12 with carbide jaws).
Self-centring micrometer head with 3 measuring jaws (from ∅ 12 with carbide jaws).
Size 50-63–87-100 – Casing varnished.

Supplied with: Setting ring (for adjustment) and extension.

Optional extras: Extension No. 428993, setting rings No. 484030.

42 8990_16–20

Measuring range	mm	6-8	8-10	10-12	12-16	16-20	20-25	25-30	30-40	40-50	50-63	62-75	75-88	87-100
42B 42 8990	Internal micrometer	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Error limit	mm	0.004	0.004	0.005	0.005	0.006	0.006	0.006	0.006	0.006	0.007	0.007	0.007	0.007
Dimension a	mm	1.5	1.5	1.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1
Standard measuring depth	mm	54	54	54	80	80	90	90	97	97	117	117	117	117
Setting ring ∅	mm	6	8	10	16	16	25	25	40	40	62	62	87	87

Internal micrometer sets

▶ S6 ◀ Cal

Satin chrome plated scales and operating parts (from ∅ 12 with carbide jaws). Self-centring micrometer head with 3 measuring jaws (from ∅ 12 with carbide jaws).

Supplied with: Internal micrometers No. 428990, setting rings (for adjustment) and extension.

42 8991_20–50

Measuring range	mm	6-12	12-20	20-50	50-100
42B 42 8991	Internal micrometer set	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001	0.005	0.005	0.005
Error limit	mm	0.004 / 0.005	0.005 / 0.006	0.006	0.007
Number of micrometers		3	2	4	4
Number of setting rings		2	1	2	2
Setting ring ∅	mm	8 / 10	16	25 / 40	62 / 87

DIN 863 | mm / Inch | RS232C | IP 67

HCT

Bowers Group Digital XT internal micrometers for three-point measurement

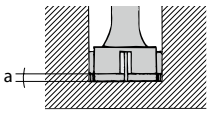
3-point internal micrometer series for blind hole measurement from size 12.5 -16.
Fixed carbide measuring jaws, from size 12.5 with carbide inserts.
Large, sharp contrast digital display. Measuring spindle through hardened and ground.
Reliable measurement without a vernier.

Function:
- mm / inch selection.
- Setting 4 preset values.
- On / Off data storage button.

Optional extras: Data cable No. 498948.
USB dongle No. 498952.
Setting rings No. 484030.
Extensions No. 428510.

Spare part: Spare measuring heads No. 428605, measuring jaws No. 428745, return springs No. 428746.

42 8602



▶ B6 ◀ Cal

Supplied with: 1 battery No. 081560 size CR2032.

Measurement range	mm	6-8	8-10	10-12,5	12,5-16	16-20	20-25	25-35	35-50	50-65	65-80	80-100	100-125	125-150
46B 42 8602	Digital XT internal micrometer	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Selectable display	mm	0.01 / 0.001												
Error limit	mm	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.006	0.006
Dimension a	mm	1.9	1.9	1.9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Standard measuring depth	mm	58	58	58	62	66	66	80	80	80	80	100	115	115

Digital XT internal micrometer sets

HCT

▶ S6 ◀ Cal

Supplied with: Digital internal micrometers No. 428602 and setting rings with UKAS test certificate.
Size 2-6 – Two-point gauge

42 8652

Measurement range	mm	2-6	6-10	10-20	20-50	50-100	100-200
46B 42 8652	Digital XT internal micrometer set	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Number of measuring heads		5	2	3	3	3	4
Number of setting rings		3	1	2	2	2	2
Setting ring ∅	mm	2.5 / 4 / 5	8	12.5 / 20	20 / 35	60 / 80	125 / 175

DIN 863 | mm / Inch | RS232C | IP 65 | ▶ i ◀ Cal

Bowers Group 2-point bore measuring system MicroGauge set

2-point bore measuring system for high-precision measurement of bores between 0.95 – 10.35 mm. The compact format and low weight (no more than a ball-point pen) facilitates measurement of small precision components. Hard chrome plated spherical measurement contacts. Clear LCD display with switchable resolution down to 0.0005 mm. Data output via RS232 or USB proximity. Dust-tight and proof against jets of water (IP65).

Supplied with: With 1 battery No. 081560 357, setting rings with UKAS calibration certificates.

Optional extras: Data cable No. 498948

Note: Available as individual micrometers or as a set, depth stops available on request. Diatest probes can be connected using an additional adapter.

Measuring range	mm	0,95-1,55	1,5-2,45	2,25-4,25	3,65-6,35	6,15-10,35
46B 42 8670	Internal micrometer MicroGauge	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range of the micrometer head	mm	0.95–1.15; 1.07–1.25; 1.17–1.35; 1.27–1.45; 1.37–1.55	1.5–1.9; 1.8–2.2; 2.05–2.45	2.25–2.75; 2.5–3; 2.75–3.25; 3–3.5; 3.25–3.75 ; 3.5–4 ; 3.75–4.25	3.65–4.35 ; 4.15–4.85; 4.65–5.35; 5.15–5.85; 5.65–6.35	6.15 – 6.85; 6.65 – 7.35; 7.15 – 7.85; 7.65 – 8.35; 8.15 – 8.85; 8.65 – 9.35; 9.15 – 9.85; 9.65 – 10.35
Selectable display	mm	0.01/0.001/0.0005				
Repeatability	mm	0.001				
Linearity	mm	∅ 1.0 – 1.55: maximum 2% of the measurement travel; at least 0.001/ ∅ 1.5 – 6.35: maximum 1% of the measurement travel; at least 0.001				
Number of measuring heads		5	3	7	5	8
Number of setting rings		5	3	7	5	8

DIN 863 | mm / Inch | Digimatic | RS232C | IP 54 | Absolute System

TESA Digital internal micrometer IMICRO

Analogue 3-point internal micrometer for **high-precision measurement** of holes, even at large depths. Individual internal micrometer to Abbé's principle (no first order **tilt error**). Self-centring and self-aligning. Simple direct reading on the high-contrast display. Patented **CAPA µ-measuring system.**

Optional extras: Setting rings No. 484030, extensions No. 428802, data cable, radio remote control No. 498921, radio adapter No. 498924.

Note: Centring devices for large measurement depths on request.

▶ B6 ◀ Cal

Size 6-8–10-12 – Anvils of hardened steel (HV30–770).
Size 11-14–90-100 – Anvils titanium nitride (TIN) coated (HV5–2300).
Size 100-125–175-200 – Anvils of titanium carbide (HV5–1300).

42 8830

Measuring range	mm	6-8	8-10	10-12	11-14	14-17	17-20	20-25	25-30	30-35	35-40
45A 42 8830	3-point digital internal micrometer IMICRO	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001									
Error limit	mm	0.004									
Dimension a	mm	2.5	2.5	2.5	3.5	3.5	3.5	7	7	7	7
Standard measuring depth	mm	79	79	79	93	93	93	91	91	91	91

Measuring range	mm	40-50	50-60	60-70	70-80	80-90	90-100	100-125	125-150	150-175	175-200
45A 42 8830	3-point digital internal micrometer IMICRO	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001									
Error limit	mm	0.004	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.007	0.007
Dimension a	mm	11	11	11	11	11	11	26	26	26	26
Standard measuring depth	mm	104	104	104	104	104	104	100	100	100	100

Digital internal micrometer sets IMICRO

▶ S6 ◀ Cal

Size 6-12 – Anvils of hardened steel (HV30–770).
Size 11-20–40-100 – Anvils titanium nitride (TIN) coated (HV5–2300).

Supplied with: Digital internal micrometer No. 428830, extension No. 428802, with setting rings.

42 8841

Measuring range	mm	6-12	11-20	20-40	40-100
45A 42 8841	3-point digital internal micrometer set	(XXX)	(XXX)	(XXX)	(XXX)
Number of measuring heads		3	3	4	6
Number of setting rings		2	2	2	3
Setting ring ∅	mm	8 / 10	11 / 15	25 / 35	50 / 70 / 90

Standard | 0 45 | ▶ B6 ◀ Cal

Mitutoyo Small internal micrometer up to ∅ 6 mm

Stainless, all reading parts glare-free satin chrome-plated. Barrel with jet black scale and ratchet. The micrometer head **(with 2 carbide measuring faces)**is adjusted by **a carbide-tipped** operating pin.

Application: For accurate measurement of bore diameter and roundness.

Optional extras: Setting rings No. 484030.

42 9100

Measuring range	mm	2-2,5	2,5-3	3-4	4-5	5-6
44A 42 9100 Small internal micrometer		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm			0.001		
Error limit	mm			0.002		
Barrel ∅	mm			17		
Measurement depth	mm	12	12	22	22	22
Overall length	mm	105	105	115	115	115

DIN 863 | Digimatic | IP 65

Mitutoyo Digital internal micrometers for three-point measurement

Direct reading from clear digital display. Reliable and accurate measuring – without vernier.

"Function Lock" prevents accidental displacement of the zero point.
Low power consumption. With battery charge status and error display.

42 9110

Preset
To set the internal micrometer to the initial value of the measuring range;
programming of up to 2 pre-selected values.

Data storage key
The measured results can be stored by pressing this button
(for example, in inconvenient measuring positions).

Zero point / absolute measurement
Zeroing in any position, e.g. for tolerance measurements.
Absolute zeroing is restored by pressing the button again.

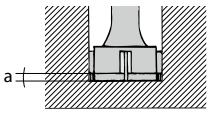
▶ B6 ◀ Cal

Measuring faces and wearing parts of carbide, from size 12 -16 measuring faces of hardened steel with titanium coating for long tool life.

Supplied with: 1 battery No. 081560 size 357.

Optional extras: Data cable No. 497445, extensions No. 429010, setting rings No. 484030.

Note: Available up to a measuring range 300 mm on request.



Measuring range	mm	6-8	8-10	10-12	12-16	16-20	20-25	25-30	30-40	40-50
44A 42 9110 Digital internal micrometer		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm					0.001				
Error limit	mm	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003
Dimension a	mm	2	2	2	0.3	0.3	0.3	0.3	0.3	0.3
Standard measuring depth	mm	45	45	45	76	76	88	88	102	102

Measuring range	mm	50-63	62-75	75-88	87-100	100-125	125-150	150-175	175-200
44A 42 9110 Digital internal micrometer		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm					0.001			
Error limit	mm	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005
Dimension a	mm	0.3	0.3	0.3	0.3	12.4	12.4	12.4	12.4
Standard measuring depth	mm	102	102	102	102	151	151	151	151

Digital internal micrometer sets

▶ S6 ◀ Cal

Measuring faces and wearing parts of carbide, from size 12 -25 measuring faces of hardened steel with titanium coating for long tool life.

Supplied with: Digital internal micrometers No. 429110, setting rings.

42 9112

Measuring range	mm	6-12	12-25	25-50	50-75	75-100
44A 42 9112 Digital internal micrometer set		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Number of micrometers		3	3	3	2	2
Number of setting rings		2	2	2	1	1
Setting ring ∅	mm	8 / 10	16 / 20	30 / 40	62	87

DIN 863 | mm / Inch | Digimatic | RS232C | IP 52 | Reference Lock

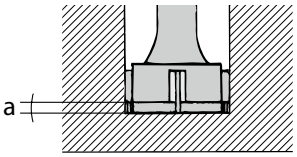
Mahr

Digital internal micrometers Micromar

Simple direct reading on the high-contrast display. Immediately ready for use due to the Reference System. Button for changeover between relative and absolute measurement. Screw-on measuring heads can easily be changed. Self-centring micrometer head from 12 mm with carbide measuring jaws. From 40 mm the micrometer head is of aluminium, to save weight.
From 12 mm for measuring down to the bottom of the hole.

▶ B6 ◀ Cal

Supplied with: 1 battery No. 081560 size CR2032
Optional extras: Extension No. 428950, data cable No. 498940, setting rings No. 484030.



42 8930_40–50

Measuring range		6-8	8-10	10-12	12-16	16-20	20-25	25-30	30-40
43A 42 8930	Digital internal micrometer **with data output**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001							
Error limit	mm	0.004							
Dimension a	mm	1.5	1.8	1.8	0.5	0.5	0.5	0.5	0.5
Standard measuring depth	mm	58	58	58	64	64	68	68	76

Measuring range		40-50	50-60	60-70	70-85	85-100	100-125	125-150	150-175	175-200
43A 42 8930	Digital internal micrometer **with data output**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001								
Error limit	mm	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.007	0.007
Dimension a	mm	0.5								
Standard measuring depth	mm	76	79	79	97	97	132	132	132	132

Digital internal micrometer sets

▶ S6 ◀ Cal

Supplied with: Digital internal micrometers No. 428930 with appropriate setting rings.

42 8940_20–50

Measuring range	mm	6-12	12-20	20-50	50-100
43A 42 8940	Digital internal micrometer set	(XXX)	(XXX)	(XXX)	(XXX)
Number of measuring heads		3	2	4	4
Number of setting rings		2	1	2	2
Setting ring ∅	mm	8 / 10	16	25 / 40	60 / 85

DIN 863 | mm / Inch | RS232C | IP 67

▶ B6 ◀ Cal

HCT

Digital XT internal quick measuring devices Holematic

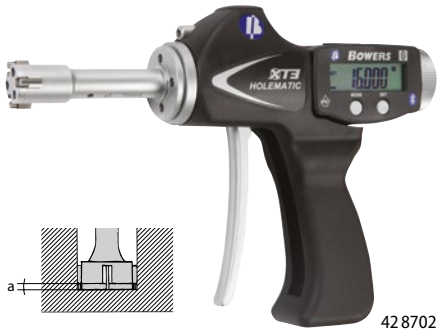
3-point internal micrometer series Holematic for blind hole measurement from size 12.5–16. Fixed carbide measuring jaws, from size 12.5–16 with carbide inserts. Large, sharp contrast digital display. Reliable measurement without a vernier.

Function:
- mm / inch selection.
- Setting 2 preset values.
- On / Off data storage button.

Advantage: Very quick and repeatedly accurate measurement due to pistol grip and constant measuring force.

Optional extras: Data cable No. 498948, USB dongle No. 498952, setting rings No. 484030, extensions No. 428510.

Spare part: Spare measuring heads No. 428605, measuring jaws No. 428745, return springs No. 428746.



42 8702

Supplied with: Measuring pistol, micrometer head with UKAS test certificate, 1 battery No. 081560 size CR2032.

Measuring range	mm	10-12,5	12,5-16	16-20	20-25	25-35	35-50	50-65	65-80	80-100
46B 42 8702	Holematic digital XT internal quick measuring device	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm					0.001				
Error limit	mm	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
Dimension a	mm	1.9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Standard measuring depth	mm	58	62	66	66	80	80	80	80	85

Digital XT internal quick measuring device sets Holematic

Supplied with: Digital internal micrometers No. 428702 and setting rings with UKAS test certificate.

▶ S6 ◀ Cal

HCT

42 8752

Measuring range	mm	6-10	10-20	20-50	50-100	100-200
46B 42 8752	Holematic digital XT internal quick measuring device set	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm			0.001		
Error limit	mm	0.004	0.004	0.004	0.005	0.006/0.007
Number of measuring heads		2	3	3	3	4
Setting ring ∅	mm	8	12.5 / 20	20 / 35	60 / 80	125 / 175

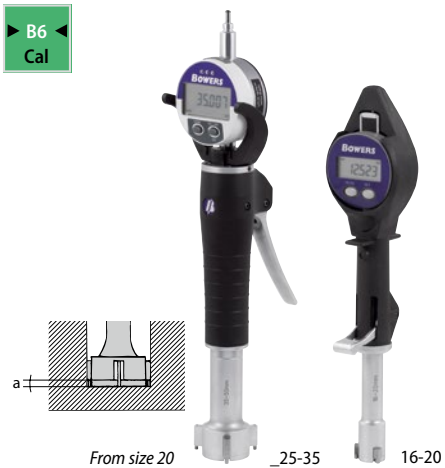
DIN 863 | mm / Inch | RS232C

▶ B6 ◀ Cal

Digital XTL internal quick measuring devices

3-point XT internal micrometer series for blind hole measurement from size 12.5–16. Fixed carbide measuring jaws, from size 12.5–16 with carbide inserts. Large, sharp contrast digital display. Reliable measurement without a vernier. Excellently suitable for measuring vertical holes.

Function:
- mm / inch selection.
- Setting 2 preset values.
- On / Off data storage button.



Supplied with: Measuring lever, micrometer head with UKAS test certificate, 1 battery No. 081560 size CR2032.

Optional extras: Data cable No. 498950 (from size 20), No. 498951 (up to size 20), setting rings No. 484030, extensions No. 428510.

Measuring range	mm	6-8	8-10	10-12,5	12,5-16	16-20	20-25	25-35	35-50	50-65	65-80	80-100
46B 42 8760	Digital XTL internal quick measuring device	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm						0.001					
Error limit	mm	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
Dimension a	mm	1.9	1.9	1.9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Standard measuring depth	mm	58	58	58	62	62	66	66	80	80	80	85

Digital XT internal quick measuring device sets

Supplied with: Digital internal micrometers No. 428760 and setting rings with UKAS test certificate.

▶ S6 ◀ Cal

42 8770

Measuring range	mm	6-10	10-20	20-50	50-100
46B 42 8770	Digital XTL internal quick measuring set	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm		0.001		
Error limit	mm	0.004	0.004	0.004	0.005
Number of measuring heads		2	3	3	3
Setting ring ∅	mm	8	12.5 / 20	20 / 35	60 / 80

Standard | Digimatic | Absolute System

Mitutoyo Quick digital internal micrometers Boremat

Boremat quick blind hole micrometer for **3-point internal measurement**. Large LCD display with 11 mm character height for clear and error-free reading. **Display can be rotated 330°**. The measuring probes centre the micrometer automatically in the bore and ensure easy handling. The measuring probes are adjusted without any error by a **carbide cone**.

Function:
- **Data storage button** saves the measurement result (for instance in inaccessible measurement positions).
- **Zero point / absolute size** enables zeroing at any position.
- **Good / Reject display** for easy checking against tolerance values.
- **Quick adjustment** for quick spanning of the distance to be measured.

Advantage: Very quick measurement with high repetition accuracy due to pistol grip and constant measuring force.

_6–8

_12–16

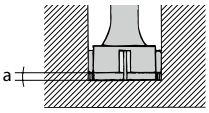
▶ B6 ◀ Cal

Size 6-8–10-12 – Anvils of titanium-coated carbide.
Size 12-16–87-100 – Anvils of titanium-coated hardened steel.

Supplied with: 1 battery No. 081560 size 357.

Optional extras: Digimatic data cable No. 497080, extensions No. 429010, setting rings No. 484030.

Spare part: Spare micrometer head No. 429252.



_20–25

_30–40

Measuring range	mm	6-8	8-10	10-12	12-16	16-20	20-25	25-30	30-40	40-50	50-63	62-75	75-88	87-100
44A 42 9250	Digital three-point internal micrometer	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001												
Error limit	mm	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Dimension a	mm	2	2	2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard measuring depth	mm	83	83	83	53	53	59	59	67	67	75	75	75	75

Digital three-point internal micrometer sets Boremat

▶ S6 ◀ Cal

Supplied with: Digital internal micrometers No. 429250, setting rings.

42 9260

Measuring range	mm	6-12	12-25	25-50	50-100
44A 42 9260	Digital three-point internal micrometer set	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm	0.001			
Error limit	mm	0.005	0.005 / 0.006	0.006	0.006
Number of measuring heads		3	3	3	4
Number of setting rings		2			
Setting ring ∅	mm	8 / 10	16 / 20	30 / 40	62 / 87

DIN 876

Natural granite plate for measuring and inspection

Specially selected natural granite.

- Free of flaws, homogeneous structure.
- Deflection and torsion resistant.
- Absolutely rustproof and resistant to acid, low thermal conductivity.
- Micro-fine surface treatment (diamond lapped). Tolerances tighter than recommended limits.
- Ground outside edges, visually true.
- For static determination of position, contact points (steel ball inserts) are fitted to the underside.
- Harder than hardened steel (Mohs hardness scale 6 - 7), non-magnetic and electrically non-conductive.

Accuracy: Final manufacturing and inspection take place in computer-controlled climatic rooms. The used measuring equipment guarantees the exact connection to national and international calibration laboratories.

43 0200 – **DIN 876/1 – diamond lapped** for workshop and production.

43 0400 – **DIN 876/00 – High precision diamond lapped** for measuring room.

43 0190/0300 – **DIN 876/0 – Precision diamond lapped** for inspection.

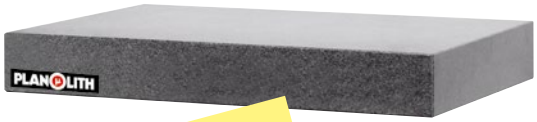
Supplied with: **Supplied with test certificate, transport packing.**

43 0190 Size 400×400/0200 Size 400×250; 400×400/0300 Size 400×250; 400×400/0400 Size 400×400 – Including rubber feet.

43 0190 Size 630×400–1200×800/0200 Size 630×400–2000×1000/0300 Size 630×400–2000×1000/0400 Size 630×400–2000×1000 – Including steel ball inserts.

Note: **On request:** Stainless steel screw inserts, steel T-slot rails (steel T-slot rails not available for No. 430190), accuracy 000, other sizes, intermediate sizes. Delivery excluded.

43 0190



43 0200

With DAkkS calibration certificate if desired

Including steel ball inserts on the underside from size 630×400

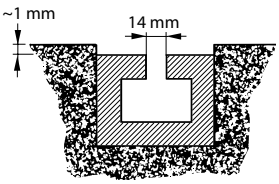
Length×Width		mm	400×250	400×400	630×400	630×630	800×600	1000×630	1200×800	1500×1000	2000×1000
41C 43 0190	Garant	Granite plate **Accuracy class 0**	–	(XXX)	(XXX)	(XXX)	–	(XXX)	(XXX)	–	–
46H 43 0200		Granite plate **Accuracy class 1**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46H 43 0300	PLANOLITH	Granite plate **Accuracy class 0**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46H 43 0400		Granite plate **Accuracy class 00**	–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Flatness (43 0190, 43 0300)		mm	0.006	0.006	0.007	0.007	0.007	0.008	0.009	0.01	0.012
Flatness (43 0200)		mm	0.014	0.014	0.016	0.016	0.018	0.02	0.022	0.025	0.03
Flatness (43 0400)		mm	–	0.003	0.003	0.003	0.004	0.004	0.005	0.005	0.006
Thickness		mm	50	50	70	70	120	100	160	190	220
Number of rubber feet			4	4	–	–	–	–	–	–	–
Number of steel ball inserts			–	–	3	3	3	3	5	5	5
Weight		kg	15	25	55	83	173	189	460	855	1320

PLANOLITH Steel T-slot rail

Made of special low-torsion steel, glare-free satin chrome-plated surface, bonded to the granite plate so that it cannot move.

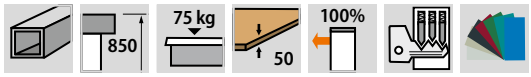
Accuracy: 0.01 mm / 1000 mm, version B. With tenon and T-slot, ground. The nominal dimension 14 mm is only approximate, accessories such as tailstocks etc. need to be ground precisely to the actual slot pitch.

Note: When ordering, please specify the position of the T-slot rail in the surface and take into account the minimum thickness of the granite plate. Prices for intersecting and end face T-slots on request.



Threaded inserts of stainless steel on request.

for plate length		mm	800	1000	1200	1500	2000
46H 43 1700	Guide and clamping T-slot rail including installation		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Minimum thickness of granite plate		mm	100	140	160	190	220



Garant GRIDLINE GridLine vario workbench, mobile with granite plate, casing 24 G

Mobile measurement workstation with granite plate. Natural granite plate for measuring and inspection, accuracy class 0. Precision diamond lapped for inspection work. Free of flaws; homogeneous structure. Resistant to deflection and to warping. Absolutely rustproof and resistant to acid, low thermal conductivity. **Supplied with M8 tapped hole. Worktop of dark Eluplan, 50 mm thick;** 2 mm thick plastic surface finish, proof against abrasion and impacts. The coating is anti-static and largely resistant to dilute acids and alkalis. The tough hard surface is particularly suitable for sensitive components. All edges ABS veneered. **Mobile support legs** of square hollow section, each with 2 ball-bearing fixed wheels and castors, Ø 125 mm, with treadless polyurethane tyres. Castors with brakes for the wheels and the castor heads. Back panels and storage shelves of sheet metal.

Size 1500/5 – 24G cabinet casing, 600 mm wide, of sheet metal, can be locked centrally with cylinder lock. 100% full extension drawers with differential runners, single-handed individual drawer release system and 75kg load capacity.

Colour: Body RAL 7035 light grey, drawer fronts RAL 7016 anthracite, powder-coated. Suspension for granite table RAL 7016 anthracite, drawer body RAL 7035 light grey (not configurable).

Supplied with: Supplied with granite table 630 x 400 mm, accuracy class 0, M8 tapped hole. Fully assembled.

Size 1500/5 – Supplied with cabinet casing with drawers.

Note: For accessories see our Workstations and Storage catalogue volume 3.

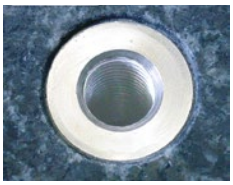
Granite plate, *accuracy class 0, size 630 × 400 mm,* ***supplied with M8 threaded socket.***

Worktop *dark Eluplan.*

43 1315

Mobile support base *with fixed wheels and castors with parking brake and swivel head locking.*

Cabinet casing with drawers: *100 % full extension for optimum access to the entire area of the drawer. New type of drawer concept for optimum equipment with modular arrangement systems.*



Threaded sockets *of stainless steel.*

Granite plate *accuracy class 0. Precision diamond lapped, will not sag.*

Sizes		1500	1500/5
41W 43 1310	vario workbench with dark grey Eluplan worktop **mobile with granite plate**	(XXX)	–
41W 43 1315	vario workbench with 5 drawers and dark grey Eluplan worktop **mobile with granite plate**	–	(XXX)
Height	mm	850	
Worktop length	mm	1500	
Worktop depth	mm	750	
Worktop thickness	mm	50	
Granite table length	mm	630	
Granite table width	mm	400	
Flatness	mm	0.007	
Drawer body height	mm	–	500
Drawer body width	mm	–	600
Drawer body depth	mm	–	650
Drawer usable width	mm	–	500
Drawer usable depth	mm	–	500
Drawer usable width in G		–	20
Drawer usable depth in G		–	20
maximum load capacity, mobile unit	kg	400	
Weight	kg	158	208
Fitted with: Drawer front height in mm (43 1315)		–	50; 75; 75; 100; 125

Garant GridLine – Workstations and storage reloaded

You can find more information and suitable accessories in the Hoffmann Workstations and Storage catalogue.

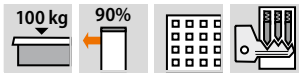
Garant Support frames / cabinets for granite plates

Sturdy welded construction including levelling fittings. Uneven floors can be compensated using height compensation screws.

43 1000 – **Support frame,** steel sections, paint finish RAL 9006 white aluminium. Beech ply storage shelf.

43 1050 – **Support cabinet,** casing made from sheet steel, with swing-door (including storage shelf) and/or drawers depending on size, including GARANT locking system. Paint finish of the shell RAL 9006 aluminium white, front faces RAL 5011 steel blue.

Note:	For vibration-absorbing machine mounts, please order 4× No. 086002 size 850.



43 1000_1200×800

43 1050_1200×800

for insert size length×width	mm	630×400	630×630	800×600	1000×630	1200×800	1500×1000	2000×1000
41C **43 1000**	Support frame	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
41C **43 1050**	Support cabinet	–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Support cabinet height	mm				720			
Support cabinet width (43 1000)	mm	550	550	550	750	900	1060	1460
Support cabinet width (43 1050)	mm	–	550	550	750	1134	1304	1566
Support cabinet depth (43 1000)	mm	400	560	560	560	630	830	830
Support cabinet depth (43 1050)	mm	–	560	560	560	630	780	780
Height of support cabinet incl. bearing sets	mm				780			
Drawer usable width (43 1050)	mm	–	–	–	–	490	490	490
Drawer usable depth (43 1050)	mm	–	–	–	–	520	520	520
Load capacity, distributed	kg	500	500	500	1000	1000	2000	2000
Fitted with: Drawer front height (centre) (43 1050)		—	—	—	—	—	—	60; 100; 120; 200 mm
Drawer front height (right) (43 1050)		—	—	—	—	60; 100; 120; 200 mm	60; 100; 120; 200 mm	—
Door height (left) (43 1050)		—	480 mm	480 mm	480 mm	480 mm	480 mm	480 mm
Drawer front height (left) (43 1050)		—	—	—	480 mm	—	—	480 mm

Inspection rollers

Made of dense special casting. Each with 2 rollers mounted on ball bearings, to accept cylindrical components.

46K **43 1705**	Pair of bench inspection rollers	(XXX)
∅ range	mm	25 – 150
Tip height	mm	147 (at d = 25)
Width of T-nut h6	mm	14
Weight per pair	kg	15
maximum load capacity	kg	150

PLANOLITH Tailstocks

Of special cast iron with very high wear resistance.
One tailstock with a fixed centre, one tailstock with an axially movable centre.
Adjustment of the centre with a hand lever. With hardened Vee-blocks.

Accuracy: Grade 1, axial precision ± 0.008 mm.

Note:	Please note **additional carriage charge**. Other centre heights on request.

Tip height	mm	150	200
46H **43 1710**	Pair of tailstocks grade 1, heavy-duty version	(XXX)	(XXX)
Sleeve holder		MT2	
Vee blocks for shaft ∅	mm	10 – 50	
Width	mm	120	
Length per pair	mm	360	390
Weight per pair	kg	28	33
maximum load capacity	kg	75	

PLANOLITH Natural granite measuring beam

For material, accuracy standards see No. 430400. From 1000 mm length with handles. The two horizontal faces are flat and parallel to each other, finely diamond lapped.

43 1825 – Special **lightweight design** with no loss of accuracy.

Application: For checking straightness and parallelism when marking out.

Supplied with: Transport packaging

Note: Please note **additional carriage charge**. Measuring beam up to 4000 mm on request.

Standard

43 1810

43 1825

Length		mm	500	1000	1500
46H 43 1810	Measuring beam, accuracy 00		(XXX)	(XXX)	(XXX)
46H 43 1825	Measuring beam, accuracy 00 **Lightweight design**		–	(XXX)	(XXX)
Parallelism		mm	0.0015	0.002	0.003
Width		mm	45	56	70
Height		mm	90	160	220
Weight (43 1810)		kg	6	26	69
Weight (43 1825)		kg	–	19	34

PLANOLITH Inspection square 90° of natural granite, triangular form

For material and accuracy standards see No. 430400. From size 600×400 mm with lightening holes which also assist in transportation and handling. The two narrow 90° surfaces of the square are precision diamond lapped to DIN 876/00.

Right angle tolerances to DIN 875.

43 1858 – Special **lightweight design** with no loss of accuracy.

Application: For checking 90° angles in horizontal and vertical planes.

Supplied with: Transport packaging

Note: Please note **additional carriage charge**. Measurement angles up to 2000 mm on request.

DIN 876/00 DIN 875

43 1858

43 1850

Length×Width		mm	400×250	500×300	600×400	800×500	1000×600
46H 43 1850	90° inspection square, triangular accuracy 00		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46H 43 1858	90° inspection square, triangular accuracy 00 **Lightweight design**		–	(XXX)	(XXX)	(XXX)	(XXX)
Right angle tolerance		mm	0.003	0.004	0.005	0.006	0.008
Thickness		mm	50	60	70	80	100
Weight (43 1850)		kg	10	17	30	55	94
Weight (43 1858)		kg	–	12	19	41	65

PLANOLITH 90° frame of natural granite square / rectangular shape

For material, accuracy standards and options see No. 430300; 430400. The four all-round narrow 90° surfaces of the square are precision diamond lapped to DIN 876. Right angle tolerances to DIN 875.

Application: For checking 90° angles in horizontal and vertical planes.

Supplied with: Transport packaging

Note: Delivery excluded. Granite reference squares in square shape up to 1000 mm on request. Granite reference squares in rectangular shape up to 2000 mm on request.

DIN 875 DIN 876/0

43 1860

DIN 875 DIN 876/00

43 1730

Length×Width		mm	300×300	400×400	500×500
46H 43 1860	90° square, square shape accuracy 0		(XXX)	(XXX)	(XXX)
Right angle tolerance		mm	0.004	0.006	0.008
Thickness		mm	50	60	70
Weight		kg	11	24	38

Length×Width		mm	350×250	600×400
46H 43 1730	90° inspection frame, rectangular shape accuracy 00		(XXX)	(XXX)
Right angle tolerance		mm	0.002	
Thickness		mm	50	60
Weight		kg	8	20

PLANOLITH Cleaner for natural granite

Advantage: Cares and protects, reduces friction and wear, increases the working life.

Application: Cleaner for natural granite.

Contents		l	0,5
46H 43 1841	Cleaner for natural granite		(XXX)

PLANOLITH Machine test standard - Axis-Inspect-Master

Rectangular shape of specially selected natural granite with weight-reducing holes and 12 reference holes (with ceramic sleeves).

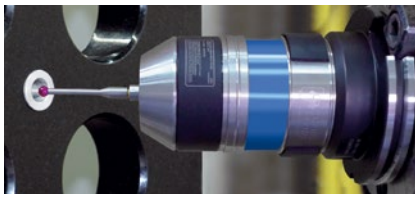
Accuracy: The 4 side faces are machined square and plane parallel to each other (2 µm). The front face is machined angular to the side faces. The exact positions of the 12 reference holes are recorded in the test certificate supplied.

Advantage: Reduction in downtime due to machine stoppages. Saving on servicing costs.

Application: Measurement and inspection tool for CNC machine tools, measuring machines or measuring arms. For quick testing of the machine geometry and positioning, e.g. after a crash.

Supplied with: Transport packaging

Note: Please note **additional carriage charge**.



width×length	mm	600×400	800×600
46H 43 1882 Machine test standard **Axis-Inspect-Master**		(XXX)	(XXX)
Flatness of the front face	mm	0.01	
Flatness of the side faces	mm	0.002	
Right angle tolerance	mm	0.002	
Thickness	mm	50	70
Weight	kg	32	90

DIN 876/1

PLANOLITH Duplex lapping and control plate

Of dense, aged special grey cast iron. Lapping and surface plate combined in a single plate. Upper and lower surfaces are ground to the finest finish. The lapping face is slotted in a grid pattern, external surfaces ground. Upper and lower parts of the wooden case (included in the price) are removable. The side, which is not in use, is therefore always protected. Unmachined faces are enamel painted (RAL 7001 grey).

46H 43 1400 Duplex lapping and control plate in a wooden case		(XXX)
Length	mm	360
Width	mm	260
Height	mm	65
Weight	kg	22

DIN 876/1

PLANOLITH Scribing and marking out plates

In stable ribbed design, of dense, aged special grey cast iron. **With scraped surface finish.** Unmachined faces are enamel painted (RAL 7001 grey). **With cast-in support points.**

Optional extras: Engineer's blue No. 085388.

Note: Accessories such as handles and set-up elements available on request. Other sizes are available from our manufacturer. Carriage forward, delivery by truck.

Length×Width	mm	300×300	400×400	500×400	600×500	800×500	1000×750
46H 43 1510 Scribing and marking out plate		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Flatness tolerance	mm	0.013	0.014	0.015	0.016	0.018	0.02
Overall height	mm	60	80	80	80	100	140
Weight	kg	14	24	26	53	87	190

PLANOLITH Support frames for scribing and marking out plates

Sturdy welded structure including levelling fittings at the feet. Maximum working height 900 mm (top face of the marking out plate).

Note: Further sizes available on request. Delivery excluded.

for insert size length×width	mm	800×500	1000×750
46H 43 1520 Support frame		(XXX)	(XXX)
Weight	kg	24	28

Standard | C1 Cal

Dial indicators 1/10 mm reading

Dimensions to DIN EN ISO 463, issue June 2006. Sturdy dial indicators with metal housing, clamping shank Ø 8 mm h6, hardened and ground. Outer ring of dial face can be rotated to zero the dial.

Size 30/58 – Linear auxiliary scale for reading the revolutions.

Optional extras: Special contact points No. 434900; 434910; 434915.

_10/58

_30/58

Measuring range / Body Ø		mm	10/58	30/58
46C 43 1896	Dial indicator		(XXX)	(XXX)
Graduation		mm	0.1	
Reading per pointer revolution		mm	10	
Variation range f_e		µm	50	
Total variation range f_{tot}		µm	65	
Gauging force		N	0.7 – 1.2	0.8 – 1.3

DIN 878 | C1 Cal

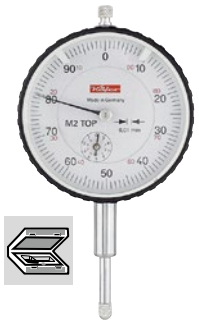
Dial indicators 1/100 mm reading

Dimensions to DIN EN ISO 463, issue June 2006. Precision dial indicators with metal housing, clamping shank Ø 8 mm h6, hardened and ground. Outer ring of dial face can be rotated to zero the dial. Central pointer for 1/100 mm reading, small pointer on sub-scale for 1 mm reading.

43 1950 – The two pointers are arranged concentrically making them particularly easy to read.

43 1900–1980 – Outer ring with 2 adjustable tolerance pointers.

Optional extras: Special contact points No. 434900; 434910; 434915.



43 1900

43 1950

43 1980_10/58

43 2051_10/58

Measuring range / Body Ø			mm	10/58	10/58B
46C 43 1900	Käfer	Dial indicator		(XXX)	–
46C 43 1950	Käfer	Dial indicator **with concentric display**		(XXX)	–
44A 43 2051	Mitutoyo	Dial indicator		(XXX)	(XXX)
42C 43 1980	HOLEX	Dial indicator		(XXX)	(XXX)
Graduation			mm	0.01	
Reading per pointer revolution			mm	1	
Loop on the back of the dial indicator				–	yes
Gauging force (43 1900, 43 1950)			N	0.7 – 1.4	–
Gauging force (43 2051, 43 1980)			N	0.4 – 1.4	

DIN 878 | C1 Cal

Shock-resistant dial indicators 1/100 mm reading

Dimensions to DIN EN ISO 463, issue June 2006. **Shock-resistant** precision dial indicators. Clamping shank Ø 8 mm h6, hardened and ground. Outer ring of dial face can be rotated to zero the dial. Outer ring with 2 adjustable tolerance pointers. Central pointer for 1/100 mm reading, small pointer on sub-scale for 1 mm reading.

43 2000 – **Shock-resistant by gear rack sleeve. Full metal version** with plastic dial glass.

43 2110 – **Protected against shocks to the gears.** With metal outer ring and metal back.

43 2120 – **Shock-resistant by rack sleeve.** Chrome-plated protective casing with integrated back.

Optional extras: Special contact points No. 434900; 434910; 434915.

43 2110

43 2120

43 2000

Measuring range / Body Ø			mm	10/58	10/58B
41C 43 2110	Garant	Dial indicator **shock-resistant**		(XXX)	–
43A 43 2120	Mahr	Dial indicator **shock-resistant**		(XXX)	–
42C 43 2000	HOLEX	Dial indicator **shock-resistant**		(XXX)	(XXX)
Graduation			mm	0.01	
Reading per pointer revolution			mm	1	
Loop on the back of the dial indicator				–	yes
Gauging force			N	0.7 – 1.5	

DIN 878 | C1 Cal

Shock-resistant and waterproof dial indicators 1/100 mm reading

Dial indicators with protection **against splashed water, oil and dirt.** Contact point on plunger spindle sealed by rubber bellows, sealed by protective sleeve at the top. Back wall sealed, glass and outer ring tightly screwed. Clamping shank Ø 8 mm h6.

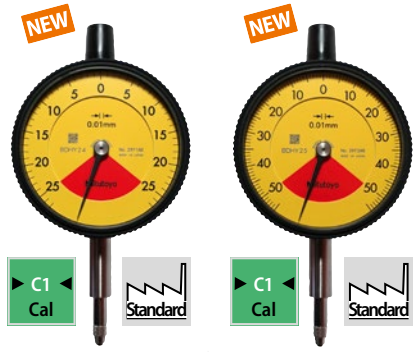
Optional extras: Special contact points No. 434900; 434910; 434915.

Measuring range / Body Ø		mm	10/58
41C 43 2210	Garant Precision dial indicator **IP67, shock-resistant**		(XXX)
43A 43 2220	Mahr Precision dial indicator **IP54, shock-resistant**		(XXX)
42C 43 2240	HOLEX Dial indicator **IP54, shock-resistant**		(XXX)
Graduation		mm	0.01
Reading per pointer revolution		mm	1
Gauging force (43 2210)		N	0.9 – 1.6
Gauging force (43 2220, 43 2240)		N	0.7 – 1.6

Safety dial indicators 1/100 or 1/1000 mm reading

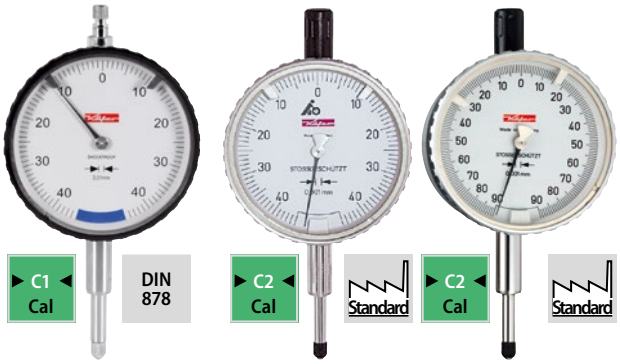
Dimensions to DIN EN ISO 463, issue June 2006. Precision dial indicators, shockproof, safety dial indicators, shockproof, with overrun. Extremely light, robust construction, dustproof. Clamping shank Ø 8 mm h6.

43 2405 – Highest precision due to combined gear and lever mechanism.



43 2053_0,5/55 43 2053_1/55

Measuring range / Body Ø		mm	1/55	0,5/55
44A 43 2053	Mitutoyo Safety dial indicator		(XXX)	(XXX)
Graduation		mm	0.01	
Variation range f_e		µm	10	8
Gauging force		N	0.4 – 1.4	
Free stroke		mm	3.5	



43 2405_0,8/58 43 2405_0,08/58 43 2405_0,16/58

Measuring range / Body Ø		mm	0,08/58	0,8/58	0,16/58
46C 43 2405	Käfer Safety dial indicator		(XXX)	(XXX)	(XXX)
Graduation		mm	0.001	0.01	0.001
Variation range f_e		µm	2	7	2
Gauging force		N	1.3 – 1.8	0.8 – 1.2	1.3 – 1.8
Free stroke		mm	4.5	7	4.5

Standard | C1 Cal

Large dial indicators 1/100 mm reading, dial Ø 80 or 100 mm

Dimensions to DIN EN ISO 463, issue June 2006. With larger external dial Ø and extra large graduations, **shock-resistant mechanism.** Satin chrome-plated brass housing. With clamping shank Ø 8 mm h6; hardened and ground. Outer ring of dial face can be rotated to zero the dial. Outer ring with 2 adjustable tolerance pointers. Central pointer for 1/100 mm reading, small pointer on sub-scale for 1 mm reading.

Optional extras: Special contact points No. 434900; 434910; 434915.

43 2900_10/80 43 2900_10/100

Measuring range / Body Ø		mm	10/80	10/100
46C 43 2900	Precision large dial indicator **shock-resistant**		(XXX)	(XXX)
Graduation		mm	0.01	
Reading per pointer revolution		mm	1	
Variation range f_e		µm	17	
Gauging force		N	1 – 1.8	

C1 Cal

Small dial indicators 1/100 mm reading

Precision small dial indicators with strong metal casing, clamping shank Ø 8 mm h6, hardened and ground.
Outer ring of dial face can be rotated to zero the dial.

Size 10/40 – Very large measuring spans (10 mm), but very small dimensions (Ø 40 mm).
43 2650 – Oilproof and waterproof, shock-resistant.
43 2500–2550 – Dimensions to DIN EN ISO 463, issue June 2006.
43 2505/2550 – Shock-resistant.

Optional extras: Special contact points No. 434900; 434910; 434915.

DIN 878

Standard

43 2500_3/28

43 2500 _10/40

DIN 878

43 2505 _3/40

Measuring range / Body Ø		mm	3/28	3/32	3/40	5/40	10/40
46C 43 2500	Käfer	Precision small dial indicator	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42C 43 2505	HOLEX	Precision small dial indicator **shock-resistant**	–	–	(XXX)	(XXX)	–
46C 43 2550	Käfer		–	–	(XXX)	(XXX)	–
46C 43 2650	Käfer	Precision small dial indicator **IP67 oil-proof and water-proof, shock-resistant.**	–	–	(XXX)	(XXX)	–
Graduation		mm	0.01				
Reading per pointer revolution (43 2500, 43 2550, 43 2650)		mm	0.5	0.5	0.5	0.5	1
Reading per pointer revolution (43 2505)		mm	–	–	1	1	–
Variation range f_e		µm	17	–	–	–	–
Gauging force (43 2500)		N	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2	0.8 – 1.3	0.7 – 1.2
Gauging force (43 2505)		N	–	–	0.9 – 1.3	0.6 – 1	–
Gauging force (43 2550)		N	–	–	1 – 1.4	1 – 1.4	–
Gauging force (43 2650)		N	–	–	1 – 1.7	0.8 – 1.2	–

DIN 878

43 2550_3/40

DIN 878

IP 67

43 2650_3/40

Standard

C1 Cal

Dial indicators with large measuring range 1/100 mm reading

Dimensions to EN ISO 463, issue June 2006 (except size 100/80).
Strong, satin chrome plated brass casing.
Clamping shank Ø 8 mm h6, hardened and ground.
Outer ring of dial face can be rotated to zero the dial.
Central pointer for 1/100 mm reading, small pointer for 1 mm reading.

Size 100/80 – Clamping shank Ø 10 mm h6.

Optional extras: Special contact points No. 434900; 434910; 434915.

43 3050_40/58

43 3060_30/58

Measuring range / Body Ø		mm	30/58	40/58	50/58	80/58	100/80
46C 43 3050	Käfer	Precision dial indicator **shock-resistant**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42C 43 3060	HOLEX		(XXX)	–	(XXX)	–	–
Graduation		mm	0.01				
Reading per pointer revolution		mm	1				
Variation range f_e		µm	20	25	25	30	50
Total variation range f_{tot}		µm	25	30	–	–	–
Gauging force		N	0.8 – 1.6	0.8 – 1.8	1 – 2	1.7 – 2.8	1.2 – 2.5

Standard ▸ C2 ◂ Cal

Precision dial indicators 1/1000 mm reading

Strong, satin chrome plated brass casing; unbreakable dial glass.
Clamping shank ∅ 8 mm h6, hardened and ground.
High accuracy version.
The most important parts of the mechanism are **jewel-mounted.**
Central pointer **for 1/1000 mm reading.**
Outer ring of dial face can be rotated to zero the dial.
Nearly constant measuring force over the entire measuring range.
43 3090–3410 – Dimensions to DIN EN ISO 463, issue June 2006.
43 3600 – **Shock and splashed water proof precision dial indicator.**
43 3090/3400 – **High-quality shock absorption for particularly long working life.**
Optional extras: Special contact points No. 434900; 434910; 434915.

43 3090
43 3400
43 3410
43 3600

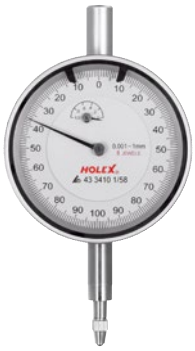
43 3090_1/58

43 3400_1/58

43 3405_1/58

Measuring range / Body ∅		mm	1/40	1/58	3/40	5/40	5/58
41C 43 3090	Garant	Precision dial indicator **shock-resistant**	–	(XXX)	–	–	–
46C 43 3400	Käfer		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
44A 43 3405	Mitutoyo		–	(XXX)	–	–	(XXX)
42C 43 3410	HOLEX		–	(XXX)	–	–	–
46C 43 3600	Käfer	Precision dial indicator **IP 53, shock-resistant**	(XXX)	(XXX)	–	–	–
Graduation		mm	0.001				
Reading per pointer revolution		mm	0.2				
Variation range f_e		µm	5	5	7	10	10
Total variation range f_{tot}		µm	7	7	9	12	12
Gauging force (43 3090, 43 3400, 43 3410)		N	1 – 1.5	1.5 – 2	1 – 1.5	1 – 1.5	1.5 – 2
Gauging force (43 3405)		N	–	0.9 – 1.5	–	–	0.4 – 1.5
Gauging force (43 3600)		N	1.1 – 1.6	1.3 – 1.8	–	–	–

IP 53


43 3410_1/58

43 3600_1/58

Standard ▸ C2 ◂ Cal

Precision dial indicators Feinika 1/1000 mm reading

Dimensions to DIN EN ISO 463, issue June 2006.
Strong, satin chrome plated brass casing.
Clamping shank ∅ 8 mm h6, hardened and ground.
Robust version.
The most important parts of the mechanism are jewel-mounted.
Central pointer **for 1/1000 mm reading.**
Outer ring of dial face can be rotated to zero the dial.
Virtually constant gauging force over the entire range.
Optional extras: Special contact points No. 434900; 434910; 434915.

Very high accuracy

Measuring range / Body ∅		mm	1/40	1/58
46C 43 3500	Feinika precision dial indicator **shock-resistant**		(XXX)	(XXX)
Graduation		mm	0.001	
Reading per pointer revolution		mm	0.1	
Variation range f_e		µm	3	
Total variation range f_{tot}		µm	4	
Gauging force		N	0.7 – 1	1.3 – 1.6

43 3500_1/40

43 3500_1/58

Standard | mm / Inch | Digimatic | RS232C | IP 52 | Reference Lock | C1 Cal

Garant Digital dial indicators DI 1 with 1/100 or 1/1000 mm reading

Digital dial indicator with very large (12 mm), high-contrast LCD display.
Immediately ready for use when switched on due to Reference-System.

Function: Display can be zeroed in any position, reversible direction of measurement, buttons can be locked to prevent inadvertent operation, auto-off (selectable). Reactivation by movement or by pressing a key; the reference data is retained at all times.
IP52: Protected against splashed water from directions up to 15° (dripping water) and protected against penetration of dust into the inside (protected against dust), also completely protected against touching.
43 4010 – Preset of any value.

Supplied with: Dial indicator with screw-on protective aluminium cap on the end of the measuring pin, alternatively a lift-off cap can be fitted.
1 battery No. 081560 size CR2032.

Optional extras: Spare and special contact points No. 434900; 434910; 434915, lifting cable No. 434930, data cable No. 498940.

Illustration with lift-off cap.

43 4000

Illustration with protective cap.

43 4010

Measuring range		mm	12,5
41C 43 4000	Digital dial indicator **0.01 mm reading**		(XXX)
41C 43 4010	Digital dial indicator **0.001 mm reading**		(XXX)
Reversible reading (43 4000)		mm	0.01
Reversible reading (43 4010)		mm	0.001
Reversible reading (43 4000)		inch	0.0005
Reversible reading (43 4010)		inch	0.00005
Error limit (43 4000)		mm	0.02
Error limit (43 4010)		mm	0.005
Gauging force		N	0.5 – 1
Clamping shank ∅ h6		mm	8
Body ∅		mm	60
Thickness of housing		mm	28

Standard | mm / Inch | Digimatic | RS232C | IP 52 | Reference Lock | C1 Cal

Mahr Digital dial indicators MarCator with 1/100, 5/1000 or 1/1000 mm reading

Digital dial indicator with very large (12 mm), high-contrast LCD display.
Immediately ready for use when switched on due to Reference-System.

Function: Display can be zeroed in any position, preset (measurement value presetting), reversible direction of measurement, auto-off (selectable).
Lock function: Key lock to prevent inadvertent operation.
IP52: Protected against splashed water from directions up to 15° (dripping water) and protected against penetration of dust into the inside (protected against dust), also completely protected against touching.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Spare and special contact points No. 434900; 434910; 434915.
Data cable No. 498940.

43 4020

43 4022

43 4024

Measuring range		mm	12,5
43A 43 4020	Digital dial indicator **0.01 mm reading**		(XXX)
43A 43 4022	Digital dial indicator **0.005 mm reading**		(XXX)
43A 43 4024	Digital dial indicator **0.001 mm reading**		(XXX)
Reversible reading (43 4020)		mm	0.01
Reversible reading (43 4022)		mm	0.005
Reversible reading (43 4024)		mm	0.001
Reversible reading (43 4020)		inch	0.0005
Reversible reading (43 4022)		inch	0.0001
Reversible reading (43 4024)		inch	0.00005
Error limit (43 4020)		mm	0.02
Error limit (43 4022)		mm	0.015
Error limit (43 4024)		mm	0.005
Gauging force		N	0.5 – 1
Clamping shank ∅ h6		mm	8
Body ∅		mm	60
Thickness of housing		mm	28

Standard | Digimatic | IP 42 | Absolute System | ▶ C1 ◀ Cal

Mitutoyo Digital absolute dial indicator 1/100 mm reading

Zero point display in any position, e.g. for tolerance measurements. Selectable direction of measurement. 20,000 h continuous operation with one battery.

43 4064 – Preset and tolerance key for pre-selecting set values / tolerance ranges. Display can be switched between digits and large, easy-to-read good / reject symbols.

Supplied with: 1 battery No. 081560 size 357.

Optional extras: Data cable No. 497080, spare and special contact points No. 434900; 434910; 434915.

Measuring range		mm	12,5	25
44A 43 4062	Absolute dial indicator **0.01 mm reading**		(XXX)	–
44A 43 4064			(XXX)	(XXX)
Error limit		mm	0.02	
Gauging force (43 4062)		N	≤ 1.5	–
Gauging force (43 4064)		N	≤ 0.9	≤ 1.8
Clamping shank ∅ h6		mm	8	
Body ∅		mm	59	
Thickness of housing (43 4062)		mm	27.5	–
Thickness of housing (43 4064)		mm	36.4	42.5

Standard | Digimatic | IP 42 | Absolute System | ▶ C1 ◀ Cal

Mitutoyo Solar digital absolute dial indicator 1/100 mm and 1/1000 mm reading

Digital dial indicator with large LCD display. Power supply via high-efficiency solar cells in conjunction with a super-capacitor. The display can be zeroed in any position (origin), reversal of direction of measurement (+/–).

Optional extras: Data cable No. 497080, spare and special contact points No. 434900; 434910; 434915.

Measuring range		mm	12,5
44A 43 4070	Absolute dial indicator solar **0.01 mm reading**		(XXX)
44A 43 4074	Absolute dial indicator solar **0.001 mm reading**		(XXX)
Error limit (43 4070)		mm	0.02
Error limit (43 4074)		mm	0.003
Gauging force		N	≤ 1.5
Clamping shank ∅ h6		mm	8
Body ∅		mm	59
Thickness of housing		mm	29.2

DIN 878 | mm / Inch | RS232C | ▶ C1 ◀ Cal

TESA Digital dial indicators DIGICO with 1/100 or 1/1000 mm reading

Digital dial indicator with combined scale and digital display (10 mm character height) and mechanical tolerance marks.

Function: Automatic switch-off, measurement value output, reversible direction of measurement. Button panel can be locked.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Spare and special contact points No. 434900; 434910; 434915. Data cable No. 498950.

Measuring range		mm	12,5
45A 43 4260	Digital dial indicator **0.01 mm reading**		(XXX)
45A 43 4261	Digital dial indicator **0.001 mm reading**		(XXX)
Reversible reading (43 4260)		mm	0.01
Reversible reading (43 4261)		mm	0.001
Reversible reading (43 4260)		inch	0.0005
Reversible reading (43 4261)		inch	0.00005
Error limit (43 4260)		mm	0.02
Error limit (43 4261)		mm	0.008
Gauging force		N	≤ 2
Clamping shank ∅ h6		mm	8
Body ∅		mm	57
Thickness of housing		mm	27

Standard | Digimatic | Absolute System | ▶ C1 ◀ Cal

Mitutoyo Digital dial indicator 1/100 mm reading

Digital indicator with zero display in any position. Strong metal housing, precision bearing plunger spindle. 20,000 h of continuous operation on a single battery.

Supplied with: 1 battery No. 081560 size 357.

Optional extras: Data cable No. 497080, spare and special contact points No. 434900; 434910; 434915.

Measuring range		mm	25
44A 43 4090	Digital dial indicator **0.01 mm reading**		(XXX)
Error limit		mm	0.02
Gauging force		N	≤ 1.8
Clamping shank ∅ h6		mm	8
Clamping shank length		mm	40
Depth		mm	23
Length		mm	208
Width		mm	38

Standard | mm / Inch | ▶ C1 ◀ Cal

HOLEX Digital dial indicator 1/100 mm reading

Digital dial indicator in compact design with high-contrast digital display.

- Reversible direction of measurement.
- Very narrow casing.

Supplied with: Supplied with an eye on the cover and 1 battery No. 081560 size CR2032.

Optional extras: Spare and special contact points No. 434900; 434910; 434915.

43 4004_25

43 4004_12,5

Measuring range		mm	12,5	25
42C 43 4004	Digital dial indicator **0.01 mm reading**		(XXX)	(XXX)
Reversible reading		mm	0.01	
Reversible reading		inch	0.0005	
Error limit		mm	0.025	0.035
Gauging force		N	0.8 – 1.4	0.8 – 1.7
Clamping shank - ∅ h7		mm	8	
Body ∅		mm	58	
Thickness of housing		mm	26	

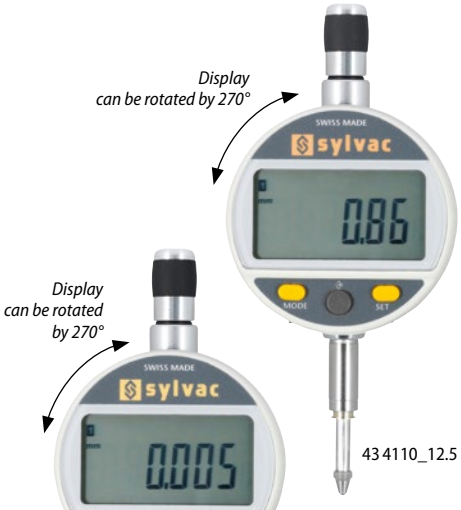
Standard | mm / Inch | RS232C | ▶ C1 ◀ Cal

sylvac Digital dial indicators 1/100 or 1/1000 mm reading

Sturdy aluminium casing with large display, 11 mm character height. Power-saving mode and automatic wake-up, **absolute system. Zero setting in any position** for simple comparative value measurements. Min/max/delta, tolerance, conversion factor, auto-off. **Preset** any value. Two reference values can be saved. Button for personalised function selection. Reversible direction of measurement.

Supplied with: 1 battery No. 081560 size CR2032

Optional extras: Data cable No. 498948, lifting lever No. 434212, spare and special contact points No. 434900; 434910.



43 4110_12.5

43 4210_12.5

Measuring range		mm	12,5	25	50	100
46A 43 4110	Digital dial indicator **0.01 mm reading**		(XXX)	(XXX)	(XXX)	(XXX)
46A 43 4210	Digital dial indicator **0.001 mm reading**		(XXX)	(XXX)	(XXX)	(XXX)
Reversible reading (43 4110)		mm	0.01			
Reversible reading (43 4210)		mm	0.001			
Reversible reading (43 4110)		inch	0.0005			
Reversible reading (43 4210)		inch	0.00005			
Error limit (43 4110)		mm	0.01	0.01	0.02	0.02
Error limit (43 4210)		mm	0.003	0.004	0.005	0.006
Gauging force		N	0.65 – 0.9	0.65 – 1.15	1.4 – 2.9	1.8 – 3.0
Clamping shank ∅ h6		mm	8			
Body ∅		mm	59.5			
Thickness of housing		mm	32.9			

Standard | mm / Inch | RS232C | ▶ C1 ◀ Cal

sylvac Small digital dial indicators 1/100 or 1/1000 reading

Very small digital dial indicator (casing ∅ 45 mm) with patented inductive measuring system. Battery life > 3500 h. Comprehensive functionality: ABS and relative mode, PRESET. With additional dovetail slide fitted on the back.

Function: ABS and relative mode, PRESET.
Supplied with: 1 battery No. 081560 size 2032.
Optional extras: Opto RS232 data cable with USB 9-pin serial connection plugs, and combined external power supply No. 498951.

43 4031_12.5IP

43 4036_12,5

Measuring range		mm	12,5	12,5IP
46A 43 4031	Small dial indicator **0.01 mm reading**		(XXX)	(XXX)
46A 43 4036	Small dial indicator **0.001 mm reading**		(XXX)	(XXX)
Error limit (43 4031)		mm	0.02	
Error limit (43 4036)		mm	0.005	
Gauging force		N	0.5 – 0.9	0.6 – 1.3
Clamping shank ∅ h6		mm	8	
Body ∅		mm	45	
Thickness of housing		mm	22	

Standard | mm / Inch | RS232C | ▶ C1 ◀ Cal

TESA Digital dial indicators DIGICO with 1/100 or 1/1000 mm reading

Digital dial indicator with combined scale and digital display (10 mm character height) and mechanical tolerance marks. Display / button panel can be rotated up to 270°.

Function: Measurement modes **ABS/REL.** Graphic display of the limit values that were input. Automatic switch-off, PRESET function, data output, reversible direction of measurement. Button panel can be locked.
43 4280/4281 – Max, Min, Max-Min (TIR), zeroing, PRESET function.
Supplied with: 1 battery No. 081560 size CR2032
Optional extras: Data cable No. 498950, spare and special contact points No. 434900; 434910.

43 4270_25

43 4271_12.5

43 4280_12.5

43 4281_25

Measuring range		mm	12,5	25
45A 43 4270	Digital dial indicator **0.01 mm reading**		–	(XXX)
45A 43 4271	Digital dial indicator **0.001 mm reading**		(XXX)	–
45A 43 4280			(XXX)	–
45A 43 4281			–	(XXX)
Reversible reading (43 4270, 43 4271, 43 4280)		mm	0.001	0.01
Reversible reading (43 4281)		mm	–	0.001
Reversible reading (43 4270, 43 4271, 43 4280)		inch	0.00005	0.0005
Reversible reading (43 4281)		inch	–	0.00005
Error limit (43 4270, 43 4271, 43 4280)		mm	0.004	0.02
Error limit (43 4281)		mm	–	0.005
Gauging force		N	< 2	
Clamping shank ∅ h6		mm	8	
Body ∅		mm	57	
Thickness of housing (43 4270, 43 4271, 43 4280)		mm	27	
Thickness of housing (43 4281)		mm	–	33.4

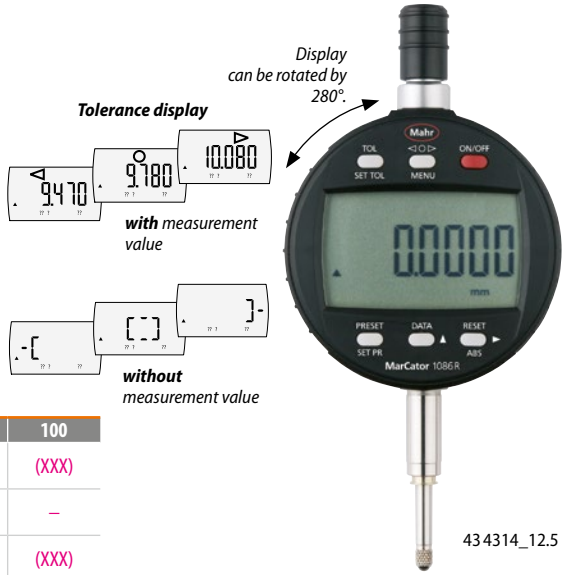
Standard | mm / Inch | Digimatic | RS232C | Reference Lock | C1 Cal

Mahr Digital dial indicators MarCator 1/100 or 0.5/1000 mm reading

Digital dial gauge with **very large** numeric display **(11 mm)** and integrated tolerance display (with or without measured value display).
Absolute function:
Zeroing possible in any position, without losing the reference value.
Factor adjustable with indication in the display.
Individual functions can be blocked directly at the digital indicator.
Settings and saved values (factor, preset, tolerances) are not lost even when changing the battery.

43 4316 – **Dust-proof and splashproof** version IP 54.
43 4312/4318 – With **integral i-wi** radio system for easy cordless transmission of measured data to any PC.

Supplied with: 1 battery No. 081560 size CR 2450.
Optional extras: Data cable No. 498940.
43 4312/4318 – i-wi radio receiver No. 498912.



Measuring range		mm	12,5	25	50	100
43A 43 4310	Digital dial indicator **0.01 mm reading**		(XXX)	(XXX)	(XXX)	(XXX)
43A 43 4312	Digital dial indicator i-wi **0.01 mm reading**		(XXX)	(XXX)	–	–
43A 43 4314	Digital dial indicator **0.0005 mm reading**		(XXX)	(XXX)	(XXX)	(XXX)
43A 43 4316	Digital dial indicator IP54 **0.0005 mm reading**		(XXX)	(XXX)	–	–
43A 43 4318	Digital dial indicator i-wi **0.0005 mm reading**		(XXX)	(XXX)	(XXX)	(XXX)
Reversible reading (43 4310, 43 4312)		mm	0.01			
Reversible reading (43 4314, 43 4316, 43 4318)		mm	0.0005			
Reversible reading (43 4310, 43 4312)		inch	0.0005			
Reversible reading (43 4314, 43 4316, 43 4318)		inch	0.00002			
Error limit (43 4310, 43 4312)		mm	0.02			
Error limit (43 4314, 43 4316, 43 4318)		mm	0.005	0.005	0.006	0.008
Error limit partial measurement range		mm	0.002			
Gauging force		N	0.65-0.90	0.65-1.15	1.25–2.70	1.60–3.50
Clamping shank ∅ h6		mm	8			
Body ∅		mm	58			
Thickness of housing		mm	35			

IP 54 — 43 4316

IP 42 — 43 4310 / 4312 / 4314 / 4318

i-wi — 43 4312 / 4318

Easy transmission of measurement data without messy cables directly into Microsoft Office Excel®, and by keyboard code into any Windows programme or via the virtual interface box into your SPC system.

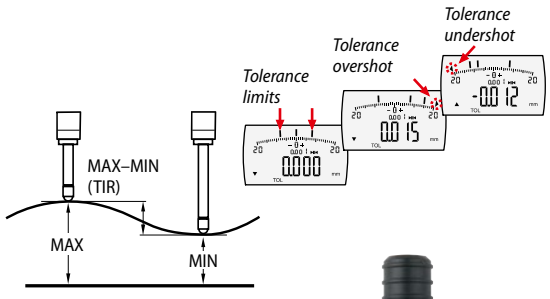
Standard | mm / Inch | Digimatic | RS232C | IP 42 | Reference Lock | C1 Cal

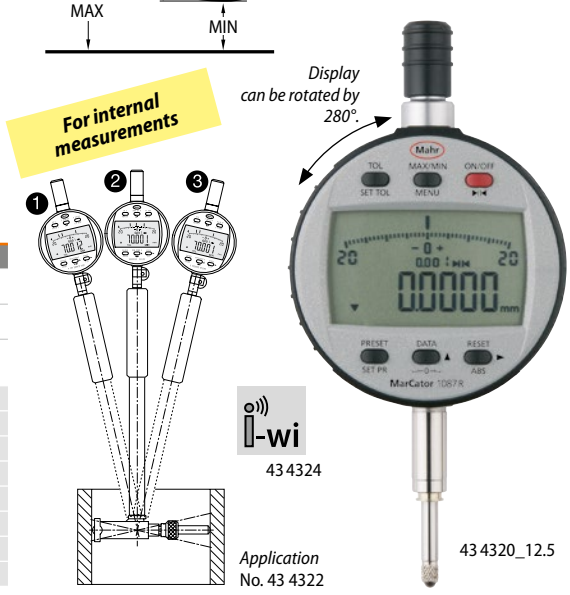
Mahr Digital dial indicators MarCator 0.5/1000 mm reading

Digital dial gauge with **very large** numeric display **(11 mm)**and integrated tolerance display.
Additional analogue barograph display with tolerance limits.
Absolute function: Zeroing possible in any position, without losing the reference value.
Dynamic measurement functions (MAX / MIN):
For concentricity and flatness testing or seeking the reversal point.
Factor adjustable with indication in the display.
Individual functions can be blocked directly at the digital indicator.
Settings and saved values (factor, preset, tolerances) are not lost even when changing the battery.

43 4322 – **Ideal for use with 2-point inside measurement gauges.** The reversal point (MIN value) is automatically saved whilst swinging through, and is shown in the display.
43 4324 – With **integral i-wi** radio system for easy cordless transmission of measured data to any PC.

Supplied with: 1 battery No. 081560 size CR 2450.
Optional extras: Data cable No. 498940.
43 4324 – i-wi radio receiver No. 498912.





Measuring range		mm	12,5	25	50
43A 43 4320	Digital dial indicator **0.0005 mm reading**		(XXX)	(XXX)	(XXX)
43A 43 4322			(XXX)	–	–
43A 43 4324	Digital dial indicator i-wi **0.0005 mm reading**		(XXX)	(XXX)	(XXX)
Reversible reading		mm	0.0005		
Reversible reading		inch	0.00002		
Error limit		mm	0.004		
Error limit partial measurement range		mm	0.002		
Gauging force		N	0.65-0.90	0.65-1.15	0.65-1.15
Clamping shank ∅ h6		mm	8		
Body ∅		mm	58		
Thickness of housing		mm	35		

i-wi — 43 4324

Standard | Digimatic | IP 66 | Absolute System | C1 Cal

Mitutoyo Digital dial indicators ID-N / ID-B 1/1000 mm reading

Handy, versatile, and robust digital dial indicator with integral tolerance display (with or without measured value). The slim profile makes them particularly suitable for incorporation in jigs where space is restricted. The display can be turned through 180° to allow reading from both sides. **Short circuiting the Digimatic cable pins 1 and 6 allows one or a series of dial indicators to be set to zero or to a pre-selected value.**

Size 5 – Reading from above.
Size 12,5 – Reading from the front.

Function: IP66: Protected against strong jets of water, and against temporary flooding and protected against penetration by dust (dust-tight), also completely protected against touching.

Supplied with: 1 battery No. 081560 size 357.

Optional extras: Optional accessories: Data cable No. 498428, special contact points No. 434900; 434910; 434915.

Ideal for jigs where space is restricted.

Measuring range	mm	5	12,5
44A 43 4410 Digital absolute dial indicator **IP66**		(XXX)	(XXX)
Selectable display	mm	0.01 / 0.001	
Error limit	mm	0.004	
Gauging force	N	2.0	2.5
Clamping shank ∅ h6	mm	8	
Depth	mm	44.3	25
Length	mm	116.5	142
Width	mm	35	

Standard | Digimatic | Absolute System | C1 Cal

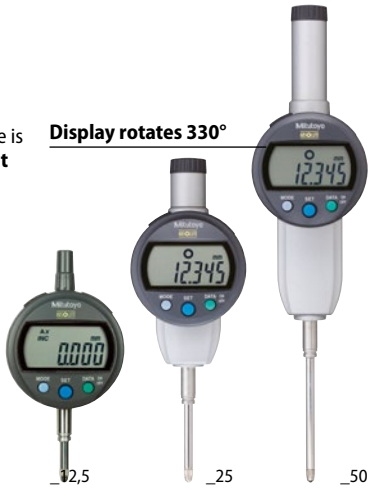
Mitutoyo Digital dial indicators with 1/1000 mm reading

Precision measuring system with glass scale: Speed of movement has no influence on the measured result, measured value is not lost even on switching off. Low power consumption. Graphical display for tolerance comparison. **A factor can be input for the measurement value.**

Supplied with: 1 battery No. 081560 size 357.

Optional extras: Data cable No. 497080, special contact points No. 434900; 434910; 434915.

Display rotates 330°



Measuring range	mm	12,5	25	50
44A 43 4460 Digital absolute dial indicator		(XXX)	(XXX)	(XXX)
Selectable display	mm	0.01 / 0.001		
Error limit	mm	0.003	0.003	0.005
Gauging force	N	1.2	1.8	2.3
Clamping shank ∅ h6	mm	8		
Body ∅	mm	61		
Thickness of housing	mm	39		

Standard | mm / Inch | Digimatic | IP 42 | Absolute System | C1 Cal

Mitutoyo Digital dial indicator ID-C 1/1000 reading (with PEAK function)

Multifunction indicator with absolute capacitive scale. Measured values remain stored even after switching off. **With improved PEAK function.** With 50 measurement per second, peak values are detected and measured more reliable and exactly.

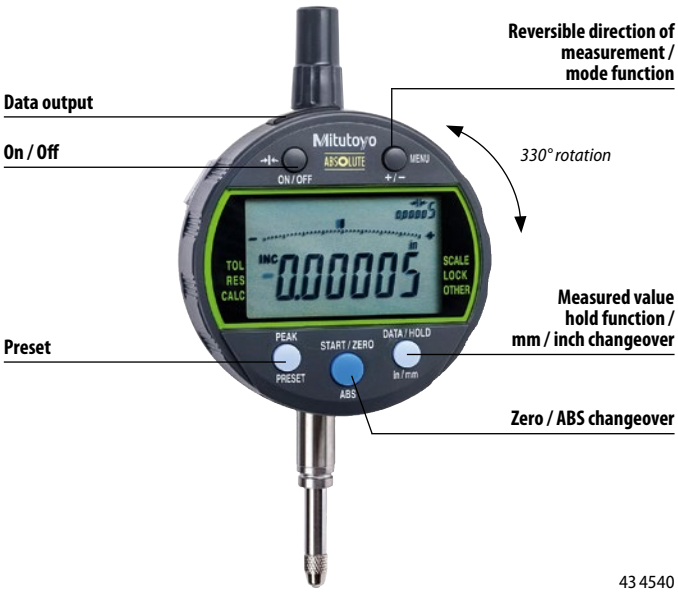
Function: ABS / INC, PRESET, zeroing, tolerance analysis. Measured value hold function, MIN / MAX function.

Size 12,5 – IP42: Protected against splashed water from directions up to 15° (dripping water) and protected against penetration by foreign bodies with ∅ > 1 mm, however tools and wires should be kept away.

Application: Exact determination of the highest and lowest points of a curved surface.

Supplied with: 2 batteries No. 081560 size CR2032.

Optional extras: Data cable No. 497080, special contact points No. 434900; 434910; 434915.



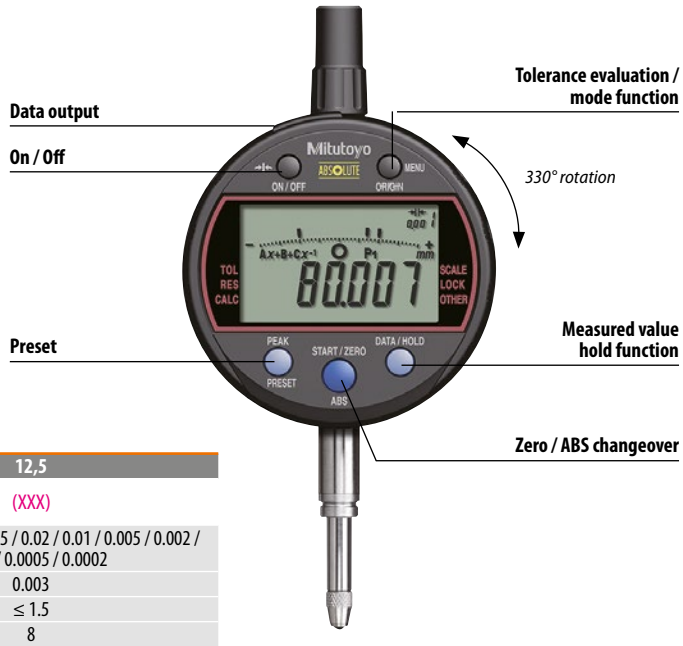
Måleområde	mm	12,5
44A 43 4540 Digital absolute dial indicator **with PEAK function**		(XXX)
Selectable display	mm	0.01 / 0,001
Selectable display	inch	0.005 / 0.0001 / 0.00005
Error limit	mm	0.003
Error limit	inch	0.0001
Gauging force	N	≤ 1.5
Clamping shank ∅ h6	mm	8
Body ∅	mm	61
Thickness of housing	mm	39

Mitutoyo Digital dial indicator ID-C 1/1000 mm reading (with formula calculation function)

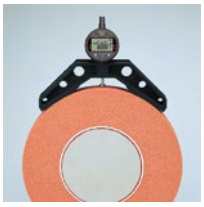
Standard | Digimatic | IP 42 | Absolute System | ▶ C1 ◀ Cal

Multifunction indicator with absolute capacitive scale. Entered values remain stored even after switching off. **With formula calculation function.**

Function: ABS / INC, PRESET, zeroing, tolerance analysis. Measured value hold function, MIN / MAX function.
Application: Use with different measurement heads.
Supplied with: 1 battery No. 081560 size CR2032
Optional extras: Data cable No. 497080, special contact points No. 434900; 434910; 434915.



Measuring range	mm	12,5
44A 43 4551 Digital absolute dial indicator **with formula calculation capability**		(XXX)
Selectable display	mm	1 / 0.5 / 0.2 / 0.1/ 0.05 / 0.02 / 0.01 / 0.005 / 0.002 / 0.001 / 0.0005 / 0.0002
Error limit	mm	0.003
Gauging force	N	≤ 1.5
Clamping shank ∅ h6	mm	8
Body ∅	mm	61
Thickness of housing	mm	39



Ax + B + Cx–1 (x = spindle travel). Freely selectable coefficients can be used.

maximum workpiece ∅	mm	150	200	400
44G 42 5700 Measurement head		(XXX)	(XXX)	(XXX)
for workpiece radius	mm	25 – 70	50 – 100	100 – 200

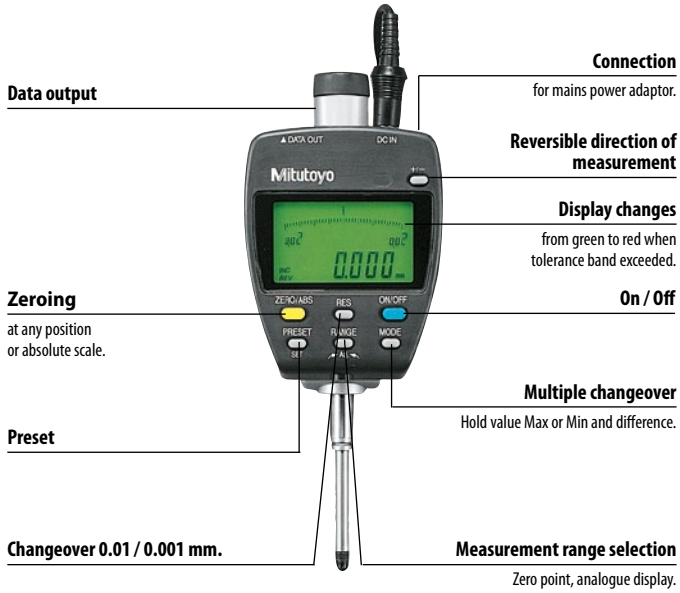
Standard | Digimatic | Absolute System | ▶ C1 ◀ Cal

Mitutoyo Digital indicators ID-F 1/1000 reading

Large character digital display and additional analogue display.
Once-off setting of the zero position, which is then fixed.
Speed of positioning does not influence the measured result.
Mains operated, therefore suitable for continuous measurements.
Strong housing; precision bearing plunger spindle.

Function:
- Colour changes when out of tolerance.
- Minimum value
- Maximum value memory (no need to search for the turning point).
- Zero point display, e.g. for tolerance measurements.
- Selectable direction of measurement

Supplied with: With power supply cable No. 497660, power supply unit 220V / 9V / 500 mA.
Optional extras: Data cable No. 498430, special contact points No. 434900; 434910; 434915.



Measuring range	mm	25	50
44A 43 4621 Digital-analogue indicator		(XXX)	(XXX)
Selectable display	mm	0.01 / 0.001	
Error limit	mm	0.003	0.006
Gauging force	N	≤ 1.8	≤ 2.3
Clamping shank ∅ h6	mm	8	

Standard | Digimatic | C1 Cal

Mitutoyo Digital dial indicators ID-H 1/1000 or 0.5/1000 reading

Error-free reading from large character digital display and supplementary analogue display. **Mains operated, therefore suitable for continuous measurements.** Strong housing; precision bearing plunger spindle.

Function:
- Colour changes when out of tolerance.
- MAX / MIN data storage.
- Maximum value memory (no need to search for the turning point).
- Zero point display, e.g. for tolerance measurements.
- Selectable direction of measurement.
- Capable of remote control and data reporting.
- Remote control (special accessory).

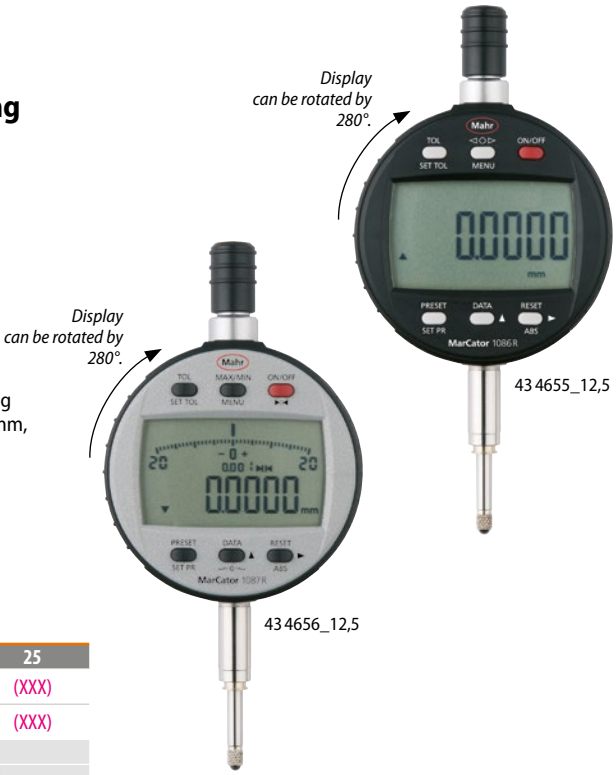
Supplied with: Connection cable power supply unit 220V / 9V / 500 mA.

Optional extras: Data cable No. 498430, remote control, Digimatic Presetter.

Measuring range		mm	30	60
44A 43 4651	Digital-analogue dial indicator **0.0005 mm reading**		(XXX)	(XXX)
Selectable display		mm	0.001 / 0.0005	
Error limit		mm	0.0015	0.0025
Gauging force		N	≤ 2	≤ 2.5
Clamping shank ∅ h6		mm	8	

Standard | mm / Inch | Digimatic | RS232C | IP 42 | Reference Lock | C1 Cal

Mahr MarCator digital dial indicator 0.1/1000 mm reading



High-precision digital dial gauge with **very large** numeric display **(11 mm)** and integral tolerance display. Additional analogue bar graph display with tolerance limits.
Absolute function: Zeroing in any position, without losing the reference value.
Factor adjustable with indication in display. Individual functions can be blocked directly at the digital indicator. Settings and saved values (factor, preset, tolerances) are not lost even when changing the battery.
Display can be rotated through 280°.

43 4656 – **Dynamic measurement functions (MAX / MIN):** For concentricity and flatness testing or seeking the reversal point.

Function: IP42: Protected against splashed water from directions up to 15° (dripping water) and protected against penetration by foreign bodies with ∅ > 1 mm, however tools and wires should be kept away.

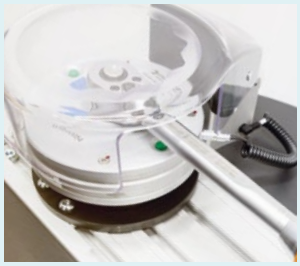
Supplied with: 1 battery No. 081560 size CR2450.

Optional extras: Data cable No. 498940.

Measuring range		mm	12,5	25
43A 43 4655	Digital dial indicator **0.0001 mm reading**		(XXX)	(XXX)
43A 43 4656			(XXX)	(XXX)
Reversible reading		mm	0.0001	
Reversible reading		inch	0.00001	
Error limit		mm	0.0018	0.0024
Error limit partial measurement range		mm	0.0005	
Gauging force		N	0.65 – 0.90	0.65 – 1.15
Clamping shank ∅ h6		mm	8	
Body ∅		mm	58	
Thickness of housing		mm	35	

Hoffmann Group calibration service – perfect measurement processes

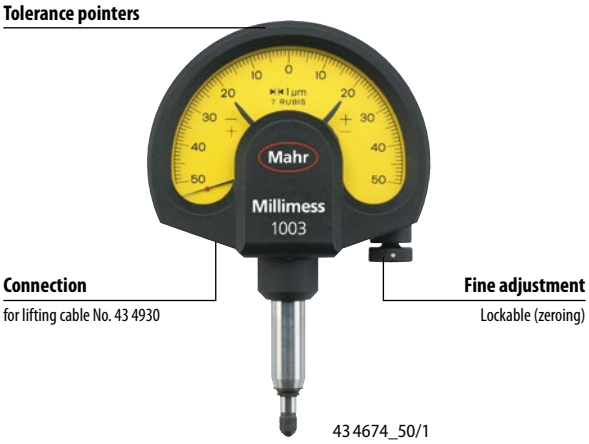
- Calibration services for the **entire range of productive industries.**
- **Efficient pick-up and delivery service,** international network of calibration laboratories.
- Comprehensive DAkkS accreditation.



DIN 879 | ▶ C3 ◀ Cal

Mahr Precision dial comparators Millimess

Sapphire mounted, all-in-one mechanism, particularly robust for use in the manufacturing area.
Low hysteresis due to virtually play-free gauging pins on ball guides.
Resistant to lateral forces.
One-piece housing for maximum stability and accuracy.
Shock resistance due to transmission lever which lifts up in the event of overload
Constant measuring force by straight spring.
Large overrun for convenient insertion of the component. Lifting key or lifting cable (special accessories) can be connected.
Clearly legible scale.
2 Tolerance pointers for presetting the permitted tolerance range.
Application: As a dial bore gauge for series and individual inspections.



43 4674_50/1

Optional extras: Lifting cable No. 434930.

± measuring range / reading	µm	25/0,5	50/1	130/5	250/10
43A 43 4674	Precision dial comparator	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	µm	0.5	1	5	10
Gauging force	N	1			
Free stroke	mm	2.8	2.8	2.5	2.5
Clamping shank ∅ h6	mm	8			
Length	mm	95			
Width	mm	63			
Height	mm	20			

Precision dial comparators Large Millimess

Large Millimess mechanical precision dial indicator. Very large dimensions and therefore very easy-to-read dial.
Supplied with: Lifting cable.

± measuring range / reading	µm	120/1
43A 43 4675	Precision dial comparator Large Millimess	(XXX)
Scale divisions	µm	1
Gauging force	N	3.5
Free stroke	mm	4
Clamping shank ∅ h6	mm	28
Length	mm	212
Width	mm	125
Height	mm	34

43 4675

mm/Inch | Digimatic | IP 64 | ▶ C3 ◀ Cal

Mahr Digital precision dial comparators Millimess

Digital precision dial comparator with the very high accuracy of an inductive measuring system with a **resolution of 0.1 µm**. Large display with sharp contrast and touch control fields with adjustable sensitivity. Power supply from integral batteries/stationary operation using power supply via USB data cable (battery life of up to 1 month).
Digital display with tolerance function. Measured value classification display (good/reject/warning limit or rework) due to very clear LED light signals (red/green/yellow).
Size 2001W; 2001WI – Additionally with analogue display.
Supplied with: USB data and charging cable No. 498941 USB2 and mains adapter for USB.
Optional extras: Data cable Digimatic 498941 size D2.
Size 2000WI; 2001WI – Radio receiver No. 498912 STICK.

Type		2000W	2000WI	2001W	2001WI
43A 43 4671	Digital precision dial comparator Millimess	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range	mm	±1			
Selectable display	mm	0.0001; 0.0002; 0.0005; 0.001; 0.002; 0.005; 0.01			
Error limit	mm	0.0006			
Error limit partial measurement range	mm	0.0002			
Gauging force	N	0.7 – 0.9			
Static measuring function		yes			
Dynamic measuring function		no	no	yes	yes

Standard | ▶ C1 ◀ Cal | ▶ C8 ◀ Cal

HOLEX Depth gauges with Käfer dial indicators

Hardened base with fine lapped contact surface. Dial indicator securely clamped by collet.
Dial indicator with anticlockwise scale measuring depth can be read off directly.
Greater depths can be measured using extension rods of differing lengths(see No. 434920).

Supplied with: Dial indicator No. 434807 size 10 or 30.
Optional extras: Extension for No. 434920.

Measuring range	mm	10	30
42C 43 4805	Depth gauge with analogue dial indicator	(XXX)	(XXX)
Graduation	mm	0.01	
Reading per pointer revolution	mm	1	
Variation range f_e	µm	15	20
Probe plunger ∅	mm	4	5
Bridge length	mm	80	
Bridge width	mm	16	
Dial indicator ∅	mm	58	

43 4805

Standard | ▶ C1 ◀ Cal

Käfer Dial indicator with anticlockwise scale

Precision dial indicator with metal housing, clamping shank ∅ 8 mm h6, hardened and ground.
With **anticlockwise scale** for use with depth gauge bases and precision bore gauges.

Suitable for: Depth gauges No. 434805
Size 10 – Internal precision bore gauges No. 435190; 435192; 435040; 435050; 435060; 435070; 435010; 435110; 435120; 435154; 435155; 435156; 435157; 435158; 435159 and 435125.

Measuring range	mm	10	30
46C 43 4807	Dial indicator with anticlockwise scale	(XXX)	(XXX)
Graduation	mm	0.01	
Reading per pointer revolution	mm	1	
Probe plunger ∅	mm	4	5
Dial indicator ∅	mm	58	
Gauging force	N	0.7 – 1.4	0.8 – 1.6

43 4807_30

▶ C8 ◀ Cal

HOLEX Depth base attachments

Flatness tolerance to DIN 874/00. Contact face hardened and ground.
To accept dial indicators with shank ∅ 8 h6.

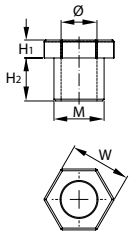
Bridge length	mm	80	100	150	200
42C 43 4815	Base for depth gauge	(XXX)	(XXX)	(XXX)	(XXX)
Bridge width	mm	16	16	20	20

HOLEX Internal clamping screw pack, 5 pieces

Description: The internal clamping screw of stainless steel (1.4301/1.4305) is an innovative solution for quick and easy securing of cylindrical components such as dial indicators, round bars or pipes. Such components can easily be clamped or released by tightening or relaxing the internal clamping screw. The overhang length of components clamped in the cylindrical bore of the internal clamping screw can be varied steplessly.

Application:
- Metrology: quick and easy clamping of dial indicators in measuring devices.
- Machine building: means of clamping cylindrical objects.
- Sensor systems: attachment to flat surfaces.

Supplied with: Pack consisting of 5 clamping screws.



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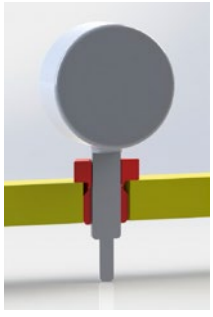


Clamping ∅	mm	6	8	10
42C 43 4825	Internal clamping screw set, 5 pieces	(XXX)	(XXX)	(XXX)
Thread M		M10	M12×1.5	M14×1.5
Thread height H_2	mm	10	12	12
Width across flats W	mm	13	15	17
Screw-head hexagon height H_1	mm	5		

Magnetic rear panel for dial indicators

Suitable for:

Size 40 – Dial indicators No. 432500 3/40, 5/40, 10/40; No. 432550; No. 433400 1/40, 3/40, 5/40; No. 433500 1/40.

43 4835 Size 58 – Dial indicators No. 431896; 431900; 431950; 432405; 433050 30/58, 40/58, 50/58, 80/58; 433400 1/58, 5/58; 433500 1/58.

43 4836 Size 58 – Dial indicators No. 432050; 432052; 433200; 434551; 434621; 434651.

for body ∅		mm	40	58
46C 43 4835	Käfer / Mitutoyo	Magnetic rear panel for dial indicators	(XXX)	(XXX)
44A 43 4836			–	(XXX)

43 4835

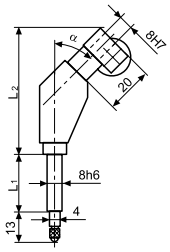
43 4836

Angled bracket for dial indicators

Mahr

Angled bracket for dial indicators with clamping shank ∅ 8 mm h6.
Connection thread M2.5 for all measuring contact points. **Measuring pin travel = 3 mm.**

Supplied with: Standard contact point with carbide ball (∅ 3 mm).



Clamping length		mm	25	50
43A 43 4917	Angled bracket for dial indicator **45°**		(XXX)	(XXX)
43A 43 4918	Angled bracket for dial indicator **60°**		(XXX)	(XXX)
43A 43 4919	Angled bracket for dial indicator **90°**		(XXX)	(XXX)
L_1		mm	25	50
L_2 (43 4917)		mm	53.7	
L_2 (43 4918)		mm	49.3	
L_2 (43 4919)		mm	34.5	

43 4917_25 43 4918_50 43 4919_25

Pivoting contact point

Käfer

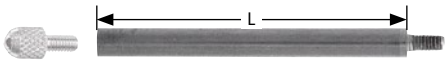
Pivoting contact point with carbide ball (∅ 2 mm).
Connection thread on the contact point M1.6.
Connection thread on the dial indicator M2.5.

46C 43 4912	Pivoting contact point		(XXX)

Extensions for measuring probes

HOLEX

With M 2.5 connection thread, can be used with all measuring contact points and dial indicators. Measuring rod ∅ = 4 mm.



Length L		mm	10	15	20	30	40	50	60	70	80	90	100
42C 43 4920	Extension for measuring probe		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Lifting cable for dial indicators and precision comparators

HOLEX

Suitable for: Digital dial indicators No. 434000 – 434024 (apart from 434004).
Precision dial comparator No. 434674; 434675.
Lifting travel specific to each type of dial indicator.

_140

_500

Length		mm	140	500
42C 43 4930	Lifting cables		(XXX)	(XXX)

Lifting lever for dial indicators

43 4934 – Plastic lifting lever for lifting dial indicator measuring spindle ∅ 4.8 mm.
43 4936 – Lifting lever for analogue Mitutoyo dial indicators (No. 432050; 433200).

44A 43 4934	Lifting lever		(XXX)
44A 43 4936	Lifting lever		(XXX)

43 4936

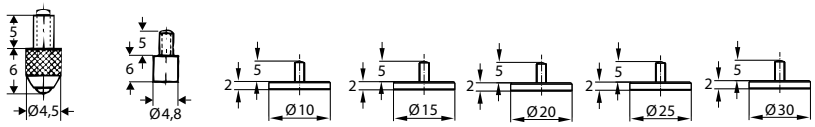
43 4934
Lifting lever

Spare and special probes for dial indicators / precision comparators.

Spare and special probes for dial indicators, precision comparators, and calipers. M 2.5 connection thread.
43 4900 Size 2 – Standard probe for dial indicators and precision comparators.

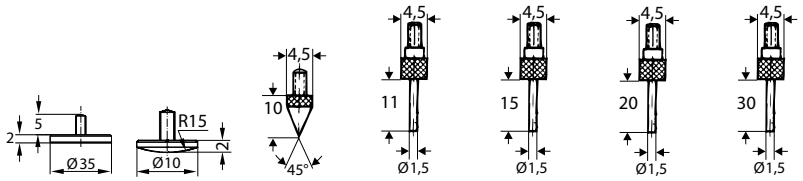
Note: Special probes to customer's drawing available on request.

43 4900_2



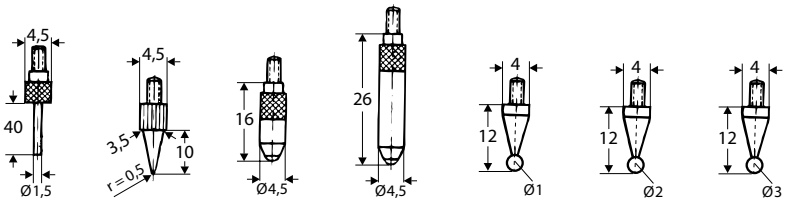
Type		2	10	11	11/15	11/20	11/25	11/30
42C 43 4900	Steel contact point	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42C 43 4910	Carbide contact point	(XXX)	(XXX)	(XXX)	–	–	–	–
42C 43 4915	Ruby contact point	(XXX)	–	–	–	–	–	–

43 4900_14



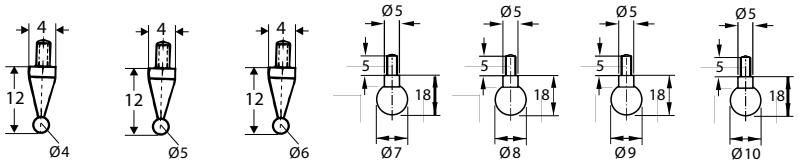
Type		11/35	12	13	14	14/15	14/20	14/30
42C 43 4900	Steel contact point	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42C 43 4910	Carbide contact point	–	–	–	(XXX)	–	–	–

43 4910_18/3



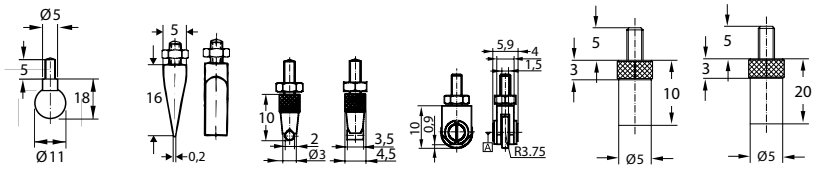
Type		14/40	15	16	17	18/1	18/2	18/3
42C 43 4900	Steel contact point	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42C 43 4910	Carbide contact point	–	–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

43 4900_19/7



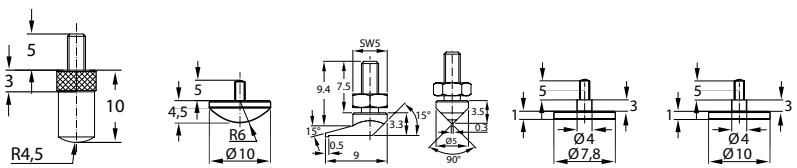
Type		18/4	18/5	18/6	19/7	19/8	19/9	19/10
42C 43 4900	Steel contact point	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42C 43 4910	Carbide contact point	(XXX)	(XXX)	(XXX)	–	–	–	–

43 4900_28



Type		19/11	20	24	28	29/10	29/20
42C 43 4900	Steel contact point	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

43 4900_40/10



Type		30/10	32	39	40/7,8	40/10
42C 43 4900	Steel contact point	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

C5 Cal

Lever dial indicators

High-precision lever dial indicator with jewel-mounted mechanism, in handy, robust design. Housing and dovetail block are of one piece, which means that mounting is particularly rigid. Corrosion protection due to matt chrome-plated housing.

Application: As an accurate dial bore gauge for testing variations from nominal size, testing concentricity, internal measurements, testing of parallelism, and flatness as well as for aligning components.

Supplied with: Clamping spigot ∅ 8 mm.

Optional extras: Square holder No. 436510, centring holder No. 436512, knuckle stand No. 359680.

Spare part: Spare contact point with carbide or ruby ball available on request.

Lever dial indicators

DIN 2270

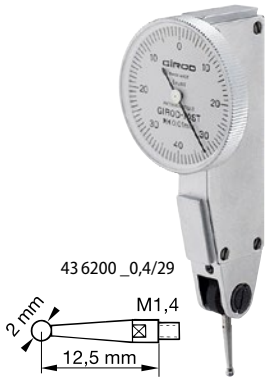
With 1/100 reading.

43 6206 – With ruby ball.

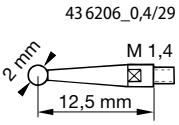
Supplied with:

43 6341 – Additional clamping spigot ∅ 4 mm.

Note: **Additional information DIN 2270:**
Graduations 0.01 – deviation range 10 µm,
total deviation range 13 µm, hysteresis error 3 µm.



Measuring range per direction / Body ∅			mm	0,4/29	0,4/40	0,8/40
41C 43 6190	Garant	Lever dial indicator contact point length 14.5 mm		–	(XXX)	–
43A 43 6301	Mahr			(XXX)	(XXX)	(XXX)
44A 43 6261	Mitutoyo	Lever dial indicator contact point length 17.4 mm		–	(XXX)	–
46Q 43 6200	GIROD	Lever dial indicator contact point length 12.5 mm		(XXX)	(XXX)	–
45A 43 6205		Tesastast lever dial indicator contact point length 12.5 mm		(XXX)	(XXX)	–
45A 43 6206	TESA	Swisstast lever dial indicator contact point length 12.5 mm **with ruby ball**		(XXX)	–	–
42C 43 6341	HOLEX	Lever dial indicator contact point length 13.5 mm		(XXX)	(XXX)	–
Scale divisions			mm	0.01		
Pivot range (43 6190, 43 6301, 43 6261, 43 6200, 43 6341)			degrees	2×110		
Pivot range (43 6205, 43 6206)			degrees	2×120	2×120	–
Gauging force (43 6190, 43 6301, 43 6200, 43 6205, 43 6206, 43 6341)			N	0.15		
Gauging force (43 6261)			N	–	0.3	–
Clamping shank ∅ h6			mm	8		

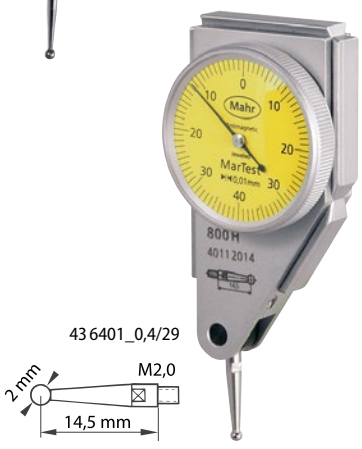


Lever dial indicator with sideways movement

DIN 2270

With 1/100 reading and sideways movement.
Contact point moves in same plane as the dial.

Note: **Additional information DIN 2270:**
Graduations 0.01 – deviation range 10 µm,
total deviation range 13 µm, hysteresis error 3 µm.



Measuring range per direction / Body ∅			mm	0,4/29
43A 43 6401	Mahr	Lever dial indicator contact point length 14.5 mm		(XXX)
Scale divisions			mm	0.01
Pivot range			degrees	2×110
Gauging force			N	0.25
Clamping shank ∅ h6			mm	8

Lever dial indicators with long contact point

Lever dial indicator with **long contact point. 1/100 reading.**

43 6265 – Housing without dovetails. With changeover lever for changing the direction of measurement. Mounting shank screwed in.

Size 0,5/38 – Contact point length 32.3 mm.

Note:

43 6265/6225 – **Additional information DIN 2270:**
Graduations 0.01 – deviation range 10 µm,
total deviation range 13 µm, hysteresis error 3 µm.

43 6265
with changeover lever

Measuring range per direction / Body ∅		mm	0,25/29	0,25/33	0,25/38	0,5/38
43A **43 6351**	Mahr	Lever dial indicator contact point length 41.2 / 32.3 mm	(XXX)	–	(XXX)	(XXX)
44A **43 6265**	Mitutoyo	Lever dial indicator contact point length 33.9 mm	–	(XXX)	–	–
46Q **43 6220**	GIROD	Lever dial indicator contact point length 36.5 mm	(XXX)	–	–	–
45A **43 6225**	TESA	Tesastast lever dial indicator contact point length 36.5 mm	(XXX)	–	(XXX)	–
Scale divisions		mm	0.01			
Variation range f_e		µm	10			
Total variation range f_{tot}		µm	13			
Hysteresis error f_u (43 6351)		µm	5	–	5	4
Hysteresis error f_u (43 6265, 43 6220, 43 6225)		µm	3	3	3	–
Pivot range (43 6351, 43 6265, 43 6220)		degrees	2×110			
Pivot range (43 6225)		degrees	2×120	–	2×120	–
Gauging force (43 6351, 43 6265, 43 6220)		N	0.07	0.3	0.07	0.07
Gauging force (43 6225)		N	0.06	–	0.06	–
Clamping shank ∅ h6		mm	8			

Lever dial indicators - vertical version

Lever dial indicator with **horizontal dial.**

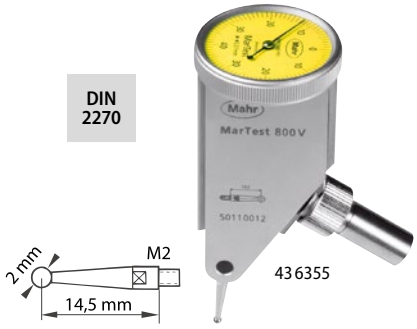
43 6271 – **1/100 reading.**

Size 0,1/38 – **2/1000 reading.**

Size 0,4/28 – **1/100 reading.**

Note:

43 6355 – **Additional information DIN 2270:**
Graduations 0.01 – deviation range 10 µm,
total deviation range 13 µm, hysteresis error 3 µm.
Graduations 0.002/0.001 – deviation range 2 µm,
total deviation range 4 µm, hysteresis error 2 µm.



Measuring range per direction / Body ∅		mm	0,1/38	0,4/28	0,4/39
43A **43 6355**	Mahr	Lever dial indicator with horizontal dial contact point length 14.5 mm	(XXX)	(XXX)	–
44A **43 6271**	Mitutoyo	Lever dial indicator with horizontal dial contact point length 17.4 mm	–	–	(XXX)
Scale divisions		mm	0.002	0.01	0.01
Variation range f_e		µm	2	10	8
Total variation range f_{tot}		µm	4	13	13
Hysteresis error f_u		µm	2	3	3
Pivot range		degrees	2×110	2×110	2×120
Gauging force		N	0.25	0.2	0.3
Clamping shank ∅ h6		mm	8		

Lever dial indicators with dial inclined at 20°

Standard

With **dial inclined at 20°.**

43 6277 – **1/100 reading.**

Measuring range (reversible) / housing ∅			mm	0,2/39	0,8/39
44A 43 6276	Mitutoyo	Lever dial indicator with inclined dial		(XXX)	(XXX)
45A 43 6277	TESA	Interapid lever dial indicator with inclined dial		–	(XXX)
Scale divisions			mm	0.002	0.01
Variation range f_e			µm	5	10
Total variation range f_{tot} (43 6276)			µm	20	
Total variation range f_{tot} (43 6277)			µm	–	23
Hysteresis error f_u			µm	3	
Pivot range (43 6276)			degrees	2×110	
Pivot range (43 6277)			degrees	–	2×105
Gauging force (43 6276)			N	0.3	
Gauging force (43 6277)			N	–	0.12
Clamping shank ∅ h6			mm	8	

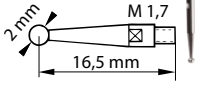
C5 Cal

Standard

43 6276_0,8/39

Standard

43 6277_0,8/39



Lever dial indicators

2/1000 reading.

43 6254 – With ruby ball.

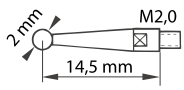
Note:

43 6250–6254 – **Additional information DIN 2270:**
Graduations 0.002/0.001 – deviation range 2 µm, total deviation range 4 µm, hysteresis error 2 µm.

Measuring range per direction / Body ∅			mm	0,1/28	0,1/40	0,2/40	0,3/39	0,4/40
43A 43 6421	Mahr	Lever dial indicator contact point length 14.5 mm		(XXX)	(XXX)	(XXX)	–	–
44A 43 6281	Mitutoyo	Lever dial indicator contact point length 15.2 mm		–	(XXX)	–	(XXX)	–
46Q 43 6250	GIROD	Lever dial indicator contact point length 12.5 mm		–	(XXX)	–	–	(XXX)
45A 43 6252		Tesatast lever dial indicator contact point length 12.5 mm		(XXX)	(XXX)	–	–	–
45A 43 6254	TESA	Swisstast lever dial indicator contact point length 12.5 mm **with ruby ball**		–	(XXX)	–	–	–
Scale divisions			mm	0.002				
Variation range f_e (43 6421, 43 6281)			µm	3	3	3	6	–
Variation range f_e (43 6250, 43 6252, 43 6254)			µm	2	2	–	–	2
Total variation range f_{tot} (43 6421, 43 6281, 43 6250)			µm	4	4	5	11	4
Total variation range f_{tot} (43 6252, 43 6254)			µm	3.5	3.5	–	–	–
Hysteresis error f_u (43 6421, 43 6281, 43 6250)			µm	2	2	3	3	2
Pivot range (43 6421, 43 6281, 43 6250)			degrees	2×110				
Pivot range (43 6252, 43 6254)			degrees	2×120	2×120	–	–	–
Gauging force (43 6421)			N	0.15	0.2	0.15	–	–
Gauging force (43 6281, 43 6250, 43 6252, 43 6254)			N	0.15	0.15	–	0.4	0.15
Clamping shank ∅ h6			mm	8				

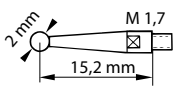
Standard

43 6421_0,1/28



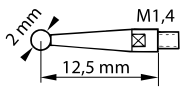
Standard

43 6281_0,3/39



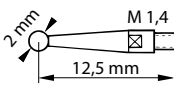
DIN 2270

43 6250 _0,1_40



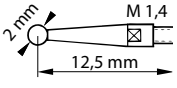
DIN 2270

43 6252_0,1/28



DIN 2270

43 6254 _0,1/40



C5 Cal

Lever dial indicators

High-precision lever dial indicator in handy, robust design. Housing and dovetail block are of one piece, which means that mounting is particularly rigid. Corrosion protection due to matt chrome-plated housing. **1/1000 reading.**

Application: As an accurate dial bore gauge for testing variations from nominal size, testing concentricity, internal measurements, testing of parallelism, and flatness as well as for aligning components.

Supplied with: Clamping spigot ∅ 8 mm.

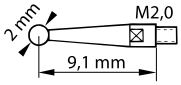
Optional extras: Square holder No. 436510, centring holder No. 436512, knuckle stand No. 359680.

Spare part: Spare contact point with carbide or ruby ball available on request.

Note:
43 6424 – **Additional information DIN 2270: Graduations 0.002/0.001** – deviation range 2 µm, total deviation range 4 µm, hysteresis error 2 µm.

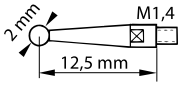
43 6422

Standard



DIN 2270

43 6424



Measuring range per direction / Body ∅		mm	0,07/40
43A 43 6422	Mahr	Lever dial indicator contact point length 9.1 mm	(XXX)
46Q 43 6424	GIROD	Lever dial indicator contact point length 12.5 mm	(XXX)
Scale divisions		mm	0.001
Variation range f_e (43 6422)		µm	3
Total variation range f_{tot} (43 6422)		µm	4
Hysteresis error f_u (43 6422)		µm	2
Pivot range		degrees	2×110
Gauging force		N	0.2
Clamping shank ∅ h6		mm	8

Standard | mm / Inch | RS232C | IP 65 | C5 Cal

Mahr

Digital lever indicator 1/1000 mm reading

Digital lever indicator with digital and analogue display **1/1000 reading.**
Measurement mode. Normal / MIN / MAX / MAX-MIN. A correction factor can be entered.

Supplied with: 1 battery No. 081560 size CR2032, clamping spigot ∅ 8 mm, contact point key, carbide contact point ∅ 2 mm.

Optional extras: Data cable No. 498951. See No. 436210; 436240 for spare contact points.

43 6500_0,8/43

Measuring range per direction / Body ∅		mm	0,25/43	0,4/43
43A 43 6500	Digital lever indicator, contact point length 14.5 mm		–	(XXX)
43A 43 6505	Digital lever indicator, contact point length 41.2 mm		(XXX)	–
Variation range f_e		µm	10	
Hysteresis error f_u		µm	7	5
Pivot range		degrees	2×100	2×110
Gauging force		N	0.07	0.13
Clamping shank ∅ h6		mm	8	

Holder for lever indicator

Clamp with dovetail.

Suitable for: Lever indicators with dovetail blocks.

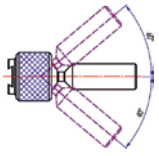
43 6510

43 6512

42C 43 6510	HOLEX	Square holder for small indicator	(XXX)
Bore ∅		mm	8
Clamping length		mm	50
Shank dimension		mm	12×6

42C 43 6512	HOLEX	Centring holder	(XXX)
Shank ∅		mm	8
Bore ∅		mm	4

Shank ∅		mm	6	8
42C 43 6514	Käfer	Adjustable holder	–	(XXX)
42C 43 6516	HOLEX		(XXX)	(XXX)
Pivot range (43 6514)		degrees	–	±40
Pivot range (43 6516)		degrees	±90	
Clamping length (43 6514)		mm	–	20
Clamping length (43 6516)		mm	70	



43 6514

43 6516

mm / Inch | Digimatic | RS232C

Mahr Millimar C1200 compact length measuring gauge

Compact casing with high-resolution, sharp contrast TFT colour display. Connection for 1 inductive probe. Display can be tilted steplessly for the optimum viewing angle The direction of reading can be switched over. Selectable mains and battery operation.

Function:
- Dynamic measurement functions: Max, Min, Max-Min.
- Centring of the display at the centre of the tolerance limits.
- Password protection for the menu

Application: As display for one inductive probe for simple measurement tasks (+ A, – A). Ideal for stationary and portable use in the workshop and manufacturing shop.

Size 1200M – For inductive probes compatible with Mahr.

Size 1200T – For inductive probes compatible with Tesa.

Supplied with: Supplied with plug-in power supply (115 – 230 V, 50 – 60 Hz).

Optional extras: Data cable No. 498938.

43 4707

NEW

Type		1200M	1200T
43A 43 4707	Compact length measuring gauge	(XXX)	(XXX)
Measuring range	µm	±3 to ±5000	
Adjustable scale	µm	0.2 / 1 / 2 / 10 / 20 / 100 / 200 / 500	
maximum resolution	µm	0.1	
Length	mm	150	
Width	mm	130	
Height	mm	170	
Weight	kg	1	
Compatibility		Mahr	Tesa

mm / Inch | Digimatic | TLC

TESA Portable display unit TWIN-T10

IP 63

Sturdy portable display unit with scale and digital display for inductive measurement probes. Clear and error-free reading thanks to the highly detailed scale display. 5× zoom mode. Very long running time of more than 300 hours. Optimum handling due to ergonomic design and soft touch surface.

Function: Zeroing (offset), +A, -A, memory function, Max, Min, Max-Min, measurement of limit values, data output, ASCII commands. Ideal for stationary and portable use in the workshop and manufacturing shop.

Application: Display unit for TESA inductive measurement probe.

Supplied with: Including 4×batteries No. 081561 size LR6.

Optional extras: Radio No. 498916 transmitter, data cable No. 498918, software No. 498925; 498926.

43 4716

Type		T10
45A 43 4716	Portable length measurement device	–
Measuring range	µm	±5 to ±5000
Adjustable scale	µm	0.2 / 1 / 2 / 10 / 20 / 100 / 200
maximum resolution	µm	0.1
Error limit digital display	%	0.1
Length	mm	170
Width	mm	100
Height	mm	38
Weight	kg	0.5

TESA µFinder Set No. 434718 size 31 for parallelism and straightness measurements and for alignment of machines.

µFinder set

Mobile high-precision set for parallelism and straightness measurements, and for alignment of machines in quality control and service.

Supplied with: Supplied with instruction handbook, portable TWIN-T10 display unit No. 434716 size T10, 4× batteries No. 081561 size LR6, small magnetic stand, case.

Size 22 – Including axial contact point No. 434777 size GT22.

Size 31 – Including lever contact point No. 434779 size GT31.

43 4718

Type		22	31
45A 43 4718	Digital length measurement probe set **µFinder GT**	(XXX)	(XXX)
Span of measurement	mm	1	0.3
Gauging force	N	0.63	0.2
Clamping shank ∅ h6	mm	8	

TESA Display unit for precision measurements

Display unit for measured values with easy-to-read 7-inch colour touch screen. Simultaneous display of 1 or 2 measurements possible via the 2 ports for inductive contact points or the two USB inputs. 4 display modes are available for optimum reading of the results. TESA contact points are recognised automatically. Dynamic measurement is ensured by picking up blank data of 4300/sec.

Function:
- Basic formulas (+A, -A, +B, -B and combinations from A and B).
- Dynamic measurements (min., max., max.–min., average, etc.).
- Adjustable tolerances with OK/NOK display.
- Function for classification integrated (8 max.).
- Data output via RS232, USB or Bluetooth®.

Application: Ideal for inspection work in the inspection laboratory and in production.

Supplied with: Incl. mains cable for screwing on to the display, adapters for EU, ZH, UK and US.

43 4725

Type			TWT20
45A 43 4725	Display unit for precision measurements		(XXX)
Measuring range		µm	±5000
Display			7-inch touch screen
maximum resolution		µm	0.1
Digital display error limit			± (0.2 % + 0.3 µm)
Number of USB interfaces			2
Length		mm	190
Width		mm	112
Height		mm	120
Weight		kg	1.2

MARPOSS DUO measured value display unit

Compact measured value display unit with 4.3-inch touch screen/colour display and measured value memory function. Connection for 2 inductive contact points (switchable between half-bridge or full-bridge). Device also compatible with Tesa contact points. Up to 2 features can be displayed at the same time. Data export in CSV format via the USB interface.

Function:
- Dynamic measured value functions: Max, Min, Max-Min, (Min-Max)/2, average.
- Three-colour bar display and digital measured value display.
- 2 circuit inputs and 2 circuit outputs, potential-free (for instance for measured value uploading, good/reject).
- Scaling is adjusted automatically to suit the tolerance limit.

Application: As display for simple measurement tasks (+A, –A) and calculation based on both results (such as A+B, A–B, 0.5A+B). For use in the workshop and production.

Supplied with: Including USB power adaptor, base.

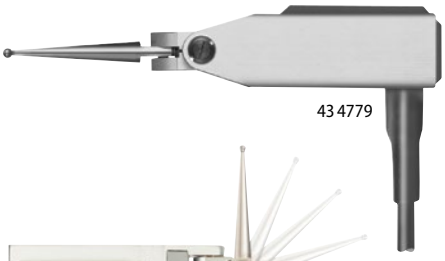
43 4735

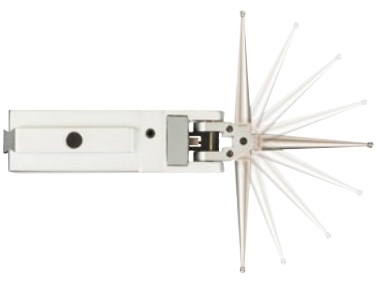
Type			DUO
43D 43 4735	DUO measured value display unit		(XXX)
Measuring range		µm	± 1 up to ± 10000
maximum resolution		µm	0.01
Length		mm	130
Width		mm	95
Height		mm	50
Weight		kg	1

TESA Inductive lever dial indicators

Adjustable-angle measuring tip for measurements in two directions. Ball-bearing lifting system with mass balancing. Collision-protection by means of two slip clutches. Measuring probe with Ø 2 mm carbide ball – can **pivot through 180°**. Independent change of sensing direction, without change of arithmetic sign. Case with two dovetail bars.

Application: Ideal for measurement of parallelism and straightness, and for alignment of machines.


43 4779



Type			GT31
45A 43 4779	Inductive lever dial indicator		(XXX)
Measuring range		mm	±0.3
Linearity error limit (L = meas. length in mm)		µm	$0.2 + 50 \times L^2$
Repeatability		µm	0.1
Measuring force at electrical zero		N	0.1

IP 65 | i Cal

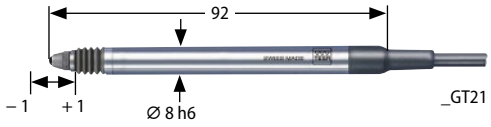
TESA Inductive probes

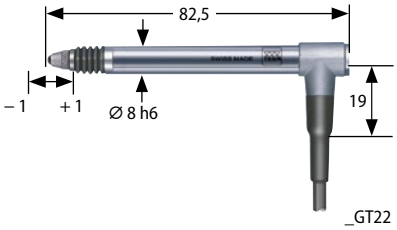
Versatile precision length contact point.

- **Precision ball-bearing longitudinal measuring pin.**
- **High precision due to electronic measurement signal amplification.**
- Clamping shank Ø 8 mm, can be clamped on the entire length.
- Due to ball bearings, resistant to fluctuations in temperature and lateral forces.
- Outstanding electro magnetic screening.

The TESA length measurement probe is characterised by excellent repeatability, consistency and a long working life.

Application: Universally applicable for all high precision measurement tasks, particularly in workshop and manufacturing shop areas.





Standard contact point

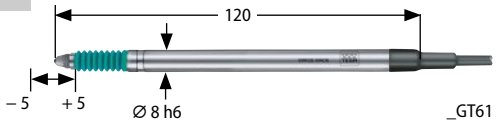
Size GT21M – Compatible with Mahr display units.

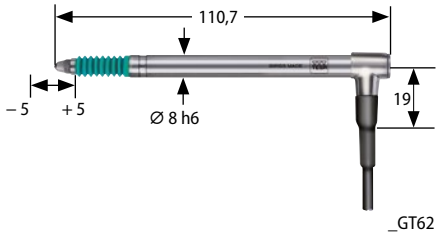
Type		GT21	GT21M	GT22
45A 43 4775	Inductive length measuring probe, axial	(XXX)	(XXX)	–
45A 43 4776	Inductive length measuring probe, axial **Pack of 10 pcs.**	(XXX)	(XXX)	–
45A 43 4777	Inductive length measuring probe, radial	–	–	(XXX)
45A 43 4778	Inductive length measuring probe, radial **Pack of 10 pcs.**	–	–	(XXX)
Measuring range	mm	±1		
Repeatability	µm	0.01		
Linearity error limit (L = meas. length in mm)	µm	$0.2 + 3 \times L^3$		
Compatibility		TESA	Mahr	TESA
Measuring force at electrical zero	N	0.63		

Standard contact point - large measurement range

Contact points **with large measuring range**.

Advantage: The Viton protective bellows renders the probe particularly suitable for applications involving coolants and lubricants. Particularly suitable for multi-location measurement devices.





Type		GT61	GT62
45A 43 4783	Inductive length measuring probe, axial	(XXX)	–
45A 43 4784	Inductive length measuring probe, axial **Pack of 10 pcs.**	(XXX)	–
45A 43 4785	Inductive length measuring probe, radial	–	(XXX)
45A 43 4786	Inductive length measuring probe, radial **Pack of 10 pcs.**	–	(XXX)
Measuring range	mm	±5	
Repeatability	µm	0.05	
Linearity error limit (L = meas. length in mm)	µm	$1 + 4 \times L$	
Compatibility		TESA	
Measuring force at electrical zero	N	0.9	

IP 64 | i Cal

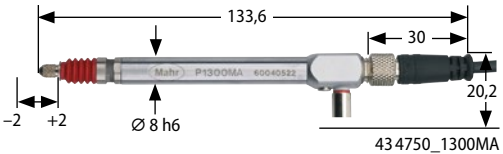
Mahr Millimar inductive probe

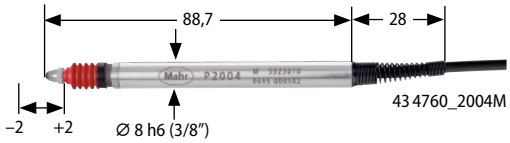
Inductive length measuring probe with Mahr or Tesa semi-base attachment compatibility. Very robust, on ball guides and shielded against EMC influences by nickel-iron alloy. Very high linearity over the entire measurement range. Integral cap allows angular setting of the cable.

43 4750 – Compressed air connection 90°.
43 4760 – Angular cap for radial cable exit.

Application: Universally applicable for all high precision measurement tasks, particularly in workshop and manufacturing shop areas.
43 4750 – Ideal for measuring devices - because the plug connection is directly on the probe.

Supplied with: Operating instructions, connection cable (2.5m).





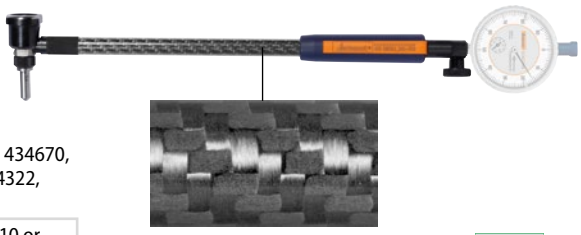
Type		1300MA	1300TA	2004M	2004T
43A 43 4750	Inductive length measuring probe, plug-in	(XXX)	(XXX)	–	–
43A 43 4760	Inductive length measuring probe	–	–	(XXX)	(XXX)
Measuring range	mm	±2	±1	±2	±1
Repeatability	µm	0.1			
Deviation from linearity at ± 0.5 mm	µm	0.4	1	0.4	1
Deviation from linearity at ± 1.0 mm	µm	1.5	3	1.5	1.5
Compatibility		Mahr	Tesa	Mahr	Tesa
Measuring force at electrical zero	N	0.75 ±0.15			

Standard

Garant

Precision bore gauges for Ø 18 – 300 mm

Precision two-point dial bore gauge with spring-loaded centring disc. **Lighter,** stable version with **CRP elements**, hence reduced **thermal expansion** and increased **corrosion protection.** Hand heat insulation on the frame additionally reduces the effects of temperature. Smooth and precise transmission of the contact point travel by a curved segment. Fixed contact point with hardened steel ball allows adjustment to different Ø.

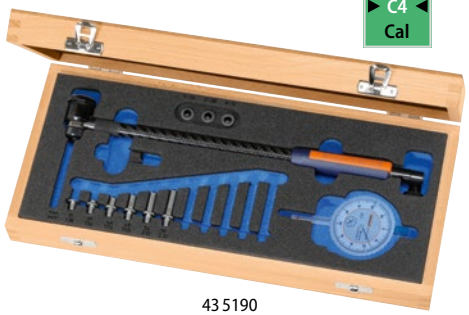


Application: For precise measuring of bores in terms of Ø, roundness, and cylindricity as well as measurements of internal profiles.

Optional extras: Precision dial comparator No. 434674, inductive precision dial comparator No. 434670, dial indicator with anticlockwise scale 434807 size 10, digital dial indicator 434322, setting rings No. 484030.

Note: When using precision dial indicators, an additional extension No. 434920 size 10 or contact point No. 434900 size 16 is required.

▶ C4 ◀ Cal



43 5190

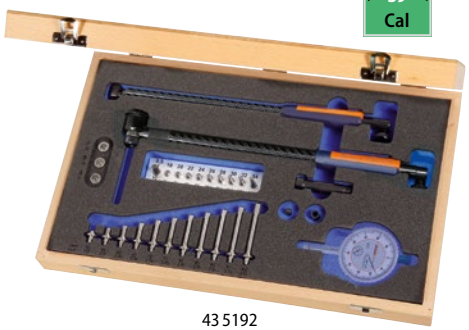
Supplied with: Precision bore gauge complete in a wooden case (without dial indicator).

Measuring range	mm	18-35	35-60	50-150	150-300
41C 43 5190	Precision bore gauge	(XXX)	(XXX)	(XXX)	(XXX)
Repetition accuracy without dial gauge	µm	1			
Measurement depth	mm	146	178	178	178
Number of contact points		9	6	11	11
Number of measuring discs		2	3	3	3
Centring plate width	mm	14.5	28	42.3	85

Precision bore gauge set for Ø 18 – 150 mm

Supplied with: 2 precision bore gauges No. 435190, additionally with extensions and setting rings.

▶ S9 ◀ Cal



43 5192

Measuring range	mm	18-150
41C 43 5192	Precision bore gauge set	(XXX)
Repetition accuracy without dial gauge	µm	1
Measurement depth	mm	146 – 178
Number of contact points		20
Number of measuring discs		5

Standard

▶ C1 ◀ Cal

Mitutoyo

Precision bore gauges with dial indicator

Self-centring precision bore gauge with three-point contact. Gauge holder and dial indicator matt chrome-plated. Shock-resistant plastic dial indicator housing. Gauge holder compensated for hand temperature. The gauge is set to the bore Ø by exchangeable contact points of different lengths and intermediate rings.
Measuring pins with spherical carbide tips.

Application: Dial bore gauge for checking bores for Ø accuracy, cylindrical form, and roundness.

Supplied with: Dial indicator No. 432050 size 10/58 with 1/100 mm scale.

▶ C4 ◀ Cal

43 5202

Measuring range	mm	18-35	35-60	50-150	160-250
44A 43 5202	Precision bore gauge with dial indicator	(XXX)	(XXX)	(XXX)	(XXX)
Repetition accuracy without dial gauge	µm	0.5			
Measurement depth	mm	100	150	150	250
Number of contact points		9	6	11	6
Centring plate width	mm	12.7	20	38	90

Bore gauge set for Ø 18 – 150 mm

Supplied with: 3 precision bore gauges No. 435202, additionally with measuring pins, extension and setting rings.

▶ S9 ◀ Cal

43 5206

Measuring range	mm	18-150
44A 43 5206	Precision bore gauge set with dial indicator	(XXX)
Repetition accuracy without dial gauge	µm	0.5
Measurement depth	mm	100 – 150
Number of precision bore gauges		3
Number of contact points		26
Number of measuring discs		4

SU internal precision bore gauges for bores 4.5 – 510 mm

Self-centring two-point dial bore gauge with spring-loaded centring disc. Smooth and accurate transmission of the contact point travel via a ring segment. Fixed, exchangeable measuring pins can be set to different Ø. Carbide-tipped point. Gauge holder with hand and ambient temperature protection.

Application: For precise measuring of bores in terms of Ø, roundness, and cylindricity as well as measurements of internal profiles.

Supplied with: Precision bore gauge complete (without dial indicator).

Optional extras: Measuring depth extensions No. 435142, Precision dial comparator No. 434674, inductive precision dial comparator No. 434670, dial indicator with anticlockwise scale 434807 size 10, digital dial indicator 434322, setting ring No. 484030.

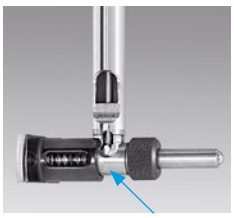
Note: When using precision dial indicators, an additional extension No. 434920 size 10 or probe No. 434900 size 16 is required. Versions up to 800 mm measuring range available on request.

43 5040_35-60

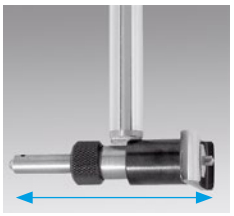
► C4 ◄ Cal

43 5040 – Fixed measuring pins **of steel.**
43 5050 – Fixed measuring pins **carbide-tipped.**

Device tube of INVAR



Arc segment



Optimum gauging force

Measuring range	mm	4,5-6	6-8	8-12	12-20	18-35	35-60	50-100	100-160	160-290	280-510
46F 43 5040	Internal precision bore gauge, steel, without dial indicator **SU**	–	–	–	–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46F 43 5050	Internal precision bore gauge, carbide, without dial indicator **SU**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Repetition accuracy without dial gauge	µm	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.5
Measurement depth	mm	80	100	100	110	110	180	180	230	230	400
Number of contact points		9	7	9	9	9	6	11	7	7	7
Number of measuring discs		–	–	–	1	2	3	3	4	4	4
Centring plate width	mm	4	5.2	6.5	9	14.8	28	45	75	120	156

SU Internal precision bore gauge sets

► S9 ◄ Cal

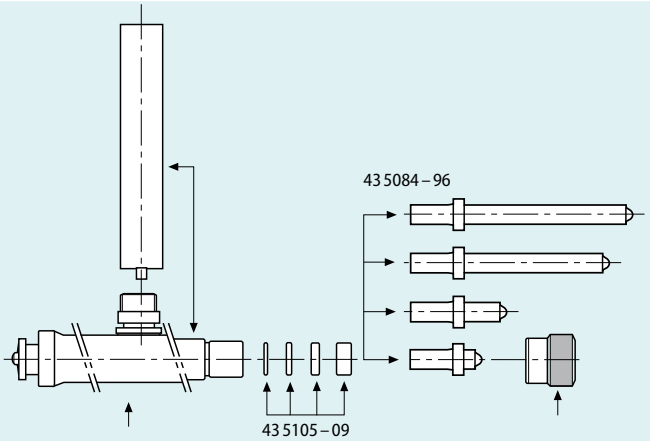
43 5060 – Fixed measuring pins **of steel.**
43 5070 – Fixed measuring pins **carbide-tipped.**

43 5060_18-150

Measuring range	mm	18-100	18-150	50-160	50-230
46F 43 5060	Internal precision bore gauge set, steel without dial indicator **SU**	(XXX)	(XXX)	(XXX)	(XXX)
46F 43 5070	Internal precision bore gauge set, carbide, without dial indicator **SU**	(XXX)	(XXX)	(XXX)	(XXX)
Repetition accuracy without dial gauge	µm	0.5			
Measurement depth	mm	110 – 180	110 – 180	180 – 230	180 – 230
Number of precision bore gauges		3	3	2	2
Number of contact points		27	27	18	18
Number of measuring discs		7			

Spare parts

We will be happy to provide you with a list of all available spare parts.
Please ask us.



OSIMESS internal precision bore gauges for bores of 1 – 12 mm

43 5010 – OSIMESS internal precision bore gauge for small bores from 1 mm. Probes hard chrome-plated (from size 4.5-7.5). The tapered form of the gauging pin, under the measuring force of the precision bore gauge, expands the slotted probe. **Repetition accuracy 1 µm.**

Size 1,5-4,2 – Probes of **carbide.**

Application:

43 5010 – Determination of deviation from nominal value and shape errors such as run-out or conicity.

Supplied with:

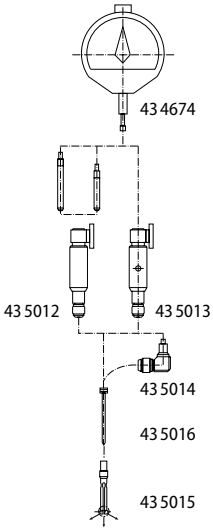
43 5010 – Contact heads, carbide gauging pins, standard holder (display unit and setting rings not included).

Optional extras:

43 5010 – Precision dial comparator No. 434674, inductive precision dial comparator No. 434670, dial indicator with anticlockwise scale No. 434807 size 10, digital dial indicator No. 434322, comparator stand No. 435020.

Note: Versions up to 20 mm measurement range and for blind holes available on request.

Measuring range		mm	1,5-4,2	4,5-7,5	8-12	4,5-12
46D 43 5010	Precision bore gauge **OSIMESS**		(XXX)	(XXX)	(XXX)	(XXX)
46D 43 5030	Set of steel setting rings (dimensions as for probe tips)		(XXX)	(XXX)	(XXX)	(XXX)
effective application range (43 5010)		mm	1.5 – 4.2	4.15 – 7.8	7.7 – 12.5	4.15 – 12.5
Repetition accuracy (43 5010)		µm	1			
Measurement depth (43 5010)		mm	17 – 25	41 – 45	45	41 – 45
Number of setting rings (43 5030)			10	7	6	13
Number of probe tips (43 5010)			10	7	6	13
Number of carbide gauging pins (43 5010)			2	1	2	2



Straight and angled clamps for OSIMESS internal precision bore gauges

Suitable for: Nominal measuring range 0.95 -20.6 mm.

Note:

43 5013 – When using precision dial indicators, an additional extension No. 434920 size 10 or probe No. 434900 size 16 is required.

for nominal measuring range		mm	0,95-20,6
46D 43 5012	Clamp without return key		(XXX)
46D 43 5013	Clamp with return key		(XXX)
46D 43 5014	Angle clamp for OSIMESS		(XXX)

43 5012

43 5013

Contact points for Osimess internal precision bore gauges

OSIMESS probes for small diameters from 1.0 to 11.5 mm (without gauging pin).

43 5015

Application range		mm	0,95-1,15	1,07-1,25	1,17-1,35	1,27-1,45	1,37-1,55	1,50-1,90	1,80-2,20	2,05-2,45	2,30-2,70
46D 43 5015	Probe for OSIMESS internal precision bore gauges		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Application range		mm	2,55-2,95	2,80-3,20	3,05-3,45	3,30-3,70	3,55-3,95	3,80-4,20	4,15-4,80	4,70-5,30	5,20-5,80
46D 43 5015	Probe for OSIMESS internal precision bore gauges		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Application range		mm	5,70-6,30	6,20-6,80	6,70-7,30	7,20-7,80	7,70-8,30	8,20-8,80	8,70-9,30	9,20-10,5	10,2-11,5
46D 43 5015	Probe for OSIMESS internal precision bore gauges		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Gauging pins for OSIMESS contact points

Suitable for: Probes No. 435015.

43 5016

Application range		mm	0,95-1,55	1,50-2,45	2,30-4,20	4,15-9,30	9,20-20,6
46D 43 5016	Gauging pin for OSIMESS probes		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Comparator stands for OSIMESS internal precision bore gauges

Column type comparator stand for OSIMESS precision bore gauges.

Size OSM5 – The probe is inserted into the bore to be measured by means of a hand lever and rack movement.

Size OSM6 – The table is raised by means of a hand lever.

Advantage: Precise, reproducible, time-saving measurements. Greatest possible protection of component and measuring tool.

Application: For quick series checking of similar components.

43 5020_OSM6

43 5020_OSM5

Manufacturer's designation			OSM5	OSM6
46D 43 5020	Comparator stand for OSIMESS		(XXX)	(XXX)
maximum workpiece ∅		mm	200	160
maximum working stroke		mm	60	40
Length		mm	225	231
Width		mm	120	
Height		mm	315	265

C4 Cal

Vario SV internal precision bore gauges

Two-point dial bore gauge, based on the **Schwenk version. Schwenk Vario SV** is a modular system which covers large measuring ranges due to exchangeable measuring heads. **With carbide measuring pins.**

Size 160-430 – Measuring range can be extended up to Ø 800 mm.

Supplied with: Precision bore gauge **without** display unit and setting rings.

Optional extras: Precision dial comparator No. 434674, inductive precision dial comparator No. 434670, dial indicator with anticlockwise scale 434807 size 10, digital dial indicator 434322, setting rings No. 484030.

Note: When using precision dial indicators, an additional extension No. 434920 size 10 or probe No. 434900 size 16 is required.

43 5110_6–18

Measuring range	mm	6-18	18-160	160-430
46D 43 5110	Internal precision bore gauge without precision dial indicator **Vario SV HM**	(XXX)	(XXX)	(XXX)
Measurement depth	mm	100	140	180
Number of measuring heads		2	2	1
Number of contact points		17	20	7
Number of measuring discs		2	5	4

C4 Cal

SS internal precision bore gauges blind hole

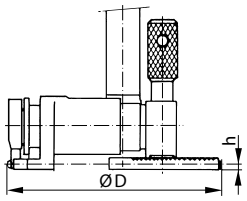
Two-point dial bore gauge, based on the **Schwenk version. Schwenk blind hole SS.** For measuring blind holes and centring shoulders. Vernier caliper and movable contact point carbide tipped.

Supplied with: Precision bore gauge **without** display unit and setting rings.

Optional extras: Precision dial comparator No. 434674, inductive precision dial comparator No. 434670, dial indicator with anticlockwise scale 434807 size 10, digital dial indicator 434322, setting rings No. 484030.

Note: When using precision dial indicators, an additional extension No. 434920 size 10 or probe No. 434900 size 16 is required.

43 5120_50–110



Measuring range	mm	20-50	50-110	110-300
46D 43 5120	Internal precision bore gauge for blind holes **SS**	(XXX)	(XXX)	(XXX)
Measuring range of the digital calipers	mm	20 – 30; 30 – 40; 40 – 50	50 – 80; 80 – 110	110 – 150; 150 – 200; 200 – 250; 250 – 300
Measurement depth	mm	77	55	45
Distance from bottom of hole h	mm	1.5	1.5	2
Number of digital calipers		3	2	4
Centring plate width	mm	18	34	81

ESU setting devices for internal precision gauges

ESU setting device for exact setting of internal precision bore gauges to the desired nominal dimension by means of gauge blocks. Anvils made of carbide, lapped to gauge block quality.
Horizontal and vertical setting options.

Optional extras: Stand base for vertical use available on request.

Adjustment range	mm	4,5-160	18-290	160-510
46D 43 5140	Setting master **ESU**	(XXX)	(XXX)	(XXX)
Setting resolution f_u (without taking gauge block quality into account) µm			2	

Garant

Setting Bench SB 1

Horizontal adjustment device with touch screen suitable for the workshop environment
for setting internal and external measurement devices.

Advantages:
- Easy and **convenient operation**.
- Large intuitive operating display.
- **High cost-effectiveness: Approx. 85 % time saving** compared to setting with gauge blocks.

43 9900_600

C4 Cal

Schwenk

Bore plug gauges OD

OD bore plug gauges are mechanical two-point dial bore plug gauges for highest requirements. Hardened gauging sleeve. For bores of 2.5 – 100 mm. Centring by the gauging sleeve prevents tilt errors and therefore ensures maximum precision irrespective of the user. No need to seek the return point. Dial indicators with shank ∅ 8 h6 can be used as displays.

- Repetition accuracy 1 µm.
- Robust and reliable.
- Minimum measuring time with maximum measuring reliability.
- Thread connection bore gauge/ holder M10×1.

43 5155/5157/5159 –Gauging sleeve of **hard chrome** for a long working life.

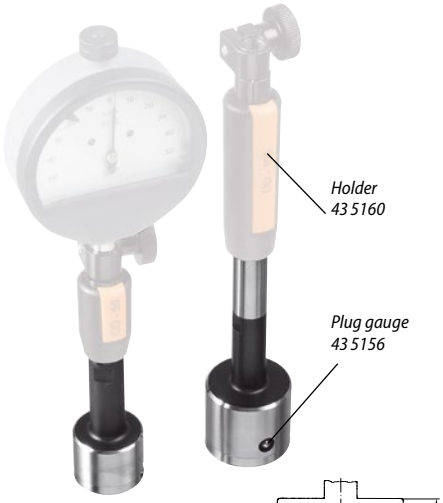
Application: For bores of 2.5 – 100 mm. For quality assurance in series production, manual or automatic measuring.

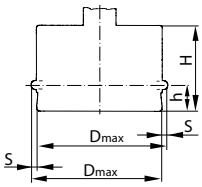
Supplied with: Gauging sleeve with two radially movable 180° offset carbide measuring bars.

Optional extras: Precision dial comparator No. 434674, inductive precision dial comparator No. 434670, dial indicator with anticlockwise scale 434807 size 10, digital dial indicator 434322, holder for plug gauges No. 435160, setting rings No. 484030. Measuring depth extensions, angle pieces and depth stops on request.

Note: When ordering, please state **additionally** the exact bore tolerances, for example:
No. 435154 size 6–12 **10H7,**
No. 435154 size 6–12 **10 + 0.15 / – 0.01,**
No. 435154 size 6–12 **9.990 / 10.15.**
When using precision dial indicators, an additional extension No. 434920 size 10 or probe No. 434900 size 16 is required.

- **Plug gauges for large bores (up to ∅ 200), recesses, grooves, also in 3-point version available on request.**
- **Tolerance range 10 µm or fine fit quality 5 and finer on request.**
- **Measuring range > 0.2 mm on request.**
- **Measuring contacts also available in ruby, ceramic and hard chrome plated.**





S: Measuring range = 0.2 mm

Depth stop for serial measurements available on request.

Bore plug gauges OD standard version

Sleeve ∅ D		mm	2,5-6	6-12	12-20	20-30	30-40	40-60	60-80	80-100
46D 43 5154	Bore plug gauge standard **OD**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46D 43 5155	Bore plug gauge standard **OD hard chrome plated**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Repetition accuracy		µm	1							
Sleeve dimension H		mm	10	15	15	20	20	28	33	33
Face dimension h		mm	1.5	2.5	2.5	3.5	3.5	3.5	4	4
Gauging force		N	2							

Bore plug gauges OD with extended guide for through holes

Sleeve ∅ D		mm	2,5-6	6-12	12-20	20-30	30-40	40-60	60-80	80-100
46D 43 5156	Bore plug gauge for through holes **OD**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46D 43 5157	Bore plug gauge for through holes **OD hard chrome plated**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Repetition accuracy		µm	1							
Sleeve dimension H		mm	14.5	18.5	23	27	27	28	33	33
Face dimension h		mm	6	6	10	10	10	10	10	10
Gauging force		N	2							

Bore plug gauges OD for blind holes

Sleeve ∅ D		mm	2,5-6	6-12	12-20	20-30	30-40	40-60	60-80	80-100
46D 43 5158	Bore plug gauge for blind holes **OD**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46D 43 5159	Bore plug gauge for blind holes **OD hard chrome plated**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Repetition accuracy		µm	1.5							
Sleeve dimension H		mm	10	13.5	13.5	20	20	28	33	33
Face dimension h		mm	1	1	1	1.2	1.2	1.2	1.2	1.2
Gauging force		N	2							

Holders for OD gauges

OD gauge holders with threaded connector M10×1. For direct connection to all OD bore plug gauges, 12 mm ∅ plunger.

Note: Holders for electric probes and strengthened versions (18 mm ∅ plungers) on request.

Holder length		mm	50	105	235
46D 43 5160	Holder for plug gauge **OD**		(XXX)	(XXX)	(XXX)

i Cal

Contour measurement gauges Novometer

Novometer contour measurement gauge for measuring internal diameters of round, oval or regular polygon bores. For measuring **resilient components**.

Note: Version with digital display or with slip clutch for reproducible gauging force available on request. Version for measuring external diameters available on request.

_55-100

Measuring range		mm	14-24	22-40	35-60	55-100	95-180	170-255	245-330
46D 43 5170	Novometer contour measuring gauge		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.1						

i Cal

Internal measuring gauge ON for slots and recesses

Internal measuring gauge for measuring slots and grooves up to a maximum slot depth of 5 mm.

Note: Measuring range 530 mm on request.

Holder for ON expanding head gauge

Holder for ON expanding head gauge.

Supplied with: Holder in wooden case (without dial indicator).

Reversal		mm	10
46D 43 5174	Holder for ON expanding head gauge		(XXX)

ON expanding head gauge

ON expanding head gauge with fixed application range. With carbide key pin.

Measuring range		mm	6-8	8-12	10-14	12-18	16-22
46D 43 5175	Internal measuring gauge for slots and grooves		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Access diameter		mm	6	8	10	12	16
Minimum width of groove		mm	0.8	1.2	1.2	1.2	1.2
largest measuring depth		mm			60		
maximum expansion travel		mm	2	4	4	6	6

C4 Cal

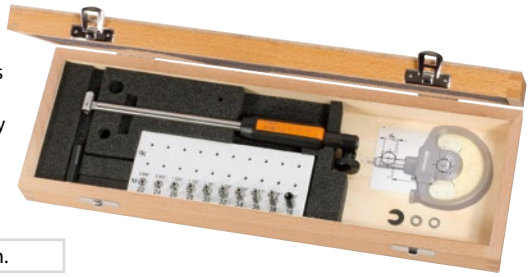
Internal profile gauge KT

Two-point dial bore gauge, based on the **Schwenk version.** For measuring internal profiles and splines, serrations and splined hub profiles. High accuracy and reliability due to segment deflection of the contact point travel. Wide measurement range covered by interchangeable measuring tips. The measuring inserts have an internal thread for fitting ball tips. The carbide balls on the spherical tips are available from ∅ 0.5 mm in 0.001 mm increments (tolerance < 2µm).

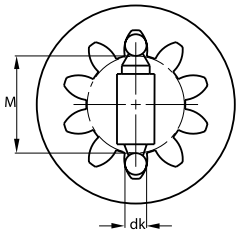
Supplied with: Gauge holder with probe rods and measuring tips, without spherical tips and display unit.

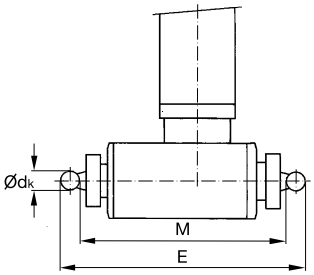
Optional extras: Spherical inserts with carbide balls, precision dial comparator No. 434674, inductive precision dial comparator No. 434670, dial indicator with anticlockwise scale 434807 size 10, digital dial indicator 434322.

Note:	Version as a plug gauge for quicker and more reliable measuring without fluctuation.



43 5125_22–55





Measuring range	mm	8-12	12-22	22-55	55-250
46D 43 5125	Internal precision bore gauge KT	(XXX)	(XXX)	(XXX)	(XXX)
Repetition accuracy without dial gauge	µm	0.5			
Measurement depth	mm	100	102	110	177
Number of contact points		5	11	9	7
Number of measuring discs		1	1	2	3

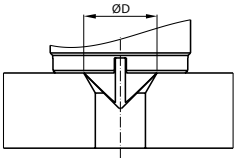
DIN 878 · i Cal

IFM chamfer gauges

IFM internal taper measuring gauge with 90° anvil cone for **determining the largest internal taper Ø.** The hardened anvil cone cross is inserted into the internal taper. The largest Ø is determined by pressing until reaching the stop.

Supplied with: Dial indicator.

Note:	Special versions with other taper angles available on request. Measuring devices for measuring the chamfer length available on request. Dial indicator and base body available separately.

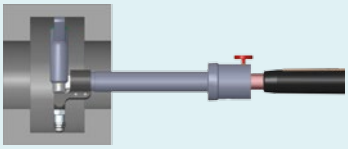


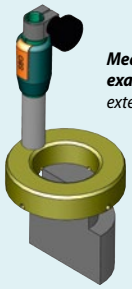
43 5172

Measuring range	mm	0,5-20	20-40	40-60
46D 43 5172	Measuring gauge for internal tapers **IFM**	(XXX)	(XXX)	(XXX)
Scale graduations	mm	0.01		

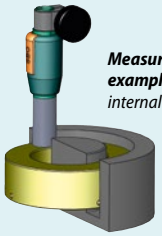
Special designs

Measuring gauge for various internal geometries on request.





Measurement example: *external Ø*



Measurement example: *internal Ø*

Standard | C6 Cal

Dial thickness gauges 1/10 reading

Thickness gauge with contact lever. Solid painted frame. Measuring faces hardened and ground.

Measuring range		mm	0-20	0-30	0-50
46C 43 8280	Thickness gauge		(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.1		
Measuring face ∅		mm	10		
Throat		mm	50		

43 8280_0-30

Standard | C6 Cal

Dial thickness gauges 1/100 reading

Dial thickness gauge with lift-off lever (gauging force is independent of the user), in pocket format. Measuring faces hardened and ground.

43 8200 – Lapped measuring faces.

Measuring range		mm	0-10
46C 43 8190	Dial thickness gauge		(XXX)
42C 43 8200	Dial thickness gauge		(XXX)
Scale divisions		mm	0.01
Error limit (43 8190)		mm	0.02
Error limit (43 8200)		mm	0.03
Measuring face ∅ (43 8190)		mm	6.35
Measuring face ∅ (43 8200)		mm	5.9
Throat (43 8190)		mm	18
Throat (43 8200)		mm	15

43 8190

43 8200

Standard | C6 Cal

Dial thickness gauge 1/100 reading

Dial thickness gauge with lift-off lever (gauging force is independent of the user). Lightweight frame, painted. Measuring faces hardened and ground.

43 8210 – Lapped measuring faces.

Measuring range		mm	0-10	0-30
46C 43 8205	Dial thickness gauge		(XXX)	(XXX)
42C 43 8210	Dial thickness gauge		(XXX)	–
Scale divisions		mm	0.01	
Error limit		mm	0.02	
Measuring face ∅		mm	10	
Throat (43 8205)		mm	50	
Throat (43 8210)		mm	30	–

43 8205

43 8210

Standard | C6 Cal

Digital quick thickness gauge 1/100 reading

Very small and handy device with a capacitive measuring system. Steel measuring faces hardened, ground and lapped.

Supplied with: 1 battery No. 081560 size 357.

Measuring range		mm	0-12
44A 43 8251	Quick thickness gauge		(XXX)
Scale divisions		mm	0.01
Error limit		mm	0.02
Measuring face ∅		mm	5
Throat		mm	20

43 8251

mm / Inch

Garant Setting bench SB 1

Easy and convenient-to-use horizontal adjustment device with touch screen that is suitable for the workshop for setting internal and external measurement devices. The device is high-quality and has a solid granite base and high-precision guides. The highly accurate motor control regulates the set values in real time even with a variety of gauging forces. Multilingual software. USB interfaces for printers and scanners.

Function:
- Input of internal and external dimensions possible in millimetres or inches.
- Integrated tolerance calculator with quick selection of minimum, maximum and average values.
- Saving of favourites for repeated setting of measuring tools.
- The history is recorded and can be accessed at any time.
- Updates and additional product information such as a selection of accessories can be loaded via an Internet connection.

Supplied with: Supplied with power supply unit, dust cover, factory calibration, instruction handbook, transport restraints.

Optional extras: Adapter No. 439910; 439912; 439914, printer No. 085505, 2D barcode scanner No. 439930 size 1950GHD, socket strip No. 081163; 081179.

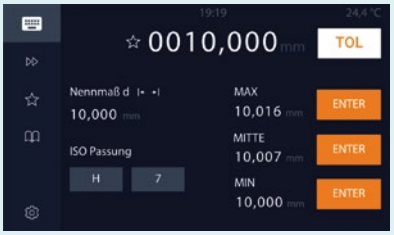
Note: Limit value of measurement deviation (MPE) according to VDI/VDE/DGQ/DKD 2618 sheet 17.2. Permissible ambient conditions 20°C ±3 K, measured with calibrated standards or standard measuring equipment using the integrated temperature compensation.

_600

Type		300	600	1000
41R 43 9900	Setting Bench SB 1	–	–	–
Measuring range outside	mm	40.1 – 345	40.1 – 655	40.1 – 1056
Measuring range inside	mm	1 – 305	1 – 615	1 – 1016
Scale divisions	mm		0.001	
Accuracy	µm		1.5 + L(mm)/300	
Repetition accuracy (2 σ)	µm		1	
Interface			USB interface	
Display size	inch	7	10.1	10.1
Type of display			TFT touch screen	
Footprint length	mm	840	1140	1540
Baseplate depth	mm		320	
Height	mm	573	596	626
Weight	kg	110	140	210
Power consumption	W		150	
Power supply	V		100 – 240	

Garant Advantages of the setting bench SB 1

Large intuitive touch display.



Integrated tolerance calculator based on the nominal size and fit.

The setting data at the tool can always be traced using the optional printer No. 085505 and the optional scanner No. 439930.

Adapter for Setting Bench SB1

Adapter for external measurement devices

Suitable for: External micrometers

Note: 2 pieces required each.

Type		OUTSIDE
41R 43 9910	Adapter, exterior contact area **1 piece**	–

43 9910

Adapter for internal measurement devices

Suitable for: Internal quick caliper

Note: 2 pieces required each.

Type		INSIDE
41R 43 9912	Adapter, interior contact area **1 piece**	–

43 9912_INSIDE

Adapter for bore gauges

Suitable for: GARANT two-point bore gauges No. 435190 and many two-point bore gauges from additional manufacturers.

Note: Adapter 439912 not supplied.
Size 18-35 – For use without adapter No. 439912.
Size 35-90; 90-300 – Recommended for use with adapter No. 439912.

Type		18-35	35-90	90-300
41R 43 9914	Adapter for two-point bore gauges **1 piece**	–	–	–
for centring disc width mm		up to 15	20 - 65	40 - 120

43 9914_35-90

Honeywell Hand-held 2D scanner

For scanning barcodes or 2D codes such as QR codes.
Suitable for: GARANT Setting Bench SB1 No. 439900.
Optional extras: Printer No. 085505.

Type		1950GHD
41R 43 9930	Hand-held 2D scanner	(XXX)
Weight g		147

43 9930

Honeywell Flex-Neck holder for hands-free reading

Suitable for: Hand-held 2D scanner No. 439930.

Type		HOLDER
41R 43 9940	Flex-Neck holder for hands-free reading	(XXX)

43 9940

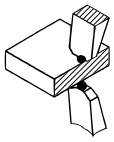
Standard | C7 Cal

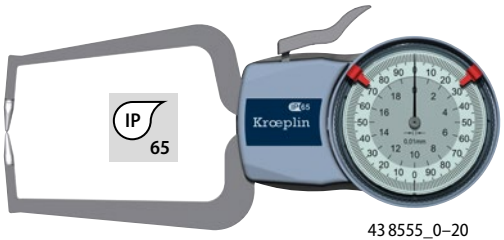
External quick calipers with dial gauge

1 fixed and 1 movable arm with carbide spherical contact points. The deflection of the moving contact point is transmitted to the dial indicator. The measured result can be read directly.

Application: For quick measuring of external grooves, wall thicknesses, plates, pipe wall thicknesses, foils etc.

43 8545_0–10





43 8555_0–20

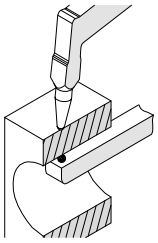
Measuring range		mm	0-10	0-20	0-50
42C 43 8545	HOLEX	External quick caliper with dial gauge	(XXX)	–	–
46Q 43 8555	Kroeplin Längenmesstechnik		(XXX)	(XXX)	(XXX)
Scale divisions (43 8545)		mm	0.1	–	–
Scale divisions (43 8555)		mm	0.005	0.01	0.05
Error limit (43 8545)		mm	0.1	–	–
Error limit (43 8555)		mm	0.015	0.03	0.05
Carbide spherical point ∅ (43 8545)		mm	2	–	–
Carbide spherical point ∅ (43 8555)		mm	1.5	1.5	3
maximum contact point length L (measurement depth) (43 8545)		mm	36	–	–
maximum contact point length L (measurement depth) (43 8555)		mm	35	80	167
Dial indicator ∅ (43 8545)		mm	50	–	–
Dial indicator ∅ (43 8555)		mm	65	65	66

Standard | IP 65 | C7 Cal

Kroeplin Längenmesstechnik External quick calipers with dial gauge

1 fixed and 1 movable arm with carbide spherical contact points. The deflection of the moving contact point is transmitted to the dial indicator. The measured result can be read directly.

43 8560_0–20



Ball ∅ 1.5 mm (size 0 – 20)
Ball ∅ 3.0 mm (size 0 – 50)

Measuring range		mm	0-20	0-50
46Q 43 8560	External quick caliper with dial gauge **for pipes**		(XXX)	(XXX)
Scale divisions		mm	0.01	0.05
Error limit		mm	0.03	0.05
Carbide spherical point ∅		mm	1.5	3
minimum bore ∅		mm	10	12
maximum contact point length L (measurement depth)		mm	80	169
Dial indicator ∅		mm	65	66

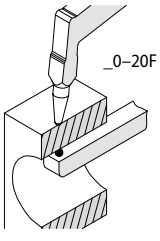
Standard | mm / Inch | Digimatic | IP 67 | Absolute System | C7 Cal

Kroeplin Längenmesstechnik External quick caliper with digital gauge

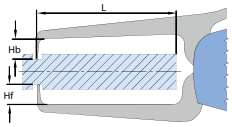
1 fixed and 1 movable arm with carbide spherical contact points. **Digital display of the absolute value.**
By entering **preset values**, variations can be determined against any value.

Supplied with: Supplied with 2 batteries No. 081561 size LR3.

Optional extras: Data cable adapter No. 498954 size A2, data cable No. 497440 and radio adapter No. 498954 size A5.



43 8573_0–20



43 8573_0–30

Measuring range		mm	0-20	0-20F	0-30 NEW	0-50 NEW
46Q 43 8573	Digital external quick caliper **with spherical anvils**		(XXX)	(XXX)	(XXX)	(XXX)
Graduations can be switched over		mm	0.001; 0.002; 0.005; 0.01; 0.02; 0.05			
Error limit		mm	0.03	0.03	0.04	0.05
Repetition accuracy		mm	0.01	0.01	0.02	0.03
Carbide spherical point ∅		mm	1.5	1.5	3	3
Measurement tip length top Hb		mm	24	24	30	30
Measurement tip length bottom Hf		mm	24	2.5	30	30
minimum bore ∅		mm	–	9	–	–
maximum contact point length L (measurement depth)		mm	80	80	115	167
Gauging force		N	1.1 – 1.6	1.1 – 1.6	1 – 1.5	0.9 – 1.2

Standard | IP 65 | ▶ C7 ◀ Cal

Kroeplin Längenmesstechnik

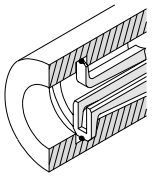
Internal quick calipers with dial gauge

1 fixed and 1 movable arm with carbide spherical contact points. The deflection of the moving contact point is transmitted to the dial indicator. The measured result can be read directly.

43 8950_10-30

Adjustable tolerance marks.

Measuring range		mm	5-15	10-30	20-40	30-50	40-60	50-70	60-80
46Q 43 8950	Internal quick caliper		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.005	0.01	0.01	0.01	0.01	0.01	0.01
Error limit		mm	0.015	0.03	0.03	0.03	0.03	0.03	0.03
Carbide spherical point ∅		mm	0.6	1	1	1	1	1	1
minimum groove width		mm	0.8	1.2	1.2	1.2	1.2	1.2	1.2
maximum groove depth		mm	2.3	5.2	7	7	8	8	8
maximum contact point length L (measurement depth)		mm	35	80	80	80	80	80	80
Dial indicator ∅		mm				65			



Ball ∅ 0.6 mm, Ball ∅ 1 mm.

Measuring range		mm	15-65	40-90	70-120
46Q 43 8953	Internal quick caliper **with long contact points**		(XXX)	(XXX)	(XXX)
Scale divisions		mm		0.05	
Error limit		mm		0.05	
Carbide spherical point ∅		mm	1.5	2	2
minimum groove width		mm	2.5	3.3	3.3
maximum groove depth		mm	4.5	8	8
maximum contact point length L (measurement depth)		mm	188	192	192
Dial indicator ∅		mm		66	

43 8953_15-65

Standard | mm/Inch | Digimatic | IP 67 | Absolute System | ▶ C7 ◀ Cal

Kroeplin Längenmesstechnik

Internal quick caliper with digital gauge

1 fixed and 1 movable arm with carbide spherical contact points. **Digital display of the absolute value.** By entering **preset values**, variations can be determined against any value.

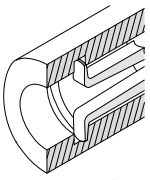
43 8985 – 3-point contact for quick and reliable determination of the measured value.

Supplied with: Supplied with 2 batteries No. 081561 size LR3, operating instructions.

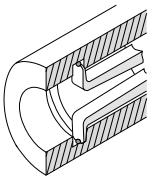
Optional extras: Data cable adapter No. 498954 size A2; data cable No. 497440; radio adapter No. 498954 size A5.

43 8965_2,5-12,5

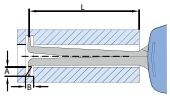
Measuring range		mm	2,5-12,5	5-15	10-30	20-40	30-50
46Q 43 8965	Digital internal quick caliper		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Graduations can be switched over		mm			0.001; 0.002; 0.005; 0.01; 0.02; 0.05		
Error limit		mm	0.015	0.015	0.03	0.03	0.03
Repetition accuracy		mm	0.005	0.005	0.01	0.01	0.01
Carbide spherical point ∅		mm	–	0.6	1	1	1
Radius of the blade		mm	0.1	–	–	–	–
minimum groove width		mm	0.4	0.8	1.2	1.2	1.2
maximum groove depth		mm	0.7	2.3	5.2	7	7
maximum contact point length L (measurement depth)		mm	12	35	85	85	85
Gauging force		N	0.8 – 1.2	0.8 – 1.2	1.1 – 1.6	1.1 – 1.6	1.1 – 1.6

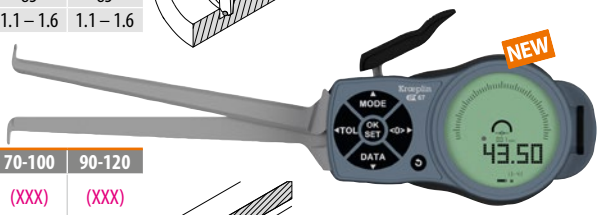


Knife R 0.1 mm.

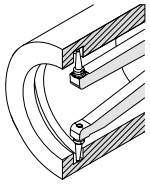


Ball ∅ 0.6 mm, Ball ∅ 1 mm.





Measuring range		mm	13-43	30-60	50-80	70-100	90-120
46Q 43 8979	Digital internal quick caliper **with long contact points**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Graduations can be switched over		mm			0.001; 0.002; 0.005; 0.01; 0.02; 0.05		
Error limit		mm			0.04		
Repetition accuracy		mm			0.02		
Carbide spherical point ∅		mm	1.3	1.5	2	2	2
minimum groove width		mm	2	2.5	2.5	2.5	2.5
maximum groove depth		mm	6.5	8.5	8.5	8.5	8.5
maximum contact point length L (measurement depth)		mm			127		
Gauging force		N	1.2 – 1.7	1.3 – 1.8	1.3 – 1.8	1.3 – 1.8	1.3 – 1.8



Ball ∅ 1.3 mm, Ball ∅ 2 mm.

43 8985_7-14

Measuring range		mm	7-14	10-20	15-30	25-45	40-60
46Q 43 8985	Digital internal quick caliper **with 3-point contact**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Graduations can be switched over		mm			0.001; 0.002; 0.005; 0.01; 0.02; 0.05		
Error limit		mm	0.01	0.02	0.02	0.02	0.02
Repetition accuracy		mm	0.004	0.01	0.01	0.01	0.01
Measurement contact profile			1	2	2	3	3
minimum groove width		mm	0.8	1.6	1.5	1.6	1.6
maximum groove depth		mm	2.2	3.5	5	7	8
maximum contact point length L (measurement depth)		mm	34	75	77	85	84
Gauging force		N	1 – 1.4	1.1 – 1.6	1.1 – 1.6	1.1 – 1.6	1.1 – 1.6

Measurement contact profile

1

2

3

Standard | mm / Inch | Digimatic | IP 67 | Absolute System | C7 Cal

Kroeplin Längenmesstechnik

Digital external and internal quick calipers with dial gauge

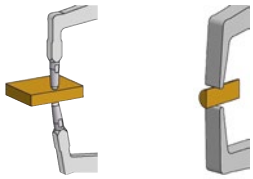
One fixed and one movable arm with carbide spherical contact points. **Digital display of absolute value.** By entering preset values, variations can be determined against any value.

Supplied with: Including a charger pad with connection accessories and operating instructions.

Optional extras: Data cable adapter No. 498954 size A3, data cable No. 497440, radio adapter No. 498954 size A4.

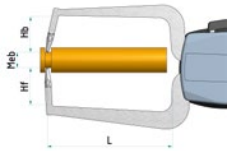
43 8990_0-15

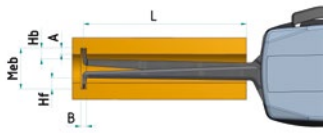
43 8995_5-20



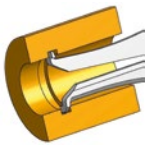
_0-15

_0-15S





Measurement range		mm	0-15	0-15S	2,5-12,5	5-20	10-25
46Q 43 8990	Digital external quick caliper		(XXX)	(XXX)	–	–	–
46Q 43 8995	Digital internal quick caliper		–	–	(XXX)	(XXX)	(XXX)
Graduations can be switched over		mm	0.001; 0.002; 0.005; 0.01				
Error limit		mm	±0.010	±0.015	±0.010	±0.010	±0.010
Repetition accuracy		mm	0.005				
Carbide spherical point ∅		mm	1.5	–	–	0.6	1
Radius of the blade		mm	–	0.4	0.12	–	–
Measurement tip length top Hb		mm	17	12	0.9	2.2	4.4
Measurement tip length bottom Hf		mm	17	12	0.9	2.2	4.4
minimum groove width		mm	2.5	1.5	0.6	0.8	1.5
maximum groove depth		mm	15	11	0.7	2.2	4
maximum contact point length L (measurement depth)		mm	45	45	12	44	46
Gauging force		N	1.3 – 1.5	1.3 – 1.5	0.8 – 1.3	0.8 – 1.3	0.8 – 1.3



Knife R 0.12 mm

Ball ∅ 0.6

Wireless charging with charging pad.

Garant

Hydraulic magnetic measuring stand

Hydraulic measuring stand with central clamping - all joints are rigidly clamped by means of the central rotary knob. Oil hydraulics protected against oil leakage by double seals. Clamping force can be steplessly adjusted. **Large rubberised hand wheel** (∅ 54 mm) for easy tightening and releasing the clamp. Jointed arms on the dial indicator mounting rotates 360°, can be twisted 180° and suitable for dial indicators with shank ∅ 6 and 8 mm or dovetail.

44 0600 – Stand with magnetic base with **ergonomic rotary switch**. High performance ferrite magnet with ground contact faces on the back and ground Vee underneath for placing on shafts and cylindrical bodies. **Plastic enclosure** of the magnetic base for easy handling, enhanced shock protection and thermal insulation.

Supplied with:

44 0600 Size 300 – Jointed arm No. 440610 300 and magnetic base No. 440620 1.

Size 400 – Jointed arm No. 440610 400 and magnetic base No. 440620 1.

Note: Hydraulic stands can withstand large fluctuations in temperature when the clamp is open. However a certain time is required for the temperature of the oil to equalise. When the clamp is closed the maximum fluctuation in temperature without fluctuations in pressure is 15 °C. These can lead to damage to the stand or to the object that is clamped.

iF DESIGN AWARD 2018

Throat		mm	300	400
41D 44 0600	Hydraulic measuring stand (with magnetic base)		(XXX)	(XXX)
41D 44 0610	Hydraulic jointed arm (without magnetic base)		(XXX)	(XXX)
Throat		mm	300	400
Connection thread			M8	
Alignment of connecting thread (44 0600)			side	
Magnetic force		N	1000	
Magnetic base length (44 0600)		mm	75	
Magnetic base width (44 0600)		mm	56	
Magnetic base height (44 0600)		mm	58	

44 0600_300

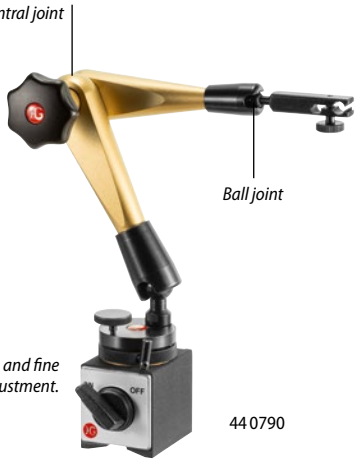
Magnetic base with Vee sole and rear face. Strong magnet with ergonomic rotary switch. **Plastic enclosure** of the magnetic base for easy handling, enhanced shock protection and thermal insulation.

Type			1
41D 44 0620	Magnetic base		(XXX)
Version			Switchable magnet
Magnetic force		N	1000
Connection thread			M8
Alignment of connecting thread			side
Length		mm	75
Width		mm	56
Height		mm	58

HÖRGER & GÄSSLER Hydraulic magnetic measuring stands

Hydraulic measuring stand with central clamping. One hand remains free for configuring the dial indicator. All joints are rigidly clamped by the central button. Patented mechanism generates high pressure so that the hand wheel needs only slight force to close it. Oil hydraulics protected against oil leakage by double seals. Clamping force can be steplessly adjusted. **Jointed arms** 360° rotatable on the dial indicator holder and 180° pivotable. **Dial indicator holder** for dial and digital indicators with shank ∅ 8 mm or dovetail.

Note:	Hydraulic measuring stands can withstand large fluctuations in temperature when the **clamp is open**. However a certain time is required for the temperature of the oil to equalise. When the **clamp is closed** the maximum fluctuation in temperature without major fluctuations in pressure is 15 °C. These can lead to damage to the stand or to the object that is clamped.



44 0790

Hydraulic stand with magnetic base

44 0790 – Additionally with **fine rotational adjustment** on the magnetic base; high stability even at high measurement forces.

44 0795 – **Magnetic base** with Vee sole. Powerful permanent magnet. Rotary switch for turning the magnetic force on and off. The magnetic force acts through the flat back and the Vee sole of the base.

44 0840 – Only column **without** base.

44 0790–0800 – **Magnetic base** with Vee sole. Powerful permanent magnet. Rotary switch for turning the magnetic force on and off. The magnetic force acts through the flat back and the Vee sole of the base.

Supplied with:

44 0795 – Magnetic base No. 440865 size 1

44 0800 Size 220–300 – Magnetic base No. 440868 size 1.

44 0800 Size 400; 550 – Magnetic base No. 440868 size 2.

Optional extras:

44 0840 Size 400; 550 – Magnetic bases No. 440868 size 2 and No. 440865 size 1.

44 0800

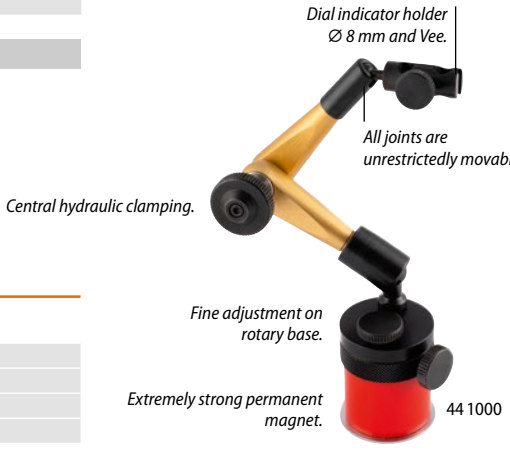
Throat		mm	220	260	300	400	550
46Q 44 0790	Hydraulic magnetic measuring stand (with base) **with mechanical fine adjustment at the base**		–	–	(XXX)	–	–
46Q 44 0795	Hydraulic magnetic measuring stand (with base) **with hydraulic fine adjustment at the base**		–	–	–	(XXX)	–
46Q 44 0800	Hydraulic magnetic measuring stand (with base) **with mechanical fine adjustment at the indicator holder**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46Q 44 0840	Hydraulic stand arm (without base) **with mechanical fine adjustment at the indicator holder**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Throat		mm	220	260	300	400	550
Connection thread			M8	M8	M8	M10	M10
Alignment of connecting thread			centre	centre	centre	side	side
Magnetic force		N	800	800	800	1000	1000
Magnetic base length (44 0790, 44 0795, 44 0800)		mm	60	60	60	81	81
Magnetic base width (44 0790, 44 0795, 44 0800)		mm			50		
Magnetic base height (44 0790, 44 0795, 44 0800)		mm			55		

With hydraulic fine adjustment

44 0795

Hydraulic small stand with magnetic base

Hydraulic small stand with extra powerful pot magnet, similar to No. 085940 size 35, not switchable. Magnetic force acts only downwards due to the double-wall housing. With keeper plate. **Particularly suitable for use with lever indicators.** The fine adjustment on the base is pivot-mounted on the magnet.



44 1000

46Q 44 1000	Hydraulic small stand with magnetic base		(XXX)
Throat		mm	150
Magnetic force		N	147
Magnetic base height		mm	30
Magnetic base ∅		mm	35

Mechanical magnetic measuring stands

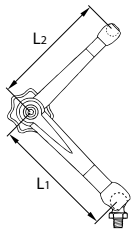
Mechanical magnetic measuring stand with central locking mechanism. All three joints are clamped in a single action. Continuously adjustable clamping force with high stability. Ball joints enable quick and easy positioning. Magnetic base with rotary switch and Vee sole.

44 1150 – Universal indicator holder with fine adjustment, for clamping shank ∅ 8 mm, ∅ 6 mm, ∅ 3/8 inch and indicators with dovetail clamping shanks.

44 1170 – Standard indicator holder for clamping shank ∅ 8 mm and dovetail, magnetic base with fine adjustment.

44 1174 – Universal indicator holder for clamping shank ∅ 8 mm, ∅ 6 mm, ∅ 3/8 inch; and indicators with dovetail clamping shanks. **Very precise adjustment thanks to double fine adjustment** at the indicator holder and the magnetic base.

44 1180 – Standard dial indicator mounting for clamping shank ∅ 6 mm, ∅ 8 mm and dovetail, fine adjustment at the indicator holder.



Type			120SF	240	290	600
46G 44 1150		Magnetic measuring stand with fine adjustment at the column	(XXX)	(XXX)	(XXX)	(XXX)
46G 44 1170	NOGA	Magnetic measuring stand with fine adjustment at the magnetic base	(XXX)	(XXX)	(XXX)	–
46G 44 1174		Magnetic measuring stand double fine adjustment	–	–	(XXX)	–
42D 44 1180	HOLEX	Magnetic measuring stand with fine adjustment at the column	(XXX)	(XXX)	(XXX)	(XXX)
Length of jointed arm L_1 (44 1150, 44 1170, 44 1174)		mm	56	110	133	287
Length of jointed arm L_1 (44 1180)		mm	56	110	149	287
Length of jointed arm L_2 (44 1150, 44 1170, 44 1174)		mm	51	101	113	223
Length of jointed arm L_2 (44 1180)		mm	51	101	129	223
Connection thread at bottom			M5	M8	M8	M10×1.25
Magnetic force		N	320	800	800	1300
maximum loading		kg	2.7	4	8	20
Magnetic base length (44 1150, 44 1170, 44 1174)		mm	40	60	60	120
Magnetic base length (44 1180)		mm	36	60	80	117
Magnetic base width		mm	30	50	50	50
Magnetic base height (44 1150, 44 1170, 44 1174)		mm	35	55	55	55
Magnetic base height (44 1180)		mm	36	55	55	55

HÖRGER & GÄSSLER Mechanical magnetic measuring stands

Mechanical central locking of all joints. Steplessly adjustable clamping force. Switchable magnetic base with Vee sole. Every position within the action radius can be reached. Fine adjustment with high stability. Dial indicator holder for dial and digital indicators with shank ∅ 8 mm or dovetail.

Supplied with:

Size 420 – Magnetic base No. 440868 size 2.

Size 220–350 – Magnetic base No. 440868 size 1.

Throat		mm	220	280	350	420
46Q 44 1100	Mechanical magnetic measuring stand		(XXX)	(XXX)	(XXX)	(XXX)
Connection thread			M8	M8	M8	M10
Alignment of connecting thread			centre	centre	centre	side
Magnetic force		N	800	800	800	1000
Magnetic base length		mm	64	64	64	81
Magnetic base width		mm	50			
Magnetic base height		mm	55			

HÖRGER & GÄSSLER Base for measuring stands

Powerful switched magnets with Vee sole. Switching by rotary handle.

44 0865 – With **hydraulic** fine adjustment.

Type		1	2
46Q 44 0868	Stand base	(XXX)	(XXX)
46Q 44 0865	Stand base with hydraulic fine adjustment	–	(XXX)
Version		Switchable magnet	
Magnetic force	N	800	1000
Connection thread		M8	M10
Alignment of connecting thread (44 0868)		centre	
Alignment of connecting thread (44 0865)		–	side
Length	mm	60	81
Width	mm	50	
Height	mm	55	

Modular stand system

44 2100

Holder for measuring stands

Suitable for: Jointed arms No. 442110 and 442114.

44 2104

Type			K1	K2	H	QR	2SM	CA
46G 44 2100	NOGA	Holder for measuring stand	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42D 44 2104	HOLEX		–	–	–	–	(XXX)	–
Version			Clamp, 1 inch	Clamp, 2 inch	Camera adapter, 1/4 inch	Quick-change 1/4 inch	Indicator holder ∅ 6 / ∅ 8	Camera holder
Connection thread			M6					

3-D jointed arms

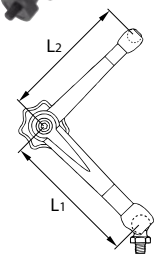
Mechanical 3-D jointed arm with central locking.
All three joints are clamped in a single action.
Continuously adjustable clamping force with high stability.
Ball joints enable quick and easy positioning.

44 2110_600

44 2110_240

44 2110_120

44 2114_290

44 2114_120


Type			120	240	290	600
46G 44 2110	NOGA	3-D jointed arm	(XXX)	(XXX)	(XXX)	(XXX)
42D 44 2114	HOLEX		(XXX)	(XXX)	(XXX)	(XXX)
Length of jointed arm L_1 (44 2110)		mm	56	110	133	287
Length of jointed arm L_1 (44 2114)		mm	56	110	149	287
Length of jointed arm L_2 (44 2110)		mm	51	101	113	223
Length of jointed arm L_2 (44 2114)		mm	51	101	129	223
External thread ∅ bottom			M5	M8	M8	M10×1.25
Internal thread ∅ top			M6			

Base for measuring stands

Size F – Different internal threads to take different jointed arms.
Size V – Vacuum base for attachment to all flat, non–porous surfaces.
Size K1,7 – Clamp with special softgrip for fixing to flat and round surfaces.
Different internal threads to take different jointed arms.
Size K3 – Clamp for fixing to flat and round surfaces.
Size F; S; 0; 1; 2 – Powerful attachment magnet with Vee sole. Switching by rotary handle.

44 2120_0

44 2125_0

Type			S	0	1	2	F	V	K1,7	K3
46G 44 2120	NOGA	Stand base	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46G 44 2125		Stand base with fine adjustment	(XXX)	(XXX)	–	–	–	–	–	–
Version			Switchable magnet	Switchable magnet	Switchable magnet	Switchable magnet	Flexi magnet	Vacuum base	Clamp, 1.7 inch	Clamp, 3 inch
Connection thread			M5	M8	M8	M10×1.25	M6 / M8 / M10 / M10×1.25 / M12	M8	M6 / M8 / 1/4 inch / 3/8 inch	M8
Alignment of connecting thread			centre	centre	centre	centre	various	side	various	centre
Magnetic force		N	320	800	1000	1300	1000	350	–	–
Opening width		mm	–	–	–	–	–	–	45	75
Length		mm	40	60	75	120	75	100	–	–
Width		mm	30	50	50	50	50	100	–	–
Height		mm	35	55	55	55	55	26	–	–

Powerful attachment magnet with Vee sole. Switching by rotary handle.

Type			S	0	1	2	3
42D 44 2140	HOLEX	Stand base	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Version			Switchable magnet				
Connection thread			M5	M8	M8	M10 × 1.25	M10
Alignment of connecting thread			centre	centre	side	side	side
Magnetic force		N	320	800	1000	1300	1300
Length		mm	36	60	80	117	117
Width		mm	30	50	50	50	50
Height		mm	36	55	55	55	55

44 2140_0

Universal measuring stands

3-point clamping of the measuring arm with very short clamping travel for high ease of use. Very low applied force generates sustained stable clamping.
Generously dimensioned frame for very high system stiffness. **Vario** dial indicator holder for shank ∅ 6 mm, 8 mm, 3/8 inch, lever dial indicator with dovetail slide and dial indicators with loop at rear.

44 1190 – **Fine adjustment at the indicator holder.**

44 1195 – **Fine adjustment at the magnetic base.** Advantage when adjusting µm lever dial indicators, as the column is not affected by the force applied.

Optional extras: Measuring microscope No. 440401.

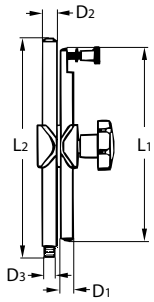
44 1190
Fine adjustment at the indicator holder

44 1195
Fine adjustment at the magnetic base

44 1190_N1

44 1195_N2

Type		N0	N1	N2	N3
46G **44 1190**	Magnetic measuring stand with fine adjustment at the column	–	(XXX)	(XXX)	(XXX)
46G **44 1195**	Measuring stand with fine adjustment at the magnetic base	(XXX)	(XXX)	(XXX)	–
Cross arm ∅ D_1	mm	8	12	16	16
Cross arm length L_1	mm	110	185	225	225
Column ∅ D_2	mm	10	14	16	18
Column height L_2	mm	120	203	260	350
Connection thread		M5	M8	M8	M10×1.25
Magnetic force	N	320	800	1000	1300
Magnetic base length	mm	40	60	75	120
Magnetic base width	mm	30	50	50	50
Magnetic base height	mm	35	55	55	55



Magnetic stand

Magnetic measuring stand with fine adjustment. Stable column with longitudinally adjustable cross arm. Magnetic base with Vee sole and rotary switch. Dial indicator holder for clamping shanks ∅ 6 mm and ∅ 8 mm.

Type		0	1	2
42D **44 1210**	Magnetic stand **with fine adjustment**	(XXX)	(XXX)	(XXX)
Cross arm ∅ D_1	mm	10	14	14
Cross arm length L_1	mm	150	160	200
Column ∅ D_2	mm	12	16	20
Column height L_2	mm	175	220	350
Connection thread		M8	M8	M10×1.25
Magnetic force	N	800	1000	1300
Magnetic base length	mm	60	80	117
Magnetic base width	mm		50	
Magnetic base height	mm		55	

Universal stands with T-slot base

All-round machined base with ground contact faces. Vee underside for placing on shafts and cylindrical bodies. Top side with a T-slot for moving the measuring column. Sturdy column. Cross arm with fine adjustment on indicator arm.

44 1950 – **With hydraulic clamping of the knuckle joints. See No. 440800 for a fuller description.**

Application: For concentricity checks on machine tools and appliances or for parallel measurements on guide slides.

44 1950

44 2000

46Q **44 1950**	Universal measuring stand **with hydraulic clamping mechanism**	(XXX)
46Q **44 2000**	Universal measuring stand	(XXX)
Throat (44 1950)	mm	260
Cross arm ∅ D_1 (44 2000)	mm	16
Cross arm length L_1 (44 2000)	mm	180
Column ∅ D_2 (44 2000)	mm	16
Column height L_2 (44 2000)	mm	300
Stand base length	mm	250
Stand base width	mm	60

Mini measuring stands

Compact measuring stand with **strong permanent magnet** for simple positioning in restricted working areas. Vario dial indicator holder for shank ∅ 8 mm and lever dial indicators wih dovetail guide.

44 1185 – Three **ball joints** with central clamping for quick and easy positioning.

44 1187 – **Measuring arm** with central clamping for rigid and sustained positioning. Vario dial indicator holder additionally for shank∅ 6 mm and 3/8 inch.

Type		LC6200	PH5000
46G 44 1185	Mini measuring stand with permanent magnet and ball joint	(XXX)	–
46G 44 1187	Mini measuring stand with permanent magnet and measuring arm	–	(XXX)
Length of jointed arm L_1	mm	38	110
Length of jointed arm L_2	mm	38	110
Connection thread		M5	
Magnetic force	N	300	
Magnetic base ∅	mm	30	

Magnetic holder for dial indicators

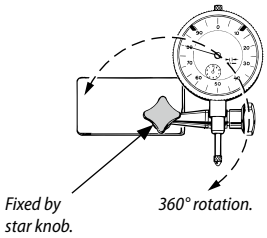
Light metal with inserted laminated permanent magnets. With bore to accept dial indicator shanks ∅ 8 mm.

44 2016 – Magnetic base ∅ 30 mm, height 25 mm.
Additional dial indicator shank sockets ∅ 6 mm.

44 2020 – Flat face, grips well.
With 2 reinforced sintered permanent magnets with a high holding force.

44 2026 – Permanent laminated magnet with prismatic sole and flat long sides with particularly high holding force.

Advantage: Low height enables fast, safe, and easy mounting on machines and jigs.



42D 44 2016	Magnetic holder without dial indicator	(XXX)
42D 44 2020		(XXX)
42D 44 2026	Universal magnetic holder without dial indicator	(XXX)

Power arms on request

Discover the new hybrid jointed arms from NOGA

Advantages

- Enormously large heavy and long jointed arms.
- Securing components and production accessories up to 25 kg.
- Enormously robust and strong.
- New design using a mechanical and hydraulic locking system.
- Employs a central locking system with spring-loaded bearings.

Available on request.

Garant Small comparator stand

Strong cast iron base with rigid column, comparator table with 2 dust grooves. The table is hardened, ground, and lapped. Very large measuring range, rigid one-piece indicator holder ∅ 8 mm with **parallel fine adjustment (4 mm range).**
Flatness ≤ 2 µm.

DIN 876/00 | ▶ D1 ◀ Cal

Indicator holder with parallel fine adjustment

Table length		mm	78
41D 44 2900	Small comparator stand		(XXX)
Throat		mm	62
Maximum measuring height		mm	150
Column ∅		mm	22
Table length		mm	78
Table width		mm	78
Overall height		mm	265
Weight		kg	4

Small comparator stands

Strong cast iron base with rigid column and sturdy indicator holder. Indicator holder ∅ 8 mm.
44 2917 – The table is of high-quality ceramic. Al_2O_3 99.7 %, lapped. Ra≤0.1µm.
Size 50 – **Flatness ≤ 1 µm** with round table.
Size 65×75 – **Flatness ≤ 2 µm.** Sturdy version.
44 2918 – Table top of sturdy granite.
Flatness ≤ 5 µm

▶ D1 ◀ Cal

DIN 876/00 | DIN 876/0

_50

_65×75

Type			50	65×75
46K 44 2917	Small comparator stand **Ceramic**		(XXX)	(XXX)
46K 44 2918	Small comparator stand **Granite**		(XXX)	(XXX)
Throat		mm	49	90
Maximum measuring height (44 2917)		mm	100	
Maximum measuring height (44 2918)		mm	105	
Column ∅		mm	22	
Table length		mm	–	75
Table width		mm	–	65
Table ∅		mm	50	–
Overall height		mm	200	
Weight		kg	2.3	3.2

Small comparator stands

Strong cast iron base with rigid column and sturdy indicator holder. The table is hardened, ground, and lapped. Indicator holder ∅ 8 mm.
Table face with dust grooves. Sturdy version without fine adjustment.
Flatness ≤ 5 µm.

DIN 876/0 | ▶ D1 ◀ Cal

44 2930_50

44 2930_68

44 2934

Type			50	68	80	115
46K 44 2930	Small comparator stand		(XXX)	(XXX)	–	(XXX)
42D 44 2934	Small comparator stand		–	–	(XXX)	–
Throat		mm	49	90	60	135
Maximum measuring height		mm	100	100	110	150
Column ∅		mm	22	22	24.4	28
Cross arm ∅		mm	–	18	–	20
Table length		mm	–	68	80	115
Table width		mm	–	60	80	98
Table ∅		mm	50	–	–	–
Overall height		mm	200	200	210	284
Weight		kg	2.3	3.5	2.5	7.1

Universal comparator stands

Solid cast iron base; rectangular comparator stand. Comparator stand surface hardened and precision ground with machined dust grooves. Rigid, hardened, and hard chrome-plated centre column with thread and lock nut. Hardened and hard chrome-plated, horizontally adjustable cross arm for dial indicators or precision indicators. Interchangeable dial /digital indicator holder ∅ 8 mm (10 h7 on request).
Flatness ≤ 16 µm.

Norm | ▶ D1 ◀ Cal

_200

Table length		mm	180	200
46K 44 2940	Universal comparator stand		(XXX)	(XXX)
Throat		mm	180	
Maximum measuring height		mm	180	175
Column ∅		mm	35	
Cross arm ∅		mm	22	
Table length		mm	180	215
Table width		mm	98	170
Weight		kg	13	23

PLANOLITH Universal precision comparator stands with NOGA jointed arm

Precision diamond lapped table, with test certificate.
Solid 3D jointed arm with mechanical central clamping.
Continuously adjustable clamping force with high stability.
Quick and easy positioning. Universal indicator holder.
With fine adjustment, for clamping shank ∅ 8 mm, ∅ 6 mm, ∅ 3/8 inch and indicators with dovetail clamping shanks.

DIN 876/1 | D1 Cal

Table length×Width		mm	400×250	400×400
46H 44 2525	Universal precision comparator stand **with 3-D NOGA jointed arm**		(XXX)	(XXX)
Action radius of 3-D jointed arm		mm	290	600
Length of jointed arm L_1		mm	133	326
Length of jointed arm L_2		mm	133	242
Connection thread			M8	M10×1.25
Weight		kg	17.5	28

PLANOLITH Universal precision comparator stands

Stand table precision diamond lapped. Extremely rigid and solid structure.
Natural granite table of finest quality and hardness.

DIN 876 | D1 Cal

Universal measuring stand

Precision comparator stand with universal measuring arm. 3-point clamping for high stiffness.
Dial indicator holder with fine adjustment, for shank ∅ 6 mm, 8 mm, 3/8 inch and lever dial indicators with dovetailed clamping slides.
Flatness ≤ 2 µm.

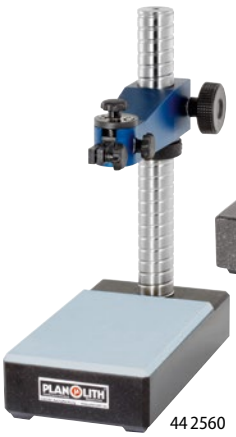
44 2534

Table length		mm	150	260
46H 44 2534	Universal precision comparator stand **Granite**		(XXX)	(XXX)
Throat		mm	120	210
Maximum measuring height		mm	210	260
Column ∅		mm	16	18
Cross arm ∅		mm	14	16
Measuring face length		mm	100	200
Measuring face width		mm	100	140
Connection thread			M10	
Table length		mm	150	260
Table width		mm	100	140
Weight		kg	2.8	7

With column

Flatness ≤ 2 µm.
Column chrome-plated with thread for coarse setting of the cross arm.
The rigid measuring arm is equipped with a **parallel fine adjustment**.
Holder bore for dial indicators and precision dial indicators ∅ 8mm.
44 2560 – With extremely wear-resistant ceramic coating (10 times harder than granite).

44 2550



44 2560

Table length		mm	260	300
46H 44 2550	Universal precision comparator stand **Granite**		(XXX)	(XXX)
46H 44 2560	Universal precision comparator stand **Granite with ceramic coating**		(XXX)	–
Throat		mm	120	
Maximum measuring height		mm	200	
Column ∅		mm	35	
Measuring face length		mm	200	240
Measuring face width		mm	140	200
Table length		mm	260	300
Table width		mm	140	200
Weight		kg	9.5	13

Large version with column

With a **clamping T-slot in the rear longitudinal outer edge, for moving and clamping the column**, with precision height adjustment and precision adjustment on the cross arm, chromium plated measuring rod. Dial indicator mounting bore ∅ 8 mm.
Flatness ≤ 3 µm.

Note: Please note **additional carriage charge**.

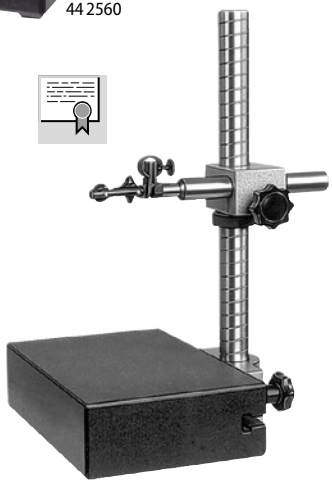


Table length		mm	400
46H 44 2570	Universal precision comparator stand, large version **Granite**		(XXX)
Throat		mm	300
Maximum measuring height		mm	400
Column ∅		mm	35
Table length		mm	400
Table width		mm	300
Weight		kg	44

Concentricity test benches

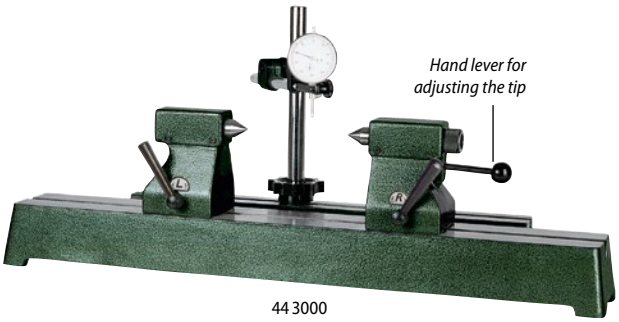
Measuring stand:
With fine setting adjustment and holder bore 8 H7. The cross arm is full adjustable for height and in all lateral directions.
Tailstocks:
adjustable. Left tailstock with fixed centre, right tailstock with axially movable quill.
Measuring bench:
Precision ground, with 2 T-slots. To take the tailstocks (tolerance H7) or the stand.
Flatness to DIN 876/1.

Application: For measuring round and plane accuracy as well as for comparative tests of parallelism and diameter.

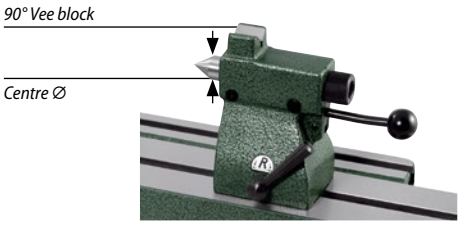
Supplied with: Bench, measuring stand.

Size 75 – Tailstocks with 90° Vee blocks at the top for holding off-centred or overhanging parts (max. workpiece ∅ 20 mm).

Size 50; 100; 150 – Tailstocks without Vee blocks.



44 3000



44 3000

Tip height	mm	50	75	100	150
46K 44 3000	Bench centre with ground measuring faces, without dial indicator	(XXX)	(XXX)	(XXX)	(XXX)
Lateral and vertical alignment of tailstocks	mm	±0.01			
Maximum clear span between centres	mm	200	350	450	450
Centre ∅	mm	16	16	22	22
Column ∅	mm	16	16	22	22
Pillar height	mm	150	150	200	250
Cross arm ∅	mm	16			
Cross arm length	mm	60	60	125	125
overall height without stand	mm	110	150	200	250
T-slot width H7	mm	10	10	12	12
Footprint length	mm	350	500	700	700
Baseplate width	mm	100	110	180	180
maximum load capacity per pair	kg	10	10	20	20
Weight	kg	8	12	35	38

Bench inspection rollers for bench centres No. 443000 and 443210

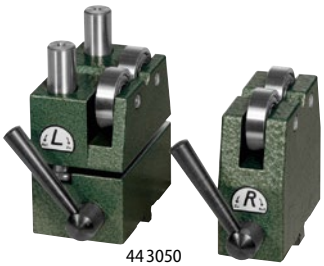
Suitable for:

Size 32; 50/75 – Bench centre No. 443000 size 50 and 75 / 443210.

Size 65; 100 – Bench centre No. 443000 size 100 and 150.

Application: To hold off-centred or over-length parts.

44 3050 – Even for parts with different diameters.


44 3050

44 3160

for maximum workpiece ∅	mm	32	65
46K 44 3050	Pair of bench inspection rollers height adjustable	(XXX)	(XXX)
∅ range	mm	2 – 32	2 – 65
Tip height	mm	66 (at d = 10)	99 (at d=10)
Width of T-nut h6	mm	10	12
maximum load capacity per pair	kg	20	30

for tip height	mm	50/75	100
46K 44 3160	Pair of bench inspection rollers	(XXX)	(XXX)
∅ range	mm	2 – 40	2 – 60
Width of T-nut h6	mm	10	12
maximum load capacity per pair	kg	20	30

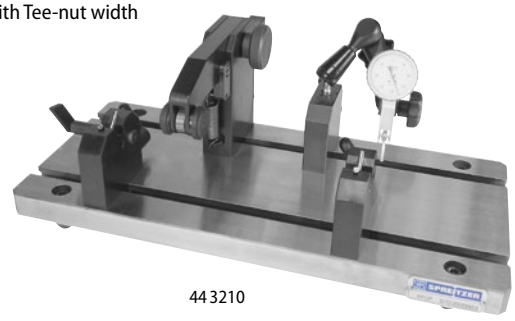
Bench centre RPGP with Vee blocks

Hardened and ground base plate with 2 clamping slots. Stepless movement of the Vee blocks (with carbide coating), the scrolling device, and the jointed stand. Universal stop, which is ground flat and can be mounted perpendicularly in relation to the Vee blocks. The **Vee angle of 108°** allows even polygonal parts to be inspected. Pivoting jointed stand for dial indicator or lever indicator.

Application: Inspection of axial and radial run-out of rotation parts.

Supplied with: Base plate with 2 Vee blocks and a stop, scrolling device, and jointed stand (without dial indicator)

Optional extras: Jointed stand with T-nut No. 443295. Scrolling and Vee blocks No. 443050 – 443160 with Tee-nut width 10 h6. Height-adjustable Vee blocks on request.


44 3210

for workpiece ∅	mm	1-25
46L 44 3210	Bench centre RPGP	(XXX)
T-slot width H7	mm	10
Footprint length	mm	350
Baseplate width	mm	160
Weight	kg	12

SPREITZER Bench centre RPGR with scroll plates

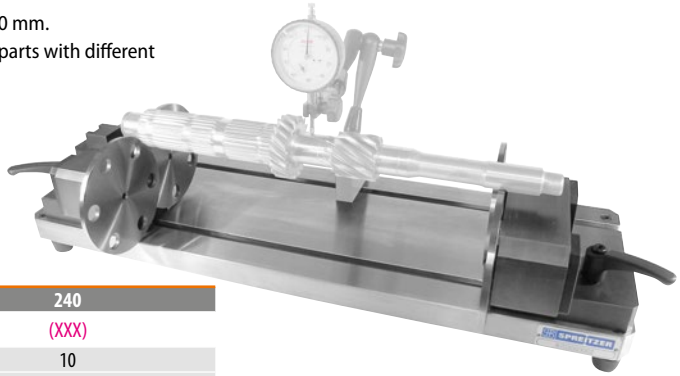
Hardened and ground base plate, bearing body of high-tensile aluminium. Movable scroll plates for high loadings; one of the scroll plates is adjustable for parts with different diameters (up to 60 mm). For correct use an **additional** jointed stand for mounting the dial indicator or lever dial indicator is **required**.

Accuracy: Concentricity **0.002 mm.**

Application: Inspection of axial and radial run-out of rotation parts up to ∅ 240 mm.

Supplied with: Base plate with 2 scroll plates; 1 of the scroll plates adjustable for parts with different diameters (without jointed stand and dial indicator).

Optional extras: Jointed stand with T-nut No. 443295.



44 3230

for maximum workpiece ∅		mm	240
46L	44 3230	Bench centre RPGR	(XXX)
T-slot width H7		mm	10
Footprint length		mm	600
Baseplate width		mm	200
Weight		kg	30

Jointed stands for bench centres No. 443000 / 3210 / 3230

Jointed stand with mechanical central clamping and fine adjustment. Attachment via T-nut in T-slots (10 H7). Dial / digital indicator holder (∅ 8 mm or Vee block).

Suitable for: Bench centre No. 443210.
Bench centre No. 443230, Bench centre No. 443000 size 50 and 75.

44 3295

Throat		mm	130	200
46L	44 3295	Jointed stand with T-nut	(XXX)	(XXX)
Width of T-nut h6		mm	10	

SPREITZER Bench centres RPG Centreless

Robust design with pre-loaded roller bearings.
Type RPG for inspections in series production with 2 pivoting holders and 1 measuring slide (apart from size 30).

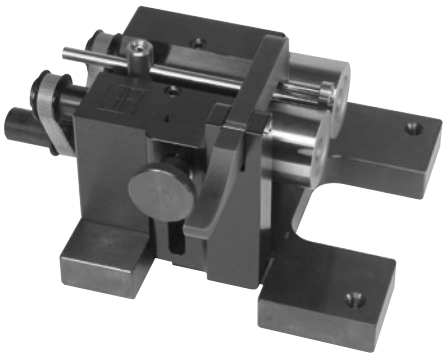
Accuracy: Concentricity **0.002 mm.**

Application: For inspection tasks on external, internal, and flat faces of rotating parts.
Size 30 – Due to the compact design particularly suitable for use on shadowgraphs, optical coordinate measuring machines and contour measurement gauges.

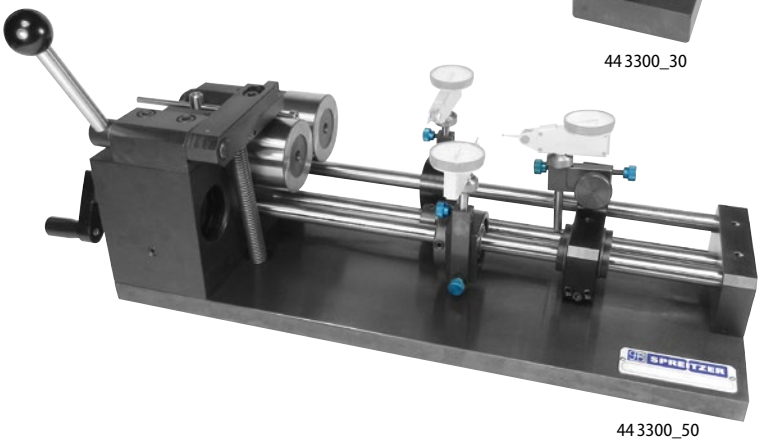
Supplied with: Key and oilstone (without dial indicator).

Optional extras: Cross slide for measurement of flat surfaces.
Measurement slide with centres or coated rollers.
Jointed arm with measuring tool mount.
Carbide-coated rollers.
Electrical drive with variable transformer.
Pneumatic pivoting arm with tensioning roller.

Note: All types are available on request with a different type of roller (grooved rollers or cylindrical rollers).



44 3300_30



44 3300_50

for maximum workpiece ∅		mm	30	40	50
46L	44 3300	Bench centre RPG	(XXX)	(XXX)	(XXX)
Roller type			cylindrical rollers	grooved rollers	cylindrical rollers
for workpiece ∅		mm	3 – 30	2 – 40	4 – 50
Footprint length		mm	120	400	400
Baseplate width		mm	120	160	160
Roll ∅		mm	30	55	50
Weight		kg	10.5	11	11

Standard ▸ E1 ◂ Cal

Garant High precision height gauges with magnifying glass

Strong base with ground standing surface and dirt trap grooves. Ergonomic and comfortable plastic cap with Santoprene® surface. Parallax-free reading with fine, high-contrast scale. **Additional magnifying glass for optimum legibility.** All reading parts are anti-glare satin chrome-plated. With fine setting adjustment and high-speed screw. Flat carbide-tipped scriber for easy marking out even in narrow grooves, exchangeable, marking out from 0. Drawing dimensions can therefore be transferred directly without the risk of calculation errors. Fold-away or removable protection cap for injury-free working.

Supplied with: Scriber No. 444010 size 75.

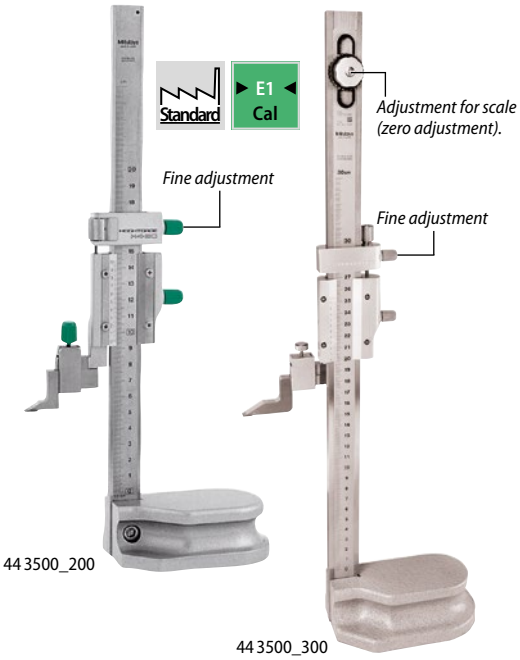
44 3450 _300

Marking height		mm	300	600
41F 44 3450	Precision vernier height gauge **with magnifying glass**		(XXX)	(XXX)
Vernier		mm	1/50	
Error limit		mm	0.05	0.08
Column cross section		mm	30×12	
Base length		mm	165	
Base width		mm	110	

Mitutoyo High precision vernier height gauges

44 3500 – Sturdy base with ground base, **scale hardened and ground.** All reading parts are anti-glare satin chrome-plated. Sharp jet black scales. With fine adjustment. Slightly raised edges to the scale prevent the slide from damaging it. Reading zero and marking scriber are adjusted with reference to the bottom of the base (marking out from "0"). Drawing dimensions can therefore be transferred directly without the risk of calculation errors. The scriber is **carbide tipped.**

Size 300 – With adjustable measuring beam.



44 3500_200
44 3500_300

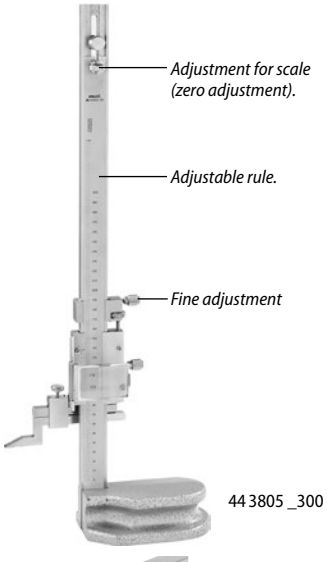
Marking height		mm	200	300
44A 44 3500	Precision vernier height gauge		(XXX)	(XXX)
Vernier		mm	1/50	
Error limit		mm	0.03	0.04
Column cross section		mm	20×6	28×9
Base length		mm	100	135
Base width		mm	65	91

for marking heights		mm	200	300
44A 44 3510	Spare scriber, carbide tipped		(XXX)	(XXX)
Cross-section of arbor		mm	12.7×6.35	9×9

HOLEX Height gauges with magnifying glass

Standard | S/STL | ▸ E1 ◂ Cal

Strong base with lapped standing surface. Reading 0.02 mm with fine adjustment. The scriber is **carbide tipped.** With adjustable measuring beam, magnifying glass and locking screw.



44 3805 _300

Marking height		mm	300	600
42D 44 3805	Vernier height gauge **with magnifying glass**		(XXX)	(XXX)
Vernier		mm	1/50	
Error limit		mm	0.06	
Column cross section		mm	28×9	35×12
Base length		mm	135	175
Base width		mm	90	120

Size E – With rectangular-scriber for free-cutting scribing.

Size R – With rounded scriber for significantly longer working life.

44 3816_E
With square section scriber.

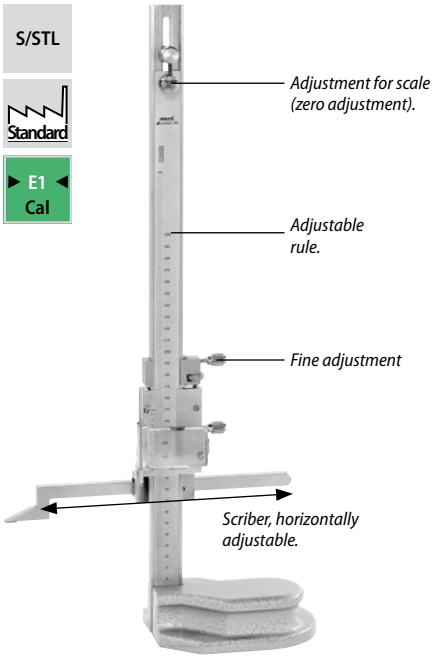
44 3816_R
With round section scriber.

Type			E	R
42D 44 3816	Spare scriber, carbide tipped		(XXX)	(XXX)
Cross-section of arbor		mm	9×8.9	

HOLEX Vernier height gauges

44 3720 – **Strong and sturdy base with a lapped standing surface.** With measuring beam for fine adjustment, magnifying glass and locking screw. Reading 0.02 mm. Reading zero and marking scriber are adjusted with reference to the bottom of the base (marking out from "0"). Drawing dimensions can therefore be transferred directly without the risk of calculation errors. The scriber is **carbide tipped and is longitudinally adjustable by 140 mm** (e.g. where access is difficult). Slim design of the scriber for scribing in narrow slots. Ergonomic shape of the foot prevents collisions between the scriber and the hand.

S/STL | Standard | E1 Cal



44 3720

Marking height		mm	300	600
42D 44 3720	Vernier height gauge with horizontally adjustable scriber		(XXX)	(XXX)
Vernier		mm	1/50	
Error limit		mm	0.06	
Column cross section		mm	28×9	35×12
Base length		mm	145	190
Base width		mm	105	120

Adjustment range		mm	140
42D 44 3730	Spare scriber, carbide tipped		(XXX)
Cross-section of arbor		mm	12×9

Garant Digital height gauges and marking-out systems

Standard | mm / Inch | RS232C | E1 Cal

Strong base with ground standing surface and dirt trap grooves. Ergonomic and comfortable plastic cap with Santoprene® surface. Flat carbide-tipped scriber for easy marking out even in narrow grooves, exchangeable. Fold-away or removable protection cap for injury-free working. Marking out from 0, drawing dimensions can therefore be transferred directly without the risk of calculation errors. Very easy to read, high-contrast 11 mm-high LCD display. Incl. data output. With fine adjustment and locking screw.

Function:
- Zeroing in any position
- Preset
- Selectable mm / inches
- Data output RS232 Proximity
- Hold function

Supplied with: Scriber No. 444010 size 75.
Battery No. 081560 size CR2032.

Optional extras: Data cable No. 498948.

44 4000

Marking height		mm	300	600
41F 44 4000	Digital height gauge and marking-out system with data output		(XXX)	(XXX)
Scale divisions		mm	0.01	
Scale divisions		inch	0.0005	
Error limit		mm	0.04	0.05
Column cross section		mm	30×12	
Base width		mm	110	
Base length		mm	165	

Spare scriber

Spare scriber, carbide tipped.

Suitable for: Height gauges No. 443450 and 444000.

44 4010

Length		mm	75	150
41F 44 4010	Spare scriber, carbide tipped		(XXX)	(XXX)

Mahr Digital height gauges and marking-out systems Digimar

Standard | mm / Inch | RS232C | Digimatic | Reference Lock | E1 Cal

High contrast, 12 mm high LCD display. Stable ergonomic base with hardened and lapped surface for smooth movement without jolts. Beam and slide of hardened stainless steel.
Large handwheel for positioning and measuring.
Additional **fine adjustment and locking screw.**

Supplied with: 1 battery No. 081560 size CR2032,
1 carbide tipped scriber No. 445002.

Optional extras: Holder for lever indicators No. 445004. Data cable No. 498940.

Marking height		mm	350	600
43B	**44 5000**	Digital height gauge and marking-out system with data output	(XXX)	(XXX)
	Scale divisions	mm	0.01	
	Scale divisions	inch	0.0005	
	Error limit	mm	0.04	0.05
	Column cross section	mm	35×15	
	Base length	mm	180	
	Base width	mm	98	
43B	**44 5002**	Spare scriber, carbide tipped	(XXX)	
	Cross-section of arbor	mm	11.5×7	

44 5002 44 5000

Standard | Digimatic | Absolute System | E1 Cal

Mitutoyo Digital height gauge and marking-out system HDS Absolute Digimatic

Large, high contrast LCD display for easy, error-free reading (character height 10 mm).
Rapid and precise adjustment using exact handwheel control.
Robust, stable version with solid base and ergonomically shaped handle for effortless handling.
Zero / ABS for zeroing in any position (e.g. comparative measurement) or return to absolute scale.

Supplied with: 1 battery No. 081560 size 357,
1 carbide tipped scriber No. 443510 size 300 (suitable for both sizes).

Optional extras: Holder No. 445180, data cable No. 497080.

Marking height		mm	300	600
44A	**44 5135**	Digital height gauge and marking-out system with data output	(XXX)	(XXX)
	Scale divisions	mm	0.01	
	Error limit	mm	0.03	0.05
	Column cross section	mm	35×15	
	Battery life approx.	h	2000	
	Base length	mm	160	181
	Base width	mm	122	142

44 5135

HOLEX Digital height gauges and marking-out systems

Standard | mm / Inch | E1 Cal

Digital height gauge and marking out system with fine adjustment. Sturdy stand with ground base.
Easily legible LCD display. Scriber carbide tipped.

Function: Zeroing possible in any position.
Hold function (HOLD).
ABS / INC / TOL and SET.

Supplied with: 1 battery No. 081560 size 357,
1 carbide tipped scriber No. 443851.

Marking height		mm	300	600
42D	**44 3850**	Digital height gauge and marking-out system	(XXX)	(XXX)
	Scale divisions	mm	0.01	
	Scale divisions	inch	0.0005	
	Error limit	mm	0.05	0.07
	Column cross section	mm	23×6.1	30.9×10.7
	Base length	mm	135	180
	Base width	mm	90	120
for marking heights		mm	300	600
42D	**44 3851**	Spare scriber, carbide tipped	(XXX)	(XXX)
	Cross-section of arbor	mm	8×6	12×10

44 3851 44 3850

Mitutoyo Digital height gauges and marking-out systems

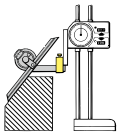
Height gauges and marking-out systems

Standard | Digimatic | E1 Cal

Direct reading from clear digital display. Battery operation with very low current consumption.
Data storage key – The measured result can be stored by pressing a key. All critical parts are hardened. Great stability by two parallel hardened columns with rack teeth on the inner faces (size. 1000 has 3 columns).
2 preset values permit reference values to be saved (e. g. granite table and workpiece).
Carbide tipped scriber. Sturdy base with hardened and lapped surface. Crank on the back of the display housing for quick adjustment and a hand wheel for fine adjustment.

Supplied with: 1 battery No. 081560 size 357, 1 cover, 1 carbide tipped scriber No. 443510.

Optional extras: Square holder No. 445180 for holding dial indicators and lever indicators, centring gauge No. 445250, protractor No. 453500, holder No. 453520, and data cable No. 497080.



With protractor No. 45 3500 and holder No. 45 3520 (not included).

44 5152

Marking height		mm	300	600	1000
44A 44 5152	Digital height gauge and marking-out system		(XXX)	(XXX)	(XXX)
Scale divisions		mm	0.005		
Error limit		mm	0.02	0.05	0.07
Battery life approx.		h	3500		
Base width		mm	91	120	150
Base length		mm	135	180	250

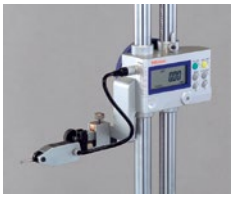
Height gauges and marking-out systems with signal probe

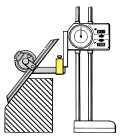
Standard | Digimatic | E1 Cal

Additionally **with signal contact point.** Particularly suitable for absolute measurements, comparison measurements and measurement of chained dimensions.

Application: The probe emits an acoustic signal when it touches the measured face. The measured value is also maintained when moving on (2 mm over-run), easy to use. **The probe tip Ø is automatically compensated.**

Supplied with: 1 battery No. 081560 size 357, 1 cover, 1 carbide scriber No. 445230, 1 signal contact point.





With protractor No. 45 3500 and holder No. 45 3520 (not included).

44 5222

Marking height		mm	300	600
44A 44 5222	Digital height gauge and marking-out system with signal probe		(XXX)	(XXX)
Scale divisions		mm	0.005	
Error limit		mm	0.02	0.04
Battery life approx.		h	3500	
Base width		mm	91	120
Base length		mm	135	180

44A 44 5230	Spare scriber, carbide tipped		(XXX)
Cross-section of arbor		mm	9×9

44 5230

Special accessories for height gauges and marking-out systems

Suitable for: No. 445135, 445152 and 445222.

Universal square holding arm

Application: For holding dial indicators and lever indicators.

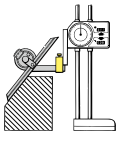
			Bore Ø mm	Shank length mm	Shank width mm	Shank height mm
44A 44 5180	Mitutoyo Universal square holding arm	(XXX)	4; 8	9	9	100

44 5180

Holder for „MARUI KEIK" protractor No. 453500, 453800 and 454000

Application: For clamping the protractor to height gauges and marking-out systems.

46R 45 3520	Holder for clamping the protractor	(XXX)



45 3520

Standard | mm / Inch | TLC | IP 55 | E2 Cal

TESA TESA-HITE MAGNA digital height gauge

High accuracy, **very robust,** manually adjustable height gauges. Dynamic component contact with consistent measuring force. Easy to use, due to large numeric display and symbols for measurement functions.

- **TESA Magna µ magnetic measuring system for use in particularly rough environmental conditions.**
- Large clear display screen with 21 mm character height and intuitive symbols. Colour display and backlighting for better legibility.
- Very long battery life for cordless measurements.
- User-friendly with **multi-lingual context help** in the active functions.
- Significantly faster measurement of the return points (min, max, ∅) by use of **patented Quickcenter Dynamic technology.**

Advantage: Particularly suitable for **use in production areas. Highly immune to the effects of contamination by both solids and liquids.** Front face of the panel protected to IP65, measurement system protected to IP55.

Application: For measuring heights and steps, diameters, hole spacings, slot widths and deviations from parallelism etc.

Supplied with: Base unit with control panel, standard contact point carrier, mains cable, standard contact point with carbide ball ∅ 5 mm, 110 – 240 V power supply unit, rechargeable LI-ion battery. **SCS calibration certificate.**

Optional extras: Various accessories available on request. Contact point set No. 445266 and No. 445267, TLC-BLE radio transmitter No. 498921, data cable No. 498918, spare battery No. 445443 size MH.

44 5240_400

Type		400	700
45A 44 5240	TESA HITE MAGNA digital height gauge	–	–
Measuring range	mm	0 – 415	0 – 715
maximum application range	mm	0 – 570	0 – 870
Graduations can be switched over	mm	0.001 / 0.005 / 0.01	
Error limit (L = meas. length in mm)	µm	8	
Repetition accuracy (2 σ)	µm	<3	
Measurement slide movement		manual	
Gauging force	N	1.5 ± 0.5	

Standard | mm / Inch | TLC | E2 Cal

TESA TESA HITE digital height gauge

High accuracy, **very robust,** manually adjustable height gauges. Dynamic component contact with consistent measuring force. Easy to use, due to large numeric display and symbols for measurement functions.

- **TESA Opto-µ opto-electronic measuring system.** Incrementally graduated glass scale with reference point for high accuracy.
- Large clear display screen with 21 mm character height and intuitive symbols. Colour display and backlighting for better legibility.
- Very long battery life for cordless measurements.
- User-friendly with **multi-lingual context help** in the active functions.
- Significantly faster measurement of the return points (min, max, ∅) by use of **patented Quickcenter Dynamic technology.**
- **Air pad for easy, jerk-free working.**

Advantage: Particularly suitable for **use in production areas.** Front face of the panel protected to IP65.

Application: For measuring heights and steps, diameters, hole spacings, slot widths and deviations from parallelism etc.

Supplied with: Base unit with control panel, standard contact point carrier, mains cable, standard contact point with carbide ball ∅ 5 mm, 110 – 240 V power supply unit, rechargeable LI-ion battery. **SCS calibration certificate.**

Optional extras: Various accessories available on request. Contact point set No. 445266 and No. 445267, TLC-BLE radio transmitter No. 498921, data cable No. 498918, spare battery No. 445443 size MH.

44 5245_400

Type		400	700
45A 44 5245	TESA HITE digital height gauge	–	–
Measuring range	mm	0 – 415	0 – 715
maximum application range	mm	0 – 570	0 – 870
Graduations can be switched over	mm	0.0001 / 0.001 / 0.01	
Error limit (L = meas. length in mm)	µm	2.5 + 4L / 1000	
Repetition accuracy (2 σ)	µm	2	
Rectangularity error (frontal)	µm	9	13
Measurement slide movement		manual	
Gauging force	N	1.5 ± 0.5	

Standard | mm / Inch | Digimatic | Absolute System | E2 Cal

Mitutoyo Digital height gauge QM-Height

High-accuracy compact height gauge with manual adjustment and easy-to-read monochrome LCD display. Many measurement and analysis functions for data processing. Quick and easy selection of functions and all leading calculations of internal and external diameters, as well as distances. Unlimited speed of positioning. Improved battery life.

44 5234 – **Air pad for easy, jerk-free movement.**

Application: Ideal for the workshop and inspection room.

Supplied with: Supplied with ball contact point 5 mm ∅, calibration block, 4 batteries No. 081561 size LR6.

Optional extras: Contact point, marking out scriber, data cable and mains adaptor.

44 5233_600

Type		350	600
44B 44 5233	Digital height gauge QM-Height	–	–
44B 44 5234	Digital height gauge QM-Height with air pad	(XXX)	(XXX)
Measuring range	mm	0 – 350	0 – 600
maximum application range	mm	0 – 465	0 – 715
Graduations can be switched over	mm	0.001 / 0.0005	
Error limit (L = meas. length in mm)	µm	2.4 + 3.5 L / 1000	
Repeatability plane	µm	1.8	
Rectangularity error (frontal)	µm	7	12
Measurement slide movement		manual	
Gauging force	N	1.5 ±0.5	

Standard | mm / Inch | TLC | E2 Cal

TESA Digital height gauge TESA MICRO-HITE

TESA MICRO-HITE manually adjustable digital height gauge for comprehensive measurements in 1D or 2D coordinate measuring systems.

- Incrementally graduated glass scale with reference point.
- Automatic correction of systematic measurement variations ensures very high accuracy. Coefficient of linear expansion equals that of steel.
- Switchable air support cushion
- User-friendly with **multi-lingual context help** in the active functions.

Software / measuring functions

- Comprehensive measurement facilities such as parallelism, angular measurements, simple 2D measurements, etc.
- Integral computer.
- Automatic calculation of measurement results by repeated use of programs stored as functions.
- Input facility for customer-specific tolerances. ISO tolerances are automatically incorporated in the software. **Direct and clear information to the user regarding OK/reject**.
- Easy generation of test reports.

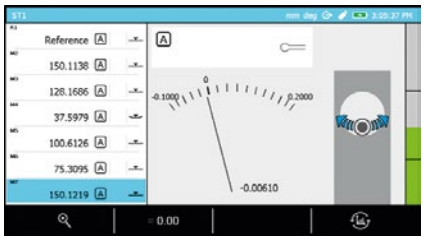
Hybrid control panel

- Backlit keyboard with clear simplified presentation and clear information.
- Convenient and flexible operation with parallel use of the keyboard and touch display.
- Ergonomic posture due to flexible adjustment of the control panel.

Advantage: Significantly faster measurement of the return points (min, max, ∅) by use of the patented Quick-Center technology. All measurements shown visually for information in noisy environments.

Supplied with: TESA MICRO-HITE base unit incl. control panel, standard contact point carrier, standard contact point with contact rod and 5 mm ∅ measurement ball, reference piece, electric pump (fitted) for air pad for the gauge base, battery cartridge (rechargeable Lithium-ion battery), mains adaptor (charger), mains cable. **SCS calibration certificate.**

Optional extras: USB printer No. 445293; printer paper No. 445294; data cable No. 498918 size USB; Data-Direct software No. 498925; Stat-Express software No. 498926; radio transmitter TESA BLE No. 498921 size BT; spare battery No. 445443 size MH; dust cover; comprehensive range of accessories (such as for measuring squareness) available on request.



Simple measurement of the return points by Quick-Centre technology.

Quick and easy measurement of series production.

Visual information for measurement in noisy environments.

44 5285_600

Type		350	600	900
45B 44 5285	TESA MICRO-HITE digital height gauge including control panel	–	–	–
45B 44 5287	TESA MICRO-HITE digital height gauge including control panel and fine adjustment	–	–	–
Measuring range	mm	350	600	900
maximum application range	mm	0 – 520	0 – 770	0 – 1075
Graduations can be switched over	mm	0.01 / 0.001 / 0.0001		
Error limit (L = meas. length in mm)	µm	2 + 2L / 1000		
Repetition accuracy (2 σ)	µm	≤ 1		
Rectangularity error (frontal)	µm	7	9	11
Measurement slide movement		manual		
Gauging force	N	1.6 ±0.25		
Weight	kg	33	37	45

Standard | mm / Inch | RS232C | E2 Cal

Mahr

Digital height gauges Digimar

Measuring system:

- Outstanding measuring accuracy and reliability due to optical incremental measuring system with double reading head.
- Dynamic probe system for high repeatability.
- Air suspension for easy movement without jerking.
- Precise measuring head guidance on stainless steel slides.
- Easy measuring procedures due to motorised measurement slides.
- Button settings retained at power off.
- Integrated rechargeable battery for cordless measurements.

Control and display unit:

- Large and clear function buttons.
- Easily readable LCD graphics display with background illumination.
- User guidance via self-explanatory icons.
- Facility for setting additional zero points on the component.
- With temperature compensation using temperature sensor.

Supplied with: Supplied with control and display unit, carrier No. 445410 size T6, contact point No. 445420 size K6/51, setting block, power supply unit No. 445432, NiMH battery No. 445430 and instruction manual.

Optional extras: Dial indicator sets No. 445400.

_350 _600

Easy-to-operate standard measurement functions with semi-automatic process.

Measurement programme for series parts.

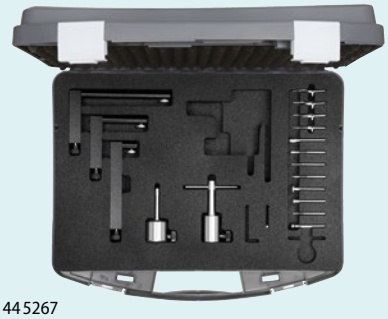
Consistent measurement results due to the motorised measurement slide.

Type		350	600
43B 44 5320	Digital height gauge Digimar	–	–
Measuring range	mm	350	600
maximum application range	mm	0 – 520	0 – 770
Graduations can be switched over	mm	0.01 / 0.001	
Error limit (L = meas. length in mm)	µm	2.8 + L / 300	
Repeatability plane	µm	2	
Repeatability hole	µm	3	
Rectangularity error (frontal)	µm	15	20
Gauging force	N	1.0 ±0.2	
Length of base	mm	240	
Width footprint	mm	250	
Overall height	mm	741	985
Weight	kg	25	30

Garant **Contact point sets for digital height gauges can be found on page 147**

Mahr TESA

44 5266



44 5267

44 5400

Standard | mm / Inch | RS232C | E2 Cal

Digital height gauges

Measuring system:
- Outstanding measuring accuracy and reliability due to optical incremental measuring system with double reading head.
- Dynamic probe system for high repeatability.
- Air bearings system for easy movement without jerking.
- Precise measuring head guidance on stainless steel slides.
- Easy measuring procedures due to motorised measurement slides.
- Button settings retained at power off.
- Integrated rechargeable battery for cordless measurements.
- Temperature compensation using internal temperature sensor.

Control and display unit:
- Large and clear function buttons.
- Easily readable LCD graphics display with background illumination.
- User guidance via self-explanatory icons in several languages.
- Facility for setting additional zero points on the component.
- Saving of measured data on integrated USB memory.
- Additional measuring device can be connected to the Opto RS232C interface.
- Future-proof as it can be updated.
- Automatic stand-by circuit (no loss of measured values).

Additional 2D measurement functions:
- Compensation circle.
- Distance and angle of 2 elements.
- Angle between 3 elements.
- Angle within a cone.
- Coordinate transformations.

Statistical evaluation:
- Statistical analysis of individual features.
- Histograms.
- Process control cards.
- Pareto charts.
- Creation of production and inspection plans.
- Direct print-out on a USB printer.

Supplied with: Control and display unit. Carrier No. 445410 size T6, contact point No. 445420 size K6/51, setting block, power supply unit No. 445432, NiMH battery No. 445430 and instruction manual.

44 5350_600 | 44 5370_600

Type			350	600	1000
41F 44 5350	Garant	Digital 2D height gauge HC1	(XXX)	(XXX)	–
43B 44 5370	Mahr	Digital 2D height gauge Digimar	–	–	–
Measuring range		mm	350	600	1200
maximum application range		mm	0 – 520	0 – 770	0 – 1170
Graduations can be switched over		mm	0.01 / 0.005 / 0.001 / 0.0005 / 0.0001		
Error limit (L = meas. length in mm)		µm	1.8 + L / 600		
Repeatability plane		µm	0.5		
Repeatability hole		µm	1		
Rectangularity error (frontal)		µm	5	6	10
Gauging force		N	1.0 ±0.2		
Length of base		mm	240		
Width footprint		mm	250		
Overall height		mm	741	985	1392
Weight		kg	25	30	35

Mahr Digimar 817 CLT height gauge

Discover the new Digimar 817 CLT height gauge.
Please contact us.

Outstanding handling
- Dynamic thumbwheel for quick and precise positioning.
- Ergonomic handles with integral air bearing button for easy movement on the measuring plate.

Easy touch operation
- Large touch control panel for very simple, easy operation using large operating buttons.
- Quick and reliable execution of measurements and calculations.

Excellent evaluation possibilities
- Logs can be saved directly as a PDF.
- Wireless transmission of lists of measured value to Bluetooth printer.
- Direct transmission of measured values wirelessly or via USB.

Standard | mm / Inch | RS232C

Mitutoyo Digital height gauges LH-600E

Digital height gauge LH-600E, new generation with the **highest accuracy** in its class. Easy to use thanks to self-explanatory control panel with menu commands in the display, large 14.5 cm colour display with backlighting and pneumatic movement mechanism. Ideally suited for use in the production environment, thanks to automatic operation with previously learned part programs, GO / NOGO feedback on every measurement and cordless operation thanks to a rechargeable battery (approx. 5 hours). DIGIMATIC data input for digital indicators. Functions for 1D and 2D measurements and evaluations, tolerance evaluations with alarm function and statistical processing / evaluations. Use of USB sticks 8 GB and larger.

Size 600EG – With handle for better handling of the gauge.

Supplied with: Ball contact point Ø 5 mm with mounting, calibration block (also for conical points), mains adapter, NiMH battery, and cover.

_600E

Type		600E	600EG
44B 44 5390	Digital height gauge Linear Height	–	–
Measuring range	mm	600	
maximum application range	mm	0 – 972	
Graduations can be switched over	mm	0.1 / 0.01 / 0.001 / 0.0001	
Error limit (L = meas. length in mm)	µm	1.1 + 0.6 L / 600	
Repeatability plane	µm	0.4	
Straightness	µm	4	
Rectangularity error (frontal)	µm	5	
Version		without handle	with handle
Gauging force	N	1	
Overall height	mm	1013	
Weight	kg	24	

Standard | mm / Inch | TLC | E2 Cal

TESA Digital height gauge TESA MICRO-HITE + M with motorised drive

TESA MICRO-HITE motorised digital height gauge for comprehensive measurements in 1D or 2D coordinate measuring systems.

- Incrementally graduated glass scale with reference point. Patented opto-µ reading system.
- Automatic correction of systematic measurement variations ensures very high accuracy. Coefficient of linear expansion equals that of steel.
- Very high repetition accuracy due to constant gauging force.
- Switchable air support cushion.
- User-friendly application by **multi-lingual context help** in the active functions.

Software / measuring functions

- Comprehensive measurement facilities such as parallelism, angular measurements, simple 2D measurements, etc.
- Integral computer.
- Easy generation of test reports.
- Automatic calculation of measurement results by repeated use of programs stored as functions.
- Input facility for customer-specific tolerances. ISO tolerances are automatically incorporated in the software. **Direct and clear information to the user regarding OK/reject.**

Hybrid control panel

- Backlit keyboard with **clear simplified presentation** and clear information.
- Convenient and flexible operation with parallel use of the keyboard and touch display.
- Ergonomic posture due to flexible adjustment of the control panel.

Advantage: All measurements shown visually for information by LED in noisy environments.

Supplied with: TESA MICRO-HITE base unit incl. control panel, standard contact point carrier, standard contact point with contact rod and Ø 5 mm measurement ball, reference piece, electric pump (fitted) for air pad for the gauge base, Li-ion battery No. 445443 size MH; mains adaptor (charger), mains cable. **SCS calibration certificate.**

Optional extras: USB printer No. 445293; printer paper No. 445294, data cable No. 498918 size USB; Data-Direct software No. 498925, TLC-BLE radio transmitter No. 498921 size BT, Stat-Express software No. 498926. Dust cover. Comprehensive optional accessories (such as for measuring squareness) available on request.

Integral computer.

Detailed information about OK / scrap.

44 5290

Type		M900	M350	M600
45B 44 5290	Digital height gauge TESA MICRO-HITE + M with motorised drive **including control panel**	–	–	–
Measuring range	mm	900	350	600
maximum application range	mm	0 – 1075	0 – 520	0 – 770
Graduations can be switched over	mm	0.01 / 0.001 / 0.0001		
Error limit (L = meas. length in mm)	µm	1.8 + 2L / 1000		
Repeatability plane	µm	≤ 0.5		
Repeatability hole	µm	≤ 1		
Rectangularity error (frontal)	µm	11	7	9
Measurement slide movement		motorised		
Gauging force	N	1.6 ±0.25		
Weight	kg	45	33	37

TESA Contact point set for TESA digital height gauges

Suitable for: TESA-HITE Magna No. 445240, TESA-Hite Magna No. 445260, TESA HITE No. 445245, TESA HITE No. 445261, TESA MICRO-HITE No. 445264; 445285; 445287; TESA MICRO-HITE plus M No. 445275; 445290, TESA-HITE plus M No. 445270.

Supplied with: Including plastic box.

		4	17
45A 44 5266	Contact point set small	(XXX)	–
45A 44 5267	Contact point set large	–	(XXX)
Content: Carbide ball ∅ 3 mm (44 5266)		No. 445455 size 3	–
Carbide washer ∅ 14 mm (44 5266)		No. 445456 size 14	–
Carbide cylinder ∅ 2 mm (44 5266)		No. 445457 size 2	–
Contact rod ∅ 6 mm		No. 445458 size 6	
Carbide ball ∅ 3 mm; 10 mm (44 5267)		–	No. 445455 size 3; 10
Carbide washer ∅ 4.5 mm; 14 mm; 19 mm (44 5267)		–	No. 445456 size 4.5; 14; 19
Cylindrical carbide measuring face ∅ 2 mm (44 5267)		–	No. 445457 size 2
Barrel-shaped carbide measuring face ∅ 2.2 mm; 4.5 mm; 9.7 mm (44 5267)		–	No. 445459 size 2.2; 4.5; 9.7
Cylindrical carbide measuring face ∅ 10 mm; length 12 mm (44 5267)		–	No. 445460 size 10
Measuring tip carriers length 25 mm; 75 mm; 150 mm (44 5267)		–	No. 445461 size 25; 75; 150
Carbide contact rod and carbide ball ∅ 1 mm; 2 mm; 3 mm (44 5267)		–	No. 445462 size 1; 2; 3

44 5266

44 5267

Contact point sets for digital height gauges

Suitable for: Digital height gauges: HC1 No. 445350, 817 CLM No. 445370 and 816 CL No. 445320.

Supplied with: Including plastic box.

Contents (pieces)		6	11
43B 44 5400	Mahr Contact point set	(XXX)	(XXX)
Content: Carrier for measuring probe with shank 6 mm		No. 445410 size T6/100	
Carbide washer ∅ 15 mm		No. 445412 size 15	
Cylinder ∅ 10 mm		No. 445413 size 10	
Carbide taper ∅ 30 mm		No. 445414 size 30	
Depth contact point including carrier (TMT120)		No. 445415 size 120	
M2 carrier with measuring probe		No. 445416 size 2	
Carrier for measuring probe with shank 8 mm		–	No. 445410 size T8
Carbide balls ∅ 4 mm; 6 mm; 10/60 mm; 10/100 mm		–	No. 445420 size K4/30; K6/40; K10/60; K10/100

44 5400

General-purpose contact point set for digital height gauges

Suitable for: Digital height gauges HC1 No. 445350, 817 CLM No. 445370.

Supplied with: Wooden case

Number of individual parts		10
42D 44 5406	Universal contact point set	(XXX)
Content: Carrier for measuring probe with shank 6 mm		No. 445422 size 6
Contact point holder ∅ 0.5 mm		No. 445423 size 0.5
Contact pointer ∅ 1.2 mm		No. 445424 size 1.2
Tapered contact point ∅ 8 mm		No. 445425 size 8
2 × extension length 20 mm		No. 445426 size 20/M3; 20/M2.5
Ball ∅ 0.9 mm; 1.9 mm; 2.9 mm		No. 445427 size 0.9; 1.9; 2.9

44 5406

USB printer for TESA height gauges

Suitable for: TESA MICRO-HITE No. 445285, 445287 and TESA MICRO-HITE + M No. 445290.

Optional extras: Thermal paper for USB printer No. 445294.

45A 44 5293	TESA USB printer for MICRO-HITE	–

44 5293

Thermal paper for USB printer

Supplied with: 4 rolls.

45A 44 5294	TESA Thermal paper for USB printer	(XXX)

44 5294

HOLEX Marking gauge with rod

Sturdy, round measuring rod with precise mm graduation and guide groove. Slide with stop disc and 1/10 vernier. With exchangeable scriber ∅ 5 mm.

Scribe reach	mm	300	500
42D 44 5500	Marking gauge with rod	(XXX)	(XXX)
Graduation/scale	mm	0.1	
42D 44 5600	Spare scriber for No. 445500	(XXX)	

A2 Cal

44 5500

44 5600

HOLEX Trammel head and beam

Strong flat steel measuring beam with precise mm graduation; replaceable, hardened silver steel points. Trammel head with 1/10 vernier and fine adjustment.

Measuring range / Scribe reach	mm	500	1000	2000
42D 44 5800	Trammel head and beam with fine adjustment	(XXX)	(XXX)	(XXX)
Graduation/scale	mm	0.1		
42D 44 5900	Pair of spare points for No. 445800	(XXX)		

44 5800

44 5900

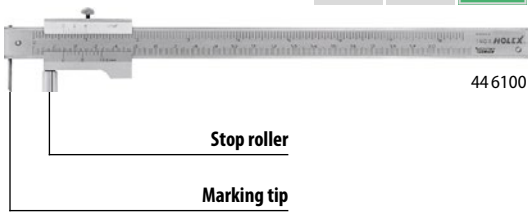
HOLEX Marking vernier calipers

Measuring beam with precise graduation. Carbide scriber; trammel head with vernier and stop roller.

Application: For marking out parallel lines.

Scribe reach	mm	200
42D 44 6100	Marking vernier caliper	(XXX)
Graduation/scale	mm	0.1
Graduation/scale	inch	1/128
42D 44 6110	Spare carbide scriber for No. 446100	(XXX)

S/STL mm/Inch A2 Cal



44 6100

44 6110

S/STL A2 Cal

Mitutoyo Marking vernier calipers

Satin chromium plated anti-glare scales. Fine, high-contrast scale. Carbide-tipped measuring faces for scribing.

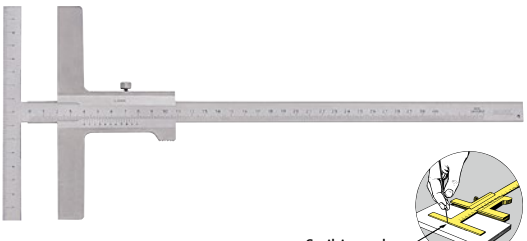
Measuring range	mm	150	200	300
44A 44 6120	Marking vernier calipers	(XXX)	(XXX)	(XXX)
Scale divisions	mm		0.05	
Graduation	mm		1/20	
Jaw length	mm	40 / 33	50 / 43	64 / 54

Standard S/STL A1 Cal

HOLEX Marking vernier calipers

Satin chrome-plated, with cleanly engraved scale.

Measuring range	mm	200	300	400
42D 44 6300	Marking vernier caliper	(XXX)	(XXX)	(XXX)
Graduation/scale	mm		0.05	
Length of marking edge	mm	135	160	160



Scribing edge

S/STL ▸ F8 Cal

HOLEX Marking gauges with flat slider

Satin surface with cleanly engraved scale.

Scribe reach		mm	200	250	300
42D 44 6150	Marking gauge with flat slide		(XXX)	(XXX)	(XXX)
Graduation/scale		mm	0.1		
Width of marking edge		mm	40		

44 6150

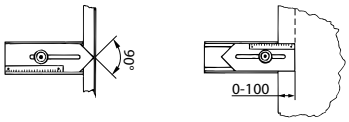
S/STL ▸ F8 Cal

HOLEX Marking rules

Adjustable rule with one straight and one 90° pointed end. The rule can be clamped firmly in any setting.

Application: A stop on the component allows quick, accurate marking out to rule scale as well as marking 45° and 90° mitres.

For scribing lines at 45° to the edge of the component (mitres etc.).



For scribing straight lines to the edge of the component.

Measuring and marking range		mm	100	200
42D 44 6350	Marking rule stainless steel		(XXX)	(XXX)

▸ i Cal

HOLEX Vee block pairs

Of dense non-porous special casting. Machined as a pair, Vee angle 90°.

44 6420 – Vee blocks and base face milled. **Parallelism tolerance 0.064 mm.**

44 6600 – Vee blocks and base face ground. **Flatness and parallelism tolerance 0.01 mm.**

Length×Width		mm	100×40	150×50	200×70
42D 44 6420	Pair of Vee blocks		(XXX)	(XXX)	(XXX)
42D 44 6600			(XXX)	(XXX)	(XXX)
for shaft ∅		mm	6 – 40	8 – 50	8 – 70
Height		mm	30	40	50
Weight each		kg	0.6	1.4	2.85

44 6600

▸ i Cal

HOLEX Vee block pairs, precision version

Precision version of hardened steel. Finish ground in pairs, 90° Vee angle. **Flatness and parallelism tolerance 0.004 mm.**

Length×Width		mm	75×35	100×47	150×55	200×65	250×85
42D 44 6650	Pair of Vee blocks		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
for shaft ∅		mm	5 – 40	5 – 55	5 – 60	5 – 75	5 – 100
Height		mm	30	40	45	55	70
Weight each		kg	0.48	1.1	2.2	4.25	8.6

▸ i Cal

HOLEX Double Vee blocks with clamp

Hardened steel, stress-relieved and precision ground in pairs. **Flatness and parallelism tolerance 0.01 mm.** Different depths of Vee-section; 2 support faces. Sturdy bench clamp with handle for clamping the components.

Length×Width		mm	45×40	70×45
42D 44 7000	Pair of double Vee blocks with clamp		(XXX)	(XXX)
42D 44 7100	Single double Vee block with clamp		(XXX)	(XXX)
for shaft ∅		mm	6 – 30	6 – 33
Height		mm	36	40
Weight each		kg	0.5	0.85

44 7000

Double Vee blocks with clamp, precision version

Precision version, **flatness and parallelism tolerance 0.004 mm.** Vee blocks of hardened steel, stress-relieved and precision ground. Different depths of Vee-section; 2 support faces. Sturdy bench clamp with handle for clamping the components.

44 7020 – Made of stainless steel.

Length×Width	mm	50×40	75×55	100×75
42D 44 7010	Pair of double Vee blocks with clamp	(XXX)	(XXX)	(XXX)
42D 44 7020	Pair of double Vee blocks with clamp **stainless steel**	(XXX)	(XXX)	(XXX)
for shaft ∅	mm	5 – 30	5 – 50	7 – 70
Height	mm	40	55	75
Weight each	kg	0.55	1.4	3.2

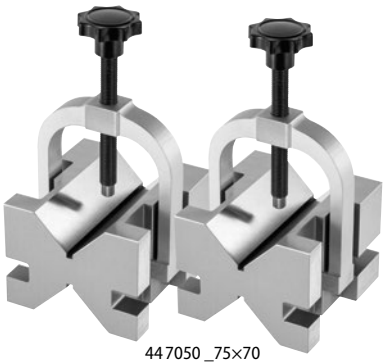
44 7010

Double Vee block pairs with clamp

Of hardened special steel with two 90° Vees. Side, end, and standing faces precision ground relative to the Vees. **Flatness and parallelism tolerance 0.004 mm.**

Advantage: Can also be used horizontally.

Length×Width	mm	60×58	75×70	100×96
42D 44 7050	Pair of double Vee blocks with clamp	(XXX)	(XXX)	(XXX)
for shaft ∅	mm	5 – 30	5 – 30	7 – 70
Height	mm	40	54	75
Weight each	kg	0.65	1.3	3.55

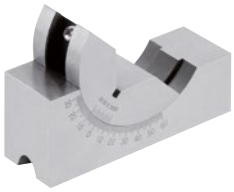


44 7050 _75×70

Vee block, adjustable

Hardened steel, stress-relieved and precision ground.
Angle reading and adjustment using a vernier.
Can be locked with set screw. **Flatness tolerance 0.01 mm.**

Length×Width	mm	75×25	102×30
42D 44 7070	Vee block adjustable	(XXX)	(XXX)
Angle reading	arcmin	10	
Angular accuracy	arcmin	10	
for shaft ∅	mm	6 – 28	6 – 40
Weight	kg	0.5	1



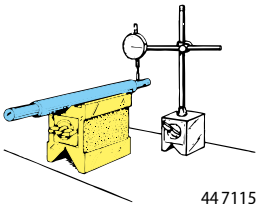
Magnetic Vee block

Three magnetic contact faces (small Vee, large Vee, upper and lower faces activated simultaneously). All faces hardened. The front and side faces are ground at right angles to the Vee blocks. **Flatness and parallelism tolerance 0.01 mm.**

44 7125 – The Vee blocks are ground as a matched pair.

Length×Width	mm	70×55	80×70	120×70
42D 44 7115	Single magnetic Vee block	(XXX)	(XXX)	(XXX)
42D 44 7125	Pair of magnetic Vee blocks	(XXX)	(XXX)	(XXX)
Height tolerance of pair (44 7125)	mm		0.02	
for shaft ∅	mm	3 – 40	5 – 60	5 – 60
Height	mm	75	95	95
Weight each	kg	1.8	3.5	5

44 7125



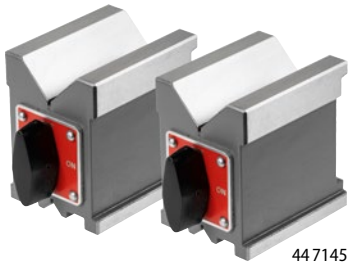
44 7115

See No. 44 0620 and 44 2120 – 2140 for magnetic bases with Vee soles.

HOLEX Precision magnetic Vee block

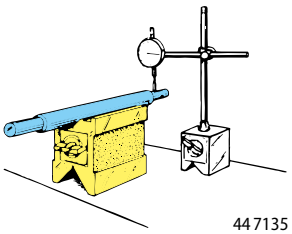
Three magnetic contact faces (small Vee, large Vee, upper and lower faces activated simultaneously). The front and side faces are ground at right angles to the Vee blocks. **Flatness and parallelism tolerance 0.004 mm.**

44 7145 – The Vee blocks are ground as a matched pair.



44 7145

Length×Width		mm	70×55	80×70	120×70
42D 44 7135	Single magnetic Vee block		(XXX)	(XXX)	(XXX)
42D 44 7145	Pair of magnetic Vee blocks		(XXX)	(XXX)	(XXX)
Height tolerance of pair (44 7145)		mm		0.02	
for shaft ∅		mm	3 – 40	5 – 60	5 – 60
Height		mm	75	95	95
Weight each		kg	1.8	3.2	4.8



44 7135

DIN 875/00 S/STL

Garant Precision bevel squares stainless, hardened

Very high accuracy. With two bevelled straight edges on the long blade.
Through hardened and stress-relieved. Test faces ground and lapped, other faces ground.

45 0020 – **With sturdy stock.**

Application: For inspection work using the light gap principle.

45 0010

45 0020

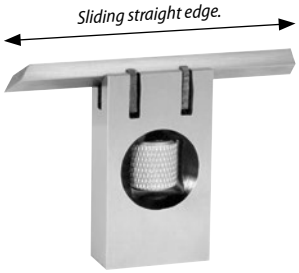
Stock length		mm	50×40	75×50	100×70	150×100	200×130
41G 45 0010	Bevel edge square, flat version **stainless, accuracy class 00**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
41G 45 0020	Bevel try square hardened **stainless, accuracy class 00**		–	(XXX)	(XXX)	(XXX)	(XXX)
Right angle tolerance		mm	0.003	0.003	0.003	0.004	0.004
Shank cross-section (45 0010)		mm	13×4	15×4	20×5	30×6	33×7
Cross-section of long arm (45 0020)		mm	–	18×3	20×3.5	22×4	26×5
Cross-section of short arm (45 0020)		mm	–	16×12	18×12	22×12	26×14

DIN 875/00 S/STL

Garant Adjustable bevel square

High precision body with continuously adjustable **sliding bevelled straight edge.**
All measuring faces ground and lapped; square through hardened.

Application: For inspection work using the light gap principle.
The sliding straight edge also allows inspection work to be carried out on short, chamfered offsets, recesses etc.



41G 45 0030	Bevelled square with axially sliding straight edge **stainless, accuracy class 00**		(XXX)
Right angle tolerance		mm	0.007
Straight edge length		mm	60
Straight edge cross-section		mm	4×4
Base body width		mm	40
Base body height		mm	10
Base body depth		mm	22

DIN 875/00 | S/STL | ▶ F1 ◀ Cal

Garant Die maker's square

Highest accuracy. Bevelled edge on long narrow blade.
High-tensile steel, fully hardened and stress-relieved.
Test faces ground and lapped. All other faces ground.
Application: For jig and tool making.

Bevelled blade.

Stock length		mm	25×20	40×28
41G 45 0040	Die maker´s square hardened **stainless, accuracy class 00**		(XXX)	(XXX)
Right angle tolerance		mm	0.003	
Cross-section of short arm		mm	4×3.5	

45

S/STL | ▶ S16 ◀ Cal

Garant Measuring tool set, 5 pieces

Supplied with:
- Straight edge No. 460095 size 100.
- Bevel square No. 450010 size 75×50
- Die maker's square No. 450040 size 25×20 and size 40×28.
- Gauge block marking scriber 60×8×8 mm.

41G 45 0050	Measuring tool set, 5 pieces	(XXX)

DIN 875 | S/STL | ▶ F1 ◀ Cal

Garant Stock square and try square accuracy class 0

Precision squares of stainless steel, fully hardened and stress relieved.
Test faces ground and very precisely adjusted, all other faces ground.
Accuracy: **DIN 875 / 0** – angle tolerance e.g. for size 100×70 = 0.007 mm.
Application: For inspection and high precision work.

Stock square

Try square

Stock length		mm	50×40	75×50	100×70	150×100	200×130
41G 45 1010	Stock square **stainless, accuracy class 0**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
41G 45 1020	Try square **stainless, accuracy class 0**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Right angle tolerance		mm	0.007	0.007	0.007	0.008	0.009
Shank cross-section		mm	15×4	15×4	20×5	30×6	30×7

DIN 875 | S/STL | ▶ F1 ◀ Cal

Garant Stock square and try square accuracy class 1

All faces and edges precision ground. Inspection test faces finish ground.
Stock squares of stainless steel, fully hardened and stress relieved.
Size 75×50–200×130 – Supplied in a plastic box.
Size 250×165–500×330 – Protective packaging for safe transport.
Accuracy: **DIN 875 / 1** – angle tolerance e.g. for size 100×70 = 0.015 mm.
Application: For inspection and high precision work.

Stock square

Try square

Stock length		mm	75×50	100×70	150×100	200×130	250×165	300×200	400×265	500×330
41G 45 1030	Stock square **stainless, accuracy class 1**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	XXX	(XXX)	(XXX)
41G 45 1040	Try square **stainless, accuracy class 1**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Right angle tolerance		mm	0.014	0.015	0.018	0.02	0.023	0.025	0.03	0.035
Shank cross-section		mm	15×4	20×5	30×6	30×7	35×7	40×8	45×10	50×10

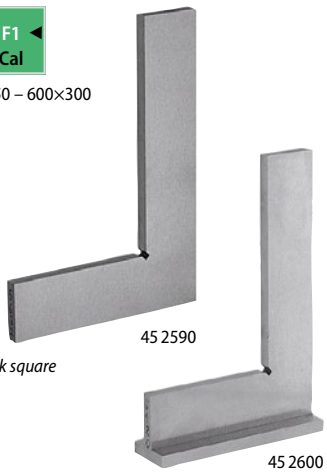
DIN 875

Stock square and try square accuracy class 2

All faces and edges ground. Inspection test faces ground.
Accuracy: **DIN 875 / 2** – angle tolerance e.g. for size 100×70 = 0.030 mm.
Application: For accurate general workshop work.

F1 Cal

Size 75×50 – 600×300



45 2590 Stock square

45 2600 Try square

Stock length		mm	75×50	100×70	150×100	200×130	250×165	300×175
42F 45 2590	Stock square **Accuracy class 2**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42F 45 2600	Try square **Accuracy class 2**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Right angle tolerance		mm	0.028	0.03	0.035	0.04	0.045	0.05
Shank cross-section		mm	15×5	20×5	25×5	30×6	35×7	35×7

Stock length		mm	400×200	500×250	600×300	750×375	1000×500
42F 45 2590	Stock square **Accuracy class 2**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42F 45 2600	Try square **Accuracy class 2**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Right angle tolerance		mm	0.06	0.07	0.08	0.095	0.12
Shank cross-section		mm	35×7	40×8	40×8	45×10	50×10

Wooden case for stock squares and try squares

Suitable for: Stock squares and try squares No. 451010 – 452600.

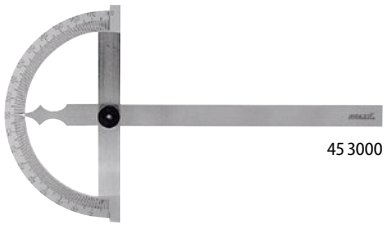
45 1600_200×130

for stock length		mm	75×50	100×70	150×100	200×130	250×165	300×200	400×265	500×330
42F 45 1600	Wooden case		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Standard S/STL F3 Cal

Protractor reading 1°

Open semicircular graduated arc with graduation 0 – 180°; reading 1°.
Non-glare matt chrome-plated scale. With clamping nut.



45 3000

Graduated arc ∅×Stock length		mm	80×120	120×150	150×200	200×300
42F 45 3000	Protractor with open graduated arc		(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		degrees	1			
Error limit		arcmin	±30			

Solid semicircular graduated arc with graduation 0 – 180°; reading 1°.
Scale plate non-glare chrome-plated. With clamping nut.

45 3200

Graduated arc ∅×Stock length		mm	85×150
42F 45 3200	Protractor with solid graduated arc		(XXX)
Scale divisions		degrees	1
Error limit		arcmin	±30

With longitudinally adjustable beam; beam end tapered 45°.
Open graduated arc with graduation 10 – 170°; reading 1°.
Scale anti–glare satin chrome plated. With clamping nut.

45 3400

Graduated arc ∅×Stock length		mm	100×150	150×300	200×400	300×600
42F 45 3400	Protractor with adjustable beam		(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		degrees	1			
Error limit		arcmin	±30			

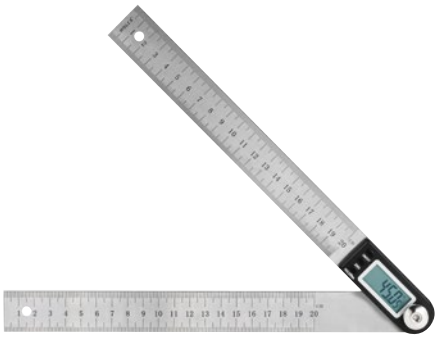
45

Standard

HOLEX Digital protractors

For easy measurement and transfer of angles on components. Easy-to-read display. Numeric value can be rotated through 180°. Zeroing in any position. Upper and lower edges both with 1 mm graduations.

Supplied with: 1 battery No. 081560 size CR2032



Stock length	mm	200	300
42F 45 3430	Digital protractor	(XXX)	(XXX)
Measuring range	degrees	360	
Scale divisions	degrees	0.05	
Error limit	degrees	± 0.3	

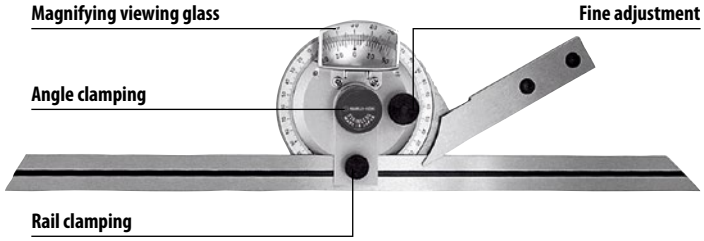
Standard S/STL F4 Cal

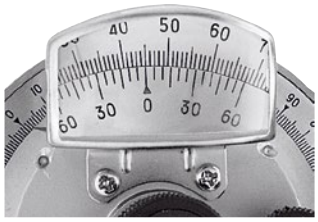
MARUI-KEIKI Universal protractor reading 5 arc minutes

Clear graduations and numbering of the scale disc 4×90°. Vernier and scale disc are on a common plane, resulting in **error-free parallax-free reading.** Measuring disc **anti-glare chrome-plated.**
The measuring blade has ends angled at 45° and 60°. It can be adjusted and clamped over its entire length. Vernier disc and slide can be locked by a knurled screw. With **fine setting** by knurled screw and **magnifying viewing glass** with field of view covering the whole vernier.

Optional extras: Clamp No. 453520 (for fixing to scribers No. 445152 – 445222), attachment square No. 453600.

Spare part: Measuring beam No. 453510, spare magnifying glass No. 453820 size 1.





Accurate and very simple setting using the vernier due to fine setting and magnifying glass.

Beam length	mm	150	300	500
46R 45 3500	Universal protractor with magnifying glass	(XXX)	(XXX)	(XXX)
Measuring range	degrees	360		
Scale divisions	arcmin	5		
Error limit	arcmin	±5		

Standard S/STL F4 Cal

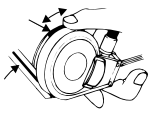
MARUI-KEIKI Precision protractors with barrel read-off

Error-free reading. The degree values are easily and clearly readable on a magnified 4×90° scale. The arc minutes are just as easily readable on a satin chrome-plated barrel with black scale markings. With double scale for both measurement directions. **Easy to handle quick adjustment and fine adjustment for the arc minute values. Satin chromium plated anti-glare reading parts.**

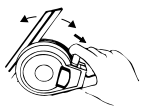
Supplied with: 1 stock square 60×90 mm for setting.

Optional extras: Clamp No. 453520 (for fixing to scribers No. 445152 – 445222), attachment square No. 453600.

Spare part: Measuring beam No. 453510. Magnifying glass No. 453820 size 2.

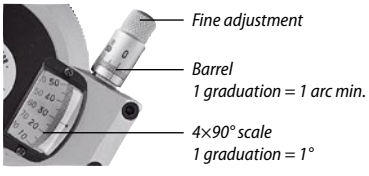


Rule clamping



Quick adjustment

Beam length	mm	150	300
46R 45 3800	Precision protractor	(XXX)	(XXX)
Measuring range	degrees	360	
Scale divisions	arcmin	1	
Spindle pitch	degrees	1	
Error limit	arcmin	±2	



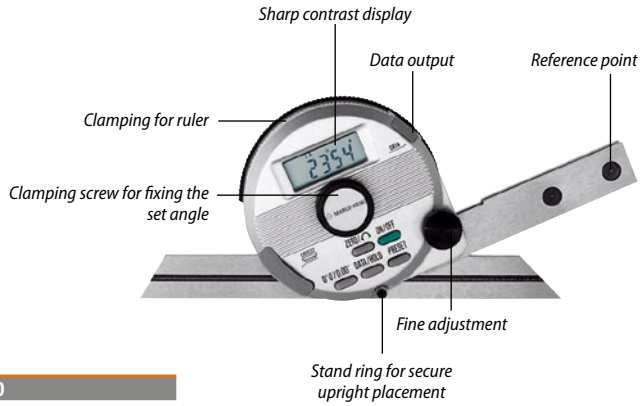
Standard | Digimatic | S/STL | F4 Cal

MARUI-KEIKI Digital universal protractor

Digital universal protractor.

- Display either in arc degrees or minutes.
- Simple adjustment with fixed reference points.
- The measuring blade can be moved and clamped over its entire length.
- Fine setting for exact adjustment of any angles.
- Preset: Presetting any angles, e.g. for tolerance measurements.
- Data/Hold: Save (hold) or send the displayed value.
- Reversal of measuring direction.
- Zeroing in any position.

Supplied with: 1 battery No. 081560 size CR2032
Optional extras: Attachment square No. 453600 and data cable No. 497080.
Spare part: Blade slot No. 453510.



Beam length	mm	150
46R 45 4000	Digital universal protractor	(XXX)
Measuring range	degrees	-360 – 360
Reversible reading		1 minute or 0.01°
Error limit	arcmin	±2
Repetition accuracy	arcmin	1
Battery life approx.	h	2000

MARUI-KEIKI Attachment square

Suitable for: Protractors No. 453500, 453800, 454000.
Application: The attachment square allows angle measurements from two different reference planes. It can be fixed on both sides and in any position inside the slotted shank on the protractor.

46R 45 3600	Attachment square	(XXX)

Standard | F4 Cal

MARUI-KEIKI Digital precision protractor

For easy measurement of angles on components. Can be used with caliper or with digital height gauge. Very easy to fit to caliper - uses only two clamping screws. Can be attached to digital height gauge or marking-out device using square holder.

Supplied with: Square holder for mounting on height gauges, 2 batteries No. 081561 size LR3.

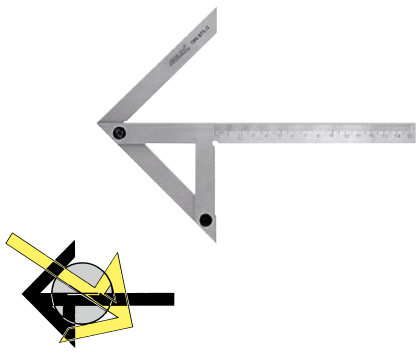
Beam length	mm	180
46R 45 4005	Digital precision protractor	(XXX)
Measuring range	degrees	180
Reversible reading		1 minute or 0.01°
Error limit	arcmin	±5
Length of measuring beam	mm	35
Weight	g	150

Standard | S/STL | F5 Cal

HOLEX Centring square

Precision steel version with mm graduation on the beam.
Functional faces precision ground, remaining faces precision machined.

Application: For marking the centre point of round plates and shafts. Centre is marked crosswise 2 - 3 times.



Stock length	mm	70	130	150	180
42F 45 5000	Centring square	(XXX)	(XXX)	(XXX)	(XXX)
Beam graduations	mm	100	150	200	300
Error limit	arcmin	0.3			
Slide beam cross section	mm	12×4.0	15×4.0	15×4.0	20×4.0
for maximum shaft ∅	mm	90	190	220	270

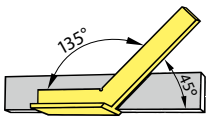
Standard | S/STL | F5 Cal

Mitre squares with stop

Made of steel. With precision ground reference edges; other faces are precision machined.
Angular tolerances based on DIN 875/2.

Application: For accurate marking and checking of 45° for 90° corner butts.

Stock length		mm	120×80	150×100	200×130
42F 45 5400	Mitre square with stop		(XXX)	(XXX)	(XXX)
Shank cross-section		mm	20×5	20×5	30×7



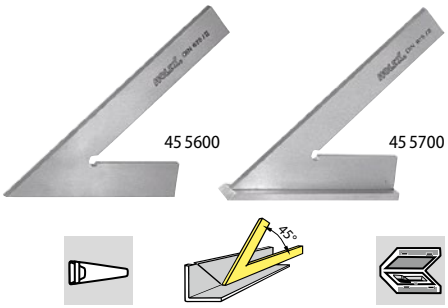
Standard | S/STL | F5 Cal

45° squares

Made of steel. With precision ground reference edges; other faces are precision machined.
Angular tolerances based on DIN 875/2.

Application: For accurate marking and checking of 45°.

Stock length		mm	120×80	150×100
42F 45 5600	Angle stock square		(XXX)	(XXX)
42F 45 5700	Angle try square		(XXX)	(XXX)
Shank cross-section		mm	20×5	



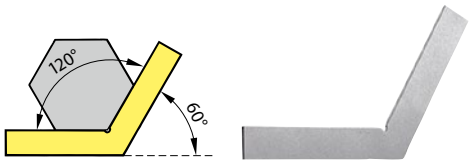
Standard | S/STL | F5 Cal

Hexagonal flat square

Precision steel version. With ground reference edges; other faces are accurately aligned.
Angular tolerances based on DIN 875/1.

Application: For accurate marking and checking of 60° and 120°.

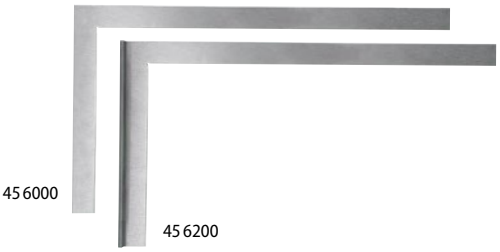
Stock length		mm	50×50	100×100
42F 45 5800	Hexagonal flat square		(XXX)	(XXX)
Shank cross-section		mm	15×4	20×5



Steel squares galvanised

Made of steel. Surface galvanised.
Reference edges and other faces finish machined.

Application: For simple alignment and marking work in fitting shops, tinsmithing shops etc.



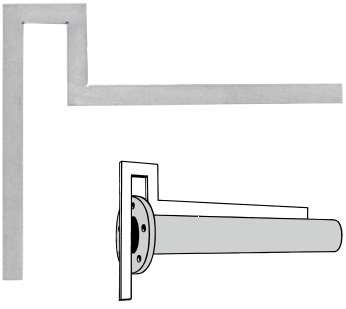
Stock length		mm	100×70	150×100	200×130	250×160	300×180	400×230	500×280	750×375	1000×500
42F 45 6000	Flat steel square galvanised		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42F 45 6200	Flat try square galvanised		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Shank cross-section		mm	20×5	20×5	20×5	25×5	–	30×5	30×5	30×5	30×5

Flange square

Steel, galvanised.
Reference edges and other faces precision machined.

Application: Special fitter's square for accurate alignment of flanges.

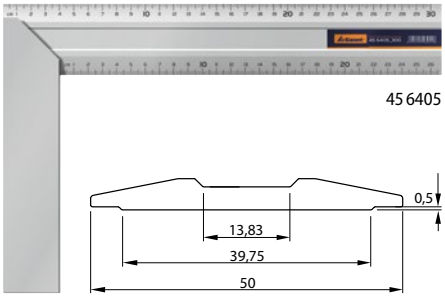
Stock length		mm	300	400
42F 45 6600	Flange square		(XXX)	(XXX)
Shank cross-section		mm	30×5	
Flange width		mm	105×65	115×65



EG II

Garant Try square with graduations or both sides

Made of anodised aluminium alloy, corrosion-resistant.
Special sub-surface printing of the anodised aluminium ensures a graduation scale proof against wiping and scratching for years to come.
Second inner graduation scale for taking measurements from the stop.

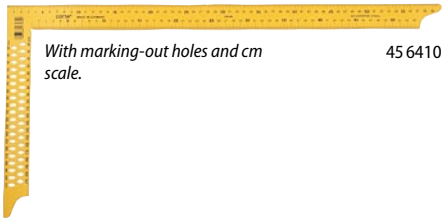


45 6405

Length of rail	mm	300	500
41G 45 6405	Try square with graduations or both sides	(XXX)	(XXX)
Length of short arm	mm	200	250

HOLEX Carpenter's square

Made entirely of steel, powder-coated with spring steel blades.


With marking-out holes and cm scale. 45 6410

Length of long arm	mm	700	800	1000
42F 45 6410	Carpenter's square	(XXX)	(XXX)	(XXX)
Length of short arm	mm	300	320	360
Arm width	mm	35		
Arm thickness	mm	1.67		

ERWEMA Sliding bevel MW 330

Innovative and versatile sliding bevel. Sturdy metal design, 330 mm spring steel blade with laser-engraved mm scale. Adjustment mechanism for 9 angular positions (30°, 45°, 60°, 75°, 90°, 105°, 120°, 145°, 160°) or stepless adjustment with a wing nut clamp.

Application: Marking gauge, protractor, sliding square, try square, mitre square, length measurement.

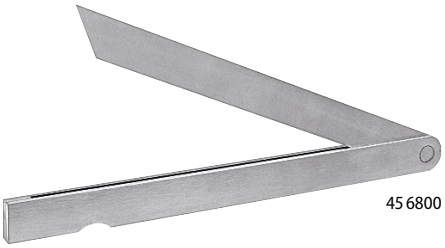
45 6900

Length of rail	mm	330
46R 45 6900	Sliding bevel	(XXX)
Angular misalignment	mm	±0.05

S/STL

HOLEX Setting or measuring bevel

Sliding square with reference edges and other faces machined. With screw clamp joint.
Application: The two movable stocks can be set to any angle and locked with a wing nut.


45 6800

Stock length	mm	200	250	300	400	500
42F 45 6800	Setting bevel stainless steel	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Shank cross-section	mm	20×9	25×9	25×9	25×9	25×9

S/STL ▶ A2 Cal ◀

HOLEX Precision scribing dividers

Sturdy **parallel marking jaws** with finely ground measuring faces. Caliper can be locked by clamping screw.
Application: For marking-out by direct settings without additional measuring aids.

45 8210

Measuring range	mm	200	300
42F 45 8210	Precision scribing dividers **with carbide tipped jaws**	(XXX)	(XXX)
Vernier	mm	1/10	
Jaw length	mm	45	

HOLEX Precision spring calipers

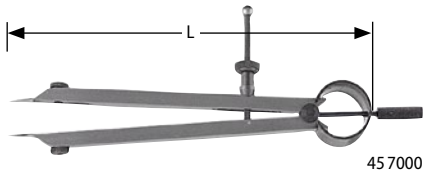
Sturdy design with long arms, made of tool steel. Points and measuring faces ground and hardened. Solid spindle with adjusting nut for quick and fine adjustment. Annular spring provides constant spring tension.

Spring dividers with points

With replaceable tips.

Spare part: Spare steel points set (2-piece) No. 457010.

Length L		mm	120	150	170	220	320
42F 45 7000	Spring dividers with points		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Opening width		mm	80	110	125	185	285
Shank cross-section		mm			7×7		

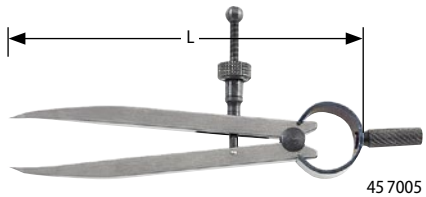


45 7000

Spring dividers with points

With fixed points.

Length L		mm	100	150	200	300
42F 45 7005	Spring dividers with points		(XXX)	(XXX)	XXX	(XXX)
Opening width		mm	80	120	160	240
Shank cross-section		mm			7×7	

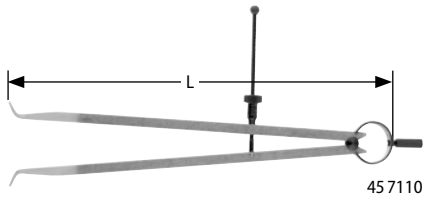


45 7005

Internal spring calipers

With fixed measuring faces.

Length L		mm	150	290
42F 45 7110	Internal spring calipers		(XXX)	(XXX)
Smallest bore size		mm	18	26
Opening width		mm	120	240
Shank cross-section		mm	7×7	8×8

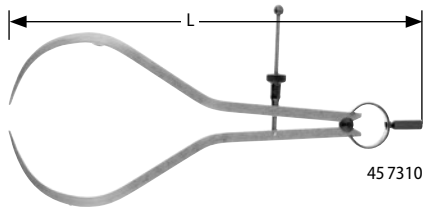


45 7110

External spring calipers

With fixed measuring faces.

Length L		mm	265	315
42F 45 7310	External spring calipers		(XXX)	(XXX)
Opening width		mm	175	210
Shank cross-section		mm	8×8	



45 7310

HOLEX Workshop dividers

Sturdy design with chamfered arms, tool steel, forged and ground. Riveted through joint hinge. Hardened and ground points.

Length L		mm	150	200	250	300	500
42F 45 7600	Dividers		(XXX)	(XXX)	–	(XXX)	–
42F 45 7700	Dividers **with quadrant**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42F 45 7750	Dividers **with quadrant and pencil holder**		–	(XXX)	–	(XXX)	–
Opening width (45 7700, 45 7750)		mm	190	250	310	355	610
Shank cross-section		mm	9×7	9.5×7	10×7	10.5×7	10.5×7

45 7600

45 7700

45 7750_200

Scribers

45 8300 – 1 straight and 1 angled point, nickel-plated and chrome-plated, **point hardness 59 HRC**, plastic handle. Suitable even for high-tensile steels / materials.

45 8400 – 1 straight and 1 angled point; plastic handle. Point hardness 48 - 55 HRC.

45 8500 – 1 straight point; knurled metal handle.

				overall length mm
46R 45 8300	PB SWISS TOOLS	Angle scriber	(XXX)	220
42F 45 8400			(XXX)	230
42F 45 8500	HOLEX	Straight scriber	(XXX)	180

45 8300

45 8400

45 8500

Carbide scribers

45 8600 – Carbide points, 1 straight and 1 angled point, nickel-plated and chrome-plated. Knurled handle.
45 8700 – Carbide points, 1 straight and 1 angled point, burnished. Knurled handle.
45 8760 – Short, straight carbide point. Handle of impact-resistant plastic with clip and protective cap, shank dia. 4 mm.
45 8800 – Straight form; sturdy shank with carbide point, shank hexagon coupling 6 mm

Application: Particularly suitable for marking extra hard materials.

Spare part:
45 8600/8700 – Spare points No. 458630; 458640.

45 8600

45 8700

45 8760

45 8800

			overall length mm
46R 45 8600	Angle scriber, with carbide points	(XXX)	220
42F 45 8700	Angle scriber with carbide points	(XXX)	220
46R 45 8760	Straight carbide scriber with clip and protective cap	(XXX)	135
42F 45 8800	Straight carbide scriber	(XXX)	155

Scriber with replaceable points

Hollow steel shaft (5 mm) with clutch and plastic covering. Points hardened and replaceable.

Supplied with: With 12 spare points stored in the shank.

Spare part: Spare points set No. 459100.

45 9000

			overall length mm
42F 45 9000	Scriber with 12 spare points	(XXX)	150

Pocket scriber with carbide points

Holder with pocket clip. Scribing point retractable to protect the point and eliminate risk of injury. Point can be reground. Point projection adjustable. Point held securely in the clutch.

45 9300 – FineMarker of aluminium, micro-scriber with no tip (∅ 0.38 mm) can be snapped off or reground, and **circular cutting edge.** With non-slip plastic grip and soft-push mechanism.
45 9310 – ErgoPlus of aluminium with non-slip plastic grip and **drop mechanism.** Usable length of the needle 10mm (∅2 mm).
45 9320 – TopForm of sturdy plastic with serrated grip and **drop mechanism.** Usable length of the needle 10 mm (∅ 2 mm).
45 9500 – High-precision version with carbide point. Reach of the needle 12 mm (∅ 1.5 mm). Handy, knurled aluminium holder. Push-button mechanism of hardened steel. The slim taper on the scriber needle ensures scribing capability even in places where access is difficult.
45 9510 – Carbide needle (40 mm long), safely kept in sturdy hexagonal aluminium fluted holder.

Spare part:
45 9300 – Spare scriber points No. 459305.
45 9500 – Spare scriber needle 459700 size 165.
45 9510 – Spare scriber points No. 459700.
45 9310/9320 – Spare scriber points No. 459325.

45 9300
With circular cutting edge.

45 9300

45 9310

45 9320

45 9500

45 9510

overall length		mm	150	165
46R 45 9300	T/COM®	Pocket scriber **FineMarker**	(XXX)	–
46R 45 9310		Pocket scriber **ErgoPlus**	(XXX)	–
46R 45 9320		Pocket scriber **TopForm**	(XXX)	–
46R 45 9500	rico marker	Pocket scriber **Rico marker**	–	(XXX)
42F 45 9510	HOLEX	Pocket scriber	(XXX)	–

DIN 874 | F6 Cal

Straight edges

Hardened, ground, and precision lapped straight edge. Wedge shaped cross section tapering to a point for inspection even in corners, grooves, cut outs etc. With plastic insulated handle to protection against body heat.

46 0095 – Made of **stainless** steel. **Both bevels anti-glare matt finished.**
46 0100 – Made of aged special steel, both bevels burnished (anti-glare).

Note: The straightness tolerance of the measuring edge refers to a displacement range of ± 15° to the symmetry plane.

46 0095

46 0100

Length		mm	50	75	100	125	150	200	300	500
41H 46 0095	Garant	Stainless straight edge in a case	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42G 46 0100	HOLEX	Straight edge with burnished finish in a case	–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Straightness tolerance of the measuring edge		mm	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.004

46

DIN 874 | F7 Cal

HOLEX Flat straight edges

The straight edges are made of special steel, ground all round.
Size 500; 1000; 1500 – With rectangular cross-section.
46 0300/0400 Size 2000; 3000 – Form B, with 2 hand slots and enamelled centre section.
Supplied with: Manufacturer's test certificate.

Note: **Stainless version** available ex works.
Size 1500; 2000; 3000 – **Please note that there is a carriage charge for these sizes!**

Cross-section Form A

Cross-section Form B

Application: For high precision fine inspection work — Accuracy 0

Length			mm	500	1000	1500	2000	3000
42G 46 0300	Flat straight edge	**Accuracy class 0**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Flatness tolerance of the checking faces			mm	0.007	0.012	0.017	0.022	0.032
Shape				A	A	A	B	B
Cross-section width ±0.2 mm			mm	49.3	59.3	69.3	79.3	119.3
Cross-section height ±0.2 mm			mm	9.5	11.5	14.5	14.5	17.5

Application: For inspection and precise work — Accuracy 1

Length			mm	500	1000	1500	2000	3000
42G 46 0400	Flat straight edge	**Accuracy class 1**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Flatness tolerance of the checking faces			mm	0.012	0.021	0.029	0.037	0.054
Shape				A	A	A	B	B
Cross-section width ±0.2 mm			mm	39.3	49.3	59.3	69.3	99.3
Cross-section height ±0.2 mm			mm	7.5	9.5	11.5	14.5	15.5

Application: For precise general workshop work — Accuracy 2

Length			mm	500	1000	1500	2000	3000
42G 46 0500	Flat straight edge	**Accuracy class 2**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Flatness tolerance of the checking faces			mm	0.021	0.033	0.046	0.058	0.083
Shape						A		
Cross-section width ±0.2 mm			mm	29.3	39.3	49.3	59.3	79.3
Cross-section height ±0.2 mm			mm	5.5	7.5	9.5	11.5	14.5

HOLEX Assembly straight edge

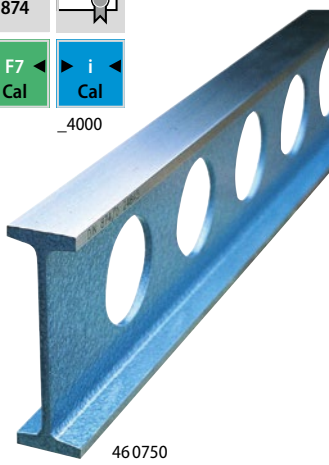
DIN 874 | F7 Cal | i Cal

Made of I-profile steel with weight-reducing holes. With precision ground main faces. Side faces also ground. Centre part hammer finish painted.

46 0750 – **Wide version, accuracy class 0.**
46 0800 – **Narrow version, accuracy class 1.**

Supplied with: Manufacturer's test certificate.

Note: Please note **additional carriage charge.** Supplied in a wooden case.


_4000
46 0750

Length			mm	1000	1500	2000	3000	4000
42G 46 0750	Assembly straight-edge **wide version**	**Accuracy class 0**		(XXX)	(XXX)	(XXX)	(XXX)	–
42G 46 0800	Assembly straight-edge **narrow version**	**Accuracy class 1**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Cross-section width (46 0750)			mm	50	50	50	60	–
Cross-section width (46 0800)			mm	30	30	40	40	40
Cross-section height (46 0750)			mm	160	160	160	180	–
Cross-section height (46 0800)			mm	100	100	120	140	140
Weight (46 0750)			kg	12	18	24	45.5	–
Weight (46 0800)			kg	5	7.5	18	26	35

DIN 866 | ▶ F8 ◀ Cal

HOLEX Steel rules with graduations

46 1000/1005 – **Form A:** Vertical edges ground parallel and precisely squared. Flat faces accurately machined. With protective ends at the start and end of the scale. One edge with accurate mm graduations.

46 1005/1105 – **Stainless steel** version.

46 1100/1105 – **Form B:** Vertical edges ground parallel and precisely squared. Flat faces well finished. With protective end at the end of the scale. One face with accurate mm graduations.

Note:
Size 2000 – Please note **additional carriage charge.**

46 1000

S/STL

46 1005

46 1100

S/STL

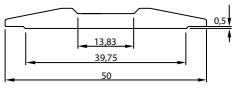
46 1105

Length		mm	500	1000	2000
42G 46 1000	Steel rule **Form A**		(XXX)	(XXX)	(XXX)
42G 46 1005	Steel rule **Form A stainless steel**		(XXX)	(XXX)	(XXX)
42G 46 1100	Steel rule **Form B**		(XXX)	(XXX)	(XXX)
42G 46 1105	Steel rule **Form B stainless steel**		(XXX)	(XXX)	(XXX)
Error limit (46 1000, 46 1005)		mm	0.04	0.04	0.06
Error limit (46 1100, 46 1105)		mm	0.1	0.1	0.15
Cross-section width (46 1000, 46 1005)		mm	30	40	50
Cross-section width (46 1100, 46 1105)		mm	24.5	30	40
Cross-section thickness (46 1000, 46 1005)		mm	6	8	10
Cross-section thickness (46 1100, 46 1105)		mm	4.5	6	8

EG II | ▶ F10 ◀ Cal

Garant Workshop straight edge with graduations or both sides, with chamfer

Made of anodised aluminium alloy, corrosion-resistant. Special sub-surface printing of the anodised aluminium ensures a wipe-proof and scratch-proof scale for years to come. Upper edge with mm graduations. Lower edge with inch graduations.



46 1170_300

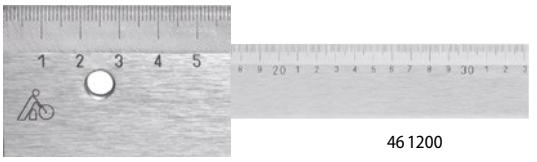
Length		mm	300	400	600	1000
41H 46 1170	Workshop straight edge with graduations on both sides		(XXX)	(XXX)	(XXX)	(XXX)
Cross-section width		mm	50			
Cross-section thickness		mm	5			

HOLEX Workshop straight edge steel, with bevel

46 1200 – With mm graduation on bevel. Of steel, faces finish ground and polished.

46 1300 – Without mm graduation. Of steel, faces finish ground and polished.

Note:
Size 2000; 3000 –Please note **additional carriage charge.**


46 1200

46 1300

Length		mm	500	1000	2000	3000
42G 46 1200	Workshop straight edge of steel with graduations		(XXX)	(XXX)	(XXX)	(XXX)
42G 46 1300	Workshop straight edge of steel without graduations		(XXX)	(XXX)	(XXX)	(XXX)
Cross-section width		mm	40	40	40	50
Cross-section thickness		mm	5	5	5	8

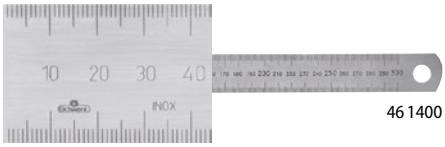
S/STL ▶F10◀ Cal

Engineer's precision steel rules

Of special **stainless** clock spring steel with ground measuring edges. Wide version.
Upper and lower edges both with mm graduations.
Very easy to read due to matt surface and sharp graduation scale.

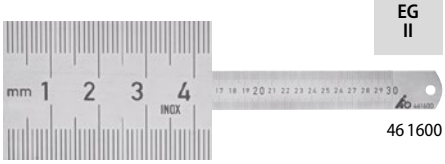
46 1400 – Graduations deeply engraved by laser beam. **High-precision graduations**. Matt surface. Particularly robust and wear resistant. **Individually tested and labelled with identification no.**

46 1600 – Graduations electrolytically etched. Matt non-reflective surface.



46 1400

EG II



46 1600

Length		mm	300	500	1000	1500	2000	3000
46R 46 1400	Schwenk	Engineer's precision steel rule **stainless, laser-engraved graduations**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42G 46 1600	HOLEX	Engineer's precision steel rule **stainless, matt finished**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Error limit (46 1400)		mm	0.1	0.1	0.15	0.2	0.2	0.3
Error limit (46 1600)		mm	0.4	0.4	0.5	0.6	0.7	0.9
Cross-section width		mm	30					
Cross-section thickness		mm	1					

EG I S/STL ▶F8◀ Cal

Garant

Engineer's precision steel rules

Made of **stainless** spring steel. Smooth surface with very precise and sharp contrast graduations.
Very high accuracy and clear definition for legibility of the scale.
Upper edge with ½ mm graduations. Lower edge with 1 mm graduations.

46 1770_150

Length		mm	100	150	200	300	500
41H 46 1770	Steel rule, stainless		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Cross-section width		mm	13	13	13	13	18
Cross-section thickness		mm	0.5				

EG I S/STL

BMI

Engineer's precision steel rules

Made of **stainless steel**, matt surface with sharp-contrast graduations.
Upper edge mm graduations, lower 1/2 mm graduations.
Rear with inch/metric conversion table and table of tapping drill Ø.

▶F8◀ Cal ▶F10◀ Cal
_150 _300–1000

46 1630

Length		mm	150	300	600	1000
46R 46 1630	Steel rule, stainless		(XXX)	(XXX)	(XXX)	(XXX)
Error limit		mm	0.12	0.13	0.16	0.2
Cross-section width		mm	18	30	30	30
Cross-section thickness		mm	0.5	1	1	1

Overview of information / error limits

Error limits to EC Directives 2004/22

Pocket tape measures / steel rules								
Length	**m**	**1**	**2**	**3**	**4**	**5**	**8**	**10**
Tolerance EC I	**mm**	± 0.2	± 0.3	± 0.4	± 0.5	± 0.6	± 0.9	± 1.1
Tolerance EC II	**mm**	± 0.5	± 0.7	± 0.9	± 1.1	± 1.3	± 1.9	± 2.3

Folding rules				
Length	**m**	**1**	**2**	**3**
Tolerance EC II	**mm**	± 0.5	± 0.7	± 0.9
Tolerance EC III	**mm**	± 1.0	± 1.4	± 1.8

EG II | S/STL | ▶ F8 ◀ Cal

Flexible steel rules narrow

Made of **stainless** spring steel. Clean, electrolytically applied, black graduations and figures with smooth surface. Easy-to-read. Rounded edges to prevent injuries.

- 46 1796 – Upper and lower edges both with 1 mm graduations.
- 46 1805 – With additional scale on the rear.
- 46 1810 – Upper edge with inch graduations. Lower edge with mm graduations.
- 46 1815 – Upper edge with ½ mm graduations, lower edge with 1 mm graduations. **Scale from right to left.**
- 46 1818 – Upper and lower edges both with 1 mm graduations. **Scale from zero mid-point.**
- 46 1800/1805 – Upper edge with ½ mm graduations, lower edge with 1 mm graduations.

46 1796

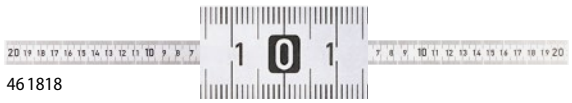
46 1800

46 1805

mm / Inch

46 1810

46 1815



46 1818

Overall length		mm	100	150	200	300	500	1000
42G 46 1796	Flexible steel rule narrow, stainless **matt finished**		–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42G 46 1800			(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42G 46 1805	Flexible steel rule narrow, stainless **matt finished with graduations on rear**		–	(XXX)	(XXX)	(XXX)	–	–
42G 46 1810	Flexible steel rule narrow, stainless **matt finish with mm/inch graduations**		–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42G 46 1815	Flexible steel rule narrow, stainless **matted, scale from right to left**		–	–	–	(XXX)	(XXX)	(XXX)
42G 46 1818	Flexible steel rule narrow, stainless **matted, scale from zero mid-point**		–	–	–	(XXX)	(XXX)	(XXX)
Cross-section width		mm	13	13	13	13	18	18
Cross-section thickness		mm	0.5					

mm / Inch | S/STL | ▶ F10 ◀ Cal

Steel rule with sliding clip

Of stainless spring steel. Metric / imperial conversion table on the back. Removable sliding clip can be used as a retainer and as a depth gauge.

Length		mm	150
42G 46 1790	Steel rule with sliding clip, stainless		(XXX)

EG II | S/STL | ▶ G1 ◀ Cal

Roll-up steel tape measure

Stainless steel tape with wear-resistant stove-enamelled markings.

- 46 1992 – With a handy belt clip.
- Size 2H; 3H – With hinged hook.

Function:

- 46 1830 – Retracts easily at the push of a finger.
- 46 1992 – **Runs out automatically at the push of a button** and stops when the button is released.

Advantage: The convex camber allows the tape to lie **flat** on the desk, so that dimensions can be read and transferred easily and without errors.

The ruler retracts easily at the push of a finger.

46 1830

Band length		mm	500	1000
41H 46 1830	Roll-up steel tape measure		(XXX)	(XXX)
Tape width		mm	19	

Band length		m	2	3	2H	3H
41H 46 1992	Steel tape measure "Quickmeter"		(XXX)	(XXX)	(XXX)	(XXX)
Tape width		mm	16			
∅		mm	62			
Width		mm	24			

46 1992

EG I | ▶ G1 ◀ Cal

Garant Tape measure, accuracy class 1

A particularly high-quality tape measure with a body of glass fibre-reinforced polyamide and automatic tape return. For perfect grip the contact areas and stop button are coated with **2-component-Santoprene®**. Plain bearings with Teflon ensure smooth action and exceptionally easy running. **Innovative dampers** of special rubber absorb the reaction energy and protect the wrist. **Aluminium profile** inserted on the underside for precise standing. A special clear lacquer protects the tape against wear. The additional anti-glare correction ensures clear visibility under all light conditions.

46 2070_2

Båndlængde		m	2	3	5
41H 46 2070	Tape measure		(XXX)	(XXX)	(XXX)
Tape width		mm	13	13	16
Body length		mm	62	62	70
Body width		mm	26	26	30
Body height		mm	59	59	69

EG I | ▶ G1 ◀ Cal

BMI Tape measure, accuracy class 1

A particularly lightweight and handy tape measure for professional use. Body of glass fibre-reinforced polyamide. **With push button for tape lock and automatic return.** Plain bearing of special TRIBOCOMP® material with Teflon ensures **smooth gliding** and exceptionally easy running. Innovative dampers of special rubber absorb the reaction energy and protect the wrist. A special clear lacquer protects the tape against wear. The **additional anti-glare correction** ensures clear visibility under all light conditions.

46 2090_5

Tape length		m	2	3	5	8	10
46M 46 2090	Tape measure Vario, accuracy class 1		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Tape width		mm	13	13	16	19	19
Body length		mm	58	58	75	76	76
Body width		mm	26	26	26	32	32
Body height		mm	57	57	70	75	75

EG II | ▶ G1 ◀ Cal

Garant Tape measures with viewing window

- Shock-resistant plastic casing.
- **Aluminium inlay on both work faces,** giving exact contact surfaces for inside and outside measurement.
- Aluminium profiles resistant to heat and mechanical loads.
- Tape measure stove enamelled, with black characters. Cambered = non-buckling with sliding end hook (for inside and outside measurements). Sharp-contrast, abrasion-resistant rustproof scale.
- Graduations mm / mm (upper / lower edges).
- **Viewing window scale reads in the same direction as the tape.**

  46 2201 – Smallest tape measure with viewing window for inside measurements.

  46 2215 – With two strong magnets in the base.

46 2201

46 2210

46 2215

Band length		m	2,5
41H 46 2201	Tape measure with viewing window		(XXX)
Tape width		mm	8
Body length		mm	48
Body width		mm	15
Body height		mm	48

Band length		m	2	3
41H 46 2210	Tape measure with viewing window		(XXX)	(XXX)
41H 46 2215	Tape measure with viewing window **and magnetic base**		–	(XXX)
Tape width		mm	16	
Body length		mm	63	
Body width		mm	24	
Body height		mm	63	

EG II | G1 Cal

Garant Tape measure accuracy class 2

A particularly high-quality tape measure with a body of glass fibre-reinforced polyamide and automatic tape return.
For perfect grip the contact areas and stop button are coated with **2-component-Santoprene®**.
Plain bearings with Teflon ensure smooth action and exceptionally easy running.
Innovative damper of special rubber absorbs the return energy and protects the wrist.
Aluminium profile inserted on the underside for precise standing.
A special clear lacquer effectively protects the tape against wear. The additional anti-glare correction ensures clear visibility under all light conditions.

46 1900 – mm graduation
46 1910 – mm/inch graduations

46 1900_3

46 1910_2

Aluminium profile on the underside for precise standing.

Length		m	2	3	5
41H 46 1900	Tape measure		(XXX)	(XXX)	(XXX)
41H 46 1910	Tape measure mm/inch		(XXX)	(XXX)	(XXX)
Tape width		mm	13	13	16
Body length		mm	62	62	70
Body width		mm	26	26	30
Body height		mm	59	59	69

EG II | G1 Cal

BMI® Tape measure accuracy class 2

A particularly lightweight and handy tape measure for professional use. Body of glass fibre-reinforced polyamide. **With push button for tape lock and automatic return**. Plain bearing of special TRIBOCOMP® material with Teflon ensures **smooth gliding** and exceptionally easy running. Innovative dampers of special rubber absorb the reaction energy and protect the wrist. A special clear lacquer protects the tape against wear. The **additional anti-glare correction** ensures clear visibility under all light conditions.

46 2122 – Particularly compact and lightweight tape measure - **35% less volume.**
46 2130 – **V2A version** with stainless bright measuring tape.

46 2122_3/MINI

46 2120_3

Tape length		m	2	3/MINI	3	5	8	10
46M 46 2120	Tape measure		(XXX)	–	(XXX)	(XXX)	(XXX)	(XXX)
46M 46 2122	Mini tape measure		–	(XXX)	–	–	–	–
46M 46 2130	Tape measure, stainless		(XXX)	–	(XXX)	(XXX)	(XXX)	–
Tape width		mm	13	10	13	16	19	19
Body length		mm	58	50	58	75	78	78
Body width		mm	26	22	26	26	32	32
Body height		mm	57	50	57	70	77	77

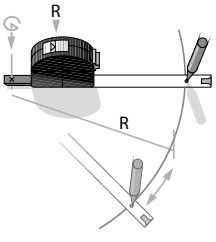
46 2130

Casing of **chromium plated die–cast zinc.**
Metal tape black/red printing on white matt.
Particularly **insensitive** to **heat and mechanical stresses**. With automatic tape return and stop button.

46 2150

Tape length		m	2	3
46M 46 2150	Tape measure white in metal casing		(XXX)	(XXX)
Tape width		mm	13	
Body length		mm	55	
Body width		mm	20	
Body height		mm	60	

Function:
1. Length measurement
2. Internal measurement (reading in the viewing window in the same reading direction)
3. Circle measurement (fold-out centring pin for circles up to 6 m ∅.



46 2180

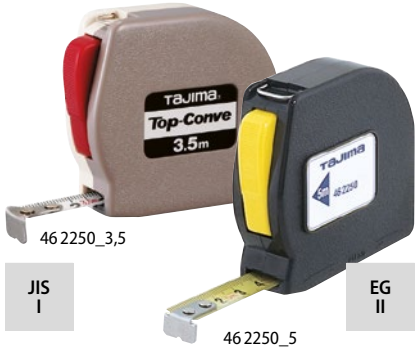
Tape length		m	3
46M 46 2180	Tape measure		(XXX)
Tape width		mm	16
Body length		mm	65
Body width		mm	25
Body height		mm	65

▶ G1 ◀ Cal

TAJIMA TopConve tape measure with automatic tape lock

- **Automatic tape stop (= locking) when pulling out.**
- Tape return by pressing button.
- Sliding end hook.
- Tape measure printed black/red on yellow, acrylic coated for high abrasion resistance
  Size 3,5; 5,5 – Grey plastic housing with white measuring tape. Accuracy to JIS1.

Band length		m	2	3	3,5	5	5,5
46R 46 2250	Tape measure with automatic tape lock **TopConve**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Tape width		mm			13		
Body length		mm	52	65	65	73	73
Body width		mm			22		
Body height		mm	49	61	61	68	68
Error limit		mm	0.7	0.9	0.8	1.3	1



46 2250_3,5

JIS I

EG II

46 2250_5

EG II ▶ G1 ◀ Cal

TAJIMA Tape measures extra sturdy

- Tape with particularly high **buckling stability.**
- Totally shock-proof plastic housing with removable belt clip.
- Automatic tape return and stop.
- Shock absorber reduces load during tape return.
- Sliding end hook.
- Tape measure printed black/red on yellow, acrylic coated for high abrasion resistance
- Long-lasting spring of high grade steel.

46 2330 – ■ Additionally with rubberised casing.
■ Tape printed both sides.

Band length		m	2	3	5	5/25	7	10
46R 46 2300	Tape measure **extra sturdy**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	–
46R 46 2330	Tape measure, non-slip casing **extra sturdy**		(XXX)	(XXX)	–	(XXX)	(XXX)	(XXX)
Tape width		mm	13	16	19	25	25	25
Body length		mm	53	63	67	67	77	95
Body width		mm	21	25	28	28	34	45
Body height		mm	49	59	63	63	73	98

46 2300_5

46 2330_5/25

EG II ▶ G1 ◀ Cal

TAJIMA G-Lock tape measure

Your sturdy G-Lock tape measure with **extra-strong protective casing.** Non-slip casing.
Sliding end hook secured with 3 rivets. Automatic tape return and stop.
Shock absorber reduces the impact at tape return. Easy to read scale on the front and back.
Tape measure printed black/red on yellow, acrylic coated for high abrasion resistance. Supplied with belt clip.

46 2338 – with magnetic end hook.

Band length		m	3	5	5/25	7	10
46R 46 2335	Tape measure **with extra-strong protective casing**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46R 46 2338	Tape measure **with extra-strong protective casing, with magnetic end hook**		–	–	(XXX)	–	–
Tape width		mm	16	19	25	25	25
Body length		mm	63	67	67	77	95
Body width		mm	25	28	28	34	45
Body height		mm	59	63	63	73	98

46 2335_5/25

46 2338_5/25

EG II ▶ G1 ◀ Cal

STANLEY Powerlock tape measure

Tape measure with shock-resistant chromium-plated metal casing. Extra-strong tape with scale of the front and back faces.
With locking function and automatic tape return. Tape fully coated with a protective layer for high abrasion resistance.
Supplied with belt clip.

Band length		m	3
46R 46 2360	Tape measure		(XXX)
Tape width		mm	12.7
Body length		mm	57
Body width		mm	22
Body height		mm	60

46 2360

EG II | ▶ G1 ◀ Cal

HOLEX Tape measures

Plastic casing with removable belt clip. Automatic tape return and stop, with damping effect. Sliding end hook. Tape measure printed black/red on yellow.

Size 2 – Without black rubber padding.
46 2012 – Sliding end hook with 2 magnets.
46 2014 – Tape measure with mm/inch graduations (upper edge inch, lower edge mm).

Band length		m	2	3	5	8	10
42G 46 2010	Tape measure		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42G 46 2012	Tape measure **with magnets**		–	(XXX)	(XXX)	–	–
42G 46 2014	Tape measure with mm/inch graduations		–	(XXX)	XXX	–	–
Tape width		mm	13	16	19	25	25
Body length		mm	65	66	74	80	90
Body width		mm	22	27	31	35	45
Body height		mm	57	59	68	75	90

46 2010_5

46 2012

46 2014

mm / Inch

EG II | ▶ G1 ◀ Cal

BMI Tape measure, inch graduations, accuracy class 2

Sturdy tape mechanism and handy belt clip. Body of impact-resistant ABS plastic with easy-grip soft components for secure handling. **With push button for tape lock and automatic return with damping.** White matt steel tape with black inch and feet graduated markings.

46 2220 – Pocket tape measure with **inch graduations.** Graduations inch/inch (upper and lower edges).
46 2225 – Pocket tape measure with **mm/inch graduations**. Graduations inch/mm (upper and lower edges).

Tape length		inch	120	192	312	396
46M 46 2220	Tape measure twoCOMP **Inch graduations**		(XXX)	(XXX)	(XXX)	(XXX)
46M 46 2225	Tape measure **mm/inch graduations**		(XXX)	(XXX)	(XXX)	(XXX)
Tape width		mm	16	19	25	30
Body length		mm	60	70	80	88
Body width		mm	60	70	80	88
Body height		mm	32	36	45	45

46 2220_192

mm / Inch

46 2225

EG II | ▶ G1 ◀ Cal

BMI White steel tape measure rust-proof

White steel tape measure enamelled both sides. Hardened tape, resistant to rust and moisture and abrasion-resistant due to the white synthetic resin coating. Retractable measuring hook (scale starts at inner face of hook). Casing made of impact resistant plastic.

Band length		m	10
46M 46 2390	White steel tape measure in a capsule		(XXX)
Tape width		mm	10
Capsule length		mm	79
Capsule width		mm	20
Capsule height		mm	79

46 2390

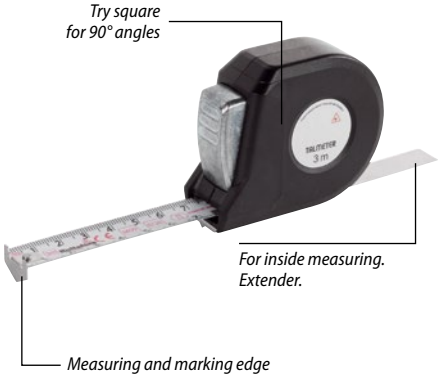
EG II | ▶ G1 ◀ Cal

Hultafors Marking gauges TALMETER

Function:

- Marking and measuring in one.
- Even for **diameter and circumference measurement.**
- Measuring and marking edge of hardened and stainless spring steel.
- **Black** numbers = external dimensions, **red** numbers = internal dimensions.

Band length		m	2	3
42G 46 5690	TALMETER marking gauge		(XXX)	(XXX)
Tape width		mm	16	



EG II | ▶ G1 ◀ Cal

Measuring tapes in capsule or frame

Capsule: Indestructible plastic casing with soft finish surface. Storage is provided in the casing for the crank arm and the pull ring. Can be converted for left-hand use.
Frame: Light metal frame with ball bearing mounted fast winding and folding crank.

46 2900–3100/4500–4900 – **Tape:** Patented tape start, **flextop coating.** Tape coating, made of transparent, highly flexible plastic, reliably prevents the tape from breaking at the start.

46 2900/4500 – **White steel tape measure.** Hardened tape, phosphated coating provides corrosion resistance, with wear-resistant synthetic resin coating. Good legibility. With mm graduations throughout. Sizes 20 and 30 with straight side pieces, size 50 upwards with Vee side pieces.

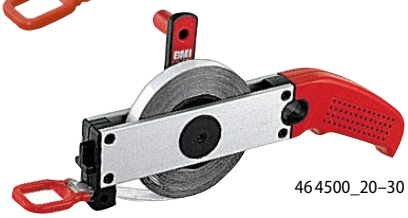
46 3050/4850 – **Stainless tape** of hardened chromium-nickel steel, transparently enamelled. Scale printed with clear, easy-to-read figures and graduations. Break-proof, with good flexibility. With cm graduations (first 20 cm graduated in mm). Sizes 20 and 30 with straight side pieces, size 50 upwards with Vee side pieces.

46 3100/4900 – **Polyamide coated steel tape measure.** Break-proof, with good flexibility. Non-buckling spring steel. **High abrasion resistance,** weather-proof and resistant to many chemicals and oils. With mm graduations throughout. Sizes 20 and 30 with straight side pieces, size 50 upwards with Vee side pieces.

46 3300/5500 – **Glass fibre tape measure. Extremely** buckling-resistant **and flexible,** weather-proof, and resistant to many chemicals. **Electrically non-conducting.** Good legibility. With cm graduations (first 20 cm graduated in mm).

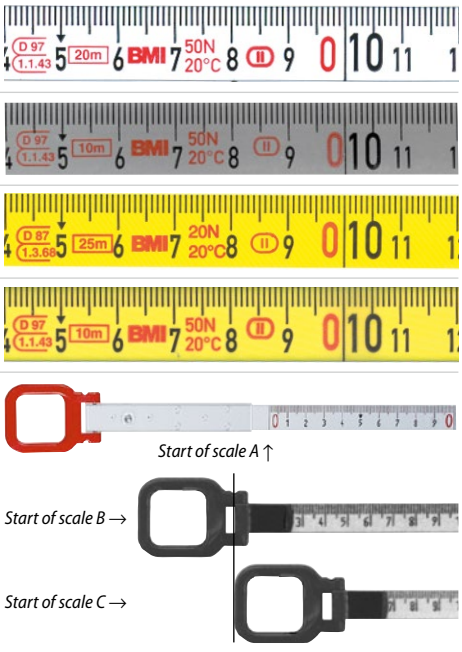
Note: Versions with 100 m length, or with inch graduations, or with start of scale type B / C available on request.

46 3050


46 4500_20–30

46 4500_50

Band length		m	10	20	30	50
46M 46 2900	White steel tape measure **in a capsule**		(XXX)	(XXX)	(XXX)	–
46M 46 4500	White steel tape measure **in a frame**		–	(XXX)	(XXX)	(XXX)
46M 46 3050	Stainless steel tape measure **in a capsule**		(XXX)	(XXX)	(XXX)	(XXX)
46M 46 4850	Stainless steel tape measure **in a frame**		–	(XXX)	(XXX)	(XXX)
46M 46 3100	Polyamide coated steel tape measure **in a capsule**		(XXX)	(XXX)	(XXX)	–
46M 46 4900	Polyamide coated steel tape measure **in a frame**		–	(XXX)	(XXX)	(XXX)
46M 46 3300	Glass fibre tape measure **in a capsule**		(XXX)	(XXX)	(XXX)	–
46M 46 5500	Glass fibre tape measure **in a frame**		–	–	(XXX)	–
Tape width		mm	13			
Type of tape start			A			
overall length (46 4500, 46 5500)		mm	–	280	310	340
overall length (46 4850)		mm	–	280	280	310
overall length (46 4900)		mm	–	310	310	390
Capsule length (46 2900, 46 3050)		mm	138	138	175	210
Capsule length (46 3100, 46 3300)		mm	138	175	210	–
Capsule width (46 2900, 46 3050)		mm	115	115	145	175
Capsule width (46 3100, 46 3300)		mm	115	145	175	–
Frame width (46 4500, 46 4850)		mm	–	120	120	150
Frame width (46 4900, 46 5500)		mm	–	150	150	180
Capsule height (46 2900, 46 3050, 46 3100, 46 3300)		mm	32			



EG II | ▶ G1 ◀ Cal

Measuring tapes self-adhesive

White lacquered steel tape measure, corrosion-proof. Wear-resistant, mm graduations. **Ideal for workbenches.** Resistant to oil and chemicals. Tape thickness 0.5 mm.

46 2380 – With scale from left to right.
46 2382 – With scale from right to left.

46 2380

46 2382

Band length		m	2	5	10	15	20
46M 46 2380	Self-adhesive measuring tape		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46M 46 2382	Self-adhesive measuring tape with scale from right to left		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Tape width		mm	13				

▶ G2 ◀
Cal

Measuring tape CJU for measuring external circumferences and ∅

Steel measuring tape **CJU** for measuring external circumferences and ∅ of spherical bodies. The spring steel strip is laser scaled on the front with 2 scales, one for circumference and the other for ∅. Graduations 1 mm. **Vernier reading 0.1 mm.** Scale graduation error limits to DIN 866.

46 5682/5684 – **V2A version** made of stainless spring steel.

Advantage:

46 5684 – Easy handling and centring capability thanks to broad contact face. Increased stability. Quicker and more reliable measuring.

Note: Measuring tapes C with reading 0.05 mm and measuring tapes with black coating available on request.

46 5680

46 5684

maximum total measuring range		mm	950	2200	3460	4720	5980
46R 46 5680	Steel measuring tape for circumference and ∅		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46R 46 5682	Stainless steel measuring tape for circumference and ∅		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46R 46 5684	Stainless steel measuring tape for circumference and ∅ **Tape width 35 mm**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range for ∅		mm	20 – 300	300 – 700	700 – 1100	1100 – 1500	1500 – 1900
Measuring range for circumferences		mm	60 – 950	940 – 2200	2190 – 3460	3450 – 4720	4710 – 5980
Tape width (46 5680, 46 5682)		mm	16				
Tape width (46 5684)		mm	35				
Tape thickness		mm	0.2				
Scale divisions		mm	0.1				

mm / Inch

Laser distance meter DISTO™

Impact resistant plastic casing with easy-to-use keypad with symbols. High quality **Leica glass lens** in an particularly temperature-resistant and sturdy **magnesium casing.** Illuminated and rotating colour display for optimum legibility. Power Range Technologie™ for measurements **up to 150 m without target board**. Laser class 2 tested in accordance with ISO 16331-1.

Size D2 – Small and handy laser distance measuring tool, especially for indoor work.

Size X4SET – **Spatial measurement using P2P technology.** Even for inaccessible points. Dimensioned drawings prepared on the DISTO™ Plan app can be exported as CAD files.

Size X3–X4SET – The **integral 360° inclination sensor** shows the inclination of an object when the casing is placed directly on it, thus permitting indirect height measurement. Multi-function endpiece for measuring from corners. Dustproof, protected against sprayed water by a rubber seal. Sealed, wash-down keyboard. A robust rubber membrane protects the lens and also provides protection if dropped from a small height.

Size X4; X4SET – With **digital target searcher** (4× zoom) for measurements at long distances or in sunshine.

Supplied with: Protective holder and wrist strap.

Size D2 – Supplied with 2 batteries No. 081561 size LR3.

Size X4SET – Including stand adapter DST360, stand TRI120 and case.

Size X3–X4SET – Supplied with 2 batteries No. 081561 size LR6.

Note: Data transfer via Bluetooth® Smart; also by smartphone using a Leica "DISTO™ Plan" app (Android from version 4.3, Apple from iPhone 4s). Easy generation of sketches.

IP 54 IP 65 IP 65

_D2 _X3 _X4

_X4SET

Simple creation of dimensioned sketches and inserting dimensioning into a photo using the DISTO Plan app.

Type			D2	X3	X4	X4SET
47C 46 5550	Laser distance meter DISTO™		(XXX)	(XXX)	(XXX)	(XXX)
Measuring accuracy		mm	±1.5	±1.0	±1.0	±1.0
Threaded socket for stand		inch	–	1/4 UNC	1/4 UNC	1/4 UNC
multi-function endpiece			yes			
Range		m	100	150	150	150
Addition/subtraction			yes			
Minimum / maximum measurements			yes			
Surface and volume calculations			yes			
indirect measurements (Pythagoras)			yes			
Clinometer		degrees	–	360	360	360
Digital target searcher with zoom			–	–	4 times	4 times
Recall last measurements			yes			
Power supply			081561 LR3	081561 LR6	081561 LR6	081561 LR6
Length		mm	116	132	132	132
Width		mm	44	56	56	56
Height		mm	26	29	29	29
Weight		g	100	184	184	184

IP 54

BOSCH Laser distance meters

Laser distance measurement device with robust, shock-resistant casing, splash-proof and dust-proof (IP 54). Illuminated three-row display for optimum legibility. Laser class 2 to IEC 825-1.

Size GLM30 – Simple laser distance measurement device for indoor use.

Size GLM120C – Integral 5 Megapixel camera with zoom function for optimum focusing on the target point.

Size GLM50-27C–GLM120C – Simple operation with improved user interface and illuminated display. Plug-in function. The integral 360° inclination sensor shows the inclination of an object when the casing is placed directly on it, thus permitting indirect height measurement.

Size GLM120C; GLM50-27C – Create a digital floor plan, import existing floor plans, edit them and export the result together with simple building site dimensioning. Quick and efficient data transmission and documentation thanks to Bluetooth connectivity and Bosch Measuring Master App.

Supplied with: Includes protective case.

Size GLM50-27C – Incl. batteries No. 081551 LR6.

Size GLM30; GLM40 – With batteries 081551 LR3.

Size GLM80; GLM120C – Incl. Li-ion battery, charger + micro-USB cable.

Optional extras: Measuring stand No. 468558.

Type		GLM30	GLM40	GLM50-27C	GLM80	GLM120C
46T 46 5560	Laser distance meter	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Measuring accuracy	mm	±2	±1.5	±1.5	±1.5	± 1.5
Threaded socket for stand	inch	–	–	1/4	1/4	1/4
Range	m	30	40	50	80	120
Addition/subtraction				yes		
Minimum / maximum measurements		–	–	yes	yes	yes
Surface and volume calculations		–	yes	yes	yes	yes
indirect measurements (Pythagoras)		–	yes	yes	yes	yes
Clinometer	degrees	–	–	360	360	360
Digital target search		–	–	–	–	yes
Recall last measurements		–	yes	yes	yes	yes
Power supply		081551 LR3	081551 LR3	081551 LR6	Li-ion battery	Li-ion battery
Length	mm	105	105	106	111	142
Width	mm	41	41	45	51	76
Height	mm	24	24	24	30	28
Weight	g	100	100	100	140	210

IP 54

HOLEX Laser distance meters

Attractively-priced laser distance measurement device for quick and easy performance of standard measurement tasks. Ergonomically shaped 2-component casing. Soft-touch keyboard with self-explanatory symbols. Background lighting of LCD display can be activated. Graphical symbols in the display support the user during measurement operations. Laser class 2.

Accuracy: Deviation ± 1.5 mm over a 10 m measuring length under optimum conditions.

Supplied with: Includes 2× batteries No. 081551 LR3, belt pocket and wrist strap.

Range	m	60	110
42I 46 5540	Laser distance meter	(XXX)	(XXX)
Measuring accuracy	mm	±1.5	
Range	m	60	110
Addition/subtraction		yes	
Minimum / maximum measurements		yes	
Surface and volume calculations		yes	
indirect measurements (Pythagoras)		yes	
dynamic measurement		yes	
Measured value memory		20	
acoustic confirmation of measurements		yes	
Automatic switch-off	min	3	
Power supply		2× 081551 LR3	
Length	mm	110	
Width	mm	46	
Height	mm	28	
Weight	g	100	

46 5540_110

BOSCH Location devices

Reliable location even of buried objects up to 120 mm deep. Three detection modes (plasterboard, metal, live cables) for different applications. Reliable detection of objects, giving a visual and acoustic signal.

Size GMS120 – Precise indication of the object centre. The centre point of the object that is sought can be simply marked using the marking aperture. Large illuminated display Softgrip surface for a better grip.

Size DTECT120 – Point measurement enables location even on very small surfaces. Optical indication of direction for precise localisation of the object centre.

Function:

Size GMS120 – IP54: Protected against splashed water from all directions and protected against penetration of dust into the inside (protected against dust), also completely protected against touching.

Application: Detectable materials: Ferrous metals, non-ferrous metals, wooden frameworks, live cables.

Size DTECT120 – Additionally detectable material: Plastic pipes filled with water.

Supplied with:

Size GMS120 – Battery No. 081551 6LR61, hand loop, protective bag.

Size DTECT120 – Li-ion battery, quick charger, L-Boxx

IP 54

46 5570_GMS120

46 5570_DTECT120

Type		GMS120	DTECT120
46T 46 5570	Location device	(XXX)	(XXX)
Measuring range	mm	120	
Detection depth steel	mm	120	
Detection depth copper	mm	80	120
Detection depth live conductors	mm	50	60
Detection depth wood	mm	38	
Accuracy	mm	–	±10
Weight	g	270	490
Length	mm	200	206
Width	mm	85	92
Height	mm	32	85

EG III

Wooden folding rules

Graduations in mm at both bottom and top. Easy-to-read graduations. Decimal figures red. Sections of high quality beech wood.

46 5950 – Folding wooden rule with jointed sections of reinforced plastic.

46 6000 – Yellow dip painted throughout.

46 6013 – Dip painted, alternating white / yellow every 10 cm for easier recognition.

46 6015 – Natural colour – slim sections for high flexibility.

46 6000–6015 – Enclosing high-strength jointed sections with hardened steel springs and concealed rivet.

46 5950

Length			m	1	2
46M 46 5950	STABILA	Wooden folding rule white		–	(XXX)
46M 46 6000	STABILA	Wooden folding rule yellow		–	(XXX)
46M 46 6013	BMI	Wooden folding rule white / yellow		–	(XXX)
46M 46 6015	STABILA	Wooden folding rule natural colour		(XXX)	(XXX)
Number of sections				6	10
Width			mm	16	
Thickness (46 5950, 46 6000, 46 6013)			mm	–	3.3
Thickness (46 6015)			mm	2.5	

46 6000

46 6013

46 6015

EG III

Hultafors Wooden folding rule – Swedish metre

Original Swedish metre. Graduations in mm at both bottom and top. Black-red duplex graduations, easy to read. **Highly resilient sections of Swedish birch**, natural colour, varnished. Sturdy, lubricated joints with invisible joint rivets.

Length		m	2
46R 46 6018	Wooden folding rule "Swedish metre"		(XXX)
Number of sections			10
Width		mm	17
Thickness		mm	2.3

46 6018

Light metal folding rule

Sections of tough aluminium with precision mm graduations on both sides. With **black anodised** surface and white graduations. Unaffected by dirt thanks to the sealed scale.

Length		m	2
46M 46 6400	Light metal folding rule		(XXX)
Number of sections			10
Width		mm	14

EG II

46 6400

Plastic folding rule Long life

Sections of **glass-fibre reinforced, rigid plastic** with matt surface. Extremely wear-resistant and unbreakable; crack-proof / scratch-proof / waterproof. With grooved connections between sections and precisely embossed mm graduations. Sections click into 90° and 180° positions.

Size 2R – With wear-resistant metal ends on first and last element. Reverse scale reading on front and back.

46 6210 – Outer layer of **longitudinally aligned glass fibres** absorbs bending forces and gives the rule **particular stiffness**. Patented joint with pre-loaded spring pins.

46 6220 – Type tested for working on live equipment up to 1000 V, with integral cable pull-in aid and additional marking for socket spacing.

EG III

46 6200_1

Precision plastic locking profiles. 46 6200_2

46 6200_2R

Length		m	1	2	2R
46R 46 6200	Plastic folding rule		(XXX)	(XXX)	(XXX)
46R 46 6210	Plastic folding rule **specially glass fibre-reinforced**		–	–	(XXX)
46R 46 6220	Elektro plastic folding rule		–	(XXX)	–
Number of sections				10	
Width		mm	13	15	15

EG II

46 6210

EG III

46 6220_2

Plastic folding rule - section length 250 mm

Good legibility thanks to millimetre graduations on both sides, in black with red decimetre numbering. Glass fibre-reinforced polyamide for increased resistance to moisture. Brass joints and ends for increased stability. **4 sections, each 250 mm.**

Length		m	1
46R 46 6020	White plastic folding rule		(XXX)
Number of sections			4
Width		mm	12

EG III

46 6020

Small spirit levels with selectable magnet

Sturdy anodised aluminium profile. Flat and **Vee-form measuring faces.** The **selectable magnet** is effective on flat surfaces and **even on pipes.** Flush vials with magnifying effect create distortion-free views of the vial bubbles. The vertical head vial is also very clearly visible from above. **Error limit for overhead measurement: 0.5 mm/m.**

Length		mm	250	400
41H 46 7010	Spirit level **with selectable magnet**		(XXX)	(XXX)
Error limit in normal position		mm/m	0.5	

Magnet switch

reddot design award winner 2010

46 7010

End face vial

can be read without problems from virtually any position.

Small spirit levels

Handy small spirit level. Cast profile version. Face-milled measuring faces. Unbreakable acrylic vials (vertical + horizontal).

46 7414 – Additional 360° vial. Vee groove and magnet in the measuring face.

Length		mm	250
46M 46 7412	Spirit level		(XXX)
46M 46 7414	Spirit level **with magnet**		(XXX)
Error limit in normal position		mm/m	0.5

46 7412

46 7414

Light metal spirit levels

Compact light metal spirit level of aluminium. Flat and **Vee-form measuring faces.** Consistent accuracy thanks to non-stressed mounting of the ground glass vials, with scale.

Application: For easy adjustment of horizontal surfaces and shafts.

Length		mm	100	150	200	250	300
46U 46 7490	Light metal spirit level		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm/m	0,6				
Width		mm	22				
Height		mm	22				

46 7490_250

PICO pocket spirit level with steel tape measure

Ideal for precise marking out in the horizontal plane. The steel tape measure can be stopped at any point appropriate to the measurement application. With magnet on the base and side face.

Supplied with: Pocket spirit level including steel tape measure No. 461830 size 1000.

Length of steel tape measure		m	1
46M 46 7476	Pocket spirit level **PICO**		(XXX)
Error limit in normal position		mm/m	1
Length		mm	62
Width		mm	25
Height		mm	66

46 7476

Pocket spirit levels

Sturdy aluminium core body with securely encapsulated vials for horizontal measurements. **Extra-strong rare-earth magnet for secure attachment to metal objects.**

46 7482 – Rectangular aluminium frame with precision milled measuring faces at the sides and base. Additionally with a Vee groove for placing on convex surfaces. Strong rare-earth magnets in the base and sides.

46 7484 – For quick and reliable alignment of flush-mounted switches and sockets. The recess for the screwdriver guide conveniently allows the component being installed to be aligned with the spirit level in place.

Supplied with: Sturdy belt clip.

46 7482

Length		mm	70
46M 46 7482	Pocket spirit level **Pro Magnetic**		(XXX)
46M 46 7484	Pocket spirit level **Electric**		(XXX)
Error limit in normal position		mm/m	1
maximum angular deviation		degrees	0.1
Length		mm	70
Width		mm	20
Height		mm	40

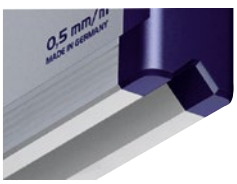
46 7484

Light metal spirit levels

Thick-walled anodised aluminium profile with very high rigidity. Flat and Vee-form measuring faces for perfect alignment on surfaces, pipes and edges. Flush horizontal vial with magnifying effect creates distortion-free view of the vial bubble.

46 7025 – With **powerful permanent magnets.**

Size 1800; 2000 – With two vertical vials.



46 7020_600

46 7025_600

Length		mm	250	400	600	800	1000	1800	2000
41H 46 7020	Light metal spirit level		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
41H 46 7025	Light metal spirit level **with magnet**		–	–	(XXX)	(XXX)	(XXX)	–	–
Error limit in normal position		mm/m	0.5						
Error limit for overhead measurement		mm/m	0.75						

STABILA Light metal spirit levels

Body of rectangular profile. Unbreakable Perspex vials. Specially corrosion-resistant light metal alloy.

46 7210 – Two flat and parallel milled measuring faces. End caps of rubber prevent slipping when marking out.

46 7220 – Ribbed rectangular profile with two measuring faces. End caps of rubber prevent slipping when marking out. With **powerful magnets.**

46 7030_600

46 7210_600

46 7220_600

Length		mm	300	400	600	800	1000	1800	2000
46M 46 7030	Light metal spirit level		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46M 46 7210			–	(XXX)	(XXX)	(XXX)	(XXX)	–	–
46M 46 7220	Light metal spirit level **with magnet**		–	(XXX)	(XXX)	(XXX)	(XXX)	–	–
Error limit in normal position		mm/m	0.5						
Error limit for overhead measurement		mm/m	0.75						

STABILA Light metal spirit level type R300 specially sturdy design

Distortion-free aluminium R-profile for the most demanding applications.

- High security against tipping over during measurement due to the **extra-wide measuring face** (4 cm).
- Marking out / cutting along the full profile length without removal due to reliable guidance from the **three scribing edges.** Continuous frame element across the horizontal vial.
- Handgrip with **full-length finger groove.**
- Removable and shock-damping end caps with patented **anti-slip stoppers**. With two coated measuring faces, two vertical vials and one horizontal vial.

46 7405_600

Length		mm	600	800	1000
46M 46 7405	Light metal spirit level **R-profile**		(XXX)	(XXX)	(XXX)
Error limit in normal position		mm/m	0.5		
Error limit for overhead measurement		mm/m	0.5		

STABILA Telescopic spirit levels 80 T

High-quality telescopic system for extending the measuring face – the spirit level can be pulled out flexibly to the required length. Marking edge over the entire length – measure and mark in one operation, even in the extended condition. Printed-on metric scale for determination of internal dimensions and free clear dimensions. LOCK system for fixing the set length – prevents inadvertent displacement of the spirit level.

46 7425_630

Length		mm	630	800
46M 46 7425	Telescopic spirit level **80T**		(XXX)	(XXX)
Error limit in normal position		mm/m	0.5	
maximum length		mm	1050	1270
Error limit when extended		mm/m	1	

BMI High-precision aluminium spirit levels Highprecision R1000

Extremely sturdy 4-chamber profile with shock-absorbing rubber end caps.
Flush-mounted horizontal vial for undistorted view of the bubble. If the alignment is not level, the vial bubble travel is **5× greater than for conventional spirit levels.**
Out-of-true alignments can thus be noticed more quickly, this enables **quick and highly precise alignment of surfaces.**

46 7460

Length		mm	1000	1200	1800	2000
46M 46 7460	High-precision aluminium spirit level **Highprecision R1000**		(XXX)	(XXX)	(XXX)	(XXX)
Error limit in normal position		mm/m	0.3			

BMI Aluminium magnetic spirit levels

Sturdy, powder-coated aluminium profile with milled measuring faces.

- Round vials with magnification effect.
- With **powerful magnetic clamping system.**
  46 7350 – Also with rotating vials (% and degrees).

46 7345

Length		mm	500	800
46M 46 7345	Light metal spirit level **with magnet**		(XXX)	(XXX)
46M 46 7350	Light metal spirit level **with magnet and angular vial**		(XXX)	–
Error limit in normal position		mm/m	0.5	
Error limit for overhead measurement		mm/m	0.5	

46 7350

HOLEX Aluminium spirit levels

46 7435 – Sturdy powder-coated aluminium profile.
46 7436 – Sturdy anodised aluminium profile with **powerful permanent magnets.**

46 7435

46 7436

Length		mm	300	400	500	600	800	1000
42G 46 7435	Aluminium spirit level		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
42G 46 7436	Aluminium spirit level **with magnet**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Error limit in normal position		mm/m	0.5					

BMI Aluminium levels

Aluminium profile with 2 through grips, one vertical vial and one horizontal vial.

46 7466

Length		mm	1800	2000	2500	3000	4000
46M 46 7466	Aluminium level		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Error limit in normal position		mm/m	1				
Width		mm	18				
Height		mm	100				

BMI Wooden spirit levels

Hardwood spirit level. For sensitive surfaces. High-precision CNC production process ensures both base faces are plane parallel.

46 7472

Length		mm	300	500
46M 46 7472	Hardwood spirit level		(XXX)	(XXX)
Error limit in normal position		mm/m	1	

BMI Control cabinet spirit level

Robust spirit level of glass fibre reinforced ABS plastic. Very easy to read round vials. With two strong button magnets.

46 7475

Length		mm	250
46M 46 7475	Control cabinet spirit level **with magnet**		(XXX)
Error limit in normal position		mm/m	1

BMI Acrylic vials

Sturdy plastic body with 3 fastening holes. Round vial with ring markings for horizontal alignment in two axes.
Size 80 – With 3 additional ring markings (1°, 2°, and 3°).

46 7492_30

46 7492_80

∅		mm	30	80
46M 46 7492	Capsule vial		(XXX)	(XXX)
Height		mm	11	12

Unbreakable acrylic block; vial with 2 ring markings.
Size 55 – 2 fastening holes; underside white coated.

46 7494_55

46 7494_100

Length		mm	55	100
46M 46 7494	Longitudinal vial		(XXX)	(XXX)
Width		mm	15	
Height		mm	15	

Crossways spirit level for simultaneous alignment of two horizontal planes. Sturdy plastic casing with two attachment holes.

46 7496_60

Length		mm	60
46M 46 7496	Crossways spirit level		(XXX)
Width		mm	45
Height		mm	10

STABILA Electrician's spirit level

Electrician's spirit level with patented slip stoppers on the end caps. With integral metal sleeves for marking out the marking holes for up to 4 multiple sockets and switches in horizontal and vertical arrangements.

46 7415

Length		mm	430
46M 46 7415	Electrician's spirit level		(XXX)
Error limit in normal position		mm/m	0.5
Spacing of drilled holes		mm	71

STABILA Light metal spirit levels with electronic clinometer

IP 65 | H2 Cal

Exceptionally robust aluminium rectangular profile with shock-absorbing end caps. Two optimally legible digital displays in every operating situation – illuminated at the push of a button. Dust-proof and waterproof.
Display modes: °, %, mm/m, in/ft – decimal and as fractions. In degree mode it offers a choice between fine and rough indication (0.05°/0.1°). Keyboard lock. Acoustic targeting with three different signal tones. Reference value freely selectable. Warning if the spirit level is tipped in the second axis. **Self-calibrating in steps of 90°.** Approx. 150 hours operation on a single battery charge.
Size 300 – without through grip.

Function: IP65: Protected against jets of water from all directions and protected against penetration by dust (dust-tight), also completely protected against touching.

Supplied with: Including batteries No. 081511 LR6.
Size 600–1000 – Including transport bag.

46 7554

Length		mm	300	600	800	1000
46M 46 7554	Electronic light metal spirit level		(XXX)	(XXX)	(XXX)	(XXX)
Graduations can be switched over		degrees	0.05 / 0.1			
Error limit in normal position		mm/m	0.5			
Error limit of electronics module		degrees	0.05 (0°; 90°); 0.2 (1°-89°)			

DIN 877 | ▶ H2 ◀ Cal

Garant Shaft spirit levels

Sturdy housing of high quality special casting; Vee base with ground contact surfaces in the angle (important for marking out, aligning, etc.). All measuring faces are exactly parallel to the axis of the vial. One longitudinal and one transverse vial each of glass. With insulated handles on the housing and protective glass over the vials.

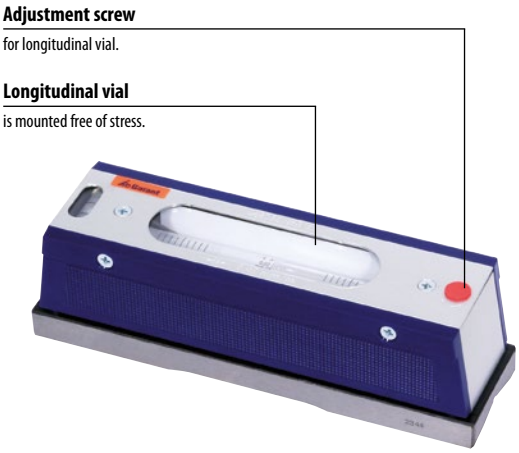
Adjustment of the longitudinal vial:
An adjustment screw allows the longitudinal vial to be reset to the 0 position easily and without play, with no need for disassembly.

Standard: **DIN 877**

Accuracy: **1** = with very high sensitivity longitudinal vial **0.02 mm/m.**
2 = with high sensitivity longitudinal vial **0.1 mm/m.**
4 = with normal sensitivity longitudinal vial **0.4 mm/m.**

Application: For aligning surfaces, shafts, machines etc.

Note: Magnetic version available on request.



46 8790

Base Length×Accuracy	mm	150/1	200/1	300/1
41H 46 8790 Shaft spirit level with adjustable vial		(XXX)	(XXX)	(XXX)
Scale divisions	mm/m	0.02		
Sole width	mm	40		

DIN 877 | ▶ H2 ◀ Cal

Shaft spirit levels

Sturdy housing of high quality special casting; hammer finish. Vee base with ground contact surfaces in the angle (important for marking out, aligning, etc.). All measuring faces are exactly parallel to the axis of the vial. One longitudinal and one transverse vial each of glass. With insulated handles on the housing and protective glass over the vials.

46 8810 – Thermal insulation over the entire body protects against the effects of the heat of hands or breath. Recess in the body permits a side view of the vial.

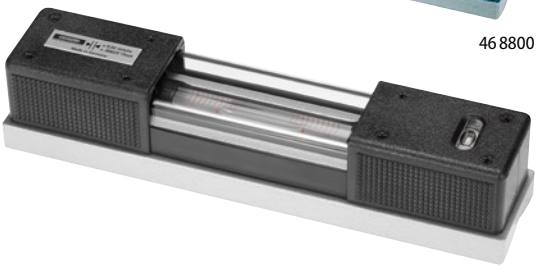
Standard: **DIN 877**

Accuracy: **1** = with very high sensitivity longitudinal vial **0.02 mm/m.**
2 = with high sensitivity longitudinal vial **0.1 mm/m.**
4 = with normal sensitivity longitudinal vial **0.4 mm/m.**

Application: For aligning surfaces, shafts, machines etc.

Note:
46 8810 – Magnetic version available on request.

46 8800



46 8810

Base Length×Accuracy	mm	160/1	160/2	160/4	200/1	200/2	200/4	250/1	250/2	300/1	300/2
46R 46 8800 STIEFELMAYER Shaft spirit level		–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46U 46 8810 ROECKLE Shaft spirit level		(XXX)	(XXX)	–	(XXX)	(XXX)	–	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	mm/m	0.02	0.1	0.4	0.02	0.1	0.4	0.02	0.1	0.02	0.1
Sole width (46 8800)	mm	–	40	40	40	40	40	40	40	50	50
Sole width (46 8810)	mm	42	42	–	42	42	–	42	42	42	42

DIN 877 | ▶ H2 ◀ Cal

STIEFELMAYER Crankpin spirit levels

Sturdy housing of high quality special casting; hammer finish.
Longitudinal and traverse Vee profiles in the ground sole.
Longitudinal and traverse vials of glass.

Application: Mainly used for aligning crankshafts and crankpins on engines.

Base Length×Width	mm	60×40	90×40
46R 46 9400 Crankpin spirit level		(XXX)	(XXX)
Reading longitudinal vial	mm/m	0.1	
Reading transverse vial	mm/m	0.8	

DIN 877 | ▶ H1 ◀ Cal

Garant Square frame levels

Sturdy frame of high quality special casting; hammer finish. 3 sides Vee ground, 1 side flat. One longitudinal and one transverse vial each of glass. The sensitivity (scale value) of the longitudinal vial is specified on the square. Accuracy grade 1 has insulated handles on the housing and protective glass cover over the vials.
Adjustment of the longitudinal vial:
An adjustment screw allows the longitudinal vial to be reset to the 0 position easily and without play, with no need for disassembly.

Standard: **DIN 877**
Accuracy: **1** = with very high sensitivity longitudinal vial **0.02 mm/m.**
2 = with high sensitivity longitudinal vial **0.1 mm/m.**
Application: For aligning horizontal and vertical faces, shafts etc. and for accurate alignment at a 90° angle.

Note: Magnetic version available on request.

46 9190

Base Length×Accuracy		mm	150/2	200/1
41H **46 9190**	Square frame level with adjustable vial		(XXX)	(XXX)
Scale divisions		mm/m	0.1	0.02
Sole width		mm	40	

DIN 877 | ▶ H1 ◀ Cal

Square frame levels

Sturdy frame of high quality special casting; hammer finish. 3 sides Vee ground, 1 side flat. One longitudinal and one transverse vial each of glass. The sensitivity (scale value) of the longitudinal vial is specified on the square.

46 9200 – Insulated handles on the housing protect against the effects of body heat.
46 9210 – Thermal insulation over the entire body protects against the effects of the heat of hands or breath. Recess in the body permits a side view of the vial.

Standard: **DIN 877**
Accuracy: **1** = with very high sensitivity longitudinal vial **0.02 mm/m.**
2 = with high sensitivity longitudinal vial **0.1 mm/m.**
Application: For aligning horizontal and vertical faces, shafts etc. and for accurate alignment at a 90° angle.

Note:
46 9210 – Magnetic version available on request.

46 9200

46 9210

Base Length×Accuracy		mm	100/2	150/1	150/2	200/1	200/2
46R **46 9200**	STIEFELMAYER	Square frame level	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
46U **46 9210**	ROECKLE		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions		mm/m	0.1	0.02	0.1	0.02	0.1
Sole width (46 9200)		mm	28	37	37	41	41
Sole width (46 9210)		mm	34	42	42	42	42

▶ H2 ◀ Cal

Nedo® Winkeltronic Easy protractor

Protractor with precise display of the angular position of the movable blade.
With integral horizontal and vertical vials. Data storage key for locking the measurement values.
Display can be zeroed in any position.

Supplied with: 4 batteries No. 081561 size LR6, case.

46 7540

Length		mm	400	600
46R **46 7540**	Winkeltronic protractor, resolution 0.1 degrees		(XXX)	(XXX)
Measuring range		degrees	0 – 200	
Graduations		degrees	0.1	
Error limit		degrees	0.2	

TAJIMA Clinometer

Simple, easy to use clinometer. Base made of aluminium with inset magnets.
Rotating vials can be positioned with thumbwheel. Scaling on the rotating disc in degrees and mm/m.

Length	mm	250
46R 46 7355	Clinometer	(XXX)
Width	mm	20
Height	mm	125

46 7355

HOLEX Digital clinometer

Sturdy metal housing with 2 strong magnets on the base and on each of the flat side faces. Angular measurement reading on the large LCD display. The display rotates automatically for angles greater than 90°. Angle can be displayed to the horizontal or between two faces (absolute and relative measurement).

Supplied with: 1 battery No. 081551 size 6LR61.

46 7564

42G 46 7564	Digital clinometer	(XXX)
Graduations	degrees	0.05
Error limit of electronics module	degrees	0.5
Length	mm	56
Width	mm	56
Height	mm	31

SPI Digital clinometers

Standard | H2 Cal

- Aluminium frame with precision measurement faces, Vee profile at top.
- Direction arrows in the display facilitate alignment to 0° and 90°.
- Hold function for retaining the measurement result.
- Zero setting in any position.

Size 360 – ■ The display can be rotated for overhead measurement so the values can be read from below.

Supplied with: Storage case and 1 battery No. 081561 size 6LR61.

46 7560

Type		360	3600
46R 46 7560	Digital clinometer	(XXX)	(XXX)
Measuring range	degrees	360 (4×90°)	
Graduations	degrees	0.1	0.01 (0° – 9.99°) / 0.1 (10° – 90°)
Error limit of electronics module	degrees	Horizontal 0.1 / vertical 0.2	0.05 (0° – 10°) / 0.1 (80° – 90°) / 0.2 (11° – 79°)
Flatness tolerance	mm	0.0762	
Length	mm	153	
Width	mm	31	
Height	mm	49	

STABILA Digital clinometer

IP 65 | H2 Cal

Compact and sturdy body, measuring face made of anodised aluminium. Variable attachment methods via Tee-slot, Vee-slot and rare earth magnet system. Illuminated digital display rotates when the position is inverted. Integral warning function prevents incorrect measurements. Button locking, hold and reference function.

Size 1000 – Smart documentation of individual or continuous measurements. Serial interface for connection to a PC and bus systems. Simultaneous use of multiple devices in a single system. **Free** STABILA ANALYTICS software for easy evaluation and documentation of the measured values, without any programming effort.

Supplied with: Includes protective case.

Size 500 – 2× batteries No. 081561 size LR6.

Size 1000 – Li-ion rechargeable battery with mains power adapter, 4 country-specific exchangeable adapters, 2 data cables, evaluation software.

_500

_1000

Type		500	1000
46M 46 7563	TECH digital clinometer	(XXX)	(XXX)
Measuring range	degrees	360 (4×90°)	0 – 360
Graduations	degrees	0.01	
Error limit of electronics module	degrees	0.05 (0°; 90°); 0.2 (1° – 89°)	0.05 (0°; 90°; 180°; 270°); 0.1 (1° – 359°)
Flatness tolerance	mm	0.07	
Length	mm	175	
Width	mm	32	
Height	mm	70	

DIN 2276

TESA Clinometer Clinobevel 1 USB

Clinometer for universal use for absolute and relative measurements.
Four precision-machined measurement bases permit inclination measurements in any designed quadrant.
Strengthened housing of hard-anodised aluminium, protected against splashed water. With angular and inclination display.

Size SOFT – Automatic generation of test reports by Clinosoft software.

Supplied with: Incl. case.

Size SOFT – Additionally USB data cable and Clinosoft software.

Type		SOFT	SINGLE
45C 46 7555	Digital clinometer **CLINOBEVEL 1 USB**	(XXX)	(XXX)
Measuring range	degrees	±45	
Graduations	mm/m	0.02	
Accuracy	arcmin	2 +1 graduation	
Length	mm	100	
Width	mm	75	
Height	mm	35	
Weight	g	520	

46 7555

Plumb bob

Plumb bob with slender tip and well visible nylon cord.

46 7580 – ■ Multiple fastening capabilities e.g. magnet, steel pin.
■ Adjustable tensile force.
■ Stainless steel plumb bob with protective cap.

Size 400 – Particularly robust with rubberised casing.

46 7582 – ■ Plumb bob of die-cast zinc

Weight	g	200	300	400
46R 46 7580 TAJIMA	Plumb bob	–	(XXX)	(XXX)
42G 46 7582 HOLEX		(XXX)	–	–
Plumb line length	m	5	3	4.5

_200 _300 _400

46 7584 – Of steel, bright turned. With centre point and screw-in brass button.

46 7586 – 10 m hemp plumb line, with varnished wooden roller.
Length / ∅ of roller = approx. 80 mm / 40 mm.

46 7584

46 7586

42G 46 7584 HOLEX	Plumb bob 300 g	(XXX)
42G 46 7586	Hemp plumb line 10 m	(XXX)

Type		W	R	GR
42G 46 7588 HOLEX	Perlon plumb line 50 m, ∅ 1 mm	(XXX)	(XXX)	(XXX)
42G 46 7589	Perlon plumb line 50 m, ∅ 2 mm	(XXX)	(XXX)	(XXX)
Colour		white	red	green

46 7589 _W _R _GR

Chalk snap line 30 m

46 7590 – Chalk snap line container of die-cast magnesium, red powder-coated. 30 m special multi-fibre line combines enormous break resistance (234 N) with high chalk absorbency for optimum marking properties. Hardened hook with curved point and storage location in the body. With steel eye at the line exit and stainless steel belt clip. The filling cap closes securely to prevent the escape of coloured powder.

Size 5 – With 5 : 1 quick retraction and push system for easy withdrawal of the line.

46 7595 – **250 g** chalk powder of pure calcium carbonate. Bonds well, resistant to wind and rain. In a transparent container with coloured sealing cap.

Supplied with:

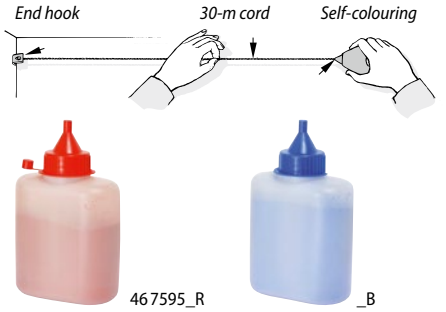
46 7590 – Chalk snap line **without coloured powder.**

46 7590_1

46 7590_5

Retraction ratio (x-fold)		1	5
46R 46 7590	Chalk snap line 30 m	(XXX)	(XXX)
Line length	m	30	
Length	mm	125	132
Width	mm	76	84
Height	mm	47	58

Type		R	B
46R 46 7595	Coloured powder for the snap line **250 g**	(XXX)	(XXX)
Colour		red	blue



46 7595_R _B

BMI Laser spirit level

Robust, easy to use aluminium housing with 3 point lasers at angles of 90° to each other.
The accuracy of the vials and laser in relation to the measuring face is 0.2 mm / m.
Four powerful magnets are inset in the base. Contact surface with laser reference edge (edge = centre of laser).

Application: For quick alignment, marking, and levelling.

Supplied with: Alignment plate for uneven ground. 3 batteries No. 081561 size LR3.

Length	mm	240
460 **46 8460**	Laser spirit level	(XXX)
Error limit	mm/m	0.2
Laser class		2
Range	m	30
Threaded socket for stand	inch	1/4 UNC
Width	mm	25
Height	mm	44

46 8460

IP 54

BOSCH Self-levelling cross-hair laser

Compact cross-hair laser with self-levelling laser lines. Quick horizontal and vertical alignment of lines.
Robust design soft-grip coating protects against shock loads. Dust-proof and splash-proof.

46 8488_2-15

Large working range up to 120 m using the LR 2 Professional receiver (accessories).
In addition, two vertical plumb-line points.

Size 2-50CG – Bluetooth interface for precise working by remote control without touching the device.

Size 2-15G; 2-50CG – **Green cross-hairs** for optimum visibility even under poor lighting conditions.

Supplied with:

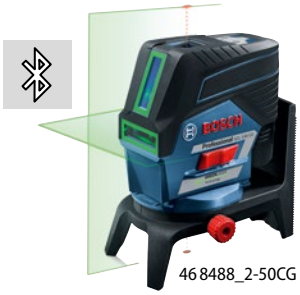
Size 2-15G – 3 × battery No. 081561 LR6, multi-function holder, laser target board and transport case.

Size 2-15 – 3 × battery No. 081561 LR6, multi-function holder, laser target board and protective bag.

Size 2-50CG – 12 V Li-ion battery, charger, multi-function holder, laser target board and transport case.

46 8488_2-15G

Type		2-15	2-15G	2-50CG
461 **46 8488**	Self-levelling cross-hair laser GCL	(XXX)	(XXX)	(XXX)
Error limit	mm/m		±0.3	
Laser class			2	
Range	m	15	15	50
Levelling range	degrees		±4	
Threaded socket for stand	inch	1/4; 5/8; 1/4 UNC, 5/8 UNC	1/4; 5/8; 1/4 UNC	1/4 UNC
Length	mm	130	130	136
Width	mm	83	83	122
Height	mm	162	162	163
Weight	g	490	490	600


46 8488_2-50CG

One horizontal and 2 vertical 360° lines permit a wide range of new applications for simultaneous marking, alignment and levelling indoors. Large working range up to 120 m using the LR 7 Professional receiver (accessories).

Size 3-80CG – **Green laser lines** for optimum visibility even under poor lighting conditions.

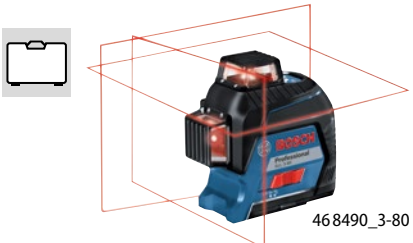
Size 3-80C; 3-80CG – Bluetooth interface for precise working by remote control without touching the device. **CAL Guard** monitors the laser and reports negative influences and the need for calibration. Alternative power supply with 4× AA batteries.

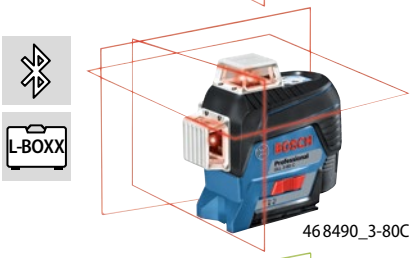
Size 3-80C; 3-80CG – Height adjustment with stop for reliable and precise alignment of the BM1 universal mounting.

Supplied with:

Size 3-80 – 4 × batteries No. 081561 LR6, BT150 stand, laser target board, protective bag and transport case.

Size 3-80C; 3-80CG – Battery with quick charger, BM1 universal mounting, laser target board, protective bag, L-BOXX.


46 8490_3-80



46 8490_3-80C

46 8490_3-80CG

Type		3-80	3-80C	3-80CG
461 **46 8490**	Self-levelling cross-hair laser GLL	(XXX)	(XXX)	(XXX)
Error limit	mm/m		±0.2	
Laser class			2	
Range	m		30	
Range with receiver	m		120	
Levelling range	degrees		± 4	
Threaded socket for stand	inch		1/4 UNC, 5/8 UNC	
Length	mm		159	
Width	mm		75	
Height	mm		141	
Weight	g		900	

IP 54

Leica Geosystems Self-levelling cross-hair laser Leica LINO

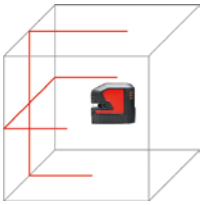
Robust, ergonomic plastic casing; proof against dust and splashed water. Pulse function with power-saving mode. **Very long working life** of up to 44 h due to Li-ion battery. The magnetic adapter can be attached to any wall that has steel elements. **The magnet can be freely pivoted and easily released.** Locking for inclined projections and for protection in transport.

Size L2G; L2P5G – **With green laser lines for optimum visibility. Up to 400% better visibility than red laser lines.**

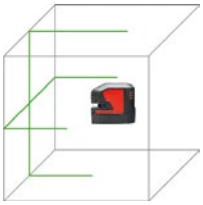
Size L2P5; L2P5G – Additional horizontal and vertical (plumb) laser lines

Supplied with: Supplied with adapter, Li-ion battery, charger, battery holder, target board and case.

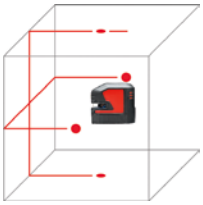
46 8481



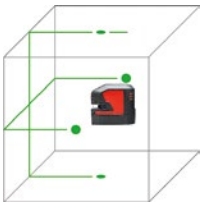
_L2



_L2G



_L2P5



_L2P5G

Type		L2	L2G	L2P5	L2P5G
47C 46 8481	Self-levelling cross-hair laser **LINO**	(XXX)	(XXX)	(XXX)	(XXX)
Error limit	mm/m	0.2			
Laser class		2			
Colour of the laser		red	green	red	green
Range	m	25	35	25	35
Range with receiver	m	80			
Levelling range	degrees	±4			
Threaded socket for stand	inch	1/4 UNC			
Width	mm	60			
Height	mm	110			
Depth	mm	100			
Weight	g	530			

IP 56

BOSCH Self-levelling rotation laser

Self-levelling rotation laser for outdoor use. Quick, precise and simple levelling of the laser lines. Anti-drift system **prevents levelling errors** due to vibration or shaking.

Supplied with: Laser receiver, measurement lath, support tripod, Li-ion battery, charger, instruction manual, transport case.

46 8495

Type		400H
46T 46 8495	Self-levelling rotation laser GRL	(XXX)
Error limit	mm/m	±0.08
Laser class		2
Colour of the laser		red
Range	m	20
Range with receiver	m	400
Levelling range	degrees	±5
Levelling time	s	15
Speed	rpm	600
Threaded socket for stand	inch	5/8 UNC
Working time	h	30
Length	mm	234
Width	mm	217
Height	mm	194
Weight	kg	2

i Cal

Universal laser autoMAGIC

Cross-hairs and 5-beam laser combined in a single device, **self-levelling via a magnetically damped pendulum system.** Pulsed laser lines horizontal and vertical, can be adjusted separately or jointly. Plumb-line lasers upwards and downwards; 3 horizontal laser beams forwards, to the left, and to the right; all laser beams are at an 90° angle to each other. Lockable for generating "oblique lines" and for protection during transport.

Supplied with: Magnetic wall bracket with threads for attachment to stands, laser target board, carrying case, and 3 batteries No. 081561 size LR6.

Type		5SP
46 8465	Universal laser "autoMAGIC"	(XXX)
Laser class		2M
Range	m	30
Levelling range	degrees	±3
Threaded socket for stand	inch	1/4 UNC, 5/8 UNC
Width	mm	116
Height	mm	112
Depth	mm	69
Weight	kg	0.5

Construction and photography tripods

Robust tripod stand with crank column, light metal, telescopic legs with quick adjustment; with removable levelling base.

46 8557

		CET103
46 8557	Aluminium crank stand	(XXX)
Extension length	cm	84 – 246
Connection thread	inch	5/8
Weight	kg	3.6

High-quality tripod stand of aluminium with easy fine adjustment (photography tripod). Telescopic legs with quick adjustment.

46 8558

46 8558	Photography tripod	(XXX)
Extension length	cm	70 – 174
Connection thread	inch	1/4
Weight	kg	2.4

Hand tallies

Stainless steel casing. Cap of wear-resistant plastic. Zeroing by twist knob.

Size H – Manual tally.

Size T – Desktop version with screw mounting holes. Also for fixing to walls.

46 9700_H

46 9700_T

Type		H	T
46 9700	Hand tallies	(XXX)	(XXX)
Height of numerals	mm	4.5	
Number of numerals		4	
Body width	mm	29	
Body height	mm	45	

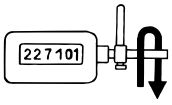
Stroke counter for clockwise actuation

47 0100 – Six-digit counter with drive both sides for clockwise actuation. Zeroing can be done from the left or right with an insertable key. Drive shaft projects at both sides; stroke lever can be set to different positions on the shaft. Drive shaft 5 mm Ø, numerals height 4.5 mm, hammer finish housing.

Application:

47 0100 – In the machine tool and metal industries on stamping machines, shears, power presses, packing machines, automatic dispensers etc.

47 0100



Drive right side, clockwise

47 0150

47 0100	Stroke counter with key	(XXX)
Maximum strokes	rpm	500
Stroke movement minimum – maximum	degrees	32 – 60
Width	mm	70
Height	mm	60
Length	mm	28
47 0150	Zero reset key	(XXX)

hanhart 1882 Crown cap stopwatches

Shockproof escapement.

46 9550 – Robust ABS plastic casing (∅ 55 mm).

Size 1/100 – **Scale graduations 1/100 min** for recording times of work processes.

46 9551 – Simple and robust stopwatch.

Application: Start, stop, and zero via the crown cap.

Type		1/5	1/10	1/100
46R 46 9550	Crown cap stopwatch plastic casing	(XXX)	–	(XXX)
46R 46 9551	Crown cap stopwatch metal casing	(XXX)	(XXX)	(XXX)
Scale graduations		1/5 s	1/10 s	1/100 min
Display time	min	30	15	30

N1 Cal

46 9551_1/10

46 9550_1/5

46 9551_1/100

hanhart 1882 Cumulative stopwatch

Robust ABS plastic casing (∅ 55 mm) with neck cord.
Shockproof pin lever movement with manual winder on the back.

Application: Universally applicable as a single stopwatch or cumulative stopwatch.

- Start and Stop can be pressed at any time during the measurement period.

Type		AMIGO
46R 46 9605	Cumulative stopwatch	(XXX)
Scale graduations		1/20 s
Display time	min	60

N1 Cal

46 9605

hanhart 1882 Double pointer stopwatch

Diamond turned metal casing (∅ 55 mm) with ring and enhanced dust and water protection. Shockproof precision mechanism (lever escapement, 7 jewels). Memory pointer for intermediate timings.

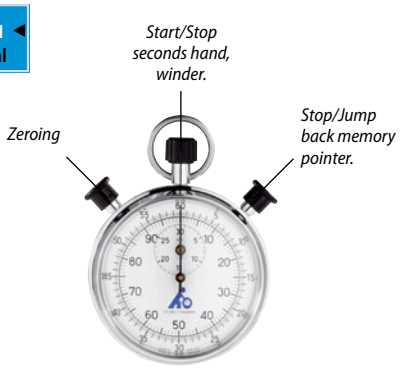
Application: General purpose use for measurements in seconds or in decimals of minutes with any number of **intermediate times.** Hence specially suitable for timing operations and machine running times.

- Start and Stop can be pressed at any time during the measurement period.

Supplied with: Leather case.

46R 46 9610	Double pointer stopwatch in a case	(XXX)
Scale graduations		1/5 s / 1/100 min
Display time	min	30

N1 Cal



hanhart 1882 Digital stopwatches

46 9622 – LCD display with 8 mm characters, 7 digits / + 2 decimal digits for use as an event counter. Display range 9 h, 59 min, 59.99 s. Display graduation value 1/100 s.

46 9624 – LC display, 7/5 mm character height, 6/7 places (upper/lower). Display range 9,999.99 min. / 99,999.99 min (upper/lower). Graduations 1/100 min., 1/100 s, suitable for REFA.

Function:

- Start / Stop / Reset.
- Cumulative / Split / Dual measurement.
- Time of day (2×12 hours a.m. / p.m.).

46 9624 – Additional split / lap / addition / count down / memory function with evaluation, quick search and date display.

Supplied with:

46 9622 – Neck cord and 1 battery No. 081560 size 357.

46 9624 – Neck cord and 1 battery No. 081561 size LR3.

46R 46 9622	Digital stopwatch	(XXX)
46R 46 9624	Digital stopwatch Spectron	(XXX)

N1 Cal

46 9622

46 9624

hanhart 1882 Large stopwatches

Quartz-regulated stopwatch.

Size MESOTRON – Dial with 60ths and 100ths graduations. Functions: Start / Stop, Cumulative.

Size PRISMA – Large digital stopwatch with LCD display. Time resolution selectable: 1/10 sec or 1/100 min. unctions: 2 timers, stop-watch function, **countdown with acoustic signal.** Programmable sequencing. Standard time display.

Supplied with: 1 battery No. 081561 size LR6.

Type		MESOTRON	PRISMA
46R 46 9625	Large stopwatch	(XXX)	(XXX)
Width	mm	130	
Depth	mm	95	
Height	mm	175	

N1 Cal

46 9625_MESOTRON

46 9625_PRISMA

Analogue hand-held tachometers

Mechanical hand-held tachometer for measuring rotational speeds and surface speeds in various fields of application.
Large easy-to-read display with button for point lock to save last reading. Requires no batteries.

Application: **Rotational speed measurement:** 10 – 10,000 rpm,
Speed: 1 – 1000 m/min.

Supplied with: Including surface disc (0.1 m) No. 471180, drive cone centre No. 471170, drive socket centre No. 471190, extension.

Note: **ATEX certified variants on request:**
tachometers for use in environments with potentially explosive atmospheres.
Certified for ATEX zones 1 and 2.

Type		HTM100M
47F **47 1010**	Analogue hand-held tachometer	(XXX)
Error limit	%	±0.5
Surface disc circumference	m	0.1
Operating temperature	°C	0 – 40
Storage temperature	°C	-10 – 40

Digital hand-held tachometers

Non-contact measurement by reflector strip, contact measuring by means of mechanical adapter tip, memory selectable using MODE button for maximum value, minimum value, or most recent value.
Switches off automatically 30 seconds after the last key action.

Application: **Rotational speed measurement:**
– optically 1 to 99,999 rpm non-contact,
– mechanically 0.1 to 19,999 rpm with contact tip.
Speed measurement (with measuring wheel).
– 0.10 to 1999 m/min
Length measurement (with measuring wheel).
– 0.02 bis 99999 m

Supplied with: Includes mechanical adapter, measuring wheel (0.1 m) No. 471180, hollow measuring tip No. 471190, drive cone centre No. 471170, measuring wheel (6 inch), reflector strips No. 471150, case, 2 batteries No. 081561 size LR6.

47B	**47 1100**	Digital hand-held tachometer	(XXX)
Error limit		%	0.02 (±1 digit)
Measurement distance (for optical measurement)		mm	600
Operating temperature		°C	0 – 50
Storage temperature		°C	-20 – 70
47B	**47 1150**	Reflector strip set **5 pieces**	(XXX)

47 1100

47 1150

Industrial precision hand-held tachometers

Precision hand-held tachometer in **sturdy die-cast aluminium casing.** Large digital display, easy to use.
Lengths and speeds in selectable international units.

Size CL – **Laser hand-held tachometer** for non-contact measurements at distances up to 4 m.
Also for contact measurements using multi-impulse adapter (included).

Size C – High–precision **contact tachometer** (60 impulses / revolution).
Especially suitable for measuring low speeds.

Application: **Rotational speed measurement:** 0.1 – 99999 rpm (mechanically up to 25,000 rpm).
Speed: 0.1– 3810 m/min
Length measurement: 0.0– 99999 m/min
Counting: 0– 99999

Supplied with: Includes 2 measuring tips, surface disc 6 inch No. 471311, female centre, extension shaft, operating manual, protective case, 2 batteries No. 081561 size LR6.

Size CL – Additionally with screw-in adapter and reflector strips.

Optional extras: Reflector strips No. 471315.

47 1300_C

47 1300_CL

Type			C	CL
47F	**47 1300**	Precision hand-held tachometer	(XXX)	(XXX)
Error limit		%	0.006 (±0.5 digit)	
Impulses per revolution (contact measurement)			60	8 (with adapter)
Measurement distance (for optical measurement)		mm	–	150 – 1500 , maximum 4000
Measurement time		s	1	
Surface disc circumference		inch	6	
47F	**47 1315**	Reflector strip set **35 pieces**	(XXX)	

I2 Cal

Hand-held stroboscope with particularly high light intensity

High adjustment accuracy and stability thanks to dynamic response of the control wheel.
High light intensity thanks to energy-efficient electronic circuitry and high-performance Xenon flash lamp.
Memory function (last value is saved when switching off the device).
Trigger input for synchronising the flash sequence. Stand connection on the casing. Battery life of min. 2 hours.

Application:

For measuring very small objects or in inaccessible locations – without interrupting ongoing operations.
deal for measuring rotational speed and for inspecting parts that move at a high frequency.

Supplied with:

Incl. carrying case, charger with 4 country adapters and trigger signal plug.

47 1200

Type		476
47B 47 1200	LED hand-held stroboscope	(XXX)
Measuring range	rpm	30 – 12500
Error limit	%	0.02 (±1 digit)
Length	mm	240
Width	mm	65
Height	mm	50
Weight	g	415
Operating temperature	°C	0 – 40

47

BENNING Non-contact phase and cable break tester

For quick and easy phase testing at sockets, junction boxes, switches and lamps. Locates cable breaks in insulated cables.

Standard: **DIN EN 61010-1.**

Application: Phase testing, testing of insulated cables and testing for broken cables.
47 3280 – Additional phase sequence testing.
Size VT2 – Also magnetic field testing on valves, switches, relays, pumps and magnetic field coils.

Supplied with: 2 batteries No. 081561 size LR3.

IP 53

47 3280

IP 40

47 3282_VT1

IP 53

47 3282_VT2

Type		TRITEST	VT1	VT2
47A 47 3280	Phase and phase sequence tester **Tritest Easy**	(XXX)	–	–
47A 47 3282	Phase tester	–	(XXX)	(XXX)
Voltage range AC	V	200 – 1000	200 – 1000	12 – 1000
Overvoltage category		CAT III 1000 V; CAT IV 600 V		
Article no of the battery / rechargeable battery fitted		081561 LR3		
Number of batteries contained		2		

HOLEX Non-contact magnetic field tester

Compact two-component plastic casing with integral LED torch.
Prods with visual indication of magnetic fields.

Standard: **IEC/EN 61010-1.**

Application: Detecting and checking magnetic fields in pneumatic and hydraulic systems, testing relays, solenoid coils, valves, and pumps.

Supplied with: Test magnet for checking its operation.2 batteries No. 081551 size LR3.

47 3012

42I 47 3012	Non-contact magnetic field tester	(XXX)
Article no of the battery / rechargeable battery fitted		081551 LR3
Number of batteries contained		2

HOLEX Non-contact voltage tester, AC

Compact two-component plastic casing with integral LED torch. Prods with visual indication of voltage by colour change (green to red) and additional acoustic signal. Easily transported, fits any pocket.

47 3011 – Additional illumination of probe points and 12 V mode for low voltages.

Standard: **IEC/EN 61010-1.**

Application: For non-contact detection of live conductors, e.g. in cables, sockets, junction boxes etc.

Supplied with: 2 batteries No. 081551 size LR3.

IP 40

47 3010

IP 67

47 3011

42I 47 3010	Non-contact voltage testers	(XXX)	
42I 47 3011		(XXX)	
Display range AC (47 3010)	V	50 – 1000	
Display range AC (47 3011)	V	12 – 1000	
Overvoltage category		CAT IV / 1000 V	
Number of batteries contained		2	
Article no of the battery / rechargeable battery fitted		081561 LR3	

IP 40

FLUKE Non-contact voltage tester, AC

Compact voltage tester for non-contact detection of live conductors.
Size LVD2 – additional illumination of measurement points.

Application: Testing of cables, sockets, junction boxes etc., if voltage is present, the measuring prod lights up red and sounds a beep signal.

47 3005_LVD2

		1ACII	LVD2
47H 47 3005	Non-contact voltage testers	(XXX)	(XXX)
Display range AC	V	200 – 1000	90
Overvoltage category		CAT IV / 1000 V	CAT IV / 600V
Article no of the battery / rechargeable battery fitted		081561 LR3	

47 3005_ACII

47

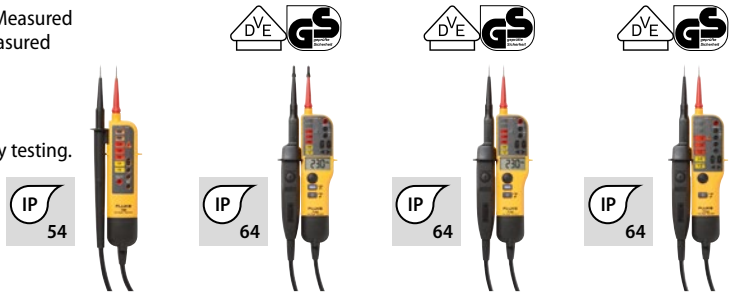
I1 Cal

FLUKE Two-pole voltage and continuity tester

Two-pole voltage testers with ergonomic one-handed operation for sockets. Measured value display with backlighting. Battery indicator - if the battery is flat the measured voltage can continue to be displayed. Slip-on test prods with wear display.
Size T110–T150 – **VDE version**

Standard: **HSE GS 38 (measurement prods); IEC EN 61243-3.**

Application: For professional multi-stage voltage, polarity and continuity testing.



Type		T90	T110	T130	T150
47H 47 3090	Voltage and continuity tester	(XXX)	(XXX)	(XXX)	(XXX)
Display range AC	V	12 – 690	12 – 690	6 – 690	6 – 690
Display range DC	V	12 – 690	12 – 690	6 – 690	6 – 690
Display		LED	LED	LED / LCD	LED / LCD
Three phase sequence testing		–	yes	yes	yes
Phase testing		–	100V – 690V	100V – 690V	100V – 690V
Polarity testing		yes			
Continuity testing		visual / acoustic			
FI/RCD protective switch test current		yes			
Illumination of probe points		–	yes	yes	yes
Torch function		yes			
Resistance	kΩ	–	–	–	0 – 1.99
Frequency measurement	Hz	40 – 400			
Overvoltage category		CAT II 690 V; CAT III 600 V	CAT III 690 V; CAT IV 600 V	CAT III 690 V; CAT IV 600 V	CAT III 690 V; CAT IV 600 V
Article no of the battery / rechargeable battery fitted		081551 LR3			

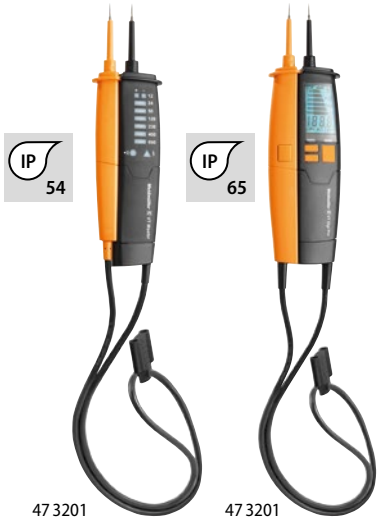
I1 Cal

Weidmüller Two-pole voltage tester

Two-pole voltage testers, ergonomic design, plastic housing is waterproof, impact resistant, and unbreakable, two test prods with magnetic clips, suitable for one-hand operation.

Standard: **IEC / DIN EN 61243-3; VDE 0682-401**

Supplied with: Supplied with 2 batteries 081561 size LR3, thicker test prods (screw-on), insulating protective caps.



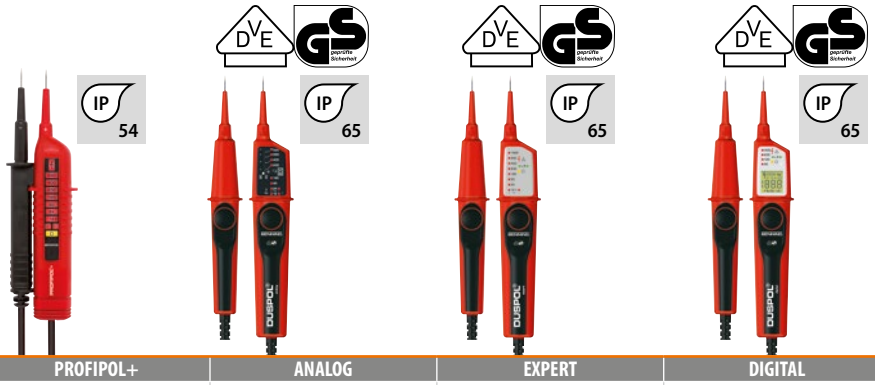
47 3201 47 3201

Type		MASTER	COMBIPRO	DIGIPRO
47A 47 3201	Two-pole voltage tester	(XXX)	(XXX)	(XXX)
Display range AC	V	12 – 690	6 – 690	1 – 1000
Display range DC	V	12 – 690	6 – 690	1 – 1000
Display		LED	LED	digital LCD
Three phase sequence testing		–	yes	yes
Polarity testing		yes		
Continuity testing		visual / acoustic		
FI/RCD protective switch test current		–	yes	yes
Data storage key		–	–	yes
Illumination of probe points		–	yes	yes
Resistance	kΩ	–	–	0 – 1.99
Overvoltage category		CAT III 600 V; CAT IV 300 V	CAT III 690 V; CAT IV 600 V	CAT III 1,000 V; CAT IV 600 V
Article no of the battery / rechargeable battery fitted		081551 LR3		

47

BENNING Two-pole voltage tester with VDE kitemark

Size PROFIPOL+ – With test handle stop for one-handed operation at socket outlets and for secure storage.
The voltage display is operational even it the batteries are flat or has been taken out
Size DIGITAL – AC voltage testing with true effective value procedure **True RMS.**
Size ANALOG–DIGITAL – **Two-pole voltage tester with VDE kitemark**.
Shockproof, dustproof body. Protected against sprayed water, with rubberised gripping surfaces.
Size EXPERT; DIGITAL – The voltage display from 50 V is operational even it the batteries are flat or have been taken out.
Standard: **DIN EN 61243-3, VDE 0682-401:2015**
Application: Suitable for manual crafts, and for working on electrical systems, industrial systems, maintenance, servicing (troubleshooting),
Size ANALOG–DIGITAL – For professional multi-stage voltage and polarity testing, **with load switching (30 mA RCB trip by push button).**
Approved for voltage testing on **systems up to 1000 V.** Suitable for working on photovoltaic and wind turbine installations and hybrid vehicles.



Device type		PROFIPOL+	ANALOG	EXPERT	DIGITAL
47A **47 3105**	Voltage tester **DUSPOL®**	(XXX)	(XXX)	(XXX)	(XXX)
Display range AC	V	12 – 690	12 – 1000	12 – 1000	1 – 1000
Display range DC	V	12 – 690	12 – 1000	12 – 1000	1 – 1200
Display		LED	plunge coil (illuminated) / LED	LED	LCD (illuminated) / LED
Three phase sequence testing		–	LCD	5	LED
Phase testing		LED	LCD	LED	LED
Polarity testing		LED	LED	LED	LCD
Continuity testing		acoustic / LED	–	acoustic / LED	acoustic / LED
contactless detection of broken cables		yes	–	yes	yes
Vibration alarm		–	yes	yes	yes
Illumination of probe points		–	–	yes	yes
Diode	V	–	–	–	0.3 – 2
Resistance	kΩ	–	–	–	0.1 – 300
Frequency measurement	Hz	–	–	–	1 – 1000
Overvoltage category		CAT II 690 V; CAT III 600 V	CAT III 1000 V; CAT IV 600 V	CAT III 1000 V; CAT IV 600 V	CAT III 1000 V; CAT IV 600 V
Article no of the battery / rechargeable battery fitted		081551 LR3	–	081551 LR3	081551 LR3

testo Two-pole voltage tester

Sturdy plastic casing and ergonomic handle shape with non-slip ring for safe working with no risk of slipping.
Clear 360° display with fibre optic cable.
Size 750-3 – **Additional LCD display** of the actual measured value.
Size 750-2; 750-3 – **Integral torch** for illuminating the measurement area.
Standard: **DIN EN 61243-3:2011**
Function: IP64: Protected against splashed water from all directions and protected against penetration by dust (dust-tight), also completely protected against touching.
Application: For professional multi-stage voltage, continuity, and polarity testing. Suitable for working on electrical systems, industrial systems, maintenance, servicing (troubleshooting),
Size 750-2; 750-3 – with load switching (30 mA RCB trip by push button).
Supplied with: Batteries No. 081561 size LR3, test prod protection and measurement prod extensions.

47 3210_750-1

47 3210_750-3

Type		750-1	750-2	750-3
47B **47 3210**	Voltage tester	(XXX)	(XXX)	(XXX)
Display range AC	V	12 – 690		
Display range DC	V	12 – 690		
Display		–	–	LCD
Three phase sequence testing		yes		
Phase testing		–	yes	yes
Continuity testing		yes		
FI/RCD protective switch test current		–	yes	yes
Illumination of probe points		–	yes	yes
Overvoltage category		CAT III 1000 V; CAT IV 600 V		
Article no of the battery / rechargeable battery fitted		081551 LR3		

IP 64 | ▶ I1 ◀ Cal

HOLEX Two-pole voltage tester

Two-component plastic casing with 2 test prods. Integral LED lamp, test prod mounting for one-hand operation, auto-test for checking its operation. Automatic selection of measurement range.

Standard: **IEC / DIN EN 61243-3; GS TÜV Rheinland and CE mark.**
Application: For professional multi-stage voltage, continuity, and polarity testing.
Supplied with: 2 batteries No. 081551 size LR3, protective caps.

Device type		LED	LCD
421 47 3120	Voltage tester	(XXX)	(XXX)
Display range AC	V	12 – 400	6 – 400
Display range DC	V	12 – 690	6 – 690
Display		5	LCD
Display backlit		–	yes
Three phase sequence testing		yes	
Continuity testing		acoustic / LED	acoustic / LCD
Illumination of probe points		yes	
Overvoltage category		CAT III 1000 V; CAT IV 600 V	
Article no of the battery / rechargeable battery fitted		081551 LR3	

_LED

_LCD

▶ I4 ◀ Cal

FLUKE Current and voltage tester

Open current clamp for **contactless measurement of voltage**, current and frequency, without measurement leads that create contact with live points. Exchangeable test prods. For measuring conductor cross-sections up to 120 mm². Easy-to-read display with back lighting.

Size T6-1000 – Simultaneous display of the actual voltage value and current value.

Standard: **IEC / EN 61010-1; IEC / EN 61326; VDE 0843-20-1.**
Application: For professional voltage and polarity testing, and for current measurement. Suitable for working on electrical systems, industrial systems, maintenance and servicing (troubleshooting).
Supplied with: Supplied with 2 batteries 081561 size LR6, connected measurement leads with detachable 4 mm caps to protect the measuring tips.

Type		T6-600	T6-1000
47H 47 3215	Current and voltage tester	(XXX)	(XXX)
Measurement process		TRUE RMS	
Data storage key		yes	
Display range AC	V	1 – 600	1 – 1000
Display range DC	V	1 – 600	1 – 1000
AC current		0.1 – 200 A	
Frequency measurement	Hz	–	45 – 66
Resistance		1 Ω – 2 kΩ	1 Ω – 100 kΩ
Overvoltage category		CAT III 600 V	CAT III 1000 V; CAT IV 600 V
Article no of the battery / rechargeable battery fitted		081561 LR6	

_T6-1000

IP 64 | ▶ I4 ◀ Cal

testo Current and voltage tester

Ergonomic plastic housing with non-slip ring, rubberised gripping area and measuring prod clips.
Fully automatic measurement of current, voltage and resistance.
Exchangeable test prods. Integral torch for illuminating the measurement area.

Standard: **DIN EN 61243-3:2014, EN 61010-1:2011.**
Function: IP64: Protected against splashed water from all directions and protected against penetration by dust (dust-tight), also completely protected against touching.
Application: For professional voltage and polarity testing, and for current measurement. Suitable for working on electrical systems, industrial systems, maintenance and servicing (troubleshooting).

Size 755-2 – Additional single-pole phase test and rotating field measurement. Approved for voltage testing on systems up to 1000 V.

Supplied with: Incl. batteries No. 081561 size LR3, measurement prods and measurement prod extensions.

Type		755-1	755-2
47B 47 3220	Current and voltage tester	(XXX)	(XXX)
Information displayed		4000	
Continuity testing		yes	
Illumination of probe points		yes	
Phase testing		–	yes
Three phase sequence testing		–	yes
AC voltage		6 V – 600 V	6 V – 1000 V
DC voltage		6 V – 600 V	6 V – 1000 V
AC current		0.1 - 200 A	
Resistance		1 Ω - 100 kΩ	
Overvoltage category		CAT III 1000 V; CAT IV 600 V	
Article no of the battery / rechargeable battery fitted		081561 LR3	

_755-1

▶ I4 ◀
Cal

BENNING TRUE RMS multimeter with open current clamp

Sturdy and ergonomic plastic casing with rubberised gripping area and measuring prod clips, together with open current clamp, illuminated LC display, LED display steps and illumination of probe points. **The voltage display is operational from 50 V even with flat batteries. One-handed operation** for voltage measurements at sockets (19 mm). Self-test device.

Standard: **IEC / DIN EN 61010-1 (DIN VDE 0411-1).**

Application: For measurement of alternating current, voltage, resistance and for continuity testing, phase testing, three-phase sequence testing, polarity testing. Suitable for electrical technology, industry, repair, service (troubleshooting), photovoltaic plants / wind power plants and hybrid vehicle technology.

Supplied with: Supplied with belt holster, probe lead set, rubberised contact tip protection, push-on caps (CAT III/IV), large contact tip extensions (∅ 4 mm), 2 batteries No. 081561 size LR3.

Type		CM1-4
47A 47 3230	Current clamp multimeter	(XXX)
Information displayed		9999
Basic accuracy	%	1.5
Continuity testing		acoustic / LED
Three phase sequence testing		LED
Phase testing		LED
Polarity testing		LED
Measurement process		TRUE RMS
Memory function		HOLD
AC voltage		6.0 V – 1000 V
DC voltage		6,0 V – 1000 V
AC current		0.1 A – 200 A
Resistance		1 Ω – 50 kΩ
maximum jaw aperture	mm	16
Illumination of probe points		LED
Overvoltage category		CAT III 1000 V; CAT IV 600 V
No. of batteries fitted		2
Article no of the battery / rechargeable battery fitted		081561 LR3

47 3230

▶ I1 ◀
Cal

BENNING Phase sequence indicators

Phase sequence indicator with powerful LED torch.

Application: For testing the phase sequence in a three-phase system.

Supplied with: 3 test prods and crocodile clip.

Optional extras: Batteries 081561 size LR6.

Device type		TRITESTPRO
47A 47 3270	Phase sequence indicator **TRITEST pro**	(XXX)
Display phase voltage		L1, L2, L3 (LED)
Three-phase sequence display		right-hand / left-hand (LED)
Voltage range AC	V	400 – 500 (50 Hz-60 Hz)
Overvoltage category		CAT III 300 V
Article no of the battery / rechargeable battery fitted		081561 LR6

47 3270

BENNING Continuity and semiconductor tester

High-resistance and low-resistance continuity testing with 3-stage LED display and sound intensity of the test buzzer. External voltage and polarity display, single-pole and contactless phase testing. The buzzer sound intensity (3-stage/OFF) and illumination intensity (4-stage) are adjustable. With high-power LED torch.

Standard: **IEC / EN 61010-1, (DIN VDE 0411-1).**

Application: Testing electrical wiring, systems, devices and components.

Supplied with: Includes 4 mm test probes, magnetic holder and belt clip.

Optional extras: Batteries 081561 size LR6.

Device type		DUTESTPRO
47A 47 3260	Continuity tester **DUTEST pro**	(XXX)
Display polarity		LED +/–
Display continuity		LED, 3-stage
Continuity testing	kΩ	0 – 0.1 / 1 / 10 (LED); 0 – 0.1 (buzzer)
External voltage display AC / DC	V	6 – 400; pulsing warning tone
single-pole phase test		via 4 mm test lead /non-contact via detector
Article no of the battery / rechargeable battery fitted		081561 LR6

47 3260

HOLEX Continuity and semiconductor tester

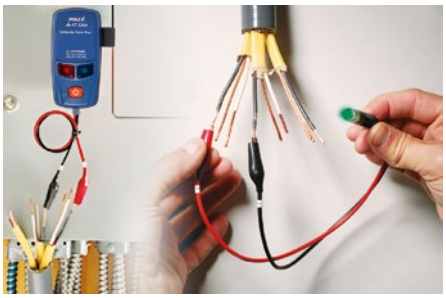
Compact tester in sturdy two-component housing, visual and acoustic indications. Easy to use due to crocodile clips, includes separate indicator lamp (red and green) for continuity and polarity testing at long distances, overvoltage protection 250 V.

Standard: **EN 61326-1:2013.**

Application: Continuity testing of dead electrical wiring, etc. Polarity measurements of semiconductor elements such as diodes, transistors, etc.

Supplied with: 1 battery 081551 size 6LR61.

47 3264



42l 47 3264	Continuity tester		(XXX)
Continuity testing		kΩ	≤1.0
Overload protection		V	250
Article no of the battery / rechargeable battery fitted			081551 6LR61

47

► I4 ◄ Cal

BENNING Digital current clamps

Sturdy plastic casing with large-format, 4 inch and 3 1/2 inch LCD display.
Reliable AC and DC measurements without breaking the operating circuit. Collection of measured value and maximum value, relative measurement.

Standard: **IEC / EN 061010-1 (DIN VDE 0411-1).**

Application: Digital service multimeters for a wide range of applications. These provide a high level of safety and other additional functions.

Size CMP2 – Very high resolution of 10 mA AC in the 40 A measurement range. Integral Volt sensor (NCV) provides non-contact phase voltage signals and detects broken leads in cables (visual/acoustic). Inrush current measurement (INRUSH), low-pass filter (LPF), ZERO function.

Size CM2 – Ideal for measuring small currents.

Size CM10-1 – For professional use in industry, service and manual crafts. Capacitance measurement, diode testing. Data logger, memory, Bluetooth, app. Switch-on current measurement (INRUSH), low-pass filter (HFR), voltage sensor, ZERO function.

Size CM11 – Ideal for trouble-shooting in electrical systems, controls, equipment and vehicle electrics. Precise measurement of small AC/DC currents (stray currents, differential currents and leakage currents).

Supplied with: Batteries, probe leads, compact protective case, operating instructions.

Manufacturer's designation		CMP2	CM1-2	CM2	CM7	CM10-1	CM11
47A 47 3305	Digital current clamp	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Information displayed		4200	2000	4000	4000	6000	6000
Basic accuracy	%	2	1	0.5	0.7	1	1
acoustic continuity test		–	0 – 20 Ω	0 – 50 Ω	0 – 30 Ω	yes	0 – 100 Ω
Measurement process		TRUE RMS	RMS	TRUE RMS (AC)	TRUE RMS (AC)	TRUE RMS	TRUE RMS (AC)
Memory function		HOLD	5	HOLD, MAX	HOLD, MAX / MIN	HOLD, MAX / MIN	HOLD, MAX / MIN
AC voltage		–	0.1 V – 600 V	1 mV – 600 V	0.1 V – 750 V	0.1 V – 1000 V	0.01 V – 600 V
DC voltage		–	0.1 V – 600 V	0.1 mV – 600 V	0.1 V – 1000 V	0.1 mV – 1000 V	0.01 V – 600 V
AC current		10 mA – 400 A	0.1 A – 400 A	100 mA – 300 A	0.1 A – 1000 A	10 mA – 1500 A	0.1 mA – 20 A
DC current		10 mA – 400 A	–	10 mA – 300 A	0.1 A – 1000 A	10 mA – 1500 A	0.1 mA – 10 A
Resistance		–	0.1 Ω – 20 MΩ	0.1 Ω – 40 MΩ	0.1 Ω – 400 Ω	0.1 Ω – 600 Ω	0.1 Ω – 600 kΩ
Frequency		–	–	–	1 Hz – 400 Hz	0.01 Hz – 10 kHz	–
maximum jaw aperture	mm	23	30	25	53	42	23
Overvoltage category		CAT III 600 V	5	CAT III 300 V	CAT IV 600 V	CAT III 1000 V; CAT IV 600 V	CAT IV 300 V
Article no of the battery / rechargeable battery fitted		081561 LR3	081561 LR3	081561 LR3	081561 6LR61	081561 LR6	081561 LR3

▶ I4 ◀
Cal

FLUKE

Current clamps

Current clamps with large easy-to-read LCD display in a slim and ergonomic design.
Size 365 – Removable pliers.
Size 324–365 – Backlit display.
Standard: **EN 61010-1**
Supplied with: Incl. test leads and padded carrying case.
Size 365 – Batteries 2 pcs. No. 081561 size LR6.
Size 323–325 – Batteries 2 pcs. No. 081561 size LR3.

Type		323	324	325	365
47H 47 3290	Current clamp	(XXX)	(XXX)	(XXX)	(XXX)
Information displayed		4000	4000	4000	6000
Basic accuracy	%	2			
Continuity testing		≤70 Ω	≤30 Ω	≤30 Ω	Continuity testing
Measurement process		TRUE RMS (AC)			
Memory function		HOLD	HOLD	HOLD, MAX/MIN	HOLD
AC voltage		0.1 V – 600 V			
DC voltage		0.1 V – 600 V			
AC current		0.1 A - 400 A	0.1 A - 400 A	0.1 A - 400 A	0.1 A – 200 A
DC current		–	–	0.1 A - 400 A	0.1 A – 200 A
Resistance		0.1 Ω – 4000 Ω	0.1 Ω – 4000 Ω	0.1 Ω – 40 kΩ	0.1 Ω – 6 kΩ
Capacitance		–	100.0 µF up to 1000 µF	100.0 µF up to 1000 µF	–
Frequency		–	–	5 Hz – 500 Hz	–
Contact measurement of temperature	°C	–	-10 – 400	-10 – 400	–
maximum jaw aperture	mm	30	30	30	18
Overvoltage category		CAT III 600 V; CAT IV 300 V	CAT III 600 V; CAT IV 300 V	CAT III 600 V; CAT IV 300 V	CAT III 600 V
Article no of the battery / rechargeable battery fitted		081561 LR3	081561 LR3	081561 LR3	081561 LR6

▶ I4 ◀
Cal

testo

Current clamps

Sturdy plastic casing with large illuminated LCD display and rubberised gripping area. **Unique gripping mechanism** facilitates work in restricted spaces. **Automatic setting of the measurement range and type of measurement (AC/DC).** With µA measurement range for measuring ionisation currents (with measurement leads).
Size 770-3 – Data transmission via Bluetooth and Testo Smart Probes app (system requirements: iOS 8.3 or Android 4.3 or later / Bluetooth 4.0). Power measurement.
Standard: **EN 61326-1, EN 61140**.
Supplied with: 3 batteries No. 081561 LR3 and test leads.
Size 770-2 – additional adapter for type K thermocouples.

47 3315

Type		770-1	770-2	770-3
47B 47 3315	Digital current clamp	(XXX)	(XXX)	(XXX)
Information displayed		4000	4000	6000
Basic accuracy	%	0.8	0.8	0.1
Continuity testing		yes		
Diode testing		yes		
Measurement process		TRUE RMS		
AC voltage		1 mV – 600 V		
DC voltage		1 mV – 600 V		
AC current		0.1 A - 400 A	0.1 A - 400 A	0.1 A - 600 A
DC current		0.1 A - 400 A	0.1 A - 400 A	0.1 A - 600 A
Power measurement		–	–	yes
Resistance		0.1 - 40 MΩ	0.1 - 40 MΩ	0.1 - 60 MΩ
Capacitance		0.001 µF - 100 µF	0.001 µF - 100 µF	0.001 µF - 60000 µF
Frequency		0.001 Hz - 10 kHz		
Temperature	°C	–	-20 – 500	-20 – 500
Overvoltage category		CAT III 1000 V; CAT IV 600 V		
Article no of the battery / rechargeable battery fitted		081561 LR3		

▶ I3 ◀ Cal

▶ I7 ◀ Cal

_MM1-3
_MM5-2
_MM7-1
_MM10-PV

BENNING Multimeter

Sturdy plastic casing with large-format, 3½ inch, 4 inch or 4¾ inch LCD display.
Size MMP3 – Digital multimeter, pocket-sized. Small and narrow (132×86×19 mm) - only 130 g in weight.

Standard: **IEC / DIN EN 061010-1 (DIN VDE 0411-1).**

Application: Digital service multimeters for a wide range of applications. These provide a high level of safety and other additional functions.
Size MM5-2 – Microampere measurement range for ionisation current measurement, continuity testing with buzzer and red LED for noisy environments.
Size MM7-1 – AutoV function for automatic AC/DC voltage detection and low input impedance (LoZ).
Size MM10-PV – For precise and reliable measurements on PV systems and applications with high system voltages in industry, manual trades and service. Data logger, memory, Bluetooth, app, AutoV for automatic voltage detection, LoZ and low-pass filter (HFR).

Supplied with: Batteries, probe leads, compact protective case, operating instructions.
Size MM1-3 – Rubber suspension device
Size MM5-2 – Rubber protective surround with magnetic hanger.
Size MM10-PV – Crocodile clips, measurement adapter TA PV.
Size MM1-3; MM5-2; MM7-1; MM10-PV – Wire temperature sensor.
Size MM3; MM7-1 – Rubber protective surround.

Manufacturer's designation		MMP3	MM1-3	MM3
47A 47 3300 Multimeter		(XXX)	(XXX)	(XXX)
Information displayed		5000	2000	2000
Basic accuracy	%	0.6	0.5	0.5
Continuity testing		–	yes	yes
Diode testing		–	yes	yes
Voltage sensor (non-contact)		–	yes	–
Measurement process			RMS	
Memory function		HOLD	HOLD, MAX / MIN	–
AC voltage		0.1 mV – 600 V	0.1 mV – 750 V	0.1 mV – 600 V
DC voltage		0.1 mV – 600 V	0.1 mV – 1000 V	0.1 mV – 600 V
AC current		–	1 mA – 10 A	0.1 µA – 20 A
DC current		–	1 mA – 10 A	0.1 µA – 20 A
Resistance		0.1 Ω – 40 MΩ	0.1 Ω – 20 MΩ	0.1 Ω – 20 MΩ
Capacitance		10 pF – 100 µF	1 pF – 2 mF	1 pF – 200 µF
Frequency		1 mHz – 5 MHz	1 Hz – 20 MHz	1 Hz – 200 kHz
Temperature	°C	-20 – 800	-20 – 800	–
Overvoltage category		CAT II 600 V; CAT III 300 V	CAT III 600 V	CAT III 300 V CAT II 600 V
Article no of the battery / rechargeable battery fitted		081560 LR44	081561 LR3	081561 6LR61

Manufacturer's designation		MM5-2	MM7-1	MM10-PV
47A 47 3300 Multimeter		(XXX)	(XXX)	(XXX)
Information displayed			6000	
Basic accuracy	%	0.5	0.08	0.5
Continuity testing			yes	
Diode testing			yes	
Voltage sensor (non-contact)			yes	
Measurement process		TRUE RMS (AC)	TRUE RMS (AC+DC)	TRUE RMS
Memory function		HOLD; Pmin / Pmax	HOLD, MAX / MIN	HOLD, MAX / MIN
AC voltage		0.1 mV – 600 V	0.01 mV – 1000 V	0.01 mV – 1500 V
DC voltage		0.1 mV – 600 V	0.01 mV – 1000 V	0.01 mV – 2000 V
AC current		1 mA – 10 A	10 µA – 10 A	1 mA – 10 A
DC current		0.1 µA – 10 A	10 µA – 10 A	1 mA – 10 A
Resistance			0.1 Ω – 40 MΩ	
Capacitance		0.01 nF – 1 mF	1 nF – 10 mF	1 nF – 10 mF
Frequency		0.01 Hz – 50 kHz	0.01 Hz – 100 kHz	0.01 Hz – 100 kHz
Temperature	°C		-40 – 400	
Overvoltage category		CAT III 600 V; CAT IV 300 V	CAT III 1000 V; CAT IV 600 V	CAT III 1000 V; CAT IV 600 V
Article no of the battery / rechargeable battery fitted		081561 LR3	081561 6LR61	081555 LR6

IP 64 | ▶ I3 ◀ Cal

Multimeter

Sturdy plastic casing with large illuminated LCD display and rubberised gripping area. **Automatic detection of the units of measurement, based on the socket assignment. Automatic setting of the measurement range and type of measurement (AC/DC). Simple error-avoiding operation with illuminated function keys.**

Standard: **DIN EN 61326-1, EN 61010-2-033**

Supplied with: 3 batteries No. 081561 size LR3 and measurement leads.

Size 760-2 – Additional adapter for type K thermocouples.

Optional extras:

Size 760-2 – Temperature sensor No. 474120 size OF

Type		760-1	760-2	760-3
47B 47 3310	Multimeter	(XXX)	(XXX)	(XXX)
Information displayed		4000	6000	6000
Basic accuracy	%	0.8	0.1	0.1
Continuity testing		yes		
Diode testing		yes		
Measurement process		–	TRUE RMS	TRUE RMS
AC voltage		0.1 mV – 600 V	0.1 mV – 600 V	0.1 mV – 1000 V
DC voltage		0.1 mV – 600 V	0.1 mV – 600 V	0.1 mV – 1000 V
AC current		1 mA - 10 A	1 µA – 10 A	1 µA – 10 A
DC current		1 mA - 10 A	1 µA – 10 A	1 µA – 10 A
Resistance		0.1 - 40 MΩ	0.1 - 60 MΩ	0.1 - 60 MΩ
Capacitance		0.001 nF - 100 µF	0.001 nF - 30000 µF	0.001 nF - 60000 µF
Frequency		0.001 Hz - 512 kHz	0.001 Hz – 30 MHz	0.001 Hz – 60 MHz
Temperature	°C	–	-20 – 500	-20 – 500
Overvoltage category		CAT IV 300 V; CAT III 600 V	CAT IV 600 V; CAT III 1000 V	CAT IV 600 V; CAT III 1000 V
Article no of the battery / rechargeable battery fitted		081561 LR3		

47 3310_760-1

47 3310_760-3

Multimeter

▶ I3 ◀ Cal

47 3322 – Ergonomic plastic housing with integral holster. Large LCD display for good legibility. Reliable and easy to use – **warning if the test leads are connected wrongly.**

Size 87V – Precise voltage and frequency measurements of motor drives with frequency inverters and other electrical devices on which harmonics overlay the fundamental frequency. **High bandwidth for correct measurement of non-sinusoidal signals**. Integral low-pass filter.

47 3325 – Fully equipped digital multimeter **with integral thermal imaging camera. Electrical problems can be detected quickly and reliably, saving tedious measurements and validations. Fluke Connect** uses Bluetooth to connect the measurement device to your smartphone. Transmission and saving of measurements and images. Depiction of trends and monitoring of processes. Creation of reports and distribution by e-mail. 3.5 inch LCD colour display for optimum legibility.

Standard:

47 3322 – **IEC 61010, ANSI/ISA S82.02.01, CSA C22.2-1010.1**

47 3325 – **IEC 61010; EN 61326-1**

Application:

47 3322 – Digital service multimeters for a wide range of applications, very high safety and other additional functions.

Supplied with:

47 3322 – Battery 081561 6LR61, test leads, and removable insulating caps.

Size 179 – Temperature sensor.

47 3325 – Including current clamp for AC, test leads, Lithium-ion battery and charger.

47 3322_175

▶ I7 ◀ Cal

Only size 179 and size 87V

47 3322_87V

Type		175	177	179	87V	279FC
47H 47 3322	Multimeter	(XXX)	(XXX)	(XXX)	(XXX)	–
47H 47 3325	Thermal Multimeter	–	–	–	–	(XXX)
Information displayed		6000				
Basic accuracy	%	0.15	0.09	0.09	0.05	0.09
Continuity testing		yes				
Diode testing		yes				
Measurement process		TRUE RMS				
AC voltage		0.1 mV – 1000 V				
DC voltage		0.1 mV – 1000 V	0.1 mV – 1000 V	0.1 mV – 1000 V	0.01 mV – 1000 V	0.1 mV – 1000 V
AC current		0.1 mA – 10 A	0.1 mA – 10 A	0.1 mA – 10 A	0.1 mA – 10 A	0.1 mA – 2500 A
DC current		0.1 mA – 10 A	0.1 mA – 10 A	0.1 mA – 10 A	0.01 mA – 10 A	–
Resistance		0.1 Ω – 50 MΩ				
Capacitance		1 nF – 10 mF	1 nF – 10 mF	1 nF – 10 mF	0.01 nF – 10 mF	1 nF – 10 mF
Frequency		0.01 Hz – 100 kHz	0.01 Hz – 100 kHz	0.01 Hz – 100 kHz	0.01 Hz – 200 kHz	0.01 Hz – 999 kHz
Temperature	°C	–	–	-40 – 400	-200 – 1090	-20 – 200
Thermal sensitivity	K	–	–	–	–	≤0.2
Field of view	mm	–	–	–	–	36×27
Detector size	px	–	–	–	–	80×60
Overvoltage category		CAT III 1000 V; CAT IV 600 V				
Article no of the battery / rechargeable battery fitted		081561 6LR61	081561 6LR61	081561 6LR61	081561 6LR61	–

▶ i ◀ Cal

47 3325_279FC

Easy detection of electrical faults by use of an integral thermal imaging camera.

IP 67

HOLEX Multimeter

Ergonomically shaped two-component casing with rubber cover. Large easy-to-read digital display with switchable background lighting. Auto ranging meters. All meters with test prod mounting on the rear for one-hand operation, with a stand.

Standard: **IEC / DIN EN 61010-1; GS TÜV Rheinland and CE mark.**

Application: Digital service meters with comprehensive functions.

Supplied with: Supplied with batteries (2 pcs. size 960, 1 pc. size 9917), test prods No. 473328 size 2.
Size 9917 – Temperature sensor, cover caps, and carrying case.

Device type		960	9917
4.2.1 47 3320	Multimeter	(XXX)	(XXX)
Information displayed		4000	
Display backlit		yes	
Basic accuracy	%	1	1.5
acoustic continuity test		yes	
Diode testing		yes	
Measurement process		TRUE RMS (AC)	RMS
Data storage key		yes	
Illumination of probe points		yes	–
automatic power-off		yes	
AC voltage		1 mV – 600 V	0.1 mV – 1000 V
DC voltage		0.1 mV – 600 V	0.1 mV – 1000 V
AC current		0.1 µA – 10 A	
DC current		0.1 µA – 10 A	
Resistance		0.1 Ω – 40 MΩ	
Capacitance		0.01 nF – 4000 µF	1 pF – 200 µF
Frequency		0.01 Hz – 10 kHz	0.001 Hz – 9.9 MHz
Temperature	°C	–	-20 – 760
Overvoltage category		CAT III 600 V; CAT II 1000 V	CAT IV 600 V; CAT III 1000 V
Article no of the battery / rechargeable battery fitted		081551 LR3	081551 6LR61

47 3320_960

47 3320_9917

I10 Cal

BENNING Appliance tester ST725

Testing of devices with mains-voltage circuit elements such as electronically-controlled devices/tools, devices for information technology and communications technology, and for devices which cannot be fully tested without applying mains voltage, in accordance with VDE 0701-0702, DGUV regulations 3.

Application: **Automatic testing procedure** with pass / fail indication for devices of classes I, II and III, and line test. VDE limit values are pre-installed. **Measured values memory** for 999 test objects can be read via the micro-**USB** port. Download software for creating test reports in MS Excel. Integral real-time clock for storing measured values with test date. Protective conductor current / contact current by means of differential current / direct measurement method with (mains mode) and leakage current measurement method (battery mode).

Supplied with: Case, test lead with crocodile clip, mains power cord, light-current mains power cord, batteries 6× No. 081561 LR6, micro-USB cable, download software (CD) and operating instructions.

Optional extras: Printer

Type		ST725
4.7.1 47 3400	Appliance tester	(XXX)
Voltage	V	50 – 270
Test voltage	V	250 / 500 (DC)
FI/RCD protective switch test current	mA	30 – 150
Test current	mA	± 200 (DC)
Protective conductor current / touch current	mA	0.1 – 20
Earth conductor resistance	Ω	0.05 – 20
Insulation resistance	MΩ	0.1 – 20
Length	mm	270
Width	mm	115
Height	mm	55
Weight	kg	1.1
Article no of the battery / rechargeable battery fitted		081561 LR6

BENNING Insulation resistance measurement device IT101

▶ I11 ◀ Cal

Insulation resistance measurement device for insulation and low-resistance measurements **on electrical systems, appliances, cables, motors, and generators.**

Function: Leakage current, polarisation index (PI), absorption factor (DAR), automatic discharge function, zero balancing of the measurement cables.

Application: **Measurements:** Amongst others low-resistance, insulation resistance (test voltages: 50 V, 100 V, 250 V, 500 V, 1000 V) and calculation of the resulting leakage current, resistance with 200 mA test current for testing earth continuity conductor connections, polarisation index, dielectric absorption factor, voltage, resistance.
Special features: Limit values can be selected for ISO measurement, green LED for OK, red LED for test / external voltage, switchable test prods for triggering the measurement process, memory for 100 values per measurement function, automatic discharge of capacitive voltages, zero balancing of the measurement cables, lock function.

Supplied with: Carrying case, test leads, crocodile clips, switchable test prods, rubber protective surround and 4 batteries No. 081561 size LR6.

Type		IT101
47A 47 3420	Insulation resistance meter	(XXX)
Information displayed		4000
Insulation resistance		50 kΩ – 20 GΩ
Low ohmic resistance	Ω	0.01 – 40
Resistance		0.01 Ω – 40 kΩ
Measurement process		TRUE RMS (AC/DC)
Overvoltage category		CAT IV 600 V
Article no of the battery / rechargeable battery fitted		081561 LR6

47

Accessories for electrical testers

Test leads

Test leads, 2-piece red / black, Probe lead ∅ = 4 mm.
47 3308 – Test probe length 18 mm.
47 3318 Size 1 – TL40 test leads with retractable tip 5 – 76 mm.
Size 2 – TL175 test leads with retractable tip 4 – 19 mm.

Standard: **IEC / DIN EN 61010-1 (DIN VDE 0411-1).**

Suitable for:
47 3308 – Multimeters No. 473300; 473305 and No. 473320 size 960 and insulation resistance meter No. 473420.
47 3318 – Digital multimeters No. 473322; 473325.
47 3328 – Digital multimeter No. 473320 size 960 and size 9917.

47 3308_2

47 3318_1

47 3328_2

Measuring tips ∅ mm		1	2	4	Cable length m
47A 47 3308	BENNING	–	(XXX)	(XXX)	1.4
47H 47 3318	FLUKE Test leads	(XXX)	(XXX)	–	1.2
42I 47 3328	HOLEX	–	(XXX)	–	1
Overvoltage category		CAT II 600 V	CAT IV 600 V / CAT III 1000 V (with protective caps), CAT II 1000 V (without protective caps)	CAT IV 600 V / CAT III 1000 V (with protective caps), CAT II 1000 V (without protective caps)	

47 3318_2

Test lead ∅ = 4 mm, red / black.

Suitable for: Multimeters No. 473300; 473305 and No. 473320 size 960 and insulation resistance meter No. 473420.

47 3332

Type		8	Cable length m
47A 47 3332	BENNING Test leads set TA3, 8 pieces	(XXX)	1
Overvoltage category		CAT III 1000 V	

Magnetic meter hanger

Magnetic stand, hook and loop fastener, hook retainer and multi-purpose retainer for suspending the measurement instrument on metal surfaces.

Suitable for: Multimeters No. 473322; 473325.

47 3329

Type		TPAK
47H 47 3329	FLUKE Magnetic meter hanger	(XXX)

Carrying case for voltage tester

Suitable for:
47 3336 – Two-pole voltage tester No. 473105.
47 3337 – Two-pole voltage tester No. 473090.

47 3337

47 3336

Type		B	F
47A 47 3336	BENNING Duspol carrying case	(XXX)	–
47H 47 3337	FLUKE Carrying case C150	–	(XXX)
Length	mm	330	298
Width	mm	100	114
Height	mm	60	56

IP 54 | i Cal

Pocket-sized PTI120 thermal imaging camera

Sturdy high-performance thermal imaging camera for visible depiction of infra-red radiation. **Small compact design in pocket format.**

- **Picture-within-picture mode:** Simple troubleshooting thanks to simultaneous display of the visual image and the thermal image.
- **LC touch screen 8.9 cm (3.5 inch)** for simple operation and troubleshooting.
- **Fluke Connect:** Simple saving of measurements and images via WLAN.

Function:

Size PTI120 – IP54: Protected against splashed water from all directions and protected against penetration of dust into the inside (protected against dust), also completely protected against touching.

Application: For preventative maintenance and monitoring of both mechanical and electrical systems or production processes. Particularly suitable for maintenance, building trades, heating and ventilation installations, together with facilities management and building services.

Supplied with: Supplied with lithium ion battery, USB cable, carrying loop and carrying case.

47 4025_PTI120

Type		PTI120
47H 47 4025	Pocket-sized thermal imaging camera	(XXX)
Temperature range	°C	-20 – 150
Accuracy		±2 °C or 2%
Thermal sensitivity	K	0.06
Image refresh frequency	Hz	9
Field of view	degrees	50 × 38
Detector size	px	120 × 90
minimum focal length	m	0.228

Thermal imaging camera

i Cal

Camera for visual display of infra-red radiation. The outstanding image quality and close temperature resolution allow detection of even very small differences in temperature. This allows performance of qualitative and quantitative temperature analyses. **Auto-detection of hot spots and cold spots.**

Size 868–872 – **With integral digital camera.** The device can be connected to your smartphone using Bluetooth and the **testo thermography app**.

Application: For preventative maintenance and monitoring of both mechanical and electrical systems or production processes. Particularly suitable for maintenance, building trades, heating and ventilation installations, together with facilities management and building services.

Supplied with: Supplied with USB cable, power supply unit, lithium-ion battery, IRSoft professional software (free download) and case

47 4040_872

Type		865	868	871	872
47E 47 4040	Thermal imaging camera	(XXX)	(XXX)	(XXX)	(XXX)
Temperature range	°C	-20 – 280	-30 – 650	-30 – 650	-30 – 650
Accuracy		±2 °C or 2 % of the measured value			
Thermal sensitivity	K	0.12	0.1	0.09	0.06
Image refresh frequency	Hz	9			
Field of view	degrees	31×23	31×23	35×26	42×30
Detector size	px	320×240	320×240	480×360	640×480
minimum focal length	m	0.5			

Infra-red temperature measuring tools

I5 Cal

Quick contact-less measurement over distances.

- Display: Min / max function
- Limit value monitoring with optical and acoustic alarm.
- Small and handy with illuminated display.
- Quick measurement: 2 measurements/s.

Size T4 – Precise contact measurement.

Size T2; T4 – Real measuring spot marking by **2 laser points.**

Supplied with: Supplied with test certificate and 1× battery No. 081561 size 6LR61.

Optional extras: Protective case No. 474029.

Size T4 – Temperature sensor No. 474120.

_T1 _T2 _T4

Type		T1	T2	T4
47B 47 4012	Infra-red thermometer	(XXX)	(XXX)	(XXX)
Measuring range	°C	-30 – 400		
Infra-red resolution	°C	0.1		
Error limit (-30 to 0 °C)	°C	±2 or ±2 % of the measured value		
Error limit (0.1 to 400 °C)	°C	± 1.5 or ± 1.5 % of the measured value	± 1.5 or ± 1.5 % of the measured value	± 1 or ± 1 % of the measured value
Emission level adjustable		0.1 – 1		
Optics		10 : 1	12 : 1	30: 1
Length	mm	75		
Width	mm	38		
Height	mm	190		
Weight	g	200		

Infra-red temperature and moisture measuring tools

Quick and precise infra-red thermometer with intuitive easy-to-use menu selection using icons and joystick.
The 50: 1 optics permit safe measurement even from a long range. The 4-point laser indicates the precise measurement area and prevents incorrect measurements.

- Automatically configurable emission level in conjunction with the surface sensor No. 47 4120 size OF.
- Online measurement in conjunction with free software.
- Memory for 200 measured values and 20 emission level values.
- On/Off display illumination.
- Visual and acoustic alarm if limit value exceeded.

Size 835T2 – With extended **measurement range up to 1500 °C.**

Size 835H1 – With unique patented **infra-red surface moisture measurement** via the integral moisture module.

Application:

Size 835T1 – Greatest possible safety and precision for temperature measurement from a medium distance.

Size 835T2 – Precise measurement up to 1500 °C from a safe distance.

Size 835H1 – Infra-red surface moisture measurement e.g. for detecting the risk of mould formation or to check how far above dewpoint.

Supplied with: 3 batteries No. 081561 size LR6 and calibration certificate.

Optional extras: Dial indicator sensor No. 474120 size OF. EasyClimate software available for download free of charge.

▶ I5 ◀ Cal

_835T1

_835H1

Type		835T1	835T2	835H1
47B 47 4022	Infrared temperature and moisture measuring tool	(XXX)	(XXX)	(XXX)
Measuring range	°C	-30 – 600	-10 – 1500	-30 – 600
Relative humidity measurement range	%	–	–	0 – 100
Infra-red resolution	°C	0.1	0.1 (-10 to +999.9 °C); 1 (+1000 to +1500 °C)	0.1
Moisture module resolution		–	–	0.1 °C / 0.1 % rF / 0.1 °C td
Error limit (-30.0 to -20.1 °C)	°C	±2.5	–	±2.5
Error limit (-20.0 to -0.1 °C)	°C	±1.5	–	±1.5
Error limit (0.0 to 99.9 °C)	°C	±1.0	–	±1.0
Error limit humidity module		–	–	±2 % rH / ±0.5 °C
Error limit remainder of measurement range		±1 % of measured value	±2.0 °C / ±1 % of m.value	±1 % of measured value
Emission level adjustable		0.1 – 1		
Optics		50: 1		
Length	mm	193		
Width	mm	166		
Height	mm	63		
Weight	g	514		

▶ I6 ◀ Cal

Thermo-hygrometer with min / max display

For exact determination of **humidity, temperature, and dew point.** Insensitive to condensation, maintenance-free. **Min / max display** with Reset function. Can be used free-standing or hung up.

Size 608H2 – Additionally with alert function (flashing light) when limit is exceeded. With calibration certificate.

Supplied with: Including battery No. 081561 size 6LR61.

Type		608H1	608H2
47B 47 4050	Humidity and temperature measuring tool	(XXX)	(XXX)
Temperature measurement range	°C	0 – 50	-10 – 70
Relative humidity measurement range	%	10 – 95	2 – 98
Measuring range dew point td	°C	-20 – 50	-40 – 70
Resolution temperature (0 – 50 °C)	°C	0.1	
Error limit dew point td	°C	±0.5 (at 25 °C)	
Error limit relative humidity	%	3	2
Width	mm	111	
Height	mm	90	
Depth	mm	40	

47 4050_608H1

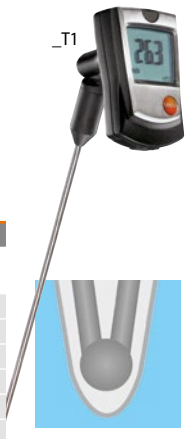
Pocket-size stick temperature measuring tools

High accuracy (thermocouples type K).
Patented pivot head (180°).

Size T1 – Temperature stick with immersion / probe sensor for measuring in liquids, soft or powdered substances or in the air.

Size T2 – Temperature stick with hinged surface probe. The spring loaded hinge adapts to all surfaces.

Supplied with: Fastening clip, 3 batteries No. 081561 size LR3.



▶ I7 ◀ Cal

Large display on patented 180° pivot head.

Sensor directly on the measuring tip.

Spring-loaded hinge

Type		T1	T2
47B **47 4080**	Temperature measuring device with temperature stick	(XXX)	(XXX)
Measuring range	°C	-50 to +350, up to 500 for short periods	
Resolution	°C	0.1	
Error limit (-50.0 to 99.9 °C)	°C	±1	
Error limit remainder of measurement range	%	±1	
Measurement variables		°C / °F	
Sensor tube ∅	mm	3	12
Sensor tube length	mm	200	150
Response time t_{99}	s	10	5
Battery life approx.	h	1000	

Temperature measuring device

Sturdy "All-round" temperature measuring device. Simple handling for daily routine work.

Supplied with: Including 1 battery No. 081561 size 6LR61 and test certificate (without measuring sensor).

47 4110

▶ I8 ◀ Cal

47 4112

Type		925
47B **47 4110**	Temperature measuring device **without measuring sensor**	(XXX)
Measuring range temperature (sensor type K)	°C	-50 – 1000
Resolution	°C	0.1 / 1 (from +200)
Error limit	°C	±0.5 +0.3 % of the measured value (for -40 to 900 °C) ±0.7 +0.5 % of the measured value (remainder of the measurement range)
Length	mm	182
Width	mm	65
Height	mm	40
47B **47 4112**	Top Safe "protective hood" for No. 474110	(XXX)

▶ I7 ◀ Cal

Sensors for No. 474012 / 4022 / 4030 / 4110 / 4160 and 4180 size 175T3

Size MF – Temperature sensor **with magnet** for surface temperature readings of metals. Self-adhesive. Adhesive force 10 N.

Note: Further temperature sensors on request.

47 4120_EF

47 4120_OF

47 4120_MF

Type		EF	OF	MF
47B **47 4120**	Temperature sensor Type K	(XXX)	(XXX)	(XXX)
Measuring range	°C	-60 – 400	-60 to +300, up to 500 for short periods	-50
Error limit		Class 2		
Sensor type		Insertion sensor	Surface sensor	Magnetic sensor
Response time t_{99}	s	7	3	3

Type		EB
47B **47 4140**	Built-in sensor type K	(XXX)
Measuring range	°C	-50 – 205
Error limit		Class 2
Response time t_{99}	s	20

47 4140_EB

Length	mm	1500
47B **47 4150**	Flexible thermocouple, glass fibre type K	(XXX)
Measuring range	°C	-50 – 400
Error limit		Class 2
Response time t_{99}	s	5

47 4150_1500

Smart probes

Compact measuring devices optimised for the smartphone. All measured data are transmitted directly to the free testo Smart Probes app (system requirement: iOS 8.3 or Android 4.3 or later / Bluetooth 4.0) and can be read by a mobile terminal, converted into a report and then sent out directly by e-mail.

- Simultaneous display of up to 6 Smart Probes.
- Wireless reading of the measured values on your mobile device.
- Variations of the measured values can be displayed as a graph or as a table.
- Measured data reports can be supplemented by photos.

Note:	Further smart probes (thermometer, clamp thermometer, differential pressure measuring device and high-pressure measuring device) available on request.

Infra-red temperature measuring device

Infra-red temperature measuring device with smartphone operation. Contactless infra-red measurement of the surface temperature. Measuring spot marking by very easily visible 8-dot laser circle. Simple selection of the emission grade from the stored material list. Pictorial documentation with measured values and measuring spot marking.

Supplied with: 4 batteries No. 081561 LR3 and calibration certificate.

Type		805i
47B 47 4182	Infra-red temperature measuring device	(XXX)
Measuring range	°C	-30 – 250
Optics		10 : 1
Length	mm	145
Width	mm	36
Height	mm	25
Weight	g	97

47 4182

Temperature and humidity measuring device

Thermo-hygrometer with smartphone operation. Measurement of atmospheric humidity and temperature in chambers and ducts. Automatic calculation of the dewpoint and the wet-bulb temperature. Can be angled 0°, 45°, 90°.

Supplied with: 4 batteries No. 081561 LR3 and calibration certificate.

Type		605i
47B 47 4184	Temperature and humidity measuring device	(XXX)
Relative humidity measurement range	%	0 – 100
Temperature measurement range	°C	-20 – 60
Weight	g	86
Length	mm	220
Width	mm	30
Height	mm	24

47 4184

Temperature and flow-rate measuring device

Thermo-anemometer with smartphone operation.

Size 405i – Measurement of air speed, volumetric flow and temperature. Easy configuration of dimension and geometry of the duct cross-section for determination of the volumetric flow. Telescopic tube with up to 400 mm extension.

Size 410i – Depiction of the volumetric flow at multiple outlets, for adjusting systems. Easy parameterisation of the outlet (dimension and geometry).

Supplied with: 4 batteries No. 081561 LR3 and calibration certificate.

Type		405i	410i
47B 47 4186	Temperature and flow-rate measuring device	(XXX)	(XXX)
Temperature measurement range	°C	-20 – 60	
Airspeed measurement range	m/s	0 – 30	0.4 – 30
Length	mm	190	160
Width	mm	30	43
Height	mm	41	21

47 4186_405i

47 4186_410i

Smart Probes Set

For easy measurement of air speeds, atmospheric humidity, volumetric flows and temperatures. Especially suitable for maintenance of air-conditioning systems.

Supplied with:
- Includes 1 smart case
- 1 Testo infra-red temperature measuring device No. 474182 size 805i
- 1 Testo temperature and humidity measuring device No. 474184 size 605i
- 1 Testo temperature and flow measurement device No. 474186 size 405i
- 1 Testo temperature and flow measurement device No. 474186 size 410i

47B 47 4195	Smart Probes VAC set		(XXX)
Weight		g	692
Length		mm	270
Width		mm	190
Height		mm	60

47 4195

Climate measuring instrument

testo 440 multi-function measuring device for measurement of temperature, moisture, pressure, air flow, illumination intensity, CO, and CO_2.

- Intuitive and clearly structured measurement menus with high user comfort.
- Comprehensive selection of climatic probes for a wide range of applications.
- Probe handles with cable or Bluetooth connections. Can be used universally for all probes.
- Clear parallel display of 3 values.
- Internal memory for up to 7500 measurement reports

Supplied with: 3 batteries No. 081561 size LR6, USB cable and calibration certificate.

Optional extras: Optional accessories: Probes No. 474144 / 474146 / 474148 / 474152 / 474156 / 474157 and case No. 474161.

Note: **Testo 440 dp** with differential pressure sensor **for flow measurements in air containing particles (pitot tube measurements). Other probes** (with cable or Bluetooth connections) and **sets available on request for any application**.

47 4141_440

Type		440
47B 47 4141	Climate measuring instrument	(XXX)
Weight	g	250
Length	mm	154
Width	mm	65
Height	mm	32

Testo 440 set for measuring air flows

Testo 440 climate measuring instrument for measuring the **flow speed and volumetric flow in air ducts (m/s, m³/h).**

Size FR – Impeller measurement probe Ø 16 mm for measuring large airflows up to 50 m/s.
Size HD – Hot wire measurement probe (sensor head Ø 9 mm) for small airflows up to 30 m/s. Supplied with a temperature sensor.

Supplied with: Testo 440 climatic measuring instrument No. 474141 size 440, 3× mignon batteries type AA, USB cable, case No. 474161 size K and calibration certificate.
Size FR – Flow rate sensor No. 474152 size FR
Size HD – Hot wire probe No. 474152 size FR

47 4162_HD

Type		FR	HD
47B 47 4162	Climate measuring instrument **Air flow kit**	(XXX)	(XXX)
Measuring range	m/s	0.6 – 50	0 – 30
Error limit (m/s + % of measured value)		±0.2 + 1 % (0.6 to 40 m/s) ±0.2 + 2 % (40.1 to 50 m/s)	±0.03 + 4 % (0 to 20 m/s) ±0.5 + 5 % (20.01 to 30 m/s)
Operating temperature	°C	-10 – 70	-20 – 70

Testo 440 CO_2 set with Bluetooth®

Climate measuring instrument Testo 440 CO_2 set with Bluetooth **for assessing the air quality in the room**. CO_2 probe with Bluetooth incl. temperature and moisture sensor.

Supplied with: Climate measuring instrument No. 474141 size 440, 3 pcs. mignon batteries type AA, USB cable for CO_2 probe No. 474157 size CO2, case No. 474158 and calibration certificate.

47 4167_CO2

Type		CO2
47B 47 4167	Climate measuring instrument **CO_2 set with Bluetooth**	(XXX)
Measuring range		0 – 10000
Accuracy (ppm + % of measured value)	ppm	±50 + 3 % (0 to 5000 ppm) ±100 + 5 % (0 to 10,000 ppm)

Testo 440 humidity kit with Bluetooth® for measuring temperature and humidity

Testo 440 climate measuring instrument and moisture / temperature probe **for measuring moisture and temperature in stores, cold rooms and work rooms, together with air ducts.**

Supplied with: Testo 440 climatic measuring instrument No. 474141 size 440, 3× mignon batteries type AA, USB cable, moisture and temperature probe No. 474148 size FT, case No. 474161 size K and calibration certificate.

47 4164_FT

Type		FT
47B 47 4164	Climate measuring instrument **Moisture / temperature set**	(XXX)
Temperature measurement range	°C	-20 – 70
Relative humidity measurement range	%	0 – 100
Error limit temperature	°C	±0.5
Error limit relative humidity	%	±2

Data logger for temperature and moisture

Robust and compact 2-channel data loggers with large back-lit display. Internal memory for 1 million measured values. High data security, even when the battery is flat. Measurement interval adjustable between 10 seconds and 24 hours. Battery life ≥3 years (measurement interval 15 min, 25 °C). Two standard interfaces (mini-USB and SD card) for easy programming and reading the logged data by direct connection to a PC.

Size 175T2 – Connection for 1 external temperature sensor (type NTC).
Size 175T3 – Port for 2 external temperature sensors (type K and T) No. 474120, 474140 or 474150.
Size 175H1 – Additional measurement and logging of the relative humidity.

Supplied with: With wall bracket, lock, 3 batteries No. 081561 size LR3, and calibration certificate; ComSoft Basic V5 software available for downloading free of charge.

Optional extras: USB cable 474183 size USB.
Size 175T2 – Temperature sensor (type NTC) on request.

IP 65 | I9 Cal

_175T2

IP 54 | I8 Cal

_175T3

47

Type		175T2	175T3	175H1
47B 47 4180	Data logger	(XXX)	(XXX)	(XXX)
Measuring range temperature (external sensor)	°C	-40 – 120	-50 to +1000 (type K); -50 to +400 (type T)	–
Measuring range temperature (internal sensor)	°C	-35 – 55	–	-20 – 55
Relative humidity measurement range	%	–	–	0 – 100
Error limit temperature (external sensor)	°C	±0.3	±0.5 (-50 to 70)	±0.5
Error limit temperature (internal sensor)	°C	±0.5	–	±0.4
Error limit relative humidity	%	–	–	±2
external sensor type		NTC	K and T	–
Length	mm	89	95	149
Width	mm	55	55	55
Height	mm	30	30	30

IP 54 | I6 Cal

_175H1

Data logger for temperature and moisture

Handy data logger with display. Internal memory for 16,000 measurement values. High data security, even when the battery is flat. Measurement interval adjustable between 1 min. and 24 h. Battery life > 1 year (measurement interval 15 min., 25 °C). USB interface (docking station) permits quick and easy configuration of the logger and uploading the measured data.

Size 174H – Additional measurement and logging of the relative humidity.

Supplied with: Wall bracket, 2 batteries No. 081560 size CR2032, manufacturer's certificate of conformity.
47 4200 – Additional docking station with USB connection cable. ComSoft Basic V5 software available for downloading free of charge.

I6 Cal

Type		174T	174H
47B 47 4200	Data logger **with USB docking station**	(XXX)	(XXX)
47B 47 4201	Data logger **without USB docking station**	(XXX)	(XXX)
Temperature measurement range	°C	-30 – 70	-20 – 70
Relative humidity measurement range (47 4200)	%	–	0 – 100
Error limit temperature	°C	±0.5	
Error limit relative humidity	%	–	±3
Length	mm	60	
Width	mm	38	
Height	mm	18.5	

IP 65 | I9 Cal

47 4201_174T

I6 Cal

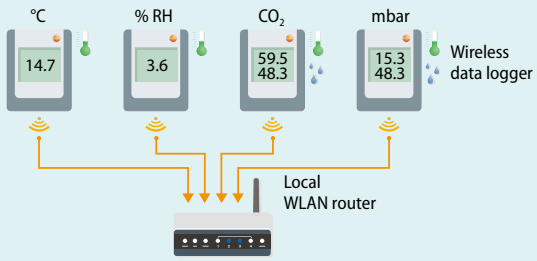
47 4201_174H

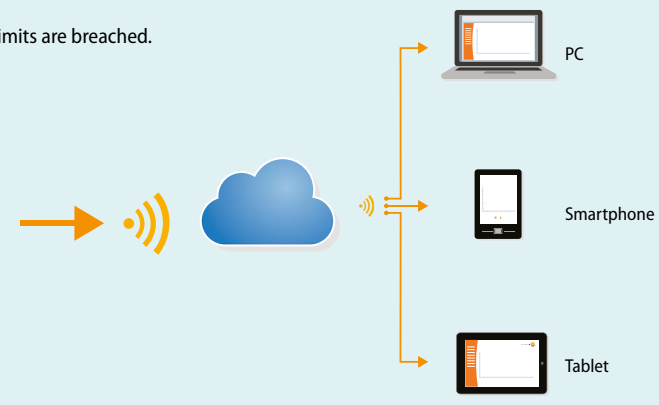
testo Saveris 2 wireless data logger system

The testo Saveris 2 wireless data logger system is a simple, flexible and secure solution for monitoring the temperature and moisture values together with the CO_2 concentration in stores, cold stores and work rooms as well as process sequences.
The wireless data logger reliably displays temperature, moisture and CO_2 concentration at configurable intervals and transmits the measured values via WLAN to the testo cloud, where they can be evaluated and monitored at any time.

Advantages:

- All measured data are available at all times.
- Reports by e-mail, SMS or alarm limits or push communications when alarm limits are breached.
- Simple and automatic monitoring of critical processes.
- Data transmission via WLAN.
- Fee-free online data storage (testo cloud).





Pocket-sized measuring devices for temperature, humidity and illumination

I5 Cal | I9 Cal

Handy device, easy to operate, high quality sensors with long-term stability. Hold function, min / max memory and display illumination for ease of reading the measurement values.

Supplied with: Supplied with protective cap, belt bag and 2 batteries No. 081561 size LR3.

Type		810
47B 47 4260	Air and infra-red temperature measuring device	(XXX)
Measuring range air	°C	-10 – 50
Measuring range infra-red	°C	-30 – 300
Error limit infra-red	°C	±2
Error limit air	°C	±0.5
Optics		6: 1
Length	mm	119
Width	mm	46
Height	mm	25

47 4260

Measuring devices for material humidity

Application: Precise measurement of the material moisture content using stored characteristic curves for various types of wood (such as beech, fir, oak. . .) and various building materials (such as concrete, tiles, plaster. .).

Size 606-2 – Additional measurement of temperature and relative humidity of ambient air (dewpoint calculation).

i Cal | I6 Cal

_606-2

Type		606-1	606-2
47B 47 4262	Materials humidity measuring device	(XXX)	(XXX)
Temperature measurement range	°C	–	-10 – 50
Relative humidity measurement range	%	0 – 55	
Error limit temperature	°C	–	±0.5
Error limit relative humidity	%	±1	
Length	mm	119	
Width	mm	46	
Height	mm	25	

47 4262

Measuring devices for lighting intensity

i Cal

Type		540
47B 47 4266	Illumination intensity measuring device	(XXX)
Measuring range	lx	0 – 99999
Accuracy	%	±3
Length	mm	133
Width	mm	46
Height	mm	25

47 4266

I12 Cal

Noise level meter

Noise level meter, accuracy class 2 to IEC 60942.

Function: Frequency evaluation to characteristic curves A and C; current measured value; partial measurement ranges; evaluation over time (switchable between: FAST 125 ms / SLOW 1 s); min / max memory.

Application: The ideal tool for everyday use, whether air conditioning or heating systems, measurement of machine noise or noise of an incinerator.

Supplied with: Microphone, windshield and battery No. 081561 size 6LR61.

Note: Noise level **calibrator** available on request.

Type		815
47B 47 4300	Noise level meter	(XXX)
Measuring range	dB(A)	32 – 130
Error limit	dB(A)	±1.0
Length	mm	255
Width	mm	55
Height	mm	43
Weight	g	195

i Cal | IP 40 | IP 65

ALLURIS Digital force gauge, tension – compression

- Sturdy force gauges in a handy aluminium die-cast housing for compressive and tensile forces from 0.001 to 2500 N.
- Overload protection up to 500% and protected measurement shaft.
- Attachment thread for additional handles.
- Precise positioning in test stands by a guide pin.

47 8980 – ■ Ready for use at all times thanks to the free-standing photo-voltaic power supply.
47 8983–8987 – ■ High measurement rate for precise recording of peak values to determine fracture or tearing forces.
47 8985/8987 – ■ Measured value memory with statistical analysis and limit value monitoring.
■ **USB interface** for data transmission to a PC.

Advantage:

47 8985 – Measurement data software for evaluation in MsExcel. COM-Bridge software for direct data transmission from the measuring device to the Windows PC.
47 8987 – Data evaluation and test bench control in combination with motorised test stands. **Supplied with DAkkS calibration certificate.**

Application: **Measurement of compressive and tensile forces in quality assessment and production.** For use as a mobile manual measurement gauge both in outdoor areas and in test stands or jigs. Attachment thread integrated into the housing permit attachment in test stands or mounting of additional handles.

Supplied with: Force gauge in a protective case. Screw-on accessories for force transfer (flat head, slot head, cone, hook). Quick-start instructions.
47 8985 – Software FMI-Connect.
47 8987 – Software FMI-AnalyzePro+.

47 8980

47 8983

Measuring range		N	5	50	100	500	1000	2500
47F 47 8980	FMI-S10 Digital force gauge (solar)		–	–	(XXX)	(XXX)	–	–
47F 47 8983	FMI-B20 Digital peak force gauge		–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
47F 47 8985	FMI-B30 Digital precision force gauge (USB)		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
47F 47 8987	FMI-B50 Digital precision force gauge (USB)		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Resolution (47 8980)		N	–	–	0.1	0.5	–	–
Resolution (47 8983, 47 8985, 47 8987)		N	0.001	0.01	0.02	0.1	0.2	1
Error limit (47 8980)		%	–	–	±0.3 maximum value (±1 digit)		–	–
Error limit (47 8983)		%	–	±0.2 maximum value (±1 digit)				–
Error limit (47 8985, 47 8987)		%	±0.15 maximum value (±1 digit)					
Connection thread			M6	M6	M6	M6	M6	M10
Length		mm	150					
Width		mm	82					
Height		mm	29					

ALLURIS FMT-220 vertical test stand with handwheel

- Robust aluminium/stainless steel design can accept loading up to 2500 N, with additional guide rail.
- Perfect guidance for compressive and tensile force measurement, thanks to the additional linear unit.
- Precise positioning by means of a height-adjustable spindle lift gearbox with handwheel.
- Bench top with attachment facilities for clamps or slotted plates.
- Very flexible mounting plate for digital draw bar pulling force gauges.
- Side handwheel can be replaced by a motor unit.

Application: For simple non-speed-dependent tests on materials and components in quality assurance and production.

Supplied with: Vertical test stand with handwheel drive, including attachment points for force measurement devices and operating instructions (force measurement devices must be ordered separately).

Optional extras: Digital draw bar pulling force gauges No. 478980 – 478987. A motorised option can be retrofitted. T-slot plate including 4 Tee nuts FMT-937 on request.

47 8996

Type		1000-250	1000-600	2500-250	2500-600
47F 47 8996	Manual test stand FMT-220 **with handwheel**	(XXX)	(XXX)	(XXX)	(XXX)
maximum application range	N	1000	1000	2500	2500
Feed rate (maximum stroke)	mm	120	120	120	120
Feed rate (per revolution)	mm	1	1	1	1
Inspection room height	mm	250	600	250	600
Inspection room depth	mm	120	120	120	120
Connection of clamping tools		M6	M6	M6	M6
Length	mm	280			
Width	mm	200			
Height	mm	560	960	560	960

MetLogix GMBH Digital force gauge, tension – compression

47 9025

Universal force gauge with OLED display for precisely measuring tensile and compressive forces. Sturdy die-cast housing.

- Displays the current force value and peak value.
- Programmable function keys.
- Monitoring of tolerance limits.
- Memory for storing measurements.
- Statistical evaluation of saved values.
- Average force over time (DFC only).
- Interface for exporting data.

Supplied with: Carrying case, charging plug with USB connecting cable, accessories (pressure pad, hook, tip, fin, V-slot, extension).

Optional extras: Manual test stands on request.

Measuring range	N	50	100	500	1000	2500
47F 47 9025 DFG manual force gauge		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Resolution	N	0.01	0.02	0.1	0.2	0.5
Accuracy		0.2 %				
Measured value memory		50				
Length	mm	191				
Width	mm	84				
Height	mm	42				

Measuring range	N	10	50	100	500	1000	2500
47F 47 9027 DFC manual force gauge		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Resolution	N	0.001	0.005	0.01	0.05	0.1	0.25
Accuracy		0.1 %					
Measured value memory		99					
Length	mm	191					
Width	mm	84					
Height	mm	42					

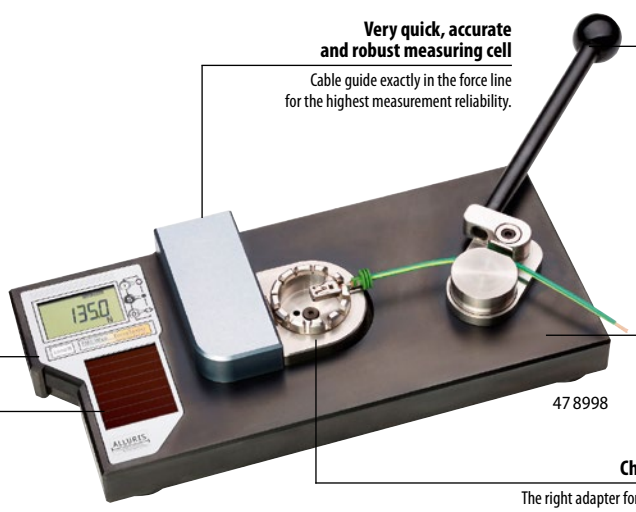
ALLURIS Manual pull-tester FMT-W30

- Manual pull-tester with manual lever for determining the tensile strength of all non-soldered (crimped) cable connections.
- Space-saving, non-slip and sturdy bench-top device with hardened non-scratch base plate.
- Cordless, so always ready for use.
- Interchangeable mounting adapters with 12 different slot widths cover all popular sizes of cable.

Application: Testing cable connections to IEC, DIN, EN, BS, UL, SAE, MIL and NASA standards.

Supplied with: Pull-tester complete with test adapter and terminal pull-off jig, USB interface and instruction manual.

Optional extras: Various exchangeable adapters available, FMT_W_
Connect evaluation software.



47 8998

Measuring range	N	500	1000
47F 47 8998 Pull-tester FMT-W30		(XXX)	(XXX)
Slot width test adaptor	mm	0.5 / 0.8 / 1.0 / 1.3/ 1.5 / 2.0 / 2.5 / 3.0 / 3.5 / 4.0 / 5.0 / 6.0	
Resolution	N	0.5	1
Accuracy		±0.5 % (±1/2 digit)	
Length	mm	350	
Width	mm	160	
Height	mm	75	

WIKA Load cells

Hydraulic load cell with directly attached pressure gauge for static and quasi-static force measurement.
Body and piston stainless steel, pressure gauge of pressed brass with memory pointer. Protected against contamination with foreign particles and water spray (IP43).

47 9100 – 3×M5 tapped hole in the cell base for attachment.

Advantage: When used in accordance with instructions, a leaktightness warranty of 5 years is given.

Application: In machine tool building.

47 9110 – Particularly suitable for **measurements on vices.**

47 9115 – Particularly suitable for **use in three-jaw chucks.**

Supplied with: Display unit, manufacturer's certificate of conformity, and transport case.

47 9100

47 9110

47 9115

47 F

47

Measuring range	kN	0-0,25	0-0,6	0-1	0-2,5	0-4	0-6	0-10
47 F **47 9100** Load cell		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale graduations	kN	0.01	0.02	0.05	0.1	0.1	0.2	0.5
Error limit	%	±1.6 of the full scale value (±2.5 with memory pointer)						
Piston ∅	mm	45						
Height of load cell	mm	30						
∅ load cell	mm	75						
Operating temperature	°C	-10 – 50						

Measuring range	kN	0-16	0-25	0-40	0-60	0-200	0-320
47 F **47 9100** Load cell		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale graduations	kN	0.5	1	2	2	10	10
Error limit	%	±1.6 of the full scale value (±2.5 with memory pointer)					
Piston ∅	mm	45	45	45	45	100	100
Height of load cell	mm	30	30	30	30	41	41
∅ load cell	mm	75	75	75	75	138	138
Operating temperature	°C	-10 – 50					

Measuring range	kN	0-1,2	0-5	0-60	0-200
47 F **47 9110** Load cell **flat side form**		(XXX)	(XXX)	(XXX)	(XXX)
Scale graduations	kN	0.05	0.1	2	10
Error limit	%	±1.6 of the full scale value (±2.5 with memory pointer)			
Piston ∅	mm	50	50	50	100
Height of load cell	mm	38	38	38	41
∅ load cell	mm	90	90	90	138
Operating temperature	°C	-10 – 50			

Measuring range	kN	0-10	0-30	0-75	0-160
47 F **47 9115** Clamping force load cell **for three-jaw chucks**		(XXX)	(XXX)	(XXX)	(XXX)
Scale graduations	kN	0.2	0.5	2	5
Error limit	%	±1.6 of the full scale value (±2.5 with memory pointer)			
Height of load cell	mm	40	40	57	77
∅ load cell	mm	70	70	90	110
Operating temperature	°C	-10 – 50			

WIKA Digital load cells

Hydraulic load cell with digital pressure gauge. Robust and straightforward design, ideally suited to rough operating conditions. Body and piston of the load cell are stainless steel. **300° pivoting,** 4 1/2-digit display with background lighting for direct display of the load force.
The additional graphical display with memory pointer indicates the tendency of the instantaneous load force. Min. / max. memory and tare function can be called up independently of the main display
3×M5 tapped holes in the call base for attachment.

Advantage: When used in accordance with instructions, a leaktightness warranty of 5 years is given.

Supplied with: Display unit, 2 batteries No. 081561 size LR6, manufacturer's certificate of conformity, and transport case.

47 9130

Measuring range	kN	0-2	0-10	0-40	0-60	0-320
47 F **47 9130** Digital load cell		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Graduations	kN	0.01	0.01	0.01	0.01	0.1
Error limit	%	±0.5 of the full scale value ±1 digit				
Piston ∅	mm	45	45	45	45	100
Height of load cell	mm	30	30	30	30	41
∅ load cell	mm	75	75	75	75	138
Operating temperature	°C	-10 – 50				

HOLEX Spring balance – contactors

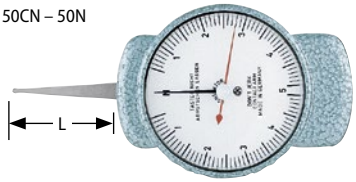
Sturdy metal housing in practical design; hammer finish. Clear dial face with double scale for measuring in both directions. With pointer and memory pointer.

Accuracy: ± 0.01×(measuring range + measured value).

Application: For electrical engineering and fine mechanical work, e.g. setting the contact pressure of relay springs, checking the brush pressure on motors or for adjusting tension or compression springs.

K1 Cal | i Cal

Size 50CN – 50N



maximum measuring range	cN or N	50CN	100CN	250CN	5N	10N	30N	40N	50N	100N
42H 47 8900 Spring balance		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range	N	0.05 – 0.5	0.1 – 1	0.25 – 2.5	0.5 – 5	1 – 10	3 – 30	4 – 40	5 – 50	10 – 100
Scale graduations	cN	1	2	5	–	–	–	–	–	–
Scale graduations	N	–	–	–	0.1	0.2	0.5	1	1	2
Probe length L	mm	29	29	29	48	48	48	48	48	8
Dial face ∅	mm	36	36	36	72	72	72	72	72	72

47

K1 Cal

Spring balances 60 g to 50 kg or spring force gauges 3 N to 500 N

Precision balances with high accuracy ± 0.3% of the load. Taring range up to 20% of the capacity. Any measuring position (apart from No. 479410 - only vertical). Zeroing and 20 % tare via the adjustment screw. Top and bottom mountings can be rotated by 360°.

47 9420/9422 – With drag pointer and handle.

Supplied with: Plastic case and instruction manual.

Optional extras: Conversion kit into spring force gauge No. 479421.

47 9420 / 9422
Application example

maximum weighing range	g	60	100
47F 47 9410 Spring balance Micro Line		(XXX)	(XXX)
Graduation	g	0.5	1
Scale length	mm	80	
Load capacity		Clip	

maximum weighing range	g	300	600	1000	2500
47F 47 9415 Spring balance Medio Line		(XXX)	(XXX)	(XXX)	(XXX)
Graduation	g	2	5	10	20
Scale length	mm	100			
Load capacity		Clip			Hook

maximum weighing range	N	3	6	10	25
47F 47 9417 Spring force gauge Medio Line **Newton**		(XXX)	(XXX)	(XXX)	(XXX)
Graduation	N	0.02	0.05	0.1	0.2
Scale length	mm	100			
Load capacity		Hook			

maximum weighing range	kg	5	10	20	35	50
47F 47 9420 Spring balance Macro Line		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Graduation	g	50	100	200	500	500
Scale length	mm	140	140	140	90	90
Load capacity		Hook				

maximum weighing range	N	50	100	200	500
47F 47 9422 Spring force gauge Macro Line **Newton**		(XXX)	(XXX)	(XXX)	(XXX)
Graduation	N	0.5	1	2	5
Scale length	mm	140	140	140	90
Load capacity		Hook			

47 9415_600

47 9420_20

Conversion kit for spring balances into spring force gauges

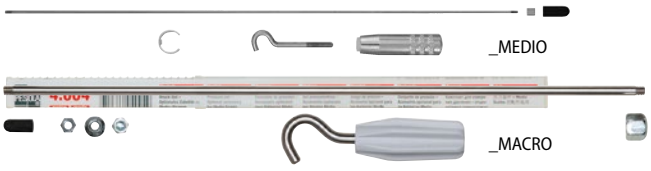
Suitable for:

Size MEDIO – Spring balance No. 479415, spring force gauge No. 479417.

Size MACRO – Spring balance No. 479420, spring force gauge No. 479422.

Application: Spring balance can be converted for compressive force measurement. 2 functions in one balance.

Supplied with: Pressure rod. Hook screw with handle and small parts.



Type	MEDIO	MACRO
47F 47 9421 Compression set	(XXX)	(XXX)

KERN Hanging scales up to 1000 kg

- Simple operation with 3 buttons.
- With tare button, attach empty container and set indication to zero.
- Hold button, the indication can be frozen for 5 seconds.
- Display unit switchable between kg, N and lb.

K2 Cal

Supplied with: 1 battery No. 081561 size 6LR61.

maximum weighing range	kg	15	50	50P
47D 47 9430	Hanging scales type CH	(XXX)	(XXX)	(XXX)
Scale divisions	g	20	100	50
Body width	mm		90	
Body depth	mm		30	
Body height	mm		176.5	
Net weight	kg		0.35	

47 9430

Supplied with: Stainless steel carabiner, stainless steel S-hook (non-standard for size 500 / 1000) and 3 batteries No. 081561 size LR6.

Optional extras:

Size 500; 1000 – Shackle and hook with safety lock on request.

K2 Cal

i Cal

maximum weighing range	kg	50	100	100P	200	200P	500	1000
47D 47 9435	Hanging scales type HCB	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	g	100	200	50	500	100	1000	2000
Body width	mm				80			
Body depth	mm	45	45	45	45	45	42	48
Body height	mm	150	150	150	150	150	152	150
Net weight	kg	0.6	0.6	0.6	0.6	0.6	0.35	0.55

47 9435

i Cal

KERN Crane scales up to 12 t

Back-lit LCD display, easily read even from afar. Internal battery (with optical charge display) gives high mobility. Data hold function for retaining the display value.

47 9434 – Hight mobility thanks to stable lightweight design. Battery lasts approx. 20 hours.

47 9439 – Sturdy high-resolution crane scales up to 12 tonnes. Character height 30 mm. Battery lasts approx. 30 hours.

Supplied with: Remote control with 2 batteries No. 081561 size LR3, mains adapter.

47 9434

maximum weighing range	kg	60	150	300	1500	3000	6000	12000
47D 47 9434	Crane scales type HCD	(XXX)	(XXX)	(XXX)	–	–	–	–
47D 47 9439	Crane scales type HFD	–	–	–	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	g	20	50	100	100	200	500	1000
Reading the average weighing range	g	–	–	–	200	500	1000	2000
Reading at top of weighing range	g	–	–	–	500	1000	2000	5000
Error limit from maximum value	%				0.2			
Body width	mm				194			
Body depth	mm	79	79	79	145	145	145	145
Body height	mm	97	97	97	129	129	129	129
Overall length	mm	276	276	276	421	421	477	573
Net weight	kg	0.85	0.85	0.85	8.2	10	15	20
Operating temperature	°C	0 – 40	0 – 40	0 – 40	-10 – 40	-10 – 40	-10 – 40	-10 – 40

47 9439

K2 Cal

Pocket scales

- With cumulative weighing function, tare button.
- Calibration programme CAL for high accuracy.

47 9442 – Operation via touch screen. Robust hard case for protection against damage and dust.

47 9446 – Flat pocket scales with large stainless steel weighing platform and handy tare dish. Backlit LCD display for easy reading of the weighed value.

Supplied with:

47 9442 – Supplied with 2 batteries No. 081551 size LR3.

47 9446 – Supplied with 2 batteries No. 081560 size CR2032.

47 9442

maximum weighing range	g	150	500	1000
42H 47 9442	HOLEX Pocket scales	–	(XXX)	–
47D 47 9446	KERN Pocket scales, type TGC	(XXX)	(XXX)	(XXX)
Scale divisions	g	0.01	0.1	1
Width (47 9442)	mm	–	72	–
Width (47 9446)	mm		100	
Depth (47 9442)	mm	–	115	–
Depth (47 9446)	mm		130	
Height (47 9442)	mm	–	16	–
Height (47 9446)	mm		18	
Net weight	kg		0.18	

47 9446

KERN Basic compact scales

Very simple operation with 2 keys.

- Tare function (cumulative weighing function) for easy zeroing of the display.
- Battery-powered, auto-off after 3 minutes.
- Can be powered using a mains adaptor.

47 9450 – Simple compact scales, extremely light.

47 9452 – Large background illuminated LCD display (character height 21 mm). Weighing plate made of stainless steel.

Supplied with:

Size 2200 – Supplied with 2 batteries No. 081561 size LR6.

Size 200; 500; 2000; 5200/1; 6000 – 1 battery No. 081561 size 6LR61.

Optional extras:

47 9452 – 6 batteries No. 081561 size LR6; mains adaptor or rechargeable battery on request.

47 9450

47 9452

maximum weighing range	g	200	500	2200	2000	5200/1	6000	10000	20000	50000
47D 47 9450	Compact scales type EMB	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	–	–	–
47D 47 9452	Compact scales type ECB	–	–	–	–	–	–	(XXX)	(XXX)	(XXX)
Scale divisions	g	0.01	0.1	1	0.01	1	0.1	5	10	20
Dimensions of weighing plate		Ø 105	Ø 150	Ø 150	Ø 150	Ø 150	Ø 150	320×260	320×260	320×260
Width	mm	170	170	170	170	170	170	320	320	320
Depth	mm	244	244	244	244	244	244	300	300	300
Height	mm	39	39	39	39	39	39	60	60	60
Net weight	kg	0.5	0.5	0.55	0.9	0.5	0.55	2.6	2.6	2.6

RS232C K2 Cal

KERN Basic precision scales

- Selectable mains and battery operation. Attention: German version! Please order a GB adapter plug No. 08 1174_GB separately. Auto-off after 3 minutes.
- **CAL calibration programme:** For accuracy adjustment (required external calibration weight available on request).
- **Quantity counting:** Reference quantities selectable 5, 10, 25, 50 pieces. Display selectable between pieces and weight.
- **Formulation weighing:** Separate memory for weight of the tare vessel and of the formulation ingredients (net totals).

47 9512 – Second display on the rear of the scales.

Supplied with: Mains adapter 230 V/ 50 Hz and protective hood.

Optional extras: Battery No. 081561 size 6LR61; internal rechargeable battery on request. Data cable, printer on request.

_350 _10000 _30000

maximum weighing range	g	350	3500	10000	30000
47D 47 9510	Precision scales, type PCB	(XXX)	(XXX)	(XXX)	–
47D 47 9512	Precision scales, type FCB	–	–	–	(XXX)
Scale divisions	g	0.001	0.01	0.1	1
Reproducibility	g	0.002	0.02	0.1	1
Linearity	g	± 0.005	±0.05	± 0.3	±2
Settling time	s	3			
Minimum unit weight	g	0.02	0.2	2	20
Dimensions of weighing plate	mm	Ø 81	130×130	150×170	253×227
Width	mm	163	163	163	270
Depth	mm	245	245	245	323
Height	mm	79	79	79	110
Net weight	kg	1.1	1.4	2	2.6

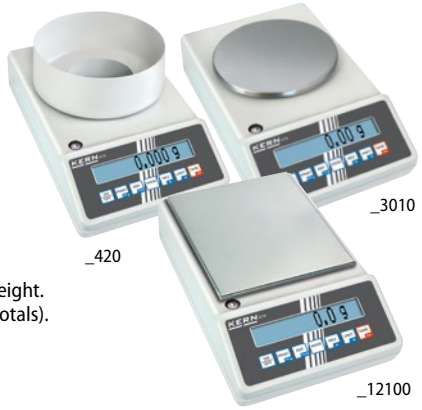
RS232C i Cal

KERN Precision scales

- Robust metal casing.
- Simple self-explanatory user guide.
- Selectable mains and battery operation.
- Units of weight (e.g. screw weight) can be freely programmed.
- **CAL calibration programme:** For accuracy adjustment (required external calibration weight available on request).
- **Quantity counting:** Reference quantities selectable 1, 5, 10, 20 pieces. Display selectable between pieces and weight.
- **Formulation weighing:** Separate memory for weight of the tare vessel and of the formulation ingredients (net totals).

Supplied with: Mains adapter 230 V / 50 Hz and protective hood.

Optional extras: External battery, data cable, printer on request.



_420 _3010 _12100

maximum weighing range	g	420	3010	4200	12100	24100
47D 47 9520	Precision scales, type 572	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	g	0.001	0.01	0.01	0.05	0.1
Reproducibility	g	0.002	0.02	0.02	0.05	0.1
Linearity	g	± 0.005	± 0.05	± 0.05	± 0.15	±0.3
Settling time	s			3		
Minimum unit weight	g	0.01	0.1	0.1	0.5	1
Dimensions of weighing plate	mm	Ø 106	Ø 150	Ø 150	160×200	160×200
Width	mm			180		
Depth	mm			310		
Height	mm			85		
Net weight	kg	2.3	2.3	2.3	2.7	2.7

KERN Counting scales

- Precision counting scales with automatic reference optimisation (progressive refinement of the average value of the item weight).
- Target item count and target weight programmable to give an acoustic signal.
- Cumulative item counter for totalling identical items by total quantity and overall weight.
- Reference quantities or reference weight.
- Selectable mains and battery operation.
- **CAL calibration programme:** For calibrating the accuracy (requires an external calibration weight which is available on request).
- Display switching between items and weight.

47 9540 – Suitable for weighing plastic parts thanks to the integral **ESD protection**.

47 9542 – **Counting system** consisting of **reference scales and quantity scales (platform scales)** with a 2.0 m connection cable.

Supplied with:

47 9540 – Mains adapter 230 V / 50 Hz, battery and protective hood.

47 9542 – Mains adapter 230 V/ 50 Hz and protective hood for reference scales.

Optional extras:

47 9542 – Internal battery, signal lamp available on request.

47 9540

47 9542

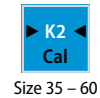
maximum weighing range	kg	3	6	15	30	60	150
47D 47 9540	Counting scales, type CXB	(XXX)	(XXX)	(XXX)	(XXX)	–	–
47D 47 9542	Counting system, type CCS	–	–	–	–	(XXX)	(XXX)
Scale divisions	g	0.2	0.5	1	2	0.1	0.1
Reading the quantity scales	g	–	–	–	–	2	5
Reproducibility	g	0.2	0.5	1	2	0.1	0.2
Linearity	g	±0.4	± 1	± 2	±4	±0.2	± 0.2
Settling time	s	2					
Minimum unit weight	g	1	2	5	10	1	1
Dimensions of weighing plate	mm	300×225	300×225	300×225	300×225	294×225	294×225
Width	mm	300	300	300	300	320	320
Depth	mm	330	330	330	330	350	350
Height	mm	110	110	110	110	125	125
Platform scales width	mm	–	–	–	–	500	500
Platform scales depth	mm	–	–	–	–	400	400
Platform scales height	mm	–	–	–	–	137	137
Net weight	kg	4	4	4	4	13	16

KERN Basic platform / parcel scales

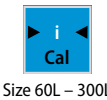
- Robust parcel scales for the dispatch department.
- Very simple operation with four buttons.
- Display unit with numeral height 25 mm can be placed away from the platform; can be positioned or mounted using the flexible cable approx. 2 m long.
- Suitable for mains and battery operation, auto-off after 3 minutes.

Supplied with: Mains adapter and wall bracket for display unit.

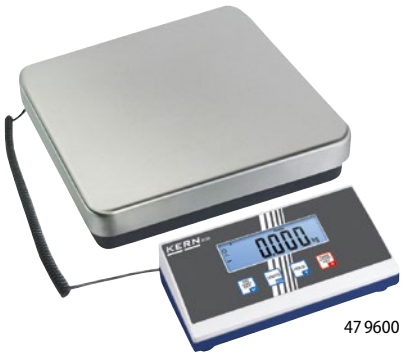
Optional extras: 6 batteries No. 081561 size LR6, stand for the display unit available on request.



Size 35 – 60



Size 60L – 300L


47 9600

maximum weighing range	kg	35	60	60L	150	150L	300L
47D 47 9600	Platform scales, type EOB	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	g	10	20	20	50	50	100
Reproducibility	g	10	20	20	50	50	100
Dimensions of weighing plate	mm	315×305	315×305	550×550	315×305	550×550	950×500
Display unit width	mm	215					
Display unit depth	mm	110					
Display unit height	mm	50					
Net weight	kg	3.8	3.8	12	3.8	11	17

KERN Calibration weights on request

Calibration weights for installing and checking the accuracy of scales available in various accuracy classes as individual weights or sets of weights from 1 mg to 50 kg.

On request also with DAkkS calibration.

RS232C IP 65

KERN Platform scales with calibration approval

- Robust platform scales can be used as parcel, industrial, and counting scales.
- Dual-range scales with automatic changeover between the ranges (more precise display in the lower half of the weighing range).
- Display unit with numeral height 24 mm can be remote from platform; can be stood or mounted using flexible cable.
- High mobility due to optional battery operation and compact design.
- Provides an **optical and acoustic signal** to support portioning, metering or sorting within the tolerance range.
- **Percentage determination:** Enable weighing out to a prescribed value (100%) and determination of deviations from that set value.
- **Quantity counting:** Easy counting function allows quick counting of large numbers. Reference quantities selectable 5, 10, 25, 50 pieces.
- **Formulation weighing:** Separate memory for weight of the tare vessel and of the formulation ingredients (net totals).
- **CAL calibration programme:** For setting the accuracy (external calibration weight required for this available on request)

47 9608 – Platform scales **with calibration certificate** (optional certification can be ordered under No. 479609.) A wide variety of (optional) data interfaces permit easy transfer of weighing data. Optional formulations available: Separate memory for weight of the tare vessel and of the formulation ingredients (net totals).

Supplied with: Supplied with mains adapter, table base including wall bracket, protective hood.

Optional extras:

Size 30 – Calibration No. 479609 size 30

47 9608 Size 150; 60L – Calibration No. 479609 size 300

Note:

47 9608 – For proper calibration, the installation location of the scales must be stated. When ordering scales, please also order calibration No. 479609 and state the installation location.

47 9606

K2 Cal Size 6 – 150 i Cal Size 300

47 9608

i Cal

maximum weighing range	kg	6	30	35	60	60L	150	300L
47D 47 9606	Platform scales, type EOC	(XXX)	–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
47D 47 9608	Platform scales, type IOC **with calibration certificate**	–	(XXX)	–	–	(XXX)	(XXX)	–
Reading at top of weighing range	g	2	10	10	20	20	50	100
Scale divisions	g	1	5	5	10	10	20	50
Reproducibility	g	2	10	10	20	20	50	100
Settling time	s				2			
Minimum unit weight	g	2.5	10	10	20	20	50	100
Dimensions of weighing plate (47 9606)	mm	300×300	–	300×300	300×300	500×400	300×300	600×500
Dimensions of weighing plate (47 9608)	mm	–	400×300	–	–	500×400	500×400	–
Net weight	kg	5.2	5.2	5.2	5.2	9	5.2	18.4

RS232C i Cal

KERN High resolution platform scales

- Robust platform scales can be used as parcel, industrial, and counting scales.
- Display unit with numeral height 18 mm can be remote from platform; can be stood or mounted using flexible cable.
- Robust platform with a protective hood over the display unit.
- Simple, self-explanatory user guidance with (yes/no) dialogue in the display.
- Selectable mains or battery operation (battery available on request).
- Units of weight (e. g. screw weight) can be freely programmed.
- With automatic reference optimisation for exact counting.
- **CAL calibration programme:** For setting the accuracy (external calibration weight required for this available on request).
- **Quantity counting:** Reference quantities selectable 1, 5, 10, 20 pieces.
- Display selectable between pieces and weight.
- **Numeric tare preference** for well-known container weight. Useful for filling quantities.
- **Percentage determination:** Display of deviation from the reference weight in % instead of in grams.

Supplied with: Mains adapter 230 V / 50 Hz and protective hood.

Optional extras: Internal and external battery, calibration weight, wall bracket, printer and stand available on request.

47 9610

maximum weighing range	kg	16	36	65	100	150
47D 47 9610	Platform scales, type DS **high resolution**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Scale divisions	g	0.1	0.2	0.5	0.5	1
Reproducibility	g	0.1	0.2	0.5	0.5	1
Settling time	s			3		
Minimum unit weight	g	1	2	5	5	10
Dimensions of weighing plate	mm	308×318	308×318	450×350	450×350	450×350
Net weight	kg	7.5	7.5	9.5	9.5	9.5

Screw thread grinding gauge

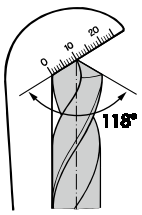
Thread gauge of ground steel. Ground measuring faces.
Labelled cut-outs for:
Vee-form threads 55° – 60°, square threads 2-8 turns / inch, metric threads 60°, Whitworth threads 55°, trapezoidal threads 30°, pitch 2 -12 mm.

42H 47 5130	Screw thread grinding gauge	(XXX)

Jobber drill point grinding gauge

47 5185 – **Adjustable,** with screwed, adjustable pointer and graduations 30° – 160°. Ground measuring faces.
47 5205 – **Fixed,** for drills up to ∅ 50 mm with tip angle 118°.

47 5185

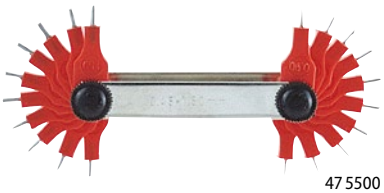


47 5205

Måleområde	degrees	30-160	118
42H 47 5185	Drill point grinding gauge, adjustable	(XXX)	–
42H 47 5205	Drill point grinding gauge, fixed	–	(XXX)

Nozzle checking gauges

47 5500 – Steel gauge pins in a labelled holder. For checking nozzle bores and small holes.
47 5805 – Precision version; pins hardened and cylindrically ground.


47 5500

Measuring range	mm	0,45-1,5	1,5-3
42H 47 5500	Nozzle checking gauge	(XXX)	(XXX)
0.05 mm increments	mm	0.45 – 1.3	–
0.1 mm increments	mm	1.3 – 1.5	1.5 – 3
Number of pins		20	16

47 5805

Measuring range	mm	0-5
42H 47 5805	Nozzle gauge precision version	(XXX)
Scale graduations	mm	1
Vernier value	mm	0.1

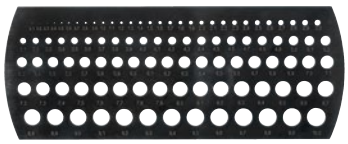
Bore gauge

Bore gauge, taper 1:10, gauge hardened and ground.

Measuring range	mm	4-15
42H 47 5806	Bore gauge	(XXX)
Scale graduations	mm	0.1

Drill gauge

Made of steel, nitrided. Hole ∅ increment 0.1 mm.


_0,1-10

∅ range	mm	0,1-10	3-10
42H 47 5800	Drill gauge	(XXX)	(XXX)

Taper slot gauges

Taper slot gauge satin chrome-plated, size 0.5 -11K plastic.

Measuring range	mm	0,5-7	2,0-7	0,5-11	0,5-11K
42H 47 5810	Taper slot gauge	(XXX)	(XXX)	(XXX)	(XXX)
Scale graduations	mm	0.1			
Material		Steel	Steel	Steel	Plastic

Thread gauge templates

Made of steel; **with precisely milled teeth.** Flat retaining clip with clamping screws for holding the blades.
Application: For checking the pitch of external and internal threads.

for threads		M/W	M/G	UNC	UNF
42H 47 7000	Thread gauge	(XXX)	(XXX)	(XXX)	(XXX)
for threads		metric and Whitworth	metric and pipe	UNC	UNF
for pitches	mm	0.25 – 6	0.25 – 6	–	–
for TPI		4 – 62	11 – 28	4 – 64	12 – 80
Number of blades		24 / 28	24 / 6	22	16

HOLEX Radius gauges

Made of steel; precision **concave and convex gauges.** Flat retaining clip with clamping screws for holding the blades (except size 0.5 - 13). Each marked with the respective radius.

47 7550 – Stainless steel.

Size 0,5-13 – Each gauge has 5 measuring points.

Application: For checking internal and external radii.

for radius		mm	0,5-13	1-7	7,5-15	15,5-25
42H 47 7500	Radius gauge		–	(XXX)	(XXX)	(XXX)
42H 47 7550	Radius gauge, stainless steel		(XXX)	(XXX)	(XXX)	–
0.25 mm increments		mm	–	1 – 3	–	–
0.5 mm increments		mm	0.5 – 13	3 – 7	7.5 – 15	15.5 – 20
1.0 mm increments		mm	–	–	–	20 – 25
No. of blades for internal / external radii			26	17	16	15

S/STL

47 7500

47 7550_0,5-13

S/STL

HOLEX Angle gauge set

Set of angle gauges in 5° steps from 5° – 90°.

Application: For checking internal and external angles from 5° – 90°.

42H 47 7560	Set of angle gauges, stainless steel	(XXX)

47 7560

HOLEX Weld seam gauges

47 7590 – Simple weld seam gauge of aluminium. Measuring range flat seams 0 – 5 mm. Measuring range corner seams 2 – 15 mm.

47 7600 – Measuring range 20 mm, reading 0.1 mm. Slide with clamping screw. Stainless steel.

47 7620 – Measuring range 0 – 20 mm. Reading accuracy 0.1 mm. Reading using reference line in the reading window. Measurement error largely eliminated by single-sided positioning of the gauge. Stainless steel. **Integral straight edge from 0 – 90 mm.**

47 7700 – 12 blades, held fan-shaped by a ring (3 / 3.5 / 4 / 4.5 / 5 / 5.5 / 6 / 6.5 / 7 / 8 / 10 / 12 mm).

Application:

47 7590 – For quick measurement of flat and corner seams.

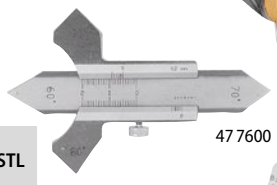
47 7600 – For measuring flat and fillet welding seams.

47 7620 – For easy and quick measurement of the weld seam height. For measuring the flank angle α.

47 7700 – For checking welding seams in right-angled corners.

47 7590

47 7700



47 7600

S/STL

47 7620

42H 47 7590	Weld seam gauge of aluminium	(XXX)
42H 47 7700	Weld seam gauge, 12 blades	(XXX)
42H 47 7600	Weld seam gauge with slide, stainless steel	(XXX)
42H 47 7620	Weld seam gauge with ABCD scale	(XXX)

Absolute System | mm / Inch | Standard | i Cal | S/STL

HOLEX Digital weld seam gauge

Large, high contrast digital display with sturdy metal housing. Digital weld seam gauge with **absolute scale**, no zeroing required. Electronics switch off automatically after approx. 5 minutes and switch on again as soon as the tool is moved.

Application: For measuring flat and fillet welding seams.

Supplied with: 1 battery No. 081560 size CR2032.

47 7630

Måleområde		mm	30
42H 47 7630	Digital weld seam gauge		(XXX)
Reversible reading		mm	0.01
Reversible reading		inch	0.0005
Error limit		mm	0.02

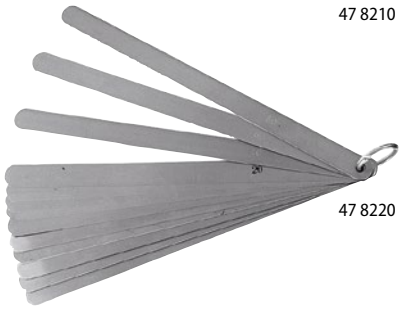
HOLEX Feeler gauges (valve setting gauges)

Hard spring steel blades, clearly labelled. Equal width steel blades, pivoted on a riveted joint to fold away. Tapered steel blades. In nickel-plated casing, with clamp.

47 8100 – Steel feeler gauge, trowalised, accuracy T3.
Size 6 – **Valve setting gauge.**
47 8210 – Feeler gauge with brass blades. **Non-magnetic,** tapered, 100 mm long, 12 mm at widest, accuracy class T2.
47 8100 Size 13–32/8200 –**Feeler gauge.**
47 8200/8220 – Steel feeler gauge, accuracy class T2.

47 8200

47 8210


47 8220

Number of blades		6	13	20	32
42H 47 8100	Feeler gauge, steel, T3	(XXX)	(XXX)	(XXX)	(XXX)
42H 47 8200	Feeler gauge, steel, T2	–	(XXX)	(XXX)	–
42H 47 8210	Feeler gauge, brass, T2	–	–	(XXX)	–
Blade thicknesses	mm	0.1; 0.15; 0.2; 0.25; 0.3; 0.4	0.05 - 0.25 (0.05 increments) 0.3 -1.0 (0.1 increments)	0.05 -1.0 (0.05 increments)	0.03-0.10 (0.01 increments) 0.10-1.0 (0.05 increments) 0.125; 0.18; 0.23; 0.28; 0.32; 0.075
Blade length	mm	75	100	100	100

Number of blades		13	20
42H 47 8220	Feeler gauge on ring – 200 mm blade length, T2	(XXX)	(XXX)
Blade thicknesses	mm	0.05 - 0.25 (0.05 increments) 0.3 -1.0 (0.1 increments)	0.05 – 1.0 (0.05 increments)

HOLEX Spare feeler gauge blades, individual thicknesses

Equal width cylindrical steel feeler gauges; **loose, 10-piece set,** of the same thickness, accuracy class T3.

Supplied with: 10 feeler gauges of **the same** thickness provided with a ring.

Optional extras: Feeler gauge holder No. 478510.

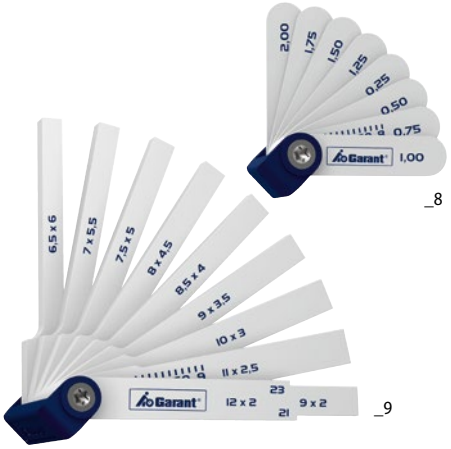
Note: When ordering, please state the required thickness within the given pitch e.g. No. 478300 size 2 **0.04.**

Type		1	2	3	4
42H 47 8300	Feeler gauge set, 10 pieces, T3	(XXX)	(XXX)	(XXX)	(XXX)
Pitch	mm	–	0.01	0.05	0.1
Blade length	mm	100			
Thickness	mm	0.02	0.03 – 0.09	0.1 – 1	1.1 – 2

Garant Delrin gap gauge

Delrin (POM) gap gauges, can be folded away due to high-quality screw pivot. Gentle to surfaces, highly abrasion-resistant, with engraved thickness values.

Application: For checking gap and joint sizes without damaging surfaces and paint finishes.



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Number of blades		8	9
41K 47 8360	Gap gauge **Delrin**	(XXX)	(XXX)
Tolerance zone	mm	± 0.1	
Blade thicknesses	mm	0.25 to 2 (0.25 increments)	2 to 6 (0.5 increments)
Blade length	mm	20	90

HOLEX Feeler gauge holder

Plastic holder with metal clip for feeler gauges or shim strips up to 13 mm wide.

Application: For holding feeler gauges or feeler gauge shim strip offcuts.

42H 47 8510	Feeler gauge holder	(XXX)

Feeler gauge shim strips in rolls – to tolerance T3

Cold rolled hard spring steel feeler strip of maximum precision. From size 0.02, the strip thickness is continuously marked and cannot be wiped off (exception: for No. 478502 from size 0.08).
Stored in a practical dispenser; pull out like a tape measure. The desired length can be cut from the 5 or 10 m long strip.

47 8450–8504/8515–8525 – **C-steel –** Carbon steel, material No. 1.1274, cold rolled, hardened, bright surface. **(Size 0.01 and 0.02 stainless steel)**.

47 8505/8507/8530/8540 – **Non-rusting** acid-resistant stainless steel, material No. 1.4310 (or 1.4301 for thickness 0.005–0.05 mm), cold rolled, spring hardened, bright surface.

Application: In jig and tool building for aligning and adjusting machine parts, as a shim for aligning components, for tolerance measurements of all kinds, for checking fits and guides, for setting up printing rollers.

Supplied with:

47 8525 – From size 0.8 supplied in a roll / ring.

47 8530/8540 – From size 0.3 supplied in a roll / ring.

Thickness	48B 47 8450	42H 47 8502	42H 47 8504	48B 47 8505	42H 47 8507	Error limit
	Feeler gauge shim roll 12.7 mm×5 m		Feeler gauge shim roll 12.7 mm×10 m	Feeler gauge shim roll 12.7 mm×5 m		
mm	Carbon steel	Carbon steel	Carbon steel	stainless steel	stainless steel	µm
0,005	–	–	–	(XXX)	–	±1
0,01	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±2
0,02	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±2
0,03	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±2
0,04	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±3
0,05	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±3
0,06	(XXX)	(XXX)	–	–	(XXX)	±3
0,07	(XXX)	(XXX)	(XXX)	–	(XXX)	±4
0,08	(XXX)	(XXX)	(XXX)	–	(XXX)	±4
0,09	(XXX)	(XXX)	–	–	(XXX)	±4
0,1	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±4
0,12	(XXX)	(XXX)	–	–	(XXX)	±4
0,15	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±5
0,18	(XXX)	(XXX)	–	–	(XXX)	±5
0,2	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±6
0,25	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±7
0,3	(XXX)	(XXX)	(XXX)	(XXX)	–	±7
0,35	(XXX)	(XXX)	–	–	–	±8
0,4	(XXX)	(XXX)	(XXX)	(XXX)	–	±9
0,5	(XXX)	(XXX)	(XXX)	(XXX)	–	±10
0,6	(XXX)	(XXX)	–	–	–	±10
0,7	(XXX)	(XXX)	–	–	–	±12
0,8	(XXX)	(XXX)	(XXX)	–	–	±13
0,9	(XXX)	(XXX)	–	–	–	±13
1	(XXX)	(XXX)	(XXX)	–	–	±17

Thickness	48B 47 8515	48B 47 8520	48B 47 8525	48B 47 8530	48B 47 8540	Error limit
	Feeler gauge shim roll 6 mm×5 m	Feeler gauge shim roll 25 mm×5 m	Feeler gauge shim roll 50 mm×5 m	Feeler gauge shim roll 100 mm×5 m	Feeler gauge shim roll 150 mm×5 m	
mm	Carbon steel	Carbon steel	Carbon steel	stainless steel	stainless steel	µm
0,01	–	(XXX)	(XXX)	–	–	±2
0,02	–	(XXX)	(XXX)	(XXX)	–	±2
0,03	–	(XXX)	(XXX)	–	–	±2
0,04	–	(XXX)	(XXX)	–	–	±3
0,05	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±3
0,06	–	(XXX)	(XXX)	–	–	±3
0,08	–	(XXX)	(XXX)	–	–	±4
0,1	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±4
0,15	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±5
0,2	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±6
0,25	–	–	–	–	(XXX)	±7
0,3	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±7
0,4	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±9
0,5	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	±10
0,6	–	(XXX)	(XXX)	(XXX)	–	±10
0,7	–	(XXX)	(XXX)	(XXX)	–	±12
0,8	–	(XXX)	(XXX)	(XXX)	–	±13
1	–	(XXX)	(XXX)	(XXX)	–	±13

47 8450

47 8502

S/STL

47 8507

47 8505

S/STL

47 8515

47 8520

47 8525

S/STL

47 8530

HOLEX Feeler gauge shim strip set in a wall rack

15-piece set in a metal wall rack. Feeler gauges in plastic boxes.
Supplied with: Fastening material and feeler gauge holder No. 478510.

Type			0,01-0,25	0,3-1
42H 47 8440	Feeler gauge shim strip set **In a wall rack**		(XXX)	(XXX)
42H 47 8445	Feeler gauge shim strip set **Stainless in a wall rack**		(XXX)	–
Length		mm	330	
Height		mm	110	210
Depth		mm	100	220
Content: 1 each feeler gauge shim roll No. 478502 (47 8440)			0.01 to 0.1 (0.01 increments) 0.12; 0.15; 0.18; 0.20; 0.25	0.3 to 1 (0.05 increments)
1 each feeler gauge shim roll No. 478507 (47 8445)			0.01 to 0.1 (0.01 increments) 0.12; 0.15; 0.18; 0.20; 0.25	–

47 8440

S/STL

47 8445

47

Shim stocks 50 mm / 100 mm / 150 mm wide

Cold rolled, hard spring feeler strip steel of maximum precision. Shim thickness is marked and cannot be wiped off. Stored in sturdy boxes.
47 8750 – **C-steel** carbon steel, material No. 1.1274, cold rolled, hardened, bright surface (size 0.02 stainless).
47 8755/8760 – **Stainless** and acid resistant steel, material No. 1.4310 (or 1.4301 for thickness 0.02 and 0.05 mm), cold rolled, spring hardened, bright surface.
Application: **Setting** tools; **adjusting** devices; **balancing** tolerances; **shimming** components; **aligning** machines; **setting up** forms; **adjusting** bearing play; **adjusting** drive alignments; **setting** shear knives; **aligning** components etc.
Supplied with:
47 8750 – 1 pack with 10 shim stocks.
47 8755/8760 – 1 pack with 5 shim stocks.

Thickness	48B 47 8750	48B 47 8755	48B 47 8760	Error limit
	Shim stock set 10 pieces 50×300 mm	Shim stock set 5 pieces 100×500 mm	Shim stock set 5 pieces 150×500 mm	
mm	**Carbon steel**	**stainless**	**stainless**	µm
0,02	(XXX)	(XXX)	–	±2
0,05	(XXX)	(XXX)	(XXX)	±3
0,1	(XXX)	(XXX)	(XXX)	±4
0,15	(XXX)	(XXX)	(XXX)	±5
0,2	(XXX)	(XXX)	(XXX)	±6
0,25	–	–	(XXX)	±7
0,3	(XXX)	(XXX)	(XXX)	±7
0,4	(XXX)	(XXX)	(XXX)	±9
0,5	(XXX)	(XXX)	(XXX)	±10
0,6	(XXX)	(XXX)	–	±10
0,7	(XXX)	(XXX)	–	±12
0,8	(XXX)	(XXX)	–	±13
0,9	(XXX)	(XXX)	–	±13
1	(XXX)	(XXX)	(XXX)	±13
1,5	–	(XXX)	–	±20
2	–	(XXX)	–	±35

47 8750

S/STL

47 8755

S/STL

47 8760

Shim stock set

S/STL

Type			A	B	C	N
48B 47 8780	Shim stock set		(XXX)	(XXX)	(XXX)	(XXX)
Film thickness (per 1 piece)		mm	0.01; 0.02; 0.03; 0.04; 0.05; 0.06; 0.07; 0.08; 0.09; 0.10; 0.12; 0.15; 0.18; 0.2; 0.25; 0.3; 0.35; 0.4; 0.45; 0.5; 0.6; 0.7; 0.8; 0.9; 1.0	0.03; 0.04; 0.05; 0.06; 0.07; 0.08; 0.09; 0.1; 0.12; 0.15; 0.18; 0.2; 0.25; 0.3; 0.35; 0.40; 0.5; 0.6; 0.7; 0.8; 0.9; 1.0	0.02; 0.03; 0.05; 0.10; 0.15; 0.20; 0.25; 0.30; 0.40; 0.50; 1.00	0.02; 0.05; 0.1; 0.15; 0.20; 0.30; 0.40; 0.50; 1.00
Length		mm	300	300	300	500
Width		mm	50	50	50	100
Material			Carbon steel	Carbon steel	Carbon steel	stainless
Number of sheets			25	23	11	9

Thickness tolerances for feeler gauges or feeler gauge shim strips made from steel.

Nominal thickness mm	0.000–0.024	0.025–0.039	0.040–0.062	0.063–0.124	0.125–0.159	0.160–0.199	0.200–0.249	0.250–0.314	0.315–0.389	0.400–0.499	0.500–0.629	0.630–0.799	0.800–0.999	1.000–1.249
Tolerance T2 µm	±2	±3	±4	±5	±6	±7	±8	±9	±11	±12	±14	±17	±19	±24
Tolerance T3 µm	±1.5	±2	±3	±4	±5	±5	±6	±7	±8	±9	±10	±12	±13	±17

HOLEX Shim stocks (precision gauging stock) 150 mm wide

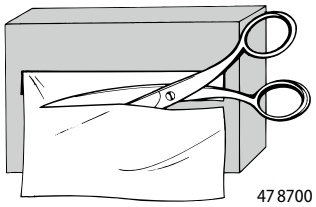
This precision gauging shim is provided on rolls in plastic boxes (easy to pull off). The individual boxes can be stacked in a block, saving space and protecting the material from dirt.

47 8700 – **C-steel –** Carbon steel, material No. 1.0330 (DC01 C490 MA), cold rolled, bright surface.
47 8720 – **Stainless** and acid resistant steel, material No. 1.4301, cold rolled, spring hardened, bright surface.
47 8740 – **Brass** material No. CuZn 37 (CW508L), hard rolled, bright surface.

Application: **Setting** tools; **adjusting** devices; **balancing** tolerances; **shimming** components; **aligning** machines; **setting up** forms; **adjusting** bearing play; **adjusting** drive alignments; **setting** shear knives; **aligning** components etc.

47 8700

Thickness	42H 47 8700	42H 47 8720	42H 47 8740	Error limit
	Shim stock 150×2500 mm			
mm	non-alloy steel	stainless steel	Brass	µm
0,025	(XXX)	(XXX)	(XXX)	±2
0,05	(XXX)	(XXX)	(XXX)	±3
0,075	(XXX)	(XXX)	(XXX)	±4
0,1	(XXX)	(XXX)	(XXX)	±4
0,15	(XXX)	(XXX)	(XXX)	±5
0,2	(XXX)	(XXX)	(XXX)	±6
0,25	(XXX)	(XXX)	(XXX)	±7
0,3	(XXX)	(XXX)	(XXX)	±7
0,4	(XXX)	(XXX)	(XXX)	±9
0,5	(XXX)	(XXX)	(XXX)	±10


47 8700

47

DIN EN ISO 3650 ▶ S17 ◀ Cal

Mitutoyo Gauge block set, steel

Made of carefully selected, aged special steel. Particularly wear-resistant due to controlled hardness (HV 800). **Carefully hardened and hand lapped. Edges slightly bevelled. Manufacturer's test certificate traceable back to national standards:** Each gauge block is provided with its own unique identity number. The actual deviation from the nominal dimensions is recorded in the test certificate. The absolute actual dimension is therefore known.

48 0200 – **Tolerance class 0** as a master standard to check workshop gauges. For setting gauges to very high accuracies.
Size 8 – **Set with long dimensions**, 25 – 200 mm in 25 mm steps.
48 0300 – **Tolerance class 1** for checking standards, gauges and for setting length gauges as well as for normal inspection work in the inspection room.

48 0200_87

Number of gauge blocks		8	32	47	87	103
44A 48 0200	Gauge block set **Tolerance class 0**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
44A 48 0300	Gauge block set **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Content: 1 pc. each of size		–	1.005; 60 mm	1.005 mm	–	1.005 mm
Graduation 0.001		–	–	–	9 pcs. 1.001 – 1.009	–
Graduation 0.01		–	9 pcs. 1.01 – 1.09 mm	21 pcs. 1.00 – 1.20 mm	49 pcs. 1.01 – 1.49 mm	49 pcs. 1.01 – 1.49 mm
Graduation 0.1		–	9 pcs. 1.1 – 1.9 mm	8 pcs. 1.3 – 2.0 mm	–	–
Graduation 0.5		–	–	–	19 pcs. 0.5 – 9.5 mm	49 pcs. 0.5 – 24.5 mm
Graduation 1.0		–	9 pcs. 1 – 9 mm	8 pcs. 3.0 – 10 mm	–	–
Graduation 10.0		–	3 pcs. 10 – 30 mm	9 pcs. 20 – 100 mm	10 pcs. 10 – 100 mm	–
Graduation 25.0		8 pcs. 25 – 200 mm	–	–	–	4 pcs. 25 – 100 mm

Garant Advantages of GARANT ceramic gauge blocks

Ideal for daily use in manufacture:

- Stainless.
- No need to degrease before use.
- No need to grease after use.
- Insensitive to shock and impact.
- Twice as hard as steel.
- 10 times higher wear resistance.
- Highly resistant to alkalis, acids, oil and grinding water.
- Non-magnetic.
- No galling.
- Low thermal conductivity.

DIN EN ISO 3650 | S17 Cal

HOLEX Gauge block set, steel workshop quality

Made of aged special steel. Hardened (HRC 64 – 66) with slightly bevelled edges. Lapped gauge faces.
With free test certificate traceable to national standards:
Each gauge block is provided with its own unique identity number. The actual deviation from the nominal dimensions is recorded in the test certificate. The absolute actual dimension is therefore known.

48 0450 – **Tolerance class 1** for checking standards and gauges.
48 0500 – **Tolerance class 2** workshop gauges for production.

48 0450_32

Number of gauge blocks		32	47	87	103
42K 48 0450	Gauge block set **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)
42K 48 0500	Gauge block set **Tolerance class 2**	(XXX)	(XXX)	(XXX)	(XXX)
Content: 1 pc. each of size		1.000; 1.005; 50 mm	1.005 mm	0.5; 1.0 mm	0.5; 1.0; 50; 75; 100 mm
Graduation 0.001		–	–	9 pcs. 1.001 – 1.009 mm	–
Graduation 0.01		10 pcs. 1.01 – 1.10 mm	21 pcs. 1.00 – 1.20 mm	50 pcs. 1.01 – 1.5 mm	50 pcs. 1.01 – 1.5 mm
Graduation 0.1		9 pcs. 1.20 – 2.0 mm	8 pcs. 1.3 – 2.0 mm	–	–
Graduation 0.5		–	–	17 pcs. 2 – 10 mm	47 pcs. 2.0 – 25 mm
Graduation 1.0		8 pcs. 3.0 – 10 mm	8 pcs. 3.0 – 10 mm	–	–
Graduation 10.0		2 pcs. 20 – 30 mm	9 pcs. 20 – 100 mm	9 pcs. 20 – 100 mm	–

DIN EN ISO 3650 | S17 Cal

Gauge block set ceramic

Made of ultra-pure ceramic zirconium dioxide (ZrO_2) manufactured in a sintering process.

- **Hardness:** With approx. 1350 HV about twice as hard as steel.
- **Tensile strength:** Up to approx. 70 % of the flexural strength of steel. Insensitive to shock and impact.
- **Wear resistance: Lasts about 10 times longer than steel.** No burr formation. No plastic deformation. Scratches and small defects have no influence on the measured result. The surface remains slip capable longer than steel.
- **Handling / care:** Highly resistant to alkalis, acids, oil, and grinding water. **No need for time-intensive degreasing before use and re-greasing after use which is required for steel.** Low weight is an advantage for large sizes.
- **Temperature characteristics:** Coefficient of expansion (9.5 ±1.0) 10^{-6} K^{-1} similar to that of steel. Low thermal conductivity.
- **Anti-magnetic:** Cannot be magnetised.
- **Slip capability:** The homogeneous, high density structure gives optimum holding, even to steel, and easy slip capability. Galling is excluded.
- **Test certificate:** Each gauge block is provided with its own unique identity number. The actual deviation from the nominal dimensions is recorded in the test certificate. The absolute actual dimension is therefore known. **Manufacturer's test certificate traceable back to national standards.**

Application:

48 1300 – **Tolerance class 0** as a standard for checking working gauge blocks or high precision equipment.
48 1250/1310 – **Tolerance class 1** as working and adjusting master for gauge checking. For inspection rooms.

48 1250

48 1300 / 48 1310

Number of gauge blocks			32	47	87
41L 48 1250	Garant	Gauge block set **Ceramic, tolerance class 1**	(XXX)	(XXX)	(XXX)
44A 48 1300	Mitutoyo	Gauge block set **Ceramic, tolerance class 0**	(XXX)	–	(XXX)
44A 48 1310	Mitutoyo	Gauge block set **Ceramic, tolerance class 1**	–	(XXX)	(XXX)
Content: 1 pc. each of size (48 1250, 48 1310)			1.005; 10; 20; 30; 50 mm	1.005; 20; 30; 40; 50; 60; 70; 80; 90; 100 mm	10; 20; 30; 40; 50; 60; 70; 80; 90; 100 mm
1 pc. each of size (48 1300)			1.005; 10; 20; 30; 60 mm	–	10; 20; 30; 40; 50; 60; 70; 80; 90; 100 mm
Graduation 0.001			–	–	9 pcs. 1.001 – 1.009 mm
Graduation 0.01			9 pcs. 1.01 – 1.09 mm	21 pcs. 1.00 – 1.20 mm	49 pcs. 1.01 – 1.49 mm
Graduation 0.1			9 pcs. 1.1 – 1.9 mm	8 pcs. 1.3 – 2.0 mm	–
Graduation 0.5			–	–	19 pcs. 0.5 – 9.5 mm
Graduation 1.0			9 pcs. 1 – 9 mm	8 pcs. 3 – 10 mm	–

DIN EN ISO 3650 | ▶ L2 ◀ Cal

Individual gauge blocks

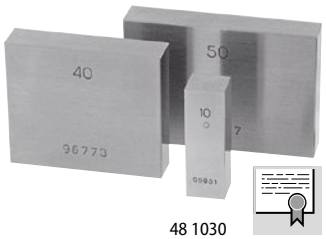
All gauge blocks are marked with an individual identification number.

48 1030 – **Tolerance class 0** as a master standard to check workshop gauges. For setting gauges to very high accuracies. **Including traceable test certificate.**

48 1060 – Made of high purity industrial ceramic (Zirconium Dioxide ZrO_2).

48 1030/1050/1070 – Of special alloy steel, carefully hardened and stress-relieved.
Size 0.5 to 10 – cross-section = 30×9 mm.
Size 11 to 500 – cross-section = 35×9 mm.

48 1060



48 1030

Nominal size	41L 48 1030 Garant Steel gauge block	41L 48 1060 Garant Ceramic gauge block	42K 48 1050 HOLEX Steel gauge block	42K 48 1070 HOLEX Steel gauge block
mm	Tolerance class 0	Tolerance class 1	Tolerance class 1	Tolerance class 2
0,5	(XXX)	(XXX)	(XXX)	(XXX)
1	(XXX)	(XXX)	(XXX)	(XXX)
1,001	(XXX)	–	(XXX)	–
1,002	(XXX)	–	(XXX)	–
1,003	(XXX)	–	(XXX)	–
1,004	(XXX)	–	(XXX)	–
1,005	(XXX)	(XXX)	(XXX)	–
1,006	(XXX)	–	(XXX)	–
1,007	(XXX)	–	(XXX)	–
1,008	(XXX)	–	(XXX)	–
1,009	(XXX)	–	(XXX)	–
1,01	(XXX)	(XXX)	(XXX)	–
1,02	(XXX)	(XXX)	(XXX)	–
1,03	(XXX)	(XXX)	(XXX)	–
1,04	(XXX)	(XXX)	(XXX)	–
1,05	(XXX)	(XXX)	(XXX)	–
1,06	(XXX)	(XXX)	(XXX)	–
1,07	(XXX)	(XXX)	(XXX)	–
1,08	(XXX)	(XXX)	(XXX)	–
1,09	(XXX)	(XXX)	(XXX)	–
1,1	(XXX)	(XXX)	(XXX)	(XXX)
1,11	(XXX)	–	(XXX)	–
1,12	(XXX)	–	(XXX)	–
1,13	(XXX)	–	(XXX)	–
1,14	(XXX)	–	(XXX)	–
1,15	(XXX)	–	(XXX)	–
1,16	(XXX)	–	(XXX)	–
1,17	(XXX)	–	(XXX)	–
1,18	(XXX)	–	(XXX)	–
1,19	(XXX)	–	(XXX)	–
1,2	(XXX)	(XXX)	(XXX)	(XXX)
1,21	(XXX)	–	(XXX)	–
1,22	(XXX)	–	(XXX)	–
1,23	(XXX)	–	(XXX)	–
1,24	(XXX)	–	(XXX)	–
1,25	(XXX)	–	(XXX)	–
1,26	(XXX)	–	(XXX)	–
1,27	(XXX)	–	(XXX)	–
1,28	(XXX)	–	(XXX)	–
1,29	(XXX)	–	(XXX)	–
1,3	(XXX)	(XXX)	(XXX)	(XXX)
1,31	(XXX)	–	(XXX)	–
1,32	(XXX)	–	(XXX)	–
1,33	(XXX)	–	(XXX)	–
1,34	(XXX)	–	(XXX)	–
1,35	(XXX)	–	(XXX)	–
1,36	(XXX)	–	(XXX)	–
1,37	(XXX)	–	(XXX)	–
1,38	(XXX)	–	(XXX)	–
1,39	(XXX)	–	(XXX)	–
1,4	(XXX)	(XXX)	(XXX)	(XXX)
1,41	(XXX)	–	(XXX)	–
1,42	(XXX)	–	(XXX)	–
1,43	(XXX)	–	(XXX)	–
1,44	(XXX)	–	(XXX)	–
1,45	(XXX)	–	(XXX)	–
1,46	(XXX)	–	(XXX)	–
1,47	(XXX)	–	(XXX)	–

Nominal size	41L 48 1030 Garant Steel gauge block	41L 48 1060 Garant Ceramic gauge block	42K 48 1050 HOLEX Steel gauge block	42K 48 1070 HOLEX Steel gauge block
mm	Tolerance class 0	Tolerance class 1	Tolerance class 1	Tolerance class 2
1,48	(XXX)	–	(XXX)	–
1,49	(XXX)	–	(XXX)	–
1,5	(XXX)	(XXX)	(XXX)	(XXX)
1,6	(XXX)	(XXX)	(XXX)	(XXX)
1,7	(XXX)	(XXX)	(XXX)	(XXX)
1,8	(XXX)	(XXX)	(XXX)	(XXX)
1,9	(XXX)	(XXX)	(XXX)	(XXX)
2	(XXX)	(XXX)	(XXX)	(XXX)
2,5	(XXX)	(XXX)	(XXX)	–
3	(XXX)	(XXX)	(XXX)	(XXX)
3,5	(XXX)	(XXX)	(XXX)	–
4	(XXX)	(XXX)	(XXX)	(XXX)
4,5	(XXX)	(XXX)	(XXX)	–
5	(XXX)	(XXX)	(XXX)	(XXX)
5,5	(XXX)	(XXX)	(XXX)	–
6	(XXX)	(XXX)	(XXX)	(XXX)
6,5	(XXX)	(XXX)	(XXX)	–
7	(XXX)	(XXX)	(XXX)	(XXX)
7,5	(XXX)	(XXX)	(XXX)	–
8	(XXX)	(XXX)	(XXX)	(XXX)
8,5	(XXX)	(XXX)	(XXX)	–
9	(XXX)	(XXX)	(XXX)	(XXX)
9,5	(XXX)	(XXX)	(XXX)	–
10	(XXX)	(XXX)	(XXX)	(XXX)
11	(XXX)	(XXX)	(XXX)	–
12	(XXX)	(XXX)	(XXX)	–
13	(XXX)	(XXX)	(XXX)	–
14	(XXX)	(XXX)	(XXX)	–
15	(XXX)	(XXX)	(XXX)	–
16	(XXX)	(XXX)	(XXX)	–
17	(XXX)	(XXX)	(XXX)	–
18	(XXX)	(XXX)	(XXX)	–
19	(XXX)	(XXX)	(XXX)	–
20	(XXX)	(XXX)	(XXX)	(XXX)
21	(XXX)	(XXX)	(XXX)	–
22	(XXX)	(XXX)	(XXX)	–
23	(XXX)	(XXX)	(XXX)	–
24	(XXX)	(XXX)	(XXX)	–
25	(XXX)	(XXX)	(XXX)	–
30	(XXX)	(XXX)	(XXX)	(XXX)
40	(XXX)	(XXX)	(XXX)	(XXX)
41,3	–	–	(XXX)	–
50	(XXX)	(XXX)	(XXX)	(XXX)
60	(XXX)	(XXX)	(XXX)	(XXX)
70	(XXX)	(XXX)	(XXX)	–
75	(XXX)	(XXX)	(XXX)	–
80	(XXX)	(XXX)	(XXX)	–
90	(XXX)	(XXX)	(XXX)	–
100	(XXX)	(XXX)	(XXX)	(XXX)
125	(XXX)	–	(XXX)	(XXX)
131,4	(XXX)	–	(XXX)	–
150	(XXX)	–	(XXX)	(XXX)
175	(XXX)	–	(XXX)	(XXX)
200	(XXX)	–	(XXX)	(XXX)
250	(XXX)	–	(XXX)	(XXX)
300	(XXX)	–	(XXX)	(XXX)
400	(XXX)	–	(XXX)	(XXX)
500	(XXX)	–	(XXX)	(XXX)

DIN EN ISO 3650 | S5 Cal

Caliper test sets

Made of aged special steel. Hardened with slightly bevelled edges. Lapped measuring faces.
Caliper test set, 5 pieces, according to VDI / VDE / DGQ guideline 2618, sheet 9.1.

48 0301

Set contents			5
44A 48 0301	Mitutoyo	Caliper test set **Steel, tolerance class 1**	(XXX)
42K 48 0451	HOLEX	Caliper test set **Steel, tolerance class 2**	(XXX)
Content: 1 each gauge block (48 0301)			Size 30; 41.3; 131.4 mm
1 each gauge block (mm) (48 0451)			Size 25; 41.3; 131.4
Setting ring dimension (mm) (48 0301)			Size 4; 25
Setting ring dimension (mm) (48 0451)			Size 4; 20

48 0451

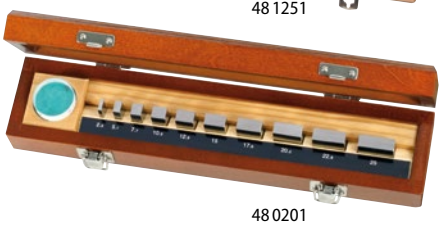
DIN EN ISO 3650 | S17 Cal

External micrometer gauge block test sets

48 0201 – Version same as No. 480200.
48 0452 – Version same as No. 480450.
48 1251 – Version same as No. 481250.

Application: For checking external micrometers to VDI / VDE / DGQ 2618, sheet 10.1.

48 1251


48 0201

48 0452

Set contents			10
41L 48 1251	Garant	Gauge block set **Ceramic, tolerance class 1**	(XXX)
44A 48 0201	Mitutoyo	Gauge block set **Steel, tolerance class 0**	(XXX)
42K 48 0452	HOLEX	Gauge block set **Steel, tolerance class 1**	(XXX)
Content: 1 each gauge block			Size 2.5; 5.1; 7.7; 10.3; 12.9; 15.0; 17.6; 20.2; 22.8; 25.0
Optical flat ∅ 30 mm			1 pc.

Tolerance classes for gauge blocks

Size limits t_e for deviation from nominal size at any point of the measurement face and tolerances t_v for the tolerance band								
Nominal size range	**Calibration class K**		**Tolerance class 0**		**Tolerance class 1**		**Tolerance class 2**	
	$\pm t_e$ in µm	$\pm t_v$ in µm	$\pm t_e$ in µm	$\pm t_v$ in µm	$\pm t_e$ in µm	$\pm t_v$ in µm	$\pm t_e$ in µm	$\pm t_v$ in µm
from 0.5 to 10	0.2	0.05	0.12	0.10	0.2	0.16	0.45	0.30
over 10 to 25	0.3	0.05	0.14	0.10	0.3	0.16	0.60	0.30
over 25 to 50	0.4	0.06	0.20	0.10	0.4	0.18	0.80	0.30
over 50 to 75	0.5	0.06	0.25	0.12	0.5	0.18	1.00	0.35
over 75 to 100	0.6	0.07	0.30	0.12	0.6	0.20	1.20	0.35
over 100 to 150	0.8	0.08	0.40	0.14	0.8	0.20	1.60	0.40
over 150 to 200	1.0	0.09	0.50	0.16	1.0	0.25	2.00	0.40
over 200 to 250	1.2	0.10	0.60	0.16	1.2	0.25	2.40	0.45
over 250 to 300	1.4	0.10	0.70	0.18	1.4	0.25	2.80	0.50
over 300 to 400	1.8	0.12	0.90	0.20	1.8	0.30	3.60	0.50
over 400 to 500	2.2	0.14	1.10	0.25	2.2	0.35	4.40	0.60
over 500 to 600	2.6	0.16	1.30	0.25	2.6	0.40	5.00	0.70
over 600 to 700	3.0	0.18	1.50	0.30	3.0	0.45	6.00	0.70
over 700 to 800	3.4	0.20	1.70	0.30	3.4	0.50	6.50	0.80
over 800 to 900	3.8	0.20	1.90	0.35	3.8	0.50	7.50	0.90
over 900 to 1000	4.2	0.25	2.00	0.40	4.2	0.60	8.00	1.00

Setting master for calipers

Hardened, ground, and lapped. For **quickly checking the dimensional accuracy** of measuring tips, measuring jaws and the depth gauge of a caliper gauge.

Internal / external ∅	mm	10/30
48B 48 1405	Setting master for calipers	(XXX)
External ∅	mm	30.00 ±0.002
Internal ∅	mm	10.00 ±0.002
Hole depth	mm	10.00 ±0.01

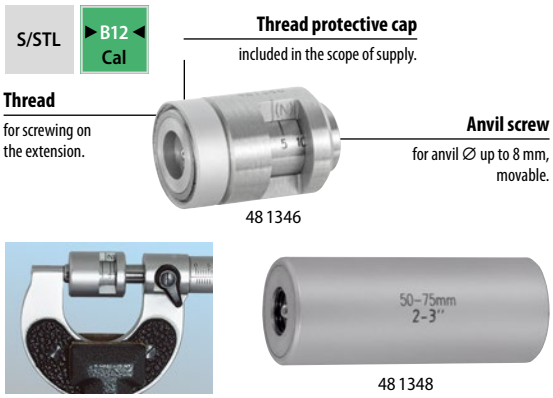
Gauge force tester for external micrometers

The measuring force tester provides for simple evaluation of the forces acting on the measuring faces. **According to DIN 863 T1** the measuring force has to be between 5 and 10 N.
Optional extras: Extensions No. 481348 for larger measurement ranges.

42K 48 1346	Gauge force tester for external micrometers	(XXX)

Advantage: External micrometers >25 mm can be checked using a screw-on measuring force tester.

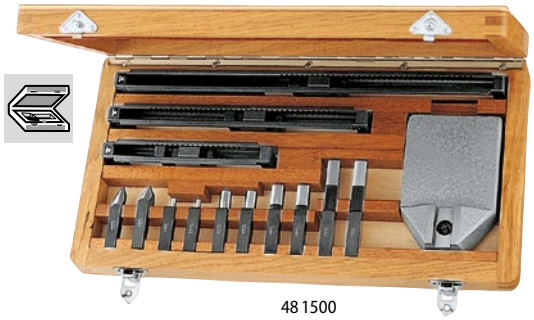
for measuring range	mm	25-50	50-75	75-100
42K 48 1348	Extension for force gauge tester	(XXX)	(XXX)	(XXX)



Gauge block accessories

Application: For gauge blocks for precision measuring devices, for height masters and setting gauges.

Set contents		8	10
48B 48 1500	Gauge block accessory set	(XXX)	(XXX)
Content: Jaws No. 481900 1 pair each		Size 4; 10	Size 4; 10; 16; 20
Marking tip		1 pc.	
Centring drill		1 pc.	
Holder base No. 482900		1 pc.	
Gauge block holder No. 481700		1 pc. each size 0 – 50; 0 – 100; 100 – 200	



Gauge block holder with quick adjustment. The patented quick adjustment allows quick, reliable clamping of the parallel gauge blocks. A clamping mechanism prevents the gauge blocks falling out.

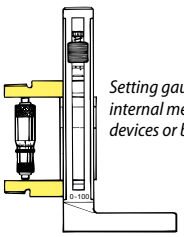
Clamping range	mm	0-100	100-200	200-400
48B 48 1700	Gauge block holder with quick adjustment	(XXX)	(XXX)	(XXX)
Length	mm	206	306	506
Width	mm	30		

Holder base to accept gauge block holder No. 481700. For using as a setting gauge, precision height scriber etc. Base painted, bottom of base ground. The support for the gauge block holder is precision machined and aligned to the base.

48B 48 2900	Holder base	(XXX)
Length	mm	106
Width	mm	70
Height	mm	28

Jaws with cylindrical step DIN 861, sheet 2, for internal and external measurements and as a setting aid.

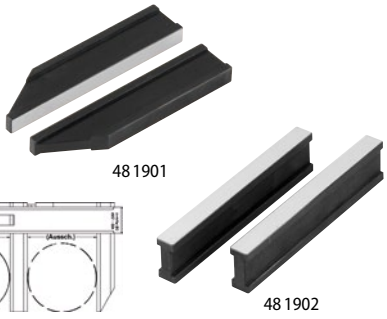
Note: Jaws with wide face for internal measuring devices No. 435180 and 435202 on request.



Stepped ∅ of jaw pairs	mm	4	10	16	20
48B 48 1900	Pair of jaws with cylindrical step	(XXX)	(XXX)	(XXX)	(XXX)
largest measuring depth	mm	8	15	20	40
Width	mm	9			
Height	mm	7	9	9	10
overall length	mm	43	50	55	75

Blade stocks with flat measuring face for external measurements.

Type		100	125
48B 48 1901	Pair of flat blade stocks	(XXX)	(XXX)
48B 48 1902	Pair of plane parallel blade stocks	(XXX)	(XXX)
Width	mm	9	
Height	mm	20	
overall length	mm	100	125



L3 Cal

HOLEX Optical flat

Optical flat for testing the flatness of measuring faces, e. g. gauge blocks.

Optical flat ∅		mm	45
42K 48 1380	Optical flat for checking flatness		(XXX)
Flatness		µm	0.1

DIN 2269 | S18 Cal

Sets of test pins in a wooden box

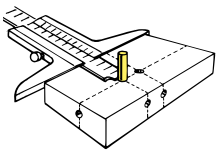
Of high quality gauge steel, hardened (60 ± 2 HRC) and tempered. The test pin sets are arranged in a wooden case for ease of location, with labelled holes (from 1.5 mm ∅ the pins are also directly marked). Test pin length 40 mm up to ∅ 0.99 mm, 70 mm above that.

Application: For work on jig boring machines or in jig and tool making, e. g. for measuring bore tolerances, for checking positions of bores, checking the spacing tolerances of two bores, gearwheel or thread dimensions as well as for angle and profile inspections etc.

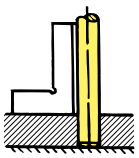
Tolerance class 1	Pin ∅ ± 0.001 mm cylindricity ± 0.0005 mm
Tolerance class 2	Pin ∅ ± 0.002 mm cylindricity ± 0.001 mm

Test pin sets in increments of 0.10 mm

Type			41	91
48A 48 3800	Test pin set in a wooden box **Tolerance class 1**		(XXX)	(XXX)
48A 48 3810	Test pin set in a wooden box **Tolerance class 2**		(XXX)	(XXX)
Nominal size range		mm	1 – 5	1 – 10
Pitch		mm	0.1	
Number of test pins			41	91



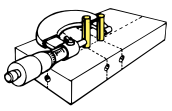
Measuring bore spacing / reference area



Position of bore

Test pin sets in increments of 0.05 mm

Type			81	100
48A 48 3801	Test pin set in a wooden box **Tolerance class 1**		(XXX)	(XXX)
48A 48 3811	Test pin set in a wooden box **Tolerance class 2**		(XXX)	(XXX)
Nominal size range		mm	1 – 5	5.05 – 10
Pitch		mm	0.05	
Number of test pins			81	100



Distance measurement

Gear wheel measurement

Test pin sets in increments of 0.01 mm

Size 0,5-1–6-7 – 1 wooden box.
Size 7-8–9-10 – 2 wooden boxes, 100 test pins distributed across 2 boxes.

Type			0,5-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
48A 48 3820	Test pin set in a wooden case **Tolerance class 1**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
48A 48 3830	Test pin set in a wooden case **Tolerance class 2**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Nominal size range		mm	0.5 – 1	1 – 2	2.01 – 3	3.01 – 4	4.01 – 5	5.01 – 6	6.01 – 7	7.01 – 8	8.01 – 9	9.01 – 10
Pitch		mm	0.01									
Number of test pins			51	101	100	100	100	100	100	100	100	100

Empty wooden cases with hole for test pins

Size 0,5-1–6-7 – 1 wooden box.
Size 7-8–9-10 – 2 wooden boxes, 100 holes distributed across 2 boxes.

Application: For organised storage of gauge pins in the respective diameter range.

Type			0,5-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
48A 48 3840	Wooden case for test pins **not filled**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Nominal size range		mm	0.5 – 1	1 – 2	2.01 – 3	3.01 – 4	4.01 – 5	5.01 – 6	6.01 – 7	7.01 – 8	8.01 – 9	9.01 – 10
Pitch bore ∅		mm	0.01									
Number of holes		pcs.	51	101	100	100	100	100	100	100	100	100

DIN 2269 | ▶ L5 ◀ Cal

Single test pins steel

Of high quality gauge steel, hardened (60 ± 2 HRC) and tempered. Surface ground and lapped.
From Ø 1.5 mm engraved with the size, 0.1 mm – 0.99 mm without a chamfer.
From 1.0 mm one end chamfered.

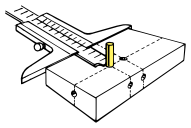
Application: Degrease before use and grease after use.

Note: When ordering, please additionally state the **desired Ø,** e.g. No. 483900 size 5 **10.08** or 483920 size 5 **10.082.**

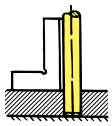
Tolerance class 1	**Pin Ø ± 0.001 mm** cylindrical form ± 0.0005 mm
Tolerance class 2	**Pin Ø ± 0.002 mm** cylindrical form ± 0.001 mm

Type		02	01	0	1	2	3
48A 48 3900	Single test pin **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
48A 48 3910	Single test pin **Tolerance class 2**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Selection range nominal size	mm	0.1 – 0.19	0.2 – 0.29	0.3 – 0.49	0.5 – 0.99	1 – 2.99	3 – 5.99
Pitch	mm	0.01					
Gauging pin length	mm	40	40	40	40	70	70

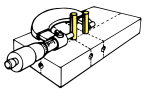
Type		4	5	6	7	8	9
48A 48 3900	Single test pin **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
48A 48 3910	Single test pin **Tolerance class 2**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Selection range nominal size	mm	6 – 9.99	10 – 11.99	12 – 13.99	14 – 15.99	16 – 18.99	19 – 20
Pitch	mm	0.01					
Gauging pin length	mm	70					



Measuring bore spacing / reference area



Position of bore



Distance measurement

Gear wheel measurement

Individual test pins in increments of 0.001 mm

Type		0	1	2	3	4	5	6	7	8	9
48A 48 3920	Single test pin **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Selection range nominal size	mm	0.301 – 0.499	0.501 – 0.999	1.001 – 2.999	3.001 – 5.999	6.001 – 9.999	10.001 – 11.999	12.001 – 13.999	14.001 – 15.999	16.001 – 18.999	19.001 – 19.999
Pitch	mm	0.001									
Gauging pin length	mm	40	40	70	70	70	70	70	70	70	70

DIN 2269 | ▶ L5 ◀ Cal

Single test pins stainless and acid-resistant

Test pin of stainless and acid-resistant material, hardened (58-62 HRC) and tempered. Surface ground and lapped. From Ø 1.50 the dimension is marked on the sleeve; from Ø 3.00 on the end face. From Ø 1.00 mm, one end chamfered.

Note: When ordering, **please additionally state the desired Ø,** e.g. No. 483914 size 5 **10.08.**

Type		0	1	2	3	4	5	6
48A 48 3914	Individual stainless steel test pin **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Selection range nominal size	mm	0.3 – 0.49	0.5 – 0.99	1 – 2.99	3 – 5.99	6 – 9.99	10 – 11.99	12 – 13.99
Pitch	mm	0.01						
Gauging pin length	mm	40	40	70	70	70	70	70

DIN 2269 | ▶ L5 ◀ Cal

Single test pins carbide

Test pin of carbide. Surface ground and lapped. From Ø 5.01 marked with the size.

Advantage:
- Twice as hard as gauge steel
- Corrosion-resistant

Note: When ordering, please **state the desired Ø**, e. g. No. 483916 size 3 **4.35.**

Type		1	2	3	4
48A 48 3916	Individual carbide test pin **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)
Selection range nominal size	mm	0.5 – 0.99	1 – 2.99	3 – 5.99	6 – 9.99
Pitch	mm	0.01			
Gauging pin length	mm	40	70	70	70

DIN 2269 | ▶ L5 ◀ Cal

Single test pins ceramic

Made of high purity industrial ceramic (Zirconium Dioxide ZrO_2). Sharp edges broken at both ends. From ∅ 5.01 mm engraved on the end face with the size.

Advantage:
- Twice as hard as gauge steel.
- Very low coefficient of thermal expansion.
- Stainless and acid-resistant.
- No need to degrease before use.
- No need to degrease after use.

Note: When ordering, please additionally state the **desired ∅,** e.g. No. 483925 size 3 **4.35.**

48 3925

Type		1	2	3	4
48A 48 3925	Individual ceramic test pin **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)
Selection range nominal size mm		0.5 – 0.99	1 – 2.99	3 – 5.99	6 – 9.99
Pitch mm		0.01			
Gauging pin length mm		40			

Test pin holder

Die-cast test pin holder with clamping screw. For mounting two test pins representing a tolerance range.
48 3935 – "Go" and "No Go" ends clearly distinguished by green and red identification markings

48 3930

48 3935

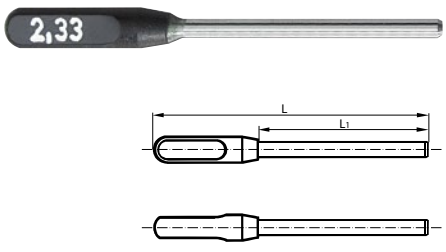
Type		1	2	3	4	5
48A 48 3930	Test pin holder	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
48A 48 3935	Two-colour test pin holder	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
∅ range mm		1 – 1.99	2 – 4.5	4.51 – 6.99	7 – 9.5	9.51 – 12
Holder length mm		60	68	76	84	92

DIN 2269 | ▶ L5 ◀ Cal

Single test pins with handle

Test pins of alloyed tool steel 60 ± 2 HRC. Pin: Hardened, tempered, ground, and lapped. Handle: ∅ value engraved.

Note: **Specify desired ∅ when ordering,** e. g. No. 483940 size 2, **0.35** as additional ∅.



Type		0	1	2	3	4	5	6
48A 48 3940	Single test pin **Tolerance class 1**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
48A 48 3941	Single test pin **Tolerance class 2**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Selection range nominal size mm		0.1 – 0.19	0.2 – 0.29	0.3 – 0.49	0.5 – 0.99	1 – 2.99	3 – 4.99	5 – 5.99
Pitch mm					0.01			
Test length mm		33	33	33	33	63	60	60
Overall length mm		53	53	53	53	83	90	90

Martin+Tschopp Plug gauges with handle accuracy 0.5 µm

The attractively priced alternative to a test pin. ∅ tolerances better than DIN 2269, tolerance class 1. Of high quality gauge steel; plastic handle with ∅ legend.

Note: When ordering, please additionally state the **desired ∅**, e. g. No. 483950 size 2 **0.24.**

▶ L5 Cal

48 3950

∅ range	usable length	Overall length	Handle∅
∅ 0.06 – 0.09 mm	1.500 mm	33.5 mm	4 mm
∅ 0.09 – 0.30 mm	2.000 mm	34 mm	4 mm
∅ 0.30 – 0.50 mm	3.500 mm	35.5 mm	4 mm
∅ 0.50 – 1.50 mm	5.000 mm	37 mm	4 mm
∅ 1.50 – 2.00 mm	6.000 mm	38 mm	4 mm
∅ 2.00 – 3.50 mm	8.000 mm	43 mm	5 mm
∅ 3.50 – 6.00 mm	10.000 mm	55 mm	8 mm
∅ 6.00 – 8.00 mm	14.000 mm	59 mm	10 mm
∅ 8.00 – 10.00 mm	18.000 mm	63 mm	10 mm

▶ S18 Cal

48 3955

Type		0	1	2	3	4	5	6	7
48A 48 3950	Plug gauge with handle, accuracy ±0.5 µm	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Error limit	µm	±0.5							
Selection range nominal size	mm	0.06 – 0.09	0.1 – 0.19	0.2 – 0.29	0.3 – 0.49	0.5 – 0.99	1 – 2.99	3 – 5.99	6 – 10
Pitch	mm	0.01							

Plug gauge sets in increments of 0.01 mm

Type		0,06-0,5	0,5-1	1-1,5	1,5-2	2-2,5	2,5-3	3-3,5	3,5-4	4-4,5	4,5-5
48A 48 3955	Plug gauge set, accuracy ±0.5 µm	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Error limit	µm	±0.5									
Selection range nominal size	mm	0.06 – 0.5	0.51 – 1	1.01 – 1.5	1.51 – 2	2.01 – 2.5	2.51 – 3	3.01 – 3.5	3.51 – 4	4.01 – 4.5	4.51 – 5
Pitch	mm	0.01									
Set contents		45	50	50	50	50	50	50	50	50	50

Type		5-5,5	5,5-6	6-6,5	6,5-7	7-7,5	7,5-8	8-8,5	8,5-9	9-9,5	9,5-10
48A 48 3955	Plug gauge set, accuracy ±0.5 µm	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Error limit	µm	±0.5									
Selection range nominal size	mm	5.01 – 5.5	5.51 – 6	6.01 – 6.5	6.51 – 7	7.01 – 7.5	7.51 – 8	8.01 – 8.5	8.51 – 9	9.01 – 9.5	9.51 – 10
Pitch	mm	0.01									
Set contents		50									

Gauges available in other materials on request

Gauging pins:

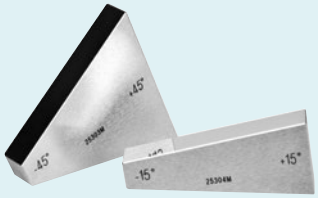
- Steel up to ∅ 24.99 mm (tolerance class 1) or up to ∅ 50 mm (tolerance class 2).

Measurement ball (±0.001 mm):

- Chromium steel
- Carbide
- Ceramic

Angle gauge blocks (± 2 arc seconds):

- Steel



▶ L6 ◀
Cal

Plug gauges

The "Go" ends of these working gauges have a **wear allowance** to DIN 7164.

48 4000 – Plug gauge with tolerance class H7.
48 4020 – "Go" / "No Go" plug gauges for ISO **tolerance bands A – ZC** in **basic tolerance qualities 6 – 13.**
48 4040 – **"Go" end with hard chrome measuring faces.** This increases the gauge life about 8 times.
48 4000/4020 – Measuring body made of first class gauge steel, hardened, stress-relieved, ground, and lapped.

Standard: Tolerance and dimensions to **DIN EN ISO 1938-1, DIN 2245-1 and DIN 7164.**

Note:
- 48 4020 – ■ Specify required tolerance class. When ordering please state the tolerance band (A–ZC) and basic tolerance quality (6–13), e.g. No. 484020 **10F10.**
- 48 4000/4020 – ■ For **acceptance gauges** (without wear allowance) see No. 484027; 484028.
- ■ For gauges with intermediate sizes and all ∅ with numeric tolerances see No. 484025; 484026.

48 4000

48 4020

48 4040

48

Nominal size ∅ mm	48 4000 H7	48 4020 Plug gauge A-ZC 6-13	48 4040 Plug gauge "Go" chrome H7
1	(XXX)	(XXX)	(XXX)
1,5	(XXX)	(XXX)	(XXX)
2	(XXX)	(XXX)	(XXX)
3	(XXX)	(XXX)	(XXX)
4	(XXX)	(XXX)	(XXX)
5	(XXX)	(XXX)	(XXX)
6	(XXX)	(XXX)	(XXX)
7	(XXX)	(XXX)	(XXX)
8	(XXX)	(XXX)	(XXX)
9	(XXX)	(XXX)	(XXX)
10	(XXX)	(XXX)	(XXX)
11	(XXX)	(XXX)	(XXX)
12	(XXX)	(XXX)	(XXX)
13	(XXX)	(XXX)	(XXX)
14	(XXX)	(XXX)	(XXX)
15	(XXX)	(XXX)	(XXX)
16	(XXX)	(XXX)	(XXX)
17	(XXX)	(XXX)	(XXX)
18	(XXX)	(XXX)	(XXX)
19	(XXX)	(XXX)	(XXX)
20	(XXX)	(XXX)	(XXX)
21	(XXX)	(XXX)	(XXX)
22	(XXX)	(XXX)	(XXX)
23	(XXX)	(XXX)	(XXX)
24	(XXX)	(XXX)	(XXX)
25	(XXX)	(XXX)	(XXX)
26	(XXX)	(XXX)	(XXX)
27	(XXX)	(XXX)	(XXX)
28	(XXX)	(XXX)	(XXX)
29	(XXX)	(XXX)	(XXX)
30	(XXX)	(XXX)	(XXX)

Nominal size ∅ mm	48 4000 H7	48 4020 Plug gauge A-ZC 6-13	48 4040 Plug gauge "Go" chrome H7
31	(XXX)	(XXX)	(XXX)
32	(XXX)	(XXX)	(XXX)
33	(XXX)	(XXX)	(XXX)
34	(XXX)	(XXX)	(XXX)
35	(XXX)	(XXX)	(XXX)
36	(XXX)	(XXX)	(XXX)
37	(XXX)	(XXX)	(XXX)
38	(XXX)	(XXX)	(XXX)
39	(XXX)	(XXX)	(XXX)
40	(XXX)	(XXX)	(XXX)
41	(XXX)	(XXX)	(XXX)
42	(XXX)	(XXX)	(XXX)
43	(XXX)	(XXX)	(XXX)
44	(XXX)	(XXX)	(XXX)
45	(XXX)	(XXX)	(XXX)
46	(XXX)	(XXX)	(XXX)
47	(XXX)	(XXX)	(XXX)
48	(XXX)	(XXX)	(XXX)
50	(XXX)	(XXX)	(XXX)
52	(XXX)	(XXX)	(XXX)
55	(XXX)	(XXX)	(XXX)
60	(XXX)	(XXX)	(XXX)
62	(XXX)	(XXX)	(XXX)
65	(XXX)	(XXX)	(XXX)
70	(XXX)	(XXX)	(XXX)
75	(XXX)	(XXX)	(XXX)
80	(XXX)	(XXX)	(XXX)
85	(XXX)	(XXX)	(XXX)
90	(XXX)	(XXX)	(XXX)
95	(XXX)	(XXX)	(XXX)
100	(XXX)	(XXX)	(XXX)

▶ S12 ◀
Cal

„Go" / „No Go" Plug gauge set

Content: 7 pieces, 1×"Go" / "No Go" plug gauge No. 484000 each in size 3, 4, 5, 6, 8, 10, 12 all in tolerance class H7.

48 4005

Nominal size range		mm	3-12
48 4005	Plug gauges set H7		(XXX)

Gauges from the Hoffmann Group – made in Germany

- Precision gauges from Germany's most renowned manufacturers.
- Aged gauge steel for the highest possible dimensional accuracy.
- Excellent wear performance due to optimum surface quality.
- High hardness for a long service life.

ADAM RUPPEL ASBACH · JBO · SCHMALKALDEN

► L6 ◄
Cal

"Go" / "No Go" plug gauges with intermediate size, all ∅ with numerical tolerance, and acceptance gauges

Measuring body made of first class gauge steel, hardened, stress-relieved, ground, and lapped.
The "Go" ends of these working gauges have a wear allowance to DIN 7164.

48 4025 – "Go" / "No Go" plug gauges with intermediate sizes and ISO fits, e.g. No. 484025 **2.37 H6.**

48 4026 – "Go" / "No Go" plug gauge with numerical tolerance, e.g. 484026 **28 + 0.01 / - 0.02.**

Standard: Tolerance and dimensions to **DIN 1938-1, DIN 2245-1 and DIN 7164.**

Note:
- Please state the exact nominal ∅ with tolerance band (A-ZC) and quality (6-13) or numeric tolerance (+/–).
- Intermediate size plug gauges are just double-ended plug gauges in fractional sizes!
- For whole number (even) ∅ with ISO fits see No. 484000; 484020; 484040 or on request.
- For acceptance gauges (without wear allowance) see No. 484027; 484028.

Type	48B 48 4025	48B 48 4026	Selection range nominal size
	"Go" / "No Go" gauge with intermediate sizes and ISO fits	"Go" / "No Go" plug gauge with numerical tolerance	
	with wear allowance		mm
A	(XXX)	(XXX)	2 – 2.999
B	(XXX)	(XXX)	3 – 10
C	(XXX)	(XXX)	10.001 – 14
D	(XXX)	(XXX)	14.001 – 18
E	(XXX)	(XXX)	18.001 – 24
F	(XXX)	(XXX)	24.001 – 30
G	(XXX)	(XXX)	30.001 – 40
H	(XXX)	(XXX)	40.001 – 50
I	(XXX)	(XXX)	50.001 – 60
J	(XXX)	(XXX)	60.001 – 90
K	(XXX)	(XXX)	90.001 – 99.999

Acceptance gauges (without wear allowance)

Acceptance gauges are made with no wear allowance at the "Go" end.

48 4027 – **Acceptance gauges** with intermediate sizes and ISO fits, e.g. No. 484027 **2.37 H6.**

48 4028 – **Acceptance gauges** with numerical tolerance, e.g. 484028 **28 + 0.01 / - 0.02.**

Note:
- Please state the exact nominal ∅ with tolerance band (A-ZC) and quality (6-13) or numeric tolerance (+/–).
- Intermediate size plug gauges are just double-ended plug gauges in fractional sizes!

Type	48B 48 4027	48B 48 4028	Selection range nominal size
	Acceptance gauges with intermediate sizes and ISO fits	Acceptance gauges with numerical tolerance	
	without wear allowance		mm
A	(XXX)	(XXX)	2 – 2.999
B	(XXX)	(XXX)	3 – 10
C	(XXX)	(XXX)	10.001 – 14
D	(XXX)	(XXX)	14.001 – 18
E	(XXX)	(XXX)	18.001 – 24
F	(XXX)	(XXX)	24.001 – 30
G	(XXX)	(XXX)	30.001 – 40
H	(XXX)	(XXX)	40.001 – 50
I	(XXX)	(XXX)	50.001 – 60
J	(XXX)	(XXX)	60.001 – 90
K	(XXX)	(XXX)	90.001 – 99.999

Gauges with diamond graphite coating on request

- 3 times harder than hard chrome plating.
- Longer service life
- Corrosion-resistant
- Low friction
- Wear-resistant
- Environmentally-friendly manufacturing processes.

► L7 ◄
Cal

Setting rings

Setting rings (checking rings) of first class gauge steel, hardened, stress-relieved, ground and lapped. **Each setting ring is engraved with the actual size.** Manufacturer's tolerance for the bore is JS4.

Standard: To **DIN 2250 C.**

Application: For general applications, e.g. for setting and testing measuring tools.

Note: Further intermediate sizes available on request or can simply be ordered at www.hoffmann-group.com, for instance No. 484030 size 82.

Nominal size ∅ mm	48 4030 Setting ring DIN 2250 C
3	(XXX)
4	(XXX)
5	(XXX)
6	(XXX)
7	(XXX)
8	(XXX)
9	(XXX)
10	(XXX)
11	(XXX)
12	(XXX)
13	(XXX)
14	(XXX)
15	(XXX)
16	(XXX)
17	(XXX)
18	(XXX)
19	(XXX)
20	(XXX)
21	(XXX)
22	(XXX)

Nominal size ∅ mm	48 4030 Setting ring DIN 2250 C
23	(XXX)
24	(XXX)
25	(XXX)
26	(XXX)
27	(XXX)
28	(XXX)
29	(XXX)
30	(XXX)
32	(XXX)
34	(XXX)
35	(XXX)
36	(XXX)
37	(XXX)
38	(XXX)
40	(XXX)
42	(XXX)
44	(XXX)
45	(XXX)
46	(XXX)
47	(XXX)

Nominal size ∅ mm	48 4030 Setting ring DIN 2250 C
50	(XXX)
52	(XXX)
55	(XXX)
60	(XXX)
62	(XXX)
65	(XXX)
70	(XXX)
75	(XXX)
80	(XXX)
85	(XXX)
90	(XXX)
95	(XXX)
100	(XXX)
110	(XXX)
125	(XXX)
150	(XXX)
175	(XXX)
200	(XXX)
225	(XXX)
275	(XXX)

► L7 ◄
Cal

Setting rings with intermediate sizes

Setting rings (checking rings) of first class gauge steel, hardened, stress-relieved, ground and lapped. **Each setting ring is engraved with the actual size.** Manufacturer's tolerance for the bore is JS4.

Standard: To **DIN 2250 C.**

Note: Please state the exact nominal ∅.
Intermediate size rings are only setting rings with **fractional sizes!**
For whole number (even) ∅ see 484030 or on request.
Ordering example: ∅ 10.002: No. 484035 B **10.002.**

Ceramic setting rings with **whole number millimetre sizes** on request.
Not available in intermediate sizes.

Type	48 4035 Setting ring with intermediate sizes	Selection range nominal size mm
A	(XXX)	3.001 – 3.499
B	(XXX)	3.501 – 14.999
C	(XXX)	15.001 – 19.999
D	(XXX)	20.001 – 24.999
E	(XXX)	25.001 – 31.999
F	(XXX)	32.001 – 39.999

Type	48 4035 Setting ring with intermediate sizes	Selection range nominal size mm
G	(XXX)	40.001 – 49.999
H	(XXX)	50.001 – 59.999
I	(XXX)	60.001 – 69.999
J	(XXX)	70.001 – 79.999
K	(XXX)	80.001 – 89.999
L	(XXX)	90.001 – 99.999

Garant Setting Bench SB 1

Horizontal setting device with touch screen suitable for the workshop environment **for setting internal and external measurement devices.**

Advantages:

- Easy and **convenient operation**.
- Large intuitive operating display.
- **Integral tolerance calculator** when the nominal size and fit are input.
- **Generation of favourites** for repeated setting of measuring tools.
- **High cost-effectiveness: Approx. 85 % time saving** compared to setting with gauge blocks.

43 9900_600

► L8 ◄
Cal

Double-sided gap gauges

Double-sided gap gauge of first class gauge steel, hardened, stress-relieved, ground, and lapped. "Go" end with **wear allowance** to DIN 7163.

Application: For testing shafts for clearance, transition or interference fits.

48 4222

Fir ISO **tolerance bands a – zc** in **basic tolerance qualities 6 – 13.**

Standard: Tolerances and dimensions to **DIN EN ISO 1938-1** and **DIN 7163**.

Note: Define the desired tolerance class. When ordering please state **tolerance band (a – zc)** and basic tolerance quality (6 – 13), e.g. No. 484222 size **10f9.** Gauges for precision fit quality 5 and finer tolerances available on request.

Nominal size ∅ mm	48 4222 Gap gauge a – zc
4	(XXX)
5	(XXX)
6	(XXX)
7	(XXX)
8	(XXX)
9	(XXX)
10	(XXX)
11	(XXX)
12	(XXX)
13	(XXX)
14	(XXX)

Nominal size ∅ mm	48 4222 Gap gauge a – zc
15	(XXX)
16	(XXX)
17	(XXX)
18	(XXX)
19	(XXX)
20	(XXX)
22	(XXX)
24	(XXX)
25	(XXX)
26	(XXX)
28	(XXX)

Nominal size ∅ mm	48 4222 Gap gauge a – zc
30	(XXX)
32	(XXX)
34	(XXX)
35	(XXX)
36	(XXX)
38	(XXX)
40	(XXX)
42	(XXX)
44	(XXX)
45	(XXX)
46	(XXX)

Nominal size ∅ mm	48 4222 Gap gauge a – zc
50	(XXX)
55	(XXX)
60	(XXX)
65	(XXX)
70	(XXX)
75	(XXX)
80	(XXX)
85	(XXX)
90	(XXX)
95	(XXX)
100	(XXX)

Double-sided gap gauges with intermediate sizes or numerical tolerances

For intermediate sizes or numerical tolerances.

48 4223 – Double-sided gap gauge with intermediate sizes and ISO tolerance class, e.g. **No. 484223 size 15.8 m6**

48 4225 – Double-ended gap gauge with numerical tolerance, e.g. 484225 size **41.04 + 0.01/ -0.02**

Standard:

48 4223 – Tolerances and dimensions to **DIN EN ISO 1938-1** and **DIN 7163**.

48 4225 – Tolerances and dimensions to **DIN EN ISO 1938-1 and DIN 7163.**

Type	48 4223 Double-sided gap gauge with intermediate sizes and ISO fits	48 4225 Double-sided gap gauge with numerical tolerance	Selection range nominal size mm
A	(XXX)	(XXX)	3.001 – 5.999
B	(XXX)	(XXX)	6.001 – 6.999
C	(XXX)	(XXX)	7.001 – 10.999
D	(XXX)	(XXX)	11.001 – 14.999
E	(XXX)	(XXX)	15.001 – 18.999
F	(XXX)	(XXX)	19.001 – 22.999
G	(XXX)	(XXX)	23.001 – 27.999
H	(XXX)	(XXX)	28.001 – 32.999
I	(XXX)	(XXX)	33.001 – 39.999

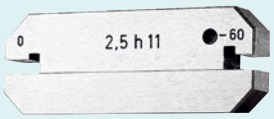
Type	48 4223 Double-sided gap gauge with intermediate sizes and ISO fits	48 4225 Double-sided gap gauge with numerical tolerance	Selection range nominal size mm
J	(XXX)	(XXX)	40.001 – 43.999
K	(XXX)	(XXX)	44.001 – 49.999
L	(XXX)	(XXX)	50.001 – 55.999
M	(XXX)	(XXX)	56.001 – 62.999
N	(XXX)	(XXX)	63.001 – 71.999
O	(XXX)	(XXX)	72.001 – 75.999
P	(XXX)	(XXX)	76.001 – 82.999
Q	(XXX)	(XXX)	83.001 – 92.999
R	(XXX)	(XXX)	93.001 – 99.999

Other gauges in special formats and sizes on request

Taper gauges

Gauge for serration.

Flat hole gauges.



Assembled gap gauges.

Gap gauges for threads

► L6 ◄
Cal

Groove width gauges

Groove width gauges with "Go" and "No Go" end. "Go" end with **wear allowance** to DIN 7164. Gauge body of hardened steel.

48 4402 – Groove width gauge with **tolerance class P9.**
48 4406 – Groove width gauges up to ISO **tolerance bands A – ZC** in **basic tolerance qualities 7 – 13.** When ordering, please state the nominal size, tolerance band and required basic tolerance quality or tolerance class e.g. No. 484406 size 10M6.

Standard: Tolerances and dimensions to **DIN EN ISO 1938-1 and DIN 7164.**

Application: For checking flat fits, e. g. grooves.

Note:
48 4406 – Define the desired tolerance class. When ordering please state **tolerance band (A – ZC)** and basic tolerance quality (7 – 13), e.g. No. 484406 size **10M6.** For groove width gauge with intermediate size and all nominal sizes with numeric tolerances, see No. 484407; 484411.

48 4402

48

Nominal size		mm	3	4	5	6	7	8	9	10
48B 48 4402	Groove width gauge	P9	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
48B 48 4406		A–ZC	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Nominal size		mm	11	12	13	14	15	16	17	18
48B 48 4402	Groove width gauge	P9	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
48B 48 4406		A–ZC	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Nominal size		mm	19	20	21	22	23	24	25
48B 48 4402	Groove width gauge	P9	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
48B 48 4406		A–ZC	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)

Groove width gauge with intermediate sizes or numerical tolerance

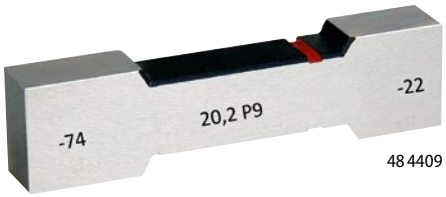
For intermediate sizes or numerical tolerances.

48 4409 – Groove width gauge with intermediate sizes and ISO fits, e.g. No. 484407 size **15.8 m6.**
48 4411 – Groove width gauge with numerical tolerance, e.g. 484411 Gr. **41.04 +0.01/-0.02.**

Standard:
48 4411 – Tolerances and dimensions to **DIN 1938-1 and DIN 7164.**

Application:
48 4411 – For checking flat fits, e.g. grooves.

Type	48B 48 4409 Groove width gauge with intermediate sizes and ISO fits	48B 48 4411 Groove width gauge with numerical tolerance	Selection range nominal size mm
A	(XXX)	(XXX)	3.001 – 5.999
B	(XXX)	(XXX)	6.001 – 8.999
C	(XXX)	(XXX)	9.001 – 12.999
D	(XXX)	(XXX)	13.001 – 16.999
E	(XXX)	(XXX)	17.001 – 20.999
F	(XXX)	(XXX)	21.001 – 25.999



48 4409

Gauge Scout

Quick and easy selection of the desired gauge.
- Direct and simple ordering process.
- Clear enquiry form for special gauges.
- Handy upload option for workpiece drawings.

Visit us online at www.toolscout.com
and discover the wide range of solutions offered by the ToolScout.

DIN 13 | M

Thread gauges for metric ISO threads

The ground first thread pitch removes coarse swarf in the component and prevents premature fracture of the first thread pitch. Version to DIN 2279 - 2299.

48 6008 – "Go" end TiN coated, resulting in longer working life, dirt trap groove from M6.

48 6000/6008 – **"Go" and "No Go" ends on a single handle (DIN 2240, part 1, form R).** "No Go" end marked red.

48 6020/6030 – **"Go" and "No Go" gauges are separate (DIN 2240, part 2, form GE).**

Standard: Tolerances and dimensions to **DIN ISO 1502.**

Application: For metric ISO threads, right-hand DIN 13.

48 6000/6008/6020/6030 – Tolerance class 6H (up to M 1.4 = 5H).

Note: Thread gauges for threads with other pitches, Whitworth, trapezoidal, round, UNC, UNF, NPT, and LH threads available on request.

48 6000

48 6008

48 6020
"Go" plug gauge

48 6030
"No Go" plug gauge

Thread	▶ L10 ◀ Cal	▶ L10 ◀ Cal	▶ L11 ◀ Cal	▶ L11 ◀ Cal	▶ L12 ◀ Cal	▶ L12 ◀ Cal	Thread pitch
	48B 48 6000	48B 48 6008	48B 48 6020	48B 48 6030	48B 48 6010	48B 48 6050	
	Threads						
	"Go" / "No Go" plug gauge	"Go" / "No Go" plug gauge TiN	Go plug gauge	No Go plug gauge	"Go" ring gauge 6g	"No Go" ring gauge 6g	mm
M1	(XXX)	–	–	–	–	–	0.25
M1,4	(XXX)	–	–	–	–	–	0.3
M1,6	(XXX)	–	–	–	–	–	0.35
M2	(XXX)	–	–	–	(XXX)	(XXX)	0.4
M2,5	(XXX)	–	–	–	XXX	XXX	0.45
M3	(XXX)	(XXX)	–	–	(XXX)	(XXX)	0.5
M3,5	(XXX)	–	–	–	(XXX)	(XXX)	0.6
M4	(XXX)	(XXX)	–	–	(XXX)	(XXX)	0.7
M5	(XXX)	(XXX)	–	–	(XXX)	(XXX)	0.8
M6	(XXX)	(XXX)	–	–	(XXX)	(XXX)	1
M8	(XXX)	(XXX)	–	–	(XXX)	(XXX)	1.25
M10	(XXX)	(XXX)	–	–	(XXX)	(XXX)	1.5
M12	(XXX)	(XXX)	–	–	(XXX)	(XXX)	1.75
M14	(XXX)	(XXX)	–	–	(XXX)	(XXX)	2
M16	(XXX)	(XXX)	–	–	(XXX)	(XXX)	2
M18	(XXX)	–	–	–	(XXX)	(XXX)	2.5
M20	(XXX)	(XXX)	–	–	(XXX)	(XXX)	2.5
M22	(XXX)	–	–	–	(XXX)	(XXX)	2.5
M24	(XXX)	(XXX)	–	–	(XXX)	(XXX)	3
M27	(XXX)	–	–	–	(XXX)	(XXX)	3
M30	(XXX)	–	–	–	(XXX)	(XXX)	3.5
M33	(XXX)	–	–	–	(XXX)	(XXX)	3.5
M36	(XXX)	–	–	–	(XXX)	(XXX)	4
M42	–	–	(XXX)	(XXX)	(XXX)	(XXX)	4.5
M48	–	–	(XXX)	(XXX)	(XXX)	(XXX)	5

48 6010
„Go" ring gauge

48 6050
"No Go" ring gauge

Thread gauge sets

DIN 13 | M

Supplied with: Strong wooden box with protective foam cushion.

Content:

48 6040 – 1x each thread plug gauge No. 486000 M3, M4, M5, M6, M8, M10, M12.

48 6060 – 1 each „Go" ring gauge No. 486010 M3; M4; M5; M6; M8; M10; M12.

48 6065 – 1 each "No Go" ring gauge No. 486050 M3; M4; M5; M6; M8; M10; M12.

48 6040
„Go" and „No Go" plug gauge set

48 6060 / 48 6065
„Go" and „No Go" ring gauge set

Set contents		M3-M12	
48B 48 6040	Thread "Go" / "No Go" plug gauge set	(XXX)	▶ S13 ◀ Cal
48B 48 6060	Thread "Go" ring gauge set	(XXX)	▶ S14 ◀ Cal
48B 48 6065	Thread "No Go" ring gauge set	(XXX)	▶ S14 ◀ Cal

DIN 13 | MF

Thread gauges for metric ISO fine threads

The ground first thread lead chamfer (from 1 mm pitch) removes contamination in the component and prevents premature fracture of the first full thread lead chamfer. Design to **DIN 2279 – 2299**.

48 6100 – **"Go" and "No Go" ends on a single handle (DIN 2240, part 1 form R).** "No Go" end marked red.

48 6120/6130 – **"Go" and "No Go" gauges are separate (DIN 2240, part 2, form GE).**

Standard: Tolerances and dimensions to **DIN ISO 1502.**

Application: For metric ISO fine threads, right-hand DIN 13.

Note: Thread gauges for threads with other pitches, Whitworth, trapezoidal, round, UNC, UNF, and NPT threads as well as left-hand threads available on request.

	▶ L10 ◀ Cal	▶ L11 ◀ Cal	▶ L11 ◀ Cal	▶ L12 ◀ Cal	▶ L12 ◀ Cal	
M × pitch	48B 48 6100	48B 48 6120	48B 48 6130	48B 48 6110	48B 48 6210	Thread pitch
	Fine thread					
	"Go" / "No Go" plug gauge 6H	"Go" plug gauge 6H	"No Go" plug gauge 6H	"Go" ring gauge 6g	"No Go" ring gauge 6g	mm
8×0,5	(XXX)	–	–	(XXX)	(XXX)	0.5
8×0,75	(XXX)	–	–	(XXX)	(XXX)	0.75
8×1	(XXX)	–	–	(XXX)	(XXX)	1
10×0,75	(XXX)	–	–	(XXX)	(XXX)	0.75
10×1	(XXX)	–	–	(XXX)	(XXX)	1
10×1,25	(XXX)	–	–	(XXX)	(XXX)	1.25
12×1	(XXX)	–	–	(XXX)	(XXX)	1
12×1,25	(XXX)	–	–	(XXX)	(XXX)	1.25
12×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
14×1	(XXX)	–	–	(XXX)	(XXX)	1
14×1,25	(XXX)	–	–	(XXX)	(XXX)	1.25
14×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
16×1	(XXX)	–	–	(XXX)	(XXX)	1
16×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
18×1	(XXX)	–	–	(XXX)	(XXX)	1
18×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
20×1	(XXX)	–	–	(XXX)	(XXX)	1
20×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
22×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
24×1	(XXX)	–	–	(XXX)	(XXX)	1
24×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
24×2	(XXX)	–	–	(XXX)	(XXX)	2
25×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
26×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
27×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
27×2	(XXX)	–	–	(XXX)	(XXX)	2
28×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
30×1	(XXX)	–	–	(XXX)	(XXX)	1
30×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
30×2	(XXX)	–	–	(XXX)	(XXX)	2
32×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
33×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
33×2	(XXX)	–	–	(XXX)	(XXX)	2
35×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
36×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
36×2	(XXX)	–	–	(XXX)	(XXX)	2
38×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
40×1,5	(XXX)	–	–	(XXX)	(XXX)	1.5
40×2	(XXX)	–	–	(XXX)	(XXX)	2
42×1,5	–	(XXX)	(XXX)	(XXX)	(XXX)	1.5
42×2	–	(XXX)	(XXX)	(XXX)	(XXX)	2
45×1,5	–	(XXX)	(XXX)	(XXX)	(XXX)	1.5
45×2	–	(XXX)	(XXX)	(XXX)	(XXX)	2
48×1,5	–	(XXX)	(XXX)	(XXX)	(XXX)	1.5
48×2	–	(XXX)	(XXX)	(XXX)	(XXX)	2
50×1,5	–	(XXX)	(XXX)	(XXX)	(XXX)	1.5
50×2	–	(XXX)	(XXX)	(XXX)	(XXX)	2
52×1,5	–	(XXX)	(XXX)	(XXX)	(XXX)	1.5
52×2	–	(XXX)	(XXX)	(XXX)	(XXX)	2
55×1,5	–	(XXX)	(XXX)	(XXX)	(XXX)	1.5
55×2	–	(XXX)	(XXX)	(XXX)	(XXX)	2
58×1,5	–	(XXX)	(XXX)	(XXX)	(XXX)	1.5
60×2	–	(XXX)	(XXX)	(XXX)	(XXX)	2

48 6100

48 6120
Go plug gauge

48 6130
„No Go" plug gauge

48 6110
Go ring gauge

48 6210
"No Go" ring gauge

DIN 228 | G

Thread gauges for Whitworth pipe threads

Plug thread gauges to DIN EN ISO 228-2. Ring thread gauges tolerance class A.
48 6140/6170/6250 – "No Go" gauges marked red.

Standard: **DIN EN ISO 228**

Note: Thread gauges for other diameters available on request.

48 6140 *"Go" and "No Go" plug gauge*

48 6170 *"No Go" plug gauge*
48 6160 *"Go" plug gauge*

inch	▶ L10 ◀ Cal 48B 48 6140 "Go" / "No Go" plug gauge	▶ L11 ◀ Cal 48B 48 6160 "Go" plug gauge	▶ L11 ◀ Cal 48B 48 6170 "No Go" plug gauge	▶ L12 ◀ Cal 48B 48 6150 "Go" ring gauge	▶ L12 ◀ Cal 48B 48 6250 "No Go" ring gauge	Thread Ø mm	Threads per inch
			Pipe threads				
G1/8	(XXX)	–	–	(XXX)	(XXX)	9.73	28
G1/4	(XXX)	–	–	(XXX)	(XXX)	13.16	19
G3/8	(XXX)	–	–	(XXX)	(XXX)	16.66	19
G1/2	(XXX)	–	–	(XXX)	(XXX)	20.96	14
G3/4	(XXX)	–	–	(XXX)	(XXX)	26.44	14
G1	(XXX)	–	–	(XXX)	(XXX)	33.25	11
G1.1/4	–	(XXX)	(XXX)	(XXX)	(XXX)	41.91	11
G1.1/2	–	(XXX)	(XXX)	(XXX)	(XXX)	47.8	11
G2	–	(XXX)	(XXX)	(XXX)	(XXX)	59.61	11

48 6150

48 6250

Thread gauges for UNC and UNF threads

Plug thread gauges to ANSI B1.2.
48 6300–6302 – UNC = Unified National Coarse thread.
48 6320–6322 – UNF = Unified National Fine thread.
48 6300/6302/6320/6322 – "No Go" gauges marked red.

Standard: **ANSI B 1.1**

48 6300

48 6301

UNC

inch	▶ L10 ◀ Cal 48B 48 6300 "Go" / "No Go" plug gauge UNC-2B	▶ L12 ◀ Cal 48B 48 6301 "Go" ring gauge UNC-2A	▶ L12 ◀ Cal 48B 48 6302 "No Go" ring gauge UNC-2A	Threads per inch
		Threads		
2-56	(XXX)	–	–	56
4-40	(XXX)	(XXX)	(XXX)	40
6-32	(XXX)	(XXX)	(XXX)	32
8-32	(XXX)	(XXX)	(XXX)	32
10-24	(XXX)	–	–	24
1/4	(XXX)	(XXX)	(XXX)	20
5/16	(XXX)	(XXX)	(XXX)	18
3/8	(XXX)	(XXX)	(XXX)	16
1/2	(XXX)	(XXX)	(XXX)	13
5/8	(XXX)	(XXX)	(XXX)	11
3/4	(XXX)	(XXX)	(XXX)	10

UNF

inch	▶ L10 ◀ Cal 48B 48 6320 "Go" / "No Go" plug gauge UNF-2B	▶ L12 ◀ Cal 48B 48 6321 "Go" ring gauge UNF-2A	▶ L12 ◀ Cal 48B 48 6322 "No Go" ring gauge UNF-2A	Threads per inch
		Threads		
10-32	(XXX)	XXX	(XXX)	32
1/4	(XXX)	(XXX)	(XXX)	28
5/16	(XXX)	(XXX)	(XXX)	24
3/8	(XXX)	(XXX)	(XXX)	24
7/16	(XXX)	(XXX)	(XXX)	20
1/2	(XXX)	(XXX)	(XXX)	20
9/16	(XXX)	(XXX)	(XXX)	18
5/8	(XXX)	(XXX)	(XXX)	18
3/4	(XXX)	(XXX)	(XXX)	16
7/8	(XXX)	(XXX)	(XXX)	14

NPT

Thread gauges for tapered American pipe threads NPT

NPT = American Standard taper pipe thread. Taper 1: 16. For threads with sealants.

Standard: **ANSI / ASME B 1.20.1**

48 6400

48 6405

inch	▶ L14 ◀ Cal 48B 48 6400 "Go" / "No Go" plug gauge	▶ L15 ◀ Cal 48B 48 6405 "Go" / "No Go" ring gauge	Thread Ø mm	Threads per inch
	NPT			
1/8	(XXX)	(XXX)	10.29	27
1/4	(XXX)	(XXX)	13.72	18
3/8	(XXX)	(XXX)	17.15	18

inch	▶ L14 ◀ Cal 48B 48 6400 "Go" / "No Go" plug gauge	▶ L15 ◀ Cal 48B 48 6405 "Go" / "No Go" ring gauge	Thread Ø mm	Threads per inch
	NPT			
1/2	(XXX)	(XXX)	21.34	14
3/4	(XXX)	(XXX)	26.67	14
1	(XXX)	(XXX)	33.4	11.1/2

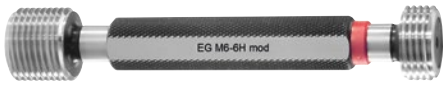
DIN 8140 | EG-M | ▶ L10 ◀ Cal

Thread gauges for metric ISO insert threads (EG)

Thread gauge for testing insert threads (EG) of wire thread inserts. The ground first thread pitch removes coarse swarf in the component and prevents premature fracture of the first thread pitch. Version to DIN 2279 – 2299. **"Go" and "No Go" ends on a single handle (DIN 2240, part 1, form R).** "No Go" end marked red.

Standard: Tolerances and dimensions to **DIN ISO 1502 and DIN 8140.**

Application: For metric ISO-profile insert threads (EG), right-hand DIN 8140-2.



48 6180

48

Threads	48B 48 6180 Thread plug gauge EG 6H mod.	Thread pitch mm
EG-M3	(XXX)	0.5
EG-M4	(XXX)	0.7
EG-M5	(XXX)	0.8
EG-M6	(XXX)	1

Threads	48B 48 6180 Thread plug gauge EG 6H mod.	Thread pitch mm
EG-M8	(XXX)	1.25
EG-M10	(XXX)	1.5
EG-M12	(XXX)	1.75
EG-M16	(XXX)	2

DIN 13 | M | ▶ i ◀ Cal

Thread gauges MultiCheck with depth measurement

Similar to No. 486000 and 486100.
Robust, easy-grip steel body with calibrated aluminium slide for measurement and direct reading of the **thread depth up to 4×D**.

Standard: Tolerances and dimensions to **DIN ISO 1502.**

Advantage: Checking the thread gauge conformity and the thread depth in a single operation. Time saved for one inspection task up to 50%. Easy replacement of a worn gauge head (fitting kit on request).

Note: MultiCheck for coarse and fine threads, with vernier (reading to 0.1mm) or with digital display (reading to 0.01mm) including data output **available on request**.

48 6510

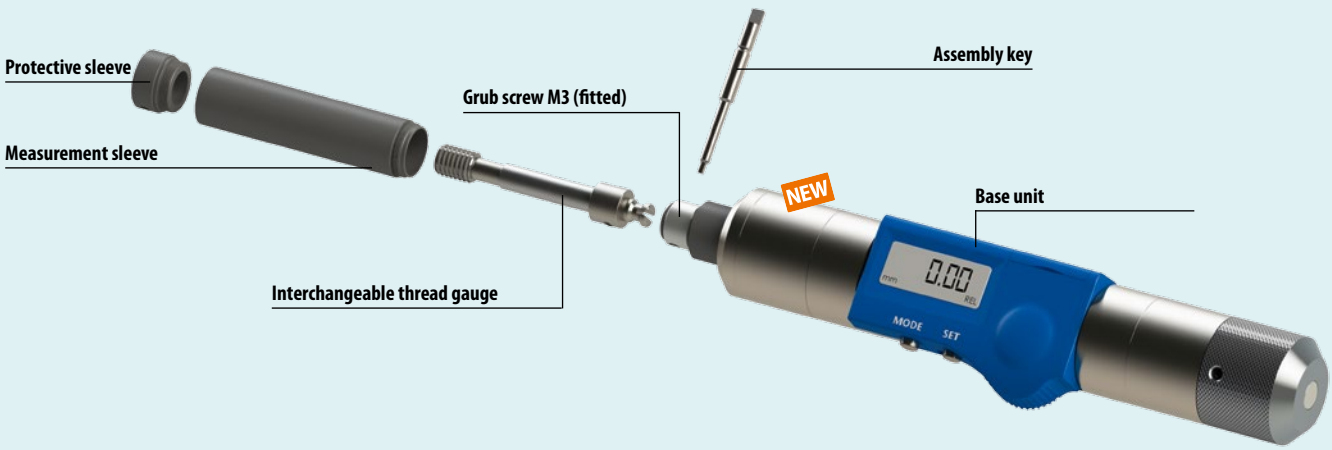
Thread	48B 48 6510 Thread "Go" / "No Go" plug gauge MultiCheck	Thread pitch mm	Scale divisions mm
M3	(XXX)	0.5	0.5
M4	(XXX)	0.7	0.5
M5	(XXX)	0.8	0.5
M6	(XXX)	1	0.5
M8	(XXX)	1.25	0.5

Thread	48B 48 6510 Thread "Go" / "No Go" plug gauge MultiCheck	Thread pitch mm	Scale divisions mm
M10	(XXX)	1.5	0.5
M12	(XXX)	1.75	0.5
M14	(XXX)	2	0.5
M16	(XXX)	2	0.5
M18	(XXX)	2.5	0.5

Special versions on request

MultiCheck Digital with interchangeable gauge inserts

MultiCheck Digital base unit with interchangeable gauge inserts, measurement sleeve and protective sleeve for checking the conformity to gauge and measuring thread depths. Measuring depth of up to 4 × D, max. 80 mm.



SCHWEIZER Scaled eye magnifier Tech-Line 8× or 10× magnification

Aplanatic lens system with scratch-resistant silicate glass lenses. Sharp contrast image. Housing of impact resistant transparent plastic. Can be combined with measurement scales No. 490440.

49 0410 – Vario focus, dioptre adjustment up to ± 4 dpt possible - particularly suitable for spectacle wearers.

Magnification (x-times)			8	10
49A 49 0400	Fixed focus scaled eye loupe		(XXX)	(XXX)
49A 49 0410	Vario focus scaled eye loupe		(XXX)	(XXX)
Lens ∅ (49 0400)		mm	30	
Lens ∅ (49 0410)		mm	22.8	

49 0400_8

49 0410_8

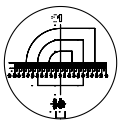
49 0400

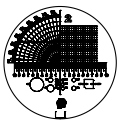
49 0440

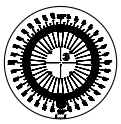
Dual measurement scales Tech-Line

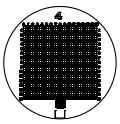
Graduations of hard chrome on the underside, for avoidance of parallax errors. **"Two scales in one":** Macro scale (∅ 25 mm) and micro scale (∅2.5 mm). Macro scale for reading at 8× and 10× magnification (no. 490400; 490410).

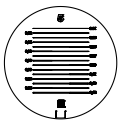
Suitable for: **No. 490400; 490410.**


Standard


Polar net, angle, radius


Angle 1°/ 0.1°


Polar net


Thickness

Type			1	2	3	4	5
49A 49 0440	Duo measurement scales		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Graduation of the measurement scale Macro		mm	0.1	0.1	–	0.5	0.1
Graduation of the measurement scale Micro		mm	0.01	0.01	–	0.05	0.01

SCHWEIZER Tech-Line stand magnifying glass, 8x magnification with measuring scale

Supplied with: Vario focus scaled eye loupe No. 490410 plus measurement scales No. 490440.

Size 8/1 – Measuring scale type 1.

Size 8/5 – Measuring scales type 1 – 5.

Magnification (x-fold) / Number of measuring dials		8/1	8/5
49A 49 0450	Scaled eye loupe Vario + measurement scales, set: in a storage box	(XXX)	(XXX)

49 0450

SCHWEIZER Thread counter Tech-Line

Aplanatic silica glass lens. Sharp-edged image, free of distortion

Magnification (x-times)			8
49A 49 0651	Thread counter with measurement scale Tech-Line		(XXX)
49A 49 0652	Thread counter Tech-Line		(XXX)
Graduation (49 0651)		mm	0.1
Scale length (49 0651)		mm	10
Lens ∅		mm	16.3
Aperture ∅ (49 0651)		mm	20
Cut-out (length×width) (49 0652)		mm	20×20
Height (49 0651)		mm	35
Height (49 0652)		mm	33

49 0651

49 0652

Garant Precision scaled eye loupe in full metal body

With aplanatic lens system. Precision engraved anti-glare measuring scale.
Special open tube for optimum illumination and stability.

Optional extras: Lighting unit No. 490545.

Spare part: Measuring scale No. 490542.

Magnification (x-times)			8	10	12
41M 49 0540	Precision scaled eye magnifier		(XXX)	(XXX)	(XXX)
Measuring range		mm	10	10	6
Graduation		mm	0.1	0.1	0.05
Magnification (x-times)			8	10	12
Construction height		mm	52	48	41

Special accessories lighting unit No. 490545.

49 0540

Precision ruler with magnifier

With aplanatic lens system. Laser engraved abrasions-resistant anti-glare measurement scale. Ruler of stainless steel with free-moving sliding precision scaled eye loupe. Ideally suited for workshop use.

Optional extras: Lighting unit No. 490545.

Note: 2 Precision magnifying glass; rulers with measurement range 300 mm and 400 mm available on request.

490570_212

Measuring range	mm	100	212
41M 49 0570	Precision ruler scaled eye loupe	(XXX)	(XXX)
Magnification (x-times)		10	
Graduation	mm	0.1	
Construction height	mm	48	
Overall length	mm	150	262

Watchmaker's glass Tech-Line

Black plastic setting. Aplanatic silica glass lens for a sharp-edged image.

490702

Magnification (x-times)		6	8	10	15
49A 49 0702	Watchmaker's eye glass Tech-Line	(XXX)	(XXX)	(XXX)	(XXX)
Lens ∅	mm	23	25	25	16

Hand-held magnifying glass Tech-Line

Aplanatic silica glass lens for a distortion-free image. Setting and handle all metal, solvent-resistant.

Size 10 – Black chrome-plated low-reflection metal setting with stainless steel handle.

490706_4

490706_10

Magnification (x-times)		2/4	4	10
49A 49 0706	Hand magnifying glass Tech-Line	(XXX)	(XXX)	(XXX)
Lens ∅	mm	90; 20	65	28

Pocket magnifying glass Tech-Line

Aplanatic silica glass lens in a plastic setting for a sharp-edged image. Ergonomic plastic housing for **one-handed use.**

490708 _10

Magnification (x-times)		6	10	15	20
49A 49 0708	Pocket magnifying glass Tech-Line	(XXX)	(XXX)	(XXX)	(XXX)
Lens ∅	mm	22.8	22.8	22.8	16.3

490711_3/5

490711_3/3/3

Magnification (x-times)		3/5	3/3/3
49A 49 0711	Pocket magnifying glass Tech-Line	(XXX)	(XXX)
Lens ∅	mm	38	
maximum magnification (times)		3 + 5 = 8	3 + 3 + 3 = 9
Number of individual lenses		2	3

Pocket magnifying glass

49 0714 – In fold-out rigid and dust-tight plastic case. PXM® lightweight lens; including neck cord.

49 0715 – In fold-out leather case.

490714

490715

Magnification (x-times)		3,5	4	7	10
49A 49 0714	ESCHENBACH	–	(XXX)	(XXX)	(XXX)
49A 49 0715	SCHWEIZER Pocket magnifying glass	(XXX)	–	–	–
Type of lens		biconvex	aspherical	aspherical	aspherical
Lens ∅	mm	60	35	35	35

SCHWEIZER Reading glass

Biconvex silica glass lens in metal setting. Scratch-resistant and solvent-resistant.

Size 2,5/5 – With add-on lens for five times magnification.

Magnification (x-times)			2,5/5	3,5
49A	49 0800	Reading glass	(XXX)	(XXX)
Lens ∅		mm	75; 20	65

_3,5

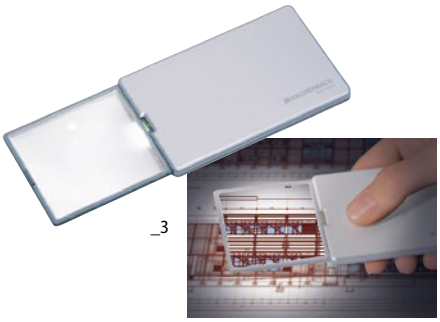
ESCHENBACH easyPOCKET illuminating magnifying glasses

The illuminating magnifying glass has an aspherical diffracting lens and an CMD-LED. The light comes on when the magnifying glass is pulled out of the glass fibre-reinforced plastic case.

Size 2,5XL – Large lens available for use as a bench magnifying glass thanks to the integral clip.

Size 3; 4 – Compact credit card format.

Type			2,5XL	3	4
49A	49 0816	easyPOCKET illuminating magnifying glass	(XXX)	(XXX)	(XXX)
Lens length		mm	78	50	50
Lens width		mm	50	45	45
Lens height		mm		3	
Magnification (x-times)			2.5	3	4



_3

Hand-held illuminating magnifying glasses

49 0818 – Aspherical PXM lightweight lens, hard coated with ceratec® on both sides, bright homogeneous illumination by SMD LED and collimation optics. Power control by step-up converter, giving bright and consistent illumination. 3 different light colours can be selected by 2 clip-on filters, supplied.

Size 3 – Extra large field of view for non-fatiguing work.

49 0821 – Hand-held magnifying glass with ergonomic shape. Neutral white glass lens, neutral white light colour (4500 K) with 2-stage boost switch for optimisation of the illumination, acoustic feedback and haptic guidance. SMD-LEDs for low power consumption.

Supplied with:

49 0818 – 2 batteries No. 081561 size LR6, 2 colour filters, and a lens protection case.

49 0821 – Supplied with 3 batteries No. 081561 size LR3 and micro-fibre bag for storage and cleaning.

49 0818_3

49 0818_4

Type			3	4	6	8	10	15
49A	49 0818	ESCHENBACH mobilux LED hand-held illuminating magnifying glass	(XXX)	(XXX)	–	–	–	–
49A	49 0821	SCHWEIZER Tech-Line CLASSIC hand-held magnifying glass	–	–	(XXX)	(XXX)	(XXX)	(XXX)
Lens ∅		mm	–	–	30	30	30	22.8
Lens length		mm	90	75	–	–	–	–
Lens width		mm	54	50	–	–	–	–
Magnification (x-times)			3	4	6	8	10	15
Colour temperature		K	–	–	4500	4500	4500	4500

49 0821_8

SCHWEIZER Tech-Line INDUCTION hand-held magnifying glass

Hand-held illuminated magnifying glass with **innovative induction charging** for continuous and sustained charging when in continuous use. Charging time approx. 3 hours, working time approx. 7 hours. Scratch resistant silica glass lens with very large depth of focus and distortion-free image. Sharp contrast and homogeneous light thanks to dual-stage adjustment of the light intensity. Pleasant haptics thanks to ergonomic design with soft touch gripping zone. Long-life SMD-LEDs with light colour 4500 K (neutral white).

Size 4 – Aspherical silica glass lens

Size 8–15 – Aplanatic silica glass lens

Supplied with: Supplied with induction charging pad, power supply unit, micro-fibre bag for storage and cleaning.

49 0822

Power supply by induction *– continuous and sustained charging for uninterrupted use.*

Magnification (x-times)			4	8	10	15
49A	49 0822	Tech-Line INDUCTION hand-held magnifying glass	(XXX)	(XXX)	(XXX)	(XXX)
Lens ∅		mm	55	30	22.8	16.3
Magnification (x-times)			4	8	10	15
Colour temperature		K	4500			

ESCHENBACH Powerlux illuminating magnifying glass

- High magnification 20 dpt/ 5× with a large field of vision.
- Best optical imaging quality, thanks to aspherical unbreakable plastic lens (PXM®), cera-tec® coated.
- Optimum shadow-free illumination by 2 SMD-LEDs opposite each other.
- Soft touch button for ON/ OFF, clear switching feedback, easy operation.
- Automatic switch-off: the lamp switches off automatically after 30 minutes.

Size 3,5/8000 – Suitable for binocular utilization.

Supplied with: 3 batteries No. 081561 size LR6 and rigid foam case.

49 0820

Type		3,5/8000	5/3000	5/8000	7/8000
49A 49 0820	"Powerlux" illuminating magnifying glass	(XXX)	(XXX)	(XXX)	(XXX)
Lens ∅	mm	54			
Magnification (x-times)		3.5	5	5	7
Colour temperature	K	approx. 8000 (cold white)	approx. 3000 (warm white)	approx. 8000 (cold white)	approx. 8000 (cold white)

49

Magnifier

High-quality binocular headband magnifying glass with scratch-resistant interchangeable lenses for sharp-edged images, free of distortion and with outstanding depth of focus. Highest possible flexibility at the workplace, with both hands free for work. The headband magnifying glass can be worn over glasses and is thus outstandingly suitable for those who wear glasses.

49 0950 – laboCOMFORT extra-light headband magnifying glass with adjustable hook and loop tape fastening. Head-mounted with air circulation openings. Screen protection against stray light. Click positions for adjustment to individual heights.

49 0952 – Tech-Line BINO LED binocular headband magnifier with silica glass exchangeable lenses in metal settings, and powerful pivoted LED illumination. Light colour 6000 K. Adjustment facility by means of a resilient rubber strap.

Optional extras:

49 0950 – LED headlight.

49 0950

49 0952

Magnification (x-times)		2
49A 49 0950	ESCHENBACH laboCOMFORT binocular headband magnifying glass	(XXX)
49A 49 0952	SCHWEIZER Tech-Line BINO LED binocular headband magnifier	(XXX)
Working distance	mm	250
Weight (49 0950)	g	105
Weight (49 0952)	g	185

ESCHENBACH maxDETAIL magnifying glasses and accessories

Magnification glasses with dioptre adjustment (± 3 dpt. right / left).

Advantage: Lightweight. Large field of view: ∅ 15 cm at 40 cm distance.

Optional extras: LED headlight.

49 0954

Magnification (x-times)		2
49A 49 0954	maxDETAIL magnification glasses	(XXX)
Distance to application	mm	400
Eye spacing	mm	60 – 68
Weight	g	49

maxDETAIL Clip ESCHENBACH additional lens

Galileo type additional lenses for glasses, can be adjusted for height and swung up.

Advantage: Especially for those who wear glasses, very low weight.

49 0960

Application example

Magnification (x-times)		2
49A 49 0960	maxDETAIL Clip additional lens	(XXX)
Distance to application	mm	350
Eye spacing	mm	62 – 70
Weight	g	23

Lens shapes for magnifying glasses

Convex *or converging lenses have the effect of concentrating the light. At least one of the faces represents the curvature of a sphere segment. Therefore these lenses are referred to as spherical lenses (sphere, Greek = ball).*
Biconvex *lenses are convex on both sides.*
They permit ***less distortion at higher magnifications*** *than planoconvex lenses.*

An ***aplanatic*** *lens system consists of 2 planoconvex lenses, whose flat faces both are directed outwards.*
This allows a ***sharp-edged image free of distortion.***

SCHWEIZER Standing magnifying glass Tech-Line without illumination

Aplanatic silica glass lens in low-reflection brass setting with lead-in protection. Heavy cast base with black plastic coating. Flexible metal swan neck 300 mm in length.

Size 90 – With additional add-on lens ∅ 20 mm, for 4×magnification.

Lens ∅	mm	65	90
49A 49 0860	Tech-Line standing magnifying glass	(XXX)	(XXX)
Magnification (x-times)		4	2

ESCHENBACH Magnifying glass lamp varioLED+

- Ergonomic design - low power consumption - long-life LEDs (up to 50,000 operating hours).
- Magnifying glass lamp with 84 long-life high-power LEDs.
- Adjustable ring illumination or segmented illumination, dimmable in 3 stages. Strength of illumination ring illumination: 6000 lx/ 3500 lx/ 2400 lx; segmented illumination: 2350 lx/ 1450lx/ 960 lx.
- Colour temperature 6500 K.
- Ra value 86.
- Full light output immediately - flicker-free.
- PXM® aspherical lightweight lens with cera-tec® hard coating and 3.55 dpt/2× and ∅ 132 mm permits a wide field of view, image is sharp right to the edges and free from distortion, for non-fatiguing work.
- Lens cover can be swung aside or removed.
- Quick change of view between magnification and normal view using "free-swinging" lens.
- Extremely low weight and 6 joints allow optimum alignment of the magnification head for any situation – variety of fastening options.

Supplied with: Table clamp for worktop thicknesses 18 – 74 mm.

Optional extras: Additional lens 6 dpt/2.5× magnification with ∅ 132 mm.

Note: Table base and lens spray protection for the underside are available on request. This lamp incorporates built-in LED bulbs. The bulbs cannot be changed within the lamp.

Lens ∅	mm	132
49A 49 1655	Magnifying glass lamp varioLED+	(XXX)
Magnification (x-times)		2
Length of the jointed arm A	mm	400
Length of the jointed arm B	mm	400

HOLEX LED magnifying glass lamp

Magnifying glass with high-quality SMD-LEDs for non-reflecting, shadow-free and evenly illuminated field of work. Sharp-edged image, free of distortion. Long-lived LEDs (up to 50,000 h), low power consumption.

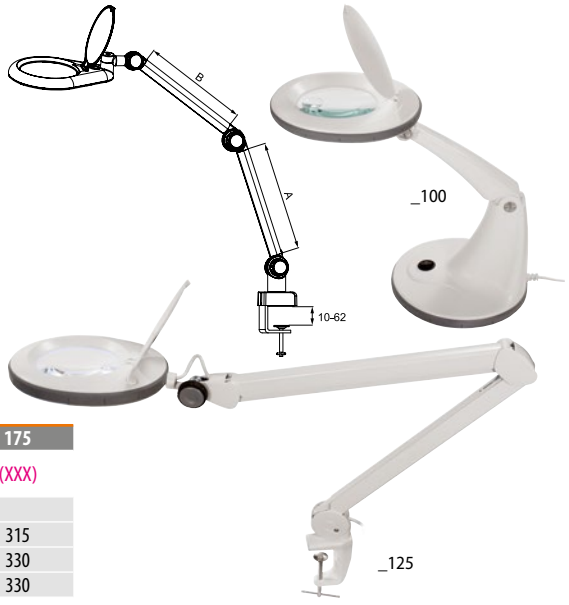
Size 100 – 48 SMD-LEDs. Additional add-on lens ∅ 22 mm, for 3.5× magnification.

Size 125 – 60 SMD-LEDs; 2 levels of brightness.

Size 175 – 40 SMD-LEDs; 3 levels of brightness.

Supplied with: Lens cover, table clamp for worktop thicknesses 10 - 62 mm (size 100 with table base).

Note: This lamp incorporates built-in LED bulbs. The bulbs cannot be changed within the lamp.



Lens ∅	mm	100	125	175
42L 49 1545	Ring magnifying glass lamp	(XXX)	(XXX)	(XXX)
Magnification (x-times)			1.75	
Head ∅	mm	180	230	315
Length of the jointed arm A	mm	140	400	330
Length of the jointed arm B	mm	165	400	330

Lens shapes for magnifying glasses

***Aspherical** lenses have a different radius at each point of the lens, and thus have nothing in common with a sphere. This variation in the curvature of the lens surface gives a great reduction in distortion, especially at the edges of the lens. Aspherical lenses permit **optimum freedom from distortion** at a precisely determined eye distance.*

Since the individual colours of the spectrum are refracted to different extents, the images display coloured edges.
*This can be avoided by employing an **achromatic lens pair**. This ensures a **true colour image.***

Garant LED magnifying glass lamp

Elegant magnifying glass lamp with high light intensity. Lamp head, upright tube, and flexible neck of sturdy metal.

- The specially developed lamp cover with integral optics focuses the light **without dazzling and with minimum scattering losses** on the inspection area (4× more light per Watt than a fluorescent tube, working life approx. 50,000 h = 6 years 24/7).
- **Distortion-free, hard-coated** plastic lens.
- Modern **highly efficient lighting concept**, consisting of 63 LEDs on a ring base.
- The lamp is **switched and dimmed** by placing a finger on a soft-touch sensor.
- The high quality flexible neck and the slender profile, reduced to the essentials, means the LED magnifying glass lamp can be used everywhere.

Advantage: 6 years 100 % illumination with no maintenance costs. Easy and quick to clean (enclosed system). Insensitive to vibration. Functional design.

Supplied with: With plug-in power supply adapter 100 - 240 V, lens cover and table clamp No. 491492 size TK.

Optional extras: Table base No. 491492 size TF.

Note: Further table or machine bases available on request. This lamp incorporates built-in LED bulbs. The bulbs cannot be changed within the lamp.

4 times more light per Watt – switched and dimmed at the touch of a finger.

49 1490

Lens cover with quick-release attachment supplied.

Lens ∅	mm	72
41M 49 1490	LED magnifying glass lamp	(XXX)
Magnification (x-times)		2.3
Head ∅	mm	122
Head thickness	mm	13
Throat	mm	approx. 750

Innovative design of magnifying glass lamp for the most demanding applications. Large viewing area with ∅ 153 mm for distortion-free viewing. Robust jointed arms of aluminium and high performance plastic, well balanced with spring restraint (colourless anodised), hold the exact position. Joints enclose and protect the cabling internally.

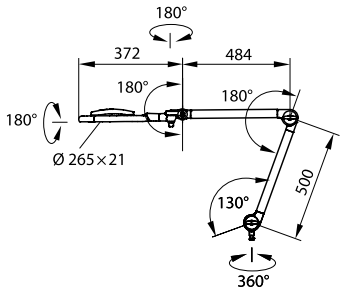
- **Absolutely scratch-resistant** glass lens - for distortion-free vision.
- **3D head joint** for individual adjustment and fixing.
- **Illumination:** 112 SMD high-power LEDs, power consumption only 13 W. Light intensity 5500 Lx, can be steplessly dimmed down to 10 %, LED working life up to 50,000 h.
- The **segment circuit (visualiser)** permits lighting effects that emphasise the structure. Colour reproduction stage 1A for brilliant rendering of colours.

Supplied with: With plug-in power supply adapter 100 - 240 V, 50/60 Hz, lens cover and table clamp No. 491492 size TK.

49 1497 – With additional add-on lens 30 mm ∅.

Note: This lamp incorporates built-in LED bulbs. The bulbs cannot be changed within the lamp.

49 1495



Lens ∅	mm	160
41M 49 1495	LED magnifying glass lamp	(XXX)
41M 49 1497	LED magnifying glass lamp **with additional lens**	(XXX)
Magnification (x-times)		2
Magnification of the add-on lens (times) (49 1497)		3.5
Head ∅	mm	250
Length of the jointed arm A	mm	500
Length of the jointed arm B	mm	484
Throat	mm	1356

Waldmann Magnifying glass lamp

LED magnifying glass lamp for anti-glare and evenly illuminated work field. Freely moving jointed arm. The spring holds the lamp in any position.

- Hardened, ground and **scratch-resistant** glass lens. **Pivoting.**
- Rectangular magnifying glass lamp for powerful and even illumination over a large area, with 54 LEDs. Power consumption only 12 W, light intensity 6000 Lx, multi-stage switchable. LEDs up to 50,000 h working life.
- Segment switching for recognition of the finest structures and errors. Depending on the application can be switched between light with formation of shadows and all-round shadow–free light.
- Large field of view for distortion-free viewing.

Supplied with: With cover and plastic screw-on foot.

Optional extras: Table base No. 491660, table clamp No. 491670.

Note: This lamp incorporates built-in LED bulbs. The bulbs cannot be changed within the lamp.

Type		2
49A 49 1521	LED rectangular magnifying glass lamp without stand	(XXX)
Lens length	mm	162
Lens width	mm	105
Magnification (x-times)		2
Throat	mm	900
Head dimensions length	mm	298
Head dimensions width	mm	194
Head dimensions height	mm	75

Illumination with shadows

Rear lamp switched on for shadow-free illumination.

Waldmann W LED magnifying glass lamp

Innovative design of magnifying glass lamp for the most demanding applications. Large viewing area with ∅ 153 mm for distortion-free viewing. Unique balanced lamp support (aluminium) with enormous effective radius. Enclosed design for protection of the user and the integral technology.

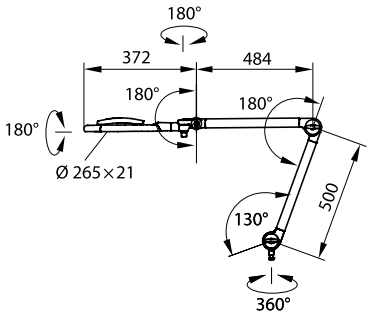
- **Absolutely scratch-resistant** glass lens
- **3D head joint** for individual adjustment and fixing.
- **Illumination:** 48 high-power LEDs, power consumption just 16 W. Max. light intensity 7503 lx, steplessly dimmable. Light characteristics can be adjusted by a three-position switch. LEDs with up to 50,000 h working life.
- The **segment circuit (visualiser)** permits lighting effects that emphasise the structure. Very good colour perception and high-contrast vision.
- Due to special coating, suitable for **ESD workstations**.

Supplied with: Plug-in power supply adapter 100 – 240 V, 50/60 Hz, lens cover, screw-on flange, base.

Optional extras: Table clamp 491670 size ESD

Note: This lamp incorporates built-in LED bulbs. The bulbs cannot be changed within the lamp.

49 1525



Lens ∅	mm	160
49A 49 1525	LED magnifying glass lamp **ESD version**	(XXX)
Magnification (x-times)		2
Head ∅	mm	250
Length of the jointed arm A	mm	500
Length of the jointed arm B	mm	484
Throat	mm	1356
Colour temperature	K	approx. 4000

KERN Stereo microscopes

Attractively-priced stereo microscope for simplified viewing of mechanical components, circuit boards and surfaces. Greenough optics for the best reproduction quality. Optimum illumination by steplessly dimmable LED incident illumination and transillumination. The eye spacing of 55–75 mm is individually adjustable. The tube is inclined at 45°.

Size OSF439 – Particularly stable thanks to mechanical stand with handy carrying handle. Exchangeable lens with 3 levels of magnification for quick work.

Size OZL465 – Shadow-free and even illumination thanks to integral LED ring illumination.

Size OZL463; OZL465 – Zoom lens for stepless magnification of 7–45×. Dioptre compensation adjustable on both sides for non-tiring work and a sharp image.

Supplied with: Dust cover, eyepieces.

_OSF439

_OZL463

_OZL465

Type		OSF439	OZL463	OZL465
49M 49 1735	OSF stereo microscope	(XXX)	–	–
49M 49 1737	OZL stereo microscope	–	(XXX)	(XXX)
Magnification (x-times)		1; 2; 4	7 – 45	7 – 45
Zoom		–	0.7–4.5×	0.7–4.5×
Field of vision ∅	mm		20	
Eyepiece		WF 10×	HWF 10×	HWF 10×
Working distance	mm	57	105	105

High quality stereo microscopes E-series

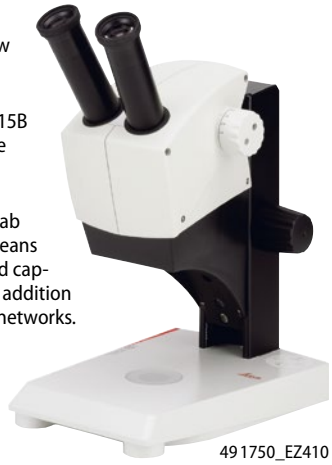
Stereo zoom microscope for high resolution, intensely illuminated and sharp focus images. Adjustment buttons lie conveniently under the hand; adjustable settings allow non-fatiguing continuous use. The eye spacing is individually adjustable
Film key pad, 3 incident-light methods available with 5 LEDs.

Size EZ4W16 – Leica EZ4W with open tube and exchangeable eyepieces. The 16×/15B eyepieces allow images with a magnification of up to 56 times to be documented.

Size EZ4W; EZ4W16 –
- Integral **5 megapixel CMOS HD camera.**
- **Wireless data transmission via WLAN** using the free Leica AirLab app (system requirements: Android from 4.1, iOS from 7.0). By means of the Leica AirLab app, the camera can be set to take images and capture measurements, add comments and send them by e-mail. In addition images can be stored in the photo folders and linked into social networks.
- Concurrent access to the camera by multiple users.
- **Additional HDMI, USB 2.0 and Ethernet output.**
- **Integral SD card slot.**

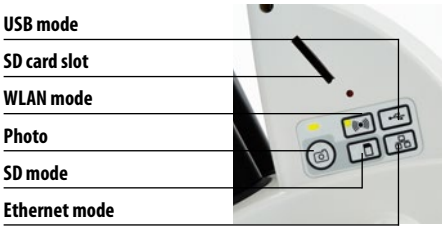
Supplied with:
Size EZ4W – USB cable, HDMI cable, recording software, dust protection hood.
Size EZ4W16 – 2× eyepieces 16×/15B.

Optional extras:
Size EZ4W16 – Eyepiece 10×/20B.

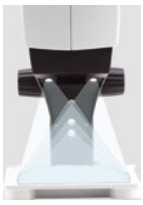


49 1750_EZ410

49 1750_EZ4W16



Type		EZ410	EZ4W	EZ4W16
49B 49 1750	Stereo microscope	(XXX)	(XXX)	(XXX)
Optics system		10° Greenough parfocal optics		
LED illumination system		Built-in, incident illumination and transillumination can be switched on independently or together		
Incident light		3 methods available: Maximum brightness with 5 LEDs, oblique incident illumination with 3 LEDs, flat spotlight with 2 LEDs		
adjustable illumination		yes		
Magnification (x-times)		8 – 35	8 – 35	12 – 56
Zoom		4.4:1		
Field of vision ∅	mm	5.7 – 25	4.3 – 18.8	4.3 – 18.8
Angle of view	degrees	60		
Working distance	mm	100		
Weight	kg	5.4	6.3	6.3



Maximum illumination intensity.

Inclined incident light.

Flat grazing light.

High quality stereo microscopes A-series

StereoZoom microscope with a magnification range from 5× to 30×, allowing both detail viewing and also a general overview. Thanks to the patented FusionOptics™ technology, the Leica A60 achieves a depth of focus of 13.6 mm at the lower zoom step which avoids tedious refocussing when viewing higher components.

- Unrivalled depth of focus (13.6 mm).
- 46 mm object field.
- Ergonomic working due to the high working distance (122 mm).
- Antistatic plastic casing.
- Including LED ring light with 10 brightness steps.
- Clip-on diffuser (removable) for reduction in reflections.

Size A60S – With swing arm stand.
- For repeating objects.
- Direct earthing point in the base.
- Particularly high stability for working at high magnifications.

Size A60F – With flexible arm stand.
- Easy inspection of the object in x and y direction.
- Easy height adjustment for differing object heights.
- Table clamp mounting makes maximum space saving.

Application: Ideal for industrial inspections, assembly, and quality control.
Supplied with: Mains cable.
Optional extras: Transillumination No. 491777 size BLI.

49 1782 _A60S

49 1782 _A60F

Type		A60S	A60F
49B 49 1782	Stereo microscope	(XXX)	(XXX)
Optics system		Greenough with Fusion Optics™	
LED illumination system		16 Med Power SMT LEDs	
Magnification (x-times)		5 – 30	
Zoom		6: 1	
maximum depth of focus	mm	13.6	
Field of vision ∅	mm	46	
Angle of view	degrees	38	
Colour temperature of incident light	K	5600	
Working distance	mm	122	
Base length	mm	230	–
Base width	mm	266	–
maximum throat depth	mm	560	995

Leica StereoZoom® high quality stereo microscope S9E, S9I and S9D with LED stand

StereoZoom® microscope for ergonomic working with **zoom 9:1.**

- Patented FusionOptics™ technology for depth of focus and highly detailed images.
- 122 mm working distance for comfortable working under the microscope.
- Integral click stops at 10×, 20×, 30×, 40× and 50× magnification.
- Apochromatically corrected microscope system.
- **LED3000 lighting stand** including a USB2 port. The LED3000 ring lamp generates bright and even illumination of the sample at constant colour temperature and a wide field of view.
- Four available illumination options (semi-circle and quadrant) for different contrasts.
- Compact design permits comfortable access to the sample from the side.
- Dimmer control for each lighting option.
- Convenient light control and adjustment using a touch panel.

Size S9I – With integral 10 MP CMOS camera, 35 FPS and Ethernet network socket.

Size S9D – With integral C-Mount camera output.

Supplied with: Mains cable (100 - 230 V) and dust cover.

_S9E _S9I _S9D

Type		S9E	S9I	S9D
49B 49 1785	Stereo microscope with lighting stand LED3000	(XXX)	(XXX)	(XXX)
Optics system		Greenough with FusionOptics™ technology		
Lighting		Leica LED3000		
Magnification (x-times)		6.1 – 55		
Zoom		9:1		
Field of vision ∅	mm	37.7		
Angle of view	degrees	35		
Brightness of incident light	lx	15500		
Colour temperature of incident light	K	6500		
Working distance	mm	122		
Depth of focus	mm	13.7		

Leica Transillumination LED 3000 BLI

Transillumination for retrospective attachment to microscopes.

- Large working area of 170 mm × 220 mm.
- 77 mm illuminated object field ∅.
- User-friendly intuitive touch control panel.
- Simple mobile use on existing base plates.
- Can be used without a base plate as a free-standing transillumination unit.

Supplied with: Mains adaptor and mains cable.

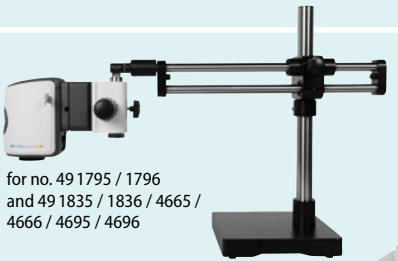
49 1777

Type		BLI
49B 49 1777	Transillumination	(XXX)
Power consumption	W	10

Leica ZEISS Further stand variants available on request

for No. 49 1764 / 1793

for No. 49 1835 / 1836 / 1846



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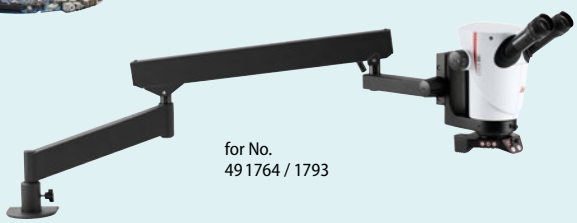
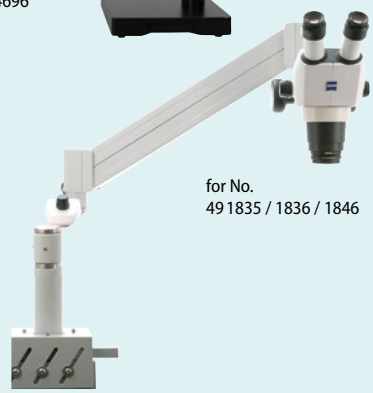


for No. 49 1764 / 1793



for No. 49 1835 / 1836 / 1846

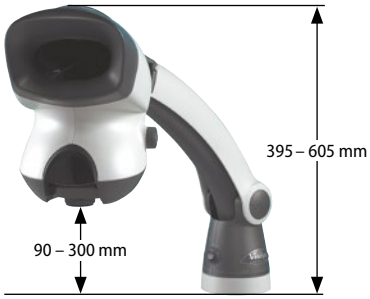
Stereo observation system Mantis® without eyepiece

Clear, distortion-free, three-dimensional magnification displaying correct colours and positions using patented process. Viewing screen instead of eyepieces makes for non-fatiguing ergonomic inspection as if using a magnifying glass with a large field of view. No need for the eyes to refocus when looking at the component after viewing the screen.

49 1901 – Elite projection head with **"Quick Change" lens changer** for 2 lenses and excellent optical performance.
Size ED – **With integral USB 2.0 camera** and 2D measurement software for additional viewing on the screen, archiving, and simple measurement tasks.
49 1903 – With height adjustable stand and movable table 100×100 mm. LED incident illumination and transillumination.
49 1904 – With universal pivoting stand and extra large working and pivoting range.

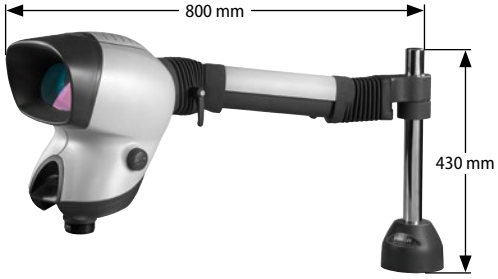
Supplied with: Including dust cover.
49 1901 Size ED – **Without** viewing screen (PC, laptop) including Vifox software.
49 1801–1903 – Including dust cover.

Optional extras:
49 1801 – Lens No. 491805.
49 1901–1904 – Lens No. 491905.



49 1801

49 1901



49 1904

49 1903

Type		C
49B 49 1801	Mantis® Compact stereo viewing system **with universal stand**	(XXX)
Magnification with special accessories (times)		4 / 6
Brightness of incident light	lx	9400
Number of LEDs		20

Type		E	ED
49B 49 1901	Mantis® Elite stereo viewing system **with universal stand**	(XXX)	(XXX)
49B 49 1903	Mantis® Elite TS stereo viewing system **with stand and movable table**	(XXX)	(XXX)
49B 49 1904	Mantis® Elite Flexible stereo viewing system **with pivoting stand**	(XXX)	–
Magnification with special accessories (times)		4 – 20	
Brightness of incident light	lx	11000	
Number of LEDs		24	

Size ED: Including USB camera and software for simple 2D measuring tasks.

Optional extras

Type		4	6
49B 49 1805	Lens for Mantis® Compact	(XXX)	(XXX)
Magnification (x-times)		4	6
Field of vision ∅	mm	27.5	19.2
Working distance	mm	96	73

49 1805

Type		4	6	6SL	8	10	15	20
49B 49 1905	Lens for Mantis® Elite	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Magnification (x-times)		4	6	6	8	10	15	20
Field of vision ∅	mm	34	23	20	17	13.5	8.8	6.5
Working distance	mm	96	68	112	59	54	40	29

49 1905

Stereo microscope STEMI 305

Stereo microscope for high resolution, intensely illuminated sharp focus images. Greenough design for the best image quality. **Integral vertical LED light source.** Individually adjustable and compensates for eye spacing and short-sightedness. Carrying handle for mobile use. Cold light stand, adjustable incident light, flat transillumination base (bright field / dark field), column with drive and 145 mm length of travel. With additional K LED spotlight with light beam adjustable for zoom and height.

Size 305FLEX – With additional double spotlights (swan-neck).
Size 305RING – With additional segmentable K LED ring lamp - 48 LEDs in 2 rows.
Size 305TRINO – With integral C-Mount camera output.

Optional extras:

49 1835 – Polarisation accessories for spotlighting and transillumination.
Attachment lenses 0.75× / 1.5× / 2.0× available on request.
49 1836 – AxioCam 491852 and 491853

Polarisation accessories for spotlighting and transillumination.
Attachment lenses 0.75× / 1.5× / 2.0× available on request.

Note:	**Available as options:** Version with integral Wi-Fi camera and router. Version without transillumination unit.

_305EDU

_305FLEX

_305RING

49 1836

Type		305EDU	305FLEX	305RING	305TRINO
49B 49 1835	Stereo microscope STEMI 305	(XXX)	(XXX)	(XXX)	–
49B 49 1836	STEMI 305 stereo microscope **with camera output**	–	–	–	(XXX)
Magnification (x-times)		8 – 40			
Zoom		5: 1			
Field of vision ∅	mm	29			
Eyepiece		PL 10×			
Working distance	mm	110			

Integral, almost vertical LED light for illuminating bores and undercuts.

Stereo microscope STEMI 508

Stereo microscope for high resolution, intensely illuminated sharp focus images. Greenough design for the best image quality. **Apochromatic lenses** correct the chromatic aberration at the lens for three colours (red, green and blue) and thus enable brilliant colour images. Individually adjustable and to compensate for eye spacing and short-sightedness. Carrying handle for mobile use. Cold light stand, adjustable incident light, flat transillumination base (bright field / dark field), column with drive and 145 mm length of travel.
Segmentable K LED ring lamp – 48 LEDs in 2 rows.
With integral C-Mount camera output.

Supplied with: Including eyepieces.

Optional extras: AxioCam 491852 and 491853.
Attachment lenses 0.63× / 1.5× / 2.0× available on request. Polarisation accessories for spotlighting and transillumination.

Note:	**Available as options:** Version without transillumination unit.

49 1846

Type		508CMAT
49B 49 1846	STEMI 508 stereo microscope **with camera output**	(XXX)
Magnification (x-times)		6.3 – 50
Zoom		8: 1
Field of vision ∅	mm	35
Eyepiece		PL 10×
Working distance	mm	92

Microscope camera AxioCam

Versatile colour camera AxioCam 208 Color with 8.3 megapixel resolution for training, documentation or routine uses; features standalone functionality.

- Sharp, highly detailed live images. High colour fidelity at full 4K resolution and 30 images per second.
- Simple to use thanks to automatic adjustment of brightness, contrast and white balance.
- Standalone mode without PC. The camera is network-capable and can be used with the Zeiss iOS app ZEN Imaging Software and Labscope.

49 1877

49 1877

Type		208
49B 49 1877	AxioCam 208 Color microscope camera	(XXX)
Resolution	px	3,840 × 2,160
Interface		USB 3.0, HDMI, Ethernet, Wi-Fi compatible
Camera sensor		CMOS
Pixel size	µm	1.85 × 1.85
Length	mm	135
Width	mm	97
Height	mm	54

ZEISS microscope AxioCam 105 colour

5 Megapixel CMOS microscope camera for documentation. Ports: 1×micro USB 3.0. Full integration into the AxioVision and ZEN software (both only 64-bit) from Carl Zeiss **(ZEN lite available for downloading free of charge).**

Supplied with: Including PCIe card for 4 additional USB 3.0 ports on the PC and 1×USB cable.

Optional extras: Video adapter for STEMI 2000 C.

49 1853

Type		105C
49B 49 1853	AxioCam microscope camera 105 colour	(XXX)
Resolution	px	2560×1920
Interface		1×micro USB 3.0
Camera sensor		CMOS
Pixel size	µm	2.2×2.2
Length	mm	29
Width	mm	29
Height	mm	47.6

USB colour camera

Compact colour camera with high resolution for pin-sharp images.

49 2070 – 5 megapixel CMOS colour camera with USB 3.0 connection. Video recording at full resolution at 15 images a second.

49 2075 – 6.4 megapixel CMOS colour camera with USB 3.1 connection. Video recording at full resolution at up to 60 images a second.

Supplied with: Supplied with a 3 m connection cable.

_5

_6,4

Type		5	6,4
41P 49 2070	Colour camera, USB 3.0	(XXX)	–
41M 49 2075	Colour camera, USB 3.1	–	(XXX)
Resolution	px	2592×1944	3088×2076
Pixel size	µm	2.2	2.4
Images per second		15	60
Sensor size	inch	1/2.5	1/1.8
Length	mm	43	47
Width	mm	29	46
Height	mm	29	24

Garant Measurement and documentation software

Simple measurement software for image archiving, measurement and labelling of images. Measurement directly on the live image with cross hair (adjustable, can be moved and rotated). Image feed via the USB camera or PNG file. Image export as a file, e-mail and to the printer.

System requirements:

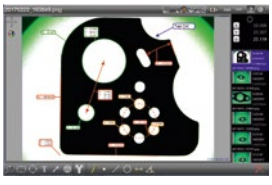
- Requires Windows 7 (32/64 bit) or later, Windows 10 recommended.
- Free USB port.

Function:

- Measurement of points, straight lines, circles, angles and distances.
- Construction of intersection points (tangent points, zero points), distances (centre/centre, min, max), straight lines (alignment lines, centre lines, tangents), Cross-section circles and pitch circles.

Supplied with: USB stick with software D1, USB dongle for software activation and instruction manual.

Intuitive measurement and dimensioning of different elements


Labelling of images for easy documentation

Type		D1
41M 49 2060	Measurement and documentation software	(XXX)

PHOTONIC LED ring light with segmental control

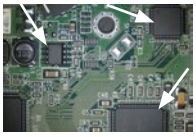
Neutral white light (40 LEDs, light temperature 5900K), continuously dimmable. Segment selection (1/4 circle) and rotation (left/right) for optimum contrast conditions. Homogeneous illumination and flicker-free operation due to DC power supply. LED working life 25,000 hours. ESD socket for dissipating static electrical charges. Sturdy slim design of the lighting head, internal Ø 66 mm, including the adaptor. Transillumination with a Ø 50 mm illuminated area can be controlled from the control unit.

Supplied with: Including control unit, international switched-mode power supply (100 - 240 V) and adaptor from Ø 66 mm to 58 mm.

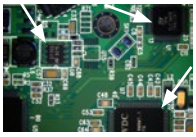
Optional extras: Accessory parts adapter Ø 66 mm to 60 mm No. 492232 size 66/60, diffuser No. 492232 size DIFF, polarisation filter set No. 492232 size FILTER, LED transillumination No. 492232 size LIGHT.

Note:	Adapters for lenses with other Ø (Zeiss, Leica, Nikon) available on request.

Segment circuit



Without polarisation filter.



With polarisation filter.

The use of a polarisation filter no. 49 2232_Filter eliminates reflections that can occur when using direct lighting.

49 2230

49K 49 2230	LED ring light with segmental control		(XXX)
Ring lamp Ø		mm	94
Ring lamp height		mm	25

PHOTONIC High-power ring light with segment control

LED ring light with integral controller for user-friendly operation – no separate control unit necessary. Ergonomic and intuitive to use for left and right-handed users. 2 working distances can be set (45-130mm and 80-300mm). Homogeneous illumination. Segments can be adjusted individually. Memory function for the preferred setting. Can be integrated into an ESD environment.

Advantage:
- Multiple working distances can be set
- No external control unit required
- Flexible and intelligent segment control

Supplied with: Supplied with an adapter Ø 66 mm to 58 mm, international power supply unit (100-240V), hexagon key L-wrench.

Optional extras: Diffusor, polarisation filter, adapter for lenses

49 2225

Ring lamp Ø		mm	66
49K 49 2225	High-power ring light with segment control		(XXX)
Ring lamp Ø		mm	66
Ring light length		mm	107
Ring light width		mm	128
Ring lamp height		mm	31

PHOTONIC LED cold light source with swan neck fibre optic cable

Very bright dimmable cold light source with long-life (> 30,000 h) and energy-saving LED technology (5800 K). Sturdy metal casing, can be stacked as a stable assembly. ESD socket for dissipating static electrical charges. Extremely high light densities at the illuminated area.

Size F1 – Passive cooling, silent and vibration-free.

Size F3000 – Remotely controlled with a foot switch or USB, extremely quiet fan. Shutter functionality. Can be used in vertical orientation.
Optional halogen filter simulates halogen light 3500 K.

Supplied with: LED cold light source, double swan neck fibre optic cable (Ø 4.5 mm, length 550 mm) with integral focussing lenses.

Size F1 – Including international power supply unit (100 – 240 V).

Size F3000 – With EU mains cable.

Optional extras: Halogen filter No. 492244 size FILTER, foot switch No. 492244 size SWITCH and cross section converter No. 492244 size LINE.

Note:	Further fibre optic cables, gap ring light sources, colour filters and other accessories available on request.

49 2242_F1

49 2242_F3000

Type			F1	F3000
49K 49 2242	LED cold light source		(XXX)	(XXX)
Intensity of illumination		lm	350	640
Power consumption		W	22	65
comparable light output to a halogen bulb		W	100	> 150
Overall length		mm	196	
Overall width		mm	110	170
Overall height		mm	175	98
Weight		kg	0.5	3.8

Stereo microscope without eyepiece Lynx EVO

Stereo microscope without eyepiece, for viewing and analysing your components and samples in 3D. The patented Dynascope® stereo viewer generates a 3-dimensional image of first-class quality. The unique Lynx EVO stereo observation system without eyepiece allows the user a pleasant working position and hence significantly more efficient working.

- The modular design permits configuration to suit individual applications.
- The magnification is performed steplessly from 6× – 60× and can be increased to 120× by use of additional lenses.
- **Flexible stand options**
- **Ergo stand**. Compact size for **small working areas**. Exceptional stability at high magnifications.
- **Multi-axis column stand**. Precise and sturdy, ideal for industrial applications which require the **largest possible working area**.
- Large working distance for easy processing of components.
- **First-class ergonomics.** Non-fatiguing working due to straight natural posture, no restriction in the movement of the head and noticeable reduction in eye fatigue.
- **High image quality** due to true colour images at high resolution, rich in detail, with high contrast.

49 1865 – 8-point LED ring light with regulation of lighting intensity and integral rotating diffusion lens.

49 1866 – LED angled optics for a 360° all-round view to allow a **better view of details** and inspection of concealed details on vertical components. Easy changeover from oblique view to conventional perpendicular view.

Application: For all application areas in production and inspection where long working distances and high image quality are important. For assembly under a microscope. For continuous use due to non-fatiguing working. Also ideal for glasses wearers.

Supplied with: Projection head with lens and zoom unit 10: 1. LED illumination, dimmable.

Size ERGO – Table stand with removable lens carrier.

Size AXIS – Column stand for mounting at the workplace, base plate.

Optional extras: Smart Cam (with software) No. 491867, reticules.

49 1865 – Other lenses (0.45 × / 0.62 × / 1.0 × / 1.5 × / 2.0 ×)

Size ERGO – Movable table 100 × 100mm with plastic surface, LED transillumination.

Lynx EVO with Ergo stand. Compact size for small working areas.

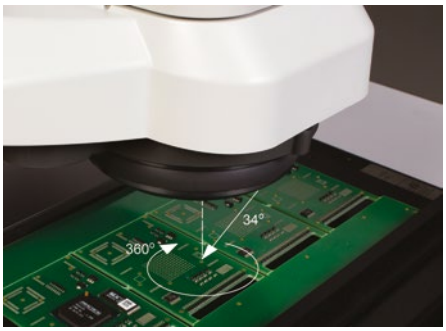
49 1865_ERGO

Lynx EVO with multi-axis pillar stand. Ideal for industrial applications for which the largest possible working area is required.

49 1865_AXIS

49 1866

Type		ERGO	AXIS
49B 49 1865	Stereo microscope Lynx EVO	(XXX)	(XXX)
49B 49 1866	Stereo microscope Lynx EVO with LED angled optics	(XXX)	(XXX)
Manufacturer's designation (49 1865)		EVO501	EVO502
Manufacturer's designation (49 1866)		EVO503	EVO504
Stand		Table stand	Column stand
Magnification (x-times) (49 1865)		6 – 60	3.7 – 37
Magnification (x-times) for oblique view (49 1866)		4.2 – 42	
Magnification (x-times) for perpendicular view (49 1866)		6.8 – 68	
Lens (times) (49 1865)		1.0	0.62
Working distance (49 1865)	mm	75	128
Working distance for oblique view (49 1866)	mm	35.5	
Working distance for perpendicular view (49 1866)	mm	56.5	
Reach of optical axis	mm	200	439
Weight	kg	15.3	26.6



The 360° rotation permits improved detail viewing. At an angle of 34° even hidden details on vertical components or features are clearly recognisable.

49 1866

Smart Cam digital camera

Simple and practical image capture and video storage, with simultaneous stereo viewing. Including software for image labelling and identification.

Suitable for: Stereo microscope Lynx No. 491865; 491866.

49 1869

Type		EVC131
49B 49 1867	Smartcam USB HD camera module	(XXX)
Resolution	px	2560×1920
Interface		USB 3.0
Camera sensor		CMOS
Pixel size	µm	2.8

VOCam II video inspection system

Digital full-HD microscope with brilliant live video image quality for precise magnification of objects. Various optional wide-field and precision lenses allow up to 300× magnification with constant image sharpness.

- Brilliant full-HD video images (1080p / 60 fps).
- Large 30 : 1 optical zoom range with many magnification options (up to 300×) and 12× digital zoom.
- Effortless image storage either on external media (USB stick) or optional software solution (Vifox). **Integrated USB3 interface.**
- High-quality optics with modern digital technology.
- Fast, professional imaging for reliable results.
- Integrated 8-point LED ring lamp.
- High-quality stand versions for precision and stability.
- 24 inch full-HD monitor with HDMI input.

Size ECO2CE1 – Variable jointed arm.

Size ECO2501; ECO2503 – Table stand.

Size ECO2502; ECO2504 – Multi-axis column stands (without base plate), focus module.

_ECO2CE1

_ECO2501

Application: Video inspection system for goods receiving, production and development. Large detailed live image for continuous use and viewing by several users at the same time.

Supplied with: With full HD colour monitor 24 inch, USB stick.

49 1895 – Lens 0.62×.

Optional extras: EVO Cam II control panel No. 491898, LED transillumination, WiFi transmitter dongle and additional lenses (0.45 × / 1.00 ×).

Size ECO2CE1; ECO2502 – Lens (4 dioptre / 5 dioptre).

Size ECO2501; ECO2503 – Movable table 100 × 100.

Size ECO2502; ECO2504 – Base plate No. 491889.

_ECO2502

Type		ECO2CE1	ECO2501	ECO2502	ECO2503	ECO2504
49B 49 1895	EVOCam II video inspection system	(XXX)	(XXX)	(XXX)	–	–
49B 49 1896	EVOCam II video inspection system with LED angled optics	–	–	–	(XXX)	(XXX)
Resolution live image maximum	px	1920×1080				
Resolution individual image maximum	px	1920×1080				
Stand		Jointed arm	Table stand	Column stand	Table stand	Column stand
Lens ∅	mm	55	55	55	–	–
Magnification (x-times)		3.1 – 93	3.1 – 93	3.1 – 93	–	–
Working distance	mm	106	106	106	–	–
Working distance for oblique view	mm	–	–	–	35.5	35.5
Working distance for perpendicular view	mm	–	–	–	56.5	56.5
Magnification (x-times) for oblique view		–	–	–	19 – 105	19 – 105
Magnification (x-times) for perpendicular view		–	–	–	28 – 151	28 – 151
Weight	kg	10	23	35	23.5	35.5

49 1896

EVOCam II control panel

- Adjustable overlay grid and moveable cursor for easy on-screen measurement and calibration.
- 10× memory settings (lighting, magnification, and focus position) allow you to store and recall optimised settings for individual objects.
- Adjusting the camera gain and aperture settings allow better control of image brightness and depth of field.

Suitable for: EVOCam II No. 491895 + 491896.

49 1898

Type		ECX155
49B 49 1898	EVOCam II control panel	(XXX)

Base plate for column stand

Suitable for: No. 491895 size ECO2502, No. 491896 size ECO2504.

49 1889

49B 49 1889	Base plate for column stand	
Length	mm	635
Width	mm	455

Movable table for table stand

Movable table for simple and precise positioning of fragile and delicate samples and objects. Can be adapted to an EVOCam II with a table stand and Lynx EVO with table stand.

Suitable for: Lynx EVO No. 491865 size ERGO, No. 491866 size ERGO; EVOCam II No. 491895 size ECO2501, No. 491896 size ECO2503.

Type		EVS120
49B 49 1891	Movable table for table stand	(XXX)
Weight	kg	1.5

Leica Digital microscope system Leica DMS 300

Digital microscope system with integral high-end optics and high-performance digital camera, complete with LED illumination and pivoted arm system. Optimised for digital inspection and documentation in the industrial environment.

- Digital camera with 2.5 Megapixel resolution.
- High live image speed: up to 30 images a second.
- Programmable pre-setting and image overlay import capability.
- Direct control of all camera parameters via infra-red remote control (in HD mode).
- Direct recording of HD movie clips on to the SD card.
- 8:1 zoom area (with switchable click stops) permits quick switching between overview and detail.
- Magnification range from 15× to 120× digital (including 0.8× lens) with a 22 inch monitor.
- Parfocal optics – no refocusing when changing the magnification.

Advantage:
- Ergonomic working thanks to high operating comfort.
- Optimised for quick and easy quality control, inspections and documentation.
- Can be operated stand-alone with HD monitor without PC.
- Direct control of all camera parameters.
- Leica LAS EZ software for taking photos on the PC.

Supplied with: Stereo microscope, pivot arm stand, lens 0.8×, LED ring light, manual / pedal switch, 2 remote controllers, HDMI and USB cable, universal USB power supply unit, SD card. **Supplied with** Leica Application Suite Software EZ (LAS EZ).

49 1796 – **Including** 10 inch monitor.

Optional extras: Transillumination No. 491777 size BLI.

_DMS300

_DMS300M

Type		DMS300	DMS300M
49B 49 1795	Microscope system	(XXX)	–
49B 49 1796	Microscope system	–	(XXX)
Resolution live image maximum	px	1920×1080	
Resolution film clips maximum	px	1920×1080	
Resolution individual image maximum	px	1824×1368	
Lens		0.8× achromatic	
Weight	kg	24.2	26.2

Dino-Lite Digital Microscope USB hand-held microscopes

_AM4113ZT

_AM4815ZT

_AM7515MZT

_AM7915MZT

Handy hand-held digital microscope for professional use. Colour camera with CMOS chip and USB 2.0 port, with outstanding image quality and up to 200× magnification. Including intuitive measurement software for Windows and Mac OS. Built-in **polarisation filter** for reduction of reflections.

Size WF4115ZT – **Wireless model** operates via the WF-20 adapter supplied or via a USB cable connection. Can also be used on Android and IOS via the DinoConnect app.

Size AM4815ZT; AM7915MZT – **Extended dynamic range** for high-contrast images. **Depth of focus function** for improvement of the depth of focus sharpness at rough or uneven surfaces.

Size AM7515MZT; AM7915MZT – **High-resolution 5 Megapixel camera** in high-quality light metal casing. Automatic magnification detection facilitates measurement by software.

Supplied with: Measurement software DinoCapture 2.0 (Windows) and DinoXcope (Mac OS).

Optional extras: Pillar stand No. 492035

Note: Other versions (e.g. with coaxial incident light, ESD protection, etc.) available on request.

_WF4115ZT

Manufacturer's designation		AM4113ZT	AM4815ZT	AM7515MZT	AM7915MZT	WF4115ZT
49K 49 2032	USB hand-held microscope	–	–	–	(XXX)	(XXX)
Camera		1.3 megapixel CMOS colour camera	1.3 megapixel CMOS colour camera	5 megapixel CMOS colour camera	5 megapixel CMOS colour camera	1.3 megapixel CMOS colour camera
Magnification (x-times)		10 – 70; 200	20 – 200	20 – 220	10 – 220	10 – 220
Polarisation filter		yes				
Extended depth sharpness (EDOF)		–	yes	–	yes	–
Extended dynamic range (EDR)		–	yes	–	yes	–
Automatic magnification reading (AMR)		–	–	yes	yes	–
Interface		USB interface	USB interface	USB interface	USB interface	Digimatic interface; Wireless connection

Pillar stand for No. 492032

Stable pillar stand including quick setting and fine setting for wobble-free mounting, even at high magnifications. 180 mm height adjustment, 150 mm horizontal mounting arm including 150 mm extension (can pivot through 360°).

Suitable for: All Dino-Lite models.

49 2035

49K 49 2035	Pillar stand RK-10A		–
Width of the support face		mm	150
Depth footprint		mm	220
Height of the support face		mm	230

Garant Video measuring microscopes MM-OS

The high-quality video measuring system in conjunction with the user-friendly M3 measuring software is **particularly well suited for the quick and comparative measurement of flat components.**

- Long-lived **LED incident light** for clear and homogeneous illumination of the workpiece.
- Telecentric dimmable **LED transillumination.**
- **Aluminium granite base** and measuring table with **tapped holes** for attachment of clamping systems.
- High-resolution colour camera with telecentric lens.
- Extremely user-friendly, intuitively usable M3 measurement software including **DXF functionality.** Very high repetition accuracy thanks to **automatic edge detection.**
- **Automatic component recognition in seconds** at any angle of view.
- **Mechanical height adjustment with graduated scale** permits both the measuring plane and a clamping system to be adjusted individually and reproducibly.

Application:
- Measuring, dimensioning, and evaluation of flat components such as O-rings, washers, plugs in seconds, in a single operation.
- A wide variety of geometric shapes and materials can be reliably measured in a user-friendly manner. Documentation can also be performed.
- Various applications, for instance in production, inspection rooms or goods receiving.
- Compact general-purpose measuring system.

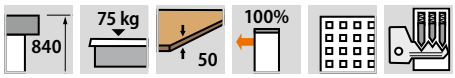
Supplied with: Multi-touch panel PC, wireless mouse and keyboard, dust cover, power supply unit, test certificate, and user manual.

Note: Length measurement variation $E_{UXY, MPE}$ to DIN EN ISO 10360-7.
Permissible ambient conditions: 20 °C ± 1 K, temperature gradient Δ_{th} = 0.5 K/h, Δ_{td} = 4.0 K/d, measured with a calibrated standard. We reserve the right to make technical changes and to change the touch panel version.

reddot award 2014
winner

491915_MM-OS1

Type		MM-OS1	MM-OS2
41P 49 1915	Video measuring microscope MM-OS	–	–
Measuring range X	mm	26	65
Measuring range Y	mm	19	50
Adjustment range Z	mm	50	
Length measurement variation $E_{UXY, MPE}$ optically (2D)	µm	4.9 + L/50 (L in mm)	
Magnification (x-times)		0.2 ±3%	0.08 ±3%
Camera		5 megapixels	
maximum component height	mm	50	
Nominal voltage	V	230	
Length	mm	354	
Width	mm	444	
Height	mm	600	800
Weight	kg	30	32
maximum component weight	kg	20	



GRID LINE

Garant GRIDLINE Base cabinets for measuring microscopes

Body of welded sheet steel, with bench top of Eluplan dark grey, edges veneered with 3 mm thick graphite. Incorporating the GARANT locking system.

Suitable for:
Size 1500×700 – GARANT video measuring microscopes with measuring range max. X=200 / Y=100.
Size 1800×900 – GARANT video measuring microscopes with measuring range X=300 / Y=200.

Colour: Body light grey RAL 7035, drawers anthracite grey RAL 7016.

width×depth	mm	1500×700	1800×900
41M 49 2580	Base cabinet for measuring microscopes	(XXX)	(XXX)
Width	mm	1500	1800
Depth	mm	700	900
Drawer usable width	mm	500	
Drawer usable depth	mm	500	
Load capacity, distributed	kg	1000	
Weight	kg	124	188
Fitted with: Drawer front height (left)		50; 300; 300 mm	

_1800×900

Garant Video measuring microscope MM1

Measuring microscope with quick image processing, high-resolution colour camera, and a multi-touch panel PC that is easy to operate and suitable for the workshop environment, with **intuitive M3 measurement software.** **Incident illumination:** 56 white LEDs in 2 concentric rings. 1 ring and 4 segments can each be separately switched and dimmed.
Transillumination: Long-life LEDs, telecentric, can be switched and dimmed. **Solid granite base** with surface-hardened indexing table and high-precision guides. Ergonomic quick adjustment with one-handed operation in both axes (X and Y). **Diode laser** as positioning guide. Very high repetition accuracy thanks to **automatic edge detection.**

Size 200/6X; 300/6X – With 6-stage raster zoom lens, magnification 0.35× to 2.25×.

Application:
- In goods receiving, in the inspection room, in manufacturing.
- Suitable for general purpose use due to flexible four-quadrant incident light and compact measurement computer.
- A wide variety of geometric shapes and materials can be reliably measured in a user-friendly manner. Documentation can also be performed.

Supplied with: All-in-One PC, wireless mouse and keyboard, dust cover, power supply unit, test certificate, and user manual.

Optional extras: Lens No. 491912, software option No. 491913, cutting edge cleaner No. 354788.

Note: Length measurement variation $E_{UXY, MPE}$ to DIN EN ISO 10360-7 for magnification factor = 0.5.
Permissible ambient conditions: 20 °C ± 1 K, temperature gradient Δ_{th} = 0.5 K/h, Δ_{th} = 4.0 K/d, measured with a calibrated standard.

For all GARANT video measuring microscopes we can offer you the following on request:
- Maintenance contract.
- Installation and commissioning with brief instruction on use.
- Individual training for your employees.
- On-site calibration.

We reserve the right to make technical changes and to change the touch panel version.

MM1_200

Zoom step	Display presentation	Field of view
0.35×	16×	20×13 mm²
0.5×	23×	14×9 mm²
1×	43×	7×4 mm²
1.5×	65×	4×3 mm²
2×	90×	3×2 mm²
2.25×	100×	3×2 mm²

MM1 size 200/6X and 300/6X with 6-step raster zoom lens.

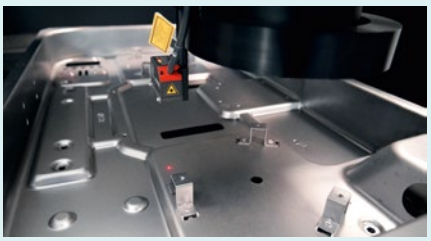
Type		200	300	200/6X	300/6X
41P 49 2500	Video measuring microscope **MM1**	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range X	mm	200	300	200	300
Measuring range Y	mm	100	200	100	200
Measuring range Z	mm	100	200	100	200
Length measurement variation $E_{UXY, MPE}$ optically (2D)	µm	2.9 + L / 100 (L in mm) at 20 °C ±1 K			
Lens (times)		0.5	0.5	0.35 – 2.25	0.35 – 2.25
Magnification at the screen (times)		23	23	16 – 100	16 – 100
Field of view	mm	14×9	14×9	20×13 – 3×2	20×13 – 3×2
Camera		6.4 megapixels			
Working distance	mm	80			
maximum component height	mm	100	200	100	200
Nominal voltage	V	230 / 240			
Length	mm	500	730	500	730
Width	mm	600	900	600	900
Height	mm	770	950	770	950
Weight	kg	60	115	60	115
maximum component weight	kg	20			

56 LEDs can be switched and dimmed flexibly in rings and segments for optimum illumination of the workpiece.

Garant MM1 video measuring microscope

Laser for contour measurement on the MM1 CNC/CMZ versions available on request

Advantages:
- **Height measurement: non-contact and quick.**
- Profile tracking with a dynamic Z-axis.
- Various sensor accuracies available.
- **Can be retrofitted.**



Garant MM1 CNC video measuring microscope

CNC-controlled video measuring microscope with quicker image processing, high-resolution colour camera, and a multi-touch panel based on a PC, easy to operate, suitable for the workshop environment.
Incident light: 56 white LEDs in 2 concentric rings. 1 ring and 4 segments can each be separately switched and dimmed.
Transillumination: Long-life LEDs, telecentric, can be switched and dimmed. **Solid granite base** with surface-hardened indexing table and high-precision guides.

- Easy installation and use of **measurement programmes.**
- Practical **automation** of measuring processes, for example pallet measurements.
- Modern user-friendly measurement software for **intuitive operation**.

Supplied with: All-in-One PC, wireless mouse and keyboard, dust cover, power supply unit, test certificate, and multi-lingual user manual.

Optional extras: Lens No. 491912, software option No. 491913, cutting edge cleaner No. 354788.

Size 200CMZ; 300CMZ – With motorised zoom lens, magnification from 0.3× to 3.5 and coaxial light for uniform illumination of components.

Note: Length measurement variation $E_{UXY, MPE}$ according to DIN EN ISO 10360-7, measured with magnification factor = 0.5.
Permissible ambient conditions: 20°C ± 1 K, temperature gradient Δ_{th} = 0.5 K/h, Δ_{td} = 4.0 K/d, measured with a calibrated standard.

_MM1-300CNC

Type		200CNC	300CNC	200CMZ	300CMZ
41P 49 2550	CNC video measuring microscope **MM1**	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range X	mm	200	300	200	300
Measuring range Y	mm	100	200	100	200
Measuring range Z	mm	100	200	100	200
Length measurement variation $E_{UXY, MPE}$ optically (2D)	µm	2.9 + L / 100 (L in mm) at 20 °C ±1 K			
Lens (times)		0.5	0.5	0.3 – 3.5	0.3 – 3.5
Magnification at the screen (times)		23	23	10 – 162	10 – 162
Field of view	mm	14×9	14×9	24×16 – 2×1	24×16 – 2×1
Camera		6.4 megapixels, autofocus			
Working distance	mm	80			
maximum component height	mm	100	200	100	200
Length	mm	500	730	500	730
Width	mm	600	900	600	900
Height	mm	770	950	770	950
Weight	kg	60	115	60	115
maximum component weight	kg	20			

CNC video measuring microscope MM1 with TP20 tactile measurement system

Optical measurement system with additional Renishaw TP20 type tactile measurement system for measuring regular geometries that cannot be measured optically.

- Quick and simple tactile measurement.
- Creation of automated measurement procedures (optical **and** tactile)

Size 200CMZ/TP; 300CMZ/TP – With motorised zoom lens, magnification from 0.3× to 3.5 and coaxial light for uniform illumination of components.

Note: Length measurement variation $E_{UXY, MPE}$ according to DIN EN ISO 10360-7, measured with magnification factor = 0.5.
Length measurement variation $E_{OZ, MPE}$ according to DIN EN ISO 10360-2, measured with a straight edge finder (Ø = 2.5 mm, length 20 mm).
Permissible ambient conditions: 20°C ± 1 K, temperature gradient Δ_{th} = 0.5 K/h, Δ_{td} = 4.0 K/d, measured with a calibrated standard.

_300CNC-TP

Type		NEW 200CNC/TP	300CNC/TP	NEW 200CMZ/TP	300CMZ/TP
41P 49 2560	Video measuring microscope **MM1 with TP20 probe system**	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range X	mm	200	300	200	300
Measuring range Y	mm	100	200	100	200
Measuring range Z	mm	100	200	100	200
Length measurement variation $E_{UXY, MPE}$ optically (2D)	µm	2.9 + L / 100 (L in mm) at 20 °C ±1 K			
Length measurement variation $E_{1, Z axis}$ tactile (1D)	µm	4.0 + L/75 (L in mm)			
Lens (times)		0.5	0.5	0.3 – 3.5	0.3 – 3.5
Magnification at the screen (times)		23	23	10 – 162	10 – 162
Field of view	mm	14×9	14×9	24×16 – 2×1	24×16 – 2×1
Camera		6.4 megapixels, autofocus			
Working distance	mm	80			
maximum component height	mm	100	200	100	200
Nominal voltage	V	240			
Length	mm	500	730	500	730
Width	mm	600	900	600	900
Height	mm	770	950	770	950
Weight	kg	60	115	60	115
maximum component weight	kg	20			

Garant Software options for MM1

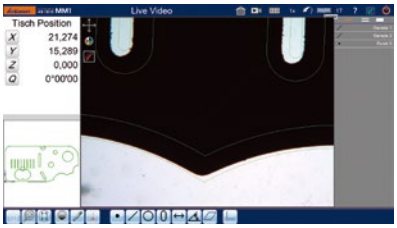
Size DXF – Loading complex DXF files and overlaying them with the live image. The DXF coordinate system can be brought into conformity with that of the workpiece (congruence) or it can remain independent of the workpiece (for matching the workpiece to a DXF geometry). Definition of tolerance bands. Active change of colour when the tolerance band is exceeded. Exporting measured elements in DXF format. Definition and overlaying of cross-hairs.

Size PROFIL – For the best possible matching of relative measurement points within a specified tolerance band (DXF option required). Several profiles with different tolerance ranges can be integrated into a single measurement procedure. Solely the component zero point must match that of the DXF file, following which the device (under CNC control), then automatically follows the contour.

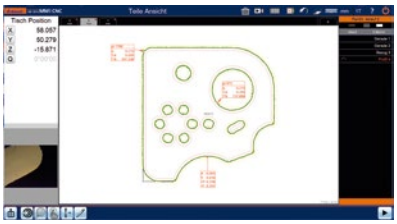
Advantage:

Size PROFIL –
- Automatic matching of the measurement point cloud within a DXF tolerance band.
- Automatic contour tracking in accordance with the DXF file that was loaded.

Note: Individual links to your statistics software available on request.
Size PROFIL – The availability of a DXF option (pre-existing or ordered with the tracking unit) is required for the profiling option.



49 1913_DXF


49 1913_PROFIL

Type		DXF	PROFIL
41P 49 1913	Software option for MM1	–	(XXX)

Garant Test standard

Base plate of anodised aluminium **including setting ring** ∅ 10 mm DIN 2250 (without chamfer) and **glass standard** No. 491926 with 6 sized holes. M6 tapped hole for attaching the calibration sphere No. 491929 size 20. Setting ring and glass standard supplied with manufacturer's test certificate.

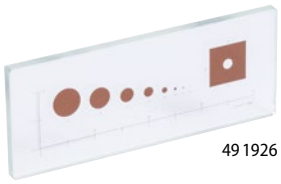
Application: For setting and checking optical and tactile measurement tools.

Supplied with: Base plate, setting ring ∅10 mm, glass standard No. 491926 size 50×20.

Optional extras: Ceramic calibration sphere ∅ 20 mm No. 491929 size 20

49 1928

Length×Width	mm	120×70
41M 49 1928	Test standard	(XXX)


49 1926

Glass standard with 6 sized holes and manufacturer's test certificate.

Length×Width	mm	50×20
41M 49 1926	Glass standard with test certificate	(XXX)

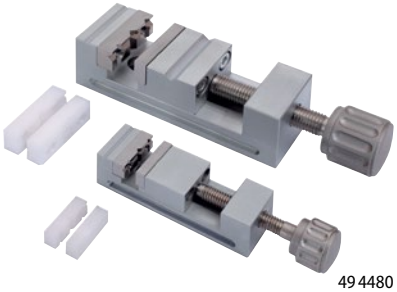
49 1929

Ceramic calibration sphere 20 mm ∅ with M6 threaded mounting pin, supplied with manufacturer's test certificate.

∅	mm	20
41M 49 1929	Calibration sphere ceramic	(XXX)

HOLEX Precision vices

Precision vice in hard chrome-plated (brass) or anodised (aluminium) version. Ideal for use with small parts, e.g. on microscopes and shadowgraphs or with surface roughness measuring tools. Angular accuracy 0.04 mm, exchangeable clamping jaws of hardened, stainless steel and plastic. Fixed jaws with Vees for cylindrical parts. The additional Vee on the fixed jaw and the clamping slots on the long sides increase the versatility.


49 4480

Jaw width A	mm	15	25	35
42L 49 4480	Precision vice	(XXX)	(XXX)	(XXX)
maximum clamping range b	mm	14.5	24.5	34.5
Jaw height C	mm	6	10	14
Overall length a	mm	50	75	100
Overall width B	mm	15	25	35
Overall height c	mm	15	25	35
Material of vice		hard chrome-plated brass	Aluminium anodised	Aluminium anodised

Clamping system for optical and tactile measuring machines

Modular, flexible, and versatile sets of high quality aluminium components. All construction sets are specifically extendable.

Rail fixing basic set

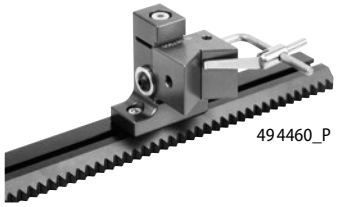
Suitable for: All GARANT measuring microscopes and all measuring machines with T-slots 6/11 mm. Other arrangements and slot sizes available on request.
Size 250 – For table widths ≥ 200 mm.
Size 350 – For table widths ≥ 300 mm.
Supplied with: Rack rails with fine-pitch racking, clamping clips, T-nuts, left/right spring clamps, bolts.

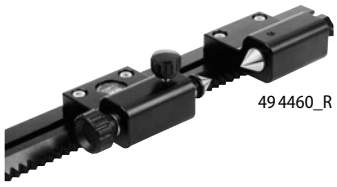
49 4451_250

Type		250	350
49K 49 4451	Rail fixing basic set quick-clamping system	(XXX)	(XXX)
Length of base rail (rack teeth one side)	mm	250	350
Length of cross rail (rack teeth both sides)	mm	100	200
Length of spring clamps	mm	60	

Extension sets

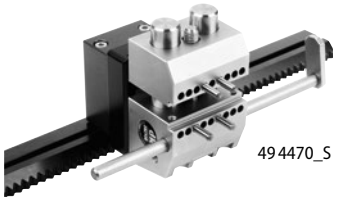
Size P – Small 120 degree Vee block for clamping rotationally symmetrical parts by means of spring clamps. Can be mounted vertically or horizontally.
Size R – Pair of tailstocks for quick and easy mounting of test pieces. One with fixed tip, one with sprung tip which can be clamped as required. The tailstocks are secured directly to the T-slot of the rack rail.
Supplied with:
Size P – Including Vee block on the rack rail.


49 4460_P


49 4460_R

Type		P	R
49K 49 4460	Extension set	(XXX)	(XXX)
Clamping range	mm	2 – 25	–
Tip height	mm	–	20
Vee length	mm	25	–

Horizontal and vertical mounting on the rack rail (does not include attachment set No. 494475).
Size S – Precision vice with offset jaws and exchangeable guide pillars for extending the clamping range.
Supplied with:
Size S – Including 8 parallel pins (of which 4 are offset) for pin clamping, adjustable stop with scale, separate pillar set.


49 4470_S

Type		S
49K 49 4470	Extension set	(XXX)
Clamping range	mm	0 – 75
Jaw width	mm	50

Horizontal and vertical mounting on the rack rail (does not include attachment set No. 494475).
Size D – Three-jaw manual chuck for inside and outside clamping of rotationally symmetrical parts. Jaws reversible without tools.
Supplied with:
Size D – With 3 plug-in parallel pins for clamping small parts, for increased clamping of small parts outside the jaws, offering complete accessibility.

49 4471_D

Type		D
49K 49 4471	Extension set	(XXX)
Internal clamping ∅	mm	17 – 50
External clamping ∅	mm	0 – 55

Quick-release clamp and clamping bracket for fitting to the rack rail.
Suitable for: No. 494470 and 494471.

49 4475

49K 49 4475	Attachment set for No. 494470 / 494471	(XXX)

Drawing stamp / position stamp

Practical drawing stamp for positioning feature marks on technical drawings in order to identify measurement points or remarks.
Application:
- Design.
- First-off sample inspection.

49 4485_1

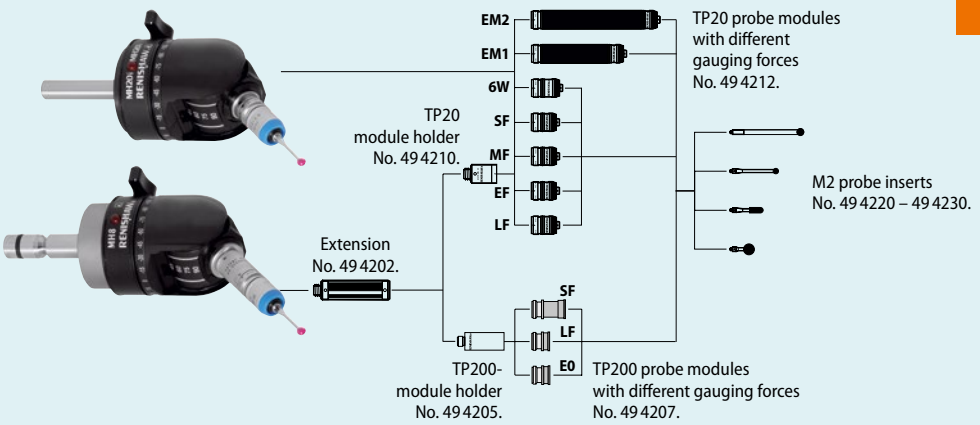
49 4485_2

Type		1	2
49K 49 4485	Drawing stamp / position stamp	(XXX)	(XXX)
Height of the motif	mm	12	17
Width of the motif	mm	8	11

RENISHAW Measurement probe systems

MH20i manually indexable rotating / tilting head with integral TP20 probe module holder (on request).

MH8 manually indexable rotating / tilting head (on request).



49

RENISHAW Probe holders with probe modules

The modular design of probe holder and removable probe modules allows the facility of exchanging manual and automatic probe modules without laborious recalibration. For probes with RENISHAW automatic holder (autojoint), a PAA adapter has to be used.

Probe holder + probe modules TP20

The TP20 is a switching 5 or 6 way measuring probe. The TP20 can be used with all probes which have an M8 connection thread.

49 4210

Type		TP20
49D 49 4210	Module holder	(XXX)

The TP20 probe module contains the electro-mechanical sensor, carries the probe inserts (connection thread M2) and permits the probe movement in ± X, ± Y, and ± Z direction (± Z if the TP20 6-way probe module is used). Seven application-specific probe modules are available. Their different gauging forces are indicated by different protective cap colours.

Type		SF	LF	MF	EF	6W	EM1SF	EM2STD
49D 49 4212	Probe module TP20	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Colour of cap		black	turquoise	grey	red	blue	–	–
Gauging force		Standard	low	medium	high	Standard	Standard	Standard
Extension	mm	–	–	–	–	–	50	75

Probe holder + probe modules TP200

The TP200 measurement probe uses a sensor based on strain gauge technology, which ensures excellent reproducibility and highly accurate 3D free-form measurements, even when using long probe inserts. The TP200 can be used with all probes which have an M8 connection thread.

49 4205

Type		TP200
49F 49 4205	Module holder	(XXX)

The TP200 probe module contains the electro-mechanical sensor, carries the probe inserts (connection thread M2) and permits the probe movement in ± X, ± Y, and ± Z. Three user-specific probe modules are available.

49 4207_SF 49 4207_LF 49 4207_E0

Type		SF	LF	E0
49F 49 4207	Probe module TP200	(XXX)	(XXX)	(XXX)
Gauging force		Standard	low	Standard
Extension	mm	–	–	24

RENISHAW Probe extensions

Extension – M8 to M8.

Suitable for: Probe holder No. 494210 TP20 and No. 499205 TP200.

Note:	Probe extensions in other sizes and shank types available on request.

49 4202_50

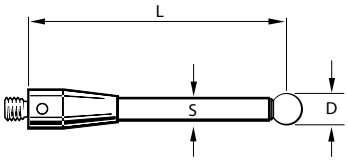
49 4202_200

Length		mm	50	100	200
49D	49 4202	Probe extension	(XXX)	(XXX)	(XXX)
Ø D_1		mm	13	18	18
Ø D_2		mm		13	
Material				Aluminium	
Weight		g	27	53	100

RENISHAW Stylus, ruby ball, with M2 connection thread

Note:	Further styli with other sizes and shank types available on request.

49 4222



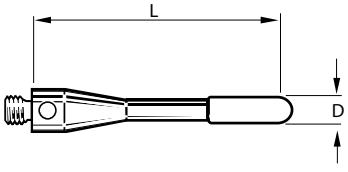
Contact point Ø D		mm	0,3	0,5	1	1,5	2	2,5	3	4	5	6	8
49F	49 4220	Stylus, ruby ball **Length 10/11 mm**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Length L		mm	10	10	10	10	10	10	10	10	10	10	11
effective working length		mm	2	3	4.5	4.5	6	6.5	7	10	10	10	11
Shank Ø S		mm	0.2	0.4	0.7	0.7	1	1	1.5	1.5	2.5	2.5	2.5
Material of shank			Carbide	Carbide	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
Weight		g	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.7	0.9	1.5

Contact point Ø D		mm	0,5	0,7	1/7	1/12,5	1,5	2	2,5	3	4
49F	49 4222	Stylus, ruby ball **Length 20 mm**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Length L		mm					20				
effective working length		mm	7	12	7	12.5	12.5	14	16.4	17	20
Shank Ø S		mm	0.3	0.5	0.7	0.8	1	1.4	1.4	1.5	1.5
Material of shank			Carbide	Carbide	Carbide	Carbide	Carbide	Steel	Steel	Steel	Steel
Weight		g	0.5	0.3	0.5	0.4	0.5	0.4	0.4	0.5	0.6

Contact point Ø D		mm	2	3	4	5
49F	49 4224	Stylus, ruby ball **Length 40 mm**	(XXX)	(XXX)	(XXX)	(XXX)
Length L		mm		40		
effective working length		mm	32.5	37	40	40
Shank Ø S		mm	1.5	2	2	2.5
Material of shank				Carbide		
Weight		g	1.29	1.97	2.04	3.17

Stylus, ruby cylinder, with M2 connection thread

49 4230



Cylinder Ø D		mm	2R
49F	49 4230	Stylus, cylindrical	(XXX)
Length L		mm	20
effective working length		mm	7.2
Material of shank			ruby
Weight		g	0.5

RENISHAW Stylus, ruby ball, ceramic with M4 connection thread

Ceramic stylus with M4 connection thread for measuring machines and machine tools.

Note: Other styli with other sizes and shank versions available on request.

49 4234

49 4236

Contact point ∅ D		mm	4	5	6
49F	49 4234	Stylus, ruby ball **Ceramic length 50 mm**	(XXX)	(XXX)	(XXX)
49F	49 4236	Stylus, ruby ball **Ceramic length 100 mm**	–	(XXX)	(XXX)
Length L (49 4234)		mm		50	
Length L (49 4236)		mm	–	100	100
effective working length (49 4234)		mm	33.5	33.5	38.5
effective working length (49 4236)		mm	–	83.5	88.5
Shank ∅ S		mm	3	3.8	4.5
Material of shank				Ceramic	
Weight (49 4234)		g	3.9	5	4.8
Weight (49 4236)		g	–	6.3	6.3

RENISHAW Accessories for styli

With M2 thread, shank ∅ 3.0 mm.

Note: Stylus extensions and adaptors in other sizes available on request.

49 4214

Length		mm	10	20	30	40
49F	49 4214	Stylus extension	(XXX)	(XXX)	(XXX)	(XXX)
Material				stainless steel		
Weight		g	0.4	0.9	1.4	1.8

Size M3/M2 – With M2 internal thread and M3 external thread.
Size M4/M2 – With M2 internal thread and M4 external thread.

49 4218

Type		M3/M2	M4/M2
49F	49 4218 Adaptor	(XXX)	(XXX)
Weight g		0.6	1.5

With M2 connection thread for accepting up to five different probes with M2 threads.

49 4219

Type		M2/5
49F	49 4219 5-way stylus centre M2	(XXX)
Weight g		0.8

RENISHAW Cleaning kit

Application: For cleaning the contact faces of contact points, probe modules, and extensions. Simply pressing it on removes dirt and deposits gently.
All contact faces should be cleaned regularly so as to ensure and maintain the reliability of the probe system.

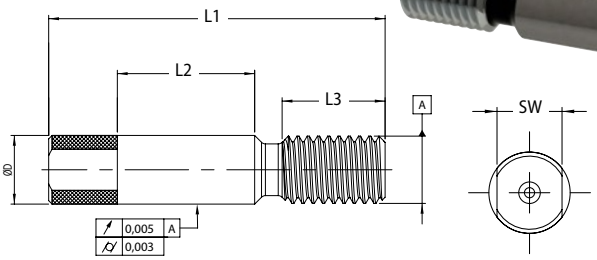
49F	49 4240	Stylus cleaning kit	(XXX)

Coordinate plug gauge

Coordinate plug gauge for determination of the position and alignment of internal threads using a coordinate measuring instrument or tactile MM1 measuring microscope with the tactile TP20 measuring system.

Application: The plug supports itself by means of a difference in pitch between two successive turns of the thread and thus centres itself on the flanks of the thread. The probe measures the alignment in space of the smooth functional faces.

_M8



Thread		M3	M4	M5	M6	M8	M10	M12	M14	M16
48B	49 4250 Coordinate plug gauge	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Material						Gauge steel				
∅ D	mm	6	6	6	6	8	10	12	14	16
Width across flats AF	mm	4	4	4	4	6	8	10	12	14
Dimension L1	mm	26	29	29	31	41	49	59	67	73
Dimension L2	mm	12	12	12	12	16	20	24	28	32
Dimension L3	mm	5	7	8	10	13	15	18	20	20

Cordless inspection camera

Compact cordless inspection camera for visual inspection of places that are difficult to access.

49 2710 –
- 89 mm / 3.5 inch **colour LCD** display.
- Automatic rotation of the image (“Up is Up”™ function).
- Transmission of images and videos directly via microUSB cable or microSD card.
- Dual power source: Can be operated both with 12 V Li-ion battery, and also with standard alkaline batteries.
- Digital zoom for better detection of details.
- **3-stage LED illumination** for lighting dark places.

Size M12IC –
- 69 mm / 2.7 inch **rotatable colour LCD** display.
- Automatic contrast compensation and white balance.
- Waterproof camera head with **3-step LED illumination.**
- Flexible watertight camera cable (0.9 m long).
- Digital zoom for better detection of details.

Size M12ICAV –
- 89 mm / 3.5 inch **removable wireless colour LCD** display.
- Audio, video and photo function, digital zoom of 100 – 400%.
- Automatic contrast compensation and white balance.
- Waterproof camera head with **3-step LED illumination.**
- Flexible waterproof **274 cm long camera cable.**
- Digital zoom for better detection of details.

Supplied with:

49 2710 – Supplied with 1 × 12 V / 2.0 Ah Li-ion battery, charger, 4 GB microSD card, camera cable No. 492716 size 1.2, micro-USB cable, hook, magnet, mirror, L-BOXX.

Size M12IC – Supplied with 1 × 12 V / 2.0 Ah Li-ion battery, charger, camera cable, hook, magnet, mirror, carrying case.

Size M12ICAV – Supplied with 1 × 12 V / 2.0 Ah Li-ion battery, C12 C charger, 2740 mm cable, 8 GB SD card, carrying case.

_GIC120C

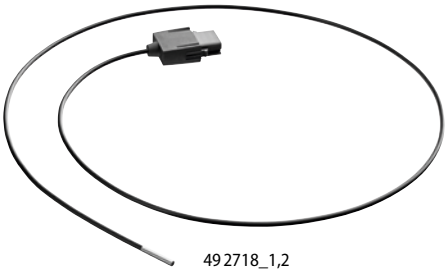
_M12IC

_M12ICAV

Manufacturer's designation			GIC120C	M12IC	M12ICAV
03B 49 2710	BOSCH	Cordless inspection camera	(XXX)	–	–
03L 49 2712	Milwaukee		–	(XXX)	(XXX)
Battery voltage		V		12	
Battery capacity		Ah	1.5	2	2
Display size		inch	3.5	2.7	3.5
Display resolution		px		320×240	
Camera head ∅		mm	8.5	9	12.4
Length of the camera cable		mm	1200	900	2740
Weight		kg	0.64	0.66	0.72

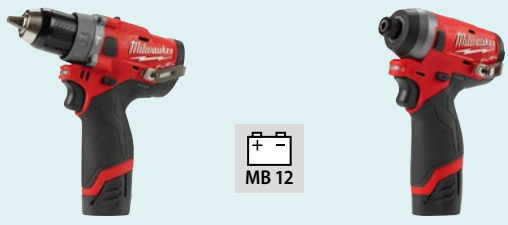
Camera cable with probe

Suitable for: Cordless inspection camera No. 492710.


49 2718_1,2

Cable length			m	1,2	3,0
46T 49 2716	BOSCH	Camera cable with probe	**∅ 8.5 mm**	(XXX)	(XXX)
46T 49 2718			**∅ 3.8 mm**	(XXX)	–

Power tools with compatible battery systems in product group 07



07 0110_M12CPD2 07 4014_M12FID

07 0241_GSR1235 07 8183_GKS1226

07 8219_M12CHZ2

07 8201_GST1270

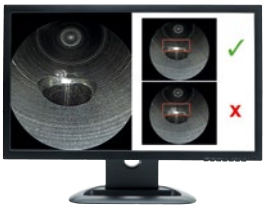
Schölly Industrial endoscopes

The sturdy stainless steel tube and high-quality optics are specially well suited for rough industrial environments. Easy to connect to the required light source for the standard fibre optic cable connection (ACMI). Focusing works via a twist ring on the eyepiece. Easy focusing in the foreground and background without moving the endoscope. Bright, colour-corrected bar optics.

Suitable for: FlexiVision 100 with HD camera head No. 492866.

Optional extras: LED light sources No. 492846 and No. 462860.

Note: Using slip-on mirror sleeves the direction of view can be changed to 70° or 90°. When mirror sleeves are used the working diameter increases according to the mirror sleeve. Mirror sleeves and exchangeable lenses available on request.

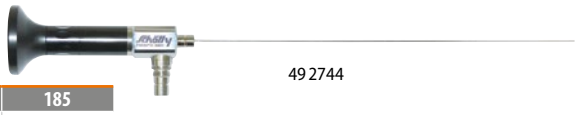


Supplied with: With interchangeable lens with direction of view 0°.

49 2734

Working length		mm	145	250	270	355
49C 49 2734	Rigid endoscope	Ø 4 mm	(XXX)	–	(XXX)	–
49C 49 2736		Ø 5.5 mm	–	(XXX)	–	(XXX)
49C 49 2738		Ø 8 mm	–	(XXX)	–	(XXX)
Direction of view		degrees	0			
Image aperture angle		degrees	35	40	35	40

Small diameter for measuring small components.



49 2744

Working length		mm	95	160	175	185
49C 49 2744	Rigid micro-endoscope	Ø 1.8 mm	(XXX)	(XXX)	–	–
49C 49 2746		Ø 2.7 mm	(XXX)	–	–	(XXX)
49C 49 2748		Ø 4,0 mm	–	–	(XXX)	–
Direction of view		degrees	0			
Image aperture angle (49 2744, 49 2748)		degrees	30	30	100	–
Image aperture angle (49 2746)		degrees	35	–	–	35

49 2754

Small diameter and flexible fibre optic design for measuring very fine components.

Working length		mm	500	1000	2500
49C 49 2754	Flexible micro-endoscope	Ø 1.4 mm	(XXX)	(XXX)	–
49C 49 2756		Ø 1.9 mm	(XXX)	(XXX)	–
49C 49 2758		Ø 2.4 mm	(XXX)	(XXX)	(XXX)
Direction of view		degrees	0		
Image aperture angle		degrees	85		

Schölly Illumination units for endoscopes

High performance LED light source with light intensity regulator. Independent of mains supply, uses commercially-available rechargeable battery. With standard ACMI fibre optic cable connection for all endoscopes.

Supplied with: LED light source, battery, and charger.

49 2846

49C 49 2846	LED light source		(XXX)
Ø		mm	25
Length		mm	108
Weight including rechargeable battery		g	100

Application: LED cold light source in conjunction with glass fibre optic cable No. 492850 ensures optimum illumination. Suitable for all endoscopes.

Size FX4000 – Brightness exceeds that of a comparable 150 W halogen lamp.

Size FX7000 – Bright and neutral white light for optimum colour reproduction. Significantly brighter than a 180 Watt Xenon light source.

49 2860

49 2850

Type			FX4000	FX7000
49C 49 2860	Cold light source LED		XXX	(XXX)
Intensity of illumination		lm	640	1400
comparable light output to a halogen bulb		W	>150	>180
Colour temperature		K	5800	6500

Working length		mm	1800	2300
49C 49 2850	Flexible fibre optic cable		(XXX)	(XXX)

Scholly Inspection system FlexiVision 100

FlexiVision 100 is a base camera unit for industrial applications. With its broad range of functions, additional image information can be obtained during the inspection, making the inspection process more efficient and more reliable. Direct image output to HD monitor (no PC necessary). The images can be saved to a USB stick. The FlexiScope 3 camera hand grip and HD camera head attachments can be combined.

49 2864 – With FlexiScope 3 camera hand grip for use on all FlexiScope 2 and 3 probes. LED light source in the handle.

49 2866 – With HD camera head for use on **all endoscopes**, with DIN lens. A separate light source is required.

Advantage:
- Full HD resolution (1920×1080)
- image documentation

Size EXTENDED – With innovative video algorithms for optical emphasis of features (selective colour adjustment). Optical filters against smokes and fumes for inspection of current exhaust systems.

Supplied with:

49 2864 – Base camera unit FlexiVision 100, FlexiScope 3 camera hand grip including DVI cable, 16GB USB stick, power adapter, cleaning material and transport case.

49 2866 – FlexiVision 100 base camera unit, HD camera head including DVI cable, 16GB USB stick, power adapter, cleaning material and transport case.

Optional extras:

49 2864 – FlexiScope 2 and 3 probes 492876- 492889.

49 2866 – Industrial endoscopes No. 492734 - 492758, light source No. 492846 or No. 492860.

Size EXTENDED:
With selective colour adjustment, features are more clearly recognisable.

_EXTENDED

no colour adjustment *with colour adjustment*

49 2864

49 2866

Type		BASIC	EXTENDED
49C 49 2864	FlexiVision 100 with FlexiScope 3 camera hand grip	(XXX)	(XXX)
49C 49 2866	FlexiVision 100 with HD camera head for endoscopes, with DIN lens	(XXX)	(XXX)

Suitable for: FlexiVision 100 with FlexiScope 3 camera hand grip No. 492864.
Optional extras: Protective tubes available on request.

49 2876

Probe length		mm	110	135	150	170
49C 49 2876	FlexiScope 2 and 3 probe for camera hand grip, straight view	Ø 1 mm	–	–	(XXX)	–
49C 49 2877		Ø 1.6 mm	–	(XXX)	–	–
49C 49 2878		Ø 2.7 mm	(XXX)	–	–	–
49C 49 2879		Ø 4.0 mm	–	–	–	(XXX)
Direction of view		degrees	0			
Image aperture angle		degrees	75	85	60	85

Probe length		mm	110	135	150	170
49C 49 2886	FlexiScope 2 and 3 probe for camera hand grip, side view	Ø 1.6 mm	–	–	(XXX)	–
49C 49 2887		Ø 2 mm	–	(XXX)	–	–
49C 49 2888		Ø 2.7 mm	(XXX)	–	–	–
49C 49 2889		Ø 4 mm	–	–	–	(XXX)
Direction of view		degrees	30	70	90	70
Image aperture angle		degrees	75	75	75	85

Inspection endoscope

Base unit with 2.4 inch LCD display and 1 m long semi-rigid probe (Ø 8.5 mm, direction of view 0°). Sturdy watertight probe head (IP67) of stainless steel with 6 dimmable white LEDs. Zoom mode (1.5×), automatic anti-glare correction (AGC) on metal surfaces, mirror mode. AV output for transmission to VDU display.

Supplied with: 1× probe No. 492936 size 1000 (IP67), carrying case, screw-on probe mirror (90°), magnet, hook and 4batteries No.081551 sizeLR6.

49 2930

Probe length		mm	1000
42L 49 2930	Inspection endoscope **with probe semi-rigid, Ø 8.5 mm**		(XXX)
Camera resolution		px	320×240
Display resolution		px	320×240
depth of focus when focussed		mm	16 – 60
Operating temperature		°C	0 – 50

49

Video endoscope

Base unit with 3.5 inch LCD display. Zoom mode (1.5×), image and video data can be saved on an SD memory card. USB and AV ports for data transmission. Integral rechargeable lithium-ion battery (3.7 V).

Supplied with: Sturdy watertight and dust-tight transport case. SD memory card (8 GB), power adapter (AC 100 – 240 V / 50 – 60 Hz) No. 492958, USB data cable, AV cable, cleaning kit, lithium-ion battery No. 492926.

49 2924 – Without probe.

49 2925 – 1 probe No. 492938 size 2000 (IP67), screw-on probe mirror No. 492950 (70°, 90°, 110°) and magnet.

49 2925

42L 49 2924	Video endoscope **without probe**		(XXX)
Recording format			JPEG / AVI (30 fps)
Display resolution		px	320×240
depth of focus when focussed		mm	16 – 60
Operating temperature		°C	0 – 50

Probe length		mm	2000
42L 49 2925	Video endoscope **with probe flexible, Ø 5.5 mm**		(XXX)
Recording format			JPEG / AVI (30 fps)
Camera resolution		px	640×480
Display resolution		px	320×240
depth of focus when focussed		mm	16 – 60
Operating temperature		°C	0 – 50

Video endoscope with measurement grid

Base unit with 3.5 inch LCD display and 2 m long flexible probe (Ø 5.5 mm, direction of view 0°). Robust watertight probe head (IP67) of stainless steel. Zoom mode (2×), mirror mode. Image aperture angle 60°, contrast and brightness control, black/white image mode for higher-contract images, images and videos can be saved on the SD memory card, USB, and AV output for data and image transmission. Probe with high-intensity LEDs at 0° alignment forwards and side LEDs at 90° to the direction of view.

Side-LED mode: When the screw-on probe mirror (110°) is used, activation of the side LEDs avoids generation of confusing reflections.

Measurement grid mode: Measurement of an object on the screen surface in conjunction with the measurement probe. Measurement field size 20×15 mm.

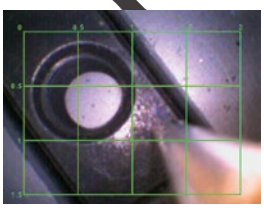
Illumination mode: Control switch for turning the image illumination on and off. For use in large voids and/or very dark surroundings.

Image rotation: 90° image rotation clockwise using the control button.

Application: For instance, for quick checking of weld seams. Defects can be measured immediately during the inspection.

Supplied with: 1× probe No. 492940 size 2000 (IP67), carrying case, screw-on probe mirror (110°), SD memory card (8 GB), contact point, USB data cable, cleaning set and 4 batteries No. 081551 size LR6.

49 2928



Probe length		mm	2000
42L 49 2928	Video endoscope **with measurement grid display and probe flexible, Ø 5.5 mm**		(XXX)
Recording format			JPEG / AVI (30 fps)
Camera resolution		px	640×480
Display resolution		px	320×240
depth of focus when focussed		mm	16 – 60
Operating temperature		°C	0 – 60

HOLEX Video endoscope

HOLEX video endoscope with large LCD display showing true-scale details, and comprehensive functions. The sun shade offers additional protection when in sunlight. The unit can be held steady using the two handles. The base unit is compatible with all HOLEX endoscope probes No. 492932 – 492944.

- **Base unit with 7 inch LCD display** (image cut-out 6 inches).
- **Zoom mode**; 3 stages of digital zoom: 1.5×, 2× and 5×.
- **Images and video recordings can be saved.**
- **USB and AV output.** The integral USB and AV outputs allows your images and videos to be transferred to a PC.
- **Integral rechargeable Li-ion battery with 5 hour capacity.**
- **IP55 protection.**
- **90° image rotation** clockwise using the control button.

Advantage:
- Exceptionally sturdy, very suitable for outdoor use.
- Very large image aperture of 6 inches.
- Display resolution 640 × 480 px.
- Image aperture can be divided for parallel display of 0° and 90° views.
- Facility for adding comments by sound recording. The built-in microphone can be used for recording comments during the inspection. This eliminates the requirement for tedious writing and compiling of notes.
- Selected settings can be clearly shown directly on the display.

Supplied with: Sturdy watertight and dust-tight transport case, SD memory card (16 GB), power adapter (AC 100 – 240 V / 50 – 60 Hz), USB data cable, AV cable, cleaning kit. **Without probe**.

Optional extras: Endoscope probes No. 492932 – 492944.

49 2921

42L 49 2921	Video endoscope **without probe**		(XXX)
Recording format			JPEG / AVI (30fps)
Display resolution		px	640×480
depth of focus when focussed		mm	16 – 60
Operating temperature		°C	0 – 60

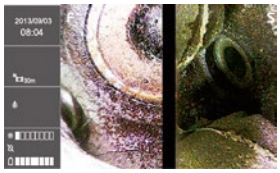


Image aperture can be divided (when using probe No. 492942 size 1000 and adapter No. 492898)

Accessories

Adapter for splitting the image in 0° and 90° direction of view.

Suitable for: Probe No. 492942 size 1000.

Application: For parallel display on the screen of 0° and 90° views.

49 2898

42L 49 2898	Adapter for 0° and 90° directions of view	(XXX)

HOLEX Accessories for video endoscopes

Application:

49 2896 – Adapter for using the probes with the earlier series of photo / video endoscopes (such as No. 492890 size 2000).

49 2950 – Screw-on probe mirror for probe No. 492938 size 2000, external Ø 6 mm.

49 2952 – Screw-on probe ball for probes with Ø 5.5 mm, external Ø 15 mm. The probe ball allows the probe to be guided better along uneven paths and around corners.

49 2896

49 2950

42L 49 2896	Adapter		(XXX)	
Angle of view		Degrees	70	90	110
42L 49 2950	Probe mirror for Ø 5.5 mm		(XXX)	(XXX)	(XXX)
42L 49 2952	Probe ball for Ø 5.5 mm			(XXX)	

49 2952

IP 67

HOLEX Endoscope probes for HOLEX video endoscopes

Sturdy watertight probe head (IP67) of stainless steel with dimmable white LEDs. Direction of view 0°.

49 2932 – Image aperture angle 56°.

49 2937 – Probe particularly resistant over its entire length due to metal mesh protective sleeve. Particularly suitable for sharp-edged cast iron parts. Very flexible. Image aperture angle 90°.

49 2940 – Image aperture angle 60.7°.

49 2942 – **Elbow bend probe head:** Probe with hand grip and setting handle for bending the camera head in two directions (maximum 2× 155°). In conjunction with the probe mirror supplied, this allows inspection even of a recess that faces in the opposite direction to the insertion of the probe. A stop function for the desired angular position allows non-fatiguing working. Probe tip with braided metal protective sheath.
Image aperture angle 87.1°.

49 2944 – **2× 180° flexible probe head:** Probe with hand grip and setting handle for bending the camera head in two directions (maximum 2× 180°). For inspection of voids opposite the direction of entry of the probe, no additional probe mirror is needed. A stop function for the desired angular position allows non-fatiguing working. Complete probe with metal-braided protective hose, particularly resistant. Image aperture angle 90°.

49 2932–2936/2938 – Image aperture angle 56°.

49 2940/2942 – Very high image quality with 16.7 million colours.
Illumination mode: Control switch for turning the image illumination on and off. For use in large voids and/or very dark surroundings.
Side-LED mode: When the screw-on probe mirror is used, activation of the side LEDs avoids generation of confusing reflections.
Image rotation: 90° image rotation clockwise using the control button.

Suitable for:

49 2932–2936/2938 – All endoscope versions No. 492921; 492924; 492925; 492928; 492930.

49 2937/2940/2942/2944 – All endoscope versions No. 492921; 492924; 492925; 492928.

Application: Ideal for inspection of voids where access is difficult, e.g. **automotive:** Engine, gearbox, fuel tank, bodywork, dashboard, appraisal. **Aerospace:** engines, turbines, pipework, and wiring systems. **Buildings:** Assessment of the structure of buildings, water damage, pest infestation. **Pipework systems:** weld seams, traces of foreign bodies, leaks. **Hydraulic systems:** cylinders, leaks. **Heating - sanitation - air conditioning:** ovens, furnaces, boilers, air conditioning systems, drainage systems. **Pest control:** Bees' nests, wasps' nests, birds' nests, insect entry points. **Police, customs:** Vehicle checking, goods checking.

Supplied with:

49 2940 – Screw-on probe mirror 110°.

49 2942 – Screw-on probe mirror 70°.

Optional extras:

49 2938 – Probe mirror No. 492950, probe ball No. 492952.

Note:	Other types of probe (up to 30 m) with other probe head Ø and directions of view available on request.

Application without side LEDs (with mirror).

Application with side LEDs (with mirror).

Illumination mode inactive.

Illumination mode active.

49 2944

Probe length		mm	1000	1500	2000	3000	Camera resolution px
42L 49 2932	Endoscope probe, semi-rigid, switchable	4.9 mm Ø	(XXX)	–	–	–	320×240
42L 49 2934	Endoscope probe, semi-rigid	3.9 mm Ø	(XXX)	–	(XXX)	–	320×240
42L 49 2936		8.5 mm Ø	(XXX)	–	–	–	320×240
42L 49 2937	Endoscope probe, flexible	Ø 5.5 mm	(XXX)	–	–	–	640×480
42L 49 2938		5.5 mm Ø	–	–	(XXX)	–	640×480
42L 49 2940		5.5 mm Ø	–	–	(XXX)	–	640×480
42L 49 2942	Endoscope probe, elbow bend, flexible	6 mm Ø	(XXX)	–	–	–	640×480
42L 49 2944		Ø 4.5 mm	–	(XXX)	–	(XXX)	640×480

Mitutoyo Measuring projectors PJ-PLUS

Detail with application example

Projector for the exact transillumination and incident light inspection of small to medium-sized components. **Universal tool** for use in production, laboratories, inspection, and grinding shops.

- **Standard lens 10×**. For 20×, 50×, and 100× lenses see optional accessories.
- **Vertical, rotating 315 mm cross hair screen** with built-in digital angle display, changeover function for reading in degrees or decimal.
- The **telecentric lighting system** guarantees a vertical and even illumination of the image field.
- **LED transillumination and incident lighting** with stepless light intensity control ensure a long service life with low power consumption.
- **Fanless design** prevents the ingress of contamination into the unit.
- **Sturdy coordinate measurement table,** with quick adjustment in both axes.
- **Built-in digital display** (with data output) guarantees reliable, error-free measuring.
- For **measuring lengths, angles, curves, and radii**.

Supplied with: Incl. lens 10× magnification, anti-glare, cover, and mains lead.

Optional extras: Lenses No. 494010, inclinable central support No. 494040, horizontal Vee-block No. 494050, clip holder No. 493040, cutting edge cleaner No. 354788.

Note: Further accessories such as suitable standard comparison scales or an edge sensor with QM-Data 200 analysis unit available on request.

Type		P1010A	P2010A
44C 49 3513	Projector with screen and lens **PJ-PLUS**	(XXX)	(XXX)
Measuring range x-axis	mm	100	200
Measuring range, y-axis	mm	100	
Scale divisions	mm	0.001	
Screen ∅	mm	315	
Length	mm	742	
Width	mm	575	633
Height	mm	1093	
Weight	kg	114	118
maximum component weight	kg	10	8

Mitutoyo Projector PV-5110

Profile projector for precise transillumination and incident light checking of large components. **Robust free-standing device** for universal application in production and inspection.

- **Standard lens 10×.** For 5×, 20×, 50×, and 100× lenses, see optional accessories. Maximum distortion of the lenses 0.2 %.
- **Rotating screen ∅** effective 508 mm.
- **Integral digital LED display** for angular measurements, selectable degrees / decimal.
- **Telecentric illumination system** for even illumination of the image field and exact measurements.
- **Sturdy coordinate comparator stand** 380×250 mm, with integral glass scales.
- Ensures straight forward observation and easy measuring of lengths, angles, curves, radii, and threads etc.

Supplied with: 10× magnification lens, measurement table, halogen incident illumination and transillumination, digital angle display, mains lead.

Optional extras: Digital display unit No. 499356, lens No. 493560, adapter No. 494020, tilting central support No. 494040, horizontal Vee No. 494050, clamp No. 493040, cutting edge cleaner No. 354788.

Note: Further special accessories such as standard comparison scales or an edge sensor with QM-Data 200 analysis unit, 2-D-Geopak software programme, digital display or dust cover available on request.

44C 49 3535	Shadowgraph PV-5110 with lens	–
Measuring range x-axis	mm	200
Measuring range, y-axis	mm	100
Scale divisions	mm	0.001
Screen ∅	mm	508
Length	mm	738
Width	mm	1021
Height	mm	1520
Comparator stand length	mm	380
Comparator stand width	mm	250
Weight	kg	180
maximum component weight	kg	5

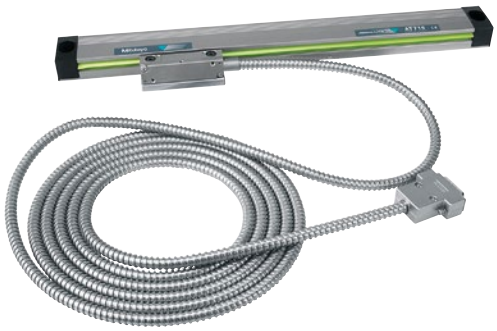
IP 67 | Absolute System

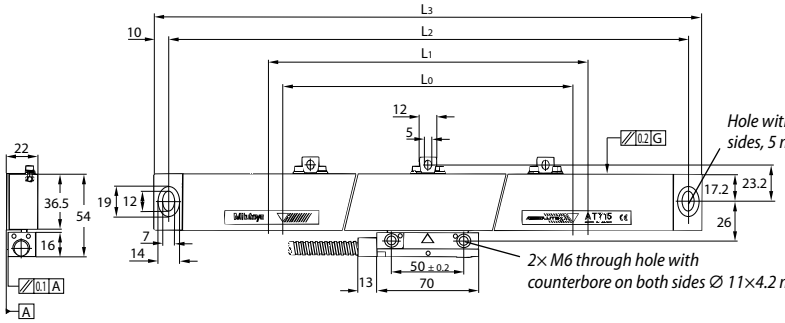
Mitutoyo Linear scale with absolute system

- With **absolute measuring system.**
- After switching on, the current position is displayed; thus it is not necessary to move to reference points.
- Straightforward assembly and installation.

Application: For exact measurement and positioning of axial adjustments e.g. on milling machines, lathes, positioning tables or measurement tools. Also suitable for converting machine tools to digital display.

Note: **Applicable only in conjunction with display unit No. 499356.**





effective measuring length L_0	mm	100	150	200	250	300	350	400
44D **49 9240**	Linear scale	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
maximum micrometer head distance L_1	mm	120	170	220	270	330	380	430
Measuring accuracy (20°)	µm				7			
Hole centre distance L_2	mm	258	308	358	408	468	518	568
Overall length L_3	mm	278	328	378	428	488	538	588
Width	mm				22			
Cable length	m				3.5			

effective measuring length L_0	mm	450	500	600	800	1000	1500
44D **49 9240**	Linear scale	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
maximum micrometer head distance L_1	mm	480	540	640	840	1040	1540
Measuring accuracy (20°)	µm				7		
Hole centre distance L_2	mm	618	678	778	978	1178	1678
Overall length L_3	mm	638	698	798	998	1198	1698
Width	mm				22		
Cable length	m	3.5	3.5	3.5	3.5	5	5

Standard | Digimatic | Absolute System | i Cal

Mitutoyo Scale unit with absolute system

IP 66

With **absolute electronics** and large easy-to-read display digits. One-off setting of the zero position, which remains the absolute zero point until the battery has to be replaced (approx. 1.5 years). Maximum measuring precision with very high speed of travel. ZERO/ABS function – zero setting and changeover between relative and absolute measurement.

49 9401 – Scale unit with electro-magnetic inductive measuring system.
For horizontal installation.

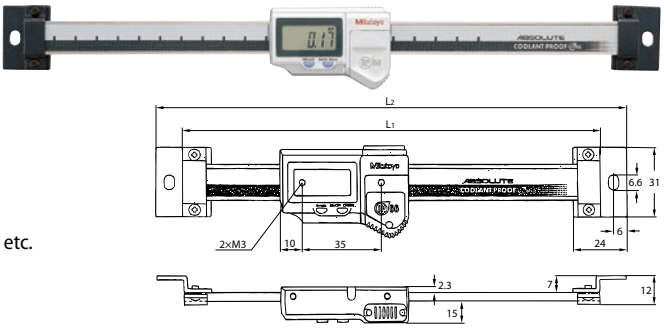
49 9402 – Scale unit with capacitive electronic measuring system.
For vertical installation.

Application: Suitable for measuring and positioning tasks on machine tools, jigs, etc.

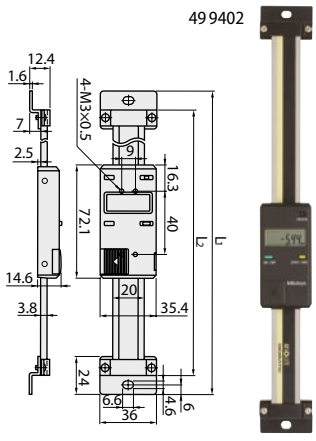
Supplied with: 1 battery No. 081560 size 357.

Optional extras: Data cable No. 497085.

49 9401



49 9402



Measuring range	mm	100	150	200
44A **49 9401**	Scale unit IP66 **horizontal**	(XXX)	(XXX)	(XXX)
44A **49 9402**	Scale unit **vertical**	(XXX)	(XXX)	(XXX)
Scale divisions	mm		0.01	
Error limit	mm		0.03	
Overall length L_2 (49 9401)	mm	209	259	311
Overall length L_2 (49 9402)	mm	220	270	320
Length of the measuring beam L_1 (49 9401)	mm	185	235	287
Length of the measuring beam L_1 (49 9402)	mm	244	294	344
Weight (49 9401)	g	390	410	430
Weight (49 9402)	g	250	280	310

mm / Inch

Mitutoyo Digital display units for Linear Scale

Easy-to-operate display unit for connection to linear measurement systems. Display range: 8 digits and sign (–), mains connection: 220 Volt.

Function: Zero setting, changing the counting direction, mm / inch changeover. Halving the displayed value, ABS / INC coordinate switching, addition / subtraction, pitch circle calculation, programmable. **Comprehensive calculation functions:** (+, –, ×, ÷, COS, SIN, TAN, ARC, √, π), function buttons for milling machines and lathes, hole sequence machining.

Supplied with: Mains cable (2 m) and spare fuse.

Optional extras: Quick setting unit (RS 232, USB, Digimatic input) for sensing the workpiece offset, linear scale No. 499240.

49 9356

Number of displayed axes		2	3
44D 49 9356	Digital display	(XXX)	(XXX)
Scale divisions	mm	0.005 / 0.001	
Scale divisions	inch	0.0001 / 0.0005	
Length	mm	260	
Width	mm	80	
Height	mm	167	

mm / Inch | RS232C | ▶ Q1 ◀ Cal | ▶ Q2 ◀ Cal

Mahr Surface roughness tester PS10

Portable roughness measuring instrument for precise roughness measurement and documentation conforming to standards, using the stylus tracing method. **With integral (removable) calibration standard**. Large illuminated 4.3 inch TFT touch display. Display can be rotated. Feed unit can be operated as part of the main unit and separately. Mounting for height adjustment for measurements on cones etc., data saved as TXT, X3P, CSV and PDF files. Gauss filter to ISO 16610 – 21 (supersedes DIN EN ISO 11562), special filter to DIN EN ISO 13565 – 1, IS filter to DIN EN ISO 3274 (can be switched off).

Advantage:
- Switch on and start measurement right away – intuitive, no training.
- Saving measurement programs.
- Automatic cut-off selection.
- For direct access to the start view press the start button at the same time as the home button.
- Quick access to your desired functions, using the favourites list in the display.

Supplied with: Supplied with feed unit, standard probe No. 499004 size 6 – 350, roughness standard, including works calibration certificate, integral height adjustment, probe guard, charger / mains adapter, instruction manual, carrying case with shoulder strap, extension cable for the feed unit.

Optional extras: Spare and special probe No. 499004, probe extension No. 499008, probe guard No. 499038, stand No. 499011; 498857.

Spare part: Battery No. 499548.

Note: Set for transverse sensing available on request.

Large illuminated 4.3 inch TFT touch display
Display can be rotated.

Start button is also the Home button
for direct access to the start view.

More flexibility thanks to removable feed unit.

Probe (2 µm) with detachable probe guard.

Freely programmable function keys
Direct access to your chosen functions via your own favourites list, e.g. measurement conditions, Ra, Rz, etc.

Interface:
USB, micro SD card, Marconnect (RS 232, USB).

49 8835
with stand No. 49 9011 (optional accessory).

Type		PS10
43C 49 8835	Surface roughness measuring instrument	(XXX)
maximum measuring range	µm	350
maximum measuring range	inch	0.014
Measurement travel for longitudinal sensing	mm	1.25 / 4.0 / 12.5
Measurement travels to standard		1.5 mm / 4.8 mm / 15.0 mm / automatic / N × Lc freely selectable
Cut-off (λ_c)	mm	0.25 / 0.8 / 2.5
Scanning speed	mm/s	0.5 / 1.0
Evaluation unit length	mm	160
Evaluation unit width	mm	50
Evaluation unit height	mm	77
Weight of the evaluation unit	kg	0.5

Surface roughness tester ST1

mm / Inch | ▶ Q1 ◀ Cal | ▶ Q2 ◀ Cal

Portable roughness measuring instrument for precise roughness measurement and documentation conforming to standards, using the stylus tracing method. Ideal for portable use in manufacturing and for stationary use in the inspection room due to battery and mains operation, integral printer, and memory for up to 40 000 measured values and 30 profiles. All popular parameters and characteristic curves to DIN / ISO / JIS can be used for evaluating a measured profile.

- Measuring range up to 350 µm (0.014 inch).
- Standards: ISO / ASME / JIS and MOTIF reversible.
- Probe travel in accordance with DIN EN ISO 4288 / ASME B46. 1: 1.75 mm, 5.6 mm, 17.5 mm (0.07 inch, 0.22 inch, 0.7 inch) in accordance with EN ISO 12085 (MOTIF): 1 mm, 2 mm, 4 mm, 8 mm, 12 mm, 16 mm.
- Number of traverse lengths selectable from 1 to 5.
- Automatic selection of filters and probe travels to the standard.
- Phase correction Gauss filter to DIN EN ISO 16610-21 (supersedes DIN EN ISO 11562).
- Cut-Off 0.25 mm, 0.80 mm, 2.50 mm (0.010 inch, 0.032 inch, 0.100 inch).
- Truncated Cut-Off can be selected.
- Parameters to DIN / ISO / SEP: R_a, R_q, R_z, R_{max}, R_p, R_t, R_{3z}, R_k, R_{vk}, R_{pk}, M_{r1}, M_{r2}, R_{mr}, R_{Sm}, R_{Pc}.
- Tolerance monitoring in display and printed record.
- Automatic or fixed selectable scaling.
- Printing of R-profile (ISO / ASME / JIS), P-profile (MOTIF), material share curve, results report.
- Report of date and/or time of measurements.
- Dynamic calibration function.
- Locking and/or password protection for parameter settings.

Supplied with: Roughness standard No. 499580 size PRN10 supplied with factory calibration certificate, evaluation unit, feed unit, connection cable No. 499036, probe No. 499004 size 6-350, probe guard with Vee underside No. 499038, manual Vee with 1 pair of feet for height adjustment, holder for height scriber (hole ∅ 8 mm), mains adapter with plugs, USB cable, 1 roll thermal paper No. 499510 size H1, shoulder strap with clip and transport case.

Optional extras: Spare and special probe No. 499004, probe extension No. 499008, measuring stand No. 499011 or No. 498857, plus a suitable mounting for the feed unit No. 499035, Explorer evaluation software No. 498847.

Spare part: Battery No. 499549.

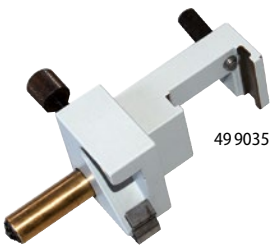
49 9030

Type		ST1
41M 49 9030 Garant Surface roughness measuring instrument		(XXX)
maximum measuring range	µm	350
maximum measuring range	inch	0.014
Roughness standards		DIN / ISO / JIS / ASME
Measurement travel for longitudinal sensing	mm	1.75 / 5.6 / 17.5
Scanning speed	mm/s	0.5
Feed unit length	mm	82
Feed unit width	mm	34
Feed unit height	mm	59
Evaluation unit length	mm	190
Evaluation unit width	mm	140
Evaluation unit height	mm	86
Weight feed unit	kg	0.3
Weight of the evaluation unit	kg	1

Accessories for surface roughness testers

Mounting for attachment to measuring stands No. 498857 or 499011.

Suitable for: Garant ST1 No. 499030.



49 9035

43C 49 9035	Mounting	(XXX)
Pivot range	degrees	±15

Suitable for: Garant ST1 No. 499030, MarSurf M300 No. 499001, MarSurf PS10 No. 498825.

49 9038

40N 49 9038	Mahr Probe guard for feed unit	(XXX)

mm / Inch | ▶ Q1 ◀ Cal | ▶ Q2 ◀ Cal

Mahr

Surface roughness tester MarSurf M310

Portable roughness measuring instrument for precise roughness measurement and documentation conforming to standards, using the stylus tracing method. **With integral (removable) calibration standard.** Large illuminated 4.3 inch TFT touch display. Display can be rotated. Feed unit can be operated as part of the main unit and separately. LED light bar for status display (green - battery status display, red - error message, blue - measurement, data transmission), integral height adjustment, data saving as TXT, X3P, CSV and PDF files. Gauss filter to ISO 16610 – 21 (supersedes DIN EN ISO 11562), special filter to DIN EN ISO 13565 – 1, IS filter to DIN EN ISO 3274 (can be switched off). Tolerance monitoring.

Advantage:
- Switch on and start measurement right away – intuitive, no training.
- MarConnect Duplex interface for starting the measurement remotely.
- USB A port (use for instance for a Bluetooth stick).
- USB B port (use for instance for mass storage or connection of a power supply unit).
- Documentation by optional thermal printer for printing out the profile or the results via Bluetooth or cable connection.
- Transmission of the measuring results by a cable connection or alternatively via Bluetooth.
- MarWin Roughness Viewer software for simple evaluation with generation of results print-outs from up to 100 profile files (download free of charge).
- Saving of measurement programs (Quick & Easy).
- Automatic cut-off selection.
- For direct access to the start view press the start button at the same time as the home button.
- Quick access to your desired functions, using the favourites list in the display.
- Remote control (SPC) of the MarSurf M 310 by external software.
- IATF 16949 compliant – reliable traceability with MarConnect.

Supplied with: Supplied with head advance unit, standard probe No. 499004 size 6 – 350, including roughness standard. Factory calibration certificate, integral height adjustment, probe guard, charger / main adapter, operating instructions, carrying satchel with shoulder strap, mini-USB cable, extension cable for head advance unit, carrying case No. 499016.

49 9002 – Additionally with Bluetooth printer No. 499015.

Optional extras: Spare and special probe No. 499004, probe extension No. 499008, probe guard No. 499038, stand No. 499011; 498857, data cable for MarConnect Duplex interface No. 498941 size USB2.

Spare part: Battery No. 499548.

Note: Set for transverse sensing available on request.

49 9002

49 9002

49 9003

Type		M310
43C 49 9002	Surface roughness measuring instrument, without printer	(XXX)
43C 49 9003	Surface roughness measuring instrument, with printer	(XXX)
maximum measuring range	µm	350
maximum measuring range	inch	0.014
Measurement travel for longitudinal sensing	mm	1.25 / 4.0 / 12.5
Measurement travels to standard		1.5 mm / 4.8 mm / 15.0 mm / automatic / N × Lc freely selectable
Cut-off (λ_c)	mm	0.25 / 0.8 / 2.5
Scanning speed	mm/s	0.5 / 1.0
Probe tip	µm	2
Evaluation unit length	mm	160
Evaluation unit width	mm	50
Evaluation unit height	mm	77
Weight of the evaluation unit	kg	0.5

▶ Q2 ◀ Cal

Mahr

Roughness standard with test certificate

Metal roughness standard R_a approx. 2.5 µm, SM > 130 µm, R_z approx. 10 µm, with test certificate.

Type		PRN10
43C 49 9580	Roughness standard with test certificate	(XXX)

49 9580

Mahr Surface roughness tester MarSurf M400 with free scanning system

mm / Inch | ▶ Q1 ◀ Cal | ▶ Q2 ◀ Cal

Surface roughness measuring tool with free probe travel and automatic zeroing for precise roughness and wave measurement in accordance with relevant standards. The **wireless Bluetooth connection between the evaluation unit and feed unit** offers high flexibility when performing a wide variety of measurement tasks. **Alternative operation with USB cable connection.** The user can use the feed unit to work directly at the point of measurement whilst the evaluation unit stands in a suitable place. The measurement can be started at the evaluation unit or at the feed unit. **Several feed units can be connected to a single evaluation unit** and can be controlled selectively.

- **Free probe travel** with high-precision probe system.
- **Quick-change probe arm** using magnetic probe arm lock.
- **Protected against damage.**
- **Only a few seconds set-up time** using motorised height adjustment of the feed unit with **automatic zeroing.**
- Probe travel to DIN EN ISO 4288 / ASME B46.1: 0.48 mm, 0.56 mm, 1.5 mm, 1.75 mm, 4.8 mm, 5.6 mm, 15 mm, 17.5 mm automatically and variably adjustable to EN ISO 12085 (MOTIF): 1 mm, 2 mm, 4 mm, 8 mm, 12 mm, 16 mm, variably adjustable.
- Number of traverse lengths selectable from 1 to 5.
- Automatic selection of filters and probe travels to the standard.
- Measurement travel for longitudinal sensing 0.1 to 26 mm.
- Phase correction Gauss filter to DIN EN ISO 16610-21 (supersedes DIN EN ISO 11562) and special filter ISO 13565-1.
- **Flexible movement** using cordless Bluetooth connection.
- **Clear, direct, and simple** brilliant colour display for operation and displaying results.
- **Portable use** with mains and battery power.
- **International up to date** incorporating all the usual reference values to DIN/ISO, JIS, ASME, MOTIF in multiple languages.
- **Documentation with quality** with integral thermal printer for printing out the profile and results.
- Report of date and/or time of measurements.
- Integral memory for results of about 40,000 measurements and 30 profiles.
- **High measurement speed**, 1mm/s at the same measuring point density.
- Saving measurement programs.

Supplied with: MarSurf M400 evaluation unit, MarSurf SD26 feed unit including BFW250 probe system, standard probe arm, 1 roll thermal paper No. 499510 size H1, wide-range mains adapter with 3 plugs, 2×USB cables (for connection to the PC and operation with cable), user manual, and transport case.

Spare part: Battery No. 499549.

Note: Other contact arms and probes, e.g. for small bores and slots, available on request.

Quick-change probe arm and protection against damage, with magnetic probe arm mounting.

Upwards measurement using Vee in the feed unit.

49 9041

Type		M400
43C 49 9041 Surface roughness measuring tool		(XXX)
Roughness standards		DIN / ISO / JIS / ASME, MOTIF
Measurement travel for longitudinal sensing	mm	26
Cut-off (λ_c)	mm	0.08; 0.25; 0.80; 2.50
Cut-off (λ_c)	inch	0.003; 0.010; 0.032; 0.100
Scanning speed	mm/s	0.2; 0.5; 1
Feed unit length	mm	130
Feed unit width	mm	70
Feed unit height	mm	50
Evaluation unit length	mm	190
Evaluation unit width	mm	140
Evaluation unit height	mm	75
Weight feed unit	kg	0.9
Weight of the evaluation unit	kg	1

Accessories for roughness measuring tool No. 499041 M400

Mounting for the feed unit of the MarSurf M400. For attachment to stands No. 498857 or 499011.

49 9046

43C 49 9046 Clamp		(XXX)
Pivot range	degrees	±15

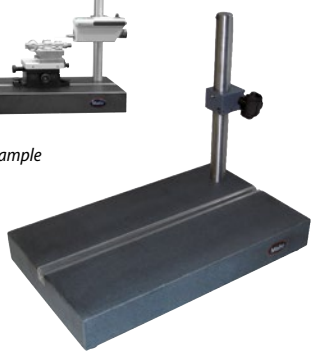
Mahr Measuring stand ST-G

Measuring stand ST-G. Granite table with central 10 mm T-slot.

Suitable for: Roughness measuring instruments No. 499030 size ST1, No. 498835 size PS10, No. 499001 size M300, No. 499002; 499003 size M310, No. 499041 size M400.

Optional extras: Indexing table CT120 on request. Arbor No. 499035 for feed unit GARANT ST1. Mounting No. 499012 for feed units MarSurf M300. Mounting No. 499046 for feed units MarSurf M400. Mounting No. 499013 for feed unit MarSurf PS10 No. 498835 and M310 No. 499002; 499003.

Application example



Type		PST-G
43C 49 8857 Stand ST-G with T-slot		(XXX)
Height adjustment range of column	mm	300
Base length	mm	500
Base width	mm	300

Mahr Accessories for roughness measuring tools

Probe for surface roughness measuring tools ST1, PS1, PS10, M300 and M310

Size 3-350 – Probe for small bores from 3 mm.
Size 6-350 – Standard probe for bores from 6 mm.

Type		3-350	6-350
43C 49 9004	Probe for ST1 / PS1 / PS10 / M300	(XXX)	(XXX)
minimum bore ∅ mm		3	6

Length mm		80
43C 49 9008	Probe extension	(XXX)

49 9004

49 9008

Carrying case for PS10, M310

Sturdy carrying case for transporting the PS10 / M310 (without contents).

Type		CASE
43C 49 9016	Carrying case	(XXX)

49 9016

Measuring stand for surface roughness measuring tools ST1, PS10, M300 and M310

Stand with sturdy base. A hand wheel is provided for adjusting the height of the feed unit mounting.

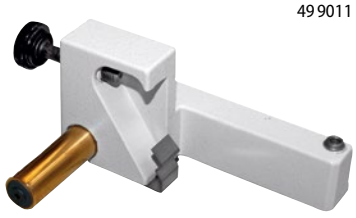
Type		
43C 49 9011	Stand ST-D	(XXX)
Height adjustment range of column	mm	300
Base length	mm	175
Base width	mm	190
Overall height	mm	385

49 9011

Accessories for surface roughness measuring tools PS10, M300 and M310

For attachment to stands No. 498857 or 499011.
49 9012 – Mounting for the feed unit of the MarSurf PS1 and M300 No. 499001.
49 9013 – Mounting for the feed unit of the MarSurf PS10 No. 498835 size PS10 and No. 499002; 499003 each in size M310.

43C 49 9012	Mounting for PS1 / M300	(XXX)
43A 49 9013	Mounting for PS10 / M310	(XXX)
Pivot range	degrees	±15


49 9012

Stand mounting for PS10 and M310

For mounting the cylindrical feed unit on measuring stands with mounting ∅8 mm.
Suitable for: Surface roughness measuring instrument No. 498835 PS10, 499002 M310 and 499003 M310.

Type		RD18C
43C 49 9014	Stand mounting **for surface roughness measuring instrument PS10 / M310**	(XXX)

49 9014

Application example

cep Surface comparison plates RUGOTEST

The comparison plates contain the surface conditions for the most common types of machining. Wear-resistant and stainless.
Application: For comparative checking of surface finishes using visual and tactile method (with finger nail).

_102

_1

Type		1	102	103	104	105	107
49K 49 8861	Surface comparison plates	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Machining method		general	turning	face milling	Surface grinding	cylindrical grinding	spark erosion
ISO roughness classes		N2 – N10	N5 – N10	N5 – N10	N1 – N8	N1 – N8	N5 – N10
Comparison range Ra	µm	0.05 – 12,5	0.4 – 12.5	0.4 – 12.5	0.025 – 3.2	0.025 – 3.2	0.4 – 12.5
Plate dimensions	mm	120×90	110×50	110×50	130×50	130×50	110×50
Number of comparison patterns		27	6	6	8	8	6

Mitutoyo Surface roughness testers SJ210 and SJ310 with skid system

RS232C | Digimatic | ▶ Q1 ◀ Cal | ▶ Q2 ◀ Cal

Transportable cordless rail system for determining surface roughness. Gauge force 0.75 mN to DIN/ISO. Separate feed unit for measurements in very small spaces and for attachment to stands. Phase correction Gauss filter to DIN EN ISO 16610-21 (supersedes DIN EN ISO 11562). Automatic protection of the probe during transport. Auto-calibration function and integral memory for measurement conditions.

49 9205 –
- 2.4 inch TFT colour display can be rotated electronically. Feed unit can be operated as part of the main unit or separately. Measured data and measurement conditions can be archived to micro-SD memory card.
- All recognised parameters to DIN EN ISO, VDA, JIS, ANSI, and freely selectable conditions.

49 9207 –
- Very easy intuitive menu-guided controls with clear presentation of measured results and profiles on a 5.7 inch colour display.
- Statistics function and colour-coded tolerance evaluation.
- Large number of internationally recognised parameters to DIN EN ISO, VDA, JIS, ANSI, and MOTIF, and 16 integral languages.
- Two different calculations can be performed based on just a single measurement.
- Measurements where access is difficult or overhead can be performed using the separate feed unit.
- Automatic calibration function / mean value calibration can be performed with up to 12 multiple measurements.
- Saving of up to 10 measurement conditions.
- Quick output and documentation of measurement results, graphics and measurement conditions on the integral printer.
- Individual password protection.
- Easy archiving of measured data on an SD memory card.

Supplied with: Feed unit with contact point, mains adapter, calibration standard, and carrying case.
49 9207 – 5 rolls thermal paper No. 499050, 1 pair of support legs No. 499220 size FUSS, rail for flat and cylindrical components No. 499220 size Z-KUFE, mains adapter, and user manual,.

Optional extras: Transmitter and probe for small bores (from 2.5 mm) No. 499210, rail for flat and cylindrical components No. 499220 size Z-KUFE, support legs (2 pieces) No. 499220 size FUSS, adapter for clamping in height gauge No. 499220 size H-ADAPT, granite measurement stand No. 499415, data cable No. 498430.

Note: Free-of-charge analysis software, further adapters, and probes available on request.

Feed unit in the device

Feed unit removed

Application example

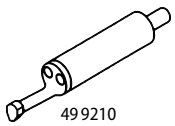
Type		SJ210	SJ310
44D 49 9205	Surface roughness measuring tool	(XXX)	–
44D 49 9207		–	(XXX)
maximum measuring range	µm	360	
graphic representation		Measurement profile, BAC curve, ADC curve	
Roughness standards		DIN EN ISO, VDA, ANSI, JIS, MOTIF	
Measurement travel for longitudinal sensing	mm	16	
Cut-off (λ_c)	mm	0.08; 0.25; 0.8; 2.5	0.08; 0.25; 0.8; 2.5; 8
Scanning speed	mm/s	0.25; 0.5; 0.75	0.25; 0.5; 0.75; 1.0;

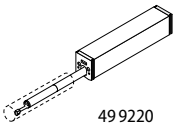
49 9207

Accessories for roughness measuring tool SJ210, SJ310, SJ201 and SJ301

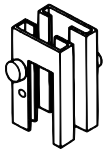
Suitable for: Surface roughness measuring tool No. 499205 size SJ210 and No. 499207 size SJ310 together with SJ201 and SJ301.

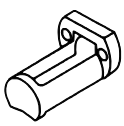
Application:
Size 2,5 – For small holes.
Size 6/60 – Standard probe for SJ210/310.
Size 6/90 – Standard probe for SJ201/301.


49 9210

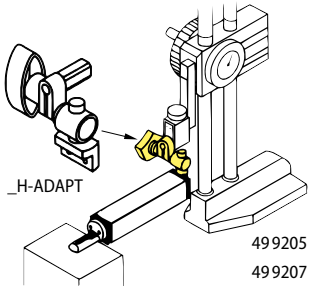

49 9220

Type		2,5	6/60	6/90
44D 49 9210	Sensor / probe head	(XXX)	(XXX)	(XXX)
Point angle	degrees	90	60	90
Tip radius	µm	5	2	2
minimum bore ∅	mm	2.8	6.5	6.5


49 9220_FUSS


_Z-KUFE

Application:
Size FUSS – Support legs (pair) for variable height adjustment of the probe.
Size Z-KUFE – Rail for cylindrical components (also applicable for flat parts).
Size H-ADAPT – Adaptor for clamping in height gauge No. 445152 For work where the feed unit cannot be placed on the component.
Size EXT – Extension 50 mm for SJ-210 / SJ-310 series



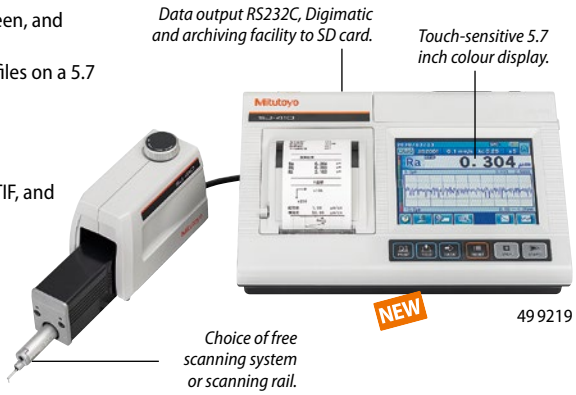
Type		FUSS	Z-KUFE	H-ADAPT	EXT
44D 49 9220	Optional extras	(XXX)	(XXX)	(XXX)	(XXX)

Mitutoyo Surface roughness testers SJ411 with free scanning system

Digimatic | RS232C | Q1 Cal | Q2 Cal

Transportable cordless reference level system with dust-protected, touch-sensitive operating screen, and integral printer.

- Very easy intuitive menu-guided controls with clear presentation of measured results and profiles on a 5.7 inch colour display.
- Optional measuring with free scanning system or scanning rail.
- Measurement of roughness, ripple and primary profile.
- Statistics function and colour-coded tolerance evaluation.
- Large number of internationally recognised parameters to DIN EN ISO, VDA, JIS, ANSI, and MOTIF, and 16 integral languages.
- Phase correction Gauss filter to DIN EN ISO 16610-21 (supersedes DIN EN ISO 11562).
- Compensation function for radii and inclinations.
- DAT function: Digital inclination wizard for aligning the feed unit position.
- Two different calculations can be performed based on just a single measurement.
- Quick output and documentation of measurement results, graphics and measurement conditions on the integral printer.
- Easy archiving of measured data on an SD memory card.
- The calibration values can be saved and recalled using five different buttons.



Supplied with: Including feed unit with standard contact point, 5 rolls of thermal paper No. 499050, mains adapter, calibration standard, user manual, and storage case.

Optional extras: Standard probe No. 499221, measuring stand No. 499415, pack of paper rolls (5 pieces) No. 499050.

Note: Free-of-charge analysis software available on request. **Only available in Germany and Austria!**

Type		SJ411
44D 49 9219	Surftest surface roughness measuring tool	(XXX)
maximum measuring range	µm	800 / 80 / 8
graphic representation		Measurement profile, BAC curve, ADC curve
Measurement travel for longitudinal sensing	mm	25 (straightness 0.3 µm)
Cut-off (λ_c)	mm	0.08; 0.25; 0.8; 2.5; 8; 25
Scanning speed	mm/s	0.05; 0.1; 0.2; 0.5; 1
Gauging force	mN	0.75
Contact point radius	µm	2

Suitable for: SJ411 surface roughness measuring tool No. 499219.

			XXX
44D 49 9221	Standard probe insert for SJ-411		
Point angle		degrees	60
Tip radius		µm	2

49 9221

Optional extras

Suitable for:

49 9415 – Surface roughness measuring tools SJ201, SJ210, SJ301, SJ310, SJ401, SJ411 and SJ412.

Note:

49 9415 – For use with tools SJ201, SJ210, SJ301, and SJ310 please order adapter 499418.

			XXX
40W 49 9415	Granite stand with T-slot		
Base length		mm	400
Base width		mm	250
Overall height		mm	556
manual adjustment range		mm	250

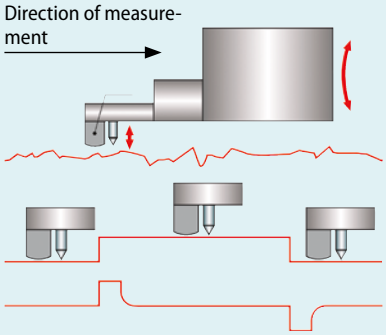
40W 49 9418	Adapter for SJ210 / SJ310	(XXX)

49 9415

49 9418

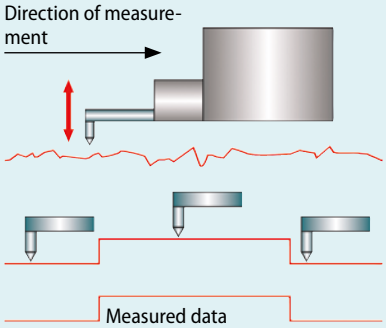
Surface roughness measurement with or without a rail

Measurement with a rail



- During measurement with a rail, the measurement system supports itself with the rail on the surface being measured. This ensures that only the movement of the contact point relative to the rail is measured.
- Measurement with a rail is suitable for measuring the surface roughness.

Measurement without a rail (free scanning system)



When measuring without a rail it is the irregularities of the surface relative to the guide of the feed unit that are detected. Therefore in addition to the surface roughness, also the ripple and the primary profile are measured.

Garant Contour measuring instrument CM1

Simple contour measuring instrument with non-contact optical incremental measurement system. **Solid granite base** and high-precision axes with pre-loaded zero-play linear ball bearings. CNC-controlled X and Z-axes (either by keyboard or optionally by joystick).

Measurement functions:

- Set the measured section and measurement rate.
- Programming automatic procedures by **Teach-In.**
- Simple selection of regression lines and circles.
- Create free and dependent intersections.
- Create auxiliary lines, auxiliary circles and reference spheres.
- Rotate contours and mirror contours.
- Determine the shape and position.

Size CM1 – Manual Y-table for system-supported manual searching for the highest and lowest points in the Y-direction.

Size CM1-PRO – CNC-controlled Y-table for automatic searching for the highest and lowest point in the Y-direction.

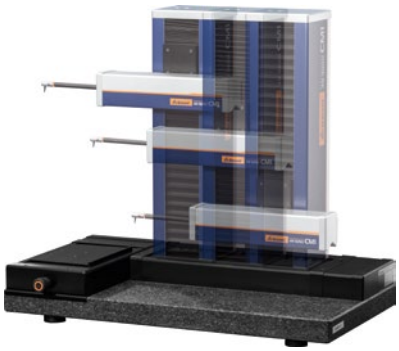
Supplied with: Supplied with measurement computer, monitor, mouse and keyboard, calibration standard, contact point mounting, contact point 20.5 mm.

Size CM1-PRO – Additionally top-down software option.

Optional extras: Joystick No. 499255, software options No. 499258, mountings and contact points 499260 – 499269.

Note: We reserve the right to make technical changes and to change the version of the PC and monitor.

Type		CM1	CM1-PRO
410 49 9250	Contour measuring instrument	XXX	XXX
Measuring range X	mm	190	
Measuring range Z	mm	275	
Measuring range Y	mm	40	
Control in X and Z		CNC	
Control in Y		manual	CNC
Measuring system X, Z and T		High-accuracy, incremental, non-contact	
Resolution in Z in relation to the contact point	µm	0.05	
Resolution in Z in relation to the measurement system	µm	0.05	
Straightness	µm	± (2+L/50)	
Measuring accuracy XZT axis combined	µm	± (2+L/50)	
Footprint length	mm	645	
Baseplate depth	mm	380	
Height	mm	550	
maximum component weight	kg	100	
Weight	kg	40	



*With a measurement range of **190 mm in X** and **275 mm in Z** (maximum traversing length in a space of >330 mm) the CM1 contour measuring instrument offers the largest measurement range in its class.*

Garant Roughness software option for CM1

Software option for measuring the roughness from a roughness value of Rz 1 or Ra 0.3. Simple and intuitive operation. Standard evaluation of all parameters to ISO 4287, ISO 12085, JIS 601 B, ISO 13565 II, ISO10049.

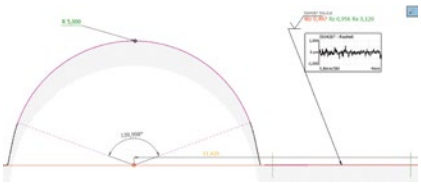
- Automatic selection of limit wave length of the filter (cut-off) and traversing length to ISO 4288 and ISO 3274.
- Evaluation parameters can be provided with tolerance limits and intervention limits on both sides.
- Can be retrofitted for devices from build year 11/2020.

Size PRO – Additionally, evaluation and display of all parameters and graphs to ISO 4287, ISO 12085, JIS 601 B, ISO 13565 II, ISO 10049. Evaluation range can be shifted individually to any length of the traversing length (with simultaneous recalculation of all parameters). Profiles for the evaluation permit (additional) settings of the limit wave length of the filter or changing the type of filter not defined in the standard.

Optional extras: Roughness probe tips No. 499273 and 499275.

Size BASIS – Update to PRO No. 499253.

Note: Technical support and training on request.



Type		BASIS	PRO
410 49 9252	Software option, roughness	(XXX)	(XXX)

Garant Joystick for CM1

Control desk with joystick and emergency stop for precise and safe control of the GARANT CM1 contour measuring instrument. Control of the X and Z axes together with the Y axis, using the existing CNC-controlled Y-desk.

Type		JOYSTICK
410 49 9255	Control desk **CM1**	XXX

Garant Holders and probe tips for CM1

Optional extras: Pocket scales No. 479442 size 500 for calibration of probe tips.

Size 1 – Contact point for mounting Ø 1 mm probe tips.
Size 3,5 – Probe tip holder for mounting Ø 3.5 mm probe tips.

Arbor ∅		mm	1	3,5
41M 49 9260	Probe tip holder		(XXX)	(XXX)
overall length		mm	50	–

49 9260_1

49 9260_3,5

Probe tips Ø 3.5 mm

Suitable for: Probe tip holder No. 499260 size 3.5.

Overall length		mm	20,5	33
41M 49 9261	Probe tip **Ø 3.5 mm**		(XXX)	(XXX)
Contact point radius		µm	25	
Angle contact point		degrees	12	

49 9261_20,5

49 9261_33

Overall length		mm	20,5	33
41M 49 9262	Tapered probe tip **Ø 3.5 mm**		(XXX)	(XXX)
Contact point radius		µm	25	
Angle contact point		degrees	24	

49 9262_20,5

49 9262_33

Overall length		mm	34
41M 49 9263	Double probe tip **Ø 3.5 mm**		(XXX)
Contact point radius		µm	25
Angle contact point		degrees	12

49 9263

Probe tips Ø 1 mm

Suitable for: Probe tip holder No. 499260 size 1.

Overall length		mm	6	10	13
41M 49 9266	Probe tip **Ø 1 mm**		(XXX)	(XXX)	(XXX)
Contact point radius		µm	25		
Angle contact point		degrees	19		

49 9266 _6

49 9266_10

49 9266_13

Overall length		mm	6
41M 49 9267	Tapered probe tip **Ø 1 mm**		(XXX)
Contact point radius		µm	25
Angle contact point		degrees	24

49 9267

Overall length		mm	9
41M 49 9268	Double probe tip glued in probe tip holder **Ø 1 mm**		(XXX)
Contact point radius		µm	25
Angle contact point		degrees	19

49 9268

overall length		mm	9
41M 49 9269	Tapered double probe tip glued in probe tip holder **Ø 1 mm**		(XXX)
Contact point radius		µm	25
Angle contact point		degrees	24

49 9269

Garant Probe tips for measuring the roughness for CM1

Carbide probe tips with diamond insert.
Suitable for: Contour measuring instrument No. 499250 size CM1.
Optional extras: Compact scales No. 479450 size 200 for measuring of probe tips.

Type			2/60	2/90	5/90
41M 49 9273	Tapered probe tip **Ø 3.5 mm**		(XXX)	(XXX)	(XXX)
Contact point radius		µm	2	2	5
Angle contact point		degrees	60	90	90
Length		mm		33	

49 9273_2/60

Type			2/60	2/90	5/90
41M 49 9275	Tapered probe tip **Ø 1.0 mm**		(XXX)	(XXX)	(XXX)
Contact point radius		µm	2	2	5
Angle contact point		degrees	60	90	90
Length		mm		3	

49 9275_2/60

BAQ Shore hardness tester

P1 Cal

Shore hardness testers for determining hardness to Shore A or D to DIN ISO 7619-1 (supersedes DIN 53505) and ASTM D 2240. Sturdy, handy aluminium casing.

49 5002/5004 – High-contrast bright LED graphical display. Memory for 100 measurement values with date and time. USB interface for PC and charger.

Application:

49 5002/5003 – **Shore A:** Soft rubber, elastomers, natural rubber products, cast resin, leather, neoprene rubber, polyester, plasticised PVC.

49 5004/5005 – **Shore D:** Hard rubber, hard plastics, Perspex, Formica, stiff thermoplastics, vinyl boards, polystyrene, pressure rollers.

Optional extras: Test stand No. 495016. Test blocks for checking on request.

49 5002/5004 – Software for generating test certificates, statistics, and graphics available on request.

49 5002

49 5003

Type		A
49G 49 5002	Digital hardness tester **Shore A**	XXX
49G 49 5003	Analogue hardness tester **Shore A**	XXX

Type		D
49G 49 5004	Digital hardness tester **Shore D**	XXX
49G 49 5005	Analogue hardness tester **Shore D**	XXX

Test stand / supplementary weight

49 5016 – Test stand for Shore hardness testers, specially for series testing. The test stand ensures that the hardness tester is exactly square to the surface of the test piece and that the correct gauging pressure is applied.

Suitable for:

49 5016 – Shore hardness testers No. 495002 – 495005.

49 5018 – Shore hardness testers No. 495004; 495005.

49 5016

49G 49 5016	Test stand		XXX
Throat		mm	70
Test table ∅		mm	170
Height		mm	400

49G 49 5018	Supplementary weight **for Shore D**	(XXX)

i Cal

BAQ Digital rebound hardness tester dynaROCK II

Sturdy casing of anodised aluminium. Evaluation to DIN 50156 and ASTM A956 in Rockwell HRC and HRB, Vickers HV, Brinell HB, and the tensile strength of steel. The device can be used in any orientation (horizontal, facing upwards, facing downwards...). Internal memory for 100,000 measured values, USB port for data transmission to a mini-printer, computer and USB stick.

Accuracy: ±4 HL (0.5 % at 800 HL).

Supplied with: Impact tool type D, hardness comparison block, USB data cable, cleaning brush, transport case, charger, and manufacturer's certificate.

Optional extras: Alignment rings for curved surfaces, test blocks with DAkkS certificate and impact tools types DC, DL, D+15, C, and G on request, carrying case.

Spare part: Connecting cable to impact measuring tool 495023.

Materials and hardness values (HLD 200 – 900)				
Material	**HRC**	**HRB**	**HB**	**HV**
Steel and cast steel	20 – 68	60 – 100	80 – 650	80 – 940
Tool steel	20 – 68	–	–	80 –940
Stainless steel	20 – 62	46 – 100	80 – 650	80 – 800
Cast iron	–	–	90 – 380	–
Die-cast aluminium alloys	–	–	20 – 160	–
Brass	–	–	40 – 170	–
Bronze	–	–	60 – 290	–
Copper	–	–	45 – 315	–

49G 49 5022	Digital rebound hardness tester		XXX
Minimum weight of test piece		kg	2.5
Length		mm	135
Width		mm	79
Height		mm	22
Weight		g	320

BAQ Portable UCI hardness tester alphaDUR II and alphaDUR mini

RS232C | i Cal

The **alphaDUR II** portable UCI test unit can accept test probes to DIN 50159-1 issue 2008-10, ASTM A 1038 and VDI-/VDE guideline 2616, together with type D rebound impact tools to DIN 50156 and ASTM A956. The measurement of the impression is performed using a test load. The test load of the probes is detected automatically. Simple menu-driven operation using the large high-resolution colour display. Memory for 50 materials calibrations and up to 500,000 measured data items with date, time, material and evaluation. Evaluations with a wide range of statistical functions.

Application: For portable use (about 8 hours operating time on batteries) and also for quick hardness testing of all metallic materials during production and goods receipt.

Supplied with: Basic tester with built-in NiMH battery, mains adapter / charger, transport case and instruction manual. (Probe No. 495043 is also necessary for operation.)

Optional extras: Carrying case, software for generating test reports, statistics, graphical evaluation, USB data transfer option and UCI hardness comparison plates including ISO/ASTM certificate available on request.

49G 49 5042	Portable hardness tester alphaDUR II (without probe)		(XXX)
Power supply			NiMH battery
Length		mm	198
Width		mm	160
Height		mm	78
Weight		g	1400

49 5042

The **alphaDUR mini** is a portable UCI hardness tester for measurements to DIN 50159-1, ASTM A 1038, and VDI/VDE guideline 2616. Measurement range 10 to 3000 HV, high-resolution colour display, memory for 50 differently calibrated materials and 100,000 items of measuring data. Conversion into HRC, HRB, HB and tensile strength. Statistics functions and integral Lithium-ion battery with 12 h operation life. Measurement is performed using the probe No. 495043 – which should ordered separately.

Supplied with: Basic tester with integral battery, USB cable, charger, transport case and user manual (without the probe).

49 5047

49G 49 5047	Portable hardness tester alphaDUR mini (without probe)		–
Power supply			Lithium-ion
Length		mm	135
Width		mm	80
Height		mm	23
Weight		g	320

Suitable for: **alphaDUR II** No. 495042 and **alphaDur mini** No. 495047 UCI hardness testers.

Note: Other versions for measuring holes, slots or gear wheels available on request.

Test load		N	10	20	30	49	98
49G 49 5043	UCI probe for alphaDUR II and alphaDUR mini		–	(XXX)	(XXX)	(XXX)	(XXX)
Shank ∅		mm	19.5				
Length		mm	175				
Weight		g	190				

49 5043

Setting aid (guide) for UCI probes No. 495043. Facilitates vertical alignment to the component and improves reproducibility.

49G 49 5046	Setting aid for flat surfaces	(XXX)

for workpiece ∅	mm	10-50	50-250
49G 49 5048	Setting aid for round materials	(XXX)	(XXX)

49 5048

Measuring stand for holding and guiding UCI probes No. 495043.

49G 49 5049	Precision measurement stand	(XXX)

49 5049

i Cal

INNOVATEST® Rockwell hardness testing machine

Rockwell hardness testing machine with very high precision. Stiff machine frame, suitable even for rough workshop conditions.

Size 200AR – The test load is applied by a weigh application system. No power supply required.

Size 200ACL – Test load application within the closed control loop **(load cell, closed loop system).**

Size 300RS – Large 6.5 inch industrial colour touch screen. Easy-to-understand user interface with internal and external data storage facilities. Test load application within the closed control loop (**load cell, closed loop system**).

Standard:

Size 300RS – DIN EN ISO 6508, ASTM E-18 and ISO 2039/1.

Size 200AR; 200ACL – DIN EN-ISO 6508 and ASTM E-18

Supplied with:

Size 300RS – Ready-to-use basic equipment: Rockwell cone 120°, flat support table ∅ = 80 mm, Rockwell ball holder 1/16 inch.

Size 200AR; 200ACL – Ready-to-use basic equipment: Rockwell cone 120°, flat support table ∅ = 60 mm.

Note: Delivery and shipping packaging are invoiced separately. DAkkS calibration optionally can be performed on site.

49 5071_200AR

49 5071_300RS

Type		200AR	200ACL	300RS
49G 49 5071	Hardness testing machine **Rockwell FENIX**	(XXX)	(XXX)	(XXX)
Scale divisions	HR	1		
Display		analogue dial gauge	analogue dial gauge	6.5 inch touch screen
Test procedure		Rockwell	Rockwell	Rockwell / Super-Rockwell
Interface		–	–	USB-2
Rockwell scales		A, B, C, D, E, F, G, H, K, L, M, P, R, S, V		
Operation		manual	motorised	semi-automatic
Main load test force	kg	60, 100, 150	60, 100, 150	15, 30, 45, 60, 100, 150
Pre-load test force	kg	10	10	3; 10
maximum sample width	mm	150	150	250
maximum sample height	mm	260	260	240
Power supply		100 – 240 V / 50-60 Hz / 3A		
Length	mm	550	555	580
Width	mm	270		
Height	mm	765	765	770
Weight	kg	122	104	115

i Cal

INNOVATEST® Rockwell hardness testing machine

The **HAWK 250RS** offers the latest technology for internal Rockwell hardness testing. Easy to use, outstanding workpiece overview. The design with a penetration head with a catch mount permits hardness testing within components or on outer surfaces.

Standard: DIN EN ISO 6508, ASTM E-18I, ISO 2039 and ASTM D785.

Application: Internal diameter of only 22 mm. Internal cylinder, pipes, holes, spanner nuts, U-shaped parts, nuts, bolts, spacers, cardan shafts, gearbox parts, all parts with inaccessible test points or simply flat materials.

Supplied with: Ready-to-use basic equipment: Flat support table 60 mm, Rockwell cone 120°, Rockwell ball holder 1/16 inch.

Note: Delivery and shipping packaging are invoiced separately. DAkkS calibration optionally can be performed on site. Further accessories available on request.

Clamping cap is installed.

Smallest bore 22 mm.

Type		250RS
49G 49 5075	Hardness testing machine **Rockwell HAWK**	(XXX)
Scale divisions	HR	1
Display		6.5 inch touch screen
Test procedure		Rockwell
Interface		USB-2
Rockwell scales		A, B, C, D, E, F, G, H, K, L, M, P
Operation		semi-automatic
Main load test force	kg	15, 30, 45, 60, 100, 150
Pre-load test force	kg	3, 10
maximum sample width	mm	200
maximum sample height	mm	250
Power supply		100–240 V / 50-60 Hz / 3A
Length	mm	600
Width	mm	465
Height	mm	765
Weight	kg	120

49 5075

▶ i ◀
Cal

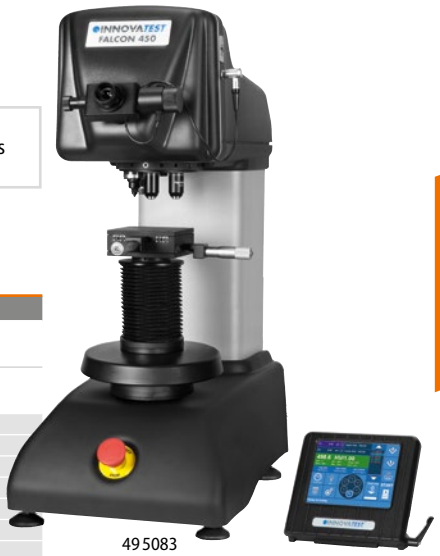
INNOVATEST® FALCON Vickers hardness testing machine

The test force is selected using the control panel, the test procedure is performed automatically. The **hardness values are calculated** directly by means of an electronic measuring microscope. 4 lenses with 600 times magnification. Modular design allows subsequent conversion to a fully automatic system. Fully automatic revolver head for up to 6 positions (4 lenses + 2 penetration heads).

Standard: EN ISO 6507, EN ISO 6506, EN ISO 4545 and ASTM E-384.

Supplied with: Ready-to-use basic equipment: 136° diamond pyramids with ASTM and ISO test certificate.
49 5081 – Manual indexing table travel 25×25 mm, 10× and 50× lenses.
49 5083 – Lenses 10× and 20×, flat table Ø 60 mm.

Note: **Delivery and shipping packaging are invoiced separately.** DAkkS calibration optionally can be performed on site. Version with an integral PC and other accessories and hardness testing machines are available on request.



49 5083

Type			401	455	459
49G 49 5081	Hardness testing machine **Mikro-Vickers**		(XXX)	–	–
49G 49 5083	Hardness testing machine **Vickers**		–	(XXX)	(XXX)
Scale divisions		HV	0.1		
Display			6.5 inch HD colour touch screen		
Hardness value display		digits	5		
Test procedure			Macro Vickers / Knoop		
Interface			USB		
Operation			motorised		
Main load test force		kg	0.01 – 2	0.2 – 31.25	0.2 – 62.5
maximum sample width		mm	170		
maximum sample height		mm	125	210	210
Power supply			220-240V / 50Hz		
Length		mm	525	544	544
Width		mm	323		
Height		mm	688	733	733
Weight		kg	75	80	80

▶ i ◀
Cal

INNOVATEST® NEXUS 7700 universal hardness testing system

Universal hardness testing machine with video measurement system. IMPRESSIONS™ advanced. Test load application within the closed control loop (load cell, closed loop system). The built-in 18 Megapixel camera with zoom function, autofocus and intelligent image evaluation ensures quick and accurate measurement of the test impression. The IMPRESSIONS™ software controls the test procedures automatically and offers a fully automatic image evaluation of the hardness test impression together with archiving of the measurement results. Integral high-resolution industrial touch screen.

Standard: EN ISO 6506-1, EN ISO 6507, EN ISO 6508, EN ISO 4545 and ASTM E-18.

Application: The NEXUS 7700 universal hardness tester can be used for all hardness testing to Brinell, Vickers, Rockwell, Super-Rockwell and Knoop. In addition, plastics hardness testing (ball impression) and tests to HVT and HBT can be performed.

Supplied with: IMPRESSIONS™ test software, 6.3× and 10× lenses, clamping cap, test table Ø 80 mm, Rockwell cone 120 degrees, Vickers pyramid 136 degrees and ball holder 2.5 mm including ASTM and ISO test certificates.

Note: Delivery and shipping packaging are invoiced separately. DAkkS calibration optionally can be performed on site. For large Brinell impressions, an additional 2.8× lens and ring lamp are required.

49 5085

Type			7700
49G 49 5085	Universal hardness testing machine **NEXUS**		(XXX)
Display			LCD touch screen
Test procedure			Brinell, Vickers, Rockwell, Super-Rockwell, Knoop, HVT, HBT, ball impression hardness
Interface			4×USB, RJ45 (LAN), W-LAN
Operation			motorised, automatic
Main load test force		kg	0.5 – 250
Test force dwell time		s	1 – 99
maximum sample width		mm	220
maximum sample height		mm	320
Power supply		V	100 - 240 (50 / 60 Hz)
Length		mm	685
Width		mm	300
Height		mm	1130
Weight		kg	178

Hardness comparison plate

High-quality hardness comparison plates of optimised and homogeneous steel for periodic calibration of hardness testers.

Advantage: Colour-coded and symbolic organiser system on all packaging.

Supplied with: Every hardness comparison plate is supplied with a **DAkkS calibration certificate**.

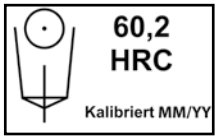
Note: Calibrations for other processes, hardness comparison plates in other sizes and with pitch lines available on request. **Quick availability ex-stock from the manufacturer.**

Hardness value approx.			150	200	250	300	350	400	450	500
49L 49 5130	Hardness comparison plate **HBW 2.5 / 187.5**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5132	Hardness comparison plate **HBW 5 / 750**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5134	Hardness comparison plate **HBW 10 / 3000**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
∅		mm	125	115	115	115	115	115	115	115
Height		mm	16							

Label example

Hardness value approx.			200	300	400	550	620	700	780
49L 49 5152	Hardness comparison plate **HV 0.1**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5154	Hardness comparison plate **HV 0.2**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5156	Hardness comparison plate **HV 0.3**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5158	Hardness comparison plate **HV 0.5**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5160	Hardness comparison plate **HV 1.0**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5162	Hardness comparison plate **HV 5**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5164	Hardness comparison plate **HV 10**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5166	Hardness comparison plate **HV 20**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
49L 49 5168	Hardness comparison plate **HV 30**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
∅ (49 5152, 49 5154, 49 5156, 49 5158)		mm	40						
∅ (49 5160, 49 5162, 49 5164, 49 5166, 49 5168)		mm	65						
Height		mm	10						

Label example



Label example
49 5150 / 72

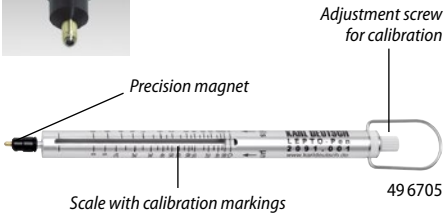
Hardness value approx.			20	25	30	35	40	45	50	55	60	62
49L 49 5150	Hardness comparison plate **HRC**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
∅		mm	115									
Height		mm	12									

Hardness value approx.			20	25	30	35	40	45	50	55	60	62
49L 49 5172	Hardness block **HRC**		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Length		mm	60									
Width		mm	60									
Height		mm	12									

KARL DEUTSCH Thickness measuring tools – LEPTO-Pen

Quick and easy thickness measurement using the attraction force method. Suitable for non-magnetic coatings such as paints, varnishes, plastics, and galvanised coatings on unhardened iron and steel. With precision magnet, mechanical spring balance, and scales, calibrated and graduated in µm of coating thickness. For use in any position: horizontal, vertical, and "overhead".

Supplied with: Plastic case, user manual, and test certificate.



Type			2091A
49G 49 6705	Thickness measuring tool LEPTO-Pen		XXX
Measuring range		µm	10 – 500
Error limit			±10 % / ±3 µm

KARL DEUTSCH Thickness measuring tools – Pocket Leptoscope

Robust, handy thickness measuring tool for precision, non-destructive testing of film thicknesses on steel and non-ferrous metals.

- Probe integral within the device and immediately ready for measuring.
- Single-point and two-point calibration with averaging can be performed.
- Cordless battery mode, auto-off.
- Convenient user guide in plain text, multi-language.
- Graphics display with background illumination.
- Large characters for ease of legibility.
- Data output for thermal printer.
  - Size 2021 – **Fe tool** for measuring non-magnetic coatings, e. g. Cr, Cd, Cu, Zn coatings, paints, varnishes, plastics etc. on magnetisable iron and steel.
  - Size 2026 – **Fe / non-Fe combination device.** The substrate is recognised automatically. Additionally for measuring electrically non-conductive coatings e. g. Eloxal, paints, varnishes, plastics etc. on all non-ferrous metals e. g. aluminium, copper, brass etc.

Supplied with: Transport case, check bodies (size 2021: one-piece; size 2026: two-piece), calibration foil kit (two-piece), 1 battery No. 081561 size LR3, instruction manual and calibration certificate.

Note: Version with measured value memory and statistics function on request.

Membrane keypad
is dirt-proof.

Spring-mounted measurement probe
exerts constant pressure.

49 6800

Type		2021	2026
49G 49 6800	Thickness measuring tool Pocket Leptoscope	XXX	XXX
Measuring range Fe	µm	0 – 3000	
Measuring range non-Fe	µm	–	0 – 1250
Error limit for coatings < 100 µm	µm	1 % / ±1.5	
Error limit for coatings 100 to 1200 µm	µm	1 – 3 % / ±1	
Error limit for coatings > 1200 µm	µm	3 – 5 % / ±1	
Measuring principle Fe		Magnet inductive	
Measuring principle non-Fe		–	Eddy current
Battery life approx.	h	100	
Length	mm	95	
Width	mm	47	
Height	mm	17	

KARL DEUTSCH Wall thickness and sonic speed measuring tool (Echometer)

mm/Inch IP 54

Small, easy to use, ultrasonic wall thickness measuring tool with automatic test head recognition. **Testable materials: All materials which transmit sound, such as steel, iron, non-ferrous metals, plastics, glass, ceramic etc.** Wall thickness and sonic speed measurement in a single tool.

- Convenient user guide in plain text (multi-language).
- Variable display modes for optimum matching to the measurement task: – Standard display – Difference value – Minimum value

Supplied with: Transport case, coupling fluid (100 ml), 2 batteries No. 081561 size LR3, and calibration certificate.

Optional extras: Measuring heads with measuring range up to 400 mm available on request.

Note: Variants with data memory, data output, and statistics module or for measurement of the wall thickness of coated materials available on request.

49 6950_1076B

Type		1076B
49G 49 6950	Wall thicknesses and sonic speed measuring tool (without test head)	XXX
Measuring range wall thickness		see test head No. 496954
Measuring range sonic speed	m/s	100 – 19999
Scale divisions	mm	0.01
Battery level display		optical and acoustic
Length	mm	131
Width	mm	81
Height	mm	32
Weight including batteries without protective case	g	175

49 6954_PB10

49 6954_PB4

Accessories for Echometer No. 496950

Type		PB4	PB10
49G 49 6954	Test head	XXX	XXX
49G 49 6956	Grip handle for test head PB	XXX	XXX
49G 49 6957	Protective foil set **10 pieces**	XXX	–
Measuring range in steel (49 6954)	mm	1.2 – 250	0.5 – 25
Type of test head (49 6954)		Standard	Miniature
Frequency (49 6954)	MHz	4	10
Transducer dimensions (49 6954)	mm	10×4	4×2

49 6956_PB4

Contents	ml	500
49G 49 6958	Coupler	XXX

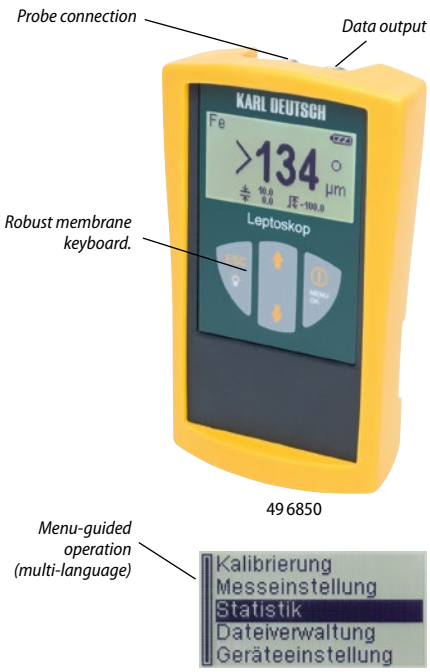
49 6957_PB4

KARL DEUTSCH Thickness measuring tools – Universal Leptoscope

Universal thickness measuring tool for Fe and / or non-Fe material depending on the probe No. 496900, 496910 or 496912.

- Interchangeable measuring probes.
- Clear display with background illumination.
- Ready for measuring immediately without calibration.
- Extensive calibration capability, e.g. patented adjustment when measuring a coating of unknown thickness.
- Mains and battery mode, auto off.
- Data output for thermal printer.
  Size 2042SET – ■ Extensive statistical functions, large data memory.

Supplied with: 2 batteries No. 081561 size LR6, transport case, user manual, and calibration certificate.
Size 2042SET – Set including standard probe Fe No. 496900 size EP, check sample (two-piece), calibration foil kit (six-piece), PC cable, and iCom software.



49 6850

Type		2042	2042SET
49G 49 6850	Thickness measuring tool Universal Leptoscope	XXX	XXX
Measuring range	µm	0 – 20000	
Error limit for coatings < 100 µm	µm	1 % / ±1	
Error limit for coatings 100 to 1000 µm	µm	1 – 3 % / ±1	
Measuring principle Fe		Magnet inductive	
Measuring principle non-Fe		Eddy current	
Data storage		10000 measured values	
Battery life approx.	h	90	

KARL DEUTSCH Ferrous and non-ferrous measuring probes for Universal Leptoscope No. 496850

Application:

49 6900 – **Ferrous probe** for measuring non-magnetic coatings, e.g. Cr, Cd, Cu, Zn coatings, paints, varnishes, plastics etc. on magnetisable iron and steel.

49 6910 – **Non-ferrous probe** for measuring electrically non-conductive coatings e.g. Eloxal, paints, varnishes, plastics etc. on all non-ferrous metals such as aluminium, copper, brass etc.

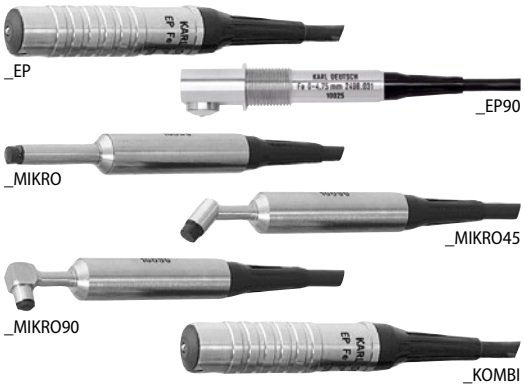
49 6912 – **Fe / non-Fe combination probe.** The substrate is recognised automatically. Application as for Fe / non-Fe combination probe.

Supplied with:

49 6900–6912 – Including the manufacturer's calibration certificate.

Optional extras:

49 6900–6912 – Positioning aids for microprobes, other microprobes available on request.



Type		EP	EP90	MIKRO	MIKRO45	MIKRO90	KOMBI
49G 49 6900	Fe measuring probe for No. 496850	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	–
49G 49 6910	Non-Fe measuring probe for No. 496850	(XXX)	–	(XXX)	(XXX)	–	–
49G 49 6912	Fe / non-Fe measuring probe for No. 496850	–	–	–	–	–	(XXX)
Measuring range Fe (49 6900, 49 6912)	µm	0 – 5000	0 – 5000	0 – 500	0 – 500	0 – 500	0 – 3000
Measuring range non-Fe (49 6910, 49 6912)	µm	0 – 1000	–	0 – 500	0 – 500	–	0 – 1250
Probe type		single pole probe	single pole probe	Micro probe	Micro probe	Micro probe	Combi
Measurement head ∅	mm	11.4	10.2	5	5	5	11.4

Type		FE	NFE
49G 49 6920	Checking piece	(XXX)	(XXX)
Suitable for: Measurement probe No.		496900	496910

49 6920

Suitable for: All probes and tools No. 496800 – 496912. Composed of: 11 µm, 22 µm, 50 µm, 90 µm, 190 µm, 750 µm (all coating thickness figures are approximate values).

Type		A
49G 49 6940	Calibration foil set, 6 pieces	XXX
for measuring range	µm	0 – 1250

49 6940

Mitutoyo Mini-processor / printer DP-1 VA for connection of Digimatic measuring tools

49 8701 – Fast and quiet data printer. Large easily legible characters. Timed reading of measured values (clock function). Data logging up to 9999 values. Thermal printer paper with long-term stability. Very compact. Press key to start. Powered by 6V mains adapter, batteries or rechargeable batteries. Data logger function with time stamp. Printing and data transmission can be performed concurrently. Compatible with measuring devices with the Digimatic 2 format.

Printable data: Measured values; OK / not OK values, number of data, min / max value, range; average value, standard deviation, number of rejects, percentage of rejects, process capability index, histogram, intervention limits; date and time.

Application:

49 8701 – For data collection, printing, and statistical evaluation of the measured data of small measuring tools with Digimatic interface.

Supplied with:

49 8701 – Supplied with 1 roll thermal paper, carrying strap, and mains adapter.

Optional extras:

49 8701 – Thermal paper No. 498710, foot switch No. 498780. Batteries (4 pieces) No. 081570 size LR6, batteries (4 pieces) No. 081561 size. LR6.

		DP1VA
44A 49 8701	Mini-processor / printer DP-1 VA	XXX

Type		VR
44A 49 8710	Thermal register paper set, 5 pieces, for No. 498700	XXX

Mitutoyo Accessories for other Mitutoyo printers / mini-processors

44A 49 8840	Paper roll for DP-1HS **1 piece**	XXX

		5
44A 49 8841	Ink ribbon cartridge for DP-1HS **Set of 5**	XXX

49 8840

49 8841

Keyboard interfaces including data cable

Keyboard interface and measuring tool cable with data button all in a single unit. In addition, termination characters (enter, tab. .) can be set and then automatically sent with the data.

49 8963 – Integral timer function.

Suitable for:

Size G2 – GARANT calipers No. 412616; 412618; 412680; 412682; 412690; 412692; 418682.

Size D2 – Mitutoyo measuring tools No. 412641; 412642; 412671; 415350 – 415400; 445135; 415152; 415222.

49 8969 – HOLEX caliper No. 412805.

Supplied with: With data cable to the measuring tool.

49 8969 – Additional foot switch (cable length 1.2 m) and data cable 1.8 m to the PC (1.4 m from the measuring tool).

49 8963 _G2 _D2

49 8969_USB

Type			G2	D2	USB
49H 49 8963	BOBE	Keyboard interface **USB**	XXX	XXX	–
42L 49 8969	HOLEX		–	–	XXX
Cable length		m	2	2	3

STEINWALD Keyboard interface

For connecting measuring devices to a PC via USB interface (HID). Data transfer is performed either by a foot switch or by the data button on the measuring tool. The integral device set-up allows parameterisation of measurement values range and positioning of the decimal point, plus process triggers and time triggers for taking measurements.

Supplied with: Supplied with USB cable for connection to the PC.

Optional extras: Foot switch No. 498905. Radio adapter and device with up to 18 ports on request.

Radio adapter

maximum number of measuring devices that can be connected		1	3	6
49H 49 8959	Keyboard interface **USB**	XXX	XXX	XXX
Number of Digimatic inputs		1	3	6
Cable connection port		Opto-RS; POWER; PROXIMITY; RS232 (measuring tool-specific - available on request)		
Radio adapter		Mahr i-wi; Sylvac BT; TESA TLC-BLE		
Foot switch connection port		yes		

49 8959

BOBE INDUSTRIE-ELEKTRONIK Keyboard interface

Keyboard interface for connecting measuring devices to a PC via USB interface (HID). Integral timer function permits "Automated" interrogation of the measurement values (adjustable from 0 to 99 seconds or minutes). The data can be loaded using the data button on the measuring tool, or using an optional pedal switch.

49 8868 – Data loading can be performed as standard by the data button on the interface.

Supplied with: Data cable for connection to the PC.

Optional extras: Foot switch No. 498780.

49 8960_3

49 8868_1

maximum number of measuring devices that can be connected		1	3
49H 49 8960	USB keyboard interface	XXX	XXX
49H 49 8868		XXX	–
Number of Digimatic inputs (49 8960)		1	3
Number of RS232 inputs (49 8868)		1	–
Number of USB outputs		1	
Connection foot-switch		yes	

BRECHT ELEKTRONIK Keyboard interface

Keyboard interface for connecting measuring devices to a PC via USB interface (HID). Data loading is performed by default with the data key on the interface or optionally using a foot switch.

49 8971 – A special cable No. 498908 allows connection also of measuring tools with Opto, Proximity, or Power output.

Supplied with: Data cable for connection to the PC.

Optional extras: Foot switch No. 498903.

49 8971 – Adapter cable for connection of measuring tools with the Opto-RS interface No. 498908.

49 8962_5+1

maximum number of measuring devices that can be connected		1	2	3+1	5+1
49H 49 8962	USB keyboard interface	–	–	XXX	XXX
49H 49 8971		(XXX)	(XXX)	–	–
Number of Digimatic inputs		–	–	3	5
Number of RS232 inputs		1	2	1	1
Opto-RS connection adapter		yes	yes	–	–
Connection foot-switch		yes			

BOBE INDUSTRIE-ELEKTRONIK Data transmission units

For connection of measuring tools with Digimatic data outputs via a USB interface to a PC. Data loading can be performed by a foot switch.

Size 2 – Can also be used as keyboard interface.

Supplied with: USB data cable for connection to the PC.

Optional extras: Foot switch No. 498780.

49 8866_2

maximum number of measuring devices that can be connected		1	2
49H 49 8866	Data transmission unit	XXX	XXX
Number of Digimatic inputs		1	2
Number of USB outputs		1	
Connection foot-switch		yes	

Mitutoyo Data transmission unit

For connection of measuring tools with Digimatic data outputs via a RS232 interface to a PC. Data loading can be performed by a foot switch.

Optional extras: Foot switch No. 498780 and data cable No. 498870.

49 8900_2

maximum number of measuring devices that can be connected		1	2
40N 49 8900	Data transmission unit	XXX	XXX
Number of Digimatic inputs		1	2
Number of RS232 outputs		1	
Connection foot-switch		yes	

Data transmission unit

For connection of measuring tools with Digimatic data outputs to a PC via a USB interface. The USB cable can also be used for the power connection. The data can be loaded under software control, or using the data button on the measuring tool, or using an optional pedal switch. Devices can be extended later.

49 8902 – A special cable allows connection also of measuring tools with Digimatic and RS232 interfaces.

49 8904 – Data transmission device for measuring tools with Digimatic and Opto-RS interfaces.

Supplied with: USB data cable for connection to the PC.

Size 3; 5 – Supplied with adapter cable Opto RS No. 498908.

Optional extras: Foot switch No. 498903.

49 8904 – Adapter cable for connecting measuring tools with Opto-RS interface No. 498908, set for connecting RS232 to a PC including power supply unit and connecting cable.

49 8902_8+1

49 8904_5

maximum number of measuring devices that can be connected		1	2	3	5	8+1
49H 49 8902	Data transmission unit	–	–	–	–	(XXX)
49H 49 8904		(XXX)	(XXX)	(XXX)	(XXX)	–
Number of Digimatic inputs		1	3	3	5	8
Number of RS232 inputs		–	–	–	–	1
Opto-RS connection input		yes	yes	yes	yes	–
Number of USB outputs				1		
Number of RS232 outputs		–	–	1	1	–
Connection foot-switch				yes		

Accessories for data transmission equipment

Suitable for:

49 8780 – No 498700; 498730; 498866; 498868; 498900; 498960.

49 8903 – No. 498902; 498904; 498962.

49 8905 – No. 498959.

44A 49 8780	Mitutoyo	Foot switch for data transmission units	XXX
49H 49 8903	Brecht Elektronik		XXX
49H 49 8905	STEINWALD	Foot switch for keyboard interface	XXX

49 8780

49 8903

Suitable for: No. 498900.

Type		A	B
40W 49 8870	Mitutoyo Signal cable, length 2 m	(XXX)	(XXX)

49 8870

Adapter cable for connecting measuring tools with Duplex interface (Opto-RS, Proximity, Power).

Suitable for: No. 498904; 498971.

Type		DUPLEX
49H 49 8908	Brecht Elektronik Adapter cable	(XXX)

49 8908

Interface adapter

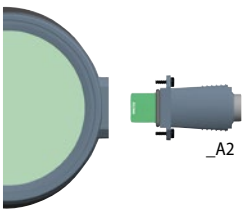
Suitable for:

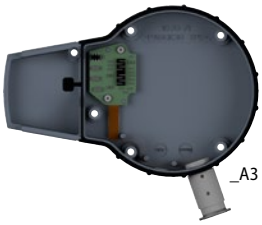
Size A2 – External and internal quick calipers No. 438573; 438965; 438979; 438985 in conjunction with data cable No. 497440.

Size A3 – External and internal quick calipers No. 438990; 438995 in conjunction with data cable No. 497440.

Size A4 – External and internal quick calipers No. 438990; 438995 for data transmission via Bluetooth (USB dongle included). Up to 8 devices can log on at the same time.

Size A5 – External and internal quick calipers No. 438573; 438965; 438985; 438979 for data transmission via Bluetooth (USB dongle included). Up to 8 devices can log on at the same time.


_A2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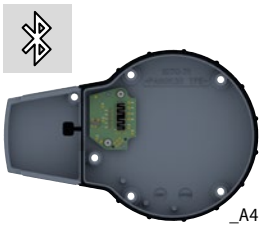
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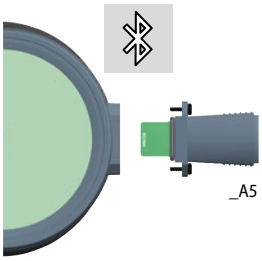
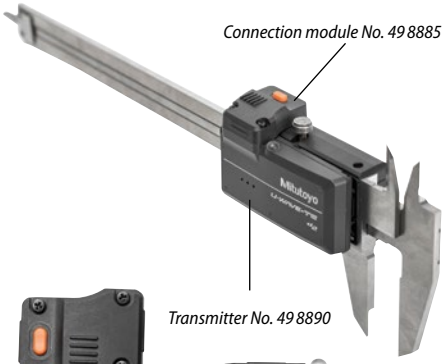

_A5

Type		A2	A3	A4	A5
49K 49 8954	Interface adapter	XXX	(XXX)	(XXX)	(XXX)

Mitutoyo Wireless transmission U-WAVE fit

Wireless U-WAVE fit data transmission system for calipers and external micrometers.



Connection module and transmitter

- Direct connection of the transmitter to the rear of the measuring instrument - no annoying cables.
- Reliable data transfer confirmation by signal beep or red/orange/green LED signal.
- Range approx. 20 metres (in a line of sight)
- Outstanding battery life: 400,000 data transmissions using just one battery.

49 8893/8894 – Compatible with the optional **HCT** (Hoffmann Group Connected Tools) app. Available free of charge for Android and iOS.

Note: Please order the connection module and transmitter.

Type		ST	IP
44A 49 8885	Connection module	(XXX)	(XXX)
Suitable for:		Standard vernier caliper	IP67 vernier caliper Coolant Proof IP65 external micrometers

49 8885

49 8890

Type		IP67	BUZZ
44A 49 8890	U-WAVE-TC transmitter **for vernier calipers**	(XXX)	(XXX)
44A 49 8892	U-WAVE-TM transmitter **for external micrometers**	(XXX)	(XXX)
44A 49 8893	U-WAVE-TCB transmitter **with Bluetooth for vernier callipers**	(XXX)	(XXX)
44A 49 8894	U-WAVE-TMB transmitter **with Bluetooth for external micrometers**	(XXX)	(XXX)
Feedback		LED	Audible signal / LED
Suitable for: (49 8890, 49 8893)		IP67 vernier caliper / standard vernier caliper 100, 150, 200, 300 mm	
(49 8892, 49 8894)		Coolant Proof IP65 external micrometers	

49 8894

49 8893

Receiver

U-WAVE-R data receiver with U-WAVE PAK software. A maximum of 100 transmitters can be connected.

Suitable for: Transmitters No. 498890 and 498892.

Supplied with: Supplied with 1 m USB cable.

Type		REC
44A 49 8895	U-WAVE-R receiver **incl. U-WAVE-PAK software**	(XXX)
Length	mm	140
Width	mm	80
Height	mm	31.6
Weight	g	130

49 8895

TESA TLC-BLE radio transmitter / receiver

The TESA TLC radio system enables wireless transmission of measurement data, using Bluetooth.

49 8922 – Radio receiver supplied with 2-metre cable for improved reception, e.g. for when the computer is underneath a worktable.

Suitable for:

49 8922 – TESA radio transmitter No. 498921.

49 8921/8923 – TESA calipers No. 412765; 412766; 412785; 412786; 415357; 415358; 418695; 418697. Height gauges No. 445240; 445245; 445285; 445287; 445290; 445441.

Supplied with:

49 8922 – Supplied with 2-metre cable.

49 8923 – Starter set consisting of 498921 BT, 498922 DONGLE and a 2-m cable.

Note: Free-of-charge download of TESA DATA-VIEWER measurement software from www.tesatechnology.com for easy transmission, analysis and saving of measurement results.

TLC

49 8921

Type		BT	DONGLE	START
45C 49 8921	TLC-BLE radio transmitter	XXX	–	–
45C 49 8922	Radio receiver	–	XXX	–
45C 49 8923	TLC-BLE starter set	–	–	XXX

49 8922

49 8921

TESA Link Connector TLC

TLC

TLC-TWIN measurement device

The TLC-BLE radio transmitter can be retrofitted at any time in place of the battery compartment cover.

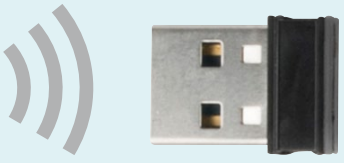
49 8921_BT

Measurement software

Free-of-charge download of TESA DATA-VIEWER measurement software from www.tesatechnology.com.

USB Dongle wireless receiver

Compact USB radio receiver, can be connected to up to 8 measurement devices.


49 8922_DONGLE

Radio transmission

The Bobe system allows wireless transmission of measured data to the PC at the press of a button.

Note:	**When ordering the transmitter and receiver please specify the required frequency. Available frequencies:** 433.920 MHz 434.075 MHz 434.600 MHz 434.700 MHz 868.300 MHz 868.6625 MHz 869.2125 MHz 869.2750 MHz 869.3625 MHz 869.750 MHz 869.800 MHz 869.9250 MHz

49 8985

Transmitter

Transmitters **without** external antennas. Range 10 – 15 m. Very small size. **Size suffix E:** With data button on the transmitter.

Note:	**Other transmitters** for other measuring tools and measuring devices from GARANT, Mahr, Mitutoyo, Kröplin, Tesa, Sylvac, etc. are available on request.

Type		S1	S2	S121	S4E	S11E	S16E	S73
49H 49 8985	Transmitter	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Suitable for:		Mitutoyo calipers, dial indicators	Mitutoyo micrometers, Kröplin external/internal sensors (6-pin)	TESA TLC	Mahr EX series	Mitutoyo IP calipers	Mitutoyo IP micrometers	Sylvac Proximity, GARANT calipers (from 08/2018)

Receiver

Buzzer and LEDs for confirmation of receipt at the receiver. A maximum of 99 transmitters can be received.

49 8975 – Multi-receiver for various radio systems. Signals can be received from measuring tools with inbuilt transmitters such as i-wi (Mahr) or Bluetooth Sylvac. A maximum of 8 transmitters can be received in each case.

Supplied with: USB cable.

49 8975

Type		BOX
49H 49 8965	Receiver / USB keyboard interface	(XXX)
49H 49 8975	Multi-receiver / USB keyboard interface	(XXX)

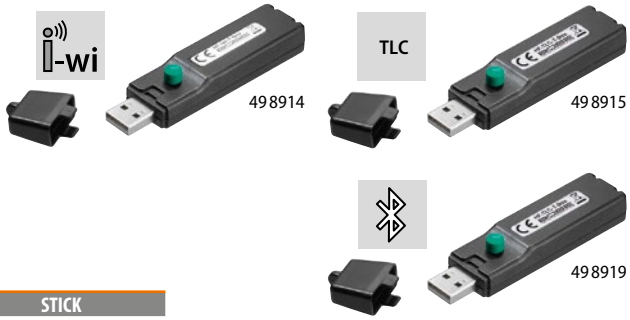
Radio receiver

USB stick for receiving a wireless system for wireless transmission of measurement data from the measuring instrument to the PC.

49 8914–8952 – **No additional software required.**

Supplied with:

49 8912 – MarCom driver software.


49 8914 49 8915 49 8919

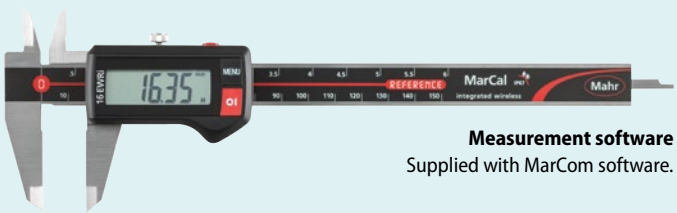
Type			STICK
49H 49 8914		Radio receivers for Mahr i-wi	XXX
49H 49 8915	BOBE	Wireless receiver for TESA TLC	(XXX)
49H 49 8919		Bluetooth radio receiver for Sylvac	(XXX)
46B 49 8952	Bowers	Bluetooth radio receiver for Bowers	XXX
43A 49 8912	Mahr	Radio receivers for Mahr i-wi	XXX

49 8912 49 8952

Mahr i-wi – integrated wireless

i-wi measurement device

The radio transmitter is incorporated in the measurement device. No untidy cables to the transmitter.



Measurement software

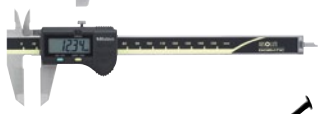
Supplied with MarCom software.

i-Stick radio receiver

Compact USB radio receiver, can be connected to up to 8 measurement devices.

49 8912

Mitutoyo Connection cable for digital measuring tools



Suitable for: Calipers No. 412641; 412642; 412671; 415350; 418710; 418711,
Digital micrometer head No. 426510 size 0–50,
Internal quick measuring device No. 429250,
Dial indicators No. 434062 – 434090; 434460; 434540; 434551,
Height gauges No. 445135; 445152; 445222,
Protractor No. 454000.

Type		D1	D2	USB2
44A 49 7080	Connecting cable	XXX	XXX	XXX
44A 49 7100	Connecting cable **with data switch**	XXX	XXX	XXX
Power supply		Digimatic	Digimatic	USB
Length	m	1	2	2

Data switch for transferring the measurement values. 49 7100

49 7080

_USB2

_D1 / _D2

Suitable for: For calipers with **IP protection.**
Calipers No. 412628; 415354; 415400.
Scale unit No. 499401.

Type		D1	D2	USB2
44A 49 7085	Connecting cable **with data switch**	XXX	XXX	XXX
Power supply		Digimatic	Digimatic	USB
Length	m	1	2	2

_USB2

_D1 / _D2

Suitable for: Micrometer (6-pin) No. 421560, external and internal quick measuring devices in conjunction with interface adaptor No. 498954 A2.

Type		D1	D2	USB2
44A 49 7440	Connecting cable	XXX	XXX	XXX
Power supply		Digimatic	Digimatic	USB
Length	m	1	2	2

_USB2

_D1 / _D2

Suitable for: External and internal micrometers No. 421525; 421527; 421558; 421572; 421590; 421608 – 421675; 425400; 426510 size 0–25; 426850; 429110.

Type		D1	D2	USB2
44A 49 7445	Connecting cable **with data switch**	XXX	XXX	XXX
Power supply		Digimatic	Digimatic	USB
Length	m	1	2	2

_USB2

_D1 / _D2

Suitable for: Dial indicators No. 434410.

Type		D1	D2	USB2
44A 49 8428	Connecting cable	(XXX)	XXX	(XXX)
Power supply		Digimatic	Digimatic	USB
Length	m	1	2	2

_USB2

_D1 / _D2

Suitable for: Indicators No. 434621; 434651,
Height gauges No. 445231; 445232.

Type		D1	D2	USB2
44A 49 8430	Connecting cable	XXX	XXX	XXX
Power supply		Digimatic	Digimatic	USB
Length	m	1	2	2

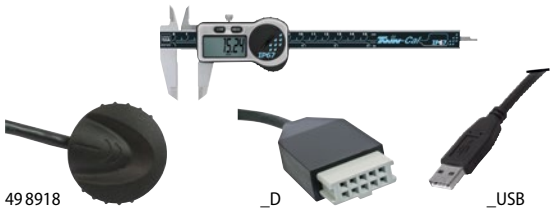
_USB2

_D1 / _D2

Connection cable for digital measuring tools

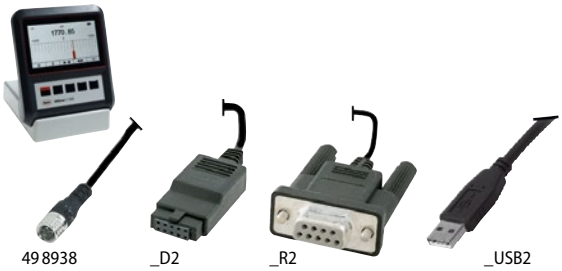
Suitable for: Calipers No. 412765; 412766; 412785; 412786; 415357; 415358; 418695; 418697. Length measurement device No. 434716.

Type		D	USB
45C 49 8918	TESA Data cable TLC, 2 m	XXX	XXX
Power supply		Digimatic	USB
Length	m	2	



Suitable for: Length measuring tools No. 434707.
Height gauges No. 445320.

Type		D2	R2	USB2
43A 49 8938	Mahr Connecting cable	XXX	(XXX)	XXX
Power supply		Digimatic	RS232	USB
Length	m	2		

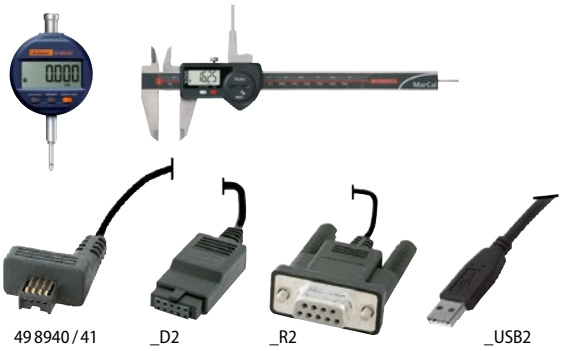


Suitable for: Calipers no. 412516; 412518; 412728; 412729; 412742 – 412755; 415320; 415322; 415546; 415551; 415555; 418686 – 418702; 418751,
External micrometers no. 421304; 421306; 421320; 421680 – 421686; 428930,
Dial indicators no. 434000 – 434024; 434310 – 434324; 434655; 434656;
Height gauges no. 445000; 445370.

49 8941 – External micrometers no. 421318; 421328; 421602; 421681; 421683; 421685; 421687; 421321,
Dial indicators no. 434671.

Size USB2 – Roughness measuring tools No. 499002; 499003.

Type		R2	D2	USB2
43A 49 8940	Mahr Connecting cable	XXX	XXX	XXX
43A 49 8941	Mahr Connecting cable **with data key**	–	XXX	XXX
Power supply		RS232	Digimatic	USB
Length	m	2		



Suitable for: Calipers No. 412616; 412618; 412680; 412682; 412690; 412692; 415541; 418682,
Internal quick measuring devices No. 428602; 428652; 428702; 428752,
Dial indicators No. 434110; 434210.

Size USB2 – Caliper No. 415365; 415366.

Supplied with: Driver software.

Type		R2	USB2
41M 49 8948	Garant Connecting cable	XXX	XXX
Power supply		RS232	USB
Length	m	3	

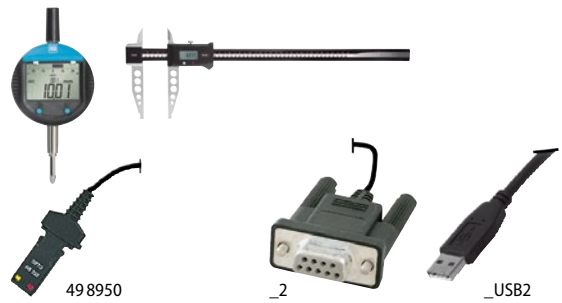
sylvac Connection cable for digital measuring tools

Suitable for: Calipers No. 415510; 418770,
Internal quick measuring device No. 428760 (from size 20),
TESA DIGICO dial indicators No. 434260; 434261; 434270; 434271; 434280; 434281.

Supplied with:

Size USB2 – Including CD with driver software.

Type		2	USB2
46A 49 8950	Connection cable Duplex	XXX	XXX
Power supply		RS232	USB
Length	m	2	



Suitable for: Internal quick measuring device No. 428760 (up to size 20),
Small dial indicators and lever indicators No. 434031; 434036; 436500; 436505.

Supplied with:

Size USB2 – Including CD with driver software.

Type		R2	USB2
46A 49 8951	Connection cable Duplex	XXX	XXX
Power supply		RS232	USB
Length	m	3	

5 Innovations – Grinding and cutting

NEW

We use this symbol to tag new items in our catalogue range

Page **292-294**
GARANT vibratory finishing machine GMT35 and processing media

Page **296**
DICK file set, 6 pieces

Page **313-317**
GARANT Multi Cut burrs

Page **327**
GARANT buffing wheels and abrasive fleece wheels

Page **337**
GARANT non-woven abrasive flap wheel (ZA)

Page **341-342**
GARANT diamond grinding compound and diamond suspension

Page **342**
Unipol® metal polishing

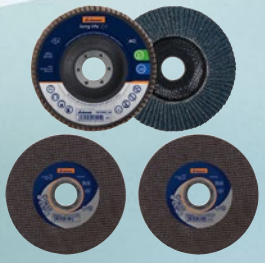
Page **362**
Set of hones, 10 pieces

Page **363**
Polishing stones

Page **364**
Arkansas hone and bench stone, grey

Page **365**
GARANT felt polishing points

Page **366**
Bench stones polished

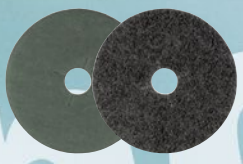


Page **375**
Assortment of grinding media for assembly work

Page **382**
Abrasive flap disc POLIFAN SGP Strong

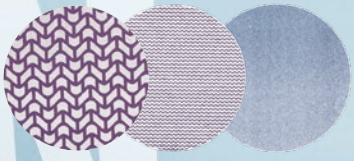
Page **387**
Fibre discs Actirox AF 890 and AF 799

Page **388**
Backing pad TURBO PAD 3



Page **391**
GARANT fleece abrasive disc with fibre backing

Page **394**
GARANT felt polishing discs



Page **414**
3M™ Xtract™ Cubitron™ II Net Disc 710W, 700W
3M™ Xtract™ Net Disc 310W

Page **398**
Hook and loop backing pad DynaMaze

Page **419**
PUK mini hacksaw

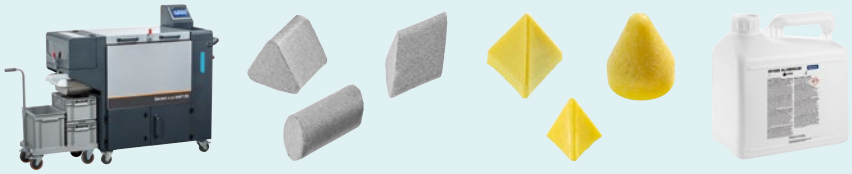
Page **425**
Portable circular saw blades, carbide-tipped

Page **437**
Carbide hole saw set

Grinding and cutting

3M DICK vallorbe LUKAS PFERD TYROLIT LESSMANN LENOX MIRKA

The whole catalogue for these brands is available from the Hoffmann Group – just ask us!



Garant

Vibratory finishing machine, grinding points, compounds

50 292 – 294

Garant DICK PFERD vallorbe HOLEX

Engineer's files, precision files, Valtitan files, needle files, riffler files, Habilis files, diamond files, wood rasps, file handles

51/52 295 – 309

Garant LUKAS PFERD HOLEX

Carbide burrs, HSS burrs, engraving burrs

54 310 – 321

Garant LUKAS FALCON Tool Company TYROLIT VSM PFERD 3M FRIATEC STARCKE HOLEX

Grinding points, polishing tools, abrasive caps, small abrasive discs, flap wheels, fleece rollers, fleece pads, abrasive sponges, abrasive paper, abrasive cloth economy rolls, linishing belts, hones, whet stones

55 322 – 365

5

Garant LUKAS TYROLIT VSM PFERD 3M MIRKA STARCKE HOLEX

Rough grinding / cutting / diamond discs, flap discs, fibre-based grinding discs, coarse cleaning discs, fleece abrasive discs, velour-backed abrasive discs, burnishing belts, burnishing rollers, burnishing brushes, compact discs

56 366 – 403

Garant 3M LESSMANN

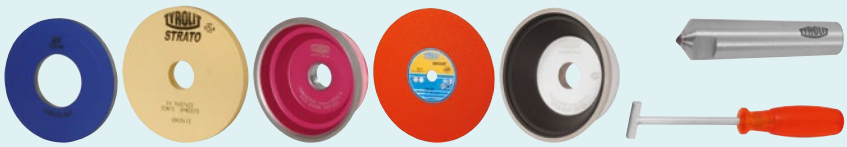
Technical machine brushes, disc brushes, hand brushes

57 404 – 418

Garant PUK BOSCH LENOX Tajima HOLEX

Hand saws, hand saw blades, jig saw blades, sabre saw blades, circular saw blades, hole saws

58 419 – 437



TYROLIT

Precision grinding wheels, bench grinder wheels, dressing tools

59 438 – 449

Garant Vibratory finishing machine

Mobile vibratory finishing machine GMT35 in **compact design,** for automated finishing work on **small to medium batch sizes.**

- Powerful motor.
- Steel trough (35 l) with 15-mm polyurethane coating.
- Integrated separating station for automated separation of workpiece and grinding medium.
- Closed water circuit with water treatment.
- Controlled via touch screen.
- Individual processing steps can be programmed.
- Machine cladding for sound attenuation with noise-absorption hood.
- Rollers on the underside for easy transportation.

Application: The preferred choice for **deburring turned and milled parts** and **3D-printed** workpieces. Suitable for **metals** and **plastics**. This machine can also handle the subsequent steps of **polishing** and **cleaning**.

Supplied with: 1× vibratory finishing machine with integrated separating station, water circuit and SPS control, 1× transport trolley (No. 918558 TNB1), 2× small storage boxes (No. 964486 EF4220), 1× large storage box (No. 964486 EF4320), 2× partitions (aluminium, plastic), 2× measuring jugs, 1× hand shovel, 3× separating sieves with different hole patterns.

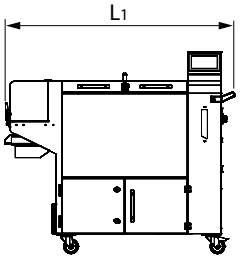
Note:	Unavailable in some countries. Express delivery not available

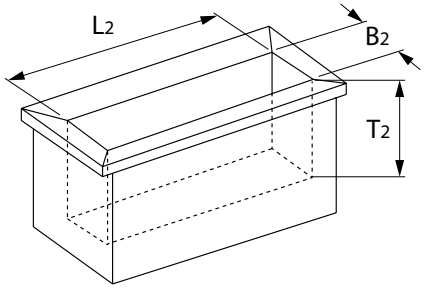
Control unit

Work container (can be partitioned)

Water treatment

Separation station





		GMT35
51B **50 1305**	Vibratory finishing machine (35 litres) with tool trolley	–
Length of machine L_1	mm	1565
Width of machine W_1	mm	710
Depth of machine D_1	mm	1385
Inner length of trough L_2	mm	590
Inner width of trough W_2	mm	180
Inner depth of trough D_2	mm	300
Volume of trough	l	35
Volume of water tank	l	45
Speed range	rpm	1500 – 3000
Weight	kg	350
Power consumption	W	700
AC supply voltage	V	230
Mains frequency	Hz	50

A

Garant Ceramic grinding bodies

Ceramic grinding bodies (aluminium oxide abrasive grit bonded in ceramic) are the **most widely used mass finishing tools** and are **suitable for universal use**. **Very dense** and **excellent abrasive effect.**

50 1510–1530 – High-performance version for **fast machining.** Low self-abrasion, long service life.

Application: For **fast deburring and rounding** of edges and as a **preliminary stage for polishing steel, stainless steel** and other **steel alloys.** Also suitable for rough machining on plastic and non-ferrous metals, with the risk that the grinding bodies clog faster, which reduces their abrasive effect.

50 1510 – The **triangular** shape is the **sturdiest version** with the longest service life. Ideal for rough **edge machining** on workpieces with a **simple geometry.**

50 1520 – The **triangular (oblique)** shape is the most universal shape.

50 1530/1535 – **Cylinder (oblique)** shape, ideal for surface preparation (flat, free-form surface).

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
50 1510–50 1535	○	●	●	●	●	●	●	●	●	●	○					●	●	

Type			0606T	1010T	2020T	Contents kg
58F 50 1510	Ceramic grinding bodies **Triangular**	**coarse**	–	–	–	25
Length		mm	6	10	20	
Height		mm	6	10	20	

Type			1010TA	1015TA	1525TA	2020TA	Contents kg
58F 50 1520	Ceramic grinding bodies **Triangular (oblique)**	**coarse**	–	–	–	–	25
Length		mm	10	15	25	20	
Height		mm	10	10	15	20	

Type			0305CA	0510CA	0815CA	1020CA	1530CA	Contents kg
58F 50 1530	Ceramic grinding bodies **Cylinder (oblique)**	**coarse**	–	–	–	–	–	25
58F 50 1535		**medium**	–	–	–	–	–	25
Length		mm	5	10	15	20	30	
Diameter		mm	3	5	8	10	15	

Garant Porcelain grinding bodies

Porcelain grinding bodies (without abrasive grit) have **no** removal effect.

Application: For **polishing** and **smoothing all materials.** Creates **homogeneous, shiny surfaces.** Ideal as a follow-up step after pre-grinding with ceramic grinding points and plastic grinding points.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
50 1590	●	●	●	●	●	●	●	●	●	●	●	●					●	

Type			0205CA	0406CA	0715CA	Contents kg
58F 50 1590	Porcelain grinding bodies **Cylinder (oblique)**	**Polishing**	–	–	–	25
Length		mm	5	6	15	
Diameter		mm	2	4	7	

A

Garant Plastic grinding bodies

Plastic grinding bodies (aluminium oxide abrasive grit bonded in plastic) have a **low density** and a **softer substrate.** This enables **gentle processing** and the **grinding points do not become clogged.** Significantly **lower abrasive effect** compared to ceramic grinding bodies.

50 1561/1570 – Higher abrasive performance due to coarser grit.

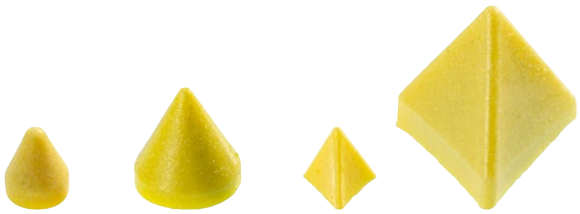
50 1565/1575 – Finish grinding to polishing.

Application: For **fine grinding** and for **light deburring work** on soft materials such as **aluminium, copper** and **plastic.** Achieves very high surface quality with a matt sheen.

50 1561/1565 – **Taper** form for workpieces with **bores and contours.**

50 1570/1575 – **Pyramid** form for workpieces with **corners and recesses.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
50 1561–50 1575	●										●	●					●	



Type			1010K	1919K	1010P	2525P	Contents kg
58F 50 1561	Plastic grinding bodies **Taper**	coarse	–	–	–	–	25
58F 50 1565		medium	–	–	–	–	25
58F 50 1570	Plastic grinding bodies **Pyramid**	coarse	–	–	–	–	25
58F 50 1575		medium	–	–	–	–	25
Width		mm	10	19	10	25	
Height		mm	10	19	10	25	

Garant Compound

Compounds (liquid treatments) are added during the wet process in vibratory finishing machines. You **will improve the grinding performance** and **clean workpieces** and **grinding bodies.**

50 1650/1655 – With **corrosion protection** for all ferrous metals.

Application: Only add the compound to the process water in the water tank in the specified dose. The measuring jug supplied with the vibratory finishing machine facilitates correct dosing.

Note:	Unavailable in some countries. Express delivery not available.

50 1660

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
50 1650/1655	○	●	●	●	●	●	●	●	●	●	○					●	●	
50 1660	●							○									●	
50 1665	○							○			●						●	
50 1670												●					●	

Type			UNI	SHINY	ALUMINIUM	COPPER	PLASTIC	Contents l
58F 50 1650	Liquid treatment agent **Steel, stainless steel**	Grinding and polishing	–	–	–	–	–	5
58F 50 1655		High gloss mirror finish	–	–	–	–	–	5
58F 50 1660	Liquid treatment agent **Aluminium, Zinc**	Grinding and polishing	–	–	–	–	–	5
58F 50 1665	Liquid treatment agent **Copper, brass**	Grinding and polishing	–	–	–	–	–	5
58F 50 1670	Liquid treatment agent **Plastics**	High gloss mirror finish	–	–	–	–	–	5
pH value		%	7.6	7.6	9.5	3.3	8.6	
Dosage		%	5 – 7	5 – 7	3 – 5	2 – 4	2 – 4	

Pictograms

General	DIN 7261 To DIN	80 m/s Maximum circumferential speed	22.23mm Bore ∅ 22.23 mm	M14 M14 thread mounting	20-30° Recommended grinding angle	90° Vertical cut	Fe,S,Cl <0.1% Iron, sulphur, chlorine content < 0.1 %
Grinding wheel form	Form 41 (straight)	Form 42 (depressed centre)	Flat form	Dished form	Overlap between strips	Radial arrangement of strips	
Type of abrasive	A Aluminium oxide	ZA Zirconium aluminium oxide	SiC Silicon carbide	CER Ceramic grit	D Diamond	CBN Cubic boron nitride	
Material suitability	S/STL Stainless steel	Steel Steel	ALU Aluminium	Non-ferrous Metals Non-ferrous metals	Cast iron Cast iron	CRP/ GRP Fibre-reinforced plastics	

DIN 7261

DICK Workshop file set

The blanks are forged and ground; manufactured with an exact cut of even density and depth using special machines. These **non-convex files** have tooth profiles appropriate to each grade of file.
To protect the files, the set is arranged in a **strong transparent roll-up nylon wallet**.
Protected files cannot be contaminated and the cut is protected against damage; this ensures a consistently high removal rate, smooth file surfaces, and an extended working life.

Application: **Quality file** for workshop use with long tool life and high removal rate.

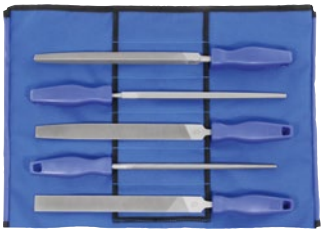
Bastard = Cut 1
2nd cut = Cut 2
Smooth = Cut 3

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
51 7100–51 7600	○	●	●	●	○			○		●	●	●	●			

Sets of files with plastic handle, wooden handle

51 7240 – With hardwood file handle.
51 7100/7200/7300 – With impact resistant plastic handles.

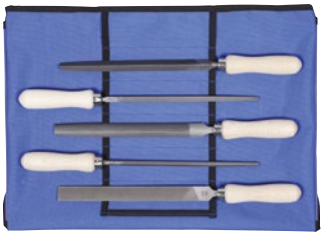
Supplied with: **5-piece** set of files with one each **flat, 3-square, square, half-round and round file.**



51 7100 / 7200 / 7300

flat | 3- square | square | half round | round

Length without tang	mm	200	250	300
56B 51 7100	Set of engineer's files, 5 pieces, in a tool roll **Cut 1**	XXX	XXX	XXX
56B 51 7200	Set of engineer's files, 5 pieces, in a tool roll **Cut 2**	XXX	XXX	XXX
56B 51 7240	Set of engineer's files, 5 pieces, in a tool roll **Cut 2, with wooden handle**	XXX	XXX	–
56B 51 7300	Set of engineer's files, 5 pieces, in a tool roll **Cut 3**	XXX	XXX	XXX



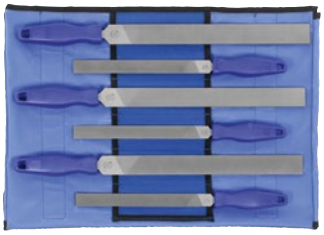
51 7240

With impact resistant plastic handles.

Supplied with: **6-piece** set of files with one each **flat file** in bastard - 2nd cut - smooth in 200 mm and 300 mm length.

flat

56B 51 7600	Flat files set, 6 pieces, in a tool roll	XXX



51 7600

DIN 7261

Sets of files with ergonomic file handle

With ergonomic 2-component plastic handles.

Supplied with:

51 7417 – **6-piece** file set with one each of **flat, half-round and round rasp for wood,** and one each of **flat, half-round and round file for metal.**

51 7411–7415/7419–7426 – **5-piece** set of files with one each **flat, 3-square, square, half-round and round file.**

51 7411

51 7417

51 7415

51 7419_250

flat | 3- square | square | half round | round

Length without tang			mm	200	250	300
56B 51 7411	DICK	File set with 2-component handle, 5 pieces in a tool roll **Metal**	Cut 2	XXX	XXX	XXX
55B 51 7415	PFERD		Cut 2	XXX	XXX	XXX
56B 51 7417	DICK	File set with 2-component handle, 6 pieces in a tool roll **Metal/wood**	Cut 2	–	XXX	–

Length without tang			mm	200	250
52A 51 7419	HOLEX	File set with 2-component handle, 5 pieces in a tool roll	Cut 1	XXX	XXX
52A 51 7420			Cut 2	XXX	XXX
52A 51 7426			Cut 3	XXX	XXX

DIN 7261

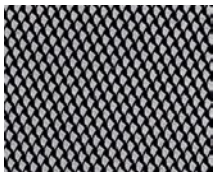
Engineer's files

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
51 0100–51 4300	○	●	●	●	○			○		●	●	●	●					

Form A

Cuts on 3 faces; square end.

Length without tang			mm	100	150	200	250	300	350
56B 51 0100	DICK	Hand file	Cut 1 (bastard)	XXX	XXX	XXX	XXX	XXX	XXX
56B 51 0200			Cut 2 (2nd cut)	XXX	XXX	XXX	XXX	XXX	XXX
56B 51 0300			Smooth (cut 3)	XXX	XXX	XXX	XXX	XXX	XXX
Cross section			mm	12×3	16×4	20×5	25×6.3	30×7	35×7.5



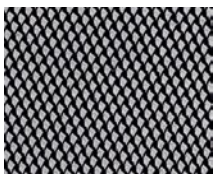
Full size smooth, size 300.

Length without tang			mm	150	200	250
52A 51 0210	HOLEX	Hand file	Cut 2	–	XXX	XXX
52A 51 0220			Cut 3	XXX	XXX	–
Cross section			mm	16×4	19×5	24×5

Form C

Cuts on all faces; convex end.

Length without tang			mm	100	150	200	250	300
56B 51 1100	DICK	Three square file	Cut 1 (bastard)	XXX	XXX	XXX	XXX	XXX
56B 51 1200			Cut 2 (2nd cut)	XXX	XXX	XXX	XXX	XXX
56B 51 1300			Smooth (cut 3)	XXX	XXX	XXX	XXX	XXX
Width			mm	8.7	12	15	18	21



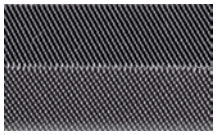
Full size smooth, size 300.

Length without tang			mm	150	200	250
52A 51 1210	HOLEX	Three square file	Cut 2	–	XXX	XXX
52A 51 1220			Cut 3	XXX	XXX	–
Width			mm	11	13	16

Form D

Cuts on all faces; convex end.

Length without tang			mm	100	150	200	250	300
56B 51 2100	DICK Square file	Cut 1 (bastard)		–	XXX	XXX	XXX	XXX
56B 51 2200		Cut 2 (2nd cut)		XXX	XXX	XXX	XXX	XXX
56B 51 2300		Smooth (cut 3)		–	XXX	XXX	XXX	XXX
Width			mm	4	6	8	10	12



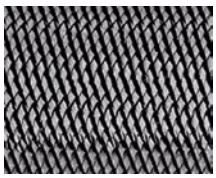
Full size
smooth, size 300.

Length without tang			mm	200	250
52A 51 2210	HOLEX Square file	Cut 2		XXX	XXX
Width			mm	7	9

Form E

With helical cut; convex end.
Size 350 – **Plain end.**

Length without tang			mm	100	150	200	250	300	350
56B 51 3100	DICK Half round file	Cut 1 (bastard)		XXX	XXX	XXX	XXX	XXX	XXX
56B 51 3200		Cut 2 (2nd cut)		XXX	XXX	XXX	XXX	XXX	–
56B 51 3300		Smooth (cut 3)		XXX	XXX	XXX	XXX	XXX	–
Cross section			mm	11×4	16×5	21×6	25×7	30×9	35×10



Full size
bastard, size 300.

Length without tang			mm	150	200	250
52A 51 3210	HOLEX Half round file	Cut 2		–	XXX	XXX
52A 51 3220		Cut 3		XXX	–	–
Cross section			mm	16×5	20×5	23×6

Form F

With helical cut; convex end.

Length without tang			mm	100	150	200	250	300
56B 51 4100	DICK Round file	Cut 1 (bastard)		XXX	XXX	XXX	XXX	XXX
56B 51 4200		Cut 2 (2nd cut)		XXX	XXX	XXX	XXX	XXX
56B 51 4300		Smooth (cut 3)		XXX	XXX	XXX	XXX	XXX
Diameter			mm	4	6.3	7.1	9.2	12

Full size
bastard, size 300.

Length without tang			mm	150	200	250
52A 51 4210	HOLEX Round file	Cut 2		–	XXX	XXX
52A 51 4220		Cut 3		XXX	–	–
Diameter			mm	5.5	7.1	9.2

Engineer's files with GARANT 2-part ergonomic file handle

You can find a selection of the most popular engineer's files online with GARANT 2-part ergonomic file handles fitted by the manufacturer. See these article numbers: 51 0201 (flat), 51 1201 (triangular), 51 2201 (square), 51 3201 (half-round), 51 4201 (round).

Advantages:
- No need to knock the file into the handle.
- Files always fit exactly into foam inlays produced using the eForm on-line configurator.

General-purpose files

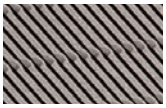
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
51 5000/9280	●	●	○	●	○			○		●	●	●	●			

High performance / universal file

Hand files with corner radius profile teeth and wide chip breakers for easy, low force filing and very high metal removal rates no clogging of the teeth good filings clearance.
Flat faces with special cut, one side with filings breaker groove for highest removal rate. File with square end. Rear face with continuous cut for particularly fine finishing. File with plain end.

Size 100 – Mini general-purpose file, steel handle with PVC coating.
Size 200–300 – Plastic handle with hanging hole.

Enlargement of cut



_100

_200 / _250 / _300

Length without tang	mm	100	200	250	300
56B **51 5000** DICK Multi-purpose hand file with handle, special cut		XXX	XXX	XXX	XXX
Cross section	mm	10×4	20×5	25×6.3	30×6,5

4in1 general-purpose hand file

Versatile 4in1 general-purpose hand file with a **flat side** and a **half-round side,** each provided with two cuts.
File cut for plastics and soft metals, **rasp cut** for wood.

51 9280

Overall length	mm	200
52A **51 9280** HOLEX General-purpose hand file		XXX
Cross section	mm	19×5

DICK Special files

The blanks are forged and ground; manufactured with an exact cut of even density and depth using special machines. The finished files have an ideal tooth profile for each type of file. These special files guarantee smooth filed surface finishes. **Special files** are manufactured on precision automated machines. They **guarantee a high removal rate and long tool–life.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
51 8100–51 8300	●	●	●	●	○			○		●	●	●	○			

Form G | **DIN 7262**

Cuts on all faces; plain end.

51 8100

Length without tang	mm	200	250
56B **51 8100** Knife file cut 3 (smooth)		XXX	XXX
Cross section	mm	20×6.4	21.8×10.1

Form H | **DIN 7261**

Cuts on 2 sides with single cut (improved chip evacuation).

51 8200

Length without tang	mm	250	300
56B **51 8200** Lathe file cut 2 (2nd cut)		XXX	XXX
Cross section	mm	25×6.3	30×7

Cuts on 3 sides with cross cut, plain end.

51 8300

Length without tang	mm	150	200
56B **51 8300** Deburring file special cut for plastic		XXX	XXX
Cross section	mm	16×3	20×3.5

DIN 7264

Milled files with chip breaker flutes

Milled files are characterised by the special **sharpness** of their teeth milled out of the solid with optimum chip grooves. This allows filings from soft and clogging materials to be cleared reliably. **Will not clog.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
51 9110/9160	●	○								○	●	●	●			
51 9120		●								●	●					
51 9130	●	●	○	○				●		●	●	●				

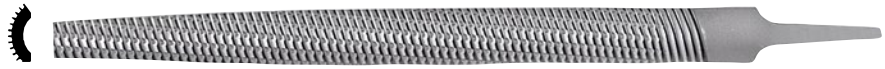
Form A

Parallel flat, milled on 3 sides.

Length without tang			mm	250	300	350	Tooth spacing approx. mm
56B 51 9110	Milled file, flat plain medium	coarse		XXX	XXX	XXX	3
56B 51 9120		medium		XXX	XXX	XXX	2
56B 51 9130		fine		–	XXX	–	1.5
Cross section			mm	26×7	31×7	36×7	

Form D

Half-round hollow, taper plain end, teeth only on the outer face.

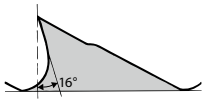


Length without tang			mm	250	300	Tooth spacing approx. mm
56B 51 9160	Milled file, half-round coarse	coarse		XXX	XXX	3
Cross section			mm	23×7	27×9	

PFERD Milled tooth files, teeth radially milled, flexible version

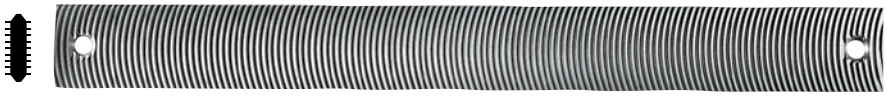
Teeth on both sides, milled radially from the solid; top side **convex** – this **prevents scratches** on the component from the edges of the file. The special tooth shape and the positive cutting angle ensure high filing performance.
Cuts convex on both faces.

Application: Suitable for working sheet metal, particularly in **car production**, **bodywork building** and **car body repairs. Using these milled tooth files, groove-free, smooth surface finishes are obtained which can be painted without polishing.**



Teeth milled from solid

The convex cross section prevents the edges of the file damaging the workpiece whilst filing


Teeth as sharp as a knife due to special finishing process

Tooth type			1	2	3
53B 51 9200	Milled tooth file 350×36×4.7 mm		XXX	XXX	XXX
Grit designation			coarse	medium	fine
Tooth spacing approx.		mm	2.9	2.5	2.2

With flexible base and ergonomic handle. An adjusting screw allows the milled tooth file to be used flat or convex.

		KFH350
53B 51 9215	Adjustable blade holder for milled tooth file 350 mm	XXX

51 9215

Thread files for Vee-form threads

Each file with 8 different pitches. For finishing or cleaning external and internal threads. Overall length 230 mm.

Type			ISO	WW	UNF
56B 51 9250	Thread file		XXX	XXX	XXX
Thread pitch (ISO)		mm	0.8–1–1.25–1.5–1.75–2–2.5–3	–	–
Thread pitch (UNF-UNC)		threads/inch	–	–	24–20–18–16–14–13–12–11
Thread pitch (WW)		threads/inch	–	24–20–18–16–14–12–11–10	–
suitable for thread type			ISO	Whitworth	UNF-UNC

DIN 7283

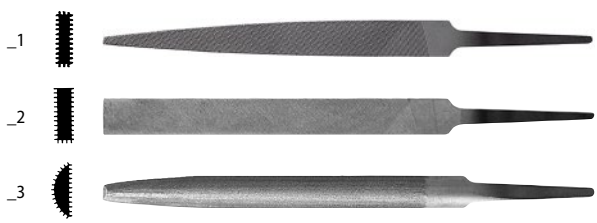
Key files and contact file

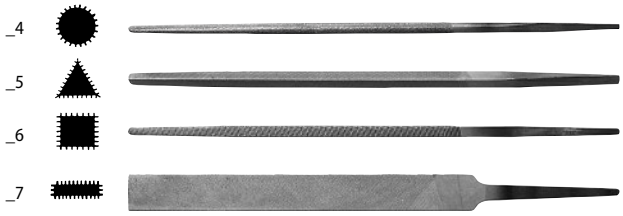
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
51 8700–51 9000	●	●	○	○				○		●	●	●	●			

Key files 2nd cut

Key files are manufactured on precision automated machines. They **guarantee a high removal rate and long tool–life.** The blanks are stamped and ground and given a precise cut of even density and depth using special machines. The finished files have an ideal tooth profile for each type of file. Key files guarantee smoothly filed surface finishes.

Note: For file handles see No. 519600, 519400, 519510 and 519550.





Type		1	2	3	4	5	6	7
56B 51 8700	DICK Key file cut 2 **Length 100 mm**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
56B 51 8900	DICK Key file cut 2 **Length 150 mm**	XXX	XXX	–	–	–	–	–
Shape description		flat pointed	flat plain	half round	round	three- square	square	flat plain extra thin
Cross section (51 8700)	mm	10×1.4	10×1.4	9×2.5	3.2	5	3.2	10×0.8
Cross section (51 8900)	mm	16×1.8	16×1.8	–	–	–	–	–

Sets of key files

6-piece key file set with 1 each key file, flat tapered, hand, half-round, round, 3-square, square. Length without tang 100 mm, 2nd cut.

51 8975 – With 2-component plastic handle.

51 8930–8970 – With hardwood file handle.

51 8930

51 8950

51 8970

51 8975

56B 51 8930	Precision key files set, 6 pieces **in plastic case**	XXX
56B 51 8950	Precision key files set, 6 pieces **in metal case**	XXX
56B 51 8970	Set of precision key files, 6 pieces **in a plastic case**	XXX
56B 51 8975	Set of precision key files, 2-component handle, 6 pieces **in a plastic case**	XXX

Contact file

Cuts on both faces; 2nd cut (medium fine); overall length 140 mm; cross section 8×1.0 mm.

Application: For dressing / cleaning small gaps (e.g. electrical contacts).

51 9000

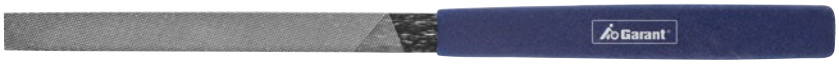
56B 51 9000	DICK Contact file	XXX

Garant Hard chromium coated high-performance file

Hard chromium coated high-performance files of **HRC 67** cover a wide range of applications from soft materials such as **aluminium** through to very hard materials such as **high-alloy steels, stainless steels and ceramics**. Length without tang 100 mm.

Advantage:
- High **resistance to corrosion**
- **3-6 times longer working life** than conventional files.
- **Will not clog** when filing very soft materials.

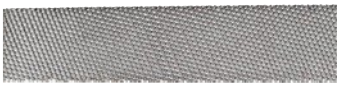
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
51 9100	●	●	●	●	●	○		●	○	●	●	●	●			●		●



51 9100

Type		1	3	4	5	6
51S **51 9100**	Hard chromium coated high-performance file **Cut 2**	XXX	XXX	XXX	XXX	XXX
Shape description		flat plain	half round	round	square	3- square
Cross section	mm	10.7×3.2	13×4	6.2	5.8×5.8	9

conventional



hard chromium plated

51

File handles

Ergonomic 2-component file handle with hole for hanging up and **practical colour code clips** (red, green, yellow) for individual marking of, for example, the cut. The non-slip surface and **ergonomic shape** ensure **non-tiring power transmission** even in wet or oily hands. Reversible reduction inserts ensure a secure grip on all tangs.

Application: For all workshop, key, and precision files.

Supplied with: File handle including 1 red, 1 green and 1 yellow colour-coded clip.

51 9600_RED _GREEN _YELLOW

51 9600_110

Overall length		mm	95	110	120
51E **51 9600**	Garant 2-component ergonomic file handle		XXX	XXX	XXX
suitable for file length		mm	100	150 – 250	200 – 350

51 9510

File handle made of impact resistant plastic, with large hole for hanging up.
No need to drill for the file tang; anti-roll handle.
51 9550 Size 110; 120 – With insert for secure assembly; insert can be used both ways.

Application: For all engineer's files, precision files, and key files.

51 9550_110/ _120

Overall length		mm	90	100	110	120	125
56B **51 9510**	PB SWISS TOOLS Plastic file handle		XXX	XXX	XXX	–	XXX
56B **51 9550**	DICK Plastic file handle		–	XXX	XXX	XXX	–
suitable for file length (51 9510)		mm	100 – 150	150 – 200	200 – 250	–	250 – 350
suitable for file length (51 9550)		mm	–	100	150 – 250	250 – 350	–

51 9550_100

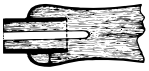
DIN 395

Of hardwood drawn from PEFC-certified forests, ergonomically shaped. Ferrule made of **seamless steel tube**, pressed deeply into the handle, so that the handle cannot split when the file is fitted. The ferrule is permanently attached to the handle.

51 9400

Overall length		mm	70	80	100	120	140	160
56B **51 9400**	Hardwood file handle		XXX	XXX	XXX	XXX	XXX	XXX
suitable for file length (flat, three-square, half-round files)		mm	–	100	100	150 – 200	250	300 – 350
suitable for file length (square, round files)		mm	100	100	150 – 200	250	300 – 350	350

Ferrule pressed in deeply, cannot become loose.



Precision files

Swiss precision files
satisfy the highest demands for accuracy of shape, precision cut, removal rate and tool life. Special steel with hardness **65 – 66 HRC.** Unlike engineer's files, these have **slightly convex shapes** exactly matched to the application, a special cut angle and an extensive selection of different cuts. As a result smooth surfaces are always achieved in the most cost-effective way.

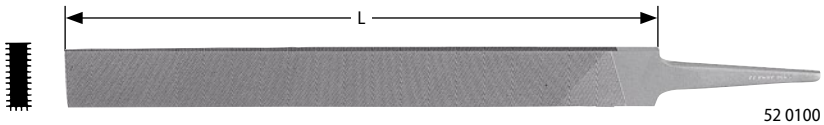
VALTITAN high performance precision files
with extremely high wear resistance due to surface hardness of **1200 HV.**
The special tooth profile prevents the file becoming clogged. Maximum metal removal rate and tool life. Virtually non-rusting, therefore suitable for use in highly corrosive environments. Leaves no corrosion-susceptible residues.

Comparison Swiss cut SC – German cut GC			
Length (L)			
100 – 150 mm		200 – 250 mm	
SC	GC	SC	GC
00	1	00	1
0	1 – 2	0	2
1	3	1	3
2	3 – 4	2	4
3	4	3	4 – 5
4	4 – 5	4	5
6	6	–	–

Precision files

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
Precision file	●	●	●	●	●	○		●	○	●	●	●	●			○
VALTITAN	●	●	●	●	●	●		●	●	●	●	●	●			●

Cuts on 3 faces; square end.



52 0100

Length without tang mm / Swiss cut		100/00	100/1	100/2	100/3	100/4	100/6	150/00	150/0	150/1	150/3	150/4
53B 52 0100	Precision hand file	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 0150	VALTITAN precision flat file	–	–	–	–	–	–	–	XXX	–	–	–
equivalent to German cut		1	2 – 3	3 – 4	4	4 – 5	6	1	1 – 2	2 – 3	4	5
Cross section	mm	12.5×3	12.5×3	12.5×3	12.5×3	12.5×3	12.5×3	18.5×4	18.5×4	18.5×4	18.5×4	18.5×4

Length without tang mm / Swiss cut		200/00	200/0	200/1	200/2	200/4	250/00	250/0	250/1	250/3
53B 52 0100	Precision hand file	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 0150	VALTITAN precision flat file	XXX	XXX	–	XXX	–	XXX	XXX	–	–
equivalent to German cut		1	2	3	4	5	1	2	3	4 – 5
Cross section	mm	21.3×4.8	21.3×4.8	21.3×4.8	21.3×4.8	21.3×4.8	25.3×6.3	25.3×6.3	25.3×6.3	25.3×6.3

52 1100 – **Cuts on 3 faces.**
52 1150 – **Cuts on flat faces; square end.**

52 1100

Length without tang mm / Swiss cut		100/1	150/00	150/0	150/1	150/2	150/3
53B 52 1100	Precision pillar file standard	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 1150	VALTITAN precision pillar file	–	–	XXX	–	–	–
equivalent to German cut		2 – 3	1	1 – 2	2 – 3	3 – 4	4
Cross section	mm	9,5×2,5	12×4	12×4	12×4	12×4	12×4

Length without tang mm / Swiss cut		200/00	200/0	200/1	200/2	250/00	250/0	250/1	250/2
53B 52 1100	Precision pillar file standard	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 1150	VALTITAN precision pillar file	–	XXX	–	XXX	–	–	–	–
equivalent to German cut		1	2	3	4	1	2	3	4
Cross section	mm	14.5×4.5	14.5×4.5	14.5×4.5	14.5×4.5	17,5×5,3	17,5×5,3	17,5×5,3	17,5×5,3

Cuts on flat faces; square end.

52 2100

Length without tang mm / Swiss cut		150/00	150/0	150/2	150/3	200/00	200/0	200/2	250/0	250/2
53B 52 2100	Precision pillar file narrow	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
equivalent to German cut		1	1 – 2	3 – 4	4	1	2	4	2	4
Cross section	mm	6.5×3	6.5×3	6.5×3	6.5×3	8.3×3.5	8.3×3.5	8.3×3.5	9,3×4,3	9,3×4,3

Cuts on flat faces; square end.

52 3100

Length without tang mm / Swiss cut		150/00	150/0	150/1	150/2	200/00	200/0	200/1	200/2	250/00	250/0
53B 52 3100	Precision pillar file extra narrow	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
equivalent to German cut		1	1 – 2	2 – 3	3 – 4	1	2	3	4	1	2
Cross section	mm	4.5×2.5	4.5×2.5	4.5×2.5	4.5×2.5	6.3×2.8	6.3×2.8	6.3×2.8	6.3×2.8	8.3×3.8	8.3×3.8

Cuts on all faces; tapers to a point.

52 4000

Length without tang mm / Swiss cut		125/0	150/0	150/1	150/3	200/00	200/0	200/1	200/2	250/00
53B 52 4000	Precision tri-square file	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 4050	VALTITAN precision three-square file	–	–	–	–	–	XXX	–	XXX	–
equivalent to German cut		1 – 2	1 – 2	3	4	1	2	3	4	1
Width	mm	8.3	10.3	10.3	10.3	14.2	14.2	14.2	14.2	17.2

Cuts on all faces; tapers to a point.
Size 150/0; 200/00 – Square end.

52 4500

Length without tang mm / Swiss cut		150/0	150/1	150/3	200/00	200/1	200/2
53B 52 4500	Precision square file	XXX	XXX	XXX	XXX	XXX	XXX
equivalent to German cut		1 – 2	3	4	1	3	4
Width	mm	5.5	5.5	5.5	7.5	7.5	7.5

Cuts on all faces; tapers to a point.

52 5000

Length without tang mm / Swiss cut		100/2	125/00	125/2	150/00	150/0	150/1	150/3
53B 52 5000	Precision half-round file	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 5050	VALTITAN precision half-round file	–	–	–	–	XXX	–	–
equivalent to German cut		3 – 4	1	3 – 4	1	1 – 2	3	4
Cross section	mm	12,7×3,5	13.1×4.1	13.1×4.1	15.1×5.8	15.1×5.8	15.1×5.8	15.1×5.8

Length without tang mm / Swiss cut		200/00	200/0	200/1	200/2	200/4	250/00	250/0	250/1
53B 52 5000	Precision half-round file	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 5050	VALTITAN precision half-round file	–	XXX	–	XXX	–	–	–	–
equivalent to German cut		1	2	3	4	5	1	2	3
Cross section	mm	21.1×6.3	21.1×6.3	21.1×6.3	21.1×6.3	21.1×6.3	25.5×7.5	25.5×7.5	25.5×7.5

Tapers to a point.
Size 125/0; 150/00; 150/0; 200/00; 250/1 – Square end.

52 5500

Length without tang mm / Swiss cut		100/2	125/0	125/2	150/00	150/0	150/1	150/2	150/3
53B 52 5500	Precision round file	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
equivalent to German cut		3 – 4	1 – 2	3 – 4	1	1 – 2	3	3 – 4	4
Diameter	mm	3.85	4.85	4.85	5.75	5.75	5.85	5.85	5.85

Length without tang mm / Swiss cut		200/00	200/0	200/1	200/2	250/1
53B 52 5500	Precision round file	XXX	–	XXX	–	XXX
53B 52 5550	VALTITAN precision round file	–	XXX	–	XXX	–
equivalent to German cut		1	2	3	4	3
Diameter	mm	7.5	7.8	7.8	7.8	9.4

Cuts on all sides; tapers to a point.

52 6000

Length without tang mm / Swiss cut		100/2	150/0	150/2	200/0	200/2
53B 52 6000	Precision knife file	XXX	XXX	XXX	XXX	XXX
equivalent to German cut		3 – 4	1 – 2	3 – 4	2	4
Cross section	mm	12.4×2.8	17.9×3.5	17.9×3.5	22×4,2	22×4,2

Tapers to a point.

52 6500

Length without tang mm / Swiss cut		150/1	150/2	200/2
53B 52 6500	Precision cross-cut file	XXX	XXX	XXX
equivalent to German cut		3	3 – 4	4
Cross section	mm	14.8×5	14.8×5	21.3×6.3

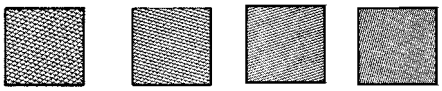
Precision needle files

Swiss precision needle files satisfy the highest demands for accuracy of shape, precision cut, removal rate and tool life. Cut length = 1/2 file length. Manufactured from special steel for precision files with high wear resistance (65-66 HRC). Precisely determined shapes, special cut angle and large selection of different cuts. High metal removal rate.

Quick-release handle see No. 519700.

Standard: **SC = Swiss cut; GC = German cut**

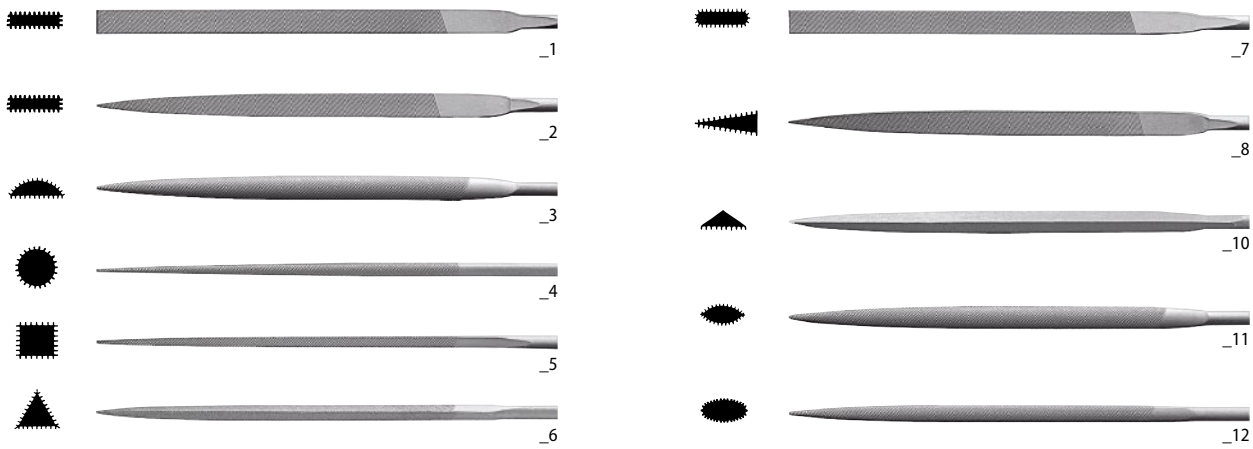
Note: See also Habilis precision files No. 527050 – 527070.



SH 00 20 H/cm *SH 0 25 H/cm* *SH 1 31 H/cm* *SH 2 38 H/cm*

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
52 7130–52 7650	●	●	●	●	●	○		●	○	●	●	●	●			○		

Precision needle files



Type			1	2	3	4	5	6	7	8	10	11	12
53B 52 7130	Precision needle file **Overall length 140 mm**	SC 0 / GC 1	XXX	–	XXX	XXX	XXX	XXX	–	–	XXX	–	–
53B 52 7230		SC 1 / GC 2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
53B 52 7330		SC 2 / GC 3	XXX	XXX	XXX	XXX	XXX	XXX	–	–	XXX	–	–
53B 52 7140	Precision needle file **Overall length 160 mm**	SC 0 / GC 1	XXX	–	XXX	XXX	XXX	XXX	–	–	–	–	–
53B 52 7240		SC 1 / GC 2	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	–
53B 52 7340		SC 2 / GC 3	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–	–
53B 52 7150	Precision needle file **Overall length 180 mm**	SC 00 / GC 00	XXX	–	XXX	XXX	XXX	XXX	–	–	–	–	–
53B 52 7250		SC 0 / GC 1	XXX	–	XXX	XXX	XXX	XXX	–	–	–	–	–
53B 52 7350		SC 2 / GC 3	XXX	–	XXX	XXX	XXX	XXX	–	–	–	–	–
53B 52 7160	Precision needle file **Overall length 200 mm**	SC 00 / GC 00	XXX	–	XXX	XXX	XXX	XXX	–	–	–	–	–
53B 52 7260		SC 0 / GC 1	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX
53B 52 7360		SC 2 / GC 3	XXX	–	XXX	XXX	XXX	XXX	–	–	–	–	–
Shape description			flat plain	flat pointed	half round	round	square	three-square	flat round edged	Knife	barrette	Crossing file oval pointed	Crossing file oval round

Precision needle files sets

Supplied with: In a plastic wallet.

52 7650

52 7600

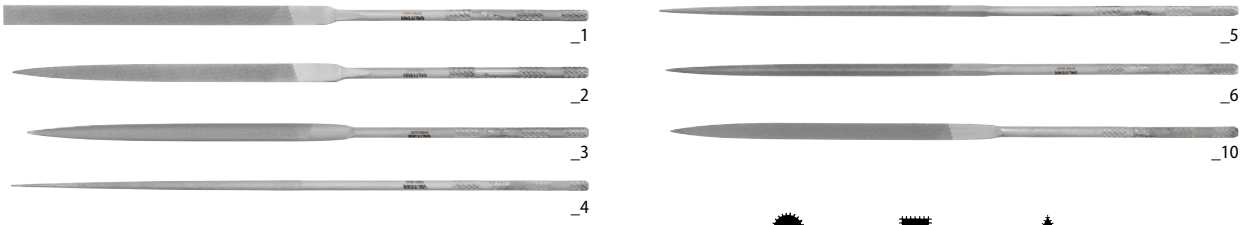
Overall length mm / Swiss cut		140/1	160/0	160/1	180/0	200/0	Content:
53B 52 7600	Precision needle files **Set, 12 pieces**	XXX	–	XXX	XXX	XXX	1 piece each Form 1 – 12
53B 52 7650	Precision needle files **Set, 6 pieces**	XXX	XXX	–	–	–	1 piece each Form 1; 3; 4; 5; 6; 10

VALTITAN precision needle files

High performance needle files with extremely high wear resistance. Surface hardness **1200 HV.** The special tooth profile prevents files clogging, files can be easily cleaned by gentle tapping (on wood).

Standard: **SC = UK/Swiss cut; GC = German cut**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
52 7550–52 7660	●	●	●	●	●	●		●	●	●	●	●	●			●



Type			1	2	3	4	5	6	10
53B 52 7550	VALTITAN precision needle file **Overall length 180 mm**	SC 0 / GC 1	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 7570		SC 2 / GC 3	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shape description			flat plain	flat pointed	half round	round	square	three- square	barrette

VALTITAN precision needle file sets

Supplied with: In a plastic wallet. 1 each file form flat plain, half-round, round, square, 3-square and barette.

Overall length mm / Swiss cut		180/0	180/2
53B 52 7660	VALTITAN precision needle file **Set 6 pieces**	XXX	XXX

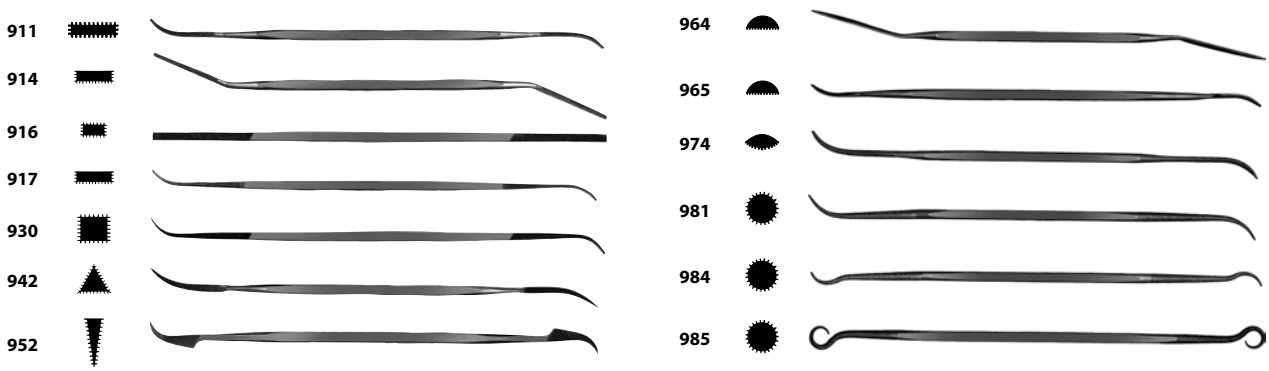
Precision riffler files

The blanks for the **Swiss precision riffler files** are forged from special steel and ground; precision machines give them an extremely precise cut of even density and depth with a hardness of **65 – 66 HRC.** The quality of these riffler files is provided by a clean and precise cut to the very tip of the point. These files feature a very high shape accuracy and a high metal removal rate with extremely long tool life.

Application: For precise and delicate work even on very hard materials, e.g. in mould and tool making.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
52 8010–52 8310	●	●	●	●	●	○		●	○	●	●	●	●			○

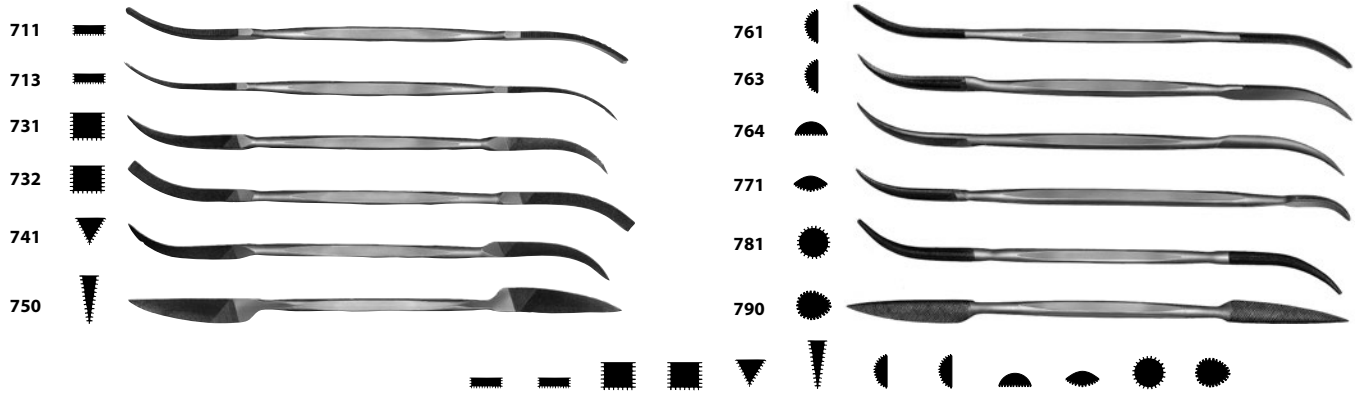
Precision riffler files 150 mm



Type			911	914	916	917	930	942	952	964	965	974	981	984	985	Cut cm
53B 52 8050	Precision riffler file fine **Length 150 mm**	SC 2 / GC 2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	38

Precision riffler files 180 mm

Size 761 – Plain end.
Size 763 – Tapers to a point.



Type			711	713	731	732	741	750	761	763	764	771	781	790	Cut cm
53B 52 8200	Precision riffler file coarse **Length 180 mm**	SC 0 / GC 1	XXX	–	–	–	–	XXX	–	–	–	–	XXX	–	16
53B 52 8300	Precision riffler file medium **Length 180 mm**	SC 2 / GC 2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	25

Precision riffler files sets

Supplied with:

52 8010 – In a roll-up wallet. 1 each file No. 528050 Form 911 – 985.
52 8310 – In a roll-up wallet. 1 each file No. 528300 Form 711 – 790.

			Cut cm	Overall length mm
53B 52 8010	Precision riffler files set SC 2 = fine (13 pieces)	XXX	38	150
53B 52 8310	Precision riffler files set SC 2 = medium (12 pieces)	XXX	25	180

52 8010 52 8310

Habilis precision files

Swiss precision files with highest shape accuracy, cut precision, removal rate, and tool life. Shapes similar to needle files, however with **strong, forged** square or hexagonal **tang** and **strengthened cross section. No file handle required.**

Application: Particularly suitable for tool and mould making due to tapered, slim shape. **Habilis precision files** allow **heavier working pressures** than needle files.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
52 7050–52 7070	●	●	●	●	●	●		●	○	●	●	●	●			○		

Type			1	3	4	5	6
53B 52 7060	Habilis precision file	SC 00 / GC 1	XXX	XXX	XXX	XXX	XXX
53B 52 7070	**Overall length 215 mm**	SC 1 / GC 3	XXX	XXX	XXX	XXX	XXX
Shape description			flat plain	half round	round	square	three- square
Cross section		mm	10.0×2.6	12.2×3.4	6.5	6.0×6.0	9.5×9.5

Supplied with: 1 each file No. 527060 / 7070 size 1, 3, 4, 5, 6 in a wallet.

No file handle required!

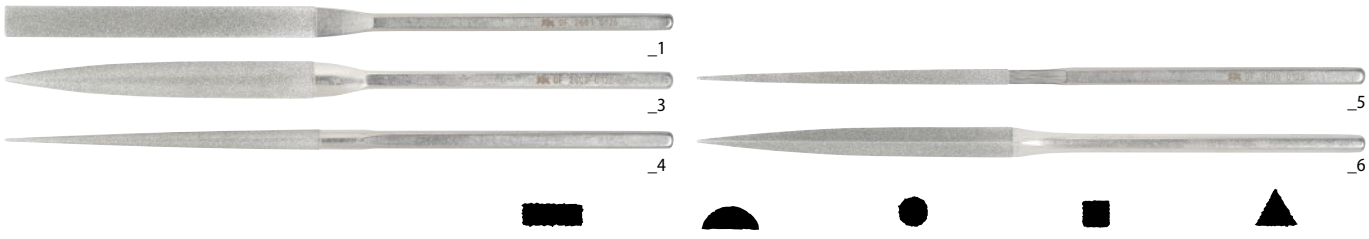
Overall length mm / Swiss cut		215/00	215/1
53B 52 7050	Set of Habilis high precision files **5 pieces**	XXX	XXX
equivalent to German cut		1	3

D

PFERD Multi-purpose diamond files

Equivalent to needle files No. 529220, however made from blanks similar to the Habilis files No. 527060 (thicker cross section, high-strength forged tang); approx. **3 times the coated area** of needle files.

Application: For filing **hardened steels, hard metal, glass, ceramic** and **fibre-reinforced plastics.** Use **light pressure** for filing, particularly on edges. Heavier pressure does not increase the removal rate but damages the file.



Type		1	3	4	5	6
53B 52 9150	Diamond needle file, 215 mm **Grit D126 (medium) general-purpose**	XXX	XXX	XXX	XXX	XXX
Shape description		flat plain	half round	round	square	3- square
Cross-section with coating	mm	10.3×2.8	12.5×3.8	6.7	5.5×5.5	10
Coating length	mm			100		

Diamond file set

Supplied with: **5 pieces,** 1 each file No. 529150 size 1; 3; 4; 5; 6 in a sturdy plastic box.

53B 52 9160	Diamond needle file set, 5 pieces, 215 mm **Grit D126**	XXX

52 9160

D

PFERD Diamond needle files

The blanks for these needle files are forged and ground from special steel. The diamond needle files are evenly spread with diamond powder of uniform grit and electro-bonded in place. The even diamond coating and the hardness of the diamond ensure best filing results. **Overall file length = 140 mm;** diamond coated length = 70 mm; shank ∅ = 3 mm.

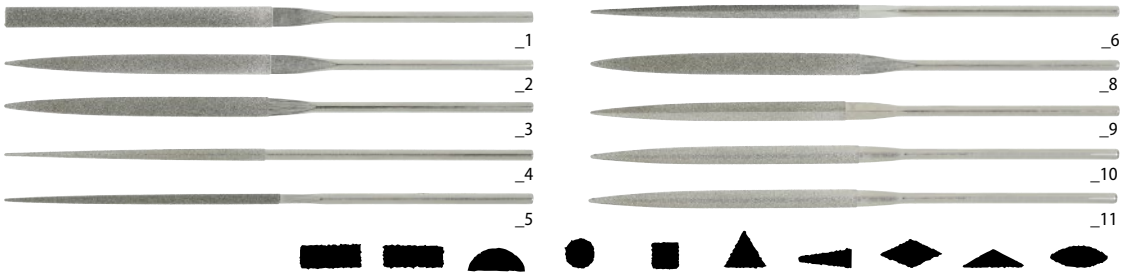
Application: For precision finishing of cutting, stamping and press tools made of **hardened steel** or **carbide.** Also for working **glass, ceramic** etc. Use **light pressure** for filing, particularly at edges. Heavier pressure does not increase the removal rate but damages the file.

Optional extras: A **quick-release handle** for these files can be found under No. 519700.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
52 9210–52 9350			●	●	●	●	●	●	●	●		●		○		

Grit:

52 9210 – Fine grit **D 91**
52 9220 – Universal grit (standard file) **D 126**
52 9230 – Coarse grit **D 181**



Type		1	2	3	4	5	6	8	9	10	11
53B 52 9210	Diamond needle file, 140 mm **Grit D91 (fine)**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX
53B 52 9220	Diamond needle file, 140 mm **Grit D126 (medium) general-purpose**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53B 52 9230	Diamond needle file, 140 mm **Grit D181 (coarse)**	XXX	–	XXX	XXX	–	XXX	XXX	–	–	–
Shape description		flat plain	flat pointed	half round	round	square	3- square	knife	sword	barrette	crossing
Cross-section with coating	mm	5.5×1.6	5.5×1.6	5.5×1.6	3.2	2.6×2.6	3.5	5.0×1.8	5.0×2.4	5.0×2.0	5.0×2.2
Coating length	mm					70					

Diamond needle file sets

Supplied with: In a plastic box.
52 9300 – **5 pieces,** 1 each file of shape 1; 3; 4; 5; 6.
52 9350 – **11 pieces,** 1 file each of shape 1-11 (all shapes), additionally 1 flat file with round edges.

52 9300

52 9350

Grit		µm	D91	D126	D181
53B 52 9300	Diamond needle file set, 5 pieces, 140 mm		XXX	XXX	XXX
53B 52 9350	Diamond needle file set, 11 pieces, 140 mm		XXX	XXX	XXX

D

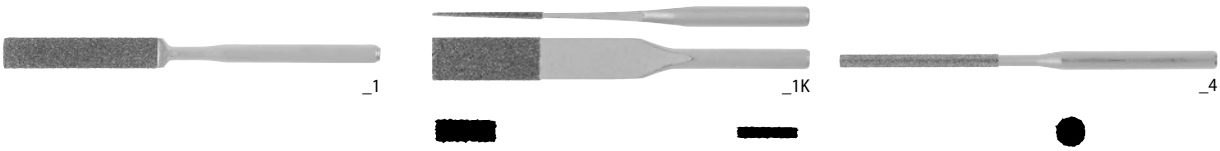
PFERD Diamond mini-files

The blanks are evenly coated with diamond powder and electro-bonded in place. Shorter, more compact design in comparison to diamond needle files. Shank Ø 3 mm.

Application: For precise rework with **compressed air filing devices** (no. 079708) or manual use (quick-release handle no. 519700).

Note: Other versions on request.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
52 9420			●	●	●	●	●	●	●	●		●		○		



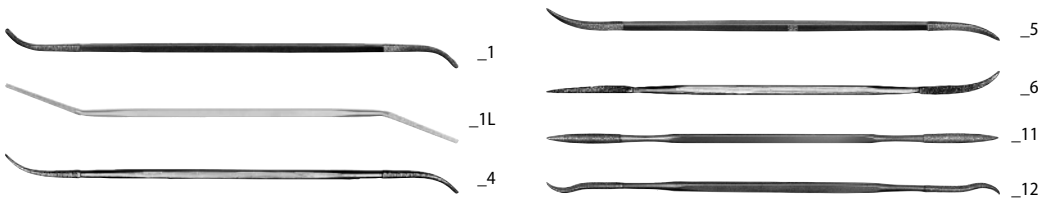
Type			1	1K	4
53B 52 9420	Diamond mini-file **Grit D126 (medium) general-purpose**		XXX	XXX	XXX
Shape description			flat plain	flat tapered	round
Layout			double-sided	complete	complete
Overall length		mm	60	55	60
Cross-section with coating		mm	5×2	6.3×1	2
Coating length		mm	25	16	25

D

PFERD Diamond riffler files

Shape similar to No. 528050, but covered at both ends with diamond powder of uniform grit.

Application: For precision finishing of form tools made of **hardened steel** or **carbide.**
Minimum pressure in use.



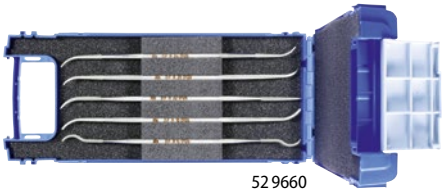
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
52 9650/9660			●	●	●	●	●	●	●	●		●		○		

Type			1	1L	4	5	6	11	12
53B 52 9650	Diamond riffler file, 150 mm **Grit D126 (medium) general-purpose**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shape description			flat plain, curved	flat plain, straight	round	square	three- square	crossing, straight	crossing, curved
Cross-section with coating		mm	3.1×3	3.8×1.6	3	2.5×2.5	3	3.2×2	3.7×2
Coating length		mm	25						

Diamond riffler file set

Supplied with: In a plastic box.
5 pieces, 1 each file of shape 1; 4; 5; 6; 12.

Grit		µm	D126
53B 52 9660	Diamond riffler file set, 5 pieces, 150 mm		XXX


52 9660

Quick-release handles for needle files / diamond needle files

Size 2 – Quick-release handle, suitable for all hand sizes. **High clamping force,** tool can easily be inserted and removed.
Size 3 – High quality handle with **spring collet and rotary knob clamping** for ease of use and secure fixing.

51 9700_2

51 9700_3

Type			2	3
56B 51 9700	Quick-release handle **for needle files**		XXX	XXX
Clamping ∅		mm	2.2 – 4.5	3 – 4
suitable for file length		mm	140 – 200	

D

Flexible diamond files

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
52 9110/9112/9120			●	●	●	●	●	●	●	●		●		○				
52 9115	●	●	●	●	●	●	●	●	●	●	●	●			●	●		

Flexible diamond polishing files

Polishing file with **flexible metal base body.** Outer face of **resilient PU material,** one side coated with diamond grit.
Size D126; D64 – Very homogeneous surface roughness due to multi-crystalline diamonds.
Advantage: Ancillary times for preparation and cleaning, such as are required when polishing pastes are used, are eliminated.
Application: Ideal for polishing work on concave and convex surfaces. Suitable for **hard materials such as carbide, cast iron, hardened steels, ceramic** and non-ferrous metals.

52 9115

Grit		µm	D126	D64	D15	D3	Width mm	Length mm
51G 52 9115	Garant CaraFin flexible diamond polishing file		XXX	XXX	XXX	XXX	14	165
Grit designation			Pre-polishing	Polishing	Final polishing	Mirror finish		

Flexible diamond files

Very thin plastic backing, coated **on one side** with diamond abrasive grit. Height including grit 0.5 mm.
Application: Ideal for fine abrasive work on concave and convex surfaces, or in narrow slots. **Very high flexibility,** maximum bending radius 15 mm.

52 9120

Grit		µm	D181	D126	D76		Width mm	Length mm
53B 52 9120	PFERD Flexible diamond files		XXX	XXX	XXX	5	14	165
Grit designation			coarse	medium	fine			

Diamond sheet

Flexible diamond sheet, coated **on both sides** with abrasive diamond grit. Height including grit 0.7 mm.
Application: Ideal for grinding work on concave and convex surfaces.
Note: Diamond files can be cleaned in petrol with a metal brush (e.g. 576000).

52 9110

Grit		µm	D126	D64	Width mm	Length mm
53B 52 9110	PFERD Diamond sheet		XXX	XXX	30	170
53B 52 9112			XXX	XXX	35	350
Grit designation			medium	fine		

Garant MULTI Cut carbide burrs

Lowest-possible oscillation values and smooth cutting action.
Newly developed, innovative pitch.

Perfect surface quality.
For roughing and for finishing.

Long tool life in variety of materials.
Optimised carbide substrate for steel, stainless steel, aluminium and non-ferrous metals.

Very long tool life, high removal rate.
Combines newly developed toothing geometry with specially tailored edge fillet.

Secure retention in collet.
Defined shank roughness prevents slipping.

Available without coating or with TiAlN coating.

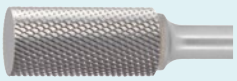
Uncoated. *TiAln.*

- Longer tool life.
- Less heat input.
- Better chip evacuation.

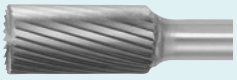
Burrs

54

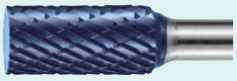
Carbide burrs, general-purpose tooth configuration



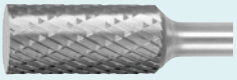
Z FINE
- Very fine micro diamond cut.
- For high material removal rates and very fine surfaces.
- Ideal for use on hard materials.



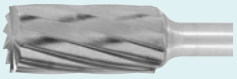
Z5
- Fine single-cut burr.
- For accurate burring work.
- Good surface quality.



Z4 – TiAlN coating
- Fine micro diamond cut.
- High-performance coating.
- Low thermal stress, long tool life, improved chip evacuation.



Z7
- Medium diamond cut. High removal rate, smooth cutting
- For general applications.



Z1
- Coarse single-cut burr.
- For soft materials.

Carbide burrs with high-performance tooth configuration

MULTI Cut
- High removal rate, smooth cutting
- Low thermal stress, long tool life.
- For general-purpose use on steel, stainless steel, aluminium.

STEEL/Z steel
- Optimised for high material removal rates on steel and cast steel.
- Noticeably higher aggressiveness.

INOX/Z INOX
- Optimised for high material removal rates on all austenitic, rust-resistant and acid-resistant steels.
- Noticeably higher aggressiveness.
- Low thermal output.

Z ALU
- Very coarse single-cut burr with 3 facet point.
- High rate of material removal and smooth running behaviour.
- For aluminium and non-ferrous metals.

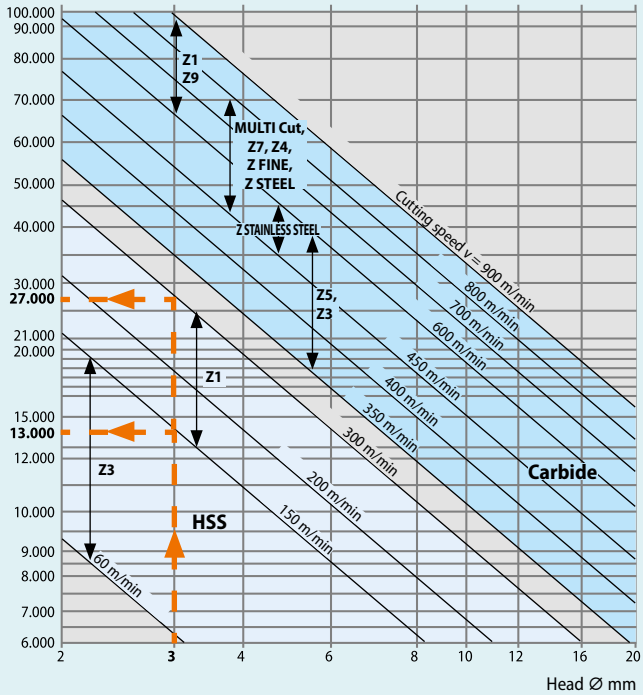
Version:
Burrs of high-performance carbide grades with high toughness and excellent cutting edge stability. The shank is made of steel if the head Ø is larger than the shank Ø, otherwise it is of carbide. HSS burrs are optimised for difficult vibration applications.

Cutting speeds / spindle speeds

Determination of the rotational speed:
The diagram on the right shows the recommended rotational speed [rpm] as the intersection of the line for the head Ø D [mm] with the diagonal line for the cutting speed v [m/min].
Reading example:
Burr with tooth configuration Z1 and head Ø 3 mm selected. This yields a recommended speed range of 13,000 rpm – 27,000 rpm (dependent on the material to be machined).

$$n = \frac{v\ [m/min] \times 1000}{D\ [mm] \times \pi}$$

Materials with poor heat conductivity;reduce speed to avoid overheating of the burr.



Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
Multi Cut/Multi Cut TiAlN	○	●	●	●	●			●	●	●						●		
Tooth configuration Z7		●	●	●	●			○	○	●						●		
Tooth configuration Z5		●	●	●	○			○	○	○								
Tooth configuration Z4 TiAlN		●	●	●	●	○		●	●									
Tooth configuration Z FINE		●	●	●	●	●		●	●	●								
Tooth configuration Z1	○	○								○	○	○	○					
Tooth configuration Z9	●										●	○						

3mm
⌀

Carbide mini burrs

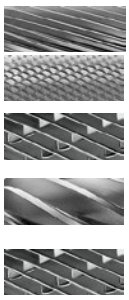
Size AF0324 – With guide face at the tip. Precise deburring without damage to the workpiece.

Application:

Size I0204; I0408 –Also for cutting forms of internal ∅.

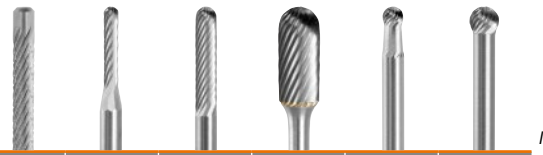
Type				A0210	A0313	A0613	AS0210	AS0313	AS0613
51D 54 6800	Garant	Mini burr **Z5 – fine**	Carbide	XXX	XXX	XXX	XXX	XXX	XXX
51D 54 6840	Garant	Mini burr **Z FINE – very fine**	Carbide	–	XXX	–	XXX	XXX	XXX
51D 54 6900	Garant	Mini burr **Z7 – medium, diamond cut**	Carbide	–	XXX	XXX	XXX	XXX	XXX
51D 54 6908	Garant	Mini burr **Z9 very coarse (NF/Alu)**	Carbide	–	XXX	–	–	–	–
52D 54 6910	HOLEX	Mini burr **Z7 – medium, diamond cut**	Carbide	–	XXX	XXX	–	XXX	XXX

Illustration: Tooth configuration



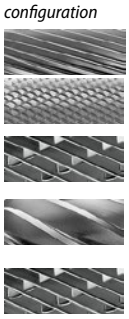
Z5
Z FINE
Z7
Z9
Z7

Shape description			Cylindrical			Cylindrical with end cut		
Head ∅ (54 6800, 54 6840, 54 6900, 54 6908)	mm		2	3	6	2	3	6
Head ∅ (54 6910)	mm		–	3	6.3	–	3	6.3
Head length L_1 (54 6800, 54 6840, 54 6900, 54 6908)	mm							
Head length L_1 (54 6910)	mm		–			–		
Overall length (54 6800, 54 6840, 54 6900, 54 6908)	mm		40	40	43	40	43	43
Overall length (54 6910)	mm		–	38	45	–	38	45



Type				AF0324	C0210	C0313	C0613	D0302	D0403
51D 54 6800	Garant	Mini burr **Z5 – fine**	Carbide	–	XXX	XXX	XXX	XXX	XXX
51D 54 6840	Garant	Mini burr **Z FINE – very fine**	Carbide	–	–	XXX	–	–	XXX
51D 54 6900	Garant	Mini burr **Z7 – medium, diamond cut**	Carbide	XXX	XXX	XXX	XXX	XXX	XXX
51D 54 6908	Garant	Mini burr **Z9 very coarse (NF/Alu)**	Carbide	–	–	XXX	–	–	XXX
52D 54 6910	HOLEX	Mini burr **Z7 – medium, diamond cut**	Carbide	–	–	XXX	XXX	XXX	XXX

Illustration: Tooth configuration

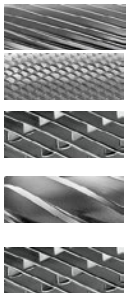


Z5
Z FINE
Z7
Z9
Z7

Shape description			Cylindrical with guide face	Ball nose			Ball	
Head ∅ (54 6800, 54 6840, 54 6900, 54 6908)	mm		3	2	3	6	3	4
Head ∅ (54 6910)	mm		–	–	3	6.3	3	4
Head length L_1 (54 6800, 54 6840, 54 6900, 54 6908)	mm							
Head length L_1 (54 6910)	mm		–	–				
Overall length (54 6800, 54 6840, 54 6900, 54 6908)	mm		40	40	40	43	40	34
Overall length (54 6910)	mm		–	–	38	44	38	38

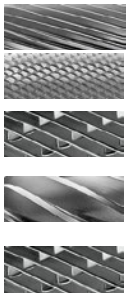
Type				D0605	E0307	E0610	F0307	F0313	F0613
51D 54 6800	Garant	Mini burr **Z5 – fine**	Carbide	XXX	–	XXX	–	XXX	XXX
51D 54 6840	Garant	Mini burr **Z FINE – very fine**	Carbide	–	–	–	–	XXX	–
51D 54 6900	Garant	Mini burr **Z7 – medium, diamond cut**	Carbide	XXX	XXX	XXX	XXX	XXX	XXX
51D 54 6908	Garant	Mini burr **Z9 very coarse (NF/Alu)**	Carbide	–	–	–	–	XXX	–
52D 54 6910	HOLEX	Mini burr **Z7 – medium, diamond cut**	Carbide	XXX	XXX	XXX	–	XXX	XXX
Shape description				Ball	Teardrop		Round arch		
Head ∅ (54 6800, 54 6840, 54 6900, 54 6908)			mm	6	3	6	3	3	6
Head ∅ (54 6910)			mm	6.3	3	6.3	–	3	6.4
Head length L_1 (54 6800, 54 6840, 54 6900, 54 6908)			mm						
Head length L_1 (54 6910)			mm				–		
Overall length (54 6800, 54 6840, 54 6900, 54 6908)			mm	35	40	40	40	40	43
Overall length (54 6910)			mm	38	38	42	–	38	45

Illustration: Tooth configuration



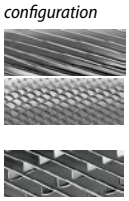
Type				G0307	G0313	G0613	H0307	H0613
51D 54 6800	Garant	Mini burr **Z5 – fine**	Carbide	XXX	XXX	XXX	XXX	XXX
51D 54 6840	Garant	Mini burr **Z FINE – very fine**	Carbide	–	XXX	–	–	–
51D 54 6900	Garant	Mini burr **Z7 – medium, diamond cut**	Carbide	XXX	XXX	XXX	XXX	XXX
51D 54 6908	Garant	Mini burr **Z9 very coarse (NF/Alu)**	Carbide	–	XXX	–	–	–
52D 54 6910	HOLEX	Mini burr **Z7 – medium, diamond cut**	Carbide	–	XXX	XXX	XXX	XXX
Shape description				Pointed			Flame	
Head ∅ (54 6800, 54 6840, 54 6900, 54 6908)			mm	3	3	6	3	6
Head ∅ (54 6910)			mm	–	3	6.3	3	6
Head length L_1 (54 6800, 54 6840, 54 6900, 54 6908)			mm					
Head length L_1 (54 6910)			mm	–				
Overall length (54 6800, 54 6840, 54 6900, 54 6908)			mm	40	40	43	40	43
Overall length (54 6910)			mm	–	38	45	38	43

Illustration: Tooth configuration

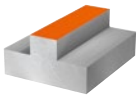


Type				I0204	I0408	M0307	M0311	M0613	N0307	N0607
51D 54 6800	Garant	Mini burr **Z5 – fine**	Carbide	–	–	XXX	XXX	XXX	XXX	XXX
51D 54 6840	Garant	Mini burr **Z FINE – very fine**	Carbide	XXX	XXX	–	XXX	–	–	–
51D 54 6900	Garant	Mini burr **Z7 – medium, diamond cut**	Carbide	–	–	–	XXX	XXX	XXX	–
52D 54 6910	HOLEX		Carbide	–	–	–	XXX	XXX	–	–
Shape description				Internal		Cone			Angle	
Head ∅ (54 6800, 54 6840, 54 6900)			mm	2.5	4	3	3	6	3	6
Head ∅ (54 6910)			mm	–	–	–	3	6.8	–	–
Head length L_1 (54 6800, 54 6840, 54 6900)			mm							
Head length L_1 (54 6910)			mm	–	–	–			–	–
Overall length (54 6800, 54 6840, 54 6900)			mm	40	50	40	40	43	40	37
Overall length (54 6910)			mm	–	–	–	38	49	–	–

Illustration: Tooth configuration



Burrs shape cylindrical without end face cut (ZYA)



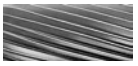
6mm
⌀

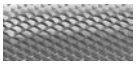
Type				A0616	A0820	A1020	A1225	A1625
51D 54 0220	Garant	Burr **Multi Cut – medium**	**Carbide**	XXX	XXX	XXX	XXX	XXX
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	**Carbide TiAlN**	XXX	XXX	XXX	XXX	XXX
51D 54 0400	Garant	Burr **Z5 – fine**	**Carbide**	XXX	XXX	–	XXX	–
51D 54 0440	Garant	Burr **Z FINE – very fine**	**Carbide**	–	XXX	XXX	XXX	–
56L 54 0560	LUKAS	Burr, coated **Z 4 – fine, diamond cut**	**Carbide TiAlN**	–	XXX	XXX	XXX	XXX
Shape description				Cylindrical, without end cut				
Head ∅			mm	6	8	10	12	16
Head length			mm	16	20	20	25	25
Overall length			mm	50	60	60	65	65

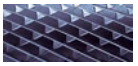
Illustration: Tooth configuration

NEW *Multi Cut*

NEW *Multi Cut TiAlN*

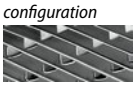

Z5


Z FINE


Z4 TiAlN

Type				A0616	A0820	A1020	A1225	A1625
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	**Carbide**	XXX	XXX	XXX	XXX	XXX
Shape description				Cylindrical without end cut				
Head ∅			mm	6	8	9.5	12	16
Head length			mm	18	19	19	25	25
Overall length			mm	50	64	64	70	70

Illustration: Tooth configuration


Z7

Burrs shape cylindrical with end cut (ZYAS)

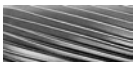
6mm
⌀

Type				AS0616	AS0820	AS1020	AS1225	AS1625
51D 54 0220	Garant	Burr **Multi Cut – medium**	**Carbide**	XXX	XXX	XXX	XXX	XXX
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	**Carbide TiAlN**	XXX	XXX	XXX	XXX	XXX
51D 54 0400	Garant	Burr **Z5 – fine**	**Carbide**	–	XXX	XXX	–	–
51D 54 0600	Garant	Burr **Z1 - coarse**	**Carbide**	–	XXX	XXX	XXX	–
51D 54 0709	Garant	Burr **Z9 very coarse (NF/Alu)**	**Carbide**	XXX	–	XXX	XXX	XXX
56L 54 0560	LUKAS	Burr, coated **Z 4 – fine, diamond cut**	**Carbide TiAlN**	XXX	–	–	XXX	–
Shape description				Cylindrical with end cut				
Head ∅			mm	6	8	10	12	16
Head length			mm	16	20	20	25	25
Overall length			mm	50	60	60	65	65

Illustration: Tooth configuration

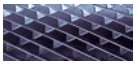
NEW *Multi Cut*

NEW *Multi Cut TiAlN*


Z5

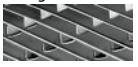
Z1

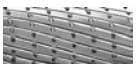
Z9


Z4 TiAlN

Type				AS0616	AS0820	AS1020	AS1225	AS1625
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	**Carbide**	XXX	XXX	XXX	XXX	XXX
52D 54 0800	HOLEX	Burr **Z3 - medium, with chip breaker**	**HSS**	XXX	XXX	XXX	XXX	XXX
Tooth type abbreviation (54 0800)				Z3				
Shape description				Cylindrical with end cut				
Head ∅ (54 0750)			mm	6	8	9.5	12	16
Head ∅ (54 0800)			mm	6	8	10	12	16
Head length (54 0750)			mm	18	19	19	25	25
Head length (54 0800)			mm	16	20	20	25	25
Overall length (54 0750)			mm	50	64	64	70	70
Overall length (54 0800)			mm	58	60	60	65	65

Illustration: Tooth configuration


Z7


Z3

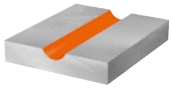
Burrs shape cylindrical ball nose (WRC)

6mm ⌀

Type				C0616	C0820	C1020	C1225	C1625	Illustration: Tooth configuration
51D 54 0220	Garant	Burr **Multi Cut – medium**	**Carbide**	XXX	XXX	XXX	XXX	XXX	NEW Multi Cut
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	**Carbide TiAlN**	XXX	XXX	XXX	XXX	XXX	NEW Multi Cut TiAlN
51D 54 0400	Garant	Burr **Z5 – fine**	**Carbide**	XXX	XXX	XXX	XXX	–	Z5
51D 54 0440	Garant	Burr **Z FINE – very fine**	**Carbide**	–	XXX	XXX	XXX	–	Z FINE
51D 54 0600	Garant	Burr **Z1 - coarse**	**Carbide**	XXX	XXX	XXX	XXX	–	Z1
51D 54 0709	Garant	Burr **Z9 very coarse (NF/Alu)**	**Carbide**	XXX	XXX	XXX	XXX	XXX	Z9
56L 54 0560	LUKAS	Burr, coated **Z 4 – fine, diamond cut**	**Carbide TiAlN**	XXX	XXX	XXX	XXX	XXX	Z4 TiAlN
Shape description						ball nose			
Head ⌀			mm	6	8	10	12	16	
Head length			mm	16	20	20	25	25	
Overall length			mm	50	60	60	65	65	

Type				C0616	C0820	C1020	C1225	C1625	Illustration: Tooth configuration
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	**Carbide**	XXX	XXX	XXX	XXX	XXX	Z7
52D 54 0800	HOLEX	Burr **Z3 - medium, with chip breaker**	**HSS**	XXX	XXX	XXX	XXX	–	Z3
Tooth type abbreviation (54 0800)				Z3	Z3	Z3	Z3	–	
Shape description						ball nose			
Head ⌀ (54 0750)			mm	6	8	9.5	12	16	
Head ⌀ (54 0800)			mm	6	8	10	12	–	
Head length (54 0750)			mm	18	19	19	25	25	
Head length (54 0800)			mm	20	20	20	25	–	
Overall length (54 0750)			mm	50	63	63	70	70	
Overall length (54 0800)			mm	60	60	60	65	–	

Burrs shape ball (KUD)



6mm ⌀

Type				D0605	D0807	D1009	D1210	D1614	Illustration: Tooth configuration
51D 54 0220	Garant	Burr **Multi Cut – medium**	**Carbide**	XXX	XXX	XXX	XXX	XXX	NEW Multi Cut
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	**Carbide TiAlN**	XXX	XXX	XXX	XXX	XXX	NEW Multi Cut TiAlN
51D 54 0400	Garant	Burr **Z5 – fine**	**Carbide**	XXX	XXX	XXX	XXX	XXX	Z5
51D 54 0600	Garant	Burr **Z1 - coarse**	**Carbide**	XXX	–	XXX	–	XXX	Z1
51D 54 0709	Garant	Burr **Z9 very coarse (NF/Alu)**	**Carbide**	–	XXX	XXX	XXX	XXX	Z9
56L 54 0560	LUKAS	Burr, coated **Z 4 – fine, diamond cut**	**Carbide TiAlN**	XXX	XXX	XXX	XXX	–	Z4 TiAlN
Shape description						ball			
Head ⌀			mm	6	8	10	12	16	
Head length			mm	5	7	9	10	14	
Overall length			mm	50	47	49	51	54	

Type				D0605	D0807	D1009	D1210	D1614	Illustration: Tooth configuration
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	**Carbide**	XXX	XXX	XXX	XXX	XXX	Z7
52D 54 0800	HOLEX	Burr **Z3 - medium, with chip breaker**	**HSS**	–	XXX	XXX	XXX	XXX	Z3
Tooth type abbreviation (54 0800)				–	Z3	Z3	Z3	Z3	
Shape description						ball			
Head ⌀ (54 0750)			mm	6	8	9.5	12	16	
Head ⌀ (54 0800)			mm	–	8	10	12	16	
Head length (54 0750)			mm	4.7	6	8	11	14	
Head length (54 0800)			mm	–	7	9	10	14	
Overall length (54 0750)			mm	50	52	54	56	60	
Overall length (54 0800)			mm	–	60	60	60	60	

Burrs shape pointed (SPG)

6mm
⌀

Type				G0618	G1020	G1225	G1630	Illustration: Tooth configuration
51D 54 0220	Garant	Burr **Multi Cut – medium**	Carbide	XXX	XXX	XXX	XXX	NEW Multi Cut
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	Carbide TiAlN	XXX	XXX	XXX	XXX	NEW Multi Cut TiAlN
51D 54 0400	Garant	Burr **Z5 – fine**	Carbide	XXX	–	XXX	–	Z5
51D 54 0440	Garant	Burr **Z FINE – very fine**	Carbide	XXX	XXX	–	–	Z FINE
51D 54 0600	Garant	Burr **Z1 - coarse**	Carbide	XXX	XXX	XXX	–	Z1
56L 54 0560	LUKAS	Burr, coated **Z 4 – fine, diamond cut**	Carbide TiAlN	XXX	XXX	XXX	XXX	Z4 TiAlN
Shape description				pointed				
Head ⌀			mm	6	10	12	16	
Head length			mm	18	20	25	30	
Overall length			mm	50	60	65	70	

Type				G0618	G1020	G1225	G1630	Illustration: Tooth configuration
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	Carbide	XXX	XXX	XXX	XXX	Z7
52D 54 0800	HOLEX	Burr **Z3 - medium, with chip breaker**	HSS	XXX	–	XXX	XXX	Z3
Tooth type abbreviation (54 0800)				Z3	–	Z3	Z3	
Shape description				pointed				
Head ⌀			mm	6	9.5	12	16	
Head length			mm	18	19	25	30	
Overall length (54 0750)			mm	50	64	70	75	
Overall length (54 0800)			mm	58	–	65	70	

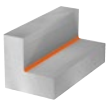
Burrs shape round arch (RBF)

6mm
⌀

Type				F0618	F0820	F1020	F1225	F1630	Illustration: Tooth configuration
51D 54 0220	Garant	Burr **Multi Cut – medium**	Carbide	XXX	XXX	XXX	XXX	XXX	NEW Multi Cut
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	Carbide TiAlN	XXX	XXX	XXX	XXX	XXX	NEW Multi Cut TiAlN
51D 54 0400	Garant	Burr **Z5 – fine**	Carbide	XXX	–	–	–	–	Z5
51D 54 0440	Garant	Burr **Z FINE – very fine**	Carbide	–	XXX	XXX	XXX	–	Z FINE
51D 54 0600	Garant	Burr **Z1 - coarse**	Carbide	–	–	–	XXX	–	Z1
51D 54 0709	Garant	Burr **Z9 very coarse (NF/Alu)**	Carbide	XXX	–	XXX	XXX	XXX	Z9
56L 54 0560	LUKAS	Burr, coated **Z 4 – fine, diamond cut**	Carbide TiAlN	–	–	XXX	XXX	–	Z4 TiAlN
Shape description				round arch					
Head ⌀			mm	6	8	10	12	16	
Head length			mm	18	20	20	25	30	
Overall length			mm	50	60	60	65	70	

Type				F0618	F0820	F1020	F1225	F1630	Illustration: Tooth configuration
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	Carbide	XXX	XXX	XXX	XXX	XXX	Z7
Shape description				round arch					
Head ⌀			mm	6	8	9.6	12	16	
Head length			mm	18	20	19	25	30	
Overall length			mm	50	65	64	70	75	

Burrs shape cone (SKM)



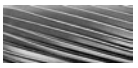
6mm ⌀

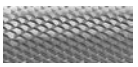
Type				M0618	M1020	M1225
51D 54 0220	Garant	Burr **Multi Cut – medium**	**Carbide**	XXX	XXX	XXX
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	**Carbide TiAlN**	XXX	XXX	XXX
51D 54 0400	Garant	Burr **Z5 – fine**	**Carbide**	XXX	–	–
51D 54 0440	Garant	Burr **Z FINE – very fine**	**Carbide**	XXX	XXX	XXX
51D 54 0600	Garant	Burr **Z1 - coarse**	**Carbide**	–	XXX	–
56L 54 0560	LUKAS	Burr, coated **Z 4 – fine, diamond cut**	**Carbide TiAlN**	XXX	XXX	XXX
Shape description					Cone	
Head ⌀			mm	6	10	12
Head length			mm	18	20	25
Overall length			mm	50	60	65

Illustration: Tooth configuration

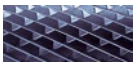
Multi Cut

Multi Cut TiAlN


Z5

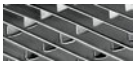

Z FINE

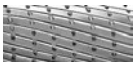
Z1


Z4 TiAlN

Type				M0618	M1020	M1225
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	**Carbide**	XXX	XXX	XXX
52D 54 0800	HOLEX	Burr **Z3 - medium, with chip breaker**	**HSS**	XXX	XXX	XXX
Tooth type abbreviation (54 0800)					Z3	
Shape description					Cone	
Head ⌀			mm	6	10	12
Head length (54 0750)			mm	20	20	25
Head length (54 0800)			mm	18	20	25
Overall length (54 0750)			mm	50	64	70
Overall length (54 0800)			mm	58	60	65

Illustration: Tooth configuration


Z7


Z3

Burrs shape round cone (KEL)

6mm ⌀

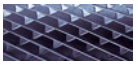
Type				L0820	L1020	L1230	L1630
51D 54 0220	Garant	Burr **Multi Cut – medium**	**Carbide**	–	XXX	XXX	XXX
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	**Carbide TiAlN**	–	XXX	XXX	XXX
51D 54 0709	Garant	Burr **Z9 very coarse (NF/Alu)**	**Carbide**	XXX	XXX	XXX	–
56L 54 0560	LUKAS	Burr, coated **Z 4 – fine, diamond cut**	**Carbide TiAlN**	–	XXX	–	–
Shape description					round cone		
Head ⌀			mm	8	10	12	16
Head length			mm	20	20	30	30
Overall length			mm	60	60	70	70

Illustration: Tooth configuration

Multi Cut

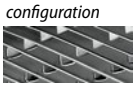
Multi Cut TiAlN

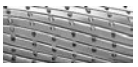
Z9


Z4 TiAlN

Type				L1020	L1230	L1630
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	**Carbide**	XXX	XXX	XXX
52D 54 0800	HOLEX	Burr **Z3 - medium, with chip breaker**	**HSS**	–	XXX	XXX
Tooth type abbreviation (54 0800)				–	Z3	Z3
Shape description					Round cone	
Head ⌀			mm	10	12	16
Head length (54 0750)			mm	20	30	33.3
Head length (54 0800)			mm	–	30	30
Overall length (54 0750)			mm	65	75	78
Overall length (54 0800)			mm	–	70	70

Illustration: Tooth configuration


Z7

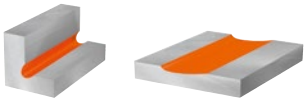

Z3

Burrs shape teardrop (TRE) / burrs shape flame

Form H

Form E

6mm ⌀



Type				E0610	E0813	E1220	H0820	H1230
51D 54 0220	Garant	Burr **Multi Cut – medium**	**Carbide**	XXX	XXX	XXX	XXX	XXX
51D 54 0222	Garant	Burr, coated **Multi Cut – medium**	**Carbide TiAlN**	XXX	XXX	XXX	XXX	XXX
Shape description				teardrop	teardrop	teardrop	Flame	Flame
Head ⌀			mm	6	8	12	8	12
Head length			mm	10	13	20	20	30
Overall length			mm	50	53	60	60	70

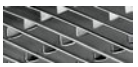
Illustration: Tooth configuration

Multi Cut

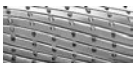
Multi Cut TiAlN

Type				E0610	E0813	E1220	H0820	H1230
52D 54 0750	HOLEX	Burr **Z7 – medium, diamond cut**	**Carbide**	XXX	XXX	XXX	XXX	XXX
52D 54 0800	HOLEX	Burr **Z3 - medium, with chip breaker**	**HSS**	–	–	XXX	–	–
Tooth type abbreviation (54 0800)				–	–	Z3	–	–
Shape description				teardrop	teardrop	teardrop	flame	flame
Head ⌀			mm	6	8	12	8	12
Head length			mm	10	15	20	19	30
Overall length			mm	50	60	60	64	75

Illustration: Tooth configuration



Z7



Z3

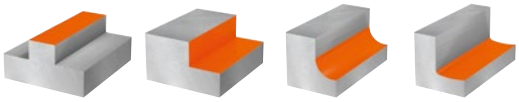
54

Garant Burr with shank ⌀ 8 mm

Extra sturdy shank with ⌀ 8 mm.

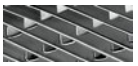
Application: For the most demanding burring operations.

8mm ⌀



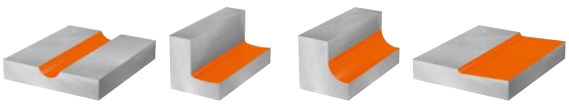
Type				A1225	AS1225	C1020	C1225
51D 54 3200	Burr **Z7 – medium, diamond cut**		**Carbide**	–	XXX	XXX	XXX
51D 54 3709	Burr **Z9 – very coarse (NF/Alu)**		**Carbide**	XXX	–	–	XXX
Shape description				Cylindrical	Cylindrical with end cut	ball nose	Ball nose
Head ⌀		mm		12	12	10	12
Head length		mm		25	25	20	25
Overall length		mm		65	65	60	65

Illustration: Tooth configuration



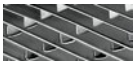
Z7

Z9



Type				D1210	F1225	F1630	L1230
51D 54 3200	Burr **Z7 – medium, diamond cut**		**Carbide**	XXX	XXX	–	–
51D 54 3709	Burr **Z9 – very coarse (NF/Alu)**		**Carbide**	–	XXX	XXX	XXX
Shape description				ball	round arch	round arch	round cone
Head ⌀		mm		12	12	16	12
Head length		mm		10	25	30	30
Overall length		mm		50	65	70	70

Illustration: Tooth configuration



Z7

Z9

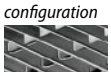
6mm
⌀

Garant Burr with shank ⌀ 6 mm (long)

Shank length 200 mm (can be cut to length).
Application: Do not start the machine until the burr is inside the component.

_C1225

Type			C0616	C0820	C1225	E1220	F0618
51D 54 0350	Burr **Z7 – medium, diamond cut**	Carbide	XXX	XXX	XXX	XXX	XXX
Shape description			Ball nose	ball nose	ball nose	teardrop	round arch
Head ⌀		mm	6	8	12	12	6
Head length		mm	16	20	25	20	18
Overall length		mm	216	220	225	220	218

Illustration: Tooth configuration

Z7

Type			D0605	D0807	D1009	D1210
51D 54 0350	Burr **Z7 – medium, diamond cut**	Carbide	XXX	XXX	XXX	XXX
Shape description			Ball			
Head ⌀		mm	6	8	10	12
Head length		mm	5	7	9	10
Overall length		mm	205	207	209	210

Illustration: Tooth configuration

Z7

54

PFERD Spindle extension for burrs

Spindle extension for milling and grinding points.
Application: For working in hard to reach spots.

Note: For reasons of safety, extensions are not permissible in combination with milling points with long shanks.

Countersink shank ⌀		mm	3	6
55A 54 6930	Spindle extension		XXX	XXX
Clamping shank ⌀		mm	6	8
Overall length		mm	150	

54 6930

Burr set

Shank ⌀ 3 mm

3mm
⌀

					Supplied with:
51D 54 6940		Mini burr set, 10 pieces **Z7 – medium, diamond cut**	Carbide	XXX	1 pc. each No. 546900 size AS0313; AS0613; C0313; C0613; D0302; D0605; F0313; G0313; G0613; M0613.
51D 54 6960	Garant	Mini burr set, 7 pieces **Z7 – medium, diamond cut**	Carbide	XXX	1 pc. each No. 546900 size AS0313 / AS0613 / D0605 / C0313 / C0613 / G0313 / G0613.
51D 54 6965		Mini burr set, 5 pieces **Z9 very coarse (NF/Alu)**	Carbide	XXX	1 pc. each No. 546908 size A0313; C0313; D0403; F0313; G0313.
52D 54 6970	HOLEX	Mini burr set, 10 pieces **Z7 – medium, diamond cut**	Carbide	XXX	1 pc. each No. 546910 size A0313; AS0313; C0313; D0302; D0403; E0307; F0313; G0313; H0307; M0311.

54 6940

54 6970

Shank ⌀ 6 mm

6mm
⌀

							Supplied with:
NEW 51D 54 1405		Burr set **5 pieces, Multi Cut – medium**	Carbide	XXX	–	–	1 pc. each No. 540220 size A0616, C0616, D0807; G0618; M1020.
NEW 51D 54 1406			Carbide TiAlN	XXX	–	–	1 pc. each No. 540222 size A0616, C0616, D0807; G0618; M1020.
NEW 51D 54 1410	Garant	Burr set **8 pieces, Multi Cut – medium**	Carbide	–	XXX	–	1 pc. each No. 540220 size A0616; A1020; C0616; C1020; D0605; D1009; G0618; M1020.
NEW 51D 54 1411			Carbide TiAlN	–	XXX	–	1 pc. each No. 540222 size A0616; A1020; C0616; C1020; D0605; D1009; G0618; M1020.
51D 54 1460		Burr set **8 pieces, Z9 – very coarse (NF/Alu)**	Carbide	–	XXX	–	1 pc. each No. 540709 size AS0616; AS1225; C0616; C1225; D0807; F0618; F1225; L1020.
56L 54 1470	LUKAS	Burr set **5 pieces, Z4 – medium, diamond cut**	Carbide TiAlN	XXX	–	–	1 pc. each No. 540560 size A1020; C1020; D1009; F1020; M1020.
52D 54 1510	HOLEX	Burr set **10 pieces, Z7 - medium, diamond cut**	Carbide	–	–	XXX	1 pc. each No. 540750 size AS0616; AS1020; AS1225; C0616; C1225; D1009; G0618; G1630; F1225; M1020.
52D 54 1550		Burr set **10 pieces, Z3 – medium, with chip breaker**	HSS	–	–	XXX	1 pc. each No. 540800 size AS0616; AS1020; AS1225; C0616; C1225; M1225; D1210; G0618; G1225; G1630.

54 1410

54 1510

Burrs for deburring work

6mm ⌀ 8mm ⌀

Size AF0627 – **Deburring head** with guide face, without cutter at the tip.
Size MN1225 – **Combination** of pointed cone and angle for deburring and chamfering **inner and outer edges.** Special tooth geometry for **optimum guidance even on sharp edges.**
Size T1610/6; T1610/8 – **Deburring head (internal)** with left-hand helical toothing and 45° angle for **chamfering**.
Size R0812–R1315 – **Deburring head (external)** with radius for edge rounding.
Size J1010–J1613 – Conical shape for **countersinking** and **chamfering.**

Note: Reduced speed for burrs with an overall length of 120 mm: maximum 11,000 rpm

Type			AF0627	NS1230	K1230	MN1225	T1610/6	T1610/8
51D 54 1000	Garant Burr	Carbide	XXX	–	–	XXX	XXX	XXX
52D 54 1200	HOLEX Burr Z3 – medium **with chip breaker**	HSS	–	XXX	XXX	–	–	–
Tooth type abbreviation			–	Z3	Z3	–	–	–
Shape description			Cylindrical with guide face	Angle with end cut	club	deburring	Deburring	Deburring
Head ⌀		mm	6	12	12	12	16	16
Head length		mm	27	30	30	25	10	10
Overall length		mm	60	70	70	70	70	120
Shank ⌀		mm	6	6	6	6	6	8
Angle		degrees	–	8	–	–	45	45

Type			R0812	R1015	R1315	J1010	J1013	J1613
51D 54 1000	Garant Burr	Carbide	XXX	XXX	XXX	XXX	XXX	XXX
Shape description			deburring	deburring	deburring	countersink	countersink	countersink
Head ⌀		mm	8	10	13	10	10	16
Head length		mm	12	15	15	10	13	13
Overall length		mm	52	55	55	50	53	53
Shank ⌀		mm	6					
Angle		degrees	–	–	–	90	60	90
Radius		mm	2.5	8	10	–	–	–

54

Garant Carbide burrs for shaping plastics (CRP/GRP)

3mm ⌀ 6mm ⌀ 8mm ⌀

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
Z P Kunststoff												●						

The special tooth geometry generates **reduced cutting forces** and **avoids frayed fibres.** Cylindrical shape (ZYA).
Cutter geometry ideal for hard CRP/GRP with fibre content > 40 %.

Application: Side milling, contour milling and deburring (especially of fibre-reinforced plastics).

Type			AS0315	AS0625	AS0828
51D 54 7330	Burr, fine **Tooth configuration P – plastic**	Carbide	–	XXX	XXX
51D 54 7340	Burr, coarse **Tooth configuration P – plastic**	Carbide	XXX	XXX	XXX
End face profile			Two-flute end face cut		
Head ⌀		mm	3	6	8
Head length		mm	15	25	28
Overall length		mm	43	64	73
Shank ⌀		mm	3	6	8

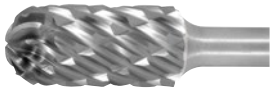
Burrs tooth type STEEL

The innovative tooth geometry permits **very high metal removal rates** combined with **smooth cutting and good guidance accuracy.** The optimised chip formation (no pointed chips) ensures good surface quality. Shank ⌀ 6 mm.

Application: Optimised for **use on steel and steel castings.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni
Z Steel / Stahl		●	●	●	●	●				●						

6mm ⌀



Type				A0616	A0820	A1020	A1225	C0616	C0820	C1020	C1225	C1625
55F 54 7100	PFERD	Burr **Tooth configuration STEEL – coarse**	Carbide	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
52D 54 0740	HOLEX	Burr **Z steel – coarse**	Carbide	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
Shape description				Cylindrical	cylindrical	cylindrical	cylindrical	ball nose	ball nose	ball nose	ball nose	ball nose
Head ⌀ (54 7100)			mm	6	8	10	12	6	8	10	12	16
Head ⌀ (54 0740)			mm	6	8	9.6	12.7	6	8	9.6	12.7	–
Head length (54 7100)			mm	16	20	20	25	16	20	20	25	25
Head length (54 0740)			mm	18	19	19	25	18	19	19	25	–
Overall length (54 7100)			mm	55	60	60	65	55	60	60	65	70
Overall length (54 0740)			mm	50	64	64	70	50	64	64	70	–

Type				D0605	D0807	D1009	D1210	D1614	G0618	G0820	G1020	G1225
55F 54 7100	PFERD	Burr **Tooth configuration STEEL – coarse**	Carbide	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
52D 54 0740	HOLEX	Burr **Z steel – coarse**	Carbide	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX
Shape description				ball	ball	ball	ball	ball	pointed	pointed	pointed	pointed
Head ⌀ (54 7100)			mm	6	8	10	12	16	6	8	10	12
Head ⌀ (54 0740)			mm	6	8	9.6	12.7	–	6	8	9.6	12.7
Head length (54 7100)			mm	5	7	9	10	14	18	20	20	25
Head length (54 0740)			mm	5	7	8	11	–	20	19	19	25
Overall length (54 7100)			mm	45	47	49	51	54	55	60	60	70
Overall length (54 0740)			mm	50	52	54	56	–	50	64	64	70

Type				F0618	F0820	F1020	F1225	L1020	L1230
55F 54 7100	PFERD	Burr **Tooth configuration STEEL – coarse**	Carbide	XXX	XXX	XXX	XXX	XXX	XXX
52D 54 0740	HOLEX	Burr **Z steel – coarse**	Carbide	XXX	XXX	XXX	XXX	XXX	XXX
Shape description				round arch	round arch	round arch	round arch	Round cone	round cone
Head ⌀ (54 7100)			mm	6	8	10	12	10	12
Head ⌀ (54 0740)			mm	6	8	9.6	12.7	9.6	13.2
Head length (54 7100)			mm	18	20	20	25	20	30
Head length (54 0740)			mm	18	20	19	25	30	32
Overall length (54 7100)			mm	55	60	60	65	60	70
Overall length (54 0740)			mm	50	65	64	70	76	77

Burr sets - tooth configuration STEEL / steel

6mm ⌀

					Supplied with:
55F 54 7105	PFERD	Burr set **5 pieces, tooth configuration STEEL – coarse**	Carbide	XXX	1 pc. each No. 547100 size A1225; C1225; D1210; G1225; F1225.
52D 54 7120	HOLEX	Burr set **8 pieces, Z steel – coarse**	Carbide	XXX	1 pc. each No. 540740 size A0616; A1020; A1225; C1225; D1009; G0820; F1225; L1020.

54 7105

54 7120

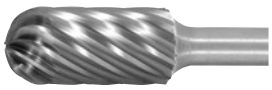
Burrs tooth type INOX

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
54 7110–54 7250	○							●	○		○							

The innovative tooth geometry permits **very high metal removal rates** combined with **smooth cutting and good guidance accuracy.**
Outstanding chip formation and surface results, low heat input into the material (no tempering colouration). Shank ⌀ 6mm.

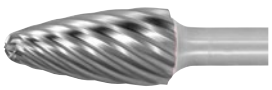
Application: Optimised for use on **austenitic, rust-resistant and acid-resistant steels**, soft titanium alloys and non-ferrous metals.

6mm
⌀



Type			A0616	A0820	A1020	A1225	C0616	C0820	C1225	C1225
55F 54 7200	PFERD	Burr	Carbide	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
52D 54 7250	HOLEX	Tooth profile INOX – coarse	Carbide	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shape description				cylindrical	cylindrical	cylindrical	cylindrical	ball nose	ball nose	ball nose	ball nose
Head ⌀ (54 7200)		mm		6	8	10	12	6	8	10	12
Head ⌀ (54 7250)		mm		6	8	9.6	12.7	6	8	9.6	12.7
Head length L_1 (54 7200)		mm		16	20	20	25	16	20	20	25
Head length L_1 (54 7250)		mm		18	19	19	25	18	19	19	25
Overall length (54 7200)		mm		55	60	60	65	55	60	60	65
Overall length (54 7250)		mm		50	64	64	70	50	63	63	70

Type			D0605	D0807	D1009	D1210	G0618	G0820	G1020	G1225
55F 54 7200	PFERD	Burr	Carbide	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
52D 54 7250	HOLEX	Tooth profile INOX – coarse	Carbide	–	–	XXX	–	–	XXX	–	–
Shape description				ball	ball	ball	ball	pointed	pointed	pointed	pointed
Head ⌀ (54 7200)		mm		6	8	10	12	6	8	10	12
Head ⌀ (54 7250)		mm		–	–	9.6	–	–	8	–	–
Head length L_1 (54 7200)		mm		5	7	9	10	18	20	20	25
Head length L_1 (54 7250)		mm		–	–	8	–	–	19	–	–
Overall length (54 7200)		mm		45	47	49	51	55	60	60	65
Overall length (54 7250)		mm		–	–	54	–	–	64	–	–



Type			F0618	F0820	F1020	F1225	L1020	L1230
55F 54 7200	PFERD	Burr	Carbide	XXX	XXX	XXX	XXX	XXX	XXX
52D 54 7250	HOLEX	Tooth profile INOX – coarse	Carbide	XXX	XXX	XXX	XXX	XXX	XXX
Shape description				round arch	round arch	Round arch	round arch	round cone	round cone
Head ⌀ (54 7200)		mm		6	8	10	12	10	12
Head ⌀ (54 7250)		mm		6	8	9.6	12.7	10	12.7
Head length L_1 (54 7200)		mm		18	20	20	25	20	30
Head length L_1 (54 7250)		mm		18	20	19	25	20	32
Overall length (54 7200)		mm		55	60	60	65	60	70
Overall length (54 7250)		mm		50	65	64	70	65	77

Burr sets - tooth type INOX

6mm
⌀

Number of burrs			5	8	Supplied with:
55F 54 7110	PFERD	Burr set **5 pieces, tooth profile INOX - coarse**	Carbide	XXX	–	1 pc. each No. 547200 size A1225; C1225; D1210; G1225; F1225.
52D 54 7115	HOLEX	Burr set **8 pieces, tooth profile INOX - coarse**	Carbide	–	XXX	1 pc. each No. 547250 size A0616; A1020; A1225; C1225; D1009; G0820; F1225; L1020.

54 7110

54 7115

Grinding and polishing points

GARANT / LUKAS / PFERD grinding points (OSA certified and tested to DIN EN 12 413) are specially designed for hardness, bonding, grit type, and grit size for the specific applications and cover a very wide application range. Minimal radial run-out ensures vibration-free grinding which is good for man, machine, and component. GARANT grinding points are generally suitable for **edge and surface grinding** and are characterised by very high material removal rates, long service life, and consistent surface finish quality of the component.

GARANT polishing points are characterised by long service life and quick production of fine, even surface finishes. Finest polishing grades or surfaces right up to mirror finish can be achieved, depending on the version used. GARANT polishing points can be profiled using dressing sticks.

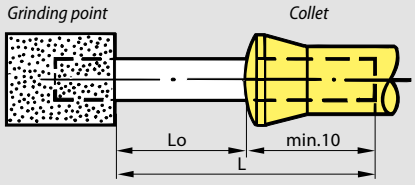
Grinding medium	Aluminium oxide **AR**	Standard aluminium oxide **AN**	Mixed alum. oxide **AW-AN**	Mixed alum. oxide **AD-AW**	Mixed alum. oxide **AW-CER**	Silicon carbide **SiC**	Aluminium oxide / polishing rubber			Polishing felt with grinding compound	Polishing felt with diamond compound	Diamond-polishing points
Brand	Garant	Garant	Garant	LUKAS	PFERD	LUKAS	Garant			Garant	Garant	Garant
No.	55 0100 – 55 1200	55 1600	55 1700	55 0310 / 55 1510	55 1790 / 55 1791	55 1780	55 1850 – 55 1922			55 2250	55 2330	55 1940 – 55 1943
Low-alloy steel	●	○	○				●	●	●	●	○	●
Stainless steel	○	●	○		○		●	●	●	●	○	●
High-alloy steel	○	●	○	○	●		●	●	●	●	○	●
Cast (grey temp.)	○	○	●			○	○	○	○	●	○	●
Tempered steel	○	○	○	●	●		○	○	○	○	●	●
Hardened steel	○	○		●	●	○	○	○	○	○	●	●
Titanium alloys / nickel alloys					●		●	●	●			●
Alu / NF metals						●	●	●	●	●	○	●
Grit	coarse (24 – 60 grit)* fine (46 – 100 grit)	coarse (24 – 46 grit)	coarse (30 grit)	fine (100 grit)	coarse (46 grit) fine (80 grit)	fine (80 grit)	coarse (80 grit)	medium (120 grit)	fine (220 grit)	fine (55 2250_150) very fine (55 2250_280)	very fine up to polishing	very fine up to gloss polishing
Degree of hardness	medium	soft	medium	medium	soft	soft	soft resilient			very soft	very soft	soft resilient
Bonding	ceramic	artificial resin	ceramic	ceramic	ceramic	ceramic	soft rubber			–	–	PU
Recommended cutting speed v in m/s	**30 – 50**	**40 – 50**	**40 – 50**	**10 – 30**	**30 – 50**	**25 – 40**	**10 – 15**			**5 – 10**	**1 – 3**	**1 – 2**
Application	**Grinding**	**Grinding**	**Grinding**	**Fine grinding, deburring,** edge grinding	**Grinding**	**Grinding**	**Fine grinding** (not for edges or rough surfaces)			**Polishing**	**Polishing**	**Polishing** up to **high-gloss polishing**

*) The larger the grinding point, the coarser the grit.

Speeds

Calculation: $$n = \frac{v\ [m/s] \times 60{,}000}{D\ [mm] \times \pi}$$

Maximum permissible speeds
(for grinding points No. 55 0100 – 55 1791 to DIN EN 12413).
Each package of grinding points (10 pieces) includes information about the maximum working speed in conjunction with the free shaft length L_0.



Permissible maximum speed in rpm for a free shank length LO of

L_0	10	**15**	20	mm
rpm	64	53	45	×1000

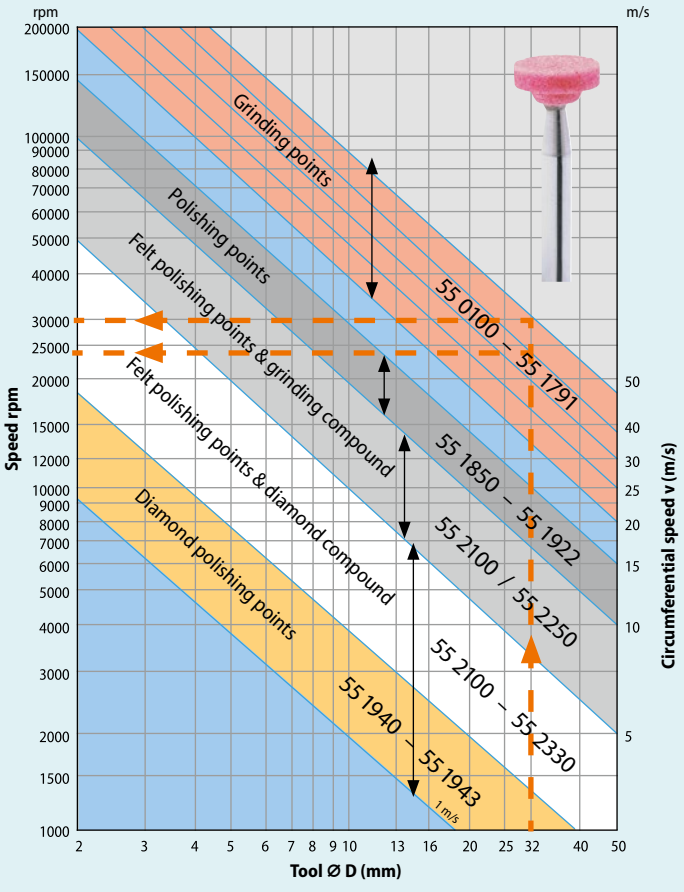
Important!

- The maximum permissible speed relates to the unsupported shank length L_0, i.e. depends on the mounting.
- 10 mm minimum clamped length in the collet must be maintained in all cases.
- Max. permissible circumferential speed v_{max} = 50 m/s.

Grinding medium

Code		Code LUKAS	Code PFERD
Aluminium oxide, pink	= AR	EKR	AR
Aluminium oxide, dark red	= AD	EKD	AD
Aluminium oxide, white	= AW	EKW	AW
Standard aluminium oxide	= AN	NK	AN
Ceramic grit	= CER	CERAMIC	CO
Silicon carbide green	= SiC	SiC-ALU	CN
Mixed grit AN + AD + AW	= AD-AW	NDW	ADW
Mixed grit AW + AN	= AW-AN	HK	AWN
Mixed grit AW + CER	= AW-CER	CERAMIC	AWCO

Recommended speeds



Example grinding points No. 55 1700 ZY 3232 (mixed alum. oxide AW-AN). Head Ø: 32 mm. Recommended circumferential speed: 40 – 50 m/s. Recommended speed range: 24,000 – 30,000 rpm.

A

Garant

Grinding point pink aluminium oxide (AR)

Ceramic bonded grinding points in **pink electro-carborundum (AR).** Medium-hard version.

Application: For general-purpose grinding of **unalloyed and low-alloy** steels and **cast iron.** Recommended cutting speed 30 – 50 m/s.

ZY

Small grinding point shank Ø 3 mm.

Fine grit. Shank Ø 3 mm, shank length 30 mm.

Type			ZY0205	ZY0306	ZY0408	ZY0510	ZY0610	ZY0613	ZY0810	SP0306	SP0510	KU10	
51E 55 0400	Mini grinding point **fine**	AR	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
Head Ø		mm	2	3	4	5	6	6	8	3	5	10	
Head length L_1		mm	5	6	8	10	10	13	10	6	10	10	
Shank Ø		mm	3										

SP KU

Grinding points shank Ø 6 mm and 8 mm

55 0700 – Fine grit. Shank length 40 mm.
Size ZY5025 – Shank Ø 8 mm.
55 0600/0800/0900/1200 – Coarse grit. Shank length 40 mm.

Type			ZY0610	ZY0613	ZY0816	ZY1020	ZY1032	ZY1325	ZY1632	ZY2025	ZY2532	
51E 55 0600	Grinding point **coarse**	AR	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
51E 55 0700	Grinding point **fine**	AR	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
Head Ø		mm	6	6	8	10	10	13	16	20	25	
Head length L_1		mm	10	13	16	20	32	25	32	25	32	
Shank Ø		mm	6									

ZY

Type			ZY1604	ZY2006	ZY2513	ZY3216	ZY4020	ZY5025	
51E 55 0800	Grinding point **coarse**	AR	XXX	XXX	XXX	XXX	XXX	XXX	10
Head Ø		mm	16	20	25	32	40	50	
Head length L_1		mm	4	6	13	16	20	25	
Shank Ø		mm	6	6	6	6	6	8	

ZY

Type			SP0510	SP0816	SP1320	SP2032	
51E 55 0900	Grinding point **coarse**	AR	XXX	XXX	XXX	XXX	10
Head Ø		mm	5	8	13	20	
Head length L_1		mm	10	16	20	32	
Shank Ø		mm	6				

SP

Type			KU08	KU16	KU20	KE1025	KE1645	KE2032	
51E 55 1200	Grinding point **coarse**	AR	XXX	XXX	XXX	XXX	XXX	XXX	10
Head Ø		mm	8	16	20	10	16	20	
Head length L_1		mm	8	16	20	25	45	32	
Shank Ø		mm	6						

KU KE

Grinding point sets

Assortment of grinding points in the most popular shapes and sizes.

Supplied with:

55 0100 – 1 each grinding point ZY0205 / ZY0306 / ZY0510 / ZY1303 / ZY1604 / KU06 / KU10 / SP0306 / D18 0708 / B53 0816.

55 0200 – 1 each grinding point ZY1020 / ZY1325 / ZY1632 / ZY2006 / ZY2025 / SP1320 / SP2032 / KE2032 / KU16 / KU20.

Number of grinding points			10	Shank Ø mm	Shaft length mm
51E 55 0100	Set of grinding points **fine**	AR	XXX	3	30
51E 55 0200	Set of grinding points **coarse**	AR	XXX	6	40

55 0200

A

Small grinding points, mixed grit (AD-AW)

Mini grinding points with **mixed grit** (**AD-AW**) of standard aluminium oxide, dark red aluminium oxide and white monocrystalline aluminium oxide (LUKAS designation NDW) in 100 grit (fine). Ceramic bonding. Shank ∅ 3 mm, shank length 50 mm.

Application: Grinding points with high shape stability are particularly suitable for fine grinding and edge grinding of **(hardened) tool steels** and **Cr-Ni steels** in toolmaking and mould-building. Recommended cutting speed 10 – 30 m/s.

Small grinding point shank ∅ 3 mm.

Type			ZY0205	ZY0306	ZY0408	ZY0610	ZY0810	ZY1013	WR1013	
56L 55 1510	Mini grinding point **fine**	AD-AW	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
Head ∅		mm	2	3	4	6	8	10	10	
Head length L_1		mm	5	6	8	10	10	13	13	
Shank ∅		mm	3							

_ZY _WR

Type			SP0510	SP0810	KU03	KU04	KU06	KU08	
56L 55 1510	Mini grinding point **fine**	AD-AW	XXX	XXX	XXX	XXX	XXX	XXX	10
Head ∅		mm	5	8	3	4	6	8	
Head length L_1		mm	10	10	3	4	6	8	
Shank ∅		mm	3						

_SP _KU

Small grinding point set

Assortment of grinding points in the most popular shapes and sizes.

Supplied with: 1 each grinding points No. 551510 size ZY0408 / ZY0610 / ZY0810 / ZY1013 / SP0510 / SP0810 / WR1013 / KU04 / KU06 / KU08.

Number of grinding points			10	Shank ∅ mm	Shaft length mm
56L 55 0310	Set of grinding points **fine**	AD-AW	XXX	3	50

55 0310

A

Grinding points standard grade (AN)

Grinding point in **standard aluminium oxide (AN)** in coarse grit and synthetic resin bonding. Shank length 40 mm.
Size ZY5025 – Shank ∅ 8 mm.

Application: For grinding of **high-alloy** steel, stainless steel and **cast iron.**
Recommended cutting speed 40 – 50 m/s.

Type			ZY1032	ZY1325	ZY1632	ZY2025	ZY4020	ZY5010	ZY5025	
51E 55 1600	Grinding point **coarse**	AN	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
Head ∅		mm	10	13	16	20	40	50	50	
Head length L_1		mm	32	25	32	25	20	10	25	
Shank ∅		mm	6	6	6	6	6	6	8	

55 1600

A

Grinding points mixed grade (AW-AN)

Grinding point in special quality **mixed aluminium oxide,** 30 grit (coarse), and ceramic bonding. Shank ∅ 6 mm, shank length 40 mm.

Application: For coarse grinding of **cast iron** and **stainless steel.** Recommended cutting speed 40 – 50 m/s.

Type			ZY1632	ZY2025	ZY2040	ZY3232	SP2032	
51E 55 1700	Grinding point **coarse**	AW-AN	XXX	XXX	XXX	XXX	XXX	10
Head ∅		mm	16	20	20	32	20	
Head length L_1		mm	32	25	40	32	32	
Shank ∅		mm	6					

_ZY _SP

SiC

Silicon carbide (SiC) grinding points

Ceramic bonded **SiC** grinding points, 80 grit (fine), with high self-sharpening effect and open-pore structure for improved reduction of clogging. Shank ∅ 6 mm, shank length 40 mm.

Application: For grinding **aluminium alloys** and **soft materials (non-ferrous metals).**
Recommended circumferential speed 25 –40 m/s.

Type			ZY1013	ZY1020	ZY2025	ZY4020	KE1632	
56L 55 1780	Grinding point **fine**	SiC	XXX	XXX	XXX	XXX	XXX	10
Head ∅		mm	10	10	20	40	16	
Head length L_1		mm	13	20	25	20	32	
Shank ∅		mm	6					

_ZY _KE

CER

PFERD Grinding points mixed grit (AD-CER)

Grinding point with **mixed grit (AW-CER)** in **hardness J.** Soft bonded combination of **white aluminium oxide** and **ceramic micro-crystalline sintered aluminium oxide** with high self-sharpening characteristics for consistently high metal removal rates coupled with cool grinding behaviour (Pferd designation AWCO).

Application: For surface grinding of superalloys that are difficult to grind such as **titanium materials, nickel** and **cobalt-based alloys**, and also **hardened steel.**
Recommended cutting speed 30 – 50 m/s.

55

Shank ∅ 3 mm

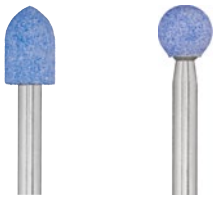
Shank ∅ 3×30 / 6×40 mm

55 1790 – **Coarse,** 46 grit.
55 1791 – **Fine,** 80 grit.

Type			ZY0205	ZY0408	ZY0613	ZY0816	
55E 55 1790	Grinding point hardness J **coarse**	AW-CER	–	–	XXX	XXX	10
55E 55 1791	Grinding point hardness J **fine**	AW-CER	XXX	XXX	XXX	XXX	10
Head ∅		mm	2	4	6	8	
Head length L_1		mm	5	8	13	16	
Shank ∅		mm	3				

_ZY

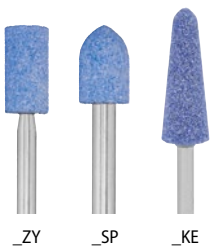
Type			SP0408	SP0613	SP0816	KU03	KU06	KU08	
55E 55 1790	Grinding point hardness J **coarse**	AW-CER	–	XXX	XXX	–	–	XXX	10
55E 55 1791	Grinding point hardness J **fine**	AW-CER	XXX	XXX	XXX	XXX	XXX	XXX	10
Head ∅		mm	4	6	8	3	6	8	
Head length L_1		mm	8	13	16	3	6	8	
Shank ∅		mm	3						


_SP _KU

Shank ∅ 6 mm

55 1795 – **Coarse,** 46 grit.
55 1796 Size KE1645 – **Fine,** 60 grit.
55 1796 Size ZY1020–ZY1325 – **Fine,** 80 grit.

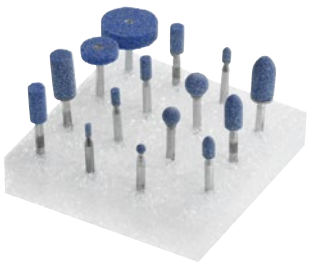
Type			ZY1020	ZY1325	ZY4020	SP1320	KE1645	
55E 55 1795	Grinding point hardness J **coarse**	AW-CER	XXX	XXX	XXX	XXX	XXX	10
55E 55 1796	Grinding point hardness J **fine**	AW-CER	XXX	XXX	–	XXX	XXX	10
Head ∅		mm	10	13	40	13	16	
Head length L_1		mm	20	25	20	20	45	
Shank ∅		mm	6					


_ZY _SP _KE

Grinding point set

Assortment of grinding points in the most popular shapes and sizes.

Supplied with: 1 each grinding point ZY0205 / ZY0306 / ZY0408 / ZY0510 / ZY0613 / ZY0816 / ZY1303 / ZY2006 / KU03 / KU06 / KU08 / SP0306 / SP0408 / SP0613 / SP0816.



Number of grinding points			15	Shank ∅ mm	Shaft length mm
55E 55 0305	Grinding points set **fine**	AW-CER	XXX	3	30

SiC

Garant Marbling points, PU-bonded

Silicon carbide (SiC) in 46 grit **resiliently bonded in plastic (PU)** and mounted on support disc, with 6 mm steel shank.

Application: For marbling and decorative effects on steel, stainless steel, non-ferrous metals.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2000	●	●	●	●	●	●	○	●	●	○		●					●	●

Head ∅		mm	30	40	50	
51E 55 2000	Marbling point		XXX	XXX	XXX	10
Head ∅		mm	30	40	50	
Head length		mm		30		
Shank ∅		mm		6		
Shaft length		mm		40		
maximum speed		rpm	10000	7500	6000	

55 2000

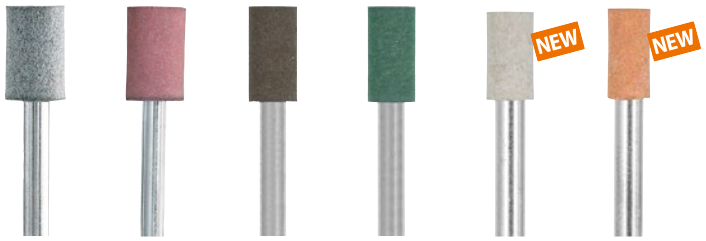
A

Garant Polishing points, rubber-bonded

Polishing points with **standard aluminium oxide (A)** in resilient rubber bonding.

Application: **For fine abrasion and polishing of steel, stainless and acid-resistant steel, high-temperature materials and non-ferrous metals.** Polishing grinding points do not clog even when used on materials prone to clogging. For matt finish or application of visual effects on stainless containers etc. **Due to resilient bonding of abrasive grit a very fine polish is achieved.**
Not suitable for sharp edges and rough surfaces.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 1850–55 1924	●	●	●	●	●	●		●	●		●							●



55 1850 55 1900 55 1920 55 1922 55 1923 55 1924

Head ∅×head length		mm	4×8	6×10	8×10	10	
51E 55 1850	Polishing point grit 80 (grey) **coarse**		XXX	XXX	XXX	–	10
51E 55 1900	Polishing point grit 120 (red) **medium**		XXX	XXX	XXX	XXX	10
51E 55 1920	Polishing point grit 220 (brown) **fine**		XXX	XXX	XXX	–	10
51E 55 1922	Polishing point 280 grit (green) **very fine**		XXX	XXX	XXX	–	10
51E 55 1923	Polishing point 400 grit (white) **super-fine**		XXX	XXX	XXX	–	10
51E 55 1924	Polishing point 600 grit (orange) **ultra-fine**		XXX	XXX	XXX	–	10
Shape description			cylindrical	cylindrical	cylindrical	ball	
Head ∅		mm	4	6	8	10	
Shank ∅		mm	3				
recommended circumferential speed		m/s	10 – 15				

Head ∅×head length		mm	10×20	13×20	16×32	20×32	25×25	32×32	
51E 55 1850	Polishing point grit 80 (grey) **coarse**		XXX	XXX	XXX	–	–	–	10
51E 55 1900	Polishing point grit 120 (red) **medium**		XXX	XXX	XXX	XXX	XXX	XXX	10
51E 55 1920	Polishing point grit 220 (brown) **fine**		XXX	XXX	XXX	XXX	–	–	10
51E 55 1922	Polishing point 280 grit (green) **very fine**		XXX	XXX	–	–	–	–	10
51E 55 1923	Polishing point 400 grit (white) **super-fine**		XXX	XXX	–	–	–	–	10
51E 55 1924	Polishing point 600 grit (orange) **ultra-fine**		XXX	XXX	–	–	–	–	10
Shape description			cylindrical						
Head ∅		mm	10	13	16	20	25	32	
Shank ∅		mm	6						
recommended circumferential speed		m/s	10 – 15						

Garant Felt polishing points

Long-lived felt polishing point with **medium-hard felt which keeps its shape especially well.**

Application: For rough polishing and high-gloss finish polishing of ground surfaces where there is a strict requirement for maintaining the exact geometrical shapes.

Note: Felt polishing points must be used in conjunction **with grinding and polishing pastes** such as No. 552250 / 552330 / 552340 / 555740. Recommended circumferential speed 5 -10 m/s.

Type			ZY0610	ZY0810	ZY1012	SP0610	KU10	KE1012	
51E 55 2100	Felt polishing point **Shank Ø 3 mm**		XXX	XXX	XXX	XXX	XXX	XXX	10
Head Ø		mm	6	8	10	6	10	10	
Head length		mm	10	10	12	10	9	12	
Shank Ø		mm	3						

Type			167	169	170	171	172	173	
51E 55 2200	Felt polishing point **Shank Ø 6 mm**		XXX	XXX	XXX	XXX	XXX	XXX	10
Head Ø		mm	10	10	20	25	30	40	
Head length		mm	15	15	25	30	40	10	
Shank Ø		mm	6						

55

Garant Polishing sponge / abrasive fleece wheels

55 2205 – 3-layered felt for gloss polishing of fine contours.
55 2206 – Fine cotton yarn for gloss polishing of fine contours.
55 2207 – Abrasive fleece for fine matting work.

Application: For high-gloss finish polishing of ground surfaces where there is a strict requirement for maintaining the exact geometrical shapes.

Note: Polishing sponges must be used in conjunction **with grinding and polishing pastes** such as No. 552250 / 552330 / 552340 / 555740. Recommended circumferential speed 5 - 10 m/s.

NEW

Type			220	280	360	F	B	
55A 55 2207	Abrasive fleece wheel		XXX	XXX	XXX	–	–	10
55A 55 2205	Felt polishing sponge		–	–	–	XXX	–	10
55A 55 2206	Cotton yarn polishing sponge		–	–	–	–	XXX	10
Head Ø		mm	30	30	30	22	22	
Shank Ø		mm	3					
Brush material			ZC	SiC	ZC	Felt	Cotton thread	

D

Garant CaraFin diamond polishing point

Polishing points of **resilient PU material** coated on the outer face with diamond grit. The effectiveness of the bonded diamond grit is significantly greater than that achieved by loose diamond grit in polishing pastes.

Application: Polishing work with very high flexibility and conformity to contours.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 1940–55 1943	●	●	●	●	●	●	●	●	●	●	●	●			●	●		●

Type				ZY0608	ZY1010	ZY1610		Grit designation
51G 55 1943	CaraFin diamond polishing point	D126		XXX	XXX	XXX	1	Pre-polishing
51G 55 1942		D64		XXX	XXX	XXX	1	Polishing
51G 55 1941		D10		XXX	XXX	XXX	1	Final polishing
51G 55 1940		D3		XXX	XXX	XXX	1	Mirror finish
Head Ø			mm	6	10	16		
Head length			mm	8	10	10		
Shank Ø			mm	3	6	6		
recommended circumferential speed			m/s	1 – 2				

_ZY0608 _ZY1610

D

Garant Diamond grinding points – brazed metal bonding

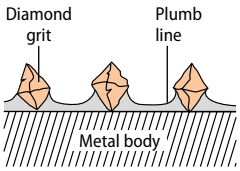
Precision-ground blanks with **diamond application** in **vacuum brazing processes.**

Advantage:
- More free-cutting than galvanically bonded grinding points due **large grit projection** (about 70% of the grit projects from the bonding material) and **stronger bonding.**
- The **open structure** and **coarse D427 grit** reduce the grinding temperature and minimise the tendency to clog up.

Application: For hand-held use, on industrial robots or CNC grinding machines for **rough grinding work** with high material removal rates. **Side milling, contour milling** of composite materials (CRP/GRP), fibreglass, graphite, honeycomb.

Note: Other grit grade, special shapes or grinding points with internal cooling for stationary use are available in request.

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni	●	○
55 2750												15-20		15-20			●	○



Type			ZY0620	ZY0825	ZY4004	C0620	KU10	SK1508	RD2515
51E 55 2750	Diamond grinding points **brazed D427**	D	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shape description			Cylindrical	Cylindrical	Disc	ball nose	ball	Countersinking	Concave
Head ∅		mm	6	8	40	6	10.5	15	25
Overall length		mm	60	80	50	60	60	48	50
Shank ∅		mm	6	8	6	6	6	6	8
Angle		degrees	–	–	–	–	–	90	–
Radius		mm	–	–	–	–	–	–	5

D

Garant Diamond grinding points – galvanic metallic bonding

Application: For **carbide, technical ceramic, grey cast iron and spheroidal graphite iron, glass, CRP/GRP.**

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni	●	○
55 2500–55 2810							15-20					15-20		15-20			●	○

Precision ground points with **diamond coating.** Very free-cutting and very long service life due to **galvanic nickel bonding.**

Application: For hand-held use, on industrial robots or internal cylindrical grinding machines and CNC grinding machines for **finish grinding** of bores, radii, contours, and for **deburring and chamfering.**

55 2500_1,6 55 2500_8

Head ∅		mm	1	1,4	1,6	2	2,4	3	4	5	6	8	10	12	15
51E 55 2500	Diamond grinding points **galvanic D126**	D	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shape description			Cylindrical												
Head ∅		mm	1	1.4	1.6	2	2.4	3	4	5	6	8	10	12	15
Overall length		mm	40	40	40	40	40	40	50	50	60	60	60	60	60
Shank ∅		mm	3	3	3	3	3	3	3	3	6	6	6	6	6

55 2600_3 55 2600_8

Head ∅		mm	1	2	3	4	6	8	12
51E 55 2595	Diamond grinding points **galvanic D91**	D	–	XXX	–	XXX	–	–	–
51E 55 2600	Diamond grinding points **galvanic D126**	D	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shape description			ball						
Head ∅		mm	1	2	3	4	6	8	12
Overall length		mm	45	45	45	45	45	60	60
Shank ∅		mm	3	3	3	3	3	6	6

Shape			ZY1401	C0618	G0307	M0630	T0307	T1005
51E 55 2695	Diamond grinding points **galvanic D64**	D	XXX	–	–	–	–	–
51E 55 2700	Diamond grinding points **galvanic D126**	D	–	XXX	XXX	XXX	XXX	XXX
Shape description			disc	Ball nose	pointed	Cone	Tapered	Tapered
Head ∅		mm	14	6	3	6	3	10
Overall length		mm	36	68	50	61	50	55
Shank ∅		mm	3	6	3	6	3	6
Angle		degrees	–	–	–	30	8	30

Diamond grinding points set

Assortment of grinding points in the most popular shapes and sizes. Shank ∅ 3 mm.

Supplied with: 1 each grinding point.
Cylinder No. 552500 size 1; 2; 3; 5;
Ball No. 552600 size 1; 2; 3; 4; 6;
Gothic arch No. 552700 G0307.

Number of grinding points			10
51E 55 2810	Diamond grinding points set, 10 pieces **D126**	D	XXX
Shank ∅		mm	3

55 2810

55

CBN

Garant CBN grinding points – galvanic metallic bonding

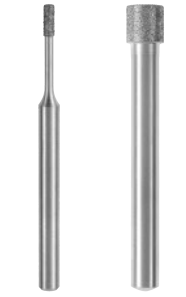
Application: For **all hardened, tempered and high-alloy steels.**

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2550–55 2820			**20-30**	**20-30**	**20-30**	**20-30**		**20-30**	**20-30**	**20-30**							●	○

Precision ground points with **CBN coating.** Very free-cutting and very long service life due to **galvanic nickel bonding.**

Application: For hand-held use, on industrial robots or internal cylindrical grinding machines and CNC grinding machines for **finish grinding** of bores, radii, contours, and for **deburring and chamfering.**

Head ∅		mm	1	1,4	1,6	2	2,4	3	4	5	6	8	10	12	15
51E 55 2550	CBN grinding points **galvanic B126**	CBN	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shape description			Cylindrical												
Head ∅		mm	1	1.4	1.6	2	2.4	3	4	5	6	8	10	12	15
Overall length		mm	40	40	40	40	40	40	50	50	60	60	60	60	60
Shank ∅		mm	3	3	3	3	3	3	3	3	6	6	6	6	6



55 2550_1,6 55 2550_8

Head ∅		mm	1	2	3	4	6	8	12
51E 55 2650	CBN grinding points **galvanic B126**	CBN	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shape description			ball						
Head ∅		mm	1	2	3	4	6	8	12
Overall length		mm	45	45	45	45	45	60	60
Shank ∅		mm	3	3	3	3	3	6	6

55 2650_3 55 2650_8

CBN grinding points set

Assortment of grinding points in the most popular shapes and sizes. Shank ∅ 3 mm.

Supplied with: 1 each grinding point.
Cylinder No. 552550 size 1; 2; 3; 4; 5; Ball No. 552650 size 1; 2; 3; 4; 6.

Number of grinding points			10
51E 55 2820	CBN grinding points set, 10 pieces **B126**	CBN	XXX
Shank ∅		mm	3

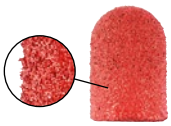
55 2820

Garant Abrasive caps

Optimised grit bonding yields very aggressive abrasion and a high material removal rate.

Application: The seamlessly formed abrasive caps slide on to the rubber body and are securely held in place by centrifugal force when the machine is running. The **abrasive caps can be replaced quickly and easily** (replace in direction of slots).

Note: Compatible only for use with ground abrasive cap holder No. 553100.



	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3035 – 55 3040	○	●	●	●	●	●		●	●	○	○							●
55 3047 – 55 3056	○	●	●	●	○			●	○	●	●	○	○			●		●

Abrasive caps, ceramic (CER)

Ceramic grit (CER) ideal for working on stainless steels and nickel alloys. High removal rate and cool cut.

Abrasive cap ∅, length, form			0511G	0713G	1319G	1626G	1317A	
51E 55 3035	Abrasive cap (CER)	80 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3038		150 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3040		220 grit	XXX	XXX	XXX	XXX	XXX	100
Abrasive cap ∅		mm	5	7	13	16	13	
Abrasive cap length		mm	11	13	19	26	17	
recommended speed		rpm	40000	30000	16000	12000	16000	

Abrasive cap ∅, length, form			1626A	1319C	1626C	1125L	2140L	
51E 55 3035	Abrasive cap (CER)	80 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3038		150 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3040		220 grit	XXX	XXX	XXX	XXX	XXX	100
Abrasive cap ∅		mm	16	13	16	11	21	
Abrasive cap length		mm	26	19	26	25	40	
recommended speed		rpm	12000	16000	12000	20000	9500	

Abrasive caps, special aluminium oxide (A)

A

Special Aluminium Oxide (A) with upper layer bonding for general-purpose use in toolmaking and mould making.

Abrasive cap ∅, length, form			0511G	0713G	1015G	1319G	1626G	
51E 55 3047	Abrasive cap (Special aluminium oxide)	60 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3050		80 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3053		150 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3056		320 grit	XXX	XXX	XXX	XXX	XXX	100
Abrasive cap ∅		mm	5	7	10	13	16	
Abrasive cap length		mm	11	13	15	19	26	
recommended speed		rpm	40000	30000	20000	16000	12000	

Abrasive cap ∅, length, form			1015A	1317A	1626A	0713C	1015C	
51E 55 3047	Abrasive cap (Special aluminium oxide)	60 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3050		80 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3053		150 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3056		320 grit	XXX	XXX	XXX	XXX	XXX	100
Abrasive cap ∅		mm	10	13	16	7	10	
Abrasive cap length		mm	15	17	26	13	15	
recommended speed		rpm	20000	16000	12000	30000	20000	

Abrasive cap ∅, length, form			1319C	1626C	1125L	1632L	2140L	
51E 55 3047	Abrasive cap (Special aluminium oxide)	60 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3050		80 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3053		150 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3056		320 grit	XXX	XXX	–	–	–	100
Abrasive cap ∅		mm	13	16	11	16	21	
Abrasive cap length		mm	19	26	25	32	40	
recommended speed		rpm	16000	12000	20000	12000	9500	

SiC

Garant Abrasive caps silicon carbide (SiC)

Silicon carbide (SiC) ideal for grinding titanium, aluminium and alloys of those metals.

Application: The seamlessly formed abrasive caps slide on to the rubber body and are securely held in place by centrifugal force when the machine is running. **Abrasive caps can be replaced quickly and easily** (replace in direction of slots).

Note: Compatible only for use with ground abrasive cap holder No. 553100.

55

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3327 / 3328	●						●		●		●	●						●

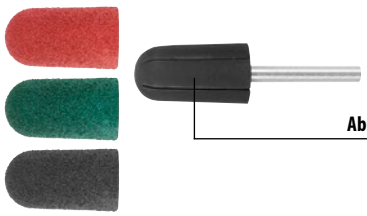
Abrasive cap ∅, -length, shape			0511G	0713G	1319G	1626G	1317A	
51E 55 3327	Abrasive cap (SiC)	80 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3328		150 grit	XXX	XXX	XXX	XXX	XXX	100
Abrasive cap ∅		mm	5	7	13	16	13	
Abrasive cap length		mm	11	13	19	26	17	
recommended speed		rpm	40000	30000	16000	12000	16000	

Abrasive cap ∅, -length, shape			1626A	1319C	1626C	1125L	2140L	
51E 55 3327	Abrasive cap (SiC)	80 grit	XXX	XXX	XXX	XXX	XXX	100
51E 55 3328		150 grit	XXX	XXX	XXX	XXX	XXX	100
Abrasive cap ∅		mm	16	13	16	11	21	
Abrasive cap length		mm	26	19	26	25	40	
recommended speed		rpm	12000	16000	12000	20000	9500	

Garant Abrasive cap holders

Slotted, resilient rubber body with steel shank.

Suitable for: Abrasive caps No. 553035 – 553328.



Abrasive cap holders

Head ∅, head length, shape			0511G	0713G	1015G	1319G	1626G	1015A	1317A	1626A	
51E 55 3100	Abrasive cap holder		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	5
Shank ∅		mm	3	3	3	3	6	3	3	6	
maximum speed		rpm	95000	65000	45000	35000	30000	45000	35000	30000	

Head ∅, head length, shape			0713C	1015C	1319C	1626C	1125L	1632L	2140L	
51E 55 3100	Abrasive cap holder		XXX	XXX	XXX	XXX	XXX	XXX	XXX	5
Shank ∅		mm	3	3	3	6	6	6	6	
maximum speed		rpm	65000	45000	35000	30000	40000	30000	20000	

HOLEX Abrasive sleeve holders cylindrical

Slotted, resilient rubber body with steel shank. Ground outer face for best concentricity.

Head ∅×head length		mm	15×30	10×20	22×20	30×20	30×30	45×30	60×30	
52E 55 3600	Abrasive sleeve holder, slit, shank ∅ 6 mm		XXX	XXX	XXX	XXX	XXX	XXX	XXX	5
minimum speed		rpm	25000	38000	18000	13000	13000	9000	6500	
maximum speed		rpm	36000	55000	26000	19100	19100	12700	9500	

Abrasive sleeves and abrasive flap sleeves

The rubber body of the abrasive sleeve holder expands at high speed to hold the abrasive sleeve in place. The full width of the sleeve can be used, it does not slip and can be replaced quickly and easily (twist in the direction of slots when fitting/removing). Only compatible with abrasive sleeve holders.

Suitable for: Abrasive sleeve holder No. 553600.

Application: Abrasive sleeves are predominantly used for surface grinding tasks which require the removal of large amounts of material – even at sharp edges.

55

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3700–55 3740	●	●	○	○				○		○	●	●	●					●
55 3760/3780/3820	○	●	●	●	○			●	○	●								●
55 3790/3795		○	●	●	●	●		●	●	●	●	●	●					●

Abrasive sleeves cylindrical

Made of non-tearing, synthetic resin bonded material with long service life and good grit adhesion. Unsuitable for use with cooling lubricants.

55 3700–3740 – **Aluminium oxide (A).**
55 3760/3780 – **Zirconium Aluminium Oxide (ZA).**
55 3790/3795 – **Ceramic grit (CER).**

A ZA CER

Sleeve ∅×Width of sleeve			mm	10×20	15×30	22×20	30×20	30×30	45×30	60×30	
52E 55 3700	HOLEX	Abrasive sleeve (A) 40 grit **coarse**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
52E 55 3710		Abrasive sleeve (A) 60 grit **medium coarse**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
52E 55 3720		Abrasive sleeve (A) 80 grit **medium**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
52E 55 3740		Abrasive sleeve (A) 150 grit **fine**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
52E 55 3760		Abrasive sleeve (ZA) 36 grit **coarse**		–	XXX	XXX	XXX	XXX	XXX	XXX	50
52E 55 3780		Abrasive sleeve (ZA) 80 grit **medium**		–	XXX	XXX	XXX	XXX	XXX	XXX	50
53L 55 3790	LUKAS	Abrasive sleeve (CER), 40 grit **coarse**		–	–	–	–	XXX	XXX	XXX	50
53L 55 3795		Abrasive sleeve (CER), 60 grit **medium**		–	XXX	–	–	XXX	XXX	XXX	50

Abrasive flap sleeves cylindrical

ZA

Densely packed around a stable core **abrasive strips** of Zirconium Aluminium Oxide (ZA) fabric. Due to the even wear of the individual abrasive strips, new abrasive fabric is constantly being exposed, thus increasing the service life and material removal rate several-fold.

Application: For aggressive surface grinding work as an alternative to sander bands and flap wheels. For use exclusively in the direction of rotation of the support body. The direction of rotation is marked on the core of the sleeve.

Sleeve ∅×Width of sleeve			mm	30×30	45×30	60×30	
52E 55 3820	HOLEX	Abrasive flap sleeve (ZA) 40 grit **coarse**		XXX	XXX	XXX	10
External ∅			mm	45	60	75	
maximum speed			rpm	19100	12700	9500	

HOLEX Abrasive sleeve holders conical

Slotted, resilient rubber body with steel shank. Ground outer face for best concentricity.

_20×63

_29×30

largest ∅×head length		mm	20×63	29×30	36×60	
52E 55 3830	Abrasive sleeve holder slit, conical shank 6 mm ∅		XXX	XXX	XXX	5
smallest ∅		mm	14	22	22	
maximum speed		rpm	21000	21000	13500	

HOLEX Abrasive sleeves conical

Made of non-tearing, synthetic resin bonded material with long service life and good grit adhesion.
The rubber body of the abrasive sleeve holder expands at high speed to hold the abrasive sleeve in place. The full width of the sleeve can be used, it does not slip and can be replaced quickly and easily (twist in the direction of slots when fitting/removing). Only compatible with abrasive sleeve holders.

55 3850–3870 – **Aluminium Oxide (A)** for general-purpose grinding work.
55 3871/3873 – **Zirconium Aluminium Oxide (ZA).**
55 3875/3877 – **Ceramic grit (CER).**

Suitable for: Abrasive sleeve holder No. 553830.
Application: Abrasive sleeves are predominantly used for surface grinding tasks which require the removal of large amounts of material – even at sharp edges.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3850–55 3870	●	●	●	●	○			○		○	●	●	○					●
55 3871/3873		●	●	●	●	○		○	○	●			○					●
55 3875/3877	○	●	●	●	●	●		●	●	●	●							●

largest sleeve ∅× sleeve width		mm	20×63	29×30	36×60	
52E 55 3850	Abrasive sleeve, conical (A) 40 grit **coarse**		XXX	XXX	XXX	50
52E 55 3860	Abrasive sleeve, conical (A) 80 grit **medium**		XXX	XXX	XXX	50
52E 55 3870	Abrasive sleeve, conical (A) 150 grit **fine**		XXX	XXX	XXX	50
52E 55 3871	Abrasive sleeve, conical (ZA), 40 grit **coarse**		XXX	–	–	50
52E 55 3873	Abrasive sleeve, conical (ZA), 80 grit **medium**		XXX	–	–	50
52E 55 3875	Abrasive sleeve, conical (CER) 40 grit **coarse**		XXX	–	–	50
52E 55 3877	Abrasive sleeve, conical (CER) 80 grit **medium**		XXX	–	–	50

A

_20×63

ZA

CER

_29×30

HOLEX Abrasive rolls

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3880–55 3895	●	●	●	●	○			○		○	●	●	○					●

Abrasive roll holder

Abrasive roll holder with 6 mm shank ∅ to take abrasive rolls No. 553880 ff.

55 3835

Mounting-∅×Overall length		mm	3×63	3×70	5×85	
52E 55 3835	Abrasive roll holder 6 mm shank ∅		XXX	XXX	XXX	5

Abrasive rolls

Abrasive roll consisting of wound abrasive cloth with **Aluminium Oxide (A).**

55 3880/3885 – Cylindrical form.
55 3890/3895 – Conical shape for restricted places.

Suitable for: Abrasive roll holder No. 553835.

A

55 3880

55 3890

Abrasive roll ∅× abrasive roll length		mm	6×38	10×25	10×38	13×38	20×38	
52E 55 3880	Abrasive roll, cylindrical (A) 80 grit **medium**		XXX	–	XXX	XXX	XXX	50
52E 55 3885	Abrasive roll, cylindrical (A) 150 grit **fine**		XXX	–	XXX	XXX	–	50
52E 55 3890	Abrasive roll, conical (A) 80 grit **medium**		–	XXX	–	XXX	–	50
52E 55 3895	Abrasive roll, conical (A) 150 grit **fine**		–	XXX	–	–	–	50
maximum speed		rpm	26000	26000	26000	26000	18000	
Suitable for: Holder mounting ∅ × overall length			3×63	3×63	3×70	3×70	5×85	

Flap wheels

Flap strips bonded on to the shank of the tool.

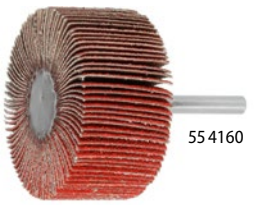
Application: Primarily for finish grinding and polishing tasks on larger radii in tool and mould making, for vessel and machine fabrication. The abrasive strips adapt to the contours of the component.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
A	●	●	○	●	○					○	●	●	●					●
A-INOX	●	●	●	●	●			●	○	○	●	●	●					●
CER		○	●	●	●	●		●	●	●	●	●	●					●
SIC	●		●	●	●	○		●	○	●	●	●		○	○			●

Flap wheel, ceramic grit (CER)

CER

Abrasive strips covered with **ceramic grit (CER)**.



55 4160

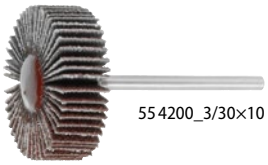
Head ∅×head width				mm	20×20	30×10	40×15	50×20	60×30	
51E 55 4150	Garant	Flap wheel (CER)	60 grit		–	XXX	XXX	XXX	XXX	10
51E 55 4160	Garant	Flap wheel (CER)	80 grit		XXX	XXX	XXX	XXX	XXX	10
51E 55 4170	Garant	Flap wheel (CER)	120 grit		XXX	XXX	XXX	XXX	XXX	10
Shank ∅				mm			6			
recommended speed				rpm	20000	16000	12000	9000	8000	
maximum speed				rpm	38200	25400	19100	15300	12700	

Flap wheels regular aluminium oxide (A)

A

Abrasive strips covered with **regular Aluminium Oxide (A)**.

55 4300_15×15



55 4200_3/30×10

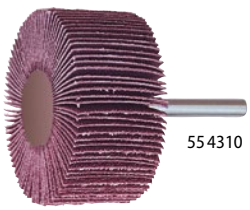
Head ∅×head width				mm	10×10	15×15	20×10	3/30×5	3/30×10	
52E 55 4100	HOLEX	Flap wheel (A)	60 grit		–	XXX	–	XXX	XXX	10
52E 55 4200	HOLEX	Flap wheel (A)	80 grit		XXX	XXX	XXX	XXX	XXX	10
52E 55 4300	HOLEX	Flap wheel (A)	120 grit		XXX	XXX	XXX	XXX	XXX	10
52E 55 4400	HOLEX	Flap wheel (A)	150 grit		XXX	–	XXX	XXX	XXX	10
52E 55 4500	HOLEX	Flap wheel (A)	240 grit		XXX	XXX	XXX	XXX	XXX	10
Shank ∅				mm			3			
recommended speed				rpm	26000	24000	20000	16000	16000	
maximum speed				rpm	35000	35000	28000	18000	18000	

Head ∅×head width				mm	20×15	30×5	30×10	40×15	40×20	50×5	50×15	50×20	50×30	60×30	60×40	60×50	80×30	80×50	
52E 55 4095	HOLEX	Flap wheel (A)	40 grit		–	–	–	XXX	XXX	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
52E 55 4100	HOLEX	Flap wheel (A)	60 grit		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
52E 55 4200	HOLEX	Flap wheel (A)	80 grit		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
52E 55 4300	HOLEX	Flap wheel (A)	120 grit		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
52E 55 4400	HOLEX	Flap wheel (A)	150 grit		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	XXX	10
52E 55 4500	HOLEX	Flap wheel (A)	240 grit		XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX	XXX	–	–	XXX	10
52E 55 4600	HOLEX	Flap wheel (A)	320 grit		–	XXX	XXX	XXX	–	–	XXX	–	XXX	XXX	–	–	–	XXX	10
Shank ∅				mm							6								
recommended speed				rpm	20000	16000	16000	12000	12000	11000	9000	9000	9000	8000	8000	8000	6000	6000	
maximum speed				rpm	38200	25400	25400	19100	19100	16000	15300	15300	15300	12700	12700	8500	9500	7500	

Flap wheel, standard aluminium oxide (A) with active abrasive bonding

A

Abrasive strips covered with **Aluminium Oxide (A)**. With **active abrasive bonding** for stainless steels



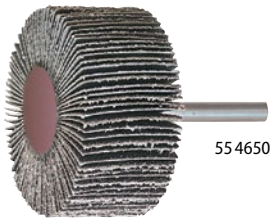
55 4310

Head ∅×head width				mm	30×10	40×15	50×20	60×30	
52E 55 4110	HOLEX	Flap wheel for stainless steel	60 grit		XXX	XXX	XXX	XXX	10
52E 55 4210	HOLEX	Flap wheel for stainless steel	80 grit		XXX	XXX	XXX	XXX	10
52E 55 4310	HOLEX	Flap wheel for stainless steel	120 grit		XXX	XXX	XXX	XXX	10
52E 55 4410	HOLEX	Flap wheel for stainless steel	150 grit		XXX	XXX	XXX	XXX	10
Shank ∅				mm			6		
recommended speed				rpm	16000	12000	9000	8000	
maximum speed				rpm	25400	19100	15300	12700	

Flap wheels silicon carbide (SiC)

SiC

Abrasive strips covered with **silicon carbide grit(SiC)**. Shank ∅ 6 mm.

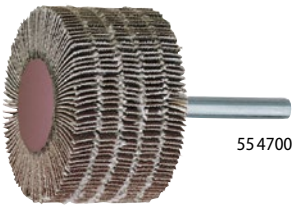

55 4650

Head ∅×head width			mm	30×10	60×30	
52E 55 4650	HOLEX	Flap wheel (SiC)	60 grit	XXX	XXX	10
52E 55 4660			80 grit	XXX	XXX	10
52E 55 4670			120 grit	XXX	XXX	10
52E 55 4680			150 grit	–	XXX	10
Shank ∅			mm	6		
recommended speed			rpm	16000	8000	
maximum speed			rpm	25400	12700	

Flap wheel brushes regular aluminium oxide (A)

A

Flap wheel with multiple slits in each strip. Shank ∅ 6 mm.
Application: Highly recommended for sanding contoured surfaces.

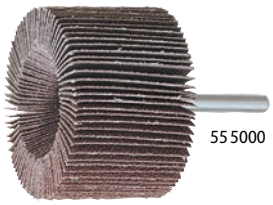

55 4700

Head ∅×head width			mm	40×20	50×30	
52E 55 4700	HOLEX	Flap wheel brush (A)	120 grit	XXX	XXX	10
52E 55 4800			240 grit	XXX	XXX	10
Shank ∅			mm	6		
recommended speed			rpm	12000	9000	
maximum speed			rpm	19100	15300	

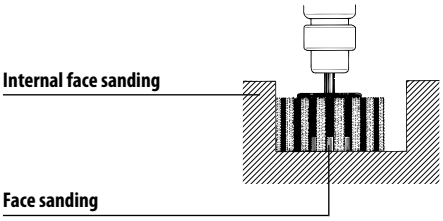
Cupped flap wheels regular aluminium oxide (A)

A

Cup shaped strip arrangement around the shank of the tool, with recessed core. Shank ∅ 6 mm.
Application: Particularly suitable for peripheral and internal face sanding.


55 5000

Head ∅×head width			mm	60×40	
52E 55 5000	HOLEX	Cupped flap wheel (A)	60 grit	XXX	10
52E 55 5010			80 grit	XXX	10
52E 55 5030			150 grit	XXX	10
Shank ∅			mm	6	
recommended speed			rpm	8000	
maximum speed			rpm	12000	



A

Flexible flap wheel, minimal grit

Flap strips bonded on to the shank of the tool. Inserted strips bonded at the end.
Application: Deburring of holes, cross holes and pipe internal diameters. The abrasive strips adapt to the diameter of the component. Radial use.

55 5035

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 5035	●	●	○	●	○					○	●	●	●					●

Head ∅×head width			mm	15×10	15×30	20×10	20×30	25×10	25×30	
56L 55 5035		Flap wheel (A)	150 grit	XXX	XXX	XXX	XXX	XXX	XXX	10
Shank ∅			mm	6						
Overall length			mm	100						
maximum speed			rpm	18000						

A

HOLEX Combi abrasive cloth / fleece flap wheels

Flap strips bonded on to the shank of the tool. Fleece is combined with abrasive cloth to **increases the abrasive effect** of the fleece. Shank ∅ 6 mm.

Application: For removal of dirt and oxide layers on metals as well as for matt finishing of Cr-Ni, other stainless steels, and also non-ferrous metals.

55 4920

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 4910–55 4930	●	●	●	●	○	○		●	○	●	●	●	●		○			●

Head ∅×head width			mm	30×20	40×20	50×20	60×30	60×50	80×50		Grit equivalent
S2E 55 4910	Flap wheel Fleece / cloth	coarse		XXX	XXX	XXX	XXX	XXX	XXX	10	100 / 80
S2E 55 4920		medium		XXX	XXX	XXX	XXX	XXX	XXX	10	180 / 150
S2E 55 4930		fine		XXX	XXX	XXX	XXX	XXX	XXX	10	280 / 240
recommended speed			rpm	7500	7500	6000	5000	5000	4000		
maximum speed			rpm	14000	14000	11000	9000	9000	7000		

55

Abrasive fleece flap wheels

Flap strips of fleece around the shank of the tool. Shank ∅ 6 mm.

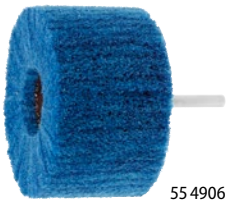
Application: For removal of dirt and oxide layers on metals as well as for matt finishing of Cr-Ni, other stainless steels, and also non-ferrous metals.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 4906–55 4970	○	●	●	●	○	○		●	○	●	●	●	●		○			●
55 4971–55 4973	●		●	●	●	○		●	●	●	●	●		○	○			●

Abrasive fleece flap wheel, zirconium aluminium oxide

ZA

Especially wear-resistant and fine-structured fleece with Zirconium Aluminium Oxide (ZA). **Ideal for use on stainless steel.**



55 4906

Head ∅×head width			mm	20×15	30×20	40×20	50×20	60×30	80×50		Grit equivalent
S1E 55 4906	Garant Flap wheel Fleece (ZA)	medium		XXX	XXX	XXX	XXX	XXX	XXX	10	180
S1E 55 4908		fine		XXX	XXX	XXX	XXX	XXX	XXX	10	280
recommended speed			rpm	10000	7500	7500	6000	5000	4000		
maximum speed			rpm	14000	14000	14000	11000	9000	7000		

Abrasive fleece flap wheel, standard aluminium oxide

A

Fleece impregnated with Aluminium Oxide (A). Creates a **consistent matt finish.**

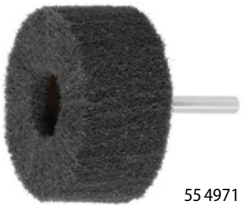
55 4950

Head ∅×head width			mm	30×20	40×20	50×20	60×30	60×50	80×50		Grit equivalent
S2E 55 4950	HOLEX Flap wheel Fleece (A)	coarse		XXX	XXX	XXX	XXX	XXX	XXX	10	100
S2E 55 4960		medium		XXX	XXX	XXX	XXX	XXX	XXX	10	180
S2E 55 4970		fine		XXX	XXX	XXX	XXX	XXX	XXX	10	280
recommended speed			rpm	7500	7500	6000	5000	5000	4000		
maximum speed			rpm	14000	14000	11000	9000	9000	7000		

Abrasive fleece flap wheel, silicon carbide

SiC

The sharp-edged silicon carbide grit (SiC) provides aggressive grinding characteristics and a **slightly lustrous finish.**



55 4971

Head ∅×head width			mm	40×20	60×30	80×50		Grit equivalent
S2E 55 4971	HOLEX Flap wheel Fleece (SiC)	coarse		XXX	XXX	XXX	10	100
S2E 55 4972		medium		XXX	XXX	XXX	10	180
S2E 55 4973		fine		XXX	XXX	XXX	10	280
recommended speed			rpm	7500	5000	4000		
maximum speed			rpm	14000	9000	7000		

ZA

Garant Non-woven abrasive flap wheel, disc-shaped, zirconium aluminium oxide

55 4940

Especially wear-resistant and fine-structured fleece with Zirconium Aluminium Oxide (ZA). **Ideal for use on stainless steel.** Shank ∅ 6 mm.

Application: Highly recommended for sanding contoured surfaces.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 4940	○	●	●	●	○	○		●	○	●	●	●	●		○			●

Head ∅×head width			mm	60×50	80×50		Grit equivalent
51E 55 4940	Flap wheel **Fleece (ZA), disc-shaped**	**medium**		XXX	XXX	**10**	180
recommended speed			rpm	4000			
maximum speed			rpm	7000			

A

HOLEX Abrasive fleece flap wheel sinusoidal

55 4975

Sinusoidal abrasive fleece without cut edges. Shank ∅ 6 mm.

Application: For matting and **polishing** without abrupt changes in texture.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 4975–55 4977	○	●	●	●	○	○		●	○	●	●	●	●		○			●

Head ∅×head width			mm	80×50	100×50		Grit equivalent
52E 55 4975	Flap wheel **Fleece sinusoidal**	**coarse**		XXX	XXX	**10**	100
52E 55 4976		**medium**		XXX	XXX	**10**	180
52E 55 4977		**fine**		XXX	XXX	**10**	280
recommended speed			rpm	4000	3000		
maximum speed			rpm	7000	6000		

Garant Felt fan-form polishing heads and brushes

Note: Felt fan-form polishing heads / brushes must be used in conjunction **with grinding and polishing pastes** such as No. 552250 / 555740. Recommended circumferential speed 5 -10 m/s.

Felt fan-form polishing head

Felt arranged in a fan-form around the shank.

Application: Polishing work with enhanced flexibility and conformity to contours. Successive use of medium-hard and soft grades allows creation of a top-class mirror finish.

55 2212

Type			ZY2010	ZY3020	ZY4020	ZY5030	ZY6040	ZY8050		Degree of hardness
51E 55 2212	Felt fan-form polishing head **Shank ∅ 6 mm**		XXX	XXX	XXX	XXX	XXX	XXX	**10**	medium
51E 55 2213			XXX	XXX	XXX	XXX	XXX	XXX	**10**	soft
Head ∅		mm	20	30	40	50	60	80		
Head length		mm	10	20	20	30	40	50		
Shank ∅		mm	6							

Felt fan-form polishing brushes

Felt arranged in a fan-form around the shank, with multiple slits.

Application: Polishing work with very high flexibility and conformity to contours.

55 2215

Type			ZY3020	ZY5020	ZY8050		Degree of hardness
51E 55 2215	Felt fan-form polishing brush **Shank ∅ 6 mm**		XXX	XXX	XXX	**10**	soft
Head ∅		mm	30	50	80		
Head length		mm	20	20	50		
Shank ∅		mm	6				

3M Scotch-Brite™ Fleece compact grinding points

Scotch-Brite™ fibre fleece with resin-bonded grit, **compressed grinding point shape,** can be dressed.

Application:

Size 180M – For **universal finishing work.**

Size 280S – Leaves a **fine finish** and reduces the roughness of all materials.

Grit equivalent			180M	280S		recommended speed rpm
53M 55 1930	Fleece compact grinding point Ø 25 × 25 mm		XXX	XXX	50	13000
Grit designation			medium	fine		
Degree of hardness			medium	soft		
Version			6A medium	2S fine		
Bore Ø		mm	5			

55 1930

Accessories for fleece compact grinding points

Plastic threaded mandrel with integral **6 mm shank** to take fleece compact grinding points.

			maximum speed rpm
55G 55 1935	Clamping mandrel for fleece compact grinding points	XXX	18200

55 1935

55

Garant Fleece abrasive star

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 5911–55 5913	●	●	●	●	●	●		●	●	●	●	●	●	○	●	●	○	●

Fe,S,Cl <0.1%

Star-shaped abrasive fleece with thread mounting. Tear-resistant and sturdy fleece body, no fraying at cut edges.

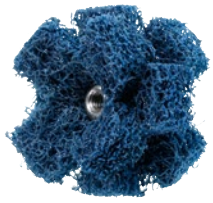
55 5913 100 – 2-layer.

3-layer.

55 5911/5912 – 2-layer.

Application: For cleaning, deburring, and finishing at hard-to-access places such as **bores, internal threads, pipes,** and **recesses**. Use clamping pin No. 555920.

Grit equivalent			100	180	280		recommended speed rpm	maximum speed rpm
51E 55 5911	Fleece abrasive star	Ø 19 mm	–	–	XXX	20	10000	20000
51E 55 5912		Ø 25 mm	XXX	XXX	XXX	20	10000	20000
51E 55 5913		Ø 38 mm	XXX	XXX	XXX	10	7500	13000
Grit designation			coarse	medium	fine			
Colour			green	blue	red			



55 5913_180

Stainless steel clamping pin with shank Ø 6 mm for mounting fleece abrasive stars No. 555911 - 555913.

Overall length		mm	75	120
51E 55 5920	Clamping pin		XXX	XXX

55 5920

Abrasive strip rings

55 5180 – 4 layers of strips of abrasive cloth are crimped on to a core. The irregular slot spacing permits high flexibility. With reducing adapters from Ø 19 to 10 mm.

55 5181 – Folded abrasive cloth. Bore Ø 10 mm.

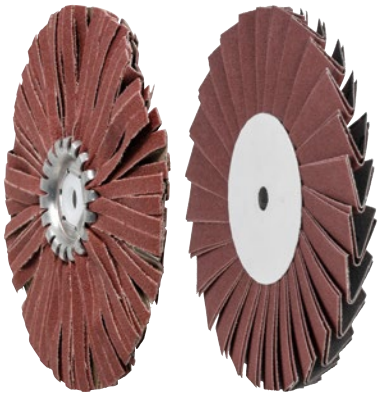
Application:

55 5180 – Deburring, rounding and finishing grinding of contours and surfaces.

55 5181 – Ideal for dressing weld seams, corners and narrow slots. Wrap-around use or flat use.

Note: Use clamping mandrel No. 555785 size 10.

Grit					80	120	180	
56Z 55 5180		Abrasive strip ring 4 layers	150 mm Ø		XXX	–	XXX	10
52E 55 5181	HOLEX	Fan folded flap disc	Ø 160 mm		XXX	XXX	XXX	1
recommended speed (55 5180)				rpm	1900	–	1900	
recommended speed (55 5181)				rpm	3800			



55 5180 55 5181

Coarse cleaning discs

	Al Mg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 5930–55 5946	●	●	●	●	●	●		●	●	●	●	●	●	○	●	●	○	●

Coarse cleaning disc with synthetic nylon fleece evenly impregnated with abrasive grit on glass fibre pad. Open structure, will not clog.

Fe,S,Cl <0.1%

55 5942 – **High grinding performance with a fine finish.**
55 5930/5934 – **Stable edge, extremely high material removal rate and service life.** Ideal for removal of scale.
55 5938/5946 – **High material removal rate** for general-purpose cleaning work.

Application: **For radial use** on flexible shafts and straight die grinders. For rust removal, paint removal, dressing weld seams and removing surface dirt.

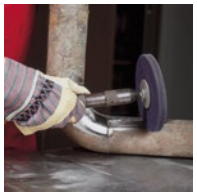
55 5930

55 5934

55 5938

55 5942

55 5946


55 5934

55 5938

Disc ∅			mm	75	100	150		Degree of hardness	Grit designation
53M 55 5930		Coarse cleaning disc with shank (SiC)	XT-ZS	XXX	–	–	10	very hard	extra coarse
53M 55 5934	3M	Coarse cleaning disc (SiC)	XT-DC	–	XXX	XXX	2	very hard	extra coarse
53M 55 5938			CG-DC	–	XXX	XXX	2	hard	extra coarse
53M 55 5942		Cleaning disc (A)	BF-DC	–	–	XXX	2	soft	medium
52E 55 5946	HOLEX	Coarse cleaning disc (SiC)		–	–	XXX	10	hard	extra coarse
Thickness			mm		15				
Shank ∅			mm	6	–	–			
Bore ∅			mm	–	13	13			
recommended speed			rpm	8000	6000	4000			

Mandrel (stainless steel).

Suitable for: Coarse cleaning discs No. 555930 - 555946,
Abrasive brushes No. 573555 / 573565 with bore ∅ 13 mm.

55 6380

Number of discs to be clamped			1	1-2
53M 55 6380	Mandrel		XXX	XXX
Shank ∅		mm	6	8
Clamping range		mm	0 – 19	0 – 26

osborn Lipprite® abrasive fleece rings

The **Unipol® fleece rings** are wound round a metal core; **each set contains three rings.**

Application: The fleece rings can be clamped in any number and width.

55 5760 – Suitable for all metals (stainless steel, steel, aluminium, brass), plastics, wood, and ceramics. **Coarse and aggressive abrasive fleece** (approx. 100 grit) for removal of rust film and superficial dirt. For roughening old paint, varnish, plastic, and rubber parts, for burnishing decorative metal surfaces (roughness Rt approx. 3.5 - 4 µm).

55 5765 – **Medium-fine abrasive fleece** (approx. 180 grit), for regrinding of ground or brushed surfaces (roughness Rt approx. 3 µm).

55 5770 – **Fine abrasive fleece** (approx. 280 grit), for removing fine scratches and for brushing (roughness Rt approx. 1.5 µm).

Note: For clamping mandrels for fleece rings see No. 555785.

55 5760

Ring ∅		mm	100	150	200	Ring width mm
56Z 55 5760	3-piece abrasive fleece set (A), for cleaning and matting **coarse**		XXX	XXX	XXX	25
56Z 55 5765	3-piece abrasive fleece set (A), for matting **medium fine**		XXX	XXX	XXX	25
56Z 55 5770	3-piece abrasive fleece set (SiC), for matting **fine**		XXX	XXX	XXX	25
Bore ∅		mm		20		
Reducing ring ∅		mm	10; 14; 16	14; 16	14; 16	

osborn Abrasive fleece – matting assortment

Abrasive fleece matting set Ø 100 mm with abrasive fleece rings for the three stages of matting: coarse, medium, and fine. Supplied with clamping mandrel Ø 6 mm (for power drills and flexible drive shafts). With **matting guide.**

Ring Ø		mm	100
56Z 55 5780	Abrasive fleece matting assortment 4 pieces, with clamping mandrel **Unipol®**		XXX
Bore Ø		mm	10

Polishing cloth and polishing fleece rings

555742/5745/5747 – Cloth ring wrapped on a cardboard core (mounting).

55 5725/5742 – The impregnation of the sisal cotton cloth rings permits higher effectiveness, more stability, longer working life, and better retention of paste.

Size 100; 150; 200 – **Unipol®** Cloth ring wrapped around metal core (support).

55 5730/5745 – Economical consumption of polishing paste, long tool life – no fraying.

55 5735/5747 – Very fine structure, economical consumption of polishing paste, long tool life - no fraying.

Application: The folded cloth rings can be clamped in any number and width. For use with polishing pastes. Can be used from smoothing up to high gloss polishing **of metals** (circumferential speed approx. 25 – 30 m/s).

55 5725/5742 – **Sisal cotton cloth rings,** especially for smoothing (stainless steel, steel) and matting of non-ferrous metals.

55 5730/5745 – **Polishing fleece** for flatting and polishing (stainless steel, non-ferrous metals) and finishing without creating a high gloss.

55 5735/5747 – **Very fine polishing fleece** is used for bringing up a gloss finish on all metals and plastics.

Note:
55 5725–5735 – For clamping mandrels for cloth rings see No. 555785.

Reducing ring set

55 5725

Ring Ø			mm	100	150	200	Ring width mm
56Z 55 5725		Sisal cloth ring set, 3 pieces, with impregnation **for smoothing**		XXX	XXX	XXX	20
56Z 55 5730	osborn	Polishing fleece ring set, 3 pieces **for flatting**		XXX	XXX	XXX	14
56Z 55 5735		Very fine polishing fleece ring set, 3 pieces **for matting**		XXX	XXX	XXX	14
Bore Ø			mm	20			
Reducing ring Ø			mm	10; 14; 16	14; 16	14; 16	

55 5742

Ring Ø			mm	250	350	500	Ring width mm
51G 55 5742	Garant	Sisal cloth ring **for smoothing**		XXX	XXX	XXX	18
51G 55 5745		Cloth ring for polishing fleece **for flatting**		XXX	XXX	XXX	18
51G 55 5747		Cloth ring for very fine polishing fleece **for matting**		XXX	XXX	XXX	18
Bore Ø			mm	40			
Reducing ring Ø			mm	12; 16; 20; 22.2			
Reducing ring Ø			inch	1; 1/2			

Polishing set Ø 100 mm with a sisal cloth ring and 2 pieces each **polishing fleece cloth rings** for the three stages of polishing: smoothing, flatting and high gloss polishing. Three matching **polishing pastes** (size BROWN, WHITE, and BLUE) and a **clamping mandrel Ø 6 mm** (for power drills and flexible shafts). With **polishing guide.**

55 5750

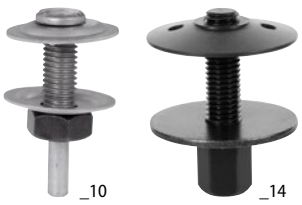
Ring Ø			mm	100
56Z 55 5750	osborn	Polishing assortment, 9 pieces, with paste and mandrel Ø 6 mm **Unipol®**		XXX
Bore Ø			mm	10

Accessories for polishing tools

Clamping mandrel for cloth rings and fleece rings.

Size 10 – For clamping on drilling machines or flexible shafts.

Size 14 – For clamping on angle polishers.



_10 _14

Suitable for bore - Ø			mm	10	14
56Z 55 5785	Mandrel			XXX	XXX
Thread				–	M14
Shank Ø			mm	6	–

osborn Polishing paste bar

Solid polishing pastes in homogeneous bar form, easy to clean after use.

Application: For application to the cloth rings No. 555725 to 555747 or to the workpiece surface.

Size DARKPINK – For **pre-polishing all metals** (stainless steel, steel, aluminium, brass, bronze).

Size WHITE – For **smoothing** of **stainless steel and steel** – universally applicable.

Size BLUE – For **gloss finish polishing all metals** (stainless steel, steel, aluminium, brass, bronze).

55 5740

Colour		DARKPINK	WHITE	BLUE
56Z 55 5740	Polishing paste bar **Unipol®**	XXX	XXX	XXX
Manufacturer's designation		433	5333	462
Polishing stage		smoothing	smoothing	gloss fin. polish.
Suitable for materials		all metals	INOX; steel	all metals
Weight	g	1000	550	650

Grinding compounds

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2250	**5-10**	**5-10**	**5-10**	**5-10**	**5-10**	**5-10**		**5-10**	**5-10**	**5-10**	**5-10**						●	
55 2330/2335/2350			**1-3**	**1-3**	**1-3**	**1-3**	**1-3**	**1-3**	**1-3**			**1-3**		**1-3**				●
55 2340		**1-3**	**1-3**					**1-3**						**1-3**				●

Silicon carbide grinding compound

SiC

Grinding compound **(oil-soluble)** with silicon carbide (SiC), contents 250 g.

Application: For polishing ground surfaces.

55 2250

Grit SiC grinding compound			150	280
51E 55 2250	Garant	Grinding compound SiC	XXX	XXX
Grit equivalent		µm	55 – 88	20 – 40
Grit designation			medium – fine	very fine

Diamond grinding and polishing compound

D

Silicone-free diamond paste in a handy spray can.

55 2340 – Synthetic mono-crystalline diamond in 10g spray for applications covering a large area.

55 2350 – Synthetic poly-crystalline diamond in 10g spray for quick polishing results.

55 2330/2335 – **Highly concentrated natural diamond grit** in a 5g spray for an even surface roughness over the entire surface of the component.

55 2330_3

Application:

55 2340 – For polishing work on **all tools steels in general use.**

55 2350 – Ideal for steels and titanium with harness greater than 60 HRC. Very economical, since the polycrystalline structure of the diamond constantly reveals new cutting edges and the polishing proceeds.

55 2330/2335 – For polishing work on **hardened steel, carbide, ceramics and composite materials.**

55 2340_3

Grit diamond grinding compound			µm	30	15	10	7	3	1	0,5
51E 55 2330	Garant	Diamond grinding compound 5 g, alcohol and water-soluble **mono-crystalline**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
NEW 51E 55 2335	Garant	Diamond grinding compound 5 g, universally soluble **mono-crystalline**		–	XXX	XXX	XXX	XXX	XXX	XXX
52E 55 2340	HOLEX	Diamond grinding compound 10 g, alcohol and water-soluble **mono-crystalline**		–	XXX	XXX	XXX	XXX	XXX	–
Grit designation				coarse	medium	medium	fine	very fine	very fine	micro-fine
Colour code				dark brown	dark blue	pale blue	red	green	yellow	white

Grit diamond grinding compound			µm	15	9	6	3	1
56L 55 2350	LUKAS	Diamond grinding compound 10 g, universally soluble **Polycrystalline**		XXX	XXX	XXX	XXX	XXX
Grit designation				medium	medium	fine	very fine	very fine
Colour code				orange	red	yellow	green	blue

55 2350_1

Thinners for diamond grinding compounds

Thinners containing alcohol for diamond grinding compound, in a dripper bottle.

Application: For economical thinning of diamond grinding compound. Creates an uniform lubrication film and prevents the polishing agent thickening. Particularly suitable with hard or medium-hard polishing agents.

Content	ml	125
56Z 55 2400	Thinners for diamond grinding compounds	–

D

Garant Diamond suspension

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2410			1-3	1-3	1-3	1-3	1-3	1-3	1-3			1-3		1-3				●

Alcohol and water-soluble diamond suspension in a handy pump spray bottle.

Advantage: No clumping of the diamond particles, so that the full cutting performance of the diamond grit is utilised.

Application: For economical polishing and lapping of larger surfaces, as well as for impregnating polishing cloths and polishing discs.

Grit diamond grinding compound	µm	15	10	7	3	1	0,5
51E 55 2410	Diamond suspension **alcohol and water-soluble mono-crystalline**	XXX	XXX	XXX	XXX	XXX	XXX
Grit designation		medium	medium	fine	very fine	very fine	micro-fine
Colour code		dark blue	pale blue	red	green	yellow	white

osborn Unipol® metal polishing

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2420	5-10	5-10	5-10	5-10	5-10	5-10		5-10	5-10	5-10	5-10						●	

Polishing paste for cleaning and polishing metals. Removes dirt and metal oxides in a single operation. Integrated surface protection for long-term protection against environmental influences.

Application: For manual and machine polishing.

Type		UNI
51E 55 2420	Unipol® metal polishing	XXX
Capacity	ml	125

Quick-change system

The Roloc™ Combisic® CDR quick-change abrasive system with a plastic external thread permits safe abrasive tool changing „with a single twist of the hand" in a very short time.

Application: For efficient abrasion of small areas, even with changing contours.
Reduced tool changing times save costs on multi-stage operations.

Note: **Roloc™ bristle discs** can be found under No. 57 3510 onwards.

Grinding discs (quick-change system, external thread)

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 4005/4006/4012 4013	○	●	●	●	●	●		●	○	●	●							●
55 4008/4009	○	●	●	●	●	●		●	●	●								●
55 4014/4016	●	●	●	●	●	●		●	●	●	●							●
55 4018/4019		●	●	●	●	○		○	○	●	○							●
55 4023	●	●	●	●	●		○	●	●	●	●	●		○				●
55 4033							●		●			●		●				●

Grinding discs ceramic grit (CER)

CER

Very high material removal rate and service life due to the use of self-sharpening ceramic grit (CER).
55 4005/4006/4014/4016 – With precision formed **Cubitron™ II** grit.
55 4014/4016 – Strong **fibre substrate**, ideal for edge grinding.

Application: – Use in conjunction with hard support pad No. 554089.

55 4005

Grit				36	60	80	120		maximum speed rpm
51E 55 4012	Garant	Grinding disc (CER)	Ø 50.8 mm	XXX	XXX	XXX	XXX	100	25000
51E 55 4013			Ø 76.2 mm	XXX	XXX	XXX	XXX	50	20000
53M 55 4005	3M Roloc™	Grinding disc 984F	Ø 50.8 mm	XXX	XXX	XXX	–	50	25000
53M 55 4006			Ø 76.2 mm	XXX	XXX	XXX	–	50	20000
53M 55 4014		Grinding disc 787C	Ø 50.8 mm	XXX	XXX	XXX	XXX	50	25000
53M 55 4016			Ø 76.2 mm	XXX	XXX	XXX	XXX	50	20000

Grinding discs zirconium aluminium oxide (ZA)

ZA

Zirconium aluminium oxide (ZA) with the **best cost-benefit ratio** for economic performance on steel and non-ferrous metals.

55 4018

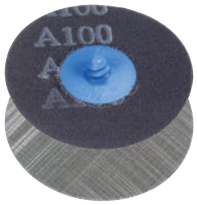
Grit				36	50	60	80	120		maximum speed rpm
52E 55 4018	HOLEX	Grinding disc (ZA)	Ø 50.8 mm	XXX	XXX	XXX	XXX	XXX	50	25000
52E 55 4019			Ø 76.2 mm	XXX	XXX	XXX	XXX	XXX	50	25000

Grinding discs 237AA Trizact™

A

237AA Trizact™ with fine-structured pyramidal surface of micro-Aluminium Oxide mineral particles.

Application: Specially for **surface finishing** of hard and difficult-to-grind materials such as **stainless steel, titanium, high-alloy steels** etc. Consistently **reproducible finish and long service life** compared to grinding discs of a similar grit grade.



55 4008

Grit				120	180	280	400	600		maximum speed rpm
53M 55 4008	3M Roloc™	Grinding disc 237AA	Ø 50.8 mm	XXX	XXX	XXX	XXX	XXX	10	25000
53M 55 4009			Ø 76.2 mm	XXX	XXX	XXX	XXX	XXX	10	20000
3M grit designation				A160	A100	A65	A45	A30		
Colour code				white	blue	orange	green	brown		

Grinding discs silicon carbide (SiC)

SiC

Sharp-edged Silicon Carbide grit (SiC) for aggressive grinding with light pressure.

Application: Specially suitable for grinding titanium alloys, aluminium, copper and bronze.

55 4023

Grit				36	60	80	120		maximum speed rpm
55G 55 4023	PFERD	Combidisc® grinding disc (SiC)	Ø 50.8 mm	XXX	XXX	XXX	XXX	100	25000

Grinding discs diamond (D)

D

Grinding discs with diamond grit (D) for **extremely hard materials** such as carbide, glass, ceramic, CRP/GRP and wear protection coatings (such as enamel). Use on hard or medium-hard backing pads.

Grit				60	120	220		maximum speed rpm
55G 55 4033	PFERD	Combidisc® grinding disc **Diamond**	**Ø 50.8 mm**	XXX	XXX	XXX	**10**	7500
equivalent to grit size			µm	251	126	76		

55 4033

Abrasive flap discs, CONTOUR grinding disc (quick-change system, external thread)

Compared to conventional grinding discs, **mini-flap discs** with abrasive strips arranged at a very steep angle offer a **longer working life**, **more flexible grinding characteristics** and a **more even surface finish** (roughness value) down to the wear limit.
The Roloc™, Combidisc® CDR **quick-change system** with a plastic external thread permits safe abrasive tool changing "with a single twist of the wrist" in a very short time.

55 4030 – Very flexible version with stand-up strips and strip overlaps **for extremely gentle even grinding**.
55 4032/4035 – Flat, compact arrangement of the strips for **weld seam dressing** and for **deburring work**.
55 4040 – Very high material removal rate due to the use of **self-sharpening ceramic grit (CER)**.

Application: For efficient abrasion of small areas, even with changing contours. Reduced tool changing times save costs on multi-stage operations.

Note: **Roloc™ bristle discs** can be found from No. 573510 onwards.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 4030–55 4035	○	●	●	●	●	○		○	○	●	○							●
55 4040	○	●	●	●	●	●		●	○	●	●							●

CER

55 4040

Grit				40	60	80	maximum speed rpm
51E 55 4040	Garant	Flap disc **(CER)**	**Ø 50.8 mm**	XXX	XXX	XXX	19100
51E 55 4032	Garant	Flap disc **(ZA)**	**Ø 50.8 mm**	XXX	XXX	XXX	19100
56L 55 4035	LUKAS	Abrasive flap disc **(ZA)**	**Ø 50.8 mm**	XXX	XXX	XXX	20000
53T 55 4030	TYROLIT	Soft Job Abrasive flap disc **(ZA)**	**Ø 50.8 mm**	XXX	XXX	XXX	20000

ZA

55 4032

55 4030

Fe,S,Cl <0.1%

A SiC

3M Roloc™ Compact abrasive discs, fleece (quick-change system, external thread)

Fibre fleece with resin-bonded grit, **compacted disc shape.**

Application: Especially suitable for **finish grinding and deburring.** Leaves a **fine finish** and reduces the roughness of all materials.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 4066/4067	●	●	●	●	●	●		●	●	●	●	●	●	○	●	●	○	●

Grit equivalent			100	180/2	180/6	280		maximum speed rpm
53M 55 4066	Compact disc **XL-DR**	**Ø 50.8 mm**	XXX	XXX	XXX	XXX	**15**	22000
53M 55 4067		**Ø 76.2 mm**	XXX	XXX	XXX	XXX	**10**	15000
Grit designation			coarse	medium	medium	fine		
Degree of hardness			hard	soft	medium	soft		
Version			8 A coarse	2 A medium	6 A medium	2 S fine		

55 4067_180/2

Fleece abrasive discs (quick-change system, external thread)

Fe,S,Cl <0.1%

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 4042–55 4065	●	●	●	●	●	●		●	●	●	●	●	●	○	●	●	○	●

Cleaning / coarse cleaning discs

Coarse cleaning disc with synthetic nylon fleece evenly impregnated with abrasive grit on glass fibre pad. Open structure, will not clog.

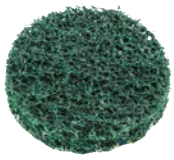
Size CRS – **High material removal rate** for general-purpose cleaning work.
Size MED – Combines **cleaning** with imparting a **fine finish.**
Size FINE – For **very gentle cleaning work** and a **fine finish.**
Size XCRS – **Stable edge, extremely high material removal rate and service life.** Ideal for removal of scale.

Application: For rust removal, paint removal, dressing weld seams and removing surface dirt.

SiC

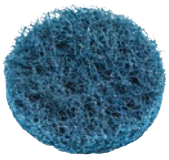
55 4050_CRS

A



55 4054_MED

A

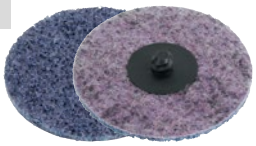


55 4054_FINE

Fleece version				XCRS	CRS	MED	FINE	
51E 55 4050	Garant	Coarse cleaning disc (SiC)	Ø 50.8 mm	–	XXX	–	–	20
51E 55 4051	Garant	Coarse cleaning disc (SiC)	Ø 76.2 mm	–	XXX	–	–	10
51E 55 4054	Garant	Cleaning disc (A)	Ø 50.8 mm	–	–	XXX	XXX	50
51E 55 4055	Garant	Cleaning disc (A)	Ø 76.2 mm	–	–	XXX	XXX	25
53M 55 4056	3M Roloc™	Coarse cleaning disc (SiC)	Ø 50.8 mm	XXX	XXX	–	–	10
53M 55 4057	3M Roloc™	Coarse cleaning disc (SiC)	Ø 76.2 mm	XXX	XXX	–	–	10
53M 55 4064	3M Roloc™	Cleaning disc (A)	Ø 50.8 mm	–	–	XXX	–	50
53M 55 4065	3M Roloc™	Cleaning disc (A)	Ø 76.2 mm	–	–	XXX	–	25
Grit designation				extra coarse	extra coarse	coarse	medium	
Degree of hardness				very hard	hard	medium	soft	
3M designation (55 4056, 55 4057, 55 4064, 55 4065)				XT-DR	CR-DR	BF-DR	–	
maximum speed (55 4050, 55 4054, 55 4056, 55 4064)			rpm	18000				
maximum speed (55 4051, 55 4055, 55 4057, 55 4065)			rpm	15000				

Fleece abrasive discs, metal removal and finishing

CER



55 4063

Fleece disc **with aggressive Cubitron grit (CER)** in combination with wear-resistant fabric.

Application: Allows **material removal** and **burr-free finishing** with only a single tool.
High edge stability and long working life.

Size 80 – Ideal for improving surface finish smoothness after pre-grinding with Cubitron™ II.

Grit equivalent				50	80		maximum speed rpm
53M 55 4062	3M Roloc™	Fleece disc **GB-DR**	Ø 50.8 mm	XXX	XXX	50	23000
53M 55 4063	3M Roloc™	Fleece disc **GB-DR**	Ø 76.2 mm	XXX	XXX	25	18000
Grit designation				extra coarse	very coarse		
Version				coarse super duty	coarse heavy duty		

Fleece abrasive finishing discs

A

55 4042_100

High performance general-purpose **nylon fleece.**

Application: For cleaning, degreasing, and matt finishing of metal surfaces.

Grit equivalent				100	180	280		maximum speed rpm
51M 55 4042	Garant	Fleece abrasive finishing disc	Ø 50.8 mm	XXX	XXX	XXX	50	23000
51M 55 4043	Garant	Fleece abrasive finishing disc	Ø 76.2 mm	XXX	XXX	XXX	25	18000
53M 55 4044	3M Roloc™	Fleece abrasive finishing disc **SC-DR**	Ø 25.4 mm	XXX	XXX	XXX	50	25000
53M 55 4045	3M Roloc™	Fleece abrasive finishing disc **SC-DR**	Ø 50.8 mm	XXX	XXX	XXX	50	23000
53M 55 4047	3M Roloc™	Fleece abrasive finishing disc **SC-DR**	Ø 76.2 mm	XXX	XXX	XXX	25	18000
52E 55 4052	HOLEX	Fleece abrasive finishing disc	Ø 50.8 mm	XXX	XXX	XXX	50	23000
52E 55 4053	HOLEX	Fleece abrasive finishing disc	Ø 76.2 mm	XXX	XXX	XXX	25	18000
Grit designation				coarse	medium	fine		
Version				A coarse	A medium	A very fine		

Garant Polishing flap wheels (quick-change system, external thread)

Edge-mounted felt strips (height 10 mm).

Application: Polishing work with enhanced flexibility. Successive use of medium-hard and soft grades allows creation of a top-class mirror finish.

Note: Felt fan-form polishing heads / brushes must be used in conjunction **with grinding and polishing pastes** such as No. 552250 / 555740. Recommended circumferential speed 5 - 10 m/s.

Type			MED	SOFT	
51E 55 4078	Polishing flap wheel (felt)	Ø 50.8 mm	XXX	XXX	10
Degree of hardness			medium	soft	

55 4078

3M Roloc™ Quick-change system set

3M Roloc™ quick-change sets for multi-stage grinding processes with **optimally matched operations.**

Size PREMIUM – High performance set for optimum grinding performance and surface quality results.
984F Cubitron II grinding wheels for very high metal removal rates.
GB-DR fleece wheels for reduced grinding scratches,
XL-DR compact grinding wheels (6 A med, 2 S fine) for a uniform bright finish.
XT-DR coarse cleaning discs and
RD-ZB bristle brushes for demanding cleaning work.

Type			PREMIUM
53M 55 4080	Quick-change system set	Ø 50.8 mm	XXX
Number of pieces			55

_PREMIUM

Backing pads (external thread quick-clamping system)

To take abrasive discs with **external thread quick-clamping systems (Roloc™, Combidisc®).**

Plastic backing pad with **integral 6 mm shank.**

External Ø		mm	50	75	
53M 55 4090	3M Roloc™ Plastic backing pad shank Ø 6 mm		XXX	XXX	5
maximum speed		rpm	25000	20000	

55 4090

55 4091/4092/4089 – Rubber backing pad with **1/4 inch mounting and 6 mm shank.**
Adapter No. 554081 allows mounting on an M14 spindle.

External Ø			mm	25	50	75
53M 55 4091	3M Roloc™	Rubber backing pad shank Ø 6 mm **soft**		–	XXX	XXX
53M 55 4092	3M Roloc™	Rubber backing pad shank Ø 6 mm **medium**		XXX	XXX	XXX
52E 55 4093	HOLEX	Rubber backing pad shank Ø 6 mm **medium hard**		–	XXX	XXX
53M 55 4089	3M Roloc™	Rubber backing pad shank Ø 6 mm **hard**		–	XXX	XXX
maximum speed			rpm	30000	25000	20000

55 4091

55 4093

Rubber backing pad with **M14 mounting.**

External Ø			mm	75
52E 55 4088	HOLEX	Rubber backing pad with mounting M14 **hard**		XXX
53M 55 4094	3M Roloc™			XXX
Thread				M14
maximum speed			rpm	20000

55 4088

55 4094

Garant Accessories

Adapter for use on backing pads of the quick-change system. External thread instead of a 6 mm shank.
Size M5 – Adapter with 1/4 inch and M5 external threads.
Size M14 – Adapter with 1/4 inch external thread and M14 internal thread.

Suitable for: Roloc™ backing pads No. 554089 – 554093.
Size M5 – Cordless small angle grinder No. 077100.

Drive thread			M5	M14
56Z 55 4081	Adapter for backing pads		XXX	XXX
Pad face thread		inch	1/4	

_M5

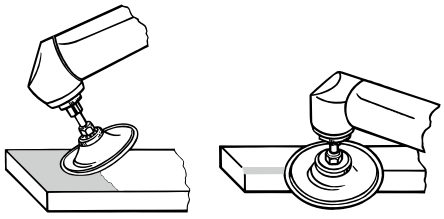
_M14

Grinding discs (quick-change system, internal thread)

Optimum connection between the backing pad and grinding disc by the quick-clamping system (internal thread). Easy and quick disc replacement by hand, even after heavy use.

Application: **For efficient sanding down of small areas, even with varying contours** in tool, mould and model making, machine, plant and container building. Reduced tool changing times save costs on multi-stage operations.

Note: Other dimensions and grits available on request.

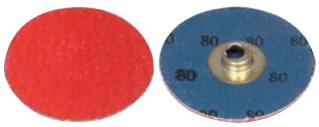


	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3921/3923	○	●	●	●	●	○		●	○	●	●	●	●					●
55 3925–55 3955	●	●	●	○				○		○	●	●	●					●

Grinding discs ceramic grit (CER)

CER

Ceramic grit (CER) ideal for working on stainless steels and nickel alloys. High removal rate and cool cut.



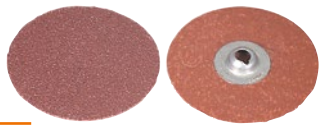
55 3921

Grit				36	60	80	120		maximum speed rpm
51E 55 3921	Garant	Grinding disc (CER)	Ø 50.8 mm	XXX	XXX	XXX	XXX	100	25000
51E 55 3923			Ø 76.2 mm	XXX	XXX	XXX	XXX	50	20000

Grinding discs regular aluminium oxide (A)

A

Regular Aluminium Oxide (A) for general-purpose use.



55 3925

Grit				36	60	80	120		maximum speed rpm
52E 55 3925	HOLEX	Grinding disc (A)	Ø 25.4 mm	–	XXX	XXX	XXX	100	30000
52E 55 3950			Ø 50.8 mm	XXX	XXX	XXX	XXX	100	25000
52E 55 3955			Ø 76.2 mm	XXX	XXX	XXX	XXX	50	20000

A

Garant Fleece finishing disc (quick-change system, internal thread)

High performance general-purpose **nylon fleece.**

Application: For cleaning, degreasing, and matt finishing of metal surfaces.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3965/3966	●	●	●	●	●	●		●	●	●	●	●	●	○	●	●	○	●

Grit equivalent			100	180	280		maximum speed rpm
51M 55 3965	Fleece abrasive finishing disc	Ø 50.8 mm	XXX	XXX	XXX	50	23000
51M 55 3966		Ø 76.2 mm	XXX	XXX	XXX	25	18000
Grit designation			coarse	medium	fine		
Version			A coarse	A medium	A very fine		

55 3965_100

HOLEX Backing pads (quick-change system, internal thread)

Rubber backing pad **shank Ø 6 mm.** To take grinding discs with the **metal lock quick-clamping system.**

Fit the sanding disc on to the sanding disc holder – rotate a little – ready!

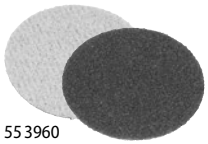
External Ø		mm	25M	50M	50	75M	75
52E 55 3920	Rubber backing pad shank Ø 6 mm **medium hard**		XXX	XXX	–	XXX	–
52E 55 3927	Rubber backing pad shank Ø 6 mm **hard**		–	–	XXX	–	XXX
Degree of hardness			medium hard	medium hard	hard	medium hard	hard
maximum speed		rpm	40000	30000	30000	20000	20000

Hook and loop abrasive discs

The **back of the disc is covered with velour loops** which are self-attaching to **hook and loop fastener backing pads**, e.g. No. 553995. For quick disc changing.
Application: On micro-abrasive systems. For very high speeds see the rubber hook and loop fastener backing pad No. 553995.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3960/3963	○	●	●	●	○					○	○	○	●			●		●
55 3970/3975	●	●	●	●	●	○		●	●	●	●	●		●				●

Grit			80	120	150	180	220	240	280	320	400	600
53L 55 3960	Hook and loop abrasive sheets (A) pack of 100	Ø 21 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53L 55 3963		Ø 32 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
53L 55 3970	Hook and loop abrasive sheets, (SiC) pack of 100	Ø 21 mm	XXX	XXX	XXX	XXX	XXX	–	–	XXX	XXX	XXX
53L 55 3975		Ø 32 mm	XXX	XXX	XXX	XXX	XXX	–	–	XXX	XXX	XXX


55 3960

55 3970

CaraFin diamond polishing pads

CaraFin diamond polishing tools coated on one side with **mono-crystalline diamond**. The bonded diamond grit achieves significantly **higher effectiveness** than loose diamond grit in polishing pastes.
Advantage: Ancillary times for preparation and cleaning such as are required when polishing pastes are used are eliminated. Moulds optimally to the contours.
Application: Polishing work with high flexibility and conformity to contours **without polishing pastes.**

55

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 3980–55 3990	●	●	●	●	●	●	●	●	●	●	●	●			●	●	●	●

CaraFin diamond polishing discs

Size D5; D10; D30 – Hard polyamide backing. Optimum for polishing out the orange peel effect.
Size D1; D3; D64; D151 – Soft PU backing for truly following the contours.
Application: Ideally suited to use in combination with micro-abrasive systems No. 078140 and 078150. Recommended speed 2000 rpm.

D

_D151

_D30

_D3

_D1

Grit		µm	D151	D64	D30	D10	D5	D3	D1	recommended speed rpm
51G 55 3980	CaraFin diamond polishing disc set, 5 pieces	Ø 22 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	2000
51G 55 3985		Ø 32 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	2000
Polishing stage			Pre-polishing	Polishing	Final polishing		Mirror finish		High mirror finish	
Colour			pink		white		white	orange	black	

CaraFin diamond polishing sheets

Size D151; D64 – Soft PU backing for truly following the contours.
Size D30–D5 – Hard polyamide backing. Optimum for polishing out the orange peel effect.
Size D3; D1 – Micro-fibres for high-gloss polish, gentle to the workpiece.
Application: Ideally suited to use in combination with hand piece No. 078143 size NLS110 on micro-abrasive systems.

D

_D151

_D30

_D3

Grit		µm	D151	D64	D30	D10	D5	D3	D1
51G 55 3990	CaraFin diamond self-adhesive polishing sheet set, 10 pieces	18×8 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Polishing stage			Pre-polishing	Polishing	Final polishing		Mirror finish		High mirror finish
Colour			pink		white		white	grey	white

CaraFin polishing fluid

CaraFin polishing fluid effectively avoids black polishing, which is a frequent occurrence when polishing aluminium and chrome-nickel steels. CaraFin polishing fluid can be used in conjunction with all CaraFin diamond polishing discs and polishing sheets. In addition it also prevents formation of the orange peel effect.

Type		UNI
51G 55 3993	CaraFin polishing fluid	XXX
Capacity ml		250

Backing pad for hook and loop abrasive discs and polishing discs

Rubber backing pad **shank Ø 3 mm.** The back of the pad is provided with steel hooks for optimum engagement.

External ∅ mm		18	30
56L 55 3995	Hook and loop rubber pad	XXX	XXX
maximum speed rpm		20000	12500

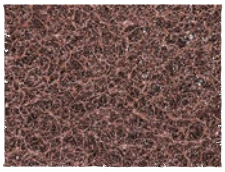
55 3995

Fe,S,Cl <0.1%

Abrasive / polishing fleece hand pad

Synthetic nylon fleece impregnated with abrasive grit in synthetic resin bonding.

Advantage:
- Adapts to the component shape.
- The open structure prevents clogging and reduces heat development.
- Even and reproducible finish.
- Can be used wet or dry.
- Contains no materials that could cause corrosion.



Cross section of the nylon fibre structure.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 5995–55 6150	●	●	●	●	●	●		●	●	●	●	●	●	○	●	●	○	●

Abrasive fleece pads/rolls (standard)

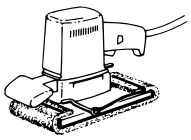
55 5995/5999/6087/6089 – High-performance fleece with **extremely dense grit distribution** deep into the fibres of the material. The special type of fleece structure permits **aggressive grinding characteristics**, a very long working life without clogging and an even **more uniform finish**.

Application: Can be used by hand, on hand block No. 556020 or on an orbital sander.

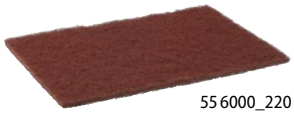
Size 100 – **Coarse and aggressive:** removes rust, rust film, and surface soiling. For roughening old paint, varnish, plastics, rubber parts (e. g. prior to bonding).

Size 220; 280 – **Medium / medium fine:** Can be used universally for removing rust film, light soiling, discolouration; for rubbing down ground or brushed surfaces, or for degreasing and cleaning prior to painting.

Size 400; 1000 – **Fine / very fine:** for cleaning delicate surfaces, for removing light scratches on metals. Also suitable for applying fine / very fine matt finishes to steels and non-ferrous metals.



55 5999_1000



55 6000_220

Fleece structure				100	220	280	400	1000	
51M 55 5995	Garant	Abrasive fleece pad	158×224 mm	XXX	XXX	XXX	XXX	XXX	10
53M 55 5999	3M Scotch-Brite™	Abrasivve fleece pad CF-PRO	152×228 mm	–	–	XXX	–	XXX	20
53M 55 6000	3M Scotch-Brite™	Abrasive fleece pad	158×224 mm	XXX	XXX	XXX	XXX	XXX	20
52M 55 6015	HOLEX	Abrasive fleece pad	152×229 mm	–	XXX	XXX	–	XXX	20
Grit equivalent				180 – 220	240 – 280	280 – 360	400 – 600	600 – 1000	
Grit designation				coarse	medium	medium fine	fine	very fine	
Version				A Medium	A Fine	A Very Fine	S Super Fine	S Ultra Fine	
3M designation (55 5999)				–	–	CF-PRO	–	CF-PRO	
3M designation (55 6000)				WR-SH	WR-SH	CF-HP	WR-SH	CF-HP	
Colour (55 5995, 55 5999, 55 6000)				red	red	red	grey	grey	
Colour (55 6015)				–	green	red	–	grey	

55 6089_1000

55 6089_220

Fleece structure				100	220	280	400	1000
51M 55 6087	Garant	Roll of abrasive fleece	115 mm × 10 m	XXX	XXX	XXX	XXX	XXX
53M 55 6089		Roll of abrasive fleece CF-PRO	100 mm × 10 m	–	–	XXX	–	XXX
53M 55 6090	3M Scotch-Brite™	Roll of abrasive fleece	100 mm × 10 m	XXX	XXX	XXX	XXX	XXX
53M 55 6100	3M Scotch-Brite™	Roll of abrasive fleece	115 mm × 10 m	XXX	XXX	XXX	XXX	XXX
52M 55 6110	HOLEX	Roll of abrasive fleece	100 mm × 10 m	–	XXX	XXX	–	XXX
52M 55 6115	HOLEX	Roll of abrasive fleece	115 mm × 10 m	–	XXX	XXX	–	XXX
Grit equivalent				180 – 220	240 – 280	280 – 360	400 – 600	600 – 1000
Grit designation				coarse	medium	medium fine	fine	very fine
Version				A Medium	A Fine	A Very Fine	S Super Fine	S Ultra Fine
3M designation (55 6089)				–	–	CF-PRO	–	CF-PRO
3M designation (55 6090, 55 6100)				WR-SH	WR-SH	CF-RL	WR-SH	CF-RL
Colour (55 6087, 55 6089, 55 6090, 55 6100)				red	red	red	grey	grey
Colour (55 6110, 55 6115)				–	green	red	–	grey

Abrasive fleece pads / rolls (flexible)

55 6143/6150 – Hand-Pads of flexible and aggressive abrasive fleece.

55 6145/6148/6083/6085 – **Flexible** high-performance fleece with **extremely dense grit distribution** deep into the fibres of the material. The special type of fleece structure permits **more aggressive abrasive characteristics**, a very long working life without clogging and an even **more uniform finish**. The **enormous flexibility** enables use even in inaccessible places.

Application: For manual cleaning and finishing, ideal substitute for steel wool products.

Size 280 – **Medium / medium fine:** universally applicable to remove rust film, light soiling, discolouration; for rubbing down ground or brushed surfaces or for degreasing and cleaning prior to painting.

Size 1000 – **Fine / ultra fine:** for cleaning delicate surfaces, for repairing light scratches on metals. Also suitable for applying fine / very fine matt finishes to steels and non-ferrous metals.

Supplied with:

55 6143 – Pack of 10 Hand-Pads.

55 6145 – Pack of 25 Hand-Pads.

55 6148/6150 – Roll with 60 tear-off pads for dispensing.

55 6145_280

55 6148_280

55 6150_1000

Fleece structure				280	1000
51M 55 6143	Garant	Abrasive fleece hand pads, set of 10 pieces **flexible**	**100×200 mm**	XXX	XXX
53M 55 6145		Abrasive fleece hand pads, set of 25 pieces **Durable Flex**	**114×228 mm**	XXX	XXX
53M 55 6148	3M Scotch-Brite™	Abrasive fleece hand pads, roll with 60 pieces **Durable Flex**	**100×200 mm**	XXX	XXX
53M 55 6150		Abrasive fleece hand pads, roll with 60 pieces **Multiflex**	**100×200 mm**	XXX	XXX
Grit equivalent				280 – 360	600 – 1000
Grit designation				medium fine	very fine
Version				A Very Fine	S Ultra Fine
3M designation (55 6145, 55 6148)				DF	
3M designation (55 6150)				MX	
Colour (55 6143, 55 6145, 55 6148)				red	grey
Colour (55 6150)				purple	grey

55 6083_280

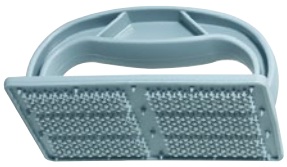
55 6083_1000

Fleece structure				280	1000
51M 55 6083	Garant	Roll of abrasive fleece **flexible**	**100 mm × 10 m**	XXX	XXX
53M 55 6085	3M Scotch-Brite™	Roll of abrasive fleece **Durable Flex**	**100 mm × 10 m**	XXX	XXX
Grit equivalent				280 – 360	600 – 1000
Grit designation				medium fine	very fine
Version				A Very Fine	S Ultra Fine
3M designation (55 6085)				DF	
Colour				red	grey

3M Accessories abrasive fleece

Hand block 115×80 mm

Suitable for: Abrasive fleece pads No. 555999 – 556115.
Application: Hand block to accept fleece hand pads and fleece rolled material.


55 6020

53M 55 6020	Hand block		XXX
Length		mm	115
Width		mm	80

Mandrel shank ∅ 6.35 mm

Application: Mandrel for mounting pieces of fleece and abrasive paper. For cleaning pipes etc.

55 6030

53M 55 6030	Mandrel		XXX
Shank ∅		mm	6.35

HOLEX Universal abrasive cleaner

Flexible hand abrasive block with flexibly bonded abrasive grit (long service life, fully usable). Open pore bonding ensures the abrasive body never clogs. Suitable for wet and dry use. Water and oil resistant.

Application: **Multi-purpose** for **cleaning, polishing, smoothing, mat finishing** and **abrading all materials.**

Note: Water, oil, compounds or similar agents **increase the effectiveness.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 7660–55 7680	●	●	●	●	●	●	●	●	●	●	●	●	○	●	●		●	●

Universal abrasive cleaner corundum

Economy version with corundum (A).

55 7660

Type			G	M	F
52E 55 7660	Universal abrasive cleaner	80×50×20 mm	XXX	XXX	XXX
Grit designation			coarse	medium	fine
Length		mm	80		
Width		mm	50		
Height		mm	20		

55 7670

Economy version with corundum (A).
Set composed of one piece each abrasive cleaner No. 557660 coarse / medium / fine.

52E 55 7670	Universal abrasive cleaner set **3 pieces**	XXX

Universal abrasive cleaner silicon carbide

High quality version with **pure silicon carbide (SiC)** abrasive grit and special elastic composite material.

55 7680_80×65

55 7680_120×65

55 7680_115×60

Length×Width		mm	80×65	120×65	115×60
52E 55 7680	Elasto-abrasive cleaner **(SiC)**		XXX	XXX	XXX
Grit designation			fine	fine	coarse
Length		mm	80	120	115
Width		mm	65	65	60
Height		mm	20	30	30

A

Garant Soft pad roller, soft

Soft-Pad roll coated on one side with **standard aluminium oxide (A)**. **Ceramic coating** for a longer working life. Stored in a handy dispenser box, with visibility slot for quick assessment of the fill level.

Advantage: **Pure foam backing material.** This achieves the greatest flexibility and resistance to grit break-away. Reduced alien material penetration into the workpiece surface by a bonding structure free of solvents. **200 perforated pads**, each 100×120×3 mm.

Application: **Finish grinding of contours, edges, and at inaccessible places**, e.g. cleaning and preparation for painting. For wet and dry grinding.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 7460	●	●	●	●	●	○		●	●	●	●	●	●	○	●	●	●	●

Grit				60	100	180	1000	1500
51E 55 7460	Soft pad roller **soft**		**100 mm × 24 m**	XXX	XXX	XXX	XXX	XXX
Grit designation				medium	fine	super-fine	ultra-fine	micro-fine

Abrasive sponges

Advantage:
- **Resilient,** no formation of kinks or folds.
- All sponges also **suitable for wet grinding.**
- **Low tendency to clog,** can be washed out.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 7470–55 7545	●	●	●	●	●	○		●	●	●	●	●	●	○	●	●	●	●

Abrasive block, hard

A

55 7470

Abrasive block in **hard** version, with increased edge stability. **Coated on 4 sides** with aluminium oxide grit (A).

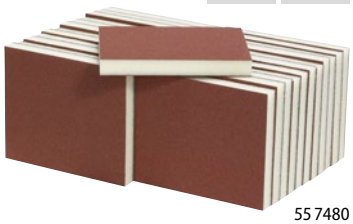
55 7470 – **Ceramic coating** for a **longer working life.**
Reduced alien material penetration into the workpiece surface by a bonding structure free of solvents.

Application: For deburring and surface sanding of wood, metal and paintwork.

Grit					60	100	150	180
51E 55 7470	Garant	Abrasive block pack, 24 pieces **hard**		**100×68×26 mm**	XXX	XXX	XXX	XXX
53M 55 7540	3M			**100×68×26 mm**	–	XXX	–	–
Grit designation					medium	fine	very fine	super-fine

Abrasive sponge, extra soft

SiC A



55 7480

Grinding sponge with **extra soft** intermediate layer. An outstanding fit to all profiles. **Coated on 2 sides.**

55 7480 – Reduced alien material penetration into the workpiece surface by a bonding structure free of solvents. Aluminium oxide (A) with a **ceramic coating** for a **longer working life.**

55 7530 – Silicon carbide (SiC)

Advantage:
- **Resilient,** no formation of kinks or folds.
- All sponges also suitable **for wet grinding.**
- **Low tendency to clog,** can be washed out.

Application: For **finish smoothing of irregularities and profiled surfaces** without changing the geometry. Grinding metal, wood and plastics before painting, or between coats of paint, to provide a key.

Grit					60	100	180
51E 55 7480	Garant	Abrasive sponge pack, 24 pieces **extra soft**		**120×98×13 mm**	XXX	XXX	XXX
53M 55 7530	3M			**125×98×13 mm**	–	XXX	–
Grit designation					medium	fine	super-fine

Soft pad, soft

A

Coated on 2 sides

55 7490

55 7545

Soft pad with foam structure for **pressure distribution**. Coated with aluminium oxide grit (A).

55 7490 – Coated on 2 sides.

55 7545 – Coated on 1 side.

Advantage:

55 7545 –
- **Resilient,** no formation of kinks or folds.
- All sponges also **suitable for wet grinding.**
- **Low tendency to clog,** can be washed out.

Application: **Finish grinding of contours, edges, and at inaccessible places**, e.g. cleaning and preparation for painting. For wet and dry grinding.

Grit					60	100	220	1000	1500
51E 55 7490	Garant	Soft-Pad pack, 20 pieces **soft**		**120×98×5 mm**	XXX	XXX	XXX	XXX	–
53M 55 7545	3M			**140×115×5 mm**	XXX	XXX	XXX	XXX	XXX
Grit designation					medium	fine	super-fine	ultra-fine	micro-fine

D

Garant CaraFin diamond polishing tools

CaraFin diamond polishing tools coated on one side with **mono-crystalline diamond**.
The bonded diamond grit achieves significantly **higher effectiveness** than loose diamond grit in polishing pastes.
Advantage: Ancillary times for preparation and cleaning such as are required when polishing pastes are used are eliminated.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2785	●	●	●	●	●	●	○	●	○	○	●	●			●	●		●
55 2790	○	●	●	●	●	●	●	●	●	●	○	○			○	○		●
55 7510–55 7521	●	●	●	●	●	●	●	●	●	●	●	●			●	●	○	●

CaraFin diamond polishing block, resilient

Advantage: Of high-quality **resilient polyurethane foam.**
Application: Ideally suited for fine polishing of **hard materials and non-ferrous metals.**
Moulds optimally to the workpiece geometry. Suitable for wet and dry polishing.

55 7510_D151

Grit		µm	D151	D64	D10
51G 55 7510	CaraFin diamond polishing block **resilient**	**98×69×22 mm**	XXX	XXX	XXX
Polishing stage			Pre-polishing	Polishing	Final polishing

55 7515_D10

CaraFin diamond polishing pad

CaraFin diamond polishing pad (EVA) with **open structure,** will not clog.
Advantage: Of high-quality **resilient polyurethane foam.**
Application: Suitable for wet and dry polishing.
Handy for **contour-true finish polishing and mirror finishing** of polished surfaces on all **hard materials and non-ferrous metals.**
Quick polishing thanks to free-cutting characteristics.

Grit		µm	D10	D3
51G 55 7515	CaraFin diamond polishing pad	**125×175 mm**	XXX	XXX
Polishing stage			Final polishing	Mirror finish

CaraFin self-adhesive diamond polishing strip

Polishing strips **self-adhesive.** Outer face of **resilient PU material,** one side coated with mono-crystalline diamond grit.
Advantage: Of high-quality **resilient polyurethane foam.**
Application: Suitable for wet and dry polishing.
With linishing belt holder No. 557900.

55 7521

Grit		µm	D64	D15
51G 55 7521	CaraFin diamond polishing strip **resilient**	**25×120 mm**	XXX	XXX
Polishing stage			Polishing	Final polishing

CaraFin diamond polishing cloths, soft

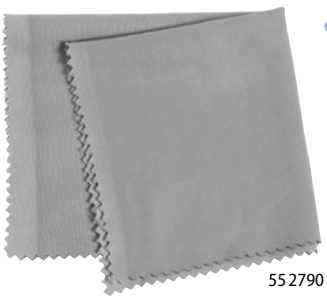
Soft polishing cloth for **contour-true mirror finish polished surfaces** on **soft and easily-scratched** materials.
Advantage: **Diamond polishing cloths** (microfibre) coated on one side with **mono-crystalline diamond.**
Application: For quick, dry polishing by hand.

55 2785

Grit		µm	D3	D1	D0,25
51G 55 2785	CaraFin diamond polishing cloth, soft	**150×180 mm**	XXX	XXX	XXX
Grit designation			Mirror finish	High mirror finish	High mirror finish

CaraFin diamond polishing cloths, medium

Polishing cloth for **contour-true high-gloss finish polished surfaces** on hard materials.
Advantage: **Diamond polishing cloths** (microfibre) coated on one side with **mono-crystalline diamond.**
Application: For quick, dry polishing by hand.



55 2790

Grit		µm	D15	D3	D1	D0,25
51G 55 2790	CaraFin diamond polishing cloth, medium	**180×180 mm**	XXX	XXX	XXX	XXX
Grit designation			Final polishing	Mirror finish	High mirror finish	High mirror finish

Abrasive paper

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 7571–55 7576	○	○	○	○							○	●	●		●	●	○	●
55 7620/7630	●	●	●	●	●	●		○									○	●

For sanding wood and painted surfaces

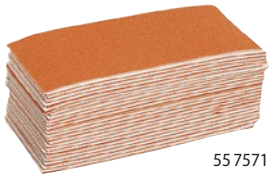
Flexible B or C paper, containing latex, spread with Aluminium Oxide (542B7 / 542C7). **Back with hook and loop fastener** for quick change of sheets and high tear resistance.

Advantage: For sanding wood and painted surfaces

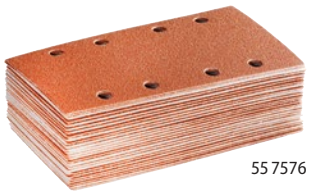
- **Outstanding grit bonding** – long service life, no premature grit break-away damage to surfaces.
- **Dust-repellent additives** prevent clogging with grinding dust.
- **High-quality Aluminium Oxide grit** for max. grinding performance right to the end.

Application: Grinding of primed paintwork, fillers, finish paintwork together with deburring and roughening of plastic components and general preparation of wood.

55 7571 – For manual use with hand sanding block No. 557550 size140.



55 7571



55 7576

Grit			40	60	80	100	120	180	240	320	400	Width mm	Length mm
56Z 55 7571	STARCKE	Abrasive paper pack, 50 pieces **no holes**	–	XXX	XXX	–	XXX	–	–	–	–	67	140
56Z 55 7576	STARCKE	Abrasive paper pack, 50 pieces **8 holes**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	93	185
Grit designation			coarse	coarse	coarse	medium	medium	fine	fine	very fine	very fine		

Metal grinding

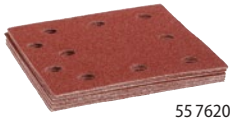
Tough elasticated paper spread with Aluminium Oxide. Very high metal removal rate

55 7620 – Rear face with hook and loop fastener attachment for quick change of sheets.

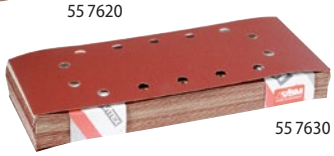
55 7630 – For clamping to orbital sanders.

Application: Grinding of metal and hardwood.

55 7620 – Special perforation system for orbital sander No. 077326 SPS140.



55 7620



55 7630

Grit			40	60	80	120	240	Width mm	Length mm
56Z 55 7620		Abrasive paper pack, 10 pieces **10 holes**	–	XXX	XXX	XXX	XXX	115	107
56V 55 7630	VSM	Abrasive paper pack, 50 pieces **14 holes**	XXX	XXX	XXX	XXX	–	115	280
Grit designation			coarse	coarse	coarse	medium	fine		

Hand sanding block

Quick change of sheets due to double–sided hook and loop fastener.

55 7550 – Made of resilient foam rubber.

55 7555 – Combi hand sanding block, with two different hardnesses of foam: Hard side for surface sanding, soft side for contours.

Suitable for: See No. 557571 for velour abrasive paper sheets.

Application: For rubbing down surfaces and contours by hand. No slipping of the abrasive paper.

55 7550_140

55 7555_140

Length	mm	140
56Z 55 7550	Ergonomic hand sanding block	XXX
56Z 55 7555	Combi hand sanding block **hard / soft**	XXX
Width	mm	67
Height	mm	35
Suitable for: Abrasive sheet W×L		67×140 mm

A

Abrasive cloth by the sheet

Densely woven, robust and **highly flexible** cotton fabric (resistant to oil and petroleum) evenly spread with synthetic resin bonded **standard aluminium oxide (A).** Moulds ideally to the workpiece geometry. **No fraying, very high performance and long working life.** Sheet size 230×280 mm.

Application: Universally applicable, primarily for rubbing down by hand (for rubber sanding block see No. 557600).

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 6790–55 6910	●	●	●	●	●	○		●	○	●	●	●	●		○	●		●

Very **sturdy and highly flexible abrasive cloth** (resistant to oil and petroleum).
Moulds itself ideally to the workpiece geometry.
Can be torn in longitudinal direction to yield clean edges along the weave without fraying.

55 6790

Grit				40	60	80	100	120	150	180	240	320	400	600	
51E **55 6790**	Garant	Abrasive cloth (A) robust, highly flexible	**230×280 mm**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	**50**
Grit designation				coarse	coarse	coarse	medium	medium	medium	fine	fine	very fine	very fine	polishing	

55

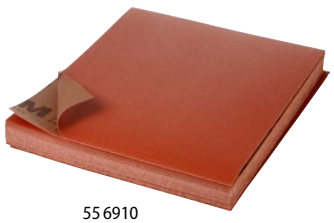
55 6800 – Type **VSM KK 24: Blue fabric, low cost abrasive cloth** for normal applications.
55 6900 – Type **VSM KK 114 F: Brown fabric, for extremely demanding applications.** This grade is particularly supple, resistant to oil and petroleum and can be torn in longitudinal direction to yield clean edges without fraying.
Size ROUGE – Type **VSM KK 114 F**, tossed grit application, equivalent to 1000 grit.
Size 600; 800 – Type **Starcke 531 JFF, highly flexible, ideal for rubbing down fittings.**

55 6800 55 6900

Grit				40	60	80	100	120	150	180	240	320	400	600	800	ROUGE	
56V **55 6800**	VSM	Abrasive cloth (A) blue, normal **KK 24**	**230×280 mm**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	**50**
56V **55 6900**	VSM	Abrasive cloth (A) brown, very flexible **KK 114 F**	**230×280 mm**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	**50**
Grit designation				coarse	coarse	coarse	medium	medium	medium	fine	fine	very fine	very fine	polishing	polishing	polishing	

Abrasive cloths set, 50 pieces

Supplied with: 10 sheets each in 60, 80, 120, 180, 320 grit.



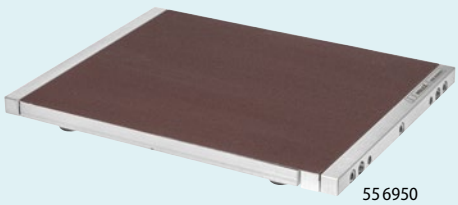
55 6910

Type				5GRITS
51E **55 6908**	Garant	Abrasive cloth assortment, 50 pieces (A), sturdy, very flexible	**230×280 mm**	XXX
56V **55 6910**	VSM	Abrasive cloth assortment, 50 pieces (A), brown, very flexible **KK 114F**	**230×280 mm**	XXX

Accessories for abrasive cloth by the sheet

96 3980

95 5798

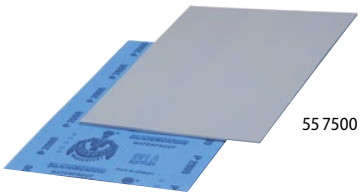


55 6950

SiC

STARCKE® Abrasive paper waterproof

Very strong and flexible latex paper evenly spread with **Silicon Carbide (SiC).** Good grit bonding, high abrasion force and long service life.
Sheet size 230×280 mm.
Application: Primarily for rubbing down by hand in bodywork building, repair workshops, and paint shops, for fine rubbing down of varnished or filled areas.


55 7500

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 7500	●		●	●	●	●		●	●	●		●		○	●	○	●	○

Grit			150	180	220	240	320	360	400	500	600	800	
56Z 55 7500	Abrasive paper (SiC) waterproof **Matador**	230×280 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
Grit designation			medium	medium	fine	fine	very fine	very fine	polishing	polishing	polishing	polishing	

Grit			1000	1200	1500	2000	2500	3000	5000	7000	
56Z 55 7500	Abrasive paper (SiC) waterproof **Matador**	230×280 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
Grit designation			polishing								

55

A

Garant Abrasive cloth economy rolls

Densely woven, robust and **highly flexible** cotton fabric (resistant to oil and petroleum) evenly spread with synthetic resin bonded **standard aluminium oxide (A).** Moulds ideally to the workpiece geometry. **High abrasive performance and long tool life.**

55 6980 – **Economy roll 115 mm wide** for all popular orbital sanders. **Cloth is drawn from the middle of the roll**, ensures a tidy workplace. Allows the roll to be used right up to the last piece without damage.

55 6960–6970 – **Economy roll in a handy dispenser box** with viewing slot for quick monitoring of the remaining cloth. With high-quality cut-off blade.

Application: **Ideal for metal.** Suitable also for wood and for abrading paint.

55 6960 – 55 6970 55 6980

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 6960–55 6980	●	●	●	●	●	○		●	○	●	●	●	●		○	●		●

Grit			40	60	80	100	120	150	180	240	320	400	600
51E 55 6960	Economy roll of abrasive cloth (A) robust, highly flexible	25 mm × 50 m	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
51E 55 6965		40 mm×50 m	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
51E 55 6970		50 mm × 50 m	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
51E 55 6980		115 mm×50 m	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Grit designation			coarse	coarse	coarse	medium	medium	medium	fine	fine	very fine	very fine	polishing

A

VSM Abrasive cloth economy rolls

Densely woven cotton cloth evenly spread with synthetic resin bonded **Aluminium Oxide (A).** Very good grit bonding, high abrasion performance and long service life.
Application: Predominantly for rubbing down metals by hand, but also suitable for all other materials.

55 7710

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 7700–55 7950	●	●	●	●	○	○		●	○	●	●	●	●		○	●		●

Type **VSM KK 24: Blue fabric, low cost abrasive cloth roll** for normal applications.
Packaging tape **with integral tear-off cutter.**

Grit			40	60	80	100	120	150	180	240	320	400
56V 55 7710	Abrasive cloth (A) economy roll, blue, normal **KK 24**	40 mm × 50 m.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Grit designation			coarse	coarse	coarse	medium	medium	medium	fine	fine	very fine	very fine

Type **VSM KK 114 F: Brown fabric, for extremely demanding applications.** This grade is **particularly supple, resistant to oil and petroleum** and can be torn in longitudinal direction to yield clean edges without fraying.

55 7700–7800 – Packaging tape **with integral tear-off cutter.**

55 7840/7850 – Packaging tape **without tear-off cutter.**

Application:

55 7850 – Ideal for use on orbital sanders.

55 7700 - 7800 55 7840 / 7850

Grit			40	60	80	100	120	150	180	240	320	400
56V 55 7730	Abrasive cloth (A) economy roll, brown **KK 114 F**	**40 mm × 25 m**	–	XXX	XXX	–	XXX	–	XXX	XXX	–	XXX
56V 55 7800		**25 mm × 50 m**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
56V 55 7700		**40 mm × 50 m**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
56V 55 7750		**50 mm × 50 m**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
56V 55 7840		**100 mm × 50 m**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
56V 55 7850		**115 mm × 50 m**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Grit designation			coarse	coarse	coarse	medium	medium	medium	fine	fine	very fine	very fine

Economy roll sets in dispenser box

Type **VSM KK 114 F: Brown fabric, for extremely demanding applications.** This grade is **particularly supple, resistant to oil and petroleum** and can be torn in longitudinal direction to yield clean edges without fraying.

Length 50 m, pack **includes integral tear–off cutter.**

Size 5 – **5 pieces** = Basic version with 1 each economy roll 40, 80, 150, 240, 400 grit.

Size 10 – **10 pieces** = Complete set with 1 each economy roll 40 to 400 grit.

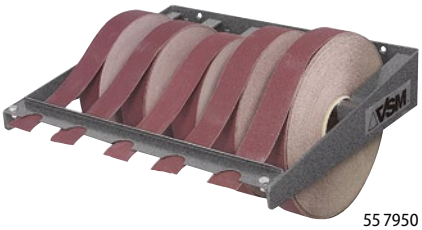
55 7880

Number of different rolls			5	10
56V 55 7880	Abrasive cloth (A) economy roll set, brown **KK 114 F**	**25 mm × 50 m**	XXX	XXX
56V 55 7870		**40 mm × 50 m**	XXX	XXX

Economy roll set in a magazine

Type **VSM KK 114 F: Brown fabric, for extremely demanding applications.** This grade is **particularly supple, resistant to oil and petroleum** and can be torn in longitudinal direction to yield clean edges without fraying.

The rack takes 5 economy rolls No. 557700 - 60, 80, 120, 150, 240 grit (40 mm wide, 50 m long).



55 7950

56V 55 7950	Abrasive cloth (A) economy roll set, brown, with magazine **KK 114 F**	**40 mm × 50 m**	XXX

VSM Magazine for economy rolls

Robust rack (hammer finish) complete with cutter and clamp (for abrasive cloth economy rolls 20–50 mm wide and 50 m long).

55 7960

56V 55 7960	Magazine for 5 economy rolls **20 – 50 mm, 50 m**	XXX

HOLEX Flexible abrasive belt holder „flexible file“ 13 or 25 mm wide

Made of flexible plastic material with wedge-shaped abrasive belt support. Quick, safe tensioning of the abrasive belt by retaining clamps with clamping screw. Overall length 280 mm, abrasive surface length 120 mm.

Application: Uses abrasive cloth strips of length 280 mm (by the sheet or economy rolls).
Particularly useful where access is difficult.
Many applications, ideal supplement to files also in difficult applications.

55 7900_13

55 7900_25

suitable for linishing belt width		mm	13	25
56Z 55 7900	Flexible abrasive belt holder		XXX	XXX

HOLEX Abrasive cloth accessories

Steel backing plate for abrasive cloth 230×280

Very stable heavy steel backing plate with 4 non-slip rubber feet for abrasive paper 230×280 mm.
3 mm adjustment range for non crease holding.

55 6950

				Weight kg
56Z 55 6950	Steel backing plate	230×280 mm	XXX	8

Rubber sanding block

2-piece, black rubber block in handy shape.
Rapid insertion and clamping of abrasive cloth by captive metal pins.

Application: For rubbing down and polishing by hand.
Resilient, keeps its shape even when used wet.

55 7600

56Z 55 7600	Rubber sanding block		XXX
Length		mm	130
Width		mm	70
Height		mm	33

A | Fe,S,Cl <0.1%

VSM Linishing belts regular Aluminium Oxide

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8010–55 8140	**35-40**	**32-38**	20-25	32-38				18-30	10-20	30-45	**35-45**	**10-30**	**23-26**					●

KK711 linishing belts regular Aluminium Oxide (A)

Universal linishing belt with **Aluminium Oxide(A).** The grinding medium underlay is optimally designed to the grit and type of linishing belt.

55 8010–8012 – 40 grit - X-fabric (robust). 60 to 180 grit - T-fabric (robust-flexible) with **special flexibility.** Ideal for use on hand-held grinding machines.

55 8015–8140 – Robust X-fabric for **high material removal rate** on stationary grinding machines.

Application: For universal use on all popular materials: **steel,** non-ferrous metals, cast iron, **aluminium alloys, wood.**

Note: Other grit sizes, qualities, and dimensions are available on request in line with the manufacturer's minimum order quantities. Unless specified otherwise on the order, belts will be supplied with standard joints. See No. 568526ff for spare linishing belts for burnishing machines.

55 8010 – 8012

Grit			40	60	80	120	180	
56V 55 8011	Aluminium Oxide (A) linishing belt **KK711T**	10×330 mm	XXX	XXX	XXX	XXX	XXX	100
56V 55 8012		20×520 mm	XXX	XXX	XXX	XXX	XXX	20
56V 55 8010		13×610 mm	XXX	XXX	XXX	XXX	XXX	100

Grit			40	60	80	120	180	
56V 55 8015	Aluminium Oxide (A) linishing belt **KK711X**	75×533 mm	XXX	XXX	XXX	XXX	–	10
56V 55 8020		100×620 mm	XXX	XXX	XXX	XXX	–	10
56V 55 8030		100×950 mm	XXX	XXX	XXX	XXX	–	10
56V 55 8035		50×1000 mm	XXX	XXX	XXX	XXX	–	10
56V 55 8040		100×1000 mm	XXX	XXX	XXX	XXX	XXX	10
56V 55 8050		120×1500 mm	XXX	XXX	XXX	XXX	–	10
56V 55 8060		150×1500 mm	XXX	XXX	XXX	XXX	–	10
56V 55 8100		50×2000 mm	XXX	XXX	XXX	XXX	–	10
56V 55 8110		75×2000 mm	XXX	XXX	XXX	XXX	XXX	10
56V 55 8130		150×2000 mm	XXX	XXX	XXX	XXX	XXX	10
56V 55 8140		75×2500 mm	XXX	XXX	XXX	XXX	–	10

55 8015 – 8140

ZA | Fe,S,Cl <0.1%

VSM Linishing belts Zirconium Aluminium Oxide

High-performance linishing belt with **Zirconium Aluminium Oxide (ZA)** for a high removal rate. **The continuous self-sharpening characteristics** of Zirconium Aluminium Oxide permit **longer belt life** at **higher removal rates** and a more consistent surface quality compared to Aluminium Oxide.

55 8205–8304 – T-fabric (sturdy and flexible) with **special flexibility** for working in tight radii with hand-held machines.

55 8305–8330 – X-fabric (sturdy) for high removal rates on stationary machines.

Application: For use on all **steels and steel alloys, cast iron,** and also non-ferrous metals.

Note: Other grit sizes, qualities, and dimensions are available on request in line with the manufacturer's minimum order quantities. Unless specified otherwise on the order, belts will be supplied with standard joints. See No. 568526ff for spare linishing belts for burnishing machines.

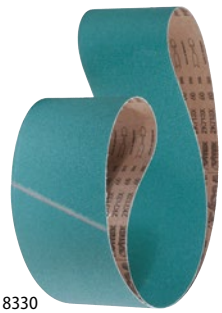
Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8205–55 8330	35-40	**32-38**	**20-25**	**32-38**	**25-30**	**20-25**		**18-30**	**10-20**	**30-45**			**23-26**					●

ZK713 linishing belts Zirconium Aluminium Oxide (ZA)

Grit			40	60	80	120	
56V 55 8220	Linishing belt zirconium aluminium oxide (ZA) **ZK713T**	10×330 mm	XXX	XXX	XXX	XXX	100
56V 55 8205		13×305 mm	XXX	XXX	XXX	XXX	100
56V 55 8250		13×457 mm	XXX	XXX	XXX	XXX	100
56V 55 8223		15×330 mm	XXX	XXX	XXX	XXX	100
56V 55 8252		19×457 mm	XXX	XXX	XXX	XXX	100
56V 55 8255		6×520 mm	XXX	XXX	XXX	XXX	100
56V 55 8256		12×520 mm	XXX	XXX	XXX	XXX	100
56V 55 8257		20×520 mm	XXX	XXX	XXX	XXX	20
56V 55 8259		9×533 mm	XXX	XXX	XXX	XXX	100
56V 55 8260		30×533 mm	XXX	XXX	XXX	XXX	20
56V 55 8207		6×610 mm	XXX	XXX	XXX	XXX	100
56V 55 8210		13×610 mm	XXX	XXX	XXX	XXX	100
56V 55 8304		40×760 mm	XXX	XXX	XXX	XXX	10

55 8205

Grit			40	60	80	120	
56V 55 8315	Linishing belt zirconium aluminium oxide (ZA) **ZK713X**	100×950 mm	XXX	XXX	XXX	XXX	10
56V 55 8317		100×1000 mm	XXX	XXX	XXX	XXX	10
56V 55 8305		50×2000 mm	XXX	XXX	XXX	XXX	10
56V 55 8310		75×2000 mm	XXX	XXX	XXX	XXX	10
56V 55 8330		150×2000 mm	XXX	XXX	XXX	XXX	10



55 8330

Linishing belts for every requirement and in any dimensions

Are you unable to find a linishing belt in your desired dimensions in our catalogue range?
Then simply get in touch with us.
We will find the right solution for you!

ZA | Fe,S,Cl <0.1%

GRIT R special linishing belts Zirconium Aluminium Oxide

Top quality linishing belt, **extra heavy-duty polyester fabric** with synthetic resin bonding, Zirconium Aluminium Oxide **(ZA)** with active upper layer bonding (cool cut).
Application: For GRIT belt linishing machines series GX, GIS, GI.

55 8454–8456

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8453/8454		32-38	20-25	32-38	25-30	20-25		18-30	10-20	30-45			23-26					●

Grit			36	60	80	120	
56Z 55 8453	Zirconium Aluminium Oxide (ZA) linishing belt **GRIT R**	75×2000 mm	XXX	XXX	XXX	XXX	10
56Z 55 8454		150×2000 mm	XXX	XXX	XXX	XXX	10

CER | Fe,S,Cl <0.1%

Ceramic grit linishing belts

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
784F/XK870	35-40	32-38	20-25	32-38	25-30	20-25		18-30	10-20	30-45	35-45					●	○	●
947A	35-40	32-38	20-25	32-38	25-30	20-25		18-30	10-20	30-45	35-45					●		●
984F	35-40	32-38	20-25	32-38	25-30	20-25		18-30		30-45							○	●

Cubitron™ II linishing belt 947A with precisely formed ceramic grit and aluminium oxide on a lightweight X fabric backing fabric. Flexible linishing belt for demanding abrasive work on **hand-held machines** and **long-belt machines.** Cool cutting thanks to grinding aids.

55 8423–8444

Grit			40	60	80	120	
53S 55 8423	3M Linishing belt **Cubitron™ II 947A**	13×305 mm	XXX	XXX	XXX	XXX	23
53S 55 8425		10×330 mm	XXX	XXX	XXX	XXX	100
53S 55 8428		13×457 mm	XXX	XXX	XXX	XXX	100
53S 55 8432		12×520 mm	XXX	XXX	XXX	XXX	25
53S 55 8434		20×520 mm	XXX	XXX	XXX	XXX	100
53S 55 8436		30×533 mm	XXX	XXX	XXX	XXX	10
53S 55 8440		13×610 mm	XXX	XXX	XXX	XXX	100
53S 55 8442		40×815 mm	XXX	XXX	XXX	XXX	8
53S 55 8444		50×1000 mm	XXX	XXX	XXX	XXX	6

Cubitron™ II 784F linishing belt with precision-shaped ceramic grit and carborundum on a stable YF polyester backing (P36 – P80) or a semi-flexible XF polyester backing (P120 – P180). For **cost-effective use for demanding abrasive work** on stationary linishing machines. Cool cutting thanks to grinding aids.

55 8511–8513

Grit			36	60	80	120	180	
53S 55 8511	3M Linishing belt **Cubitron™ II 784F**	50×2000 mm	XXX	XXX	XXX	XXX	XXX	6
53S 55 8512		75×2000 mm	XXX	XXX	XXX	XXX	XXX	4
53S 55 8513		150×2000 mm	XXX	XXX	XXX	XXX	XXX	2

Cubitron™ II linishing belt 984F with pure precision-shaped ceramic grit on stable YF polyester backing. **High-performance linishing belt for preliminary linishing** on stationary linishing machines. Cool cutting thanks to grinding aids.

55 8452 –8458

Grit			36	60	80	
53S 55 8452	3M Linishing belt **Cubitron™ II 984F**	50×2000 mm	XXX	XXX	XXX	30
53S 55 8457		75×2000 mm	XXX	XXX	XXX	20
53S 55 8458		150×2000 mm	XXX	XXX	XXX	10
53S 55 8448		50×3500 mm	XXX	XXX	XXX	30

XK870 linishing belt with self-sharpening **ceramic grit (CER)** for very high performance and long service life.
The active abrasive layer **(TOP Size)** ensures cool abrasion and increases the material removal rate.

55 8408 – F-fabric (flexible) for **contour grinding with pipework belt linishers.**

55 8397/8404/8407/8412/8398/8401/8414/8399/8402 – T-fabric (robust-flexible) for use on **hand-held machines.**

55 8409/8410/8430 – X-fabric (robust) for linishing work on **stationary linishing machines** with high contact forces.

Application: For grinding all steels, particularly well suited to difficult to machine materials such as **stainless steel, nickel alloys, chromium,** titanium, aluminium.

55 8397–84514

55 8409–8430

Grit				24	36	40	60	80	120	
56V 55 8397	VSM	Linishing belt ceramic grit **XK870T**	6×305 mm	–	–	–	XXX	XXX	XXX	100
56V 55 8404			13×305 mm	–	–	XXX	XXX	XXX	XXX	100
56V 55 8407			10×330 mm	–	–	XXX	XXX	XXX	XXX	100
56V 55 8412			13×457 mm	–	–	XXX	XXX	XXX	XXX	100
56V 55 8398			6×520 mm	–	–	–	XXX	XXX	XXX	100
56V 55 8401			20×520 mm	–	–	XXX	XXX	XXX	XXX	20
56V 55 8414			9×533 mm	–	–	–	XXX	XXX	XXX	100
56V 55 8399			6×610 mm	–	–	–	XXX	XXX	XXX	100
56V 55 8402			13×610 mm	–	–	XXX	XXX	XXX	XXX	100
56V 55 8408		Linishing belt ceramic grit **XK870F**	40×760 mm	–	–	–	XXX	XXX	XXX	20
56V 55 8409		Linishing belt ceramic grit **XK870X**	50×2000 mm	–	XXX	XXX	XXX	XXX	XXX	10
56V 55 8410			75×2000 mm	XXX	XXX	XXX	XXX	XXX	XXX	10
56V 55 8430			150×2000 mm	XXX	XXX	XXX	XXX	XXX	XXX	10

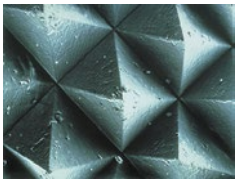
55

A	Fe,S,Cl <0.1%

3M Linishing belts 237AA Trizact

The **pyramid-shaped grit (A)** is based on an exactly aligned three-dimensional structure of very small Aluminium Oxide mineral particles. During the abrasive process new layers of grit particles are continuously exposed – right until the backing fabric (X fabric) is reached.

Application: For smoothing and finishing. For **absolutely consistent fine abrasive results** on all steels, chrome nickel steels, cobalt, nickel, and titanium alloys.



Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8460–55 8475		**32-38**	**20-25**	**32-38**	**25-30**	**20-25**		**18-30**	**10-20**	**30-45**								●

Grit				120	180	280	400	600	
53M 55 8468	Linishing belt (A) **237AA Trizact™**		13×305 mm	XXX	XXX	XXX	XXX	XXX	23
53M 55 8460			10×330 mm	XXX	XXX	XXX	XXX	XXX	30
53M 55 8462			13×457 mm	XXX	XXX	XXX	XXX	XXX	25
53M 55 8467			30×533 mm	XXX	XXX	XXX	XXX	XXX	10
53M 55 8461			13×610 mm	XXX	XXX	XXX	XXX	XXX	25
53M 55 8466			40×760 mm	XXX	XXX	XXX	XXX	XXX	8
53M 55 8465			40×815 mm	XXX	XXX	XXX	XXX	XXX	30
53M 55 8470			50×2000 mm	XXX	XXX	XXX	XXX	XXX	20
53M 55 8471			75×2000 mm	XXX	XXX	XXX	XXX	XXX	20
53M 55 8475			150×2000 mm	XXX	XXX	XXX	XXX	XXX	10
3M grit designation				A160	A100	A65	A45	A30	

55 8460–8467

55 8470–8467 75

osborn Grinding grease for aluminium grinding

Solid grinding grease in homogeneous bar form. **Prevents smearing** of the linishing belt when grinding aluminium and **reduces the temperature** of the grinding process for all materials.

Application: For application to the linishing belt.

55 8190

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8190	●	●	●	●	○	○		○	○	○	●							

Suitable for materials		ALU
56Z 55 8190	Grinding grease bar **Unipol®**	XXX
Suitable for materials		Aluminium
Weight	g	600

A | Fe,S,Cl <0.1%

Fleece linishing belts

Synthetic nylon non-woven fabric with synthetic resin bonded abrasive grit, long service life, **consistent surface finish, low heat generation.**

55 8476/8490/8492/8494/8495/8497/8498/8499/8500/8503/8504 – Flexible fleece belt for use on hand-held machines.

55 8506–8510 – Sturdy fleece belt with low belt stretch for very heavy duties.

Application:

55 8476 – For deburring, matting and finishing. The **low-stretch fabric backing** is particularly suitable for heavier loadings on pneumatic grinding machines.

55 8481–8510 – For rubbing down rough ground or brushed surfaces, for consistent and reproducible results. Also suitable for removing rust film, light soiling, and discolouration.

Suitable for/ v_c [m/s]	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8476	20-25	20	20	20	20	20		20	20	20	20	20	20		20	20		●
55 8481–55 8510	15-20	10	10	10	10	10		10	10	10	10	10	10		10	10		●

DF-BL / SC-BS / SC-BL fleece linishing belts

Grit equivalent				100	180	240	280	
53M 55 8476	3M	Fleece linishing belt (A) **DF-BL**	13×305 mm	XXX	XXX	XXX	–	25
53M 55 8492			10×330 mm	XXX	XXX	–	XXX	30
53M 55 8490			13×457 mm	XXX	XXX	–	XXX	25
53M 55 8494			6×520 mm	XXX	XXX	–	XXX	25
53M 55 8495			20×520 mm	XXX	XXX	–	XXX	10
53M 55 8497		Fleece linishing belt (A) **SC-BS**	9×533 mm	XXX	XXX	–	XXX	33
53M 55 8498			30×533 mm	XXX	XXX	–	XXX	10
53M 55 8499			6×610 mm	XXX	XXX	–	XXX	25
53M 55 8500			13×610 mm	XXX	XXX	–	XXX	25
53M 55 8503			40×760 mm	XXX	XXX	–	XXX	8
53M 55 8504			40×815 mm	XXX	XXX	–	XXX	10
53M 55 8510		Fleece linishing belt (A) **SC-BL**	100×1000 mm	XXX	XXX	–	XXX	6
53M 55 8506			50×2000 mm	XXX	XXX	–	XXX	6
53M 55 8507			75×2000 mm	XXX	XXX	–	XXX	6
53M 55 8509			150×2000 mm	XXX	XXX	–	XXX	3
Grit designation				coarse	medium	fine	very fine	
Version				A coarse	A medium	A fine	A very fine	
Colour				brown	red	green	blue	

55 8495_280

55 8476

55 8509 _280

Grit equivalent				100	180	280	
52E 55 8481	HOLEX	Fleece linishing belt (A)	20×520 mm	XXX	XXX	XXX	10
52E 55 8482			30×533 mm	XXX	XXX	XXX	5
52E 55 8484			13×610 mm	XXX	XXX	XXX	10
52E 55 8488			75×2000 mm	XXX	XXX	XXX	5
Grit designation				coarse	medium	very fine	
Version				A coarse	A medium	A very fine	
Colour				brown	red	blue	

55 8482_100

55 8488_100

SiC

Set of hones, 10 pieces

Application: For **deburring, sharpening** and **honing** tools and tool cutters. **Carbide, non-ferrous metal,** glass, ceramic, porcelain.

Supplied with: 558615 150×16M, 558625 100×10G / 200×20G, 558635 100×10M / 150×16M / 150×16G / 150×16F, 558655 100×10F / 150×16F / 200×20M.

Note: **Preferably use with oil, paraffin or water.**

55 8811

Number of hones		10
56Z 55 8811	Set of hones, 10 pieces, silicon carbide, in a plastic box	XXX

FALCON Tool Company

Polishing stones

SiC A

Polishing stone set for fine grinding and polishing in tool and mould making. For manual polishing or in combination with polishing tools such as 078143 NLS110.

55 2050 – Quick-cutting, **soft-structured all-round aluminium oxide polishing stone** that can be used on almost all materials. Offers a soft cutting action in combination with the perfect abrasive wear rate.

55 2060 – **Semi-hard structured aluminium oxide polishing stone** with slow abrasive wear rate. Very tough, meaning it can be used on all tool steels and also non-ferrous materials.

55 2070 – **Medium-hard structured silicon carbide polishing stone** with very slow abrasive wear rate. Used for polishing tool steel and non-ferrous materials.

Supplied with: All polishing stone sets contain one polishing stone in each of the following grit sizes: 150, 220, 320, 400, 600.

Note: **Preferably use with oil, paraffin or water.**

55 2050

55 2070

Height		mm	3	6	Degree of hardness
55A 55 2050	Polishing stone set, 5 pieces **Type N, aluminium oxide**		XXX	XXX	soft
55A 55 2060	Polishing stone set, 5 pieces **Type SE, aluminium oxide**		XXX	XXX	semi-hard
55A 55 2070	Polishing stone set, 5 pieces **Type SO, silicon carbide**		XXX	XXX	medium hard
Length		mm	150		
Width		mm	13		

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2050/2060	●	●	●	●	○	○		○	○	○	○	○					●	○
55 2070				●	●	●	●	●	●	●	●	●		○			●	○

55

Hones (dressing sticks)

Application: For **deburring, sharpening, truing** and **chamfering** of tools and tool cutters.
For re-working bores, surfaces and edges in mould making.
Also for improving the surface for stock removal, finishing, and polishing.

Note: **Preferably use with oil, paraffin or water.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8515–55 8565/ 8805	●	●	●	●	○	○		○	○	○	○	○					●	○
55 8615–55 8665– 55 8809				●	●	●	●	●	●	●	●	●		○			●	○

Aluminium Oxide (pink, orange, white)

A

Application: For **steel** (hardened) and alloys with high tensile strengths.
The toughness of this material gives it **edge strength** and good **cutting performance.**

55 8515

Length×Width (mm) fineness	53Y 55 8515 three- square	53Y 55 8525 square	53Y 55 8535 round	53Y 55 8545 half round	53Y 55 8555 flat	53Y 55 8565 Blade		Grit	Colour
	Hone - Aluminium Oxide								
100×6M	XXX	–	–	–	XXX	–	10	180	pink
100×6F	XXX	XXX	–	–	–	–	10	320	orange
100×8M	XXX	XXX	XXX	–	–	–	10	180	pink
100×8F	XXX	–	XXX	–	–	–	10	320	orange
100×10G	XXX	XXX	–	–	XXX	–	10	80	pink
100×10M	XXX	XXX	XXX	XXX	XXX	–	10	180	pink
100×10F	XXX	XXX	XXX	XXX	XXX	–	10	320	orange
100×10P	XXX	–	–	–	–	–	10	500	white
100×13G	XXX	–	–	–	–	–	10	80	pink
100×13M	XXX	XXX	–	XXX	–	–	10	180	pink
100×13F	XXX	XXX	–	–	–	–	10	320	orange
150×16G	XXX	XXX	–	–	–	–	10	80	pink
150×16M	XXX	XXX	–	–	XXX	–	10	180	pink
150×16F	XXX	XXX	–	–	XXX	–	10	320	orange
150×16P	XXX	–	–	–	–	–	10	500	white
100×20F	–	–	–	–	XXX	–	10	320	orange
100×25M	–	–	–	–	–	XXX	10	180	pink
100×25F	–	–	–	–	–	XXX	10	320	orange

Silicon Carbide SiC (green)

SiC

55 8615

Application: For **carbide, non-ferrous metal,** glass, ceramic, porcelain.
A material with **high hardness** and exceptional **self-sharpening properties.**

Length×Width (mm) fineness	56Z 55 8615	56Z 55 8625	56Z 55 8635	56Z 55 8645	56Z 55 8655	56Z 55 8665		Grit	Colour
	Hone – silicon carbide (green)								
	three- square	square	round	half round	flat	Blade			
100×6M	XXX	–	–	–	XXX	–	10	180	green
100×6F	XXX	–	–	–	XXX	–	10	320	green
NEW 100×10G	–	XXX	–	–	–	–	10	100	green
100×10M	XXX	XXX	XXX	XXX	XXX	–	10	180	green
100×10F	XXX	XXX	XXX	–	XXX	–	10	320	green
100×25F	–	–	–	–	–	XXX	10	320	green
NEW 150×16G	XXX	–	XXX	–	–	–	10	100	green
150×16M	XXX	XXX	XXX	–	XXX	–	10	180	green
NEW 150×16F	XXX	XXX	XXX	–	XXX	–	10	320	green
NEW 150×16P	XXX	–	–	–	–	–	10	500	green
NEW 200×20G	–	XXX	–	–	–	–	10	100	green
200×20M	–	–	–	–	XXX	–	10	180	green
200×25G	–	–	–	–	XXX	–	10	100	green

Set of hones, 5 pieces

A SiC

Composed of frequently used hones from coarse to fine.

Supplied with:

55 8805 – 1 piece each three-square hones No. 558515 size 100×10 G / M / F / P and 1 round hone No. 558535 size 100×10 M.

55 8807 – 1 piece each three-square hones No. 558615 size 100×10 M / F / P and 1 round hone No. 558635 size 100×10 M / F.

55 8809 – 1 hone each 100×10M three-square, square, round, half-round, flat, knife.

55 8805

Number of hones			5
53Y 55 8805	TYROLIT	Set of hones, 5 pieces, Aluminium Oxide, in a plastic box	XXX
56Z 55 8807		Set of hones, 5 pieces, silicon carbide, in a plastic box	XXX
56Z 55 8809			XXX

Very fine honing tools original Arkansas

Natural stone (original-Arkansas) of very fine grit quartzite; very strong edges. For the finest surfaces and burr-free grinding.
Grit 5000 (pre-grinding), grit 8000 (polishing).

Note: Low dose of oil increases tool life and edge sharpness.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8680–55 8830	●	●	●	●	●	●	●	●	●	●	○	○				●	●	○

Length × Width	56Z 55 8680	56Z 55 8682	56Z 55 8684
	Hone – original Arkansas (grey), grit 5000		
mm	3- square	square	round
100×10	XXX	XXX	XXX

NEW
55 8680

Length × Width	56Z 55 8710	56Z 55 8720	56Z 55 8730	56Z 55 8740	56Z 55 8750	56Z 55 8760	56Z 55 8765	
	Bench stone – Original Arkansas (white), 8000 grit							
mm	three- square	square	round	half round	flat	knife	gouge	
100×6	XXX	XXX	XXX	–	XXX	–	–	10
100×10	XXX	XXX	XXX	XXX	–	–	–	10
100×13	–	XXX	–	–	–	–	–	10
100×25	–	–	–	–	–	XXX	–	10
100×40	–	–	–	–	–	–	XXX	6

55 8710

Application: For **deburring, sharpening, truing** and **chamfering** of tools and tool cutters. For re-working bores, surfaces and edges in mould making. Also for improving the surface for stock removal, finishing, and polishing.
Best used with oil, paraffin or water.

Length×Width	mm	100×40	150×50
56Z 55 8827	Bench stone, original Arkansas (grey), grit 5000 in a wooden box	XXX	–
56Z 55 8830	Bench stone original Arkansas (white), grit 8000 in a wooden box	XXX	XXX
Height (55 8830)	mm	12	

55 8830

KYOCERA Degussit® sintered ruby fine abrasive tools of oxide ceramic

The exceptionally high hardness of highly sintered Aluminium Oxide ceramic, free of binding agents, gives the fine abrasive tools an excellent edge and profile stability (synthetic ruby) for an outstanding surface quality.

Application: For precision work in tool and mould making, in precision mechanical manufacture, optical and glass industry, porcelain manufacture etc. For applying chamfers, for notching, and for changes of shape.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8905–55 8985	●	●	●	●	●	●	●	●	●	●	●	●		○		●	●	○

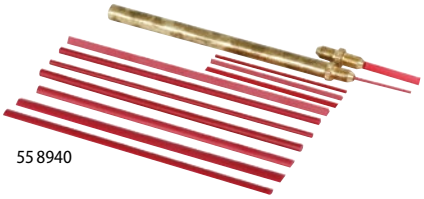
Length × Width mm	53D 55 8905 three- square	53D 55 8910 square	53D 55 8915 round	53D 55 8920 barrette	53D 55 8925 flat	
	Degussit® oxide ceramic micro-file					
50×1	–	XXX	XXX	–	–	20
50×2	XXX	–	–	–	–	20
50×3	–	–	–	–	XXX	20
100×2	–	XXX	XXX	–	–	20
100×3	XXX	–	XXX	–	–	20
100×5	–	–	–	XXX	–	20

55 8915_100×3

55 8925_50×3

Supplied with: Degussit® micro file set with 11 files No. 558905 – 558925 and shape half-round, form elliptical, 1 holder and 2 mounting heads.

53D 55 8940	Degussit® oxide ceramic micro file set, 12 pieces	XXX


55 8940

Sintered ruby fine abrasive **files** in grit grades
Size 100×6M; 100×10M; 120×13M – **medium (M)** (Ra approx. 10 µ, equivalent to about 600 grit),
Size 100×6F; 100×10F; 120×13F – **fine (F)** (Ra approx. 1 µ, equivalent to about 2000 grit).

Length×width (grit designation) mm		100×6M	100×6F	100×10M	100×10F	120×13M	120×13F
53D 55 8950	Degussit oxide ceramic fine abrasive file three-square	XXX	XXX	XXX	XXX	XXX	XXX
53D 55 8955	Degussit oxide ceramic fine abrasive file square	XXX	XXX	XXX	XXX	XXX	XXX
Grit		600	2000	600	2000	600	2000

55 8950

55 8955

Sintered ruby fine-cut **bench stones** in grit grades
55 8980 – **medium (M)** (Ra approx. 10 µ, equivalent to about 600 grit),
55 8985 – **fine (F)** (Ra approx. 1 µ, equivalent to about 2000 grit).

Length×Width mm		100×25	150×25
53D 55 8980	Degussit oxide ceramic bench stone **medium (M)**	XXX	XXX
53D 55 8985	Degussit oxide ceramic bench stone **fine (F)**	XXX	XXX
Height mm		10	15

55 8985

SiC

Garant Polishing points, PU-bonded / felt

55 2034 – **Resilient polyurethane polishing points** incorporating SiC grit.
55 2036 – **Felt polishing points**, medium-hard.

Application: For fine abrasive work and polishing work, e.g. in toolmaking.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2034/2036	●	●	●	●	●	●		●	●	●	●					●		●

_F12×140 _F20×140 _R6×140 _10×150

Width × Length mm		F12×140	F20×140	R6×140	R10×140	6×150	10×150	
51G 55 2034	Polishing point, SiC 150 grit hard	XXX	XXX	XXX	XXX	–	–	10
NEW 51E 55 2036	Felt polishing point, medium-hard	–	–	–	–	XXX	XXX	50
Shape description		Flat	Flat	Round	Round	square	square	
Length	mm	140	140	140	140	150	150	
Width	mm	12	20	6	10	6	10	
Height	mm	6	10	6	10	6	10	

Hand lapper, boron carbide, Arkansas stone (white)

Grinding body 35×14×5 mm. Overall length 150 mm.

Size 8000 – Very hard natural stone without bonding agents (original Arkansas) of very fine grit quartzite; very strong edges.

Size 220; 400 – Boron carbide body with strong edges and surfaces.

Application:

Size 8000 – For honing and final polishing of blades.

Size 220; 400 – For sharpening, honing, breaking, and rounding carbide edges on turning tools, reamers, milling cutters, drills etc. Also for fine detail lapping of very hard components.

55 8812

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
Borcabid						●	●		●								●	○
Arkansas	●	●	●	●	●	●	●	●	●	●	○	○				●	●	○

Grit			220	400	8000
53D 55 8812	Hand lapper	35×14×5 mm	XXX	XXX	XXX
Grinding media			Boron carbide	Boron carbide	Arkansas quartzite
Grit designation			medium	fine	extra fine

Bench stones Aluminium Oxide / Silicon Carbide

Ceramic bonded combination oilstones, hardness O/ P. One side coarse for roughing, the other side fine for finishing.

55 8855 – **Special Aluminium Oxide** 180 grit (medium) with **long working life.** Other side precision abrasive, 500 grit (very fine), very free cutting, **high surface quality.**

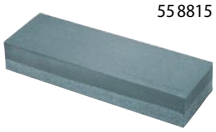
55 8815/8865 – **Aluminium Oxide** in medium hard bonding. Lower part Aluminium Oxide (A) 100 grit (coarse); upper part electro-bonded Aluminium Oxide 280 / 320 grit (fine).

55 8825/8875 – **Silicon carbide** in medium hard bonding. Lower part SiC 280 / 320 grit (fine); upper part SiC 100 grit (coarse).

Application: For deburring, finish smoothing of irregularities, rounding of edges.

Note:
55 8865/8875 – Equalised bench stones additionally dressed for a perfectly flat surface.

55 8815



55 8825

55 8855

Length×Width		mm	100×25	125×50	150×50	200×50	
56Z 55 8815	Bench stone for steel Aluminium Oxide (A) **coarse / fine**		–	XXX	XXX	XXX	
56Z 55 8825	Bench stone for carbide and cast iron Silicon carbide (SiC) **coarse / fine**		XXX	XXX	XXX	XXX	
56Z 55 8855	Bench stone for steel, special carborundum **medium / very fine**		XXX	XXX	–	–	
56Z 55 8865	Bench stone for steel Aluminium Oxide (A), equalised **coarse / fine**		–	–	XXX	XXX	NEW
56Z 55 8875	Bench stone for carbide and cast iron Silicon carbide (SiC), equalised **coarse / fine**		–	–	XXX	XXX	NEW
Height		mm	15	20	25	25	

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 8815/8855/8865	●	●	●	●	○	○		○	○	○	○	○					●	○
55 8825/8875				●	●	●	●	●	●	●	●	●		○			●	○

Diamond wet stones

Evenly distributed diamond coating, bonded in a layer of nickel. **Virtually unlimited life!**

Application: **For sharpening and honing** tools for metal and woodworking. Suitable for steel, HSS, and carbide. For small or pointed tools use the side without holes in the face. **Not suitable for filing.**

55 9000 – Diamond wet stone with large abrasive area in a wooden case.

Size D25 – For fine surfaces for finish grinding.

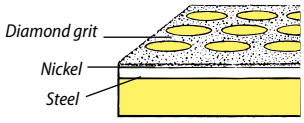
Size D46 – For coarser sharpening.

55 9100 – Handy size; very suitable for honing sharp edges of carbide cutters.

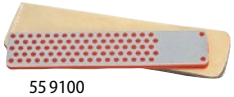
55 9150 – **3M quality, slightly less thick diamond layer.**

Note: **Do not use dry, use with water or paraffin.**

55 9000



Abrasive media code / grit µm			D25	D46	Length mm	Width mm	Height mm
56Z 55 9000		Diamond wet stone in a wooden case	XXX	XXX	150	52	16
56Z 55 9100		Diamond wet stone in a leather case	XXX	XXX	115	25	3
53M 55 9150	3M		XXX	XXX	100	25	7
Grit designation			fine	medium / coarse			



55 9100

55 9150

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 9000–55 9150	●	●	●	●	●	●	●	●	●	●	●	●		●		●	●	

Rotating abrasive discs – General Information

For hand-held use on angle grinders

Here the abrasive media used (Aluminium Oxide or Silicon Carbide, mostly in combination of different grit sizes) are bonded in a phenolic resin.
Depending on the type of resin bonding (disc hardness), the quality of the abrasive medium and the type of glass fibre reinforcing fabric, the discs are intended for **different applications of grinding processes, material groups, and performance classes**.

Material groups:

- **Steel / cast iron** with very wear-resistant bonding systems.
- **Special types for stainless steel** with very high cutting performance, also suitable for steel.
  Fe, S, Cl content < 0.1 % (even "2 in 1" types) which prevents oxidation.
- **Non-ferrous metals / aluminium** with "soft" bonding system (prevents smearing).

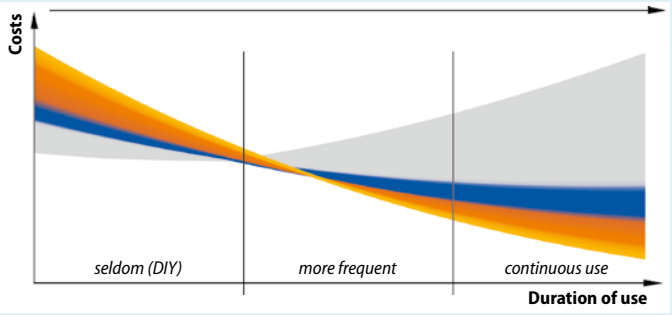
Specification:
A60R-BFXA (example):

A	Abrasive medium (A standard aluminium oxide, ZA zirconium aluminium oxide, CER ceramic grit)
60	Grit size in mesh (24, 30, 36, 46, 60, 80, 120)
R	Bonding hardness (N, O, P, Q, R, S, T). N = soft; T = very hard.
B	Type of binding (B Bakelite artificial resin)
F	Fibre reinforcement
X	Manufacturer's internal designation
A	External fibre reinforcement

Safety at work:

- Observe the markings and limitations of the tool; do not use cutting discs for roughing.
- Wear ear defenders, eye and body protection.
- Never exceed the indicated running speed (rpm) or maximum cutting speed (m/s).
- Never use grinding tools which are unmarked.
- Destroy faulty grinding tools immediately.

Overall cost analysis for grinding



Garant TYROLIT PFERD 3M HOLEX

Performance classes:
Premium quality
Industrial quality
"DIY quality"

Safe working:
All abrasive materials supplied by the Hoffmann Group are certified to:

Association for safety and quality:
The oSa mark warrants fully-inspected manufacture and fulfilment of the strictest grinding tool safety requirements in the world, together with 100% traceability.

56

Rough grinding discs

- Grit, bonding, abrasive additives as well as reinforcement of the rough grinding discs are **optimised for maximum metal removal rate and working life in their respective applications.**
- Rough grinding discs, depressed centres (shapes 27, 28, 29).
- Grinding angle 20° to 30°.
- For use with electric and pneumatic angle grinders with maximum 80 m/s circumferential speed for grinding welds, surfaces, and edges.

Disc ∅ mm	100	110×20	115	125	150	178	230
Maximum speed rpm	15 300	8600	13 300	12 200	10 200	8600	6600

CER | Fe,S,Cl <0.1% | 22.23mm | 20-30° | S/STL | Steel | 80 m/s

Garant Rough grinding discs

Self-sharpening **ceramic grit (CER)** and the specially matched **high-performance binding system** permit **grinding performance that is several times better, with extremely cool grinding** compared to conventional roughing discs (A).

- Very high productivity due to **very fast removal of material.**
- Optimum balance between **extremely soft metal removal behaviour** with very low application force and **very long service life.**

Specification: **CER24Q-BF.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 0005	○	●	●	●	●	●		●	●	○	○	○				○		●

CerRapid rough grinding disc ceramic grit

56 0005

Disc ∅×disc width	mm	115×7	125×7	178×7	230×7	
51M 56 0005	Rough grinding disc **CerRapid**	XXX	XXX	XXX	XXX	10

A | Fe,S,Cl <0.1% | 22.23mm | 20-30° | S/STL | Steel | 80 m/s

Garant Rough grinding discs Universal / X-LOCK

For **universal use** on **stainless steel, steel** and cast iron.

56 0011 – Quick disc changing without using tools using the X-LOCK System.

Specification: **A30R-BF.**

Note:

56 0011 – X-LOCK roughing discs are downward compatible and can also be used on conventional angle grinders.

56 0010 56 0011

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 0010/0011	○	●	●	●	●	●		●	●	○	○	○				○		●

Disc Ø×disc width	mm	115×7	125×7	178×7	230×7	
51M 56 0010	Rough grinding disc **Universal**	XXX	XXX	XXX	XXX	10
51M 56 0011	X-LOCK rough grinding disc **Universal**	XXX	XXX	–	–	10

22.23mm | 20-30° | 80 m/s

TYROLIT Rough grinding discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 0100/0110/0600		●	●	●	●	●		○	○	○		○				○		●
56 0200					○	○				●		○						●
56 0300		●	●	●	●	●		●	●	○		○						●
56 0405	●										●							●
56 0910–56 0930	○	●	●	●	●	○		●	○	●	●	●				●		●

Type PREMIUM*** INOX

Special type for linishing **CrNi steels. Best metal removal rates also on steel.**
Specification: A30R-BFX.

Fe,S,Cl <0.1% | S/STL | A

Disc Ø×disc width	mm	115×7	125×7	178×7	230×7	
53T 56 0300	Rough grinding disc **PREMIUM*** **	XXX	XXX	XXX	XXX	10

56 0300

Type PREMIUM*** 2 in 1

Aggressive rough grinding disc (low hardness grade Q) for **universal use on stainless steel and steel** with high metal removal rate and long service life.

56 0100 – **Specification: A30Q-BFX.**

56 0110 – Aggressive high-performance version with **significantly longer working life.** Well-defined rounded edges permit a pleasant start-up to the grinding operation. Unintentional digging in is avoided.
Specification: A24Q-BFX.

Fe,S,Cl <0.1% | S/STL | Steel | A

56 0110 56 0100

Disc Ø×disc width	mm	115×4	125×4	178×4	230×4	
53T 56 0100	Rough grinding disc **PREMIUM*** "2 in 1"**	XXX	XXX	XXX	XXX	10

Disc Ø×disc width	mm	115×7	125×7	150×7	178×8	230×8	
53T 56 0110	Rough grinding disc **PREMIUM*** "2 in 1"**	XXX	XXX	XXX	XXX	XXX	10

Type Basic* 2 in 1

General-purpose rough grinding discs for surface and edge grinding of **steel and stainless steel**.
Specification: A30Q-BF.

Fe,S,Cl <0.1% | S/STL | Steel | A

56 0600

Disc Ø×disc width	mm	115×6	125×6	178×6	230×6	
53T 56 0600	Rough grinding disc **Basic* "2 in 1"**	XXX	XXX	XXX	XXX	10

Type PREMIUM*** Focur GUSS

Special type for **grinding cast iron.** High-quality Zirconium Aluminium Oxide and Silicon Carbide permit very high metal removal rates at low contact forces, even on **castings with burnt-on residues.**
Specification: ZA24N-BFX.

Cast iron | ZA

56 0200

Disc Ø×disc width	mm	125×7	178×7	230×7	
53T 56 0200	Rough grinding disc **PREMIUM*** Focur**	XXX	XXX	XXX	10

Type PREMIUM*** ALU

Special type for working **non ferrous metals such as aluminium, brass, bronze etc.**
Specification: A36L-BFX.

Fe,S,Cl <0.1% | ALU | Non-ferrous Metals | A

56 0405

Disc ∅×disc width		mm	115×7	125×7	178×7	230×7	
53T 56 0405	Rough grinding disc **PREMIUM*** **		XXX	XXX	XXX	XXX	10

Type RONDELLER® PREMIUM*** 2 in 1

The patented grinding disc with high flexibility, cool grinding, very good chip removal, **smooth running** and **low noise emission.**

Application: **Universal** for **steel, INOX (VA), cast iron, non–ferrous metals and thermo set plastics,** for **surface grinding** and for working **sheet metal parts and welds.**

Non-ferrous Metals | Cast iron | Steel | S/STL | Fe,S,Cl <0.1% | A

56 0910

Grit			24	36	60	
53T 56 0910	Rough grinding disc **PREMIUM*** RONDELLER®**	115 mm ∅	XXX	XXX	XXX	25
53T 56 0920		125 mm ∅	XXX	XXX	XXX	25
53T 56 0930		178 mm ∅	XXX	XXX	–	25

A | 22.23mm | 20-30° | 80 m/s

PFERD SG-INOX/STEEL rough grinding discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 0420		●	●	●	●	●		●	●	○		○						●
56 0430		●	●	●	●	●				○								●

Soft rough grinding disc (hardness N) of the **SG for INOX high performance range** with very high metal removal rate and long service life.
Specification: A30N-SG-INOX.

Fe,S,Cl <0.1% | S/STL

56 0420

Disc ∅×disc width		mm	115×7	125×7	178×7	230×7	
55S 56 0420	Rough grinding disc **SG-INOX**		XXX	XXX	XXX	XXX	10

Hard rough grinding disc (hardness R) of the **SG for steel high performance range** with very high metal removal rate and very long service life.
Specification: A24R-SG-STEEL.

Steel

56 0430

Disc ∅×disc width		mm	115×4	115×7	125×4	125×7	150×4	178×7	230×7	
55S 56 0430	Rough grinding disc **SG-STEEL**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	10

CER | Fe,S,Cl <0.1% | 22.23mm | 20-30° | S/STL | Steel | 80 m/s

3M Rough grinding discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 0451–56 0453		●	●	●	●	●		●	●	○		○						●

Type Cubitron™ II ceramic grit

Rough grinding disc with **Cubitron™II precision-shaped ceramic grit for stainless steel and steel.** Very high metal removal rate and long service life. Low contact pressure for non-tiring working.
Specification:

56 0451 – **A36Q-BF.**
56 0452 – **A36S-BF.**

56 0451

Disc ∅×disc thickness		mm	115×7	125×4	125×7	150×7	178×4	178×7	230×4	230×7	
53M 56 0451	Rough grinding disc **CUBITRON™ II**		XXX	–	XXX	XXX	–	XXX	–	XXX	10
53M 56 0452	Rough grinding disc **CUBITRON™ II CUT AND GRIND**		–	XXX	–	–	XXX	–	XXX	–	10

90°

Type silver ceramic grit

Silver rough grinding disc with a proportion of **precision-shaped ceramic grit** for a high metal removal rate and long service life. For **stainless steel and steel.**

Specification: **A36P-BF.**

Disc ∅×disc width	mm	115×7	125×7	178×7	230×7	
53M 56 0453	Rough grinding disc **Silver**	XXX	XXX	XXX	XXX	10

56 0453

A | Fe,S,Cl <0.1% | 20-30° | S/STL | Steel | 80 m/s

HOLEX Rough grinding discs

Rough grinding disc for **steel and stainless steel** with **long working life** and high metal removal rate.
Specification: A30Q-BF.
Size 100×6 – Bore ∅ 16 mm.

56 0500

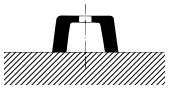
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 0500	○	●	●	●	●	○		○	○	○	○	○						●

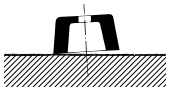
Disc ∅×disc width	mm	100×6	115×6	125×6	150×6	178×8	230×8	
52M 56 0500	Rough grinding disc **"2 in 1"**	XXX	XXX	XXX	XXX	XXX	XXX	10

A | 22.23mm | Steel | Cast iron | 50 m/s

TYROLIT Tapered cup grinding wheel

Tapered cup wheel, synthetic resin bonded. Cup height 55 mm; bore ∅ 22.23 mm; **maximum speed 8600 rpm.**
Specification: A3604B84; shape: 11BT.
Application: For low noise rough grinding with high removal rate, preferably surface grinding with electric and pneumatic angle grinders (special safety protection necessary).


Surface grinding


Weld dressing

56 4900

Disc ∅×Wall thickness	mm	110×20	
53T 56 4900	Tapered cup grinding wheel **PREMIUM*****	XXX	2

Cutting discs

- Grit, bonding, abrasive additives as well as reinforcement of the cut-off discs are **optimised for maximum cutting performance and working life in their respective applications.**
- Narrow cutting discs (0.8 mm / 1.0 mm / 1.6 mm) specially suited for quick burr-free cutting with low thermal stress. On older angle grinders please ensure discs are precisely centred.
- Cutting discs from 2.0 mm disc thickness exhibit increased lateral stability, stiffness and service life.
- Cutting discs flat (shape 41) or with depressed centre (shape 42).
- For freehand cutting using electric and pneumatic angle grinders with maximum 80 m/s peripheral cutting speed V_c. For stainless steel, use cutting discs at reduced speed.

Disc ∅ mm	50	63	75	100	115	125	150	178	230
Maximum speed rpm	30 500	24 300	20 300	15 300	13 300	12 200	10 200	8600	6600

CER | Fe,S,Cl <0.1% | 22.23mm | 90° | S/STL | Steel | 80 m/s

Garant CerRapid ceramic grit cutting discs INOX, steel

Self-sharpening **ceramic grit (CER)** and the specially matched **high-performance binding system** enable **performance that is many times better, with extremely cool grinding** compared to conventional cutting discs (A).
- Very high productivity thanks to **very quick separating cuts.**
- Optimum balance between **extremely soft cutting behaviour** with very low application force and **very long working life.**

Specification:
Size 230 – **CER30Q-BF.**
Size 115–178 – **CER60Q-BF.**

56 3256

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3256	○	●	●	●	●	●		●	●	○	○	○				○		●

Disc ∅	mm	115	125	178	230	
51M 56 3256	CerRapid cutting disc **EXTRA THIN, steel, STAINLESS**	XXX	XXX	XXX	XXX	25
Shape description		flat				
Disc thickness	mm	1	1	1.6	2	

A	Fe,S,Cl <0.1%		22.23mm	90°	S/STL	80 m/s

Garant Cutting discs INOX

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3272–56 3277	○	●	●	●	●	●		●	●	○	○	○				○		●

Special type for **stainless steel.**
New **high-performance version** using state of the art technology with significant productivity advantages and excellent cutting qualities. **Increased cutting performance** due to rough free-grinding side faces; **improved service life.**
The thinness of the disc allows **very quick** cutting **with low force and optimum time saving. Clean cut edges, virtually no burrs.**

56 3273 – Quick disc changing without using tools using the X-LOCK System.

Specification:

Size 115; 125 – **A60R-BF.**
Size 178; 230 – **A46-BF.**

56 3272

X-LOCK

56 3273

Disc ∅		mm	115	125	178	230	
51M 56 3272	Cutting disc, high-performance version **EXTRA THIN, STAINLESS STEEL**		XXX	XXX	XXX	XXX	25
51M 56 3273	Cutting disc, X-LOCK high-performance version **EXTRA THIN, STAINLESS STEEL**		XXX	XXX	–	–	25
Shape description			flat				
Disc thickness		mm	1	1	1.6	1.9	

Thin version for quick and cost-effective cutting, with a long service life.

Specification: **A46R-BF.**

56 3277

Disc ∅		mm	115	125	
51M 56 3277	Cutting disc, high-performance version **THIN**		XXX	XXX	25
Shape description			flat		
Disc thickness		mm	1.6		

A		22.23mm	90°	Steel	80 m/s

Garant Cutting discs steel

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3262		●	●	●	●	●				○		○						●

New **high-performance version** using state of the art technology with significant productivity advantages and excellent cutting qualities. **Increased cutting performance** due to rough free-grinding side faces; **improved service life.**
The thinness of the disc allows **very quick** cutting **with low force and optimum time saving. Clean cut edges, virtually no burrs.**

Specification:

Size 115; 125 – **A60S-BF.**
Size 178; 230 – **A46S-BF.**

56 3262

Disc ∅		mm	115	125	178	230	
51M 56 3262	Cutting disc, high-performance version **EXTRA THIN, steel**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1	1	1.6	1.9	

A	Fe,S,Cl <0.1%		22.23mm	90°	S/STL	80 m/s

TYROLIT Cutting discs PREMIUM*** /BASIC* INOX

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3111–56 3165/ 3650	○	●	●	●	●	●		●	●	○	○	○				○		●
56 3300		●	●	●	●	●		●	●	○								●

Super thin cutting disc 0.8 mm for very quick cutting **in thin-walled material** (such as vehicle bodywork). Very low burr formation, very low thermal stress.

Specification:

56 3111 – **A60R-BFXA.**
56 3116 – **A60R-BFP.**

56 3116

Disc ∅		mm	115	125	
53T 56 3111	Cutting disc **PREMIUM*** SUPER THIN**		XXX	XXX	25
53T 56 3116			XXX	XXX	25
Shape description (56 3111)			depressed centre		
Shape description (56 3116)			flat		
Disc thickness		mm	0.8		

The thinness of the disc allows **very quick cutting with low force** and optimum time saving. **Clean cut edges, virtually no burrs.** Very long life **high performance cutting disc** of the latest generation, comfortable handling due to rough free-grinding side faces.

Specification:

Size 115; 125 – **A60R-BFP.**

Size 178; 230 – **A46R-BFP.**

Disc ∅		mm	115	125	178	230	
53T **56 3165**	Cutting disc, high-performance version **PREMIUM*** EXTRA THIN**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1	1	1.6	1.9	

56 3165

Special type with high lateral stability and long service life, for cutting **CrNi steels;** best performance also in steel.

Specification: **A30R-BFXA.**

Disc ∅		mm	115	125	178	230	
53T **56 3300**	Cutting disc **PREMIUM***		XXX	XXX	XXX	XXX	25
Shape description			depressed centre	depressed centre	flat	flat	
Disc thickness		mm	2	2	2.5	2.5	

56 3300

General-purpose cutting discs for occasionally cutting off sections, pipes etc.

Specification:

Size 115; 125 – **A60BF.**

Size 178; 230 – **A46BF.**

Disc ∅		mm	115	125	178	230	
53T **56 3650**	Cutting disc **Basic* EXTRA THIN**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1	1	1.6	1.9	

56 3650

A | Fe,S,Cl <0.1% | 22.23mm | 90° | S/STL | Steel | 80 m/s

Cutting discs PREMIUM*** /BASIC* INOX, steel

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3200/3600		●	●	●	●	●		○	○	○		○						●

Aggressive cutting disc (low hardness grade Q) for **universal use on stainless steel and steel** with long service life and high stability.

Specification: **A30Q-BFXA.**

Disc ∅		mm	115	125	150	178	230	
53T **56 3200**	Cutting disc **PREMIUM***		XXX	XXX	XXX	XXX	XXX	25
Shape description			depressed centre	flat	flat	flat	flat	
Disc thickness		mm	2.5					

56 3200

General-purpose cutting discs for cutting off sections, pipes etc.

Size 115; 125 – **Specification A46BF; 2 in 1**

Size 178; 230 – **Specification A30BF; 2 in 1**

Disc ∅		mm	115	125	178	230	
53T **56 3600**	Cutting disc **Basic* 2 in 1**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1.6	1.6	3	2	

56 3600

A | 22.23mm | 90° | Steel | 80 m/s

PREMIUM*** cutting discs, steel

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3250		●	●	●	●	●				○								●

High-performance hard cutting disc with very long service life, specially for sheet steel, steel profiles and tubes.
Specification: **A30S-BFXA.**

Disc ∅		mm	115	125	178	230	
53T **56 3250**	Cutting disc **PREMIUM*** **		XXX	XXX	XXX	XXX	25
Shape description			depressed centre	flat	flat	flat	
Disc thickness		mm	2.5	2	2.5	2.5	

56 3250

A | Fe,S,Cl <0.1% | 22.23mm | 90° | ALU | Non-ferrous Metals | 80 m/s

PREMIUM*** aluminium cutting discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3406	●										●							●

Special type for cutting **non-ferrous metals such as aluminium, brass, bronze etc.**
Specification:
Size 115; 125 – **A60N-BFP.**
Size 178; 230 – **A30N-BFXA.**

Disc ∅		mm	115	125	178	230	
53T **56 3406**	Cutting disc **PREMIUM*** EXTRA THIN**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1	1	2	2.5	

56 3406

CER | Fe,S,Cl <0.1% | 22.23mm | 90° | S/STL | Steel | 80 m/s

Ceramic grit cutting discs INOX, steel

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3315–56 3325	○	●	●	●	●	●		●	●	○	○	○						●

Type Cubitron™ II ceramic grit

Extremely high cutting performance and long service life thanks to **Cubitron™ II precision ceramic grit.**
Application: For very quick low-burr cutting with low thermal stress and easy ergonomic cut guidance.
Specification: **A60S-BF.**

Disc ∅		mm	115	125	
53M **56 3315**	Cutting disc **CUBITRON™ II EXTRA THIN**		XXX	XXX	25
Shape description			flat		
Disc thickness		mm	1		

56 3315

Extremely high cutting performance and long service life thanks to **Cubitron™ II precision ceramic grit.**
Application: For very quick low-burr cutting with low thermal stress and easy ergonomic cut guidance.
Specification: **A36S-BF.**

Disc ∅		mm	115	125	230	
53M **56 3320**	Cutting disc **CUBITRON™ II THIN**		XXX	XXX	XXX	25
Shape description				flat		
Disc thickness		mm	1.6	1.6	2	

56 3320

Type silver ceramic grit

Silver cutting discs with high cutting speeds and long working life. Grit mixture with **precision-shaped ceramic grit.**

Application: For fast, low-burr cutting with low thermal stress.

Specification: **A36R-BF.**

Disc ∅		mm	115	125	178	230	
3M 56 3325	Cutting disc **Silver**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1	1	1.6	2	

56 3325

CER | 22.23mm | 90° | Steel | 80 m/s

PFERD SGP STEEL ceramic grit cutting discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3440		●	●	●	●	●				○								●

Extra thin **high performance cutting disc** for very quick low-burr cutting with low thermal stress and easy ergonomic cut guidance. Very tough, very high cutting performance and outstanding service life.

Specification: **A60Q-CERAMIC SGP STEEL.**

Disc ∅		mm	115	125	
5ST 56 3440	Cutting disc **SGP STEEL EXTRA THIN**		XXX	XXX	25
Shape description			flat		
Disc thickness		mm	1		

56 3440

A | Fe,S,Cl <0.1% | 22.23mm | 90° | S/STL | Steel | 80 m/s

PFERD SGP / SG / PSF STEELOX cutting discs

Extra thin cutting disc for very quick low-burr cutting with low thermal stress and easy ergonomic cut guidance.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3420–56 3435	○	●	●	●	●	●		●	●	○	○	○				○		●

Very tough **SGP special high-performance range** with very high cutting performance and outstanding service life (hardness S).

Specification:

Size 115; 125 – **A60S-SGP-STEELOX.**

Size 178; 230 – **A46S-SGP-STEELOX.**

Disc ∅		mm	115	125	178	230	
5ST 56 3420	Cutting disc **SGP STEELOX EXTRA THIN**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1	1	1.6	1.9	

56 3420

High-performance cutting disc **SG high-performance range** with very high cutting performance and long service life (hardness R).

Specification:

Size 115; 125 – **A60R-SG-STEELOX.**

Size 178; 230 – **A46R-SG-STEELOX.**

Disc ∅		mm	115	125	178	230	
5ST 56 3430	Cutting disc **SG STEELOX EXTRA THIN**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1	1	1.6	1.9	

56 3430

General-purpose PSF-Line cutting discs for cutting off sections, pipes etc.

Specification:

Size 115; 125 – **A60P-PSF-STEELOX.**

Size 178; 230 – **A46P-PSF-STEELOX.**

Disc ∅		mm	115	125	178	230	
5ST 56 3435	Cutting disc **PSF STEELOX EXTRA THIN**		XXX	XXX	XXX	XXX	25
Shape description			flat				
Disc thickness		mm	1	1	1.6	1.9	

56 3435

A	Fe,S,Cl <0.1%		22.23mm	90°	S/STL	80 m/s

HOLEX INOX cutting discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3550/3575	○	●	●	●	●	●		●	○	○	○	○						●

56 3550 – The thin cutting disc for quick cuts without heavy force.
56 3575 – Narrow version for fast economic cutting.
Specification: **A60P-BF.**

56 3550

Disc ∅	mm	115	125	150	178	230	
52M **56 3550**	Cutting disc **EXTRA THIN**	XXX	XXX	XXX	XXX	XXX	25
Shape description		flat					
Disc thickness	mm	1	1	1.6	1.6	1.9	
Bore ∅	mm	22.23					

56 3575

Disc ∅	mm	115	125	
52M **56 3575**	Cutting disc **THIN**	XXX	XXX	25
Shape description		flat		
Disc thickness	mm	1.6		
Bore ∅	mm	22.23		

A	Fe,S,Cl <0.1%	90°	S/STL	Steel	80 m/s

HOLEX INOX cutting discs, steel

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3500		●	●	●	●	○		○	○	○								●

Universal cutting disc for steel and stainless steel, easy-cutting and stable.
Size 100 – Bore ∅ 16 mm.
Specification: **A30Q-BF.**

56 3500

Disc ∅	mm	100	115	125	178	230	
52M **56 3500**	Cutting disc **"2 in 1"**	XXX	XXX	XXX	XXX	XXX	25
Shape description		flat	depressed centre	depressed centre	flat	flat	
Disc thickness	mm	1.6	2	2	2.5	2.5	
Bore ∅	mm	16	22.23	22.23	22.23	22.23	

TYROLIT Clamping flange for ∅ 178 / 230 mm cutting discs

Pair of clamping flanges for angle grinders with M14 mounting. Increases lateral stability and power transmission for thin cutting discs **(Form 41)** in ∅ 178 and ∅ 230 mm.

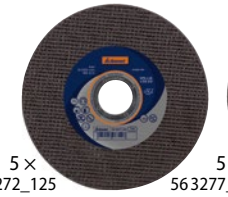
56 3990

Flange ∅	mm	76
53T **56 3990**	Pair of clamping flanges	XXX

Garant Range of grinding media for assembly work

Coordinated range for use with angle grinders.
Application: Cutting thin sheet metal and solid material, coarse to fine grinding.
Supplied with: 1 pc. abrasive flap disc long life ZA, grit size 40, No. 565265 40
1 pc. abrasive flap disc long life ZA, grit size 60, No. 565265 60
1 pc. abrasive flap disc long life ZA, grit size 120, No. 565265 120
5 pcs. cutting disc, high-performance version INOX 1.0 mm, No. 563272 125
5 pcs. cutting disc, high-performance version INOX 1.6 mm, No. 563277 125

3 × 56 5265_40


5 × 56 3272_125

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Number of tools		13
51M **56 3910**	Grinding media range **Assembly**	XXX

A	Fe,S,Cl <0.1%		22.23mm	20-30°	90°	S/STL	Steel	80 m/s

TYROLIT Cutting discs Cut and Grind PREMIUM*** INOX, steel

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3220		●	●	●	●	●		○	○	○		○						●

Thin **combination grinding disc** with multi-layer structure for high stability, with depth-of-cut protection in the dished area.
Application: For separation and light metal-removal grinding without changing tools.

Disc ∅		mm	115	125	
53T 56 3220	Combination grinding disc **PREMIUM*** CUT AND GRIND**		XXX	XXX	25
Shape description			depressed centre		
Disc thickness		mm	2		

56 3220

PFERD Diamond cutting discs CRP / GRP

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3490												●					●	●

56 3490 – Single-layer **galvanically distributed diamond cutting disc with lateral protective segments.** Very easy cutting due to large chip clearance space. Overall disc width 2.0 mm, steel baseplate 1.0 mm.

Application:

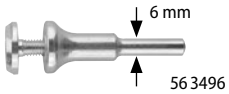
56 3490 – For cutting, trimming, and parting off fibre-reinforced plastics (CRP / GRP) on angle grinders (size 115 / 125) or straight grinders (size 50 / 75) with mandrel No. 563496.

D	90°
Form 1A1	80 m/s
CRP/ GRP	

Disc ∅		mm	50	75	115	125
55K 56 3490	Diamond cutting disc		XXX	XXX	XXX	XXX
Grit			D357	D357	D427	D427
Bore ∅		mm	10	10	22.23	22.23

suitable for bore ∅		mm	10	Shank ∅ mm
55K 56 3496	Clamping mandrel for diamond cutting discs		XXX	6

56 3490



56 3496

Small cutting discs INOX

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3050–56 3411	○	●	●	●	●	●		●	●	○	○	○				○		●

56 3050 – Extremely thin **small cutting disc** for use with **pneumatic or electric straight grinders,** ideal for use in confined work spaces. For use with mandrel No. 563070.

Specification:

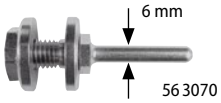
56 3050 – **A60R-BFXA.**

Disc ∅		mm	50	63	75	
53T 56 3050	TYROLIT Small cutting disc **PREMIUM*** EXTRA THIN**		XXX	XXX	XXX	100
Shape description			flat			
Disc thickness		mm	1			
Bore ∅		mm	6	10	10	

A	S/STL	Fe,S,Cl <0.1%
80 m/s		90°

suitable for bore ∅		mm	6	10	Shank ∅ mm
53T 56 3070	TYROLIT Clamping mandrel for small cutting disc		XXX	XXX	6

56 3050



56 3070

56 3410/3411 – **Small cutting disc** specially for confined spaces. For use on pneumatic or electric straight grinders. For use with mandrel No. 563415.

Specification:

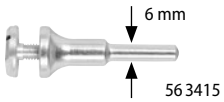
56 3410/3411 – **A60P-SG STEELOX.**

Disc ∅		mm	30	50	65	75	
55T 56 3410	PFERD Small cutting disc 0.8mm **SG SUPER THIN**		–	XXX	XXX	XXX	50
55T 56 3411	Small cutting disc 1.1mm **SG EXTRA THIN**		XXX	XXX	XXX	XXX	50
Shape description			flat				
Disc thickness (56 3410)		mm	–	0.8	0.8	0.8	
Disc thickness (56 3411)		mm	1	1.1	1.1	1.1	
Bore ∅		mm	6				

A	90°
Fe,S,Cl <0.1%	S/STL
	80 m/s

suitable for bore ∅		mm	6	Shank ∅ mm
55O 56 3415	PFERD Clamping mandrel for small cutting disc		XXX	6

56 3410



56 3415

10mm | 90° | 80 m/s

BOSCH Small cutting discs

Thin cutting disc specially for restricted work spaces.

Suitable for: **Cordless small angle grinder** No. 077100 or **straight die grinder** with clamping mandrel No. 563070.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 3417														●				
56 3418												●	●	○		●		

Diamond cutting disc for tiles / ceramic

D

Sintered-on closed diamond cutting edge. Clean cutting.

Application: For cutting off fine stoneware, tiles and marble.

Disc ∅		mm	76
54B 56 3417	Diamond cutting disc		XXX
Disc thickness		mm	1.9
Bore ∅		mm	10

56 3417

Carbide cutting disc for wood / plastic

Steel disc with brazed-on carbide grit on the cutting edge.

Application: For cutting wood, plastic, plasterboard.

Disc ∅		mm	76
54B 56 3418	Carbide cutting disc		XXX
Disc thickness		mm	1
Bore ∅		mm	10

56 3418

22.23mm

Carbide granulate disc

Steel disc with brazed-on carbide grit. Very long working lives and **extremely high metal removal rates;** medium grit.

Application: Grinding, correcting, trimming GFRP, calcareous sandstone, plaster board, aerated concrete, rubber. Also for smoothing rough formwork edges on exposed concrete.

Note: Not for use on metal. Work with low contact force. Avoid impact loads. Maximum speed 63 m/s (10,500 rpm.)

Disc ∅		mm	115
53L 56 9610	Carbide granulate disc		XXX

56 9610

D | 22.23mm

TYROLIT Diamond grinding disc, stone working

Robust thin steel disc with brazed diamond segments, which are bedded in a special material. High **removal rate, extremely long working life** with **low vibration** (clean surfaces), for dry grinding.

Application: For grinding, correcting, smoothing of stone and concrete using angle grinders. Optimum speed 10,000 – 12,000 rpm. Maximum speed 15,000 rpm.

Disc ∅		mm	100	125
53T 56 9640	Diamond grinding disc **PREMIUM*** for stone**		XXX	XXX

56 9640

SiC | 22,23mm | 80 m/s

TYROLIT Cutting discs stone cutting

Universal stone cutting disc (specification: **C30-BF).**

Application: For natural and synthetic stone, refractory stone, and concrete.

Disc ∅		mm	125	230	
53T 56 9700	Cutting disc **STANDARD ** for stone**		XXX	XXX	25
Shape description			depressed centre	flat	
Disc thickness		mm	2.5	3	

56 9700

D | 22.23mm | 80 m/s

Diamond cutting discs for wet and dry cutting

Diamond cutting discs for wet and dry cutting. Bore ∅ 22.23 mm.

- High cutting performance of diamonds gives short cutting times.
- Extremely long working life, fewer disc changes.
- Unvarying diameter, always cuts to the full depth.
- Hardly any disc wear, reducing dust generation.

Application: For cutting all common building materials such as concrete (even reinforced), bricks, natural stone, tiles, ceramics, steel etc.

Note:
- Diamond coating already pre-sharpened. **Observe correct direction of rotation!**
- **Other diamond cutting discs on request.**

56 9720

For everyday use on all building materials such as concrete, bricks, natural stone etc.
Directly sintered coating, hardened body (no wandering).

Disc ∅	mm	115	125	180	230
53T 56 9720	Diamond cutting disc **STANDARD** Universal**	XXX	XXX	XXX	XXX

56 9741

High-performance with **10 or 12 mm coating height.**
Suitable for all building materials, long working life, protected against overheating.

Disc ∅	mm	125	230
53T 56 9741	Diamond cutting disc **PREMIUM*** High-performance**	XXX	XXX
Bore ∅	mm	22.23	

56 9736

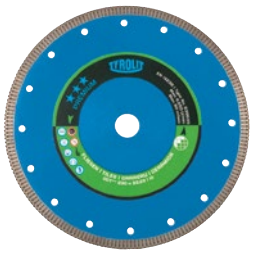
Maximum performance and working life due to new segment technology with optimised grit distribution.
20 – 30 % faster cutting with **less vibration and clean cut edges.**
For **general-purpose use** on concrete, granite, abrasive materials, and reinforced concrete.
Coating height 14 mm.

Disc ∅	mm	230
53T 56 9736	4 in1 diamond cutting disc **PREMIUM*** Premium**	XXX
Bore ∅	mm	22.23

56 9730

Extremely free-cutting, for short cutting times, reduced load on the machine and clean cuts.
Protected against overheating. **Extra thin,** coating thickness **1.2 mm** (∅ 115 / 125) and **1.9 mm** (∅ 180 / 230).

Disc ∅	mm	115	125	180	230
53T 56 9730	Diamond cutting disc **PREMIUM*** Fast Cut**	XXX	XXX	XXX	XXX



56 9750

Tile disc with continuous cutting edge, disc thickness **1.2 mm** (∅ 115) and **1.6 mm** (∅ 230), very free-cutting geometry, 10 mm coating width. Especially for tiles and granite slabs.

Disc ∅	mm	115	230
53T 56 9750	Diamond cutting disc **PREMIUM*** Tiles**	XXX	XXX

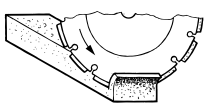
56 9770

Masonry cutting disc, cannot overheat, always replace in pairs.

Disc ∅	mm	125	150
53T 56 9770	Diamond cutting disc **PREMIUM** Masonry cutter**	XXX	XXX

Dressing stick for diamond cutting discs

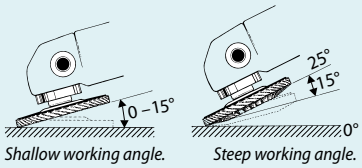
Application: Cut a thin slice from the end of the dressing stick, working dry. This removes the outer layer of blunt diamonds and uncovers a fresh layer of sharp diamonds.



			Length mm	Width mm	Height mm
53Y 56 9780	Dressing stick for diamond cutting discs	XXX	320	55	25

Abrasive flap discs overview

Rough grinding discs with abrasive-coated cloth flaps coating (ceramic grit, carborundum, silicon carbide) on backing pads of steel, plastic or glass fibre.
Circumferential speed **ideally 50 - 60 m/s,** max. 80 m/s.
Gentle, cool grinding with high self-sharpening effect (no clogging); low vibration and low force working, low noise level.



Shallow working angle. *Steep working angle.*

flat *dished* *flat-dished* *radial*

Brand	Garant	Garant	LUKAS	LUKAS	LUKAS	LUKAS	LUKAS	3M	PFERD	HOLEX
Designation	–	–	SLTT	V2 Power	V3 Control	V4 Master	SLTflex	Cubitron™ II	CURVE	–
Item number	56 5231 – 56 5256	56 5300 – 56 5370	56 5401 – 56 5423	56 5461 – 56 5487	56 5440 / 56 5441	56 5444 / 56 5445	56 6300 / 56 6310	56 5504 / 56 5506	56 6320 – 56 6327	56 5700 – 56 5780
Backing material	Plastic	Glass fibre	Sheet metal	Glass fibre	Glass fibre	Glass fibre	Glass fibre	Glass fibre	Glass fibre	Glass fibre
Form										
Abrasive cloth	CER	ZA	CER / ZA	CER / SiC	ZA	ZA	ZA	CER	CER / ZA / A	ZA
Best for	S/STL	S/STL / Steel	S/STL / Steel	S/STL / ALU / CRP/GRP	S/STL / Steel	S/STL / Steel	S/STL / Steel	S/STL	S/STL / Steel / ALU	S/STL / Steel
Tool life	●	●	●	●	○	●	○	●	○	○
Stock removal / performance	●	●	●	●	○	●	●	●	●	●
Surface grinding	●	●	●	○		○	●	●	○	●
Edge grinding	●	●	○	●	○	●	○	○	○	●
Grinding fillet welds	○	○	○	○		○	●	○	●	○
See-through grinding					●					
Special features	Plastic backing pad, can be reset, cool grinding	Robust, universal	High metal removal rate, patented segment shape	Low-vibration working, patented segment shape	Look-through segments, clear view	Edge stability, extremely high grit density	Wide segment overlap, M14 mounting thread	Cubitron™ II high performance grit	Radial profile	Universal, affordable

CER | Fe,S,Cl <0.1% | 22.23mm | S/STL | 80 m/s

Garant CER abrasive flap discs

- High-quality **self-sharpening ceramic grit (CER)** for maximum abrasive power and **low contact pressure.**
- **Active coating** for cool cutting.
- **Sturdy** poly-cotton mixed fabric for ideal wear characteristics and stability, even when used on edges.
- Ergonomic and **vibration-damping** polyester plastic backing pad (can be reset).
- Best results on high-power angle grinders.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 5224–56 5239	○	●	●	●	●	●		●	●	●	○					●		●

long-life CER with cooling coating

long life - very closely spaced flap strips, for **maximum tool life.**
Application: General purpose abrasive disc operations, surface abrasion, material removal and edge smoothing.

Grit			40	60	80	120	
51M 56 5224	Abrasive flap disc **long life CER, conical**	Ø 115 mm	XXX	XXX	XXX	XXX	10
51M 56 5225		Ø 125 mm	XXX	XXX	XXX	XXX	10
51M 56 5226		Ø 178 mm	XXX	XXX	XXX	–	10

56 5225

speed CER with cooling coating

speed - flat flap strip arrangement, for **high metal removal rate** and long tool life.
Application: Precise chamfering, edge smoothing and surface abrasion.

Grit			40	60	80	120	
51M 56 5234	Abrasive flap disc **speed CER, flat**	Ø 115 mm	XXX	XXX	XXX	XXX	10
51M 56 5235		Ø 125 mm	XXX	XXX	XXX	XXX	10

56 5235

speed+ CER with cooling coating

speed+ - optimised flap strip arrangement, for effectiveness similar to a fibre disc with **highly aggressive characteristics.**

Application: Edge smoothing, material removal.

56 5239

Grit			40	
51M 56 5239	Abrasive flap disc **speed+ CER, flat**	Ø 125 mm	XXX	10

Garant HOLEX The new generation of abrasive flap discs

All important information at a glance

- Suitable for general materials / steel
- Suitable for stainless steels
- Suitable for non-ferrous metals

Performance index

	long life	speed	speed+
Overall material removal	●●●●●●	●●●●●○	●●●○○○
Material removal / time	●●●●○○	●●●●●○	●●●●●●

ZA | Fe,S,Cl <0.1% | 22.23mm | S/STL | Steel | 80 m/s

Garant Abrasive flap discs, ZA

- Premium **zirconium aluminium oxide (ZA)** for maximum abrasive performance.
- **Sturdy** polyester cotton mixed fabric for ideal wear characteristics and stability, even when used on edges.
- Sturdy glass fibre pad for optimum contact pressure.
- Suitable for both **steel and stainless steel**.
- Best results on **low-power and high-power** angle grinders.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 5264–56 5279		●	●	●	●	●		●	○	●						●		●

long life ZA

long life - very closely spaced flap strips, for **maximum tool life.**

56 5279 – Quick disc change without using tools using the X-LOCK System.

Application: General purpose abrasive disc operations, surface abrasion, material removal and edge smoothing.

56 5265

56 5279

Grit			40	60	80	120	
51M 56 5264	Abrasive flap disc **long life ZA, conical**	Ø 115 mm	XXX	XXX	XXX	XXX	10
51M 56 5265		Ø 125 mm	XXX	XXX	XXX	XXX	10
51M 56 5279	X-LOCK abrasive flap disc **long life ZA, conical**	Ø 125 mm	XXX	XXX	XXX	XXX	10
51M 56 5269	Abrasive flap disc **long life ZA, flat**	Ø 115 mm	XXX	–	–	–	10
51M 56 5270		Ø 125 mm	XXX	–	–	–	10

speed ZA

speed - flat flap strip arrangement, for **high metal removal rate** and long tool life.

Application: Precise chamfering, edge smoothing and surface abrasion.

56 5275

Grit			40	60	80	120	
51M 56 5274	Abrasive flap disc **speed ZA, flat**	Ø 115 mm	XXX	XXX	XXX	XXX	10
51M 56 5275		Ø 125 mm	XXX	XXX	XXX	XXX	10

SiC | Fe,S,Cl <0.1% | | 22.23mm | ALU | CRP/ GRP | 80 m/s

Garant Abrasive flap discs, SiC

Particularly coarse **Silicon Carbide grit,** does not clog. Sturdy glass fibre pad for optimum contact pressure.

Application: Edge and surface grinding of **aluminium and fibre-reinforced materials.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 5380/5381	●						●		●		●	●						●

56 5381

Grit			40	60	
51M 56 5380	Abrasive flap disc **long life SiC, conical**	Ø 115 mm	XXX	XXX	10
51M 56 5381		Ø 125 mm	XXX	XXX	10

ZA	Fe,S,Cl <0.1%	22.23mm	S/STL	Steel	80 m/s

HOLEX Flap discs

- High-quality **zirconium aluminium oxide (ZA)** for high abrasive performance.
- Glass fibre pad for optimum contact pressure.
- Suitable for both **steel and stainless steel**.
- Best results on **angle grinders of all power classes.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 5283–56 5299		●	●	●	●	●		●	○	○						●		●

long life ZA

long life - very closely spaced flap strips, for **maximum tool life.**

56 5283 – Bore Ø 16 mm.

Application: General purpose abrasive disc operations, surface abrasion, material removal and edge smoothing.

Grit			40	60	80	120	
52M 56 5283	Abrasive flap disc **long life ZA, conical**	Ø 100 mm	XXX	XXX	XXX	XXX	10
52M 56 5284		Ø 115 mm	XXX	XXX	XXX	XXX	10
52M 56 5285		Ø 125 mm	XXX	XXX	XXX	XXX	10
52M 56 5286		Ø 150 mm	XXX	XXX	XXX	–	10
52M 56 5287		Ø 178 mm	XXX	XXX	XXX	XXX	10

56 5285

speed ZA

speed - flat flap strip arrangement, for **high metal removal rate** and long tool life.

Application: Precise chamfering, edge smoothing and surface abrasion.

Grit			40	60	80	120	
52M 56 5294	Abrasive flap disc **speed ZA, flat**	Ø 115 mm	XXX	XXX	XXX	XXX	10
52M 56 5295		Ø 125 mm	XXX	XXX	XXX	XXX	10
52M 56 5296		Ø 178 mm	XXX	XXX	XXX	–	10

56 5295

speed+ ZA

speed+ - optimised flap strip arrangement, for effectiveness similar to a fibre disc with **highly aggressive characteristics.**

Application: Edge smoothing, material removal.

Grit			40	
52M 56 5299	Abrasive flap disc **speed+ ZA, flat**	Ø 125 mm	XXX	10

56 5299

CER	Fe,S,Cl <0.1%	22.23mm	S/STL	Steel	80 m/s

3M Ceramic grit abrasive flap discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 5495–56 5515		●	●	●	●	●		●	●	●								●

Type Cubitron™ II 969F

Coated with **precisely formed Cubitron™ II** ceramic grit for **maximum metal removal rate and working life**.

Application: Ideal for **quick** and **cool grinding** of difficult-to-machine steels using high-powered angle grinders.

Grit			40	60	80	
53F 56 5495	969F flap disc Cubitron™ II, glass fibre pad **flat**	Ø 115 mm	XXX	XXX	XXX	10
53F 56 5496		Ø 125 mm	XXX	XXX	XXX	10
53F 56 5503	969F flap disc Cubitron™ II, glass fibre pad **conical**	Ø 115 mm	XXX	XXX	XXX	10
53F 56 5505		Ø 125 mm	XXX	XXX	XXX	10

56 5505

Type 769F

Coated with **precisely formed** ceramic grit mixture for **high metal removal rate and long working life**.

Application: General grinding work with high-power angle grinders.

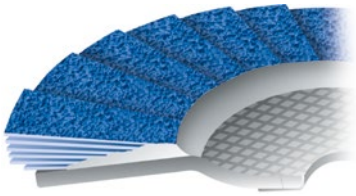
Grit			40	60	80	120	
53F 56 5510	769F abrasive flap disc, glass fibre pad **flat**	Ø 115 mm	XXX	XXX	XXX	XXX	10
53F 56 5511		Ø 125 mm	XXX	XXX	XXX	XXX	10
53F 56 5514	769F abrasive flap disc, glass fibre pad **conical**	Ø 115 mm	XXX	XXX	XXX	XXX	10
53F 56 5515		Ø 125 mm	XXX	XXX	XXX	XXX	10

56 5515

Fe,S,Cl <0.1% | 22.23mm | 80 m/s

LUKAS Flap discs iQ series

The patented sickle-shaped strip-form and configuration permit a high coating density for an exceptional metal removal rate and a long tool life.



- *More than 70 % of the abrasive material lies in the outer area of the disc*
- *Up to 6 abrasive layers over one another.*

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
ZA –		●	●	●	●	○		○	○	○								●
ZA-Power –		○	○	○	○	○		●	○	○								●
CER –	○	●	●	●	●	●		●	●	●	○							●

SLTT on steel backing plate

Robust backing plate of sheet metal. Quiet, with low vibration.

56 5402/5403 – Pure **Zirconium Aluminium Oxide** on a polyester-cotton mixed fabric. Very aggressive due to the open grit distribution.

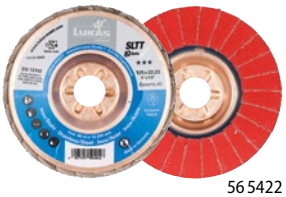
56 5412/5413 – Special **zirconium aluminium oxide mixture** with active abrasive coating for cool cutting.

56 5422/5423 – Very high abrasion performance, **ceramic grit** with self-sharpening effect. No glazing or overheating. Highly suitable even for edge grinding.

Application: For **very high material removal rates** and long working life.

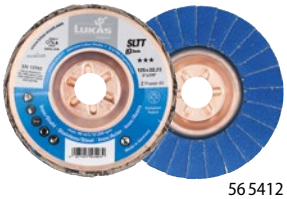
Grit				40	60	
53L 56 5422	Abrasive flap disc SLTT (CER), flat-dished **for stainless steel**	125 mm Ø		XXX	XXX	10
53L 56 5423		178 mm Ø		XXX	–	10
53L 56 5412	Abrasive flap disc SLTT (ZA-Power), flat-dished **for steel and stainless steels**	125 mm Ø		XXX	XXX	10
53L 56 5413		178 mm Ø		XXX	–	10
53L 56 5402	Abrasive flap disc SLTT (ZA), flat-dished **for steel**	125 mm Ø		XXX	XXX	10
53L 56 5403		178 mm Ø		XXX	XXX	10

CER | S/STL



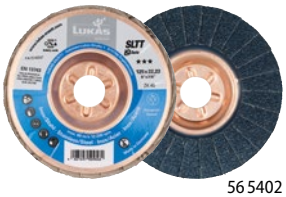
56 5422

ZA | S/STL | Steel



56 5412

ZA | Steel



56 5402

V2 power on glass fibre backing plate

56 5462/5463 – Pure **Zirconium Aluminium Oxide** on a polyester-cotton mixed fabric. Very aggressive due to the open grit distribution.

56 5482/5484 – Very high abrasion performance, **ceramic grit** with self-sharpening effect. No glazing or overheating. Highly suitable even for edge grinding.

Application: Low-vibration working and long working life.

Grit				40	60	
53L 56 5482	Abrasive flap disc V2 power, (CER), flat-dished **for stainless steel**	125 mm Ø		XXX	XXX	10
53L 56 5484		230 mm Ø		XXX	–	5
53L 56 5462	Abrasive flap disc V2 power, (ZA), flat-dished **for steel**	125 mm Ø		XXX	XXX	10
53L 56 5463		178 mm Ø		XXX	–	10

CER | S/STL

56 5482

ZA | Steel

56 5462

V4 master on glass fibre pads

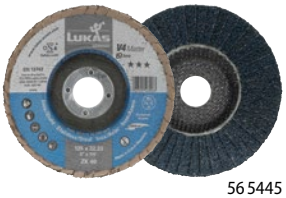
High coating density for a very long working life and **outstanding edge stability.**
The deep depression permits optimum exploitation of the abrasive fabric (ZA).

Application: Ideal for **edge grinding** on high-power machines, for **rounding sharp edges**, dressing weld seams and removing weld slag residues.

Grit				40	60	
53L 56 5444	V4 Master flap disc (ZA) glass fibre plate, dished **for steel and stainless steels**	115 mm Ø		XXX	XXX	10
53L 56 5445		125 mm Ø		XXX	XXX	10

Steel

ZA | S/STL



56 5445

ZA | Fe,S,Cl <0.1% | 22.23mm | Steel | 80 m/s

PFERD POLIFAN SGP Strong Steel

Abrasive flap disc for demanding machining.
The patented design with **high coating density** for **high removal rate** and **tool life.**

56 6322

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6322		●	●	●	●	●		○	○	○								●

Grit				40	50	
55P 56 6322	POLIFFAN-STRONG (ZA) abrasive flap disc **for steel**	125 mm Ø		XXX	XXX	10

Fe,S,CI <0.1% | 22.23mm | S/STL | Steel | 80 m/s

LUKAS Abrasive flap discs for robot applications / clear-view grinding

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 5446		●	●	●	●	○		○	○	○								●
56 5450	○	●	●	●	●	●		●	●	●	○							●

V4 Purple Power on steel plate

CER

Abrasive flap disc with **high coating density** and sturdy sheet metal pad for high contact pressures. Self-sharpening ceramic grit (CER) on polyester backing for **very high removal rates** and toughness.

Application: For hard and rough grinding work on surfaces and edges.

56 5450

Grit			36	
53L 56 5450	Abrasive flap disc V4 Purple Power, (CER) steel plate, dished **for steel and stainless steels**	Ø 125 mm	XXX	5

Control clear view grinding discs on glass fibre backing plate

ZA

Abrasive flap disc with **field of view**, permitting a view of the workpiece. Very high coating density and long service life.

Application: Ideal for precision abrasive work.

56 5446

Grit			40	60	80	
53L 56 5446	Clear view flap disc SLTR Control, (ZA) **for steel and stainless steels**	Ø 125 mm	XXX	XXX	XXX	10

CER | Fe,S,CI <0.1% | M14 | S/STL | Steel | 5-15° | 80 m/s

LUKAS 3-layer grinding disc Purple Grain Multi

3-layer abrasive disc with **ceramic grit (CER)** and integrated M14 thread mounting. **Aggressive grinding properties** characteristic of a fibre disc, combined with the **smooth running** and long working life of an abrasive flap disc.

Application: For use on surfaces and edges.

56 6356

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6356	○	●	●	●	●	●		●	●	●	○							●

Grit			36	
53L 56 6356	Multilayer grinding disc (CER) **Purple Grain Multi**	125 mm Ø	XXX	10

PFERD CC-GRIND grinding discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6360		●	●	●	●	●		○	○	○								●
56 6362	○	●	●	●	●	●		●	●	●	○							●

CER | Fe,S,CI <0.1% | 22.23mm | 5-15° | 80 m/s

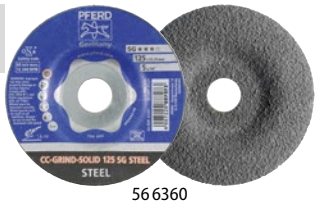
Aggressive abrasive disc with **integrated glass fibre pad** and **patented clamping system and cooling system.** Flat use without damaging the workpiece with the clamping nut. For use with adapter No. 566365.

56 6360 – For very high metal removal rates on all steel workpieces.

56 6362 – For very high metal removal rates on stainless steel.

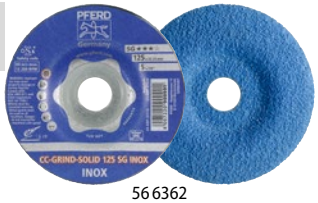
Application: For **hard and rough grinding work** on surfaces and edges.

Steel



56 6360

S/STL



56 6362

Disc Ø	mm	125	
550 56 6360	Grinding disc **CC-GRIND-SOLID SG-Stahl**	XXX	10
550 56 6362	Grinding disc **CC-GRIND-SOLID SG-INOX**	XXX	10

Clamping flange kit with cooling slots and special geometry for high air circulation rates. M14 direct mounting.

for Disc Ø	mm	115/125
550 56 6365	M14 clamping flange for CC-GRIND-SOLID	XXX

56 6365

ZA | Fe,S,Cl <0.1% | 22.23mm | S/STL | Steel | 80 m/s

Garant

Special flap disc for grinding fillet welds and contours

Flap disc with **extra large overlap between strips (10 mm).** High metal removal rate and service life due to the use of high-quality **Zirconium Aluminium Oxide (ZA)** on robust mixed fabric. With active coating for cool cutting.

Application: Ideal for grinding tasks alternating between **surface grinding and contour grinding** and for use in **inaccessible places** such as grinding out of weld fillets.

56 6290

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6290/6295		●	●	●	●	●		●	○	●						○		●

Grit			40	60	80	
51M 56 6290	Special flap disc (ZA) with overlap between strips	115 mm ∅	XXX	XXX	XXX	10
51M 56 6295		125 mm ∅	XXX	XXX	XXX	10

Fe,S,Cl <0.1% | 80 m/s

Flap discs for grinding fillet welds and contours

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6300/6310/6320		●	●	●	●	●		○	○	○								●
56 6312/6313/6325	○	●	●	●	●	●		●	●	○	○							●
56 6327	●										●							●

POLIFAN® SGP-CURVE Radial flap discs

22.23mm

Flap disc for highly demanding grinding of fillet welds. The **radial design with special arrangement of the segments** enables optimum application of the abrasive material on the radius. High metal removal rate, service life, and shape stability.

- 56 6320 – **SGP CURVE STEELOX (ZA)** in 40 grit for high metal removal rates.
- 56 6325 – **SGP CURVE STEELOX (CER)** in 60 grit for fine surfaces and cool grinding on materials with poor thermal conductivity.
- 56 6327 – **SGP CURVE-ALU (A)** in 40 grit for aluminium and non-ferrous metals, without clogging and undesirable residues.

Application: **Precise grinding out of weld fillet geometries,** chamfering, deburring.

Disc ∅×Width			mm	115×14	115×16	125×14	125×16	
55P 56 6320	PFERD	Abrasive flap disc POLIFAN-CURVE (ZA) for steel		XXX	XXX	XXX	XXX	10
55P 56 6325	PFERD	Abrasive flap disc for stainless steel, POLIFAN-CURVE (CER)		XXX	XXX	XXX	XXX	10
55P 56 6327	PFERD	Abrasive flap disc for aluminium, POLIFAN-CURVE (A)		–	XXX	–	XXX	10
Width at radius			mm	11	14	11	14	
for weld fillet radii			mm	> 5	> 8	> 5	> 8	

ZA | Steel

56 6320

SLTflex pad-less flap discs

M14

The **sickle-shaped strips** (patented) are radially linked to a high-strength GRP centre. The **pad-less design** permits an **extremely large overlap between strips**. Very high coating density. M14 threaded mounting, **no clamping nut required.**

- 56 6300/6310 – **Zirconium Aluminium Oxide (ZA)** with active upper layer bonding for **general-purpose use.**
- 56 6312/6313 – **Ceramic grit (CER)** with active upper layer bonding for **heavy duty.**

Application: For use in **inaccessible places,** contour grinding and for **grinding out of weld fillets.** Large overlap between strips permits **soft cutting.**

Grit				40	60	80	120	
53L 56 6300	LUKAS	Abrasive flap disc SLTflex (ZA), mounting M14	115 mm ∅	XXX	XXX	XXX	XXX	10
53L 56 6310	LUKAS	Abrasive flap disc SLTflex (ZA), mounting M14	125 mm ∅	XXX	XXX	XXX	XXX	10
53L 56 6312	LUKAS	Abrasive flap disc SLTflex (CER), mounting M14	115 mm ∅	XXX	XXX	–	–	10
53L 56 6313	LUKAS	Abrasive flap disc SLTflex (CER), mounting M14	125 mm ∅	XXX	XXX	–	–	10

ZA | Steel

56 6300

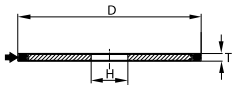
SiC | Fe,S,Cl <0.1% | 60 m/s

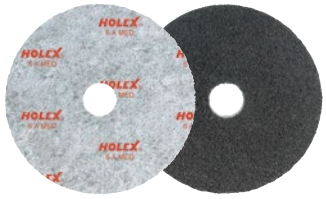
HOLEX Compact fleece abrasive discs for fillet weld preparation

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6986–56 6997	●	●	●	●	●	●		●	●	●		●			●	●		●

Compact disc of compressed fibre fleece for cool grinding without discolouration.

Application: For **dressing, cleaning and finishing** of fillet welds, weld spatter and inaccessible places using angle grinders (Ø 125 mm) or fillet weld grinding machines (Ø 150 mm).





56 6986

Grit equivalent			180	280		maximum speed rpm
52M 56 6986	Compact disc D × T × H (mm, see drawing)	125×3×22	XXX	XXX	10	10000
52M 56 6996		125×6×22	XXX	XXX	10	10000
52M 56 6987		150×3×25	XXX	XXX	10	7500
51M 56 6997		150×6×25	XXX	XXX	5	7500
Grit designation			medium	fine		
Degree of hardness			medium	soft		
Version			6A medium	3S fine		

A | Fe,S,Cl <0.1% | M14 | S/STL | Steel

Flap wheel / rollers M14 for angle grinders

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6350/6352	●	●	●	●	○			●	○	●	●	●	●		○			●
56 6372/6375	●	●	●	●	●		○	●	●	●	●	●	○		●	●		●

Strips arranged in a fan form around the axis of the tool.
M14 direct mounting. Extremely flexible.
56 6350 – **Abrasive cloth**, regular aluminium oxide (A).
56 6352 – Combination of **abrasive cloth (A) and fleece (A).**

Application: For fine abrasion of convex surfaces.

80 m/s

56 6350

30 m/s

56 6352

Grit				40	60	80	80CRS	120	150FINE	
51M 56 6350	Garant	Flap wheel M14 **Cloth (A)**	Ø 125 mm×20 mm	XXX	XXX	XXX	–	XXX	–	5
51M 56 6352		Flap wheel M14 **Fleece (A) / cloth (A)**	Ø 125 mm×20 mm	–	–	–	XXX	–	XXX	5

30 m/s

Strips arranged in a fan form around the axis of the tool.
M14 direct mounting. Combination of **abrasive cloth and fleece.**

Application: Removes scratches, gives a brushed matt effect.

56 6372

Grit equivalent				80CRS	
52M 56 6372	HOLEX	Flap wheel roller M14 **Fleece/cloth**	Ø 100 × 50 mm	XXX	2
recommended speed			rpm	2800	
maximum speed			rpm	6000	

30 m/s

Sinusoidal abrasive fleece with regular aluminium oxide (A) without cut edges.

Application: For **matting** and **polishing** without abrupt changes in texture.

56 6375

Grit equivalent				180	280	
52M 56 6375	HOLEX	Flap wheel roller M14 **Fleece wave form**	Ø 100 × 50 mm	XXX	XXX	2
recommended speed			rpm	2800		
maximum speed			rpm	6000		

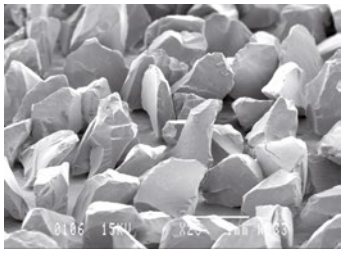
CER | Fe,S,Cl <0.1% | 22.23mm | 80 m/s

3M Fibre discs (CER)

The precision-formed **high-performance abrasive grit** in 3M™ products consist of defined ceramic triangles optimally arranged on the grinding surface. **Greatly increased material removal rate** with very long working life. Even surface finish.
Extremely tear-resistant but very flexible **vulcanised fibre.** Bore diameter 22.23 mm and crossed slots.

Application: Limited to maximum 80 m/s circumferential speed with backing pads No. 566690 / 566692 on angle grinders. The quick-cutting grit permits **comfortable and ergonomic working** without the need to exert great pressure. At the same time the high removal rate of 3M™ fibre discs makes them a real alternative to roughing discs and flap discs.

Ceramic grit (conventional)



Precisely formed ceramic grit.

Unrivalled material removal rate withprecisely formed ceramic grit.

Aluminium chips

Stainless steel chips

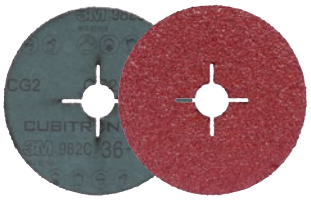
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
982C / 782C	○	●	●	●	●	●		○	○	●	●							●
987C / 787C	●	●	●	●	●	●		●	●	●	●							●

982C / 782C fibre discs

Steel | Cast iron | Non-ferrous Metals

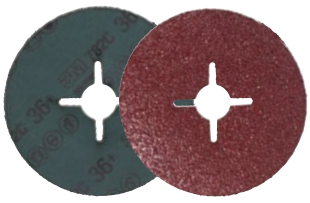
56 6471–6473 – High-performance fibre disc with open distribution.
56 6480–6490 – Top type Cubitron™ II. Top rate of metal removal.

Application: For the machining of **steel** and non-ferrous metals.



56 6485

Grit			36	60	80	
53F 56 6480	Cubitron™ II fibre disc (CER) 982C	Ø 115 mm	XXX	XXX	XXX	25
53F 56 6485		Ø 125 mm	XXX	XXX	XXX	25
53F 56 6490		Ø 178 mm	XXX	XXX	XXX	25
53F 56 6471	Fibre disc (CER) 782C	Ø 115 mm	XXX	XXX	XXX	25
53F 56 6472		Ø 125 mm	XXX	XXX	XXX	25
53F 56 6473		Ø 178 mm	XXX	XXX	XXX	25



56 6472

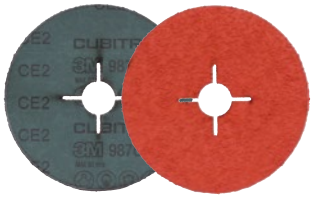
987C / 787C fibre discs

S/STL | ALU

The grinding aid is an additive which ensures cool grinding without discolouration and reduces the need to add lubricants.

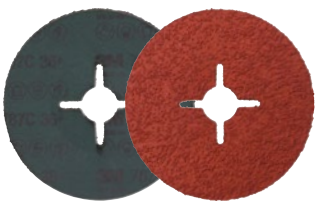
56 6477–6479 – High-performance fibre disc with open distribution.
56 6481–6491 – Top type Cubitron™ II. Maximum material removal rate.

Application: For the machining of **stainless steel, aluminium,** titanium and nickel alloys.



56 6486

Grit			36	60	80	120	
53F 56 6481	Cubitron™ II fibre disc (CER) 987C	Ø 115 mm	XXX	XXX	XXX	–	25
53F 56 6486		Ø 125 mm	XXX	XXX	XXX	–	25
53F 56 6491		Ø 178 mm	XXX	XXX	XXX	–	25
53F 56 6477	Fibre disc (CER) 787C	Ø 115 mm	XXX	XXX	XXX	XXX	25
53F 56 6478		Ø 125 mm	XXX	XXX	XXX	XXX	25
53F 56 6479		Ø 178 mm	XXX	XXX	XXX	XXX	25



56 6478

CER | Fe,S,Cl <0.1% | 22.23mm | 80 m/s

VSM Fibre discs (CER)

Tear-resistant but very flexible **vulcanised fibre.** Bore diameter 22.23 mm and crossed slots.

Application: Limited to maximum 80 m/s circumferential speed with backing pads No. 566650 / 6670 on angle grinders. For **grinding flat and curved surfaces** with a high degree of **flexibility.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6443/6444	●	●	●	●	●	●		●	●	●	●							●
56 6448/6449/ 6460–56 6660	○	●	●	●	●	●		○	○	●	●							●
56 6456/6556	○	●	●	●	●	○		●	○	○	●							●

High-performance fibre discs Actirox AF 890 (CER)

Top type VSM Actrirox AF 890 fibre discs **with very high and aggressive grinding performance.** Cool grinding and outstanding tool life.
Grit type: **100% geometrically shaped VSM ceramic grit** with abrasive coating (TOP SIZE).

ALU | S/STL

56 6443

Grit			36
56V 56 6443	Fibre disc Actirox AF 890 (CER)	125 mm Ø	XXX
56V 56 6444		Ø 180 mm	XXX

High-performance fibre discs Actirox AF 799 (CER)

Top type VSM Actrirox AF 799 fibre discs **with very high and aggressive grinding performance.** Cool grinding and outstanding tool life.
Grit type: **100% geometrically shaped VSM ceramic grit**.

Steel | Cast iron | Non-ferrous Metals

56 6448

Grit			36
56V 56 6448	Fibre disc Actirox AF 799 (CER)	125 mm Ø	XXX
56V 56 6449		Ø 180 mm	XXX

High-performance fibre discs XF 870 (CER)

VSM XF 870 fibre disc with **very high and aggressive cutting performance,** also outstanding working life. Cool grinding. Highly suitable for all steels, high temperature Ni alloys and CrNi steels.
Grit type: **Ceramic grit with cooling, active coating (TOP SIZE).**

S/STL | Steel

56 6460

Grit			24	36	40	50	60	80	120	
56V 56 6460	XF 870 fibre disc (CER)	Ø 115 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56V 56 6560		Ø 125 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56V 56 6660		Ø 180 mm	XXX	XXX	–	–	XXX	XXX	–	50

High-performance fibre discs XF 850 (CER)

VSM XF 850 universal fibre disc with **high and aggressive cutting performance** and long working life. Cool grinding. Ideal for working alloy steels and aluminium alloys.
Grit type: **Ceramic Zirconium Aluminium Oxide mixed grit with cooling, active coating(TOP SIZE).**

ALU | S/STL

56 6456

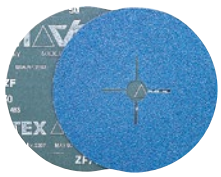
Grit			40	60	80	
56V 56 6456	XF 850 fibre disc (CER)	Ø 115 mm	XXX	XXX	XXX	50
56V 56 6556		Ø 125 mm	XXX	XXX	XXX	50

ZA | Fe,S,Cl <0.1% | 22.23mm | S/STL | Steel | 80 m/s

VSM Fibre discs zirconium aluminium oxide (ZA)

Tear-resistant but very flexible **vulcanised fibre.** Bore diameter 22.23 mm and crossed slots.
VSM ZF 714 fibre disc with **high cutting performance** and long working life. Cool grinding. Especially for alloy steels, non-ferrous metals, and grey cast iron.
Grit type: **Zirconium Aluminium Oxide (ZA) active coated.**

Application: Limited to maximum 80 m/s circumferential speed with backing pads No. 566650 / 6670 on angle grinders. For **grinding flat and curved surfaces** with a high degree of **flexibility.**


56 6430

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6430–56 6630		●	●	●	●	●		●	○	●	●							●

Grit			24	36	40	50	60	80	100	120	
56V 56 6430	ZF 714 fibre disc zirconium aluminium oxide (ZA)	Ø 115 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56V 56 6530		Ø 125 mm	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX	50
56V 56 6630		Ø 180 mm	XXX	XXX	XXX	–	XXX	XXX	XXX	–	50

A	Fe,S,Cl <0.1%	22.23mm	Steel	80 m/s

Fibre discs Aluminium Oxide (A)

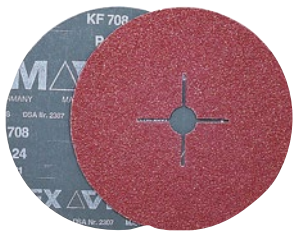
Tear-resistant but very flexible **vulcanised fibre.** Bore diameter 22.23 mm and crossed slots.

Application: Limited to maximum 80 m/s circumferential speed with backing pads No. 566650 / 566670 on angle grinders.
For **grinding flat and curved surfaces** with a high degree of **flexibility.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6400/6500/6600	○	●	●	●	●	○		○	○	○	●	●	●					●
56 6410/6510/6610	○	●	●	●	●			○		○	●	●	●					●

Universal fibre discs KF 708 (A)

VSM KF 708 high-quality universal fibre disc for grinding metals, plastic, wood etc.
Grit type: **Fused aluminium oxide (A).**

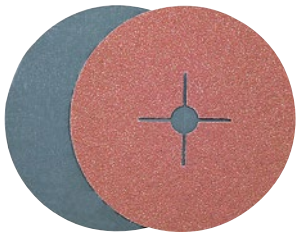


56 6400

Grit				16	24	30	36	40	50	60	80	100	120	
56V 56 6400	VSM	KF 708 fibre disc fused aluminium oxide (A)	Ø 115 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56V 56 6500			Ø 125 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56V 56 6600			Ø 180 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	50
Manufacturer's designation				VSM KF 708										

Universal fibre discs (A)

HOLEX universal fibre disc for grinding all metals.
Grit type: **Aluminium oxide (A).**



56 6410

Grit				24	36	40	60	80	120	150	
52M 56 6410	HOLEX	Fibre disc Aluminium Oxide (A)	Ø 115 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
52M 56 6510			Ø 125 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
52M 56 6610			Ø 180 mm	XXX	–	XXX	XXX	XXX	–	–	50

Backing pad for fibre discs

Fibre disc backing pad with high temperature resistance.
Special design to enable full exploitation of the performance potential of fibre discs.

Backing pad, hard

Hard, non-deforming fibre disc backing pads.
Contact face **lightly ribbed for optimum grit support** when grinding edges and surfaces.
Special plastic with **very high temperature resistance.**
Ideal for **coarse grinding and roughing work** in 36 to 60 grit.
56 6690 – Also supplied with 5/8 inch clamping nut.

80 m/s

56 6688

56 6690

56 6672

External ∅			mm	115	125	180
56V 56 6688	VSM	Fibre disc backing pad TURBO PAD 3 **hard/ribbed**		XXX	XXX	XXX
53M 56 6690	3M	Fibre disc backing pad **hard/ribbed**		XXX	XXX	XXX
52M 56 6672	HOLEX	Backing pad **hard/ribbed**		XXX	XXX	XXX
maximum speed (56 6688, 56 6690)			rpm	13300	12200	8500
maximum speed (56 6672)			rpm	13300	12500	8500

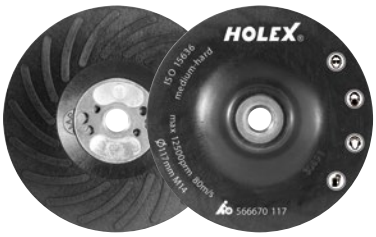
Backing pad, medium hard / flexible

80 m/s

56 6670 – **Medium-hard pad with broad ribs** for better grit support for edge grinding and surface grinding. For **coarser grinding work** in 36 to 60 grits.
56 6692 – Also supplied with 5/8 inch clamping nut.
56 6650/6670 – To ISO.
56 6692/6650 – **Special** resilient plastic backing pad for **flexible contour grinding**. Ideal for 60 grit and finer.

56 6692

External ∅			mm	108	115	117	125	172	180
53M 56 6692	3M	Fibre disc backing pad **flexible/smooth**		–	XXX	–	XXX	–	XXX
52M 56 6650	HOLEX	ISO backing pad **flexible/smooth**		XXX	–	XXX	–	XXX	–
52M 56 6670	HOLEX	ISO backing pad **medium hard/ripped**		XXX	–	XXX	–	XXX	–
suitable for disc ∅			mm	115	115	125	125	180	180
maximum speed			rpm	13300	13300	12500	12500	8500	8500



56 6670

Fe,S,Cl <0.1% | 22.23mm | 60 m/s

Fleece coarse cleaning / cleaning discs

Cleaning discs with synthetic nylon fleece evenly impregnated with abrasive grit on glass fibre pad.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni	○	●
56 6700–56 6755	●	●	●	●	●	●		●	●	●	●	●	●		●	●	○	●

Coarse cleaning discs

SiC

Very **coarse non-woven abrasive mesh structure,** will not clog even when used on soft thick coatings.
56 6700 – Medium hard fleece body with very **aggressive grinding characteristics,** for an even finish and long working life. General purpose disc for all rough grinding work, **even for difficult applications** such as removing stubborn scale.
56 6726 – Extremely hard and aggressive fleece body creates a coarse finish with a very high cleaning effectiveness. Very **long working life, even when used on edges.**
Size 125 – With internal M14 thread fro quick installation.
56 6750 – Hard and aggressive fleece body for **general-purpose use** on large areas.
56 6712/6715 – Flexible fleece body, ideal for **grinding convex surfaces.** Creates a soft and even finish, especially suitable for visible surfaces.
Application: For rust removal, paint removal, dressing weld seams and removing surface dirt.
56 6712 – With **glass fibre backing for use with backing pad** No. 566650.
56 6700/6715/6726/6750 – With **glass fibre backing pad for direct clamping** on angle grinders.

56 6700

56 6726

56 6750

Disc ∅				mm	115	125		Degree of hardness	Grit designation
51M 56 6700	Garant	Coarse cleaning disc (SiC)			XXX	XXX	10	medium – hard	very coarse
53M 56 6712	3M	Coarse cleaning disc (SiC) **with glass fibre backing**	CG-DB		XXX	–	10	medium	very coarse
53M 56 6715	3M	Coarse cleaning disc (SiC)	CG-RD		XXX	–	10	medium	very coarse
53M 56 6726	3M	Coarse cleaning disc (SiC)	XT-RD PRO		XXX	XXX	10	very hard	very coarse
52E 56 6750	HOLEX	Coarse cleaning disc (SiC)			XXX	XXX	10	hard	very coarse
Bore ∅				mm	22.23				
recommended speed				rpm	5000 – 7000				
maximum speed				rpm	11000	10000			

Cleaning discs

A

Extremely **tough, densely woven, fine non-woven abrasive mesh structure** with high **flexibility** and cutting performance.
Application: For cleaning and deburring **with a fine surface finish.** With glass fibre backing pad for direct clamping on angle grinders.

Disc ∅			mm	115	
51M 56 6755	Garant	Cleaning disc (A)		XXX	10
Grit designation				medium	
Degree of hardness				soft	
Bore ∅			mm	22.23	
recommended speed			rpm	5000 – 7000	
maximum speed			rpm	11000	

Fe,S,Cl <0.1% | 22.23mm | S/STL

Garant

Flap discs for finishing, fleece compact discs

	Al Mg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6330–56 6340–56 6995	●	●	●	●	●	●		●	●	●		●			●	●		●
56 6345	○	●	●	●	●	●		●	●									●

Flap discs, fine grinding

A | 80 m/s

Glass fibre pad covered with abrasive cloth (3M 237AA Trizact™) with fine-structured pyramidal surface of micro-Aluminium Oxide mineral particles.

Application: Specially for **surface finishing** of hard and difficult-to-grind materials such as **stainless steel, titanium, high-alloy steels** etc. Consistently **reproducible finish and long service life** compared to abrasive discs of a similar grit grade. Recommended speed 2100 – 3000 rpm.

56 6345

Grit			120	180	280	400	
51M 56 6345	Flap disc (A) fine grinding	Ø 125 mm	XXX	XXX	XXX	XXX	10

Flap disc, abrasive fleece/fabric combined

A | 80 m/s

Flap disc with a combination of cloth flaps of **abrasive cloth (A)** in 80 grit and **fleece (medium). High metal removal rate** and consistent **surface finish** in a single pass.

Application: TIG weld seam smoothing, surface and contour grinding, deburring work. Recommended speed 6500 rpm.

56 6335

Grit equivalent			80MED	
51M 56 6335	Flap disc **Fleece/fabric**	Ø 125 mm	XXX	2

Fleece flap discs

A | 80 m/s

Fleece flap discs with **flaps of abrasive fleece** on a glass fibre pad.

Application:
- For final finishing of surfaces.
- For removal of colouration, cleaning, and minor tidying up of weld seams.
- For fine grinding of large areas and for finishing.

56 6330 – Recommended speed 5000 – 5800 rpm.
56 6340 – Recommended speed 4600 – 5300 rpm.

56 6340 _180

Grit equivalent			100	180	280	
56Z 56 6330	Flap disc **Fleece**	Ø 115 mm	XXX	XXX	XXX	5
56Z 56 6340		Ø 125 mm	XXX	XXX	XXX	5
Grit designation			coarse	medium	fine	
Colour			brown	red	blue	

Fleece compact discs

Steel | 60 m/s

Crimped-in fibrous fleece with resin-bonded aluminium oxide grit permits **metal removal and finishing in a single operation.**

Application: For surface and edge grinding on angle grinders (recommended speed 6000 rpm).

Size 150 – **Medium hard** version with **increased aggressiveness and edge stability.** For general deburring work, light removal of material by abrasion with fine surface finish.

Size 180 – **Universal disc** for light deburring work, for polishing out slight scratches and removing colouration.

Size 100 – **Hard** version with coarse grits, very stable edge.

56 6991 _180

Grit equivalent			100	150	180	
51M 56 6991	Fleece compact disc	Ø 115 mm	XXX	XXX	XXX	5
51M 56 6995		Ø 125 mm	–	XXX	–	5
Grit designation			coarse	medium	medium	
Degree of hardness			hard	medium	soft	
Version			8 A coarse	6 A medium	3 S medium	

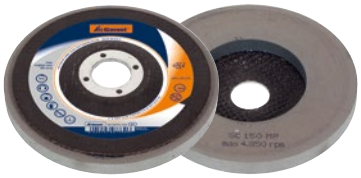
Fe,S,Cl <0.1% | S/STL | Non-ferrous Metals | Steel | 30 m/s

Garant Polishing discs, PU-bonded

Resilient polyurethane discs incorporating SiC grit.

Application: For working on larger surfaces. Successive use of the various grades of grit allows the generation of fine mirror finishes. No polishing paste required.

Size 150 – Ideal for **improving surface finish smoothness** after pre-grinding.
Size 240 – Creates an even **matt finish.**
Size 400 – Slightly **glossy finish**.
Size 800 – Fine **mirror finish**.



56 6970

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6970	●	●	●	●	●	●		●	●	●	●							●

Grit			150	240	400	800	
51M 56 6970	Polishing disc (SiC)	Ø 125 mm	XXX	XXX	XXX	XXX	5
Bore Ø		mm	22.23				

Fe,S,Cl <0.1% | 22.23mm | S/STL | Non-ferrous Metals | 40 m/s

Garant Polishing flap discs (felt)

The **felt strips** (height 20 mm) are edge-mounted on a glass fibre pad and permit great flexibility and cooling during the polishing process.

Application: For **polishing up stainless steel and non-ferrous metals** in combination with polishing paste No. 555740.
For use at reduced working speeds (approx. 1500 rpm).

56 6976

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6976/6977	●	●	●	●	●	●		●	●	●	●							●

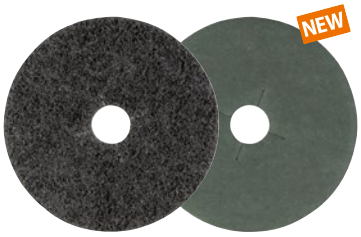
Disc Ø			mm	115	125	
51M 56 6976	Polishing flap disc (felt)	soft		XXX	XXX	2
51M 56 6977		medium		XXX	XXX	2

A | Fe,S,Cl <0.1% | 22.23mm | 50 m/s

Garant Fleece abrasive disc with fibre backing for material removal and deburring

Very **aggressive fleece abrasive disc with high edge stability** thanks to additional fibre backing. This fleece disc can thus be used in conjunction with backing pads for fibre discs such as No. 566650 and 566672.

Application: Ideal for **removal of small weld spatter** and for **coarser cleaning and deburring tasks.** No formation of chatter marks on the surface.



56 6895_80

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6895	●	●	●	●	●	●		●	●	●	●	●	●		●	●		●

Grit equivalent			80	100	180
51E 56 6895	Fleece abrasive disc with fibre backing	125 mm Ø	XXX	XXX	XXX
Grit designation			very coarse	coarse	medium
Version			A coarse heavy duty	A coarse	A medium
Colour			black	brown	red

Fe,S,Cl <0.1% | 40 m/s

Fleece velour-backed abrasive discs Ø 115 - 178 mm

Fleece velour-backed abrasive discs with through-stitched backing for hook and loop fastener. With removable centre for more precise positioning and attachment of the disc to the backing pad **(approx. 50 % reduction in vibration level with velour-backed abrasive discs No. 566965).**

Application: On angle grinders with hook and loop fastener backing pad No. 566960 or 566965.

Note: See No. **567705ff** onwards for velour-backed abrasive discs for rough abrasion.

Recommended for fleece velour-backed abrasive discs		
Suitable for	**very good**	**outstanding**
Material removal	56 6902 – 6903	
Deburring		56 6902 – 6903
Cleaning	56 6911 – 6950	56 6902 – 6903
Enhancing		56 6911 – 6950
Finishing		56 6911 – 6950

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 6902–56 6950	●	●	●	●	●	●		●	●	●	●	●	●		●	●	○	●

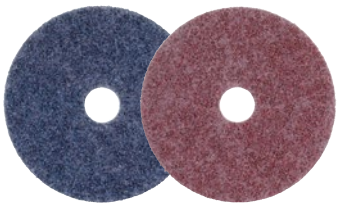
GB-DH fleece velour-backed abrasive discs for material removal and deburring

CER

Very **aggressive fleece disc** with high edge stability. The integral **ceramic grit (CER)** permits high metal removal rates.

Size 80 – **Ideal for improving surface finish smoothness after pre-grinding with Cubitron™ II.**

Application: Ideal for **removal of small weld spatter** and for **coarser cleaning and deburring tasks.** No formation of chatter marks on the surface.



56 6902_50 56 6902_80

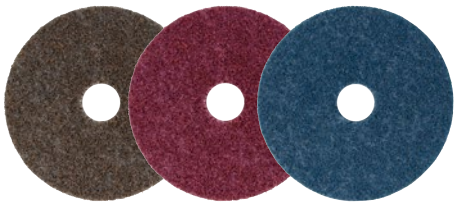
The centre hole core is pre-punched and can be taken out.

Grit equivalent				50	80	
53M 56 6902	3M Scotch-Brite™	Fleece velour-backed abrasive disc GB-DH	Ø 115 mm	XXX	XXX	50
53M 56 6903			Ø 125 mm	XXX	XXX	50
Grit designation				extra coarse	very coarse	
Version				A coarse super duty	A coarse heavy duty	
Colour				blue	red	

SL-DH fleece velour-backed abrasive discs for cleaning and finishing

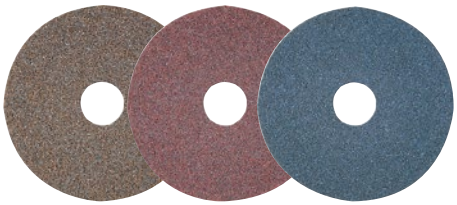
A

Application: For **finishing, matting, smoothing** with significant reduction in roughness, and for **light cleaning** (such as removal of discolouration) and **deburring tasks.**



56 6912_100 56 6912_180 56 6912_280

The centre hole core is pre-punched and can be taken out.



56 6940_100 56 6940_180 56 6940_280

Grit equivalent				100	180	280	
51M 56 6911	Garant	Fleece velour-backed abrasive disc	Ø 115 mm	XXX	XXX	XXX	10
51M 56 6912			Ø 125 mm	XXX	XXX	XXX	10
53M 56 6915	3M Scotch-Brite™	Fleece velour-backed abrasive disc SC-DH	Ø 115 mm	XXX	XXX	XXX	20
53M 56 6925			Ø 125 mm	XXX	XXX	XXX	20
53M 56 6935			Ø 178 mm	XXX	XXX	XXX	20
52E 56 6940	HOLEX	Fleece velour-backed abrasive disc	Ø 115 mm	XXX	XXX	XXX	20
52E 56 6950			Ø 125 mm	XXX	XXX	XXX	20
Grit designation				coarse	medium	fine	
Version				A coarse	A medium	A very fine	
Colour				brown	red	blue	

Hook and loop backing pads for fleece velour-backed abrasive discs

Attachment side with double T-hook system, for secure fixing of velour backed fleece abrasive discs.

Suitable for:

56 6960 – For velour-backed abrasive discs **without a centring hole.**

56 6965 – **With centring** for velour-backed abrasive discs No. 566902 – 566950.

Attention: Maximum circumferential speed on angle grinders **with velour grinding discs** 40 m/s.

40 m/s

56 6965

56 6960

External Ø			mm	115	125	178
53M 56 6965	3M	Hook and loop backing pad with **Centring and M 14 thread**		XXX	XXX	XXX
52M 56 6960	HOLEX	Hook and loop backing pad with **Thread M 14**		XXX	XXX	XXX
maximum speed			rpm	12000	11000	6000

Fe,S,Cl <0.1% | 40 m/s

Velour-backed abrasive discs for angle grinders

The **back of the disc is covered with velour loops** which are self-attaching to **hook and loop fastener backing pads**, e.g. No. **567760** . For quick disc changing.

Application: On **angle grinders** / eccentric grinders with hook and loop fastener pads (dust removal not available). Maximum working speed **40 m/s.**

Note: Suitable hand sanding block for hook and loop grinding discs see No. 567857 size 125 and Gr.150. See No. 566902 – 566950 for velour abrasive discs. For mini grinding systems ∅ 50 mm and ∅ 75 mm, see No. 554005 onwards.

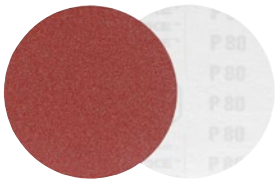
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 7510–56 7512	●	●	●	●	●	●		●	●	●	●	○			○			●
56 7520–56 7522	○	●	●	●	●	●		●	●	●								●
56 7605–56 7625	●	●	●	●	●	●		○	○	●	●	○	●		○			●
56 7705/7715/7725	○	●	●	●	●	○		○	○	○	●	●	●		●	●		●
56 7724/7726		●	●	●	●	●		●	●	●								●

Velour-backed abrasive discs on paper backing, Aluminium Oxide (A)

A

Abrasive paper thickness 540 FK (F paper, 40 to 180 grit) to paper thickness 544 C3K (240 – 400 grit, stearate coated) with **high strength and dense distribution.**
High removal rates due to specially treated abrasive grit **(A).**

Application: **General purpose** for grinding metal, non-ferrous metals, varnish, paint, wood, and plastic.



56 7705

Grit				40	60	80	120	180	240	320	400	
56Z 56 7705	STARCKE	Paper velour-backed abrasive disc (A)	∅ 115 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56Z 56 7715			∅ 125 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56Z 56 7725			∅ 150 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50

Velour-backed abrasive discs on cloth backing, Zirconium Aluminium Oxide (ZA)

ZA

Extremely robust 341XK velour-backed abrasive disc, on **reinforced tear-resistant cotton fabric backing.** Newly developed bonding system with Zirconium Aluminium Oxide **(ZA).**

Application: Versatile application in **coarse and fine grinding of metals.**

56 7605

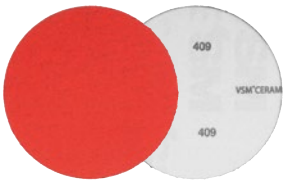
Grit				24	40	60	80	120	
56Z 56 7605	STARCKE	Fabric velour-backed abrasive disc (ZA)	∅ 115 mm	XXX	XXX	XXX	XXX	XXX	50
56Z 56 7615			∅ 125 mm	XXX	XXX	XXX	XXX	XXX	50
56Z 56 7625			∅ 150 mm	XXX	XXX	XXX	XXX	XXX	50

Velour-backed abrasive discs on cloth backing, ceramic grit (CER)

CER

Velour-backed abrasive discs XK870K with sturdy **polyester fabric.** The **self-sharpening ceramic grit** with MIT active grinding layer (TOP Size) (**TOP Size**) ensures a cool and aggressive cut.

Application: For grinding all steels, particularly well suited to difficult to machine materials such as **stainless steel, nickel alloys, chromium, titanium.**



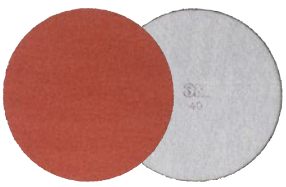
56 7510

Grit				60	80	120	
56V 56 7510	VSM	Fabric velour-backed abrasive disc (CER)	115 mm ∅	XXX	XXX	XXX	50
56V 56 7511			125 mm ∅	XXX	XXX	XXX	50
56V 56 7512			∅ 150 mm	XXX	XXX	XXX	50

CER

Hook and loop abrasive discs with precisely formed **Cubitron™II** ceramic grit (self-sharpening) and strong X-fabric. **Very high metal removal rate** and **long working life.**

Application: For grinding all steels, particularly well suited to difficult to machine materials such as **stainless steel, nickel alloys, chromium, titanium.**

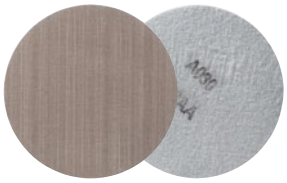


56 7520

Grit				40	60	80	120	
53M 56 7520	3M	Velour-backed abrasive disc Cubitron™II 947A	∅ 115 mm	XXX	XXX	XXX	XXX	25
53M 56 7521			∅ 125 mm	XXX	XXX	XXX	XXX	25
53M 56 7522			∅ 150 mm	XXX	XXX	XXX	XXX	25

Velour-backed abrasive discs on cloth backing, aluminium oxide (A), 237AA Trizact™

A



237AA Trizact™ with fine-structured pyramidal surface of micro-Aluminium Oxide mineral particles (A).

Application: For a **fine and uniform surface finish** all steels, stainless steels, brass and titanium alloys. Specially for contour grinding and preparation for polishing.

Grit				120	180	280	400	600	
51E 56 7724	3M	Velour-backed abrasive disc **237AA (A)**	**Ø 115 mm**	XXX	XXX	XXX	XXX	XXX	**10**
53M 56 7726			**Ø 125 mm**	XXX	XXX	XXX	XXX	XXX	**10**
3M grit designation				A160	A100	A65	A45	A30	

40 m/s

Polishing discs (felt)

Felt discs for **polishing pre-ground surfaces** in conjunction with polishing pastes No. 555740 and 552420 UNI. The printed side is for mounting on the backing pad.

56 7721/7722 – Made of pure sheep's wool. For faster polishing results and lower hologram formation compared to synthetic fibre products.

Application: Suitable for polishing paints and metals.

56 7721

Disc Ø			mm	21	32	115	127	150		recommended speed rpm
51M 56 7721	Garant	Velour-backed polishing pad **hard**		–	–	XXX	XXX	XXX	**25**	1500 – 1700
51M 56 7722		Velour-backed polishing pad **soft**		XXX	XXX	XXX	XXX	XXX	**25**	1500 – 1700
53M 56 7727	3M	Velour-backed polishing pad **hard**		–	–	–	XXX	–	**50**	1500 – 1700
53M 56 7728		Velour-backed polishing pad **soft**		–	–	–	XXX	–	**50**	1500 – 1700

Fe,S,Cl <0.1%

40 m/s

3M Velour-backed abrasive discs for angle grinder polishing set

Abrasive discs with velour backing for use on angle grinders.

Application: **A high gloss finish in just a few operations.**

- **Initial pass:** Multicut 359F velour-backed abrasive disc
- **Intermediate pass:** Trizact™ 237AA velour-backed abrasive disc.
- **Finishing pass:** Velour polishing pad (felt) with polishing paste.

Supplied with: Angle grinder set in a sturdy cardboard box consisting of:
10× **359F Hookit™** velour-backed Aluminium Oxide abrasive disc **(A)** 180 grit.
10× **237AA Trizact™ Hookit™** velour-backed abrasive disc 600 grit (A030).
5× **Velour polishing pad (felt)** Buffing pad red/white with Hookit mounting.
1× **Polishing paste** (solid).
1× **Velour backing pad** Ø 125 mm (medium).
1× **User instruction manual.**

56 7765

Disc Ø		mm	125
53M 56 7765	Angle grinder polishing set, 27 pieces		XXX

80 m/s

HOLEX Hook and loop backing pad for angle grinders

Attachment side with hook and loop fasteners, for secure fixing of velour loops when using velour-backed abrasive discs.

56 7760 – Stable **backing pad** for general grinding work.

56 7762 – **Polishing pad** with flexible intermediate layer. Increasing flexibility in the outer area due to the dished edges.

Application: **M14 thread** for direct mounting on angle grinders, maximum speed **40 m/s.**

Note: Hook and loop backing pad **not** suitable for fleece velour-backed abrasive discs No.566902 – 566950.

56 7760

56 7762

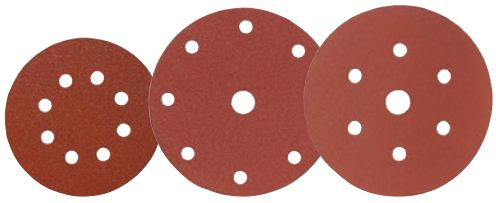
External Ø		mm	115	125	150
52M 56 7760	Hook and loop backing pad, **M14**		XXX	XXX	XXX
52M 56 7762	Hook and loop polishing pad, **M14**		XXX	XXX	XXX
Degree of hardness (56 7760)				medium	
Degree of hardness (56 7762)				soft	
Thread				M14	

A	Fe,S,Cl <0.1%	40 m/s

STARCKE® Velour-backed abrasive discs for orbital sanders

Abrasive paper thickness 540 FK (F-paper, 40 to 180 grit) or thickness 544 C3K (240 – 800 grit, stearate coated) with **high strength and dense distribution.**
High material removal rates due to specially treated abrasive grit **(A).**
The **back of the disc is covered with velour loops which automatically cling on** allowing quick disc change.

Application: **General purpose** for grinding metal, non-ferrous metals, varnish, paint, wood, and plastic.
On **orbital sanders** with hook and loop pads e.g. No. 567885 / 567990. Maximum circumferential speed **40 m/s.**



56 7745 56 7755 56 7775

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 7745–56 7775	○	●	●	●	●	○		○	○		●	●	●		○	●		●

Grit				40	60	80	120	180	240	320	400	600	800	
56Z 56 7745	Paper velour-backed abrasive disc (A) **8 holes**	Ø 125 mm		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56Z 56 7755	Paper velour-backed abrasive disc (A) **8 + 1 holes**	Ø 150 mm		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50
56Z 56 7775	Paper velour-backed abrasive disc (A) **6 + 1 holes**	Ø 150 mm		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50

56

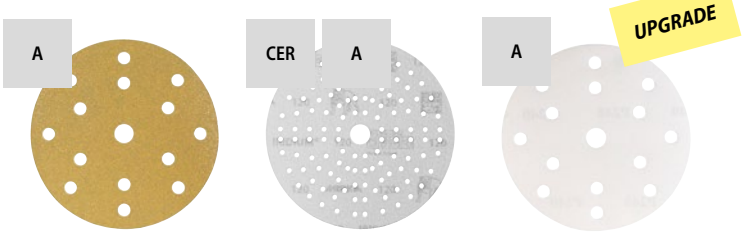
A	Fe,S,Cl <0.1%	40 m/s

Velour-backed abrasive discs (paper) for orbital sanders

Velour-backed abrasive disc with **paper backing.** Dust-repellent coating prevents premature clogging. The back is covered with hooks and loops.

56 7553 – Velour-backed abrasive disc with open distribution, aluminium oxide (A). Ideally suited to materials that have a high tendency to clogging.
56 7557 – Velour-backed abrasive disc **MIRKA IRIDIUM®** with a mixture of ceramic grit (CER) and aluminium oxide grit (A), dust-repellent coating, high material removal rate and long service life.
56 7790 – Velour-backed abrasive disc with semi-open distribution, aluminium oxide (A).

Application: On **orbital sanders** with hook and loop pads e.g.No. 567990 (dust extraction available). Universal **all-round product** for coarse, intermediate and fine abrasion on all metal and plastic surfaces, paint systems and woods.
56 7557 – Ideal for **soft** and **hard surfaces.**



56 7553 56 7557 56 7790

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 7553–56 7790	●	●	●	●	●	○		●	○		●	●	●		●	●		●

Grit				40	60	80	100	120	150	180	220	240	320	400	500	600	
51M 56 7553	Garant	Velour-backed abrasive disc (A) **15 holes**	Ø 150 mm	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	100
56M 56 7557	MIRKA	Velour-backed abrasive disc (CER) **Multiple holes**	Ø 150 mm	XXX	XXX	XXX	–	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX	XXX	100
52M 56 7790	HOLEX	Velour-backed abrasive disc (A) **15 holes**	Ø 150 mm	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	100

Roloc™ quick-change system in catalogue section 55

55 4012 55 4008 55 4033 55 4030 55 4056

Fe,S,Cl <0.1% | 40 m/s

Velour-backed abrasive discs (film backing) for orbital sanders

Velour-backed abrasive disc with **stable film backing.** Dust-repellent coating prevents premature clogging. The back is covered with velour loops.

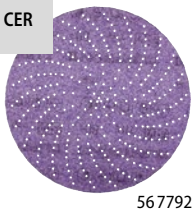
Advantage:
- More uniform surface finish due to outstanding grit support.
- Improved tear resistance when the edges are stressed.

Application: High-quality aluminium oxide abrasive grit (A) for general coarse, intermediate and finishing use.

56 7796 – High-quality aluminium oxide grit (A), open distribution. For universal applications, coarse, intermediate and finishing.

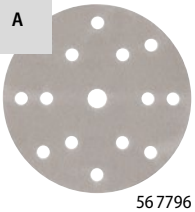
56 7791–7793 – **Cubitron™ II** precision grit with the advantage of **quicker material removal** and more **consistent surface finish on large areas** (sheet metal work).

CER



56 7792

A



56 7796

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 7791–56 7796	●	●	●	●	●	○		○	○		●	●	●		●	●	●	●

Grit				80	120	180	220	240	320	400	600	800	1000	
53M 56 7791	3M	Velour-backed abrasive disc (CER) Hookit 775L **Multiple holes**	Ø 125 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	50
53M 56 7792	3M	Velour-backed abrasive disc (CER) Hookit 775L **Multiple holes**	Ø 150 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	50
53M 56 7793	3M	Velour-backed abrasive disc (CER) Hookit 775L **No holes**	Ø 150 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	50 NEW
52M 56 7796	HOLEX	Velour-backed abrasive disc (A) **15 holes**	Ø 150 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50

D

Garant CaraFin diamond polishing pad

Hook and loop fastening **CaraFin polishing pad** made from elastic PU material coated with **diamond grit.** Foam material hardness optimally adapted to polishing stage. The **effectiveness of the bonded diamond grit is significantly greater** than that achieved by loose diamond grit in polishing pastes.

56 7896

Suitable for:

56 7896 – PU support disc No. 567892 / 567893 and AROS_B.

56 7899 – PU support discs No. 567990 150 / 567995 150 / 567885 150 / 567886 150 / 567887 150; polishing disc No. 567762 150.

Application: Very high flexibility and conformity to contours. **Without polishing paste.**

Note: Other CaraFin polishing pads can be found in catalogue section 55.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 7896/7899	●	●	●	●	●	●		●	●		●	●			●		●	

Grit			µm	D151	D64	D20	D10	D1
51G 56 7896	CaraFin diamond polishing pad	Ø 34 mm		–	–	XXX	XXX	XXX
51G 56 7899	CaraFin diamond polishing pad	Ø 150 mm		XXX	XXX	XXX	XXX	XXX
Polishing stage				Pre-polishing	Polishing	Final polishing	Final polishing	High mirror finish
Colour				pink	pink	yellow	orange	black

SiC | Fe,S,Cl <0.1% | 40 m/s

MIRKA ABRALON™ discs for finish grinding

The ABRALON™ patented finishing system comprises a woven mesh with silicon carbide coating on a thin foam pad. The advantages are:
- The grinding mesh enables water and air to **circulate freely**, the **grinding dust is effectively removed.**
- **High effectiveness** – reduced working time and longer working life.

Application: For manual and mechanised **dry and wet grinding** of contours, shapes, metals **with high demands on the surface finish** and for the preparation for polishing.

56 7901

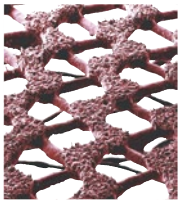
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 7900–56 7902	●		●	●	●	●		●	●			●		○	●	○	●	○

Grit			180	360	500	1000	2000	3000	4000	
56M 56 7902	ABRALON™ disc	Ø 34 mm	–	XXX	XXX	XXX	XXX	–	XXX	10
56M 56 7901	ABRALON™ disc	Ø 77 mm	–	–	XXX	XXX	XXX	XXX	XXX	20
56M 56 7900	ABRALON™ disc	Ø 150 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	20

Fe,S,Cl <0.1%

Velour-backed abrasive discs, mesh structure for dust-free grinding

Velour-backed abrasive discs consisting of a **mesh structure** of polyamide fabric containing thousands of holes and coated with abrasive grit.



Advantage:
- **Dust–free grinding:** very low impact on workplace and environment.
- No clogging of the grinding wheel (surface defects and dust balls are avoided).
- Guaranteed **improved surface finishes** with less grinding media consumption.
- **High effectiveness** – the removal rate increases by several orders of magnitude depending on the surface.

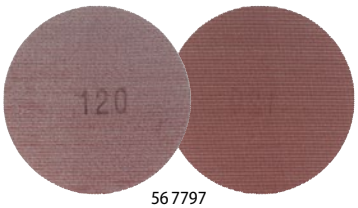
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 7797–56 7845	●	○									●	●	●		●			●
ABRANET® ACE ABRANET® ACE HD	●	●	●	●	●						●	●	●		●			●

Velour-backed abrasive discs and strips

A | 40 m/s

Application: Grinding of paints, fillers primers, (fibre-reinforced) plastics, non-ferrous metals and aluminium alloys, furniture components.

Grit				80	120	180	240	320	400	
51M 56 7797	Garant	Velour-backed abrasive disc **Mesh structure**	Ø 150 mm	XXX	XXX	XXX	XXX	XXX	XXX	50
56M 56 7803	MIRKA	Velour-backed abrasive disc **ABRANET®**	Ø 34 mm	XXX	XXX	XXX	XXX	XXX	XXX	50
56M 56 7801			Ø 77 mm	XXX	XXX	XXX	XXX	–	–	50
56M 56 7802			Ø 125 mm	XXX	XXX	XXX	XXX	XXX	XXX	50
56M 56 7800			Ø 150 mm	XXX	XXX	XXX	XXX	XXX	XXX	50



56 7797

A

Application: ABRANET® hook and loop strip for use on orbital sanders or for use on the hand sanding block No. 567856.
Grinding of paints, fillers primers, (fibre-reinforced) plastics, non-ferrous metals and aluminium alloys, furniture components.

Grit				80	120	180	240	320	400	
56M 56 7840	MIRKA	Velour-backed abrasive strip **ABRANET®**	70×125 mm	XXX	XXX	XXX	XXX	XXX	XXX	50
56M 56 7845			81×133 mm	XXX	XXX	XXX	XXX	XXX	XXX	50

56 7840

ABRANET® ACE velour-backed abrasive discs

CER | 40 m/s

ABRANET® ACE with optimised grinding mesh and **ceramic grit (CER)** offers outstanding abrasion performance and **increased working life.**

Application: Ideal for applications on **very hard materials** such as UV paints, primers, hardwoods, and well suited to use on steel materials.

56 7804

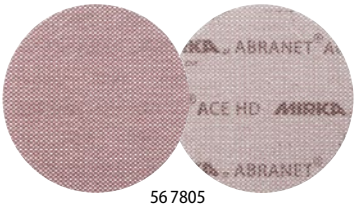
Grit				80	120	180	240	320	400	600	800	1000	
56M 56 7804	MIRKA	Velour-backed abrasive disc **ABRANET® ACE**	Ø 150 mm	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	50

ABRANET® ACE HD velour-backed abrasive discs

CER | 40 m/s

Advantage: **ABRANET® ACE HD** with reinforced extremely tear-resistant network structure (edge) and ceramic grit (CER). Extraordinarily high material removal rate.

Application: For extremely high performance applications such as **removal by abrasion** of **composite materials, aluminium,** etc.



56 7805

Grit				40	60	80	120	
56M 56 7805	MIRKA	Velour-backed abrasive disc **ABRANET® ACE HD**	Ø 150 mm	XXX	XXX	XXX	XXX	25

Hand sanding block

Made of resilient foam rubber, **quick sheet change** by means of hook and loop fastening.
Application: For rubbing down surfaces and contours by hand. No slipping of the abrasive paper.

Application: **For velour-backed abrasive strip** No. 567840.

suitable for sanding sheet W×L		mm	70×125
56M	**56 7856**	Hand sanding block with hook and loop fastening	XXX
Length		mm	125
Width		mm	70
Height		mm	45

56 7856

Very easy to use, shaped finger grips.
Application: **For velour-backed abrasive discs** ∅ 125mm and ∅ 150mm.

suitable for disc ∅		mm	125	150
56Z	**56 7857**	Hand sanding block with hook and loop fastening	XXX	XXX
Length		mm	125	150
Width		mm	81	88
Height		mm	51	

56 7857

56

Accessories for velour-backed abrasive discs

56 7872 – DynaMaze hook and loop backing pad with **5/16 inch top mounting** and **6-hole perforation.**
56 7885 Size 77 – PU backing pads with **1/4 inch mounting** and **6-hole** perforation.
Size 150 – ABRANET Unipad backing pads with **5/16 inch** or **M8 mounting** and **multiple holes** for uniform dust extraction.
56 7886 – Soft overlay for backing pads No. 567885 with extraction, ideal for contour grinding.
56 7887 – **Multi-hole backing pad** with glass-fibre backing pad and medium hard polyurethane foam. With **5/16 inch** / **M8 mount.**
56 7990 – Multi-hole backing pads with **innovative extraction system** (integral ducts) and flat design for use on orbital sanders. With **5/16 inch** / **M8 mount.**
56 7892/7893 – Backing pad for abrasive discs Ø 32–34 mm. Suitable for AROS_B. Mount for **quick-change system, external thread.**

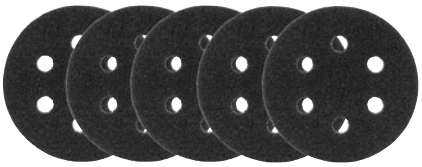
Suitable for:
56 7872 – Suitable for discs with extraction holes: 6; 6+1; ABRANET.
Size 77 – Suitable for discs with extraction holes: 6; ABRANET.
56 7885/7886/7887/7990 Size 150 – Suitable for discs with extraction holes: 6; 6+1; 8; 8+1; 15; 21; ABRANET.

56 7990

56 7872

56 7892

56 7885


56 7886

56 7887

External ∅			mm	32	77	150
51M	**56 7990**	Garant	Multi-hole PU backing pad	–	–	XXX
58B	**56 7872**	DYNABRADE	DynaMaze hook and loop backing pad	–	–	XXX
56M	**56 7892**	MIRKA	PU backing pad, soft **10 pieces**	XXX	–	–
56M	**56 7893**	MIRKA	PU backing pad, hard **5 pieces**	XXX	–	–
56M	**56 7885**	MIRKA	PU support disc	–	XXX	XXX
56M	**56 7886**	MIRKA	Pack of soft overlays	–	XXX	XXX
52M	**56 7887**	HOLEX	Multi-hole PU backing pad	–	–	XXX
Number of soft pads (56 7886)				–	5	5

Fe,S,Cl <0.1%

Match and Finish System – Mini-belts for burnishing machines

Application: For use on surface grinding and burnishing machines with backing rollers No. 568570 – 568577 (mounting bore Ø 19 mm). Maximum speed 5000 rpm.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 8531/8532	●	●	●	●	●	●		●	○	●	○							●
56 8534/8535	○		●	●	●	○		●	○	○	○							●
56 8537/8538	○		●	●	●	●		●	●		○				●			●
56 8558/8561	●	●	●	●	●			●	●	●	●	○	●		●	●		●

Mini-linishing belts for pre-grinding

CER

Premium linishing belt with precisely formed **Cubitron™ II** ceramic grit (self-sharpening). With grinding aids for even cooler grinding.

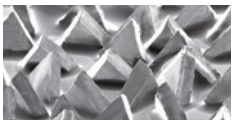
56 8531 – Mini linishing belts **Ø 90×100 mm** (289×100 mm).

56 8532 – Mini linishing belts **Ø 100×100 mm** (314×100 mm).

Application: Clear step forward in performance on **materials that are difficult to machine** such as stainless steel, nickel alloys, chrome alloys and aluminium.

56 8532

Grit				40	60	80	120	
53M 56 8531	3M	Mini-linishing belt Ø 90×100 mm	947A	XXX	XXX	XXX	XXX	10
53M 56 8532	3M	Mini-linishing belt Ø 100×100 mm	947A	XXX	XXX	XXX	XXX	10



Cubitron™ II abrasive grit

Mini-linishing belts for finish grinding

A

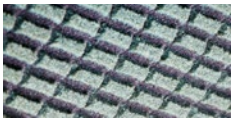
Defined blocks pressed in as abrasive grit. High grit density for very long working life. **No clogging** due to defined channels. **Consistent surface quality** over the entire grinding process, even on thin sheets.

56 8534 – Mini linishing belts **Ø 90×100 mm** (289×100 mm).

56 8535 – Mini linishing belts **Ø 100×100 mm** (314×100 mm).

56 8535

Grit				80	120	280	
53M 56 8534	3M	Mini-linishing belt Ø 90×100 mm	337DC	XXX	XXX	XXX	10
53M 56 8535	3M	Mini-linishing belt Ø 100×100 mm	337DC	XXX	XXX	XXX	10
3M grit designation				A300	A160	A065	



A

The fine-structured pyramidal surface guarantees the **best finish and very long working life.** Particularly suitable for the intermediate grinding of stainless steel sheets.

56 8537 – Mini linishing belts **Ø 90×100 mm** (289×100 mm).

56 8538 – Mini linishing belts **Ø 100×100 mm** (314×100 mm).

56 8538

Grit				120	180	240	280	600	
53M 56 8537	3M	Mini-linishing belt Ø 90×100 mm	237AA	XXX	XXX	XXX	XXX	XXX	10
53M 56 8538	3M	Mini-linishing belt Ø 100×100 mm	237AA	XXX	XXX	XXX	XXX	XXX	10
3M grit designation				A160	A100	A080	A065	A030	

Mini-linishing belts with non-woven abrasive mesh, for matting

Fleece mini-linishing belts for blending in, matting and finishing.
With film backing, for light-duty use on all backing rollers.

56 8558 – Mini linishing belts **Ø 100×100 mm** (314×100 mm).

56 8561 – Mini linishing belts **Ø 90×100 mm** (289×100 mm).

56 8558

Grit equivalent				100	180	280	
51M 56 8558	Garant	Mini-linishing belt Ø 100×100 mm		XXX	XXX	XXX	10
53M 56 8561	3M	Mini-linishing belt Ø 90×100 mm	SC-BF	XXX	XXX	XXX	5
Version				A coarse	A medium	A very fine	
Colour				brown	red	blue	

56 8561

Garant Backing rollers for mini-linishing belts

Mounting bore Ø 19 mm with double keyway.

56 8570 – Resilient backing roller with multiple segments to allow linishing belts to be changed particularly easily. Size 2IN1 replaces the versions hard and soft usually available in the market.

56 8575/8577 – Pneumatic version, the degree of hardness can be set individually. Adapter for bike pumps included.

Application: To take mini-linishing belts No. 568531 – 568561.

56 8570

56 8577

Type		2IN1	AIR
51M 56 8570	Backing roller Ø 90×100 mm	XXX	–
56S 56 8575		–	XXX
56S 56 8577	Backing roller Ø 100×100 mm	–	XXX
Type		expanding	pneumatic
Colour		black	

LESSMANN® Burnishing brushes

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 8435/8436	●	●	●	●	○			●	○	●	●	●	●		○			●

Dimension **Ø 100×70 mm,** bore Ø 19 mm with double spline.

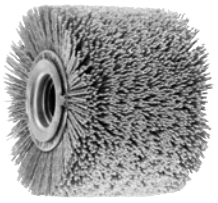
56 8435 – Waved **stainless steel wire** with **high resistance** to corrosion, acids, alkalis and high temperatures. Ideal for burnishing stainless steel sheets.

56 8436 – Nylon bristles incorporating 80 grit **silicon carbide. Extremely flexible and versatile.** Extremely flexible and versatile. Especially suitable for deburring, cleaning, and roughing profiled surfaces.

Application: On burnishing machines with spacer ring pack No. 568439.

56 8435

SiC



56 8436

57L 56 8435	Burnishing brush **Stainless steel wire 0.20 mm**	Ø 100 × 70 mm	XXX
57L 56 8436	Burnishing brush **Abrasive nylon 1.2 mm, SiC 80**	Ø 100 × 70 mm	XXX

Accessories for burnishing rollers Ø 100×70 mm

Spacer ring set for mounting narrow burnishing rollers and brushes on burnishing machines.

Supplied with: 2 pcs. Ø 40 × 15 mm
4 pcs. Ø 40 × 5 mm

03S 56 8439	Spacer ring set **6 pieces**	XXX

A | Fe,S,Cl <0.1%

Rollers for burnishing machines – coarse cleaning fleece

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 8470/8476	●	●	●	●	●			●	●	●	●	●	●		●	●		●

Standard dimensions **Ø 100×100 mm.** Mounting bore Ø 19 mm with multiple splines.
Coarse cleaning fleece, aggressive, with a long working life.

Application: Quick removal of scale, rust, colouration and paint residues. Uniform surface finish. **Long working life.**

56 8470

Grit equivalent			CRS
53M 56 8470	3M Scotch-Brite™	Ø 100 × 100 mm	XXX
52M 56 8476	HOLEX Flap wheel roller, fleece (coarse)	Ø 100 × 100 mm	XXX
recommended speed		rpm	2800

Fe,S,Cl <0.1%

Roller for burnishing machines – abrasive fabric

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 8463	○	●	●	●	●	●		●	●	○	○							●
56 8464–56 8466	●	●	●	●	○			●	○	●	●	●	●		○			●

Flap strips of abrasive cloth around the shank of the flap brush. Standard size **Ø 100×100 mm** or narrow version **Ø 100×50 mm** for grinding smaller areas. Mounting bore Ø 19 mm with multiple splines.

56 8466 – Abrasive cloth slit.

Application:

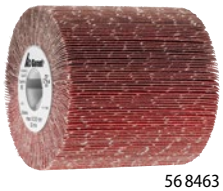
56 8463 – **Ceramic grit (CER)** ideal for working on stainless steels and nickel alloys. High removal rate and cool cut.

56 8466 – For **gentle longitudinal strokes** even on slightly convex surfaces, particularly versatile.

56 8464/8465 – For **removing rust, scale, burrs** and for longitudinal strokes.

Note: For matching the width of narrow rollers Ø 100×50 mm use the spacer ring pack No. 568439.

CER



56 8463

A

56 8464

A

56 8466

Grit				60	80	120	
51M 56 8463	Garant	Abrasive flap wheel roller, fabric (CER)	Ø 100 × 100 mm	XXX	XXX	–	1
52E 56 8464	HOLEX	Abrasive flap wheel roller, fabric (A)	Ø 100 × 50 mm	XXX	XXX	XXX	2
52E 56 8465	HOLEX	Abrasive flap wheel roller, fabric (A)	Ø 100 × 100 mm	XXX	XXX	XXX	1
52E 56 8466	HOLEX	Abrasive flap wheel roller, fabric, slit (A)	Ø 100 × 100 mm	XXX	XXX	XXX	1
Grinding media backing				Fabric			
recommended speed			rpm	3700			

56

Fe,S,Cl <0.1%

Rollers for burnishing machines – fleece-fabric / fleece

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 8471–56 8480	●	●	●	●	●	○		●	●	●	●	●			○			●

Flap wheel rollers combined abrasive fleece/fabric

Combination of **abrasive fabric and fleece.**

56 8471 – Especially wear-resistant and fine-structured fleece with Zirconium Aluminium Oxide (ZA). **Ideal for use on stainless steel.**

56 8472/8473 – Standard size **Ø 100×100 mm** or narrow version **Ø 100×50 mm** for grinding smaller areas. Mounting bore Ø 19 mm with multiple splines.

Application:

56 8472/8473 – Finish similar to 80 / 120 grit flap strips, can also be used for **removing scratches** or for **applying a matt strip finish**.

ZA

56 8471_150FINE

A

56 8472_80CRS

56 8473_80CRS

Grit equivalent				80CRS	150FINE	
51M 56 8471	Garant	Flap wheel roller, fleece (ZA) / fabric (ZA)	Ø 100 × 100 mm	–	XXX	1
52E 56 8472	HOLEX	Flap wheel roller, fleece (A) / fabric (A)	Ø 100 × 50 mm	XXX	–	2
52E 56 8473	HOLEX	Flap wheel roller, fleece (A) / fabric (A)	Ø 100 × 100 mm	XXX	–	1
recommended speed			rpm	2800		

Flap wheel rollers fleece

Standard size **Ø 100×100 mm** or narrow version **Ø 100×50 mm** for grinding smaller areas. Mounting bore Ø 19 mm with multiple splines.

56 8474/8475 – Fleece impregnated with Aluminium Oxide (A).

Application:

Size 100 – Quick **cleaning** and **smoothing** of surfaces.

Size 180; 280 – Fine fleece **for light cleaning work** and **a uniform surface finish.**

ZA

56 8477_280

A

56 8474_180

56 8475_280

Grit equivalent				100	180	280	
51M 56 8477	Garant	Abrasive flap wheel roller, fleece (ZA)	Ø 100 × 100 mm	XXX	XXX	XXX	1
52E 56 8474	HOLEX	Abrasive flap wheel roller, fleece (A)	Ø 100 × 50 mm	XXX	XXX	XXX	2
52E 56 8475	HOLEX	Abrasive flap wheel roller, fleece (A)	Ø 100 × 100 mm	XXX	XXX	XXX	1
Grinding media backing				Cleaning non-woven abrasive mesh			
recommended speed			rpm	2800			

Sinusoidal flap wheel rollers fleece

Standard size **Ø 100×100 mm** or narrow version **Ø 100×50 mm** for grinding smaller areas. Mounting bore Ø 19 mm with multiple splines.
Sinusoidal abrasive fleece without cut edges.
Size 400 – Impregnated with silicon carbide (SiC).
Size 100; 180 – Impregnated with Aluminium Oxide (A).

Application: For **matting** and **polishing** without abrupt changes in texture.

Note: For matching the width of narrow rollers Ø 100×50 mm use the spacer ring pack No. 568439.

56 8479

56 8480

Grit equivalent			100	180	400	
52E 56 8479	HOLEX Flap wheel roller fleece sinusoidal	Ø 100 × 50 mm	XXX	XXX	XXX	2
52E 56 8480		Ø 100 × 100 mm	XXX	XXX	XXX	1
recommended speed		rpm	2800			

Abrasive roller – PU bonding

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 8485	●	●	●	●	●	○	○	●	●	●	●	●						●

Resilient polyurethane (PU) roller incorporating SiC grit. Dimension **Ø 100×100 mm,** bore Ø 19 mm with double spline.

Application: For buffing out scratches, cleaning up weld seams. Creates a **lustrous longitudinal finish.** Very long service life, stable edge.

SiC

56 8485

Grit			24	46	80	150	recommended speed rpm
53L 56 8485	Fine abrasive roller (SiC)	Ø 100 × 100 mm	XXX	XXX	XXX	XXX	900 – 1200
Bonding hardness description			medium	soft	medium	medium	

Polishing rollers – felt

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 8495	●	●	●	●	●	●		●	●	●		●						●

Felt arranged in a fan-form. Dimension **Ø 100×100 mm,** bore Ø 19 mm with multiple splines.

Application: Large-area polishing work with enhanced flexibility and conformity to contours. Successive use of medium-hard and soft grades allows creation of a **top-class mirror finish**.

Note: Felt fan-form polishing rollers must be used in conjunction **with grinding and polishing pastes** such as No. 552250 / 555740.

56 8495

Type			MED	SOFT	recommended speed rpm
51M 56 8495	Polishing roller (felt)	Ø 100 × 100 mm	XXX	XXX	1900
Degree of hardness			medium	soft	

SiC

Polishing discs, PU-bonded

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
55 2012–55 2016	●	●	●	●	●	●		●	●	●	●					●		●

Highly resilient polyurethane discs incorporating SiC grit.

Application: For improving the surface quality, creating effects and light deburring work. The soft resilient PU bonding permits adaptability to the workpiece.

Note: Other dimensions and grits available on request.

55 2012_60×6

55 2012_100×20

Disc Ø×width		mm	60×6	100×20	150×20
51G 55 2012	Polishing disc, 80 grit (SiC)		XXX	XXX	XXX
51G 55 2014	Polishing disc, 150 grit (SiC)		XXX	XXX	XXX
51G 55 2016	Polishing disc, 400 grit (SiC)		–	XXX	–
Bore Ø		mm	6	25	25
maximum speed		rpm	6360	3820	2550

SiC

Compact fleece bench grinding wheels for deburring and finishing

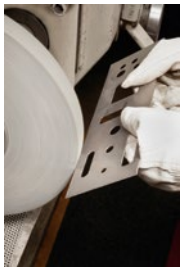
Fleece compact discs create a **reproducible finish,** since fresh grinding grit is continually being exposed. **No change in the workpiece geometry, no grinding groove formation, long working life.**

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
56 8731–56 8741	●	●	●	●	●	●		●	●	●	●	●	○		●	●		●

Deburring wheels for bench grinders

Application:

56 8731 – On **bench grinders** or portable grinders with mandrel No. 556380 size 1–2 and reducer flange No. 568782. Suitable grinding wheel dresser No. 568785.
Deburring wheel made of wound fibre fleece. **For cleaning off larger burrs** on pressed parts, for **rounding** hollows and edges without creating secondary burrs.



56 8731

Disc ∅×Width×Bore ∅			mm	152×25×25	152×25×32	175×25×32	203×25×51	203×51×76
53M 56 8731	3M Scotch-Brite™	Compact deburring wheel (SiC)	DB-WL	XXX	–	–	XXX	XXX
52M 56 8733	HOLEX	Compact deburring wheel (SiC)		XXX	XXX	XXX	XXX	XXX
Grit designation				fine				
Degree of hardness				extra hard				
Version				9S fine				

Bench grinder finishing wheels FS-WL

Application: On **bench grinders** or portable grinders with mandrel No. 556380 size 1–2 and reducer flange No. 568782. Suitable grinding wheel dresser No. 568785.
Finishing disc made of wound fibre fleece. Creates a **fine, glossy finish,** for example, for manufacturing hydraulic cylinders, turbine blades, cutlery etc.

56 8741

Disc ∅×Width×Bore ∅			mm	152×25×25	203×25×51	203×51×76
53M 56 8741	3M Scotch-Brite™	Compact finishing wheel (SiC)	FS-WL	XXX	XXX	XXX
Grit designation				fine		
Degree of hardness				medium		
Version				6S fine		

Accessories for fleece compact bench grinding wheels

Pair of aluminium reducer flanges 13 mm ∅, for boring out.

56 8782

suitable for bore ∅		mm	25	76
56Z 56 8782	Pair of aluminium flanges		XXX	XXX

Galvanically distributed **diamond hand dresser** with ergonomic 2-component handle.
Application: For dressing and profiling fleece compact wheels.

56 8785

Dimensions		mm	70×20
51G 56 8785	Garant Diamond hand dresser		XXX
Dresser medium			Diamond-coated
Overall length		mm	270

LESSMANN® Technical brushes

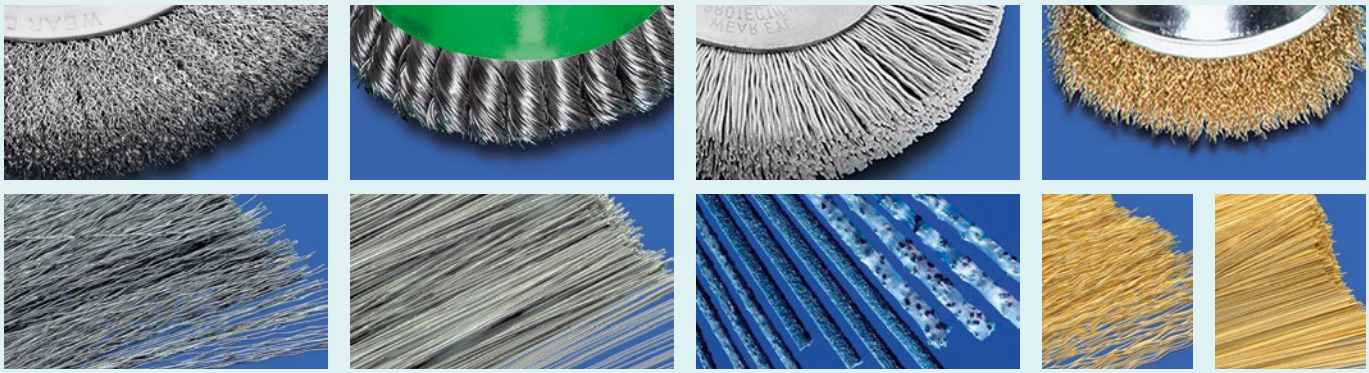
Wire material

Steel wire / brass-coated steel wire with high tensile and flexural strength.

High-strength stainless steel wire (INOX) with high resistance to corrosion, acids, alkalis, and high temperatures.

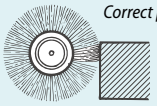
Micro-abrasive polyamide bristles, incorporating abrasive Aluminium Oxide (A) or Silicon Carbide (SiC) grit.

Brass wire for machining non-ferrous metals and natural materials.

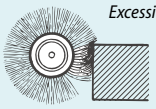


Instructions for use – optimising the brushing results

Correct working method



Wrong working method



Action	Circumferential speed	Brush ∅	Wire thickness	Bristle length
Increasing the brushing effect	→	→	→	→
Reducing the brushing effect	→	→	→	→
Brush retains burrs	→		→	→

Note

Only the tips of the bristles act on the workpiece. Excessive contact pressure does not improve the result, but increases the required drive power and reduces the working life of the brush.

Recommended circumferential speeds for brushing jobs								
	Circumferential speed in m/s							
Applications	15	20	25	30	35	40	45	50
Deburring			25 – 35					
Cleaning welded joints					35 – 45			
Removing scale					35 – 45			
Polishing				30 – 40				
Processing plastics		15 – 25						

Weld seam dressing
Twisted knot round and cup brushes, highly aggressive.

Removing discolouration
Circular wire brushes with spindle, with waved stainless steel wire.

Brush access to restricted places
Twisted knot end cup brush opens due to centrifugal force.

Deburring
Round brushes with waved wire.

Rust removal, paint removal
Cup brushes for use on surfaces.

Cleaning, deburring, blending, finishing
Abrasive bristles for very fine surface finishes.

LESSMANN® Wheel brushes

Multi-row – of steel wire / stainless steel wire/ measurement technology

Waved wire firmly crimped into the steel body. **High density,** high concentricity, and good wear resistance. Adaptable to various different mounting bores by use of **interchangeable reducing rings** (supplied).

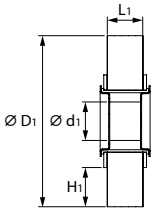
Size 250×30; 300×35 – Bore with double spline.

Application: Use on bench grinder or polishing machines, or on machines with flexible drive heads.

57 1050 – **For brass, copper, light alloys, etc.** For polishing, fine brushing etc.

57 0100–0200 – For roughening, cleaning, removing rust, and scale etc.

Reducing ring set



Stainless steel wire

Steel wire

57 1050
Brass wire

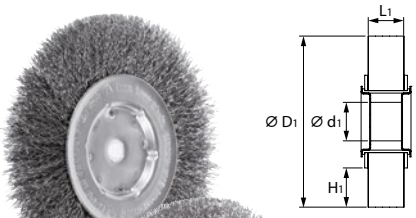
Brush ∅ D_1× bristle width L_1		mm	80×22	100×20	120×30	125×23
57L 57 0100	Wire wheel brush **Steel wire 0.30 / 0.35 mm**		–	XXX	–	XXX
57L 57 0200	Wire wheel brush (green) **Stainless steel wire 0.30 mm**		–	XXX	–	–
57L 57 1050	Wire wheel brush **Brass wire 0.15 mm.**		XXX	–	XXX	–
Brush width		mm	24	19	25	20
Bore ∅ d_1		mm	20	30	30	40
Reducing ring ∅		mm	8	12 / 12.7 / 16 / 20 / 22.2 / 25.4	12 / 12.7 / 16 / 20 / 22.2 / 25.4	12.7 / 16 / 20 / 22.2 / 25.4 / 32
Length of brush section H_1		mm	20	23	33	27
maximum speed		rpm	10000	8000	6000	6000

Brush ∅ D_1× bristle width L_1		mm	150×22	150×30	178×23	178×32	200×38	250×30	300×35
57L 57 0100	Wire wheel brush **Steel wire 0.30 / 0.35 mm**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
57L 57 0150	Wire wheel brush **Steel wire 0.20 mm**		XXX	XXX	XXX	XXX	–	–	–
57L 57 0200	Wire wheel brush (green) **Stainless steel wire 0.30 mm**		XXX	XXX	XXX	XXX	XXX	–	–
Brush width		mm	20	26	22	29	29	25	26
Bore ∅ d_1		mm	40	40	50	50	50	50.8	50.8
Bore ∅ can be opened up to		mm	–	–	–	–	–	80	100
Reducing ring ∅		mm	12.7 / 16 / 20 / 22.2 / 25.4 / 32	12.7 / 16 / 20 / 22.2 / 25.4 / 32	12.7 / 16 / 20 / 22.2 / 25.4 / 32	12.7 / 16 / 20 / 22.2 / 25.4 / 32	12.7 / 16 / 20 / 22.2 / 25.4 / 32	12 / 12.7 / 16 / 20 / 22.2 / 25.4 / 30	30
Length of brush section H_1		mm	33	33	37	37	48	50	60
maximum speed		rpm	6000	6000	6000	6000	6000	3600	3000

Single-row – of steel wire / stainless steel wire / abrasive bristles

Single-row brush with waved brush material.

Application: For roughening, cleaning, removing rust, and scale etc. Single-row brushes can be mounted alongside each other **to form various effective brushing widths**. For individual use on grinding machines.



57 0300

57 0310

SiC

57 0320

Brush ∅ D_1× brush width		mm	100×12	150×14	200×16	250×16
57L 57 0300	Single-row wheel brush **Steel wire 0.30 mm**		XXX	XXX	XXX	–
57L 57 0310	Single-row wheel brush **Stainless steel wire 0.30 mm**		XXX	XXX	XXX	–
57L 57 0320	Single-row wheel brush **micro-abrasive 0.6 mm, SiC 120**		XXX	XXX	XXX	XXX
57L 57 0322	Single-row wheel brush **micro-abrasive 0.6 mm, SiC 320**		XXX	XXX	XXX	XXX
Bore ∅ d_1		mm	12	12	16	16
Bore ∅ can be opened up to		mm	20	30	80	100
Length of brush section H_1		mm	21	32	33	57
maximum speed		rpm	8000	6000	6000	6000

Single-row of steel wire, plaited

Straight wheel brush with smooth steel wire 0.50 mm, **plaited** and firmly crimped into the steel body. **Left-hand plaited**, reliably avoids premature unwinding. **Very aggressive brushing effect with high wear resistance.**

Application: For heavy brush work such as descaling, removing rust, removing paint, roughening, cleaning metal parts, also for cleaning formwork boards. For stationary use.

57 0325

Brush ∅ D_1× bristle width L_1		mm	250×15
57L 57 0325	Single-row wheel brush, plaited **Steel wire 0.50 mm**		XXX
Bore ∅ d_1		mm	51
Length of brush section H_1		mm	42
Number of twisted knots			52
maximum speed		rpm	5000

Wheel brushes for clearing the chip chamber for power saws - steel wire / nylon bristles

57 0330 – **Brass-coated** waved **steel wire** with high tensile strength **for strongly adhering chips.**

57 0335 – Waved **nylon bristles with no abrasive additive.**

Application: For use on circular saws and bandsaws for **clearing the chip chamber** and preventing edge build-up.

57 0330_80×18

57 0335_100×12

Brush ∅ D_1× bristle width L_1		mm	80×18	100×12
57L 57 0330	Wheel brush **Steel wire 0.25 mm**		XXX	–
57L 57 0335	Wheel brush **Nylon bristles 0.50 mm**		–	XXX
Bore ∅ d_1		mm	6	12
Bore ∅ can be opened up to		mm	–	20
Length of brush section H_1		mm	27	21
maximum speed		rpm	15000	8000

LESSMANN® Deburring wheel brushes for deburring machines

Bore diameter 50.8 mm with double keyway 13×7. Other bore diameters available.

57 0510 – Waved high-tensile **stainless steel wire**.
57 0520 – Waved high-tensile **abrasive nylon bristles.**
57 0490/0500 – Waved high-tensile **steel wire.**

Application: For all popular bench deburring machines. Particularly long working life due to special wire.
57 0520 – Flexible abrasive bristles for even deburring and rounding of corners and surface preparation.
57 0490–0510 – Ideally suited for economical deburring of flat strips, profiles, pipes, fittings, plastic parts, and the like.

57 0500
Steel wire

Brush Ø D_1× bristle width L_1		mm	250×60
57L 57 0490	Deburring wheel brush **Steel wire 0.20 mm**		XXX
57L 57 0500	Deburring wheel brush **Steel wire 0.35 mm**		XXX
57L 57 0510	Deburring wheel brush **Stainless steel wire 0.35 mm**		XXX
57L 57 0520	Deburring wheel brush **micro-abrasive 1.1 mm, SiC 120**		XXX
Brush width		mm	58
Length of brush section H_1		mm	50
maximum speed		rpm	3600

SiC

57 0520
Abrasive bristles

57

Wheel brushes, plaited

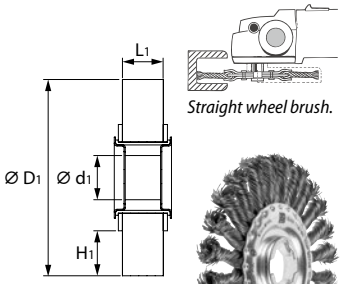
Straight round brush with smooth wire 0.50 mm, **plaited** and firmly crimped into the steel body. **Very aggressive brushing effect with high wear resistance.**

Application: For heavy brush work, e.g. descaling, removing rust, removing paint, roughening, cleaning metal parts, also for cleaning formwork boards.

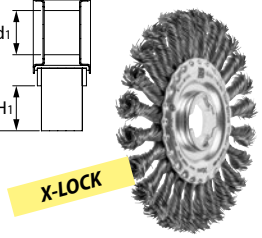
57 1200/1201/1250/1251 – **Left-hand plaited,** reliably avoids premature unwinding.

Size 115XM14; 125XM14; 178XM14 – With **internal thread M14,** for direct mounting **on angle grinders.**

57 1201/1251 – With **X-LOCK** quick-release clamping system for quick changing of brushes, no tools required.
57 1205/1255 – **Alternating plaiting sense (right / left)** for increased aggressiveness for heavy-duty brushing work. Very suitable for use at corners and edges, with a smooth action.



Straight wheel brush.



57 1201_125X-Lock

Brush Ø D_1× bore Ø d_1 / thread M			mm	115XM14	115×22	125XM14	125X-LOCK	178XM14	178×22	200×22
57L 57 1200	LESSMANN®	Wheel brush **Steel wire 0.50 mm**		XXX	XXX	XXX	–	XXX	XXX	XXX
55V 57 1201	PFERD	Wheel brush **X-LOCK, steel wire 0.50 mm**		–	–	–	XXX	–	–	–
57L 57 1205	LESSMANN®	Wheel brush **Alternating plaiting, steel wire 0.50 mm**		–	XXX	XXX	–	–	–	–
57L 57 1250		Wheel brush **Stainless steel wire 0.50 mm**		–	XXX	XXX	–	–	XXX	–
55V 57 1251	PFERD	Wheel brush **X-LOCK, stainless steel wire 0.50 mm**		–	–	–	XXX	–	–	–
57L 57 1255	LESSMANN®	Wheel brush **Alternating plaiting, stainless steel wire 0.50 mm**		–	XXX	–	–	–	–	–
Bristle width L_1			mm	14	14	14	12	14	14	14
Length of brush section H_1			mm	24	24	29	28	38	38	41
Number of twisted knots				20	20	20	24	32	32	36
maximum speed			rpm	12500	12500	12500	12500	12500	12500	9000

57 1205_125×M14
Alternating plaiting

57 1250_125×M14

Slim pipeline brushes

57 1400 – Smooth, special wire 0.50 mm, slim form, **plaited** and securely crimped into the steel body. Long working life and smooth running.
57 1410 – Smooth, stainless steel wire 0.50 mm, slim form, **plaited** and securely crimped into the steel body. Long working life and smooth running.

Application: Specially for preparing **U and V weld joints**, which are frequently required for joining pipes.

Brush Ø D_1× bore Ø d_1			mm	115×22	125×22	178×22
57L 57 1400	LESSMANN®	Slim wheel brush **straight steel wire 0.50 mm**		XXX	XXX	XXX
57L 57 1410	LESSMANN®	Slim wheel brush **straight, stainless steel wire 0.50 mm**		–	XXX	–
Bristle width L_1			mm		6	
Length of brush section H_1			mm	22	26	30
Number of twisted knots				32	40	56
maximum speed			rpm	15000	15000	12500

57 1400 _178×22

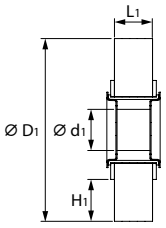
LESSMANN® Bevel brushes, plaited

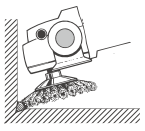
Dished **bevel brush** with smooth wire 0.50 mm, **plaited** and firmly crimped into the steel body.
Very aggressive brushing effect with high wear resistance.

Application: Ideal for working where access is difficult and for heavy brush work, e.g. descaling, removing rust, removing paint, roughening, cleaning metal parts, also for cleaning formwork boards.
With **internal thread M14,** for direct mounting **on angle grinders.**

57 1300/1350 – **Left-hand plaited,** reliably avoids premature unwinding.

57 1305/1355 – **Alternating plaiting sense (right / left)** for increased aggressiveness for heavy-duty brushing work. Very suitable for use at corners and edges, with a smooth action.




Dished conical brush

Brush Ø D_1× thread M		mm	100XM14	115XM14	125XM14
57L 57 1300	Dished bevel brush **Steel wire 0.50 mm**		XXX	XXX	XXX
57L 57 1305	Dished bevel brush **Alternating plaiting, steel wire 0.50 mm**		–	XXX	–
57L 57 1350	Dished bevel brush **Stainless steel wire 0.50 mm**		–	XXX	XXX
57L 57 1355	Dished bevel brush **Alternating plaiting, stainless steel wire 0.50 mm**		–	XXX	–
Bristle width L_1		mm	12		
Length of brush section H_1		mm	20	24	29
Number of twisted knots			18	20	20
maximum speed		rpm	12500		

57 1305_115×M14
Alternating plaiting

57 1350_115×M14

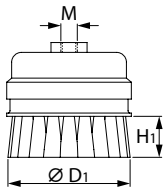
Cup brushes

Waved wire firmly crimped into the steel body. For use on angle grinders and on stationary machines.

Size 60; 80;100 – With **M14 internal thread.**

Size 60X-LOCK – With **X-LOCK** quick-release clamping system for quick changing of brushes, no tools required.

Application: Very well suited for brushing surfaces, deburring, removing rust, polishing, removing paint, primer, varnish, scale etc.



57 3010

57 3200

57 3300

Brush Ø D_1			mm	60	60X-LOCK	80	100
57L 57 3000	LESSMANN®	Cup brush **Steel wire 0.35 mm**		XXX	–	XXX	XXX
55V 57 3010	PFERD	Cup brush **X-LOCK, steel wire 0.30 mm**		–	XXX	–	–
57L 57 3200	LESSMANN®	Cup brush **Stainless steel wire 0.30 mm**		XXX	–	XXX	XXX
55V 57 3210	PFERD	Cup brush **X-LOCK, stainless steel wire 0.30 mm**		–	XXX	–	–
57L 57 3300	LESSMANN®	Cup brush **Brass-coated steel wire 0.30 mm**		XXX	–	–	XXX
Length of brush section H_1			mm	20	20	25	30
maximum speed			rpm	12000	12500	8500	8500

Cup brushes, plaited

Smooth steel wire, **plaited** and firmly crimped into the steel body. **Very aggressive brushing effect with high wear resistance.**

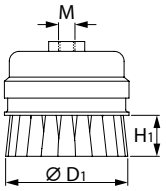
57 2100 Size 80XM14; 100XM14; 125XM14/2200 Size 80XM14 – With **safety support ring**, after removal other bristle heights are available.

57 2105/2205 – **Alternating plaiting sense (right / left)** for increased aggressiveness for heavy-duty brushing work. Very suitable for use at corners and edges, with a smooth action.

Application: Specially to accept angle grinders.

Size 65X-LOCK – With **X-LOCK** quick-release clamping system for quick changing of brushes, no tools required.

57 2000–2105/2200–2210 – With **M14 internal thread.**



57 2100_90×M14

57 2110

57 2205_65×M14

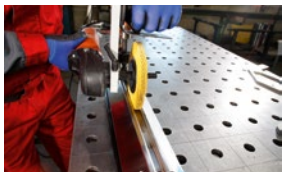
Brush Ø D_1× thread M			mm	65XM14	65X-LOCK	80XM14	90XM14	100XM14	125XM14
57L 57 2000	LESSMANN®	Cup brush **Steel wire 0.35 mm**		XXX	–	–	–	–	–
57L 57 2100	LESSMANN®	Cup brush **Steel wire 0.50 mm**		XXX	–	XXX	XXX	XXX	XXX
55V 57 2110	PFERD	Cup brush **X-LOCK, steel wire 0.50 mm**		–	XXX	–	–	–	–
57L 57 2105	LESSMANN®	Cup brush **Alternating plaiting, steel wire 0.50 mm**		XXX	–	–	–	–	–
57L 57 2210	LESSMANN®	Cup brush **Stainless steel wire 0.35 mm**		XXX	–	–	–	–	–
57L 57 2200	LESSMANN®	Cup brush **Stainless steel wire 0.50 mm**		XXX	–	XXX	–	–	–
57L 57 2205	LESSMANN®	Cup brush **Alternating plaiting, stainless steel wire 0.50 mm**		XXX	–	–	–	–	–
Length of brush section H_1			mm	20	22	25 + 15	22	23 + 12.5	25 + 15
Safety support ring				no	no	yes	no	yes	yes
maximum speed			rpm	12500	12500	9000	11500	8500	6500

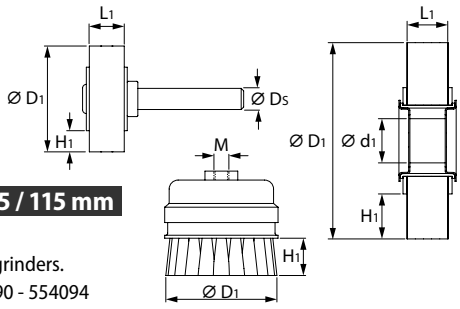
3M Scotch-Brite™ Bristle special cleaning brushes

CER

Bristle special cleaning discs are homogeneous grinding bodies with a mixture of precision-formed ceramic grit and Aluminium Oxide, and an **exceptionally long working life. Extremely flexible and versatile.**

Application: **On virtually all materials, with the highest possible safety.** Removal of rust, remains of adhesive, paint, light scratches and burrs. For smoothing, finishing, polishing, cleaning, and deburring.





Bristle Disc RD-ZB / BD-ZB — Ø 50 / 75 / 115 mm

Application:

57 3530 – With integral **M14 mounting**, no further accessories required for direct mounting on angle grinders.

57 3510/3515 – For use on straight die grinders and small angle grinders with **Roloc™** backing pad No. 554090 - 554094 (mandrel Ø 6 mm or M14 mounting).

Note: The entire Roloc™ quick-change system in Ø 50 mm and Ø 75 mm can be found from No. 554005 onwards.

3M Roloc™

57 3510_80

57 3515_120

Grit			50	80	120	
3M 57 3510	Roloc™ Bristle Disc Ø 50 mm	RD-ZB	XXX	XXX	XXX	10
3M 57 3515	Roloc™ Bristle Disc Ø 75 mm	RD-ZB	XXX	XXX	XXX	10
3M 57 3530	Bristle Disc M14 Ø 115 mm	BD-ZB	XXX	XXX	XXX	1
Colour			green	yellow	white	
maximum speed (57 3510)		rpm	25000			
maximum speed (57 3515)		rpm	18000			
maximum speed (57 3530)		rpm	12000			

M14 direct mounting

57 3530_50

Bristle Brush RB-ZB / BB-ZS / BB-ZB — Ø 25 / 50 / 76 / 150 mm

The **radial** bristle brush consists of individual segments (approx. 1.6 mm wide).

57 3545 – Removable mandrel **(shank Ø 3 mm)**. Segments can be combined to make up any desired brush width.

57 3565 – With oblique bristles (type A) for **powerful performance.**

57 3545–3555 – With curved bristles (type C) for use on **profiled surfaces.**

57 3547/3550 – Mandrel **(shank Ø 6 mm)** with cast segments.

Application: Ensure the correct direction of rotation.

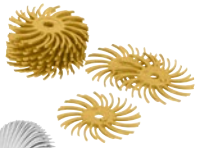
57 3545–3550 – Requires no accessories for use on straight grinders or flexible shafts.

57 3555/3565 – **Bore Ø 25.4 mm,** with reducer rings Ø 22.23 / 19 / 15.6 / 12.7 mm supplied. Extendable to any width with adaptor No. 573580. For use on double grinding machines or on straight grinders on flexible shafts with mandrel No. 556380 size 1.

Supplied with:

57 3545 – 24 individual segments (approx. 1.6 mm wide) **including mandrel** with shank Ø 3 mm.

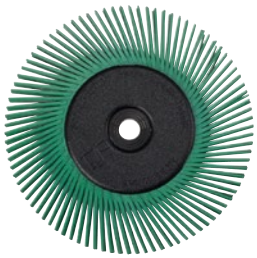
57 3545_80
Pack of 24



57 3550_120

Grit			36	50	80	120	220
3M 57 3545	Bristle-Brush type C Ø 25 mm **Set 24 pieces, shank Ø 3 mm.**	RB-ZB	XXX	XXX	XXX	XXX	–
3M 57 3547	Bristle-Brush type C Ø 50 mm **Shank Ø 6 mm**	BB-ZS	–	–	XXX	XXX	XXX
3M 57 3550	Bristle-Brush type C Ø 76 mm **Shank Ø 6 mm**	BB-ZS	–	–	XXX	XXX	XXX
3M 57 3555	Bristle-Brush type C Ø 150 mm	BB-ZB	–	–	XXX	XXX	XXX
3M 57 3565	Bristle-Brush type A Ø 150 mm	BB-ZB	XXX	XXX	XXX	–	–
Brush Ø D_1 (57 3545)		mm	25	25	25	25	–
Brush Ø D_1 (57 3547)		mm	–	–	50	50	50
Brush Ø D_1 (57 3550)		mm	–	–	76	76	76
Brush width (57 3545)		mm	1.6 – 10	1.6 – 10	1.6 – 10	1.6 – 10	–
Brush width (57 3547, 57 3550)		mm	–	–	10	10	10
Brush width (57 3555, 57 3565)		mm			12		
Colour			brown	green	yellow	white	red
maximum speed (57 3545)		rpm	35000	35000	35000	35000	–
maximum speed (57 3547)		rpm	–	–	15000	15000	15000
maximum speed (57 3550)		rpm	–	–	10000	10000	10000
maximum speed (57 3555, 57 3565)		rpm			6000		

57 3555_80
curved bristles



57 3565_50
angled bristles

Accessories for radial Bristle Brush Ø 150 mm

Suitable for: Radial bristle brush No. 573555, No. 573565.

Application: For joining together several bristle brushes. Adapter width 12.7 mm, bore Ø 25.4 mm.

3M 57 3580	Extension adapter set, 4 pieces	XXX

57 3580

LESSMANN® Wheel brushes with shank

Application: For portable grinders, on flexible drive machines or drills for brushing surfaces. High speeds improve the brush performance.

Wheel brushes with shank, steel wire / brass-coated steel wire

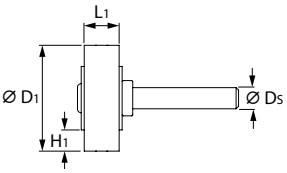
Waved special high quality wire, **shank Ø 6 mm.**

57 4300 – The high-tensile steel wire is coated with a thin layer of brass.

Application: For removal of rust and scale, and for cleaning

Brush Ø D_1 × bristle width L_1		mm	30×6	40×10	50×10	50×15	60×15	70×10	70×16	80×18
57L 57 4000	Wheel brush with shank **Steel wire 0.30 mm**		XXX	XXX	–	XXX	XXX	–	XXX	XXX
57L 57 4100	Wheel brush with shank **Steel wire 0.20 mm**		XXX	XXX	–	XXX	XXX	–	XXX	XXX
57L 57 4300	Wheel brush with shank **Brass-coated steel wire 0.25 mm**		–	–	XXX	–	–	XXX	–	–
Length of brush section H_1		mm	6	9	12	12	17	19	19	20
maximum speed		rpm	20000	18000	15000	15000	15000	15000	15000	15000

57 4000



Wheel brushes with shank, stainless steel wire

Waved special high quality wire, **shank Ø 6 mm.**

57 4255 – All components of stainless steel.

Application: For removal of rust and scale, and for cleaning

Brush Ø D_1 × bristle width L_1		mm	30×6	50×10	50×15	60×15	70×10	70×16	80×12	80×18
57L 57 4200	Wheel brush with shank **Stainless steel wire 0.30 mm**		–	–	XXX	XXX	XXX	XXX	–	XXX
57L 57 4250	Wheel brush with shank **Stainless steel wire 0.20 mm**		XXX	XXX	XXX	XXX	XXX	–	XXX	–
57L 57 4255	Wheel brush with shank **Stainless steel complete 0.20 mm**		–	–	XXX	–	–	XXX	–	–
Length of brush section H_1		mm	6	12	12	17	19	19	20	20
maximum speed		rpm	20000	15000	15000	15000	15000	15000	15000	15000

57 4250

Wheel brushes with shank, brass wire

Waved special high quality wire, **shank Ø 6 mm.**

Application: For heavy-duty deburring and brushing of non-ferrous metals

Brush Ø D_1 × bristle width L_1		mm	30×6	40×10	60×15	70×10	70×16
57L 57 4350	Wheel brush with shank **Brass wire 0.20 mm.**		XXX	XXX	XXX	XXX	XXX
Length of brush section H_1		mm	6	9	17	19	19
maximum speed		rpm	20000	18000	15000	15000	15000

57 4350

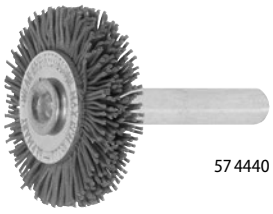
Wheel brushes with shank, abrasive nylon, micro-abrasive

SiC

Abrasive nylon strands with silicon carbide, crimped into steel sleeve; **shank Ø 6 mm.**

Application: Wet and dry fine rubbing down of aluminium, steel, stainless steel and plastics. Maximum operating temperature 80 °C.

Brush Ø D_1 × bristle width L_1		mm	30×6	50×10	70×10
57L 57 4440	Wheel brush with shank **micro-abrasive SiC 120 grit**		XXX	XXX	XXX
57L 57 4450	Wheel brush with shank **micro-abrasive SiC 320 grit**		XXX	XXX	XXX
Length of brush section H_1		mm	6	12	20
recommended speed		rpm	6000	6000	4000
maximum speed		rpm		15000	



57 4440

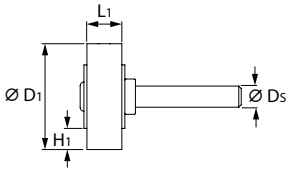
LESSMANN® Wheel brushes with shank, plaited

Plaited steel wire, **shank Ø 6 mm.**

Application: Very aggressive brushing effect with high wear resistance. For removal of rust, scale and burrs.

Type			75×10
57L 57 4400	Wheel brush with shank **plaited steel wire 0.50 mm**		XXX
Brush Ø D_1		mm	75
Bristle width L_1		mm	12
Length of brush section H_1		mm	15
Number of twisted knots			18
maximum speed		rpm	25000

57 4400

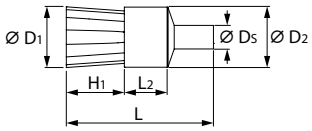


LESSMANN® Surface brushes with shank

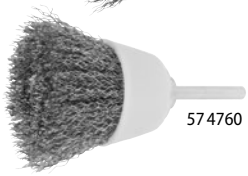
Area brushes with **shank Ø 6 mm.**

57 4760 – For **brushing stainless steel. Plastic cup** acts as start-up protection and prevents corrosion due to introduction of foreign materials.

Application: In straight die grinders, flexible shafts or on stationary machines. For cleaning and deburring small to medium-sized areas.



57 4750


57 4760

57 4770

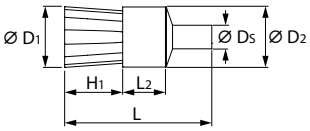
Brush Ø D_1		mm	40	50	60
57L 57 4750	Surface brush **Steel wire 0.30 mm**		XXX	–	XXX
57L 57 4760	Surface brush, plastic cup **Stainless steel wire 0.30 mm**		–	XXX	–
57L 57 4770	Surface brush **Brass wire 0.20 mm.**		–	XXX	–
Length of brush section H_1 (57 4750, 57 4760)		mm	20	28	25
Length of brush section H_1 (57 4770)		mm	–	20	–
maximum speed		rpm	10500	10500	8000

LESSMANN® End brushes

Waved special high quality wire, crimped into steel ferrule, **shank Ø 6 mm.**

57 4650 – All components of stainless steel.

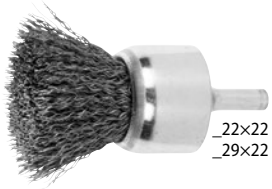
Application: For straight die grinders, on flexible drive machines and drills. For cleaning and deburring at inaccessible places.



Type		10×80	10×20	22×22	29×22
57L 57 4500	End brush **Steel wire 0.30 mm**	XXX	XXX	XXX	XXX
57L 57 4600	End brush **Stainless steel wire 0.30 mm**	XXX	XXX	XXX	XXX
57L 57 4650	End brush **Stainless steel complete 0.30 mm**	–	XXX	XXX	–
57L 57 4700	End brush **Brass-coated steel wire 0.25 mm**	–	–	XXX	–
Brush Ø D_1	mm	12	12	23	30
Overall length L	mm	120	60	68	68
Clamp Ø D_2	mm	10	10	22	29
Clamp length L_2	mm	80	20	22	22
Length of brush section H_1	mm	20	20	25	25
maximum speed	rpm	15000	20000	18000	18000

_10×80

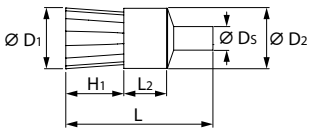
_10×20


_22×22
_29×22

LESSMANN® End brushes, pointed

Brush head of waved wire, pointed at a **25° angle. Shank Ø 6 mm.**

Application: In straight die grinders or flexible shafts. **For working in corners and recesses.**



Brush Ø D_1		mm	12
57L 57 4790	End brush **pointed, steel wire 0.30 mm**		XXX
57L 57 4795	End brush **pointed, stainless steel wire 0.30 mm**		XXX
Length of brush section H_1		mm	20
maximum speed		rpm	20000

57 4790

LESSMANN® End brushes, plaited

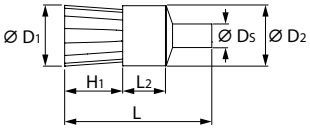
Smooth hardened wire, crimped into steel ferrule, **shank Ø 6 mm,** even density, extremely wear-resistant.

57 4900 – Stainless wire quality 1.4401 (AISI 316). Carrier body with plastic sheathing for machining stainless steel.

Application: For deburring, removing paint, and for all moderate to heavy brushing jobs.

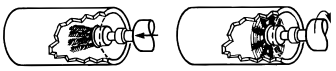
Size 6×0,35 – Single-plait end brush for pin-point work.

57 4800 Size 19×0,35–28×0,50/4900 Size 19×0,15–28×0,50 – **As speed increases the brush opens, this allows it to be introduced even into tight spaces,** e.g. when brushing the inside of casings.



57 4900

57 4800



Brush Ø D_1× bristle thickness		mm	6×0,35	19×0,15	19×0,35	22×0,25	22×0,35	28×0,25	28×0,35	28×0,50
57L 57 4800	Plaited end brush **Steel wire**		XXX	–	XXX	XXX	XXX	XXX	XXX	XXX
57L 57 4900	Plaited end brush **Stainless steel wire**		XXX	XXX	XXX	XXX	–	–	XXX	XXX
Brush Ø D_1		mm	6	19	19	22	22	28	28	28
Length of brush section H_1		mm	25	28	28	28	28	28	28	28
Number of twisted knots			1	6	6	8	8	12	12	12
maximum speed		rpm	4500	20000	20000	20000	20000	20000	20000	20000

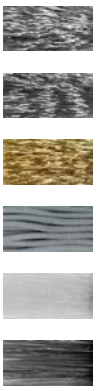
LESSMANN® Miniature cup brushes / wheel brushes / end brushes

Shank Ø 3 mm.

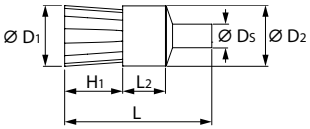
57 4929/4939/4949 –Low static electrical charges.

Application: Machining of precision workpieces, small surface areas and where access is difficult.

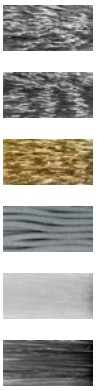
Brush Ø D_1		mm	15	18		typical application
57L 57 4920	Miniature cup brush **Steel wire 0.10 mm**		XXX	XXX	10	Cleaning, deburring
57L 57 4922	Miniature cup brush **Stainless steel wire 0.10 mm**		XXX	XXX	10	Cleaning, deburring
57L 57 4924	Miniature cup brush **Brass wire 0.10 mm.**		XXX	XXX	10	Cleaning, deburring
57L 57 4926	Miniature cup brush **micro-abrasive SiC 500 grit**		–	XXX	10	Finish grinding
57L 57 4928	Miniature cup brush **Nylon 0.15 mm**		XXX	–	10	Cleaning
57L 57 4929	Miniature cup brush **Natural bristles (black)**		XXX	–	10	Polishing (paste)
Length of brush section H_1		mm	5	6		
maximum speed		rpm	15000			

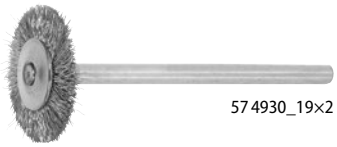


57 4920_15

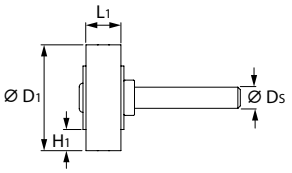


Brush Ø D_1× brush width		mm	19×2	22×2		typical application
57L 57 4930	Miniature wheel brush **Steel wire 0.10 mm**		XXX	XXX	10	Cleaning, deburring
57L 57 4932	Miniature wheel brush **Stainless steel wire 0.10 mm**		XXX	XXX	10	Cleaning, deburring
57L 57 4934	Miniature wheel brush **Brass wire 0.10 mm.**		XXX	XXX	10	Cleaning, deburring
57L 57 4936	Miniature wheel brush **micro-abrasive SiC 500 grit**		–	XXX	10	Finish grinding
57L 57 4938	Miniature wheel brush **Nylon 0.15 mm**		–	XXX	10	Cleaning
57L 57 4939	Miniature wheel brush **Natural bristles (black)**		–	XXX	10	Polishing (paste)
Length of brush section H_1		mm	5	6		
maximum speed		rpm	12000	10000		

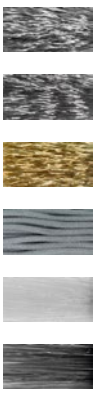




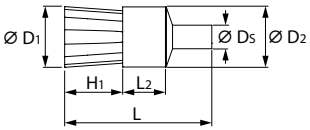
57 4930_19×2



Brush Ø D_1		mm	5		typical application
57L 57 4940	Miniature end brush **Steel wire 0.10 mm**		XXX	10	Cleaning, deburring
57L 57 4942	Miniature end brush **Stainless steel wire 0.10 mm**		XXX	10	Cleaning, deburring
57L 57 4944	Miniature end brush **Brass wire 0.10 mm.**		XXX	10	Cleaning, deburring
57L 57 4946	Miniature end brush **micro-abrasive SiC 500 grit**		XXX	10	Finish grinding
57L 57 4948	Miniature end brush **Nylon 0.15 mm**		XXX	10	Cleaning
57L 57 4949	Miniature end brush **Natural bristles (black)**		XXX	10	Polishing (paste)
Length of brush section H_1		mm	8		
maximum speed		rpm	5000		



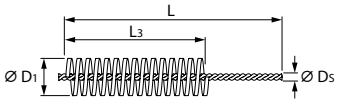
57 4940_5



LESSMANN® Tube brushes with shank, abrasive nylon, micro-abrasive

Internal brushes with galvanised twisted wire core and plain helix of bristles.

Application: **Abrasive nylon brushes** work at both the tips and the sides of the bristles. The continued exposure of new abrasive material ensures an **even abrasive effect.** For **deburring** (cross) bores, O-ring recesses, and for **cleaning** and **polishing** nozzles and small hydraulic bores.



Tube brushes with shank, Aluminium Oxide grit

Fine aluminium oxide bristles **(A)** in **600 grit,** bristle ∅ **0.30 mm,** overall length 125 mm, brush section length 25 mm.

57 4470

Brush ∅ D_1	mm	3,2	4,2	4,8	5,5	6,6	8,2	9,8	11,5	13
57L 57 4470	Tube brush micro-abrasive **(A) 600 grit**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Bristle length L_3	mm	25								

Tube brushes with shank, Silicon Carbide grit

Fine silicon carbide bristles **(SiC)** in **1000grit,** brush ∅ **0.25mm,** overall length 100mm.

57 4476

Brush ∅ D_1	mm	1,2	1,9	2,2	2,6	3,2	4,2	5,5
57L 57 4476	Tube brush micro-abrasive **(SiC) 1000 grit**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Bristle length L_3	mm	12	18	18	25	25	25	25

Strong silicon carbide bristles **(SiC)** in **120 grit and 320 grit,** bristle ∅ **0.60mm,** overall length 125mm.

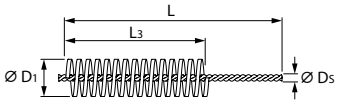
57 4475

Brush ∅ D_1	mm	6	8	10	13	16	20	25	32
57L 57 4475	Tube brush micro-abrasive **(SiC) 120 grit**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
57L 57 4477	Tube brush micro-abrasive **(SiC) 320 grit**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Bristle length L_3	mm	65							

LESSMANN® Tube brushes with shank, fine

Internal brushes with galvanised twisted wire core and plain helix of bristles.
Fine wire quality, overall length 90 mm, brush section length 25 mm.

Application: Full bristles right to the end of the brush, **ideal for blind holes.**



Brush ∅ D_1	mm	10	13	16	20	25
57L 57 4480	Tube brush **Steel wire 0.12 mm**	XXX	XXX	XXX	–	–
57L 57 4485	Tube brush **Steel wire 0.20 mm**	–	–	–	XXX	XXX
57L 57 4487	Tube brush **Stainless steel wire 0.12 mm**	XXX	XXX	XXX	–	–
57L 57 4488	Tube brush **Stainless steel wire 0.20 mm**	–	–	–	XXX	XXX
57L 57 4498	Tube brush **Brass wire 0.15 mm.**	XXX	XXX	XXX	–	–
57L 57 4499	Tube brush **Brass wire 0.20 mm.**	–	–	–	XXX	XXX
Bristle length L_3	mm	25				

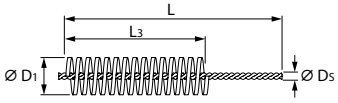
57 4480

57 4498

LESSMANN® Fitting brushes

Internal brushes with galvanised twisted wire core and plain helix of bristles.
Ergonomic plastic handle. Bristles made of **stainless steel wire.** Brush is oversize so as to be effective within the stated size of pipe.

Application: For cleaning pipe ends during plumbing work before soldering and for deburring holes.



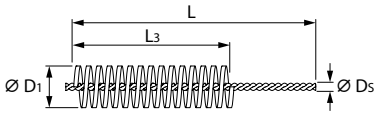
suitable for pipe internal ∅	mm	15	18	22	28
57L 57 8100	Fitting brush **waved stainless steel wire**	XXX	XXX	XXX	XXX

57 8100

LESSMANN® Hole cleaning brushes / cylinder brushes

Overall length 300 mm, brush section length 100 mm.

Application: For **manual cleaning** and **deburring** of pipes, bores etc.



Hole cleaning brushes with eye

57 8200 – Helical brush section of waved steel wire.
57 8300 – Helical brush section of waved brass wire.
57 8400 – Helical brush section of nylon bristles.

57 8200
57 8300
57 8400

Brush Ø D_1		mm	3	4	6	8	10	12	15	16	20	25	32	40	50
57L 57 8200	Cylinder brush **Steel wire**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	–	–	XXX	XXX
57L 57 8300	Cylinder brush **Brass wire**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	–	–	XXX	XXX
57L 57 8400	Cylinder brush **Nylon**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Bristle length L_3		mm	100												

Hole cleaning brushes with wooden handle

Helical brush section of waved steel wire.
With wooden handle for comfortable working.

57 8600

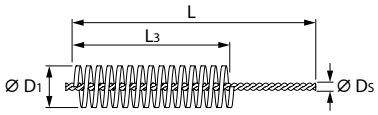
Brush Ø D_1		mm	10	15	25
57L 57 8600	Hole cleaning brush **Steel wire**		XXX	XXX	XXX
Bristle length L_3		mm	100		

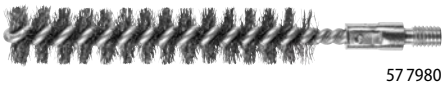
LESSMANN® Tube brushes with male thread

Tube brushes with metric M6 thread nipple

Internal brushes with galvanised twisted wire core and plain helix of bristles. Bristles of waved wire, overall length 115 mm. Bristle length 80 mm long with crimped-on M6 threaded nipple.

Application: For cleaning pipes, gratings, sleeves, heat exchangers, and cylinders. For use in machines (only clockwise rotation), use thread adapter No. 577990.




57 7980

57 7985

Brush Ø		mm	8	10	12	15	16	20
57L 57 7980	Tube brush **Waved steel wire 0.15 mm**		XXX	XXX	XXX	XXX	XXX	XXX
57L 57 7985	Tube brush **Waved brass wire 0.15 mm**		XXX	XXX	XXX	XXX	XXX	XXX

57 7990

Thread		M6
57L 57 7990	M6 thread adapter, internal thread **Shank Ø 6 mm**	XXX

With M6 internal thread, external thread, overall length 200 mm.

57 7993

Thread		M6
57L 57 7993	Extension for tube brushes with M6 threaded nipple	XXX

57 7995

Thread		M6
57L 57 7995	Plastic handle for tube brushes with M6 threaded nipple	XXX

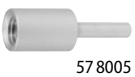
Tube brushes with Whitworth thread nipple

Internal brushes with galvanised twisted wire core and plain helix of bristles. Bristles of smooth steel wire, overall length 160 mm. Brush section 100 mm long with crimped-on 1/2 inch Whitworth thread nipple.

Application: For cleaning pipes, gratings, sleeves, heat exchangers, and cylinders.
For use in machines (only clockwise rotation), use thread adapter No. 578005.

57 8000

Brush Ø		mm	30	35	38	50	63	75	100
57L 57 8000	Tube brush **Smooth steel wire**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Suitable for: Pipe inside Ø [inches]			1.1/4 inch	1.1/2 inch	1.1/2 inch	2 inch	2.1/2 inch	3 inch	4 inch


57 8005

57L 57 8005	Thread adapter for tube brush No. 578000 **Shank Ø 6 mm**	XXX

With 1/2 inch Whitworth internal, external threads. Overall length 1000 mm.

57 8010

57L 57 8010	Extension for tube brush No. 578000	XXX

3M Science. Applied to Life.™

THE NEW 3M™ XTRACT™ MESH ORBITAL SANDING RANGE

3M™ XTRACT™ SERIES

The new 3M high performance sanding system.

LEAVE THE DUST BEHIND!

57

Unique hole pattern removes more material and optimises dust extraction.

3M™ Xtract™ Cubitron™ II Net Disc 710W

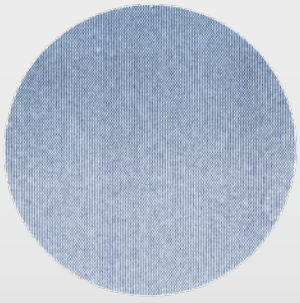
Premium version with pattern

- Unique hole pattern
- Double sanding performance and tool life*

3M™ Xtract™ Cubitron™ II Heavy Duty Net Disc 700W

Heavy-duty version

- Reinforced mesh structure
- More resistant, longer tool life



3M™ Xtract™ Net Disc 310W

Advanced series

- Good cost/benefit ratio
- 30% better sanding performance and longer tool life*

** compared with products currently available*

Test it now – and leave the dust behind for good!

The 3M™ XTRACT™ series' performance and low dust production make sanding an altogether new experience.
Try it out yourself: No. 56 7814, 56 7825 and 56 7835.

Garant Disc brushes

Disc brushes with **extremely tightly packed abrasive bristles (right to the edge of the brush)** embedded in the plastic pad. The bristles support each other, giving a **highly stable shape**. Very long working life.

Advantage:
- Workpiece post-processing **directly after the machining process.**
- **Reproducible results** due to continuous exposure of the abrasive grit.
- **Process reliability** thanks to high stability and accuracy of the shape.
- Quick and secure **mounting** without further accessories.
- Very high **concentricity**.

Application: On **CNC machining centres** and when used by **robots,** preferably **wet grinding** with cooling lubricant. Machining of flat components: precise **deburring, edge rounding, finish machining** after milling, **surface finishing** e.g. of sealing and mating faces.

Note: Special versions available on request.

Brush Ø	Speed recommended (when wet grinding) (rpm)	Maximum speed (rpm)	Feed rate (mm/min)	Infeed (mm)
Ø 20 mm	1500 – 2500	5000	Material (hard) Geometry (complex) Surface finish (coarse) 800 mm/min ↓ Material (soft) Geometry (simple) Surface finish (fine) 3000 mm/min	0.8 mm (fine) ↓ 2.0 mm (coarse)
Ø 25 mm	1500 – 2500	5000		
Ø 50 mm	1200 – 2400	4500		
Ø 63 mm	1200 – 2400	4500		
Ø 70 mm	1200 – 2400	4500		
Ø 100 mm	1000 – 1700	3500		
Ø 119 mm	1000 – 1700	3000		
Ø 144 mm	900 – 1200	2500		

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
57 5002–57 5018	●	●	○	○	○			○	○	○	●					●	●	○
57 5022–57 5038		●	●	○	○			○		●							●	○

Disc brush for shank mounting

SiC CER

6 mm shank, solidly cast in place.

57 5002–5005 – Nylon bristles with very high **silicon carbide grit content** for general-purpose use.

57 5022–5026 – Nylon bristles with **ceramic grit content.** More aggressive abrasive effect.

Grit			80	120	Disc dia. D_2 mm	Bristle length L_3 mm
51P 57 5002	Disc brush with shank, silicon carbide (SiC)	Ø 20 mm	XXX	XXX	24	25
51P 57 5004		Ø 25 mm	XXX	XXX	29	25
51P 57 5005		Ø 50 mm	XXX	XXX	55	25
51P 57 5022	Disc brush with shank, ceramic grit (CER)	Ø 20 mm	XXX	XXX	24	25
51P 57 5024		Ø 25 mm	XXX	XXX	29	25
51P 57 5026		Ø 50 mm	XXX	XXX	55	25
Shank Ø D_5		mm	6			
Grit designation			coarse	medium		
Bristle thickness		mm	1.2	0.6		

57 5002

57 5008

Disc brush for milling head arbor mounting

With longitudinal groove for clamping on face mill arbors (DIN 6357) and combination milling spigot arbors (DIN 6358).

57 5006–5018 – Nylon bristles with very high **silicon carbide grit content** for general-purpose use.

57 5006/5008 – Conical brushes for inaccessible places. Greater flexibility.

57 5030–5038 – Nylon bristles with **ceramic grit content.** More aggressive abrasive effect.

SiC

Grit			80	120	180	Disc dia. D_2 mm	Bristle length L_3 mm	Bore Ø d_1 mm
51P 57 5006	Disc brush, silicon carbide (SiC)	Ø 50 mm	XXX	XXX	–	45	30	16 with groove
51P 57 5008		Ø 63 mm	XXX	XXX	–	58	30	16 with groove
51P 57 5010		Ø 70 mm	XXX	XXX	XXX	76	35	22 with groove
51P 57 5012		Ø 100 mm	XXX	XXX	XXX	106	35	22 with groove
51P 57 5015		Ø 119 mm	XXX	XXX	XXX	125	38	27 with groove
51P 57 5018		Ø 144 mm	XXX	XXX	XXX	150	43	32 with groove
51P 57 5030	Disc brush, ceramic grit (CER)	Ø 70 mm	XXX	XXX	–	76	35	22 with groove
51P 57 5032		Ø 100 mm	XXX	XXX	–	106	35	22 with groove
51P 57 5035		Ø 119 mm	XXX	XXX	–	125	38	27 with groove
51P 57 5038		Ø 144 mm	XXX	XXX	–	150	43	32 with groove
Grit designation			coarse	medium	fine			
Bristle thickness (57 5006, 57 5008)		mm	1.2	0.6	–			
Bristle thickness (57 5010, 57 5012, 57 5015, 57 5018, 57 5030, 57 5032, 57 5035, 57 5038)		mm	1.2	1.1	1			

57 5010 – 57 5018

CER

57 5030 – 57 5038

SiC

Garant Wheel brushes

Round brushes with **extremely tightly packed abrasive bristles (right to the edge of the brush)** embedded in the plastic pad. The bristles support each other, giving a **highly stable shape**. Very long working life. Nylon bristles with very high **silicon carbide grit content** for general-purpose use.

Advantage:
- Workpiece post-processing **directly after the machining process.**
- **Reproducible results** due to continuous exposure of the abrasive grit.
- **Process reliability** thanks to high stability and accuracy of the shape.
- Quick and secure **mounting** without further accessories.
- Very high **concentricity.**

Application: On **CNC machining centres** and when used by robots, preferably **wet grinding** with cooling lubricant. **For grinding side faces and inner faces:** precise deburring (e.g. threads), edge rounding, delicate work after milling, surface finishing.

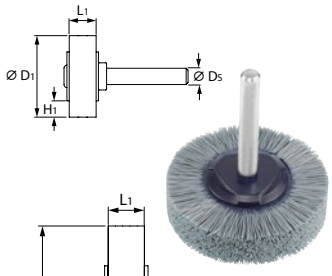
Note: Special versions available on request.

Brush Ø	Speed recommended (when wet grinding) (rpm)	Maximum speed (rpm)	Feed rate (mm/min)	Infeed (mm)
Ø 38 mm	3000 – 4000	8000	Material (hard) Geometry (complex) Surface finish (coarse) 800 mm/min ↓ Material (soft) Geometry (simple) Surface finish (fine) 3000 mm/min	0.5 mm (fine) – 2.0 mm (coarse)
Ø 50 mm	2400 – 3200	7000		
Ø 76 mm	2400 – 3200	7000		
Ø 100 mm	1800 – 2500	6000		
Ø 125 mm	1800 – 2500	6000		
Ø 150 mm	1300 – 1800	4000		

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
57 5050–57 5066	●	●	○	○	○			○	○	○	●					●	●	○

Wheel brush for shank mounting

6 mm shank, solidly cast in place.

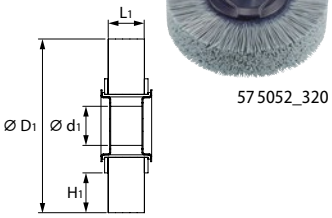


57 5052_320

Grit			120	320	Bristle width L_1 mm	Bristle length L_3 mm
51P 57 5050	Wheel brushes with shank, silicon carbide (SiC)	Ø 38 mm	XXX	XXX	10	10
51P 57 5052		Ø 50 mm	XXX	XXX	13	13
Grit designation			medium	fine		
Bristle thickness		mm	0.6	0.3		
Shank Ø D_s		mm	6			

Wheel brush for milling head arbor mounting

With longitudinal groove for clamping on face mill arbors (DIN 6357) and combination milling spigot arbors (DIN 6358).



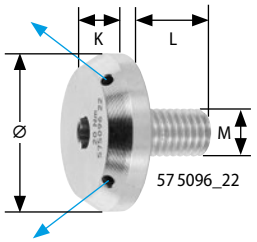
57 5064_120

Grit			80	120	Bristle width L_1 mm	Bristle length L_3 mm	Bore Ø d_1 mm
51P 57 5060	Wheel brushes, silicon carbide (SiC)	Ø 76 mm	XXX	XXX	18	22	16 with groove
51P 57 5062		Ø 100 mm	XXX	XXX	20	22	22 with groove
51P 57 5064		Ø 125 mm	XXX	XXX	20	22	22 with groove
51P 57 5066		Ø 150 mm	XXX	XXX	25	35	32 with groove
Grit designation			coarse	medium			
Bristle thickness		mm	1.2	0.6			

Garant Accessories for wheel brushes and disc brushes

Tightening screw (galvanized) with hex socket. **With through coolant holes.**

Application: For clamping GARANT round and disc brushes. **Check the torque.**

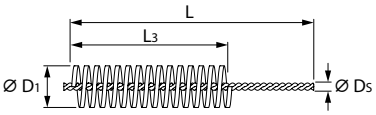


57 5096_22

for mandrel Ø		mm	16	22	27	32
53D 57 5096	Tightening screw with internal cooling		XXX	XXX	XXX	XXX
Thread M			M8	M10	M12	M16
Head Ø		mm	20	32	50	56
Head thickness K		mm	13	8.5	8.5	9.5
Width across flats		mm	6	6	8	8
recommended tightening torque		Nm	15	20	25	30

SiC

Interior brushes



Self-centring interior brush with flexible bristles carrying **silicon carbide spheres.** Overall length 200 mm.

Application: For **chamfering, finishing of surfaces** and **honing.** Generates **fine evenly ground surface** with high contact area. For use in power drills and fixed drills. Recommended speed 350 – 700 rpm, contact time 20 – 40 seconds.

Note: Do not use dry, use with cutting oil No. 084205.

57 4490

Type			5	6,5	7	8	9	10	11	12	14	16	18	20	22	24
57L 57 4490	Interior brush NOVOFLEX-B **SiC120 grit**		–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
57L 57 4495	Interior brush NOVOFLEX-B **SiC180 grit**		XXX	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Brush ∅ D_1		mm	5.5	7	8	9	10	11	12	13	15.5	18	20	22	25	27
Shank ∅ D_s		mm	2.1	2.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.6	4.6	4.6	4.6	5.1
Working length L_3		mm	40	40	50	50	50	60	60	60	60	60	60	70	70	70
suitable for bore ∅		mm	4.1 – 5	6.1 – 6.5	6.1 – 7	7.1 – 8	8.1 – 9	9.1 – 10	10.1 – 11	11.1 – 12	12.1 – 14	14.1 – 16	16.1 – 18	18.1 – 20	20.1 – 22	22.1 – 24

Type			25	27	29	32	35	38	41	45	48	51	54	57	60
57L 57 4490	Interior brush NOVOFLEX-B **SiC120 grit**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
57L 57 4495	Interior brush NOVOFLEX-B **SiC180 grit**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Brush ∅ D_1		mm	28	30	32	35	38	41	45	48	51	54	57	60	64
Shank ∅ D_s		mm	5.1	5.1	5.1	5.7	5.7	5.7	5.7	5.7	6.5	6.5	6.5	7.3	7.3
Working length L_3		mm	70												
suitable for bore ∅		mm	23 – 25.4	25.1 – 27	27.1 – 29	29.1 – 32	32.1 – 35	35.1 – 38	38.1 – 41	41.1 – 45	45.1 – 48	48.1 – 51	51.1 – 54	54.1 – 57	57.1 – 60

57

LESSMANN® THE GERMAN BRUSH COMPANY Wire hand scratch brushes

Curved wooden body with two holes for hanging. Length of brush section 140 mm, wire length 25 mm, overall length approx. 290 mm.

57 5000

57 5100

57 5200

Number of rows of bristles			2	3	4	5	6
57L 57 5000	Wire hand scratch brush **Smooth steel wire 0.35 mm**		XXX	XXX	XXX	XXX	XXX
57L 57 5100	Wire hand scratch brush **Waved brass wire 0.25 mm**		XXX	XXX	XXX	XXX	XXX
57L 57 5200	Wire hand scratch brush **Stainless steel wire waved 0.35 mm**		XXX	XXX	XXX	XXX	–
Base body width		mm	22	30	35	40	45

Very robust hand brush similar to No. 575000, with 4 wire rows. Length of brush section 150 mm, wire length 32 mm, overall length approx. 310 mm.

57 5400

57L 57 5400	Wire hand scratch brush **Smooth steel wire 0.35 mm**	XXX

Hand brush with **extra long** plastic handle. Length of brush section 77mm, wire length 10 mm, overall length 450 mm.

57 5420

Number of rows of bristles			4
57L 57 5420	Wire hand brush, extra long **Waved brass wire 0.35 mm**		XXX
Base body width		mm	22

Hand brush with 4 wire rows and **scraper.** Length of brush section 130 mm, wire length 25 mm, overall length approx. 290 mm.

Application: For removing heavy dirt.

57 5450

57L 57 5450	Wire hand brush with scraper **Smooth steel wire 0.35 mm**	XXX

Hand scratch brush with 3 wire rows in a Vee arrangement tapering to a point.

57 5560 – With plastic body, for use in areas with increased hygiene standards. Length of brush section 120 mm, wire length 35 mm, overall length approx. 290 mm.

57 5500/5550 – Curved wooden body with rounded edges and two holes for hanging. Length of brush section 135 mm, wire length 35 mm, overall length approx. 290 mm.

57 5500

57 5550

57 5560

57L 57 5500	Tapered hand scratch brush **Smooth steel wire 0.35 mm**	XXX
57L 57 5550	Tapered hand scratch brush **Stainless steel wire smooth 0.35 mm**	XXX
57L 57 5560	Hand scratch brush with plastic handle **Stainless steel wire smooth 0.35 mm**	XXX

Strong, thin wire brush. 2 bristle rows, wire length 22 mm. Ergonomically designed two-component handle with finger grip and hole for hanging.

57 5600

57 5650

57 5660

57L 57 5600	Universal brake caliper brush **Waved steel wire 0.30 mm**	XXX
57L 57 5650	Universal hand brush **Stainless steel wire smooth 0.35 mm**	XXX
57L 57 5660	Universal hand brush **Waved brass wire 0.25 mm**	XXX

Hand brush, wire length 25 mm. Ergonomic **plastic body** with a hole for hanging; **foodstuffs approved,** overall length 285 mm.

57 5720

Number of rows of bristles		3	5
57L 57 5720	Hand scratch brush with plastic handle **Stainless steel wire waved 0.35 mm**	XXX	XXX

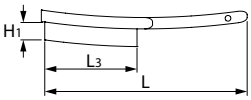
LESSMANN® THE GERMAN BRUSH COMPANY File brushes, fine scratch brushes, spark plug brushes

File brushes

Bristles of steel wire.

Application: For cleaning serrated surfaces, such as files or the like.

Size 80×20 – Soft steel wire bristles, specially for **precision files.**



Densely packed bristles.

57 6000_115×40

57 6000_80×20

Bristle length L_3× width L_1	mm	80×20	100×25	115×40
57L 57 6000	File brush	XXX	XXX	XXX
Length of brush section H_1	mm	5	8	8

Fine scratch brushes

Overall length approx. 225 mm, 4 rows, area carrying bristles 110×20 mm, bristle height 20 mm.

Size W – **Beechwood body**

Size P – **Plastic body,** for use in areas with high hygiene requirements.

Application: High density for fine removal of surface blemishes.

57 6605 – For cleaning and applying solvents and cleaning agents.

57 6605_W

57 6705_W

57 6805_P

Type		W	P
57L 57 6605	Fine scratch brush **Nylon, smooth 0.30 mm**	XXX	XXX
57L 57 6705	Fine scratch brush **Waved brass wire 0.15 mm**	XXX	XXX
57L 57 6805	Fine scratch brush **Stainless steel wire waved 0.15 mm**	XXX	XXX

Spark plug brushes

Beechwood body; length 150 mm, 3 rows, area carrying bristles 40×15 mm, bristle height 15 mm.

57 7010_W

57 7020_W

57 7030_W

Type		W
57L 57 7010	Spark plug brush **Nylon, smooth 0.30 mm**	XXX
57L 57 7020	Spark plug brush **Waved brass wire 0.15 mm**	XXX
57L 57 7030	Spark plug brush **Stainless steel wire waved 0.15 mm**	XXX

Hacksaw frame

300 mm

Hacksaw frame

Hacksaw frame developed based on the **latest ergonomic findings** for non-fatiguing work with maximum cutting rates. **Extremely lightweight, high strength two-component frame** with **anti-slip inserts** for a secure grip. **Blade tension up to 1000 N(100 kP)** is easily achieved using the integral tensioning nut within the handle. Alternative **blade setting at 55°** for flush cutting. Overall length 395 mm.

Supplied with: Supplied with GARANT bi-metal hacksaw blade 1× No. 582500: progressive 18 – 32 tpi.

58 0400

51S 58 0400	Garant	Hacksaw frame **with GARANT bimetal blade 18 – 32 TPI progressive**	XXX

Hacksaw frame Ergo 325

Unique BAHCO Ergo hacksaw frame with very high blade tension (more than 1000 N/100 kP). Ergonomic design for non-fatiguing working. Very simple **spring-supported blade fastening** for quick blade change and **automatic tensioning.** Alternative blade setting at 55° for flush cutting. Overall length 400 mm.

Supplied with: SANDFLEX® bimetal hacksaw blade No. 582900.

58 0600

58Z 58 0600	BAHCO	Ergo Profi hacksaw frame 325 **with bimetal blade 24 tpi**	XXX

Hacksaw frame 317

Sturdy hacksaw frame **with maximum 750 N (75 kP) blade tension** and comfortable hand grip. Alternative blade setting at 90° for flush cutting. Overall length 425 mm.

Supplied with: SANDFLEX® bimetal hacksaw blade No. 582900.

58 0700

58Z 58 0700	BAHCO	Hacksaw frame 317 **with bimetal blade 24 tpi**	XXX

Hacksaw frame

Sturdy bow saw with die-cast aluminium components. **Very high blade tension** up to 1500 N is easily achieved using the tensioning nut incorporated in the handle. **Alternative blade setting at 40° for flush cutting.** Additional saw blades can be stored in the handle. Overall length 405 mm.

Supplied with: HOLEX bimetal hacksaw blade No. 582970.

58 0750

Blade length		mm	300
52S 58 0750	HOLEX	Mini bow saw **with bimetal blade 24 teeth**	XXX

Hacksaw frame with all-steel back. Alternative blade setting at 90° for flush cutting. Plastic handle. Overall length 520 mm.

Supplied with: HOLEX bimetal hacksaw blade No. 582970.

58 0800

52S 58 0800	HOLEX	Hacksaw frame with handle **with bimetal blade 24 teeth**	XXX

Mini hacksaw for hacksaw blades

58 0900 – Sturdy saw blade holder made of injection moulded alloy with simple blade tensioning. Overall length 330 mm.

58 0910 – Saw blade holder made of sturdy injection moulded plastic. Saw blade can be clamped in two different positions. Overall length 313 mm.

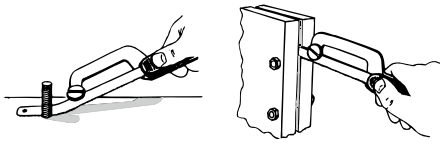
Application: For comfortable sawing including flush sawing with metal saw blades No. 582500 – 582970, in narrow, inaccessible places.

Supplied with:

58 0900 – Supplied with SANDFLEX® bimetal hacksaw blade.

58 0910 – Supplied with PUK® bimetal hacksaw blade.

58 0910



58 0900

Blade length		mm	300
58Z 58 0910	PUK®	Mini hacksaw for hacksaw blades – **with bimetal blade 24 teeth**	XXX
58Z 58 0900	BAHCO		XXX

58

300 mm

Hacksaw blades bimetal

High performance hacksaw blade for high cutting rates and long working life.
Made of bimetal = teeth of hardened HSS, back of spring steel with high flexibility. **Unbreakable – Safety at work!**

Dimensions: 300×13×0.65 mm.

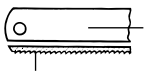
58 2500 – Made of **bimetal** with **progressive cut 32 – 24 – 18 tpi.** Easy cutting start, no vibration in thin material (32 tpi), high metal removal rate due to coarse pitch(18 tpi), for **universal use** at good cost and with long tool life.

Note: Power saw blades, see No. 171000 / 171150.

With waved cut for teeth protection.

				TPI
51S 58 2500	Garant	Hacksaw blade, single-sided **bimetal, progressive**	XXX	10	32 – 24 – 18
51S 58 2950	Garant	Hacksaw blade, single-sided **bimetal**	XXX	10	24

Bi-metal:



Resilient blade body made of special steel.

Hardened HSS teeth strip (electron beam welded).

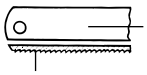
With waved cut for teeth protection.

Application: For all materials, even high-tensile and stainless steels.

Note: Power saw blades, see No. 171100 / 171250.

				TPI
58Z 58 2850		Hacksaw blade, single-sided **SANDFLEX®, bimetal**	XXX	10	18
58Z 58 2900			XXX	10	24
58Z 58 2920			XXX	10	32

Bi-metal:



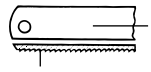
Resilient blade body made of special steel.

Hardened HSS teeth strip (electron beam welded).

Application: For all materials.

				TPI
52S 58 2970	HOLEX	Hacksaw blade, single-sided **bimetal**	XXX	10	24

Bi-metal:



Resilient blade body made of special steel.

Hardened HSS teeth strip (electron beam welded).

300 mm

58 2981

RÖNTGEN BiM hacksaw blade, double-sided

Double-sided hacksaw blade. Bimetal structure = teeth of hardened HSS.

Blade length	mm	300		TPI
58Z 58 2981	Hacksaw blade **double-sided, BiM**	XXX	10	24

300 mm

BAHCO Hacksaw blade for wood

Saw blade with groups of triangular teeth, for all types of wood. Dimension 300×18×1 mm.

Suitable for: Bow saw No. 580950.

58Z 58 2985	Hacksaw blade, single-sided **for wood**	XXX
Blade height	mm	18

300 mm

BAHCO Carbide rod saw blade

Wire length 300 mm. Wire Ø 2.5 mm.

58Z 58 2990	Carbide rod saw blade for tiles, bricks, cast iron etc.	XXX

Garant Mini bow saw with ergonomic handle

Compact bow saw with **ergonomic handle** for **non-fatiguing work** at inaccessible places.
The dynamic form ensures an **ideal distribution of forces** and promotes better control of the saw blade.
Stepless blade tensioning by a knurled nut.

58 1195 – Blade length 150 mm.
58 1196 – Blade length 200 mm.

Supplied with: **General-purpose saw blade** for metal, aluminium, wood and plastic.

58 1195

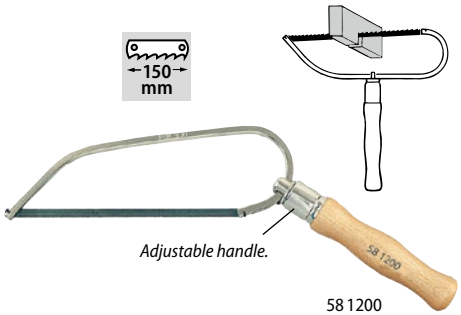
58 1196

				Overall length mm
582	58 1195	Mini bow saw **Ergonomic handle**	XXX	260
582	58 1196		XXX	310

Universal saws with adjustable or fixed handle

58 1200 – **With adjustable natural varnished wooden handle.** Can be clamped at any point on the frame. Frame solid nickel-plated steel square bar.
58 1220 – **With fixed red varnished wooden handle.** Frame bronze-plated steel round bar.
58 1230 – **With fixed ergonomic handle.** Strong frame for high blade tension.
58 1240 – **With fixed, ergonomic handle.** Frame black powder-coated steel round bar.
58 1200–1240 – Small and handy, good cutting performance.

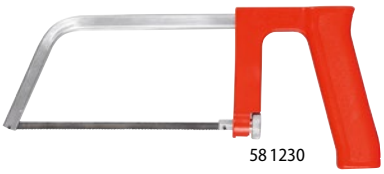
Supplied with:
58 1200–1240 – Including **general-purpose saw blade** for metal, aluminium, wood and plastic. Blade length 150 mm.



58 1200

					Overall length mm
582	58 1200	PUK	General-purpose hacksaw "PUK" with general-purpose blade (310) **Adjustable handle**	XXX	310
582	58 1220		General-purpose hacksaw "PUK" with general-purpose blade (310) **Fixed handle**	XXX	290
582	58 1230		General-purpose hacksaw "Puk Vario" with general-purpose blade (310) **Ergonomic handle**	XXX	260
582	58 1240		General-purpose hacksaw "PUK" with general-purpose blade (310) **Ergonomic handle**	XXX	240

58 1220


58 1230

58 1240

				Blade thickness mm	Blade length mm
582	58 1250	PUK	"PUK" saw blade pack, 12 pieces metal (312) **32 TPI**	XXX	0.4	150
582	58 1260		"PUK" saw blade pack, 12 pieces wood (313) **14 TPI**	XXX	0.4	150
582	58 1270		"PUK" saw blade pack, 12 pieces universal (310) **25 TPI**	XXX	0.4	150
582	58 1280		"PUK" saw blade pack, 12 pieces universal (210) **25 TPI**	XXX	0.4	200

58 1270

Universal hacksaw

300 mm

Oval frame made of strong steel tube, with knuckle protection. Including wood rip cut saw blade and bimetal blade. Has a place in every toolbox.

Application: Universal for sawing wood, metal (see No. 582500 – 582970) and when using the carbide rod saw No. 582990 also tiles, bricks, cast iron etc. Overall length only 300 mm.

Note: Spare saw blades for wood, see No. 582985.

58 0950

582	58 0950	BAHCO	SANDFLEX® mini-hacksaw **with 2 saw blades (wood / metal)**	XXX

BAHCO Saw box

Saw box of laminated wood with reinforced walls.

Application: For sawing left and right at angles of 45°, 90° and 135°.

SBZ			
58 1670	Saw box		XXX
Length		mm	300
Width		mm	104
Height		mm	50

58 1670

Metal fret saw frame with steel tube frame

Sturdy varnished frame made of 13 mm steel tube. Depth of cut 320 mm. Clamps with wing nuts; varnished wooden handle.

SBZ		
58 1300	Fret saw frame (without saw blade)	XXX

58 1300

Hardened, extra high-strength type; length 130 mm.

Application: For saw cutting metal, wood, and plastic.

Supplied with: Plastic case with 4 of each fret saw blades for wood, cuts 1, 3, 5, 7, 9; 2 fret saw blades for metal, medium cut.

SBZ		
58 1320	Fret saw blade assortment, 22 pieces **for wood / metal in a case**	XXX

58 1320

BAHCO Handsaws

Handsaws Superior

Handsaw with **Ergo®-grip** for optimum force transfer. The **Superior** saw blades have an additional coating to reduce friction. The reinforced blade with the unique **NXT tooth profile** (3-stage ground and hardened) and the patented tooth pattern enable an **increase in cutting power of at least 30 % more** than comparable saws.

Application: For dry, hard wood.

58 1500

Blade length		mm	400	475
SBZ 58 1500	Superior handsaw		XXX	XXX
TPI			11	9
Blade length		mm	400	475

58 1520

SBZ			TPI	Blade length mm
58 1520	Superior tenon saw	XXX	11	350

Handsaws / insulation saws / general purpose saws

ProfCut handsaws with handy **2-component handle.**

58 1505 – **GT- toothing** (hardened, 3×ground), for dry, hard wood.

58 1550 – Fine **FT- toothing** (hardened) for plastics, wood and soft metals.

58 1505

Blade length		mm	375	475	550
SBZ 58 1505	ProfCut handsaw		XXX	XXX	XXX
TPI			11	9	7
Blade length		mm	375	475	550

58 1550

SBZ 58 1550	ProfCut universal saw		XXX
TPI			15
Blade length		mm	375

Wood compass saw

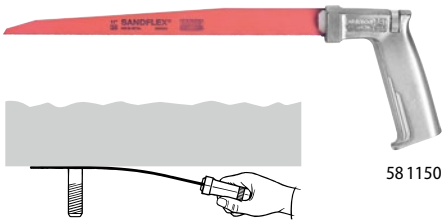
Saw blade of wood made of high quality original BAHCO Swedish steel with rip cut teeth, precision ground and set – **permanently sharp, hardened tips**. Handy ergonomic 2-component handle.

58 1570

SBZ			TPI	Blade length mm
58 1570	Wood compass saw ProfCut	XXX	7	300

BAHCO Compass saw, fine saw

58 1150 – Strong, handy light metal handle. Saw blade can be set to different angles. Overall length 355 mm.
58 1180 – Saw blade for wood and plastic, teeth set and hardened.
58 1160/1170 – Bimetal saw blade for metal, teeth made of HSS, hardened and back made of flexible steel.



58 1150

Flexible bimetal blade for flush sawing.

			TPI
58 1150	Compass saw **with bimetal saw blade**	XXX	24

58 1160

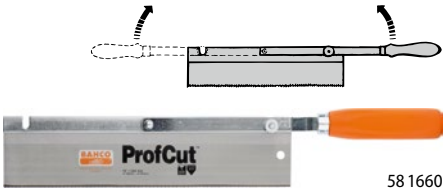
58 1160	SANDFLEX® saw blade for metal **bimetal, 24 TPI**	XXX
58 1170	SANDFLEX® saw blade for metal **bimetal, 18 TPI**	XXX
58 1180	SANDFLEX® saw blade for wood and plastic **HCS, 7 TPI**	XXX

58 1180

Fine saws for wood and plastic

Saw blade for wood and plastic of high-quality special steel with bright reinforced back. Fine teeth, **hardened tips, set and sharpened, 35 mm depth of cut.**

58 1650 – With **fixed,** varnished handle offset to the right.
58 1660 – With **reversible,** offset and varnished handle.



58 1660

Suitable for flush cutting.

			TPI	Blade length mm
58 1650	Gent"s saw, offset **with fixed handle**	XXX	15	250
58 1660	Gent's saw, offset **with fold-away handle.**	XXX	15	250

BAHCO Folding saw (Laplander)

Permanent **anti-friction coating** reduces friction (lower applied force) and increases protection against rust. Special tooth geometry for fast cutting of **green and dry timber.** Teeth precision ground, set and hardened.

58 1580 – Blade folds away with single-hand safety catch. Ergonomic 2-component handle of resilient easy-grip rubber.

Fold away saw blade for safe transport.

58 1580

58 1585

58 1580	Wood saw **Laplander – Superior –**	XXX
58 1585	Replacement blade Laplander – Superior –	XXX

Length when blade folded away (58 1580)	mm	230
Length when blade opened out (58 1580)	mm	405

BAHCO Pull-stroke saw (Japanese saw) with teeth on both sides

With cross-cut teeth on both sides, blade thickness only 0.5 mm.

Application: For fine (17 TPI) and medium-coarse cuts (progressive 6 – 8.5 TPI), flush cuts in all woods.

58 1750

			TPI	Blade length mm
58 1750	Pull-stroke saw, cross ground rigid handle **with teeth on both sides**	XXX	6 – 8.5 / 17	240

Cross-cut saws (Japanese saws)

GERMAN DESIGN AWARD SPECIAL 2019

Cross-cut saw with **precise positioning of the trapezoidal teeth** and a blade thickness of 0.9 mm. **Tough thin layer coating** for low friction and low tendency of sawdust to stick to it. **Impulse-hardened teeth strip** with **teeth exactly set** for long maintenance of sharpness and a straight cut.

58 1730 – Compact cross-cut saw with ergonomic **2-component handle of die-cast aluminium** and hole for hanging up. **Precise spacing in 3 steps** for safe working with high clamping force.

Application: Ideally suited for **cutting across the grain.** Quick and straight cutting with **minimum deployment of force.**

58 1730

Blade length			mm	250	TPI	Blade length mm
58Z 58 1730	Garant	Cross ground cross-cut saw		XXX	9	250
58Z 58 1735		Spare saw blade		XXX	9	250

Pull-stroke saw, cross ground, 0.9 mm thick, black coating for easy cutting, avoids sticking.

58 1710 – Type **"Aluminist"**, high quality pull-stroke saw **with folding aluminium handle.**

58 1710

				TPI	Blade length mm
58F 58 1710	TAJIMA	Cross ground cross-cut saw **Aluminist**	XXX	9	270
58F 58 1715		Spare saw blade Aluminist	XXX	9	270

Pull-stroke saw, blade thickness 0.7 mm, cross ground with fluorine coating for easy sawing, avoiding resin adhesions.

58 1700 – A new development of the **"Magnum 300" Japanese saw**, with enclosed 2-component handle of die-cast aluminium and an elastomer inlay.

300 mm

58 1700

				TPI	Blade length mm
58F 58 1700	TAJIMA	Cross ground cross-cut saw **Magnum 300**	XXX	13	300
58F 58 1705		Spare saw blade Magnum 300	XXX	13	300

Cross ground for clean cuts and high cutting rates. Blade thickness 0.6 mm.

58 1726/1727 – Fluorine coating for easy sawing, avoiding resin adhesions.

Application: For quick narrow cuts in dry wood, plastic, melamine, plasterboard, etc.

58 1720

58 1726

Blade length			mm	265	TPI	Blade length mm
58F 58 1720	TAJIMA	Cross ground cross-cut saw		XXX	16	265
58F 58 1725		Spare saw blade		XXX	16	265
58F 58 1726		Cross ground cross-cut saw		XXX	16	265
58F 58 1727		Replacement saw blade, coated		XXX	16	265

Bow saws (Swedish saws)

Bow made of oval, varnished steel tube with clamping lever. Saw blade made of original Swedish steel. **With hardened tooth tips.** Precision ground and exactly set.

Rip-toothed (HZ) 4 teeth before the raker – always sharp. For all types of wood, particularly green wood.

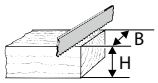
58 1800_760

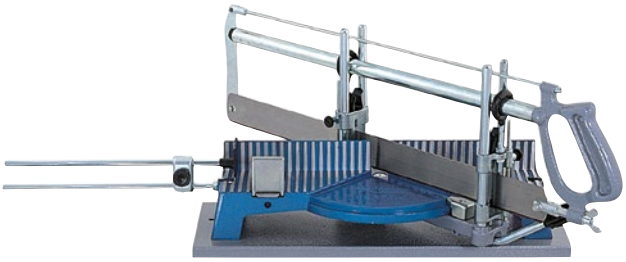
Rip-toothed

Blade length		mm	530	760
58Z 58 1800	Bow saw with saw blade **Rip-toothed**		XXX	XXX
58Z 58 1810	Replacement saw blade **Rip-toothed**		XXX	XXX
Blade height		mm	18	

Mitre saws with length adjuster

58 1905 – Die-cast aluminium table with wear-resistant tubular guide, glides without noise, with resilient stroke limitation. Easy and straightforward setting up of the item to be cut.
Saw blade guide adjustable; high strength, closed saw frame handle.
High, grooved rear plate for secure workpiece positioning.
With length adjuster (applicable on both sides) for serial cuts of same length.
Automatic centring for mitres of 90°, 45°, 30°, and 22.5°.
All intermediate angles can be set without restriction.





58 1905

Blade length		mm	550
58Z 58 1905	KÜPPER	Mitre saw with length adjuster and wood saw blade	XXX
58Z 58 1915		Saw blade **for wood**	XXX
58Z 58 1925		Saw blade **for iron and non-ferrous metals**	XXX
Cutting width B 90° (58 1905)		mm	160
Cutting height H (58 1905)		mm	120

58 1915

58 1925

58

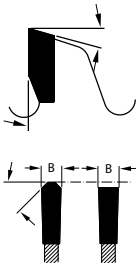
Garant Precision portable and bench circular saw blades, carbide-tipped

Tipped with carbide inserts, precision version with high-strength blade, noise damped.
Generously dimensioned carbide teeth allow multiple re-grinding.

Recommended cutting speed:	
Material	**in m/s**
INOX	28 – 31
Steel	28 – 31

Type INOX

Application: **Universal saw blade** for machining **stainless steel** with tenon saws and mitre saws.
Problem-free cutting off of pipes, sheet metal, profiles and solid material.
Suitable for both steel and non-ferrous materials. Not suitable for cast iron.
Low-burr, quick cutting without cooling.

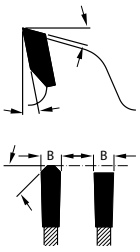


58 4004

Blade ∅ D	51S 58 4004	Bore ∅	Number of teeth	Width of cut B
	Circular saw blade, trapezoidal flat teeth			
mm	**INOX**	mm		mm
305	XXX	25.4	72	2.2
355	XXX	25.4	84	2.4

Type steel

Application: For cutting **stainless steel** with tenon saws and mitre saws.
Problem-free cutting of mild steel profiles, pipes and plates.
Low-burr, quick cutting without cooling.



58 4008

Blade ∅ D	51S 58 4008	Bore ∅	Number of teeth	Width of cut B
	Circular saw blade, trapezoidal flat teeth			
mm	**Steel**	mm		mm
305	XXX	25.4	60	2.2
355	XXX	25.4	72	2.4

BOSCH Portable circular saw blades, carbide-tipped

Circular saw blades for portable circular saws.
Size 165BW – Top Precision Best range for wood.
Size 85; 165SW – Standard range for wood.
Application: For machining wood.

_165BW

_165SW

Blade ∅ D	mm	85	165SW	165BW
54B 58 3950	Circular saw blade, wood, alternating teeth	XXX	XXX	XXX
Bore ∅	mm	15	20	16; 20
Number of teeth		20	12	48
Width of cut B	mm	1.1	1.7	1.8

Garant Precision portable and bench circular saw blades, carbide-tipped

Tipped with carbide inserts, precision version with high-strength blade, noise damped. Generously dimensioned carbide teeth allow multiple re-grinding.

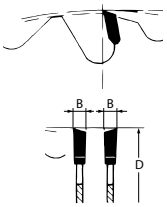
Application: For circular, cross-cut, compound, and mitre saws.

Note: **Further circular saw blades can be found in Group 17.**

Recommended cutting speeds:	
Material	**in m/s**
Softwood	60 – 100
Hardwood, laminated sheets	50 – 80
Plastic, soft	90
Plastic, hard	30 – 60
Building boards (cement-bonded)	10 – 40

Application: Type LWZ for longitudinal and cross cuts in all **natural woods and wooden sheet materials.**

Blade ∅ D	58 4015	Bore ∅	Drive holes number/∅/pitch circle	Number of teeth	Width of cut B
	Circular saw blade, wood, alternating teeth				
mm	**coarse**	mm	mm		mm
250	XXX	30	2/7/42 and 2/9/46 and 2/10/60	24	3.2
300	XXX	30	2/7/42 and 2/9/46 and 2/10/60	28	3.2
315	XXX	30	2/7/42 and 2/9/46 and 2/10/60	28	3.2
350	XXX	30	2/7/42 and 2/9/46 and 2/10/60	32	3.5
400	XXX	30	2/7/42 and 2/9/46 and 2/10/60	36	3.5

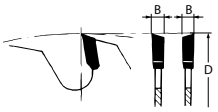


58 4015

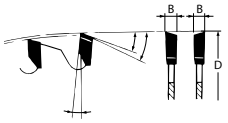
Size 216 – With negative rake.

Application: Type UW for **board materials, veneered or plastic coated on one side,** veneer packs longitudinally, hard paper and hard fabric.

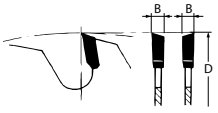
Blade ∅ D	58 4035	Bore ∅	Drive holes number/∅/pitch circle	Number of teeth	Width of cut B
	Circular saw blade, wood, alternating teeth				
mm	**medium**	mm	mm		mm
165	XXX	20	–	24	2
216	XXX	30	2/7/42	48	2.8
250	XXX	30	2/7/42 and 2/9/46 and 2/10/60	40	3.2
300	XXX	30	2/7/42 and 2/9/46 and 2/10/60	48	3.2
315	XXX	30	2/7/42 and 2/9/46 and 2/10/60	48	3.2
400	XXX	30	2/7/42 and 2/9/46 and 2/10/60	60	3.5



58 4035



58 4035_216 / 58 4055_216
With negative rake.



58 4055

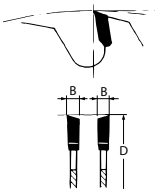
Size 216 – With negative rake.

Application: Type KW for **board materials with facing veneer and plastic covered on both sides as well as surface treated materials** with the highest cut quality requirements.

Blade ∅ D	58 4055	Bore ∅	Drive holes number/∅/pitch circle	Number of teeth	Width of cut B
	Circular saw blade, wood, alternating teeth				
mm	**fine**	mm	mm		mm
216	XXX	30	2/7/42	60	2.8
250	XXX	30	2/7/42 and 2/9/46 and 2/10/60	60	3.2
300	XXX	30	2/7/42 and 2/9/46 and 2/10/60	72	3.2
350	XXX	30	2/7/42 and 2/9/46 and 2/10/60	84	3.5

Application: **Universal** circular saw blade with long tool life and low noise, **unaffected by nails.** For **all wood types** and difficult materials in the building trade, including aluminium sections

Blade ∅ D	58 4075	Bore ∅	Drive holes number/∅/pitch circle	Number of teeth	Width of cut B
	Circular saw blade, wood, alternating teeth				
mm	**universal**	mm	mm		mm
160	XXX	30	–	24	2.8
190	XXX	30	2/7/42	30	2.8
210	XXX	30	–	34	2.8
230	XXX	30	2/7/42 and 2/10/154	34	2.8
250	XXX	30	2/7/42 and 2/9/46 and 2/10/60	42	3
300	XXX	30	2/7/42 and 2/9/46 and 2/10/60	48	3.2
350	XXX	30	2/7/42 and 2/9/46 and 2/10/60	54	3.2

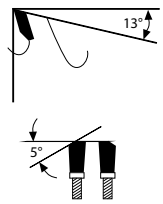


58 4075

Size 136; 160 – **With mounting hole ∅ 20 mm.**

Application: **Universal** circular saw blade for cutting **a wide range of materials** such as **steel flats and angle sections**, aluminium and other non-ferrous metals. Flat teeth with bevel up to ∅ 250 mm; alternating set with bevel from ∅ 300 mm.

Blade ∅ D	58 4095	Bore ∅	Drive holes number/∅/pitch circle	Number of teeth	Width of cut B
	Circular saw blade, metal, alternating teeth with bevel				
mm	**universal**	mm	mm		mm
136	XXX	20	–	30	1.6
160	XXX	20	2/6/32	42	2
190	XXX	30	2/7/42	48	2.2
216	XXX	30	2/7/42	54	2.2
230	XXX	30	–	54	2.2
250	XXX	30	2/10/60 and 2/11/63 and 2/12/64 and 2/7/42	54	2.2
300	XXX	30	2/10/60 and 2/11/63 and 2/12/64 and 2/7/42	60	2.4
350	XXX	30	2/10/60 and 2/11/63 and 2/12/64 and 2/7/42	80	2.4



58 4095

BOSCH Precision portable and bench circular saw blade, carbide-tipped

Precision saw blade with high-strength, **noise and vibration suppressing blade body.** The tensioning ring incorporated ensure stability of the shape in all temperature ranges. The **coating** prevents adhesions, keeps the saw blade cool and protects it against corrosion. **Precision-ground carbide teeth** ensure a long working life and best quality of cut.

Note: **Further circular saw blades can be found in Group 17.**

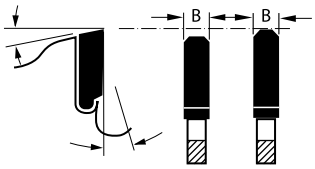
Recommended cutting speeds:	
Material	**in m/s**
Steel	25 – 30
Aluminium	100
Multi-material	100

Type steel

Application: For **machining steel.** Special anchoring of the carbide teeth in the base blade prevents teeth breaking off. Tooth form: Trapezoidal flat teeth (with chamfer), neutral rake angle.

Size 160; 210 – For hand-held dry-cutting hacksaws.

Size 305; 355 – For tenon saws and mitre saws.



58 3910

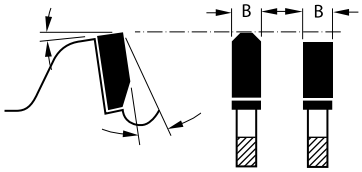
Blade ∅ D	54B	58 3910	Bore ∅	Number of teeth	Width of cut B
		Circular saw blade			
mm		**expert for Steel**	mm		mm
160		XXX	20	30	2
210		XXX	30	48	2
305		XXX	25.4	60	2.6
355		XXX	25.4	80	2.6

Type aluminium

Application: Precise cutting in **aluminium** and other non-ferrous metals. Tooth form: Trapezoidal flat teeth with negative rake angle for easy and safe working with manual infeed.

Size 165; 190 – For plunge-cut and portable circular saws.

Size 216–305 – For tenon saws and mitre saws, panel saws.

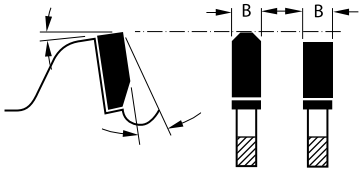


58 3920

Blade ∅ D	54B	58 3920	Bore ∅	Number of teeth	Drive holes number/ ∅/pitch circle	Width of cut B
		Circular saw blade				
mm		**expert for Aluminium**	mm		mm	mm
165		XXX	20	52	2/6/32.5	2.6
190		XXX	30	56	2/7/42	2.6
216		XXX	30	64	2/7/42 and 2/9.5/46.5 and 2/9/46 and 2/10/60	2.6
254		XXX	30	80	2/7/42 and 2/9.5/46.5 and 2/9/46 and 2/10/60	2.8
305		XXX	30	96	2/7/42 and 2/9.5/46.5 and 2/9/46 and 2/10/60	2.8

Type MultiMaterial

Application: For cutting **various materials** such as laminated boards, epoxy, wood and non-ferrous metals. Tooth form: Trapezoidal flat teeth, negative rake angle.For bench circular saws, tenon saws and mitre saws, panel saws.



58 3930

Blade ∅ D	54B	58 3930	Bore ∅	Number of teeth	Width of cut B
		Circular saw blade			
mm		**expert for multi-material**	mm		mm
216		XXX	30	64	2.4
254		XXX	30	80	2.4
305		XXX	30	96	2.4

Pictograms

Suitability									
Optimised for material	Steel	S/STL	ALU	Cast iron	Metal sand-wich	Wood Metal	Wood	CRP/ GRP	
	General metal applications	Stainless steel	Aluminium	Cast iron	Composite elements, metal and plastic	Wood with metal in-clusions	Softwood, hard-wood, chipboard	Fibre-reinforced plastics	
	PMMA	PVC PA PS	PP PE	Abrasive	Mineral	Insu-lation	Dry con-struction		
	Polymethylmeth-acrylate	Poly vinyl chloride, polyamide, polysty-rene	Polypropylene, polyethylene	Cast-iron pipes, stoneware, GRP	Mineral materials such as Corian®, Varicor®	Fibrous insulation, polystyrene	Porous concrete, fibrous cement, plasterboard		
Material thickness	0.5-1.5	2.5-6	<50	<65	<150	<100	3-65	5-50	
	Solid sheet metal thickness in mm	Sheet metal thickness (solid / perforated sheet) in mm	Size of the profile (closed) in mm	Size of the profile (open/closed) in mm	Size (metal sandwich) in mm	Board thickness (wood with metal) in mm	Board thickness (softwood) in mm	Board thickness (hardwood) in mm	
	3-30	<100	<190	2-20	<150	<100			
	Board thickness (wood outer layer) in mm	Board thickness (studded wall mate-rials) in mm	Size (green wood) in mm	Board thickness (plastics) in mm	Size (insulation) in mm	Size (cast-iron pipe) in mm			
Type of cutting									90°
	Straight cutting (fine)	Straight cutting (fast)	Curved cutting (fine)	Curved cutting (fast)	Smooth cut (upwards)	Smooth cut (both directions)	Plunge cutting	Flush cutting	Precise angular cutting

Garant Jigsaw blades for metal.

Jigsaw blades **for metal.** For mounting on a single-cam shank.

Size T118AF – **Bi-metal saw blade** with long service life, especially when used on perforated plate.

Size T118AHM – **Carbide teeth strip** for very long service life on stainless steel.

Size T118A–T118AF – **Progressive tooth profile** combines easy start to the cut (no jagging on thin material) and high rate of metal removal.

_T118A

Designation	5 IS 58 8400 Jigsaw blades set 25-piece	5 IS 58 8410 Jigsaw blades set 25-piece	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades 58 8400					
T118A	XXX	XXX	HSS	1.1 – 1.5	92	5	Steel	1-3			_T118A
T118B	XXX	XXX	HSS	1.9 – 2.3	92	5	Steel	2.5-6			_T118B
T118AF	XXX	XXX	BiM	1.1 – 1.5	92	5	Steel	1-3			_T118AF
T318A	XXX	XXX	HSS	1.2	132	5	Steel	1-3	<65		_T318A
T318B	XXX	–	HSS	2.0	132	5	Steel	2.5-6	<65		_T318B
T118AHM	XXX	–	Carbide	1.1	83	3	S/STL	1.5-3			_T118AHM
T127D	XXX	XXX	HSS	3.0	100	5	ALU	3-15	<30		_T127D

Garant Jigsaw blades for wood

Jigsaw blades with ground sharp teeth for **precise sawing in wood.** For mounting on a single-cam shank.
Size T101BR – **Reverse tooth profile** permits smooth sawing on the upper face.
Size T101AO – **Narrow pointed-tooth saw blade** Ideal for cutting contours on boards laminated on both sides.
Size T144D; T244D – **Progressive tooth profile** combines easy start to the cut and rapid progress through the material.

_T101B

Designation	51S 58 8420 Jigsaw blades set 5-piece	51S 58 8425 Jigsaw blades set 25-piece	Saw blade material	Tooth pitch mm	Blade length mm				
T101B	XXX	XXX	HCS	2.7	100	Wood	3-30		
T144D	XXX	XXX	HCS	4 – 5.2	100	Wood	5-50		
T244D	XXX	–	HCS	4 – 5.2	100	Wood	5-50		
T101BR	XXX	–	HCS	2.5	100	Wood	3-30		
T101AO	XXX	–	HCS	1.4	83	Wood	1.5-15		

_T101B

_T144D

_T244D

_T101BR

_T101AO

58

BOSCH Jigsaw blades for metal.

Jigsaw blades **for metal.** For mounting on a single-cam shank.
Size T123X – **Progressive tooth profile** combines easy start to the cut (no jagging on thin material) and high rate of metal removal.
Size T118EHM – **Carbide teeth strip** for very long service life on stainless steel.
Size T1018AFP – **Extra long saw blade** for precisely angled deep cuts in wood/metal composite materials
Size T321BF; T121GF; T121AF; T121BF; T321AF – **Speed for metal** – longer service life and higher cutting speed in metal thanks to the saw blade thickness relieved towards the rear and optimised tooth geometry (alternating rigid and aggressive teeth).

_T121GF

Designation	54B 58 8500 Jigsaw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades				
T121GF	XXX	BiM	0.8	92	5	Steel	0.5-1.5		
T121AF	XXX	BiM	1.2	92	5	Steel	1-3		
T118EOF	XXX	BiM	1.5	83	5	Steel	1.5-4		
T121BF	XXX	BiM	2.0	92	5	Steel	2.5-6		
T123X	XXX	HSS	1.2–2.6	100	5	Steel	1.5-10	<30	
T321AF	XXX	BiM	1.2	132	5	Steel	1-3	<65	
T321BF	XXX	BiM	2.0	132	5	Steel	2.5-6	<65	
T118EHM	XXX	Carbide	1.4	83	3	S/STL	2-5		
T1018AFP	XXX	BiM	1.1	250	3	Metal sand-wich	<150		90°

_T121GF

_T121AF

_T118EOF

_T121BF

_T123X

_T321AF

_T321BF

_T118EHM

_T1018AFP

BOSCH Jigsaw blades for wood

Jigsaw blades **for wood.** For mounting on a single-cam shank.
Size T345XF – General purpose blade, suitable even for **wood with metal inclusions**.
Size T144DHM – **Carbide-tipped teeth,** very long working life and quick rate of cutting. Suitable for all materials other than steel.
Size T234X; T345XF – **Progressive tooth profile** combines easy start to the cut and rapid progress through the material.
Size T308BFP; T101BF – **Bi-metal saw blades** with long service lives, specially for abrasive wood-based materials (hardwoods, coated panels).

_T345XF

Designation	54B 58 8520 Jigsaw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades				
T345XF	XXX	BiM	2.4-5.0	132	5	Wood Metal	<65		
T234X	XXX	HCS	2.0 – 3.0	117	5	Wood	3-65		
T308BP	XXX	HCS	2.2	117	5	Wood	5-50		90°
T1044DP	XXX	HCS	4.0	250	3	Wood	5-150		90°
T308BFP	XXX	BiM	2.2	117	5	Wood	5-50		90°
T101BF	XXX	BiM	2.7	100	5	Wood	3-30		
T144DHM	XXX	Carbide	3.5–5.0 16	100	3	Wood	5-50		

_T345XF

_T234X

_T308BP

_T1044DP

_T308BFP

_T101BF

_T144DHM

BOSCH Jigsaw blades for plastics and insulation

Jigsaw blades with optimised tooth geometry for clean cutting **in plastic.** For mounting on a single-cam shank.
Size T102D – For polypropylene **(PP)** and polyethylene **(PE),** no melting and welding back together.
Size T102H – For poly vinyl chloride (**PVC),** polyamide **(PA)** and polystyrene **(PS),** no formation of strip-type chips.
Size T102BF – For poly methyl methacrylate **(PMMA),** clean cut edges and reduced risk of material breakage.
Size T108BHM – Carbide teeth strip for very long tool life in hard and abrasive materials such as fibre-reinforced plastics **(CRP, GRP).**
Size T301CHM – Carbide teeth strip for very long tool life in mineral materials **(Corian®, Varicor®).**
Size T1013AWP – Wave profile for soft materials such as **insulation,** cardboard, leather, rubber.

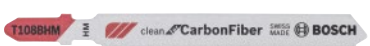
_T102D

Designation	54B 58 8525 Jigsaw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades				
T102D	XXX	HCS	4.0	100	5	PP PE	5-30		
T102H	XXX	HCS	2.3	100	5	PVC PA PS	3-30		
T102BF	XXX	BiM	1.8	92	5	PMMA	2-20		
T108BHM	XXX	Carbide	2.2	92	3	CRP/ GRP	2-20		
T301CHM	XXX	Carbide	3.3	117	3	Mineral	5-65		
T1013AWP	XXX	HCS	–	250	3	Insu-lation	<150		90°

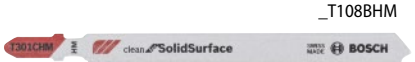
_T102D

_T102H

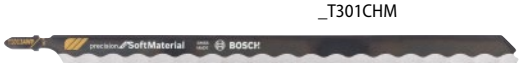
_T102BF



_T108BHM



_T301CHM



_T1013AWP

BOSCH Jigsaw blade sets for wood and metal

Pack of most commonly used jigsaw blade types for the respective applications, in a handy reclosable and refillable plastic box. One box to cover practically all applications. For mounting on a single-cam shank.

58 8552 – In a sturdy tough box.

Application:

Size WM – For wood and metal.

Size M – For metal.

58 8551_WM

58 8551_M

58 8552_WM

Type		WM	M
54B 58 8551	Jigsaw blades assortment, **10 pieces, general use**	XXX	XXX
54B 58 8552	Jigsaw blades assortment, tough box **40 pieces, general use**	XXX	–
Suitable for materials		Wood / metal	Metal
Content: (58 8551)		2 pcs. each size T119BO; T119B; T111C 1 pc. each size T218A; T118G; T118A; T118B	2 pcs. each size T218A; T118G 3 pcs. each size T118A; T118B
(58 8552)		10 pcs. each size T244D 10 pcs. each size 144D 10 pcs. each size 101B 10 pcs. each size 121AF	

58

Garant Sabre saw blades for metal

Sabre saw blades **for metal.**

Size 922EHM – **Carbide teeth strip** for very long service life on stainless steel.

Size 1155CHM – **Carbide-tipped teeth,** for carrier blade with very high resilience combined with flexibility.

Note:
Size 922EHM; 1155CHM – Reduce the stroke rate, work without blade swing, use coolant.

Designation	51S 58 8600 Sabre saw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades					
922EF	XXX	BiM	1.4	150	5	Steel	1.5-4	<100		
1122EF	XXX	BiM	1.4	225	5	Steel	1.5-4	<175		
922BF	XXX	BiM	1.8	150	5	Steel	3-8	<100		
1122BF	XXX	BiM	1.8	225	5	Steel	3-8	<175		
922EHM	XXX	Carbide	1.4	150	1	S/STL	2-4	<100		
1155CHM	XXX	Carbide	3	225	1	S/STL	4-12	<175		90°

_922EF

_1122EF

_922BF

_1122BF

_922EHM

_1155CHM

Garant Sabre saw blades for wood

Size 922VF; 1222VF – **Bi-metal** saw blades with Vario tooth pitch for sawing **wood.**

Size 956XHM; 1256XHM – **Carbide-tipped teeth,** very long service life in **wood with metal inclusions** (such as hardened nails). Reduce the stroke rate, work without blade swing.

Designation	51S 58 8610 Sabre saw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades				
922VF	XXX	BiM	1.8 + 2.6	150	5	Wood Metal	<100		
1222VF	XXX	BiM	1.8 + 2.6	300	5	Wood Metal	<250		
956XHM	XXX	Carbide	3.2 – 4.3	150	1	Wood Metal	<100		
1256XHM	XXX	Carbide	3.2 – 4.3	300	1	Wood Metal	<250		

_922VF

_1222VF

_956XHM

_1256XHM

BOSCH Sabre saw blades for metal

Sabre saw blades **for metal.**
Size 930CF; 1130CF; 1157CHM – Powerful rough cut. Ideal for rescue work and demolition work.
Size 927BEF–555CHM – **High saw blade** permits precise cutting angle.
Size 1157CHM; 555CHM – **Carbide-tipped teeth,** for carrier blade with very high resilience combined with flexibility.
Size 522EHM; 1022EHM – **Carbide teeth strip** for very long service life on stainless steel.

Note:
Size 555CHM–1157CHM – Carbide saw blades: Reduce the stroke rate, work without blade swing, use coolant.

58

Designation	54B 58 8700 Sabre saw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades						
123XF	XXX	BiM	1.8 – 3.2	150	5	Steel	1-8	<100			_123XF
1125VF	XXX	BiM	1.8 + 2.6	225	5	Steel	2-10	<175			_1125VF
1125HBF	XXX	BiM	1.8 + 2.1 + 2.5	225	5	Steel	2-10	<175			_1125HBF
930CF	XXX	BiM	2.5 + 3.2	150	5	Steel	4-12	<100			_930CF
1130CF	XXX	BiM	2.5 + 3.2	225	5	Steel	4-12	<175			_1130CF
927BEF	XXX	BiM	1.4 + 1.8	150	5	Steel	3-8	<100		90°	_927BEF
1127BEF	XXX	BiM	1.4 + 1.8	225	5	Steel	3-8	<175		90°	_1127BEF
555CHM	XXX	Carbide	3	100	1	S/STL	4-12	<50		90°	_555CHM
522EHM	XXX	Carbide	1.4	115	1	S/STL	2-4	<50			_522EHM
1022EHM	XXX	Carbide	1.4	200	1	S/STL	2-4	<150			_1022EHM
1157CHM	XXX	Carbide	3	225	1	S/STL	4-12	<175			_1157CHM

BOSCH Sabre saw blades for wood

Sabre saw blades **for wood.**

Size 956DHM; 1156XHM – **Carbide-tipped teeth,** very long service life in wood with metal inclusions (such as hardened nails). Reduce the stroke rate, work without blade swing.

Designation	54B 58 8710 Sabre saw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades						
956DHM	XXX	Carbide	4.3	150	1	Wood Metal	<100				
1156XHM	XXX	Carbide	3.2 – 4.3	225	1	Wood Metal	<175				
1411DF	XXX	BiM	4.3	300	5	Wood Metal	<250				
644D	XXX	HCS	4.3	150	5	Wood	5-100				
2345X	XXX	HCS	2.5 – 4.3	200	5	Wood	5-150				
1531L	XXX	HCS	5.0	240	5	Wood	<190				

_956DHM

_956DHM

_1156XHM

_1411DF

_644D

_2345X

_1531L

BOSCH Sabre saw blades for working on studded walls and fibrous insulation

Size 641HM – **Carbide-tipped teeth** for porous concrete, brick (red), fibrous cement and abrasive materials.

Size 1213AWP – **Wave profile** for cutting soft materials such as insulation, cardboard, leather, rubber etc.

Designation	54B 58 8715 Sabre saw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades						
641HM	XXX	Carbide	4.3	150	2	Dry construction	<100				
1213AWP	XXX	HCS	–	300	2	Insulation	<250			90°	

_641HM

_641HM

_1213AWP

BOSCH Sabre saw blades sets for wood and metal

Pack of most commonly used types of sabre saw blades for the respective applications, in a handy reclosable and refillable tough box™. One box to cover practically all applications.

Application: For wood and metal.

Type		WM
54B 58 8725	Sabre saw blades set **Top seller, 20 pieces**	XXX
54B 58 8726	Sabre saw blades set **Demolition, 16 pieces**	XXX
Suitable for materials		Wood / metal
Content: (58 8725)		5 each size 922EF; 922BF; 644D; 922HF
(58 8726)		4 each size 925VF; 1125VF; 610VF; 1411DF

58 8725

58 8726

LENOX Sabre saw blades

Size 818R; 614R – **High resistance** due to subsequent compaction of the surface at the cutting edge.

Size 818G–960G – Aggressive **curved blade design** with optimised centre of gravity for quicker sawing. **TiN coating** for longer service life.

Designation	58Z 58 8735 Sabre saw blades set	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades					
818R	XXX	BiM	1.4	200	5	Steel	1.5-4	<150		
614R	XXX	BiM	1.8	150	5	Steel	3-8	<100		
650R	XXX	BiM	1.8 + 2.5	150	2	Steel	4-12	<100		
818G	XXX	BiM	1.4	200	5	S/STL	1.5-4	<150		
6118G	XXX	BiM	1.4	150	5	S/STL	1.5-4	<100	90°	
614G	XXX	BiM	1.8	150	5	S/STL	3-8	<100		
6114G	XXX	BiM	1.8	150	5	S/STL	3-8	<100	90°	
12114G	XXX	BiM	1.8	300	5	S/STL	3-8	<175	90°	
810G	XXX	BiM	2.5	200	5	S/STL	4-12	<150		
960G	XXX	BiM	2.5	225	5	Wood Metal	<175			

_818R

_614R

_650R

_818G

_6118G

_614G

_6114G

_12114G

_810G

_960G

Cast iron	S/STL	4-12	

LENOX Carbide sabre saw blades

Carbide-tipped Lazer CT™ sabre saw blades guarantee high-performance cutting and long working life.

Application: For cutting stainless steel and cast iron.

Designation	58Z 58 8745 Sabre saw blades	Saw blade material	Tooth pitch mm	Blade length mm	Number of blades	
6108RCT	XXX	Carbide	3.1	152	1	<150
9108RCT	XXX	Carbide	3.1	229	1	<175

_6108RCT

_9108RCT

LENOX Sabre saw blades set

Pack of most commonly used types of sabre saw blades for the respective applications, in a handy reclosable and refillable plastic box. One box to cover practically all applications.

Application: For metal.

Content: 3 each bi-metal sabre saw blades size 818R, 618R, 814R
2 each demolition sabre saw blades, size 960R, 818G

Type		M
58Z 58 8750	Sabre saw blades set **13 pieces**	XXX
Suitable for materials		Metal

Hole saws bi-metal

Robust unbreakable construction with variable toothing on flexible special steel body (bimetal). The reinforced stiff base is equipped with thread and drive pin holes (from ∅ 32 mm) for secure mounting on the arbor. The high quality of the HSS teeth, the teeth geometry and the tight manufacturing tolerances guarantee the best cutting performance and tool life.

58 9010 – ■ **Precision ground teeth** – very quick sawing and clean cut edges.

58 9030 – ■ **Variable tooth pitch 4.5 / 5.5 tpi with reinforced teeth (Tough Teeth).**
- ■ Maximum depth of cut for all sizes **40 mm.**
- ■ **Optimised coating** reduces heat development.
- ■ **SPEED SLOT®** – Quick removal of the drill plug by stepped recesses.

58 9010/9050 – ■ **Vario toothing 4/6 tpi for low vibration.**
- ■ Maximum depth of cut for all sizes **38 mm.**

Application: On pillar drills, lathes or hand-held power drills at the appropriate speed. For cutting circular holes from thin-walled to thick-walled material with a flat or convex workpiece surface. Suitable for all materials such as steel, **stainless steel,** brass, copper, cast iron, light metal, wood, plasterboard and plastic panels etc. Use of lubricant will give increased tool life (metals).

58 9030 – Also highly suitable for thin sheet metal bodywork.

Recommendation: The use of cutting oil such as No. 084205 size 0.25 extends the service life and permits more rapid progress through the material.

Note: **Arbors and hole saws are compatible with all commercially available bi-metal hole saws apart from Bosch SDS.**
For hole saws for stone see No. 788000, 788040, 788050.
For carbide hole saws for steel see No. 118400, 118500, 119000.

The accessory system:

58 9010

58 9030

58 9050

Diameter	58 9010 Garant	58 9030 LENOX	58 9050 HOLEX	recommended speed steel	recommended speed INOX	recommended speed aluminium
	Hole saw, bi-metal					
mm				rpm	rpm	rpm
14	XXX	XXX	–	580	300	900
16	XXX	XXX	–	550	275	825
17	XXX	XXX	–	500	250	750
19	XXX	XXX	XXX	460	230	690
20	XXX	XXX	–	445	220	660
21	XXX	XXX	–	425	210	630
22	XXX	XXX	XXX	390	195	585
24	XXX	XXX	–	370	185	555
25	XXX	XXX	XXX	350	175	525
27	XXX	XXX	–	325	180	480
29	XXX	XXX	–	300	150	450
30	XXX	XXX	XXX	285	145	425
32	XXX	XXX	XXX	275	140	410
33	XXX	XXX	–	260	135	390
35	XXX	XXX	XXX	250	125	375
37	XXX	XXX	–	240	120	360
38	XXX	XXX	XXX	230	115	345
40	XXX	XXX	–	220	110	330
41	XXX	XXX	–	210	105	315
43	XXX	XXX	–	205	100	305
44	XXX	XXX	XXX	195	95	295
46	XXX	XXX	–	190	95	285
48	XXX	XXX	–	180	90	270
51	XXX	XXX	XXX	170	85	255
52	XXX	XXX	–	165	80	245
54	XXX	XXX	–	160	80	240

Diameter	58 9010 Garant	58 9030 LENOX	58 9050 HOLEX	recommended speed steel	recommended speed INOX	recommended speed aluminium
	Hole saw, bi-metal					
mm				rpm	rpm	rpm
57	XXX	XXX	XXX	150	75	225
60	XXX	XXX	XXX	140	70	220
64	XXX	XXX	XXX	130	65	205
65	XXX	XXX	–	130	65	200
67	XXX	XXX	XXX	130	65	195
68	XXX	XXX	XXX	130	65	190
70	XXX	XXX	–	125	60	185
73	XXX	XXX	–	120	60	180
76	XXX	XXX	XXX	115	55	170
79	XXX	XXX	–	110	55	165
83	XXX	XXX	XXX	105	52	155
86	XXX	XXX	–	100	50	150
89	XXX	XXX	–	95	45	145
92	XXX	XXX	–	95	45	140
95	XXX	XXX	–	90	45	135
102	XXX	XXX	–	85	40	120
105	XXX	XXX	–	80	40	120
108	XXX	XXX	–	80	40	120
111	XXX	XXX	–	75	35	105
114	XXX	XXX	–	75	35	105
121	XXX	XXX	–	70	35	105
127	XXX	XXX	–	65	30	90
140	XXX	XXX	–	60	30	85
152	XXX	XXX	–	60	30	85
168	–	XXX	–	60	30	85
210	–	XXX	–	60	30	85

Hole saw accessories and sets

Hole saw mounting shanks

58 9310 – Standard mounting shank with high clamping force.
58 9314 – Quick-change mounting shank for quick change of tools (pull, twist, click).

Supplied with: HSS centre drill.

Note: For clamping on stationary machines with mountings other than hexagonal, select drill chuck No. 342220 size 16/16 and the matching plug-in shank.
For instance, for an MT2 arbor, use plug-in shank No. 342500 size 2/16.

58 9310 _30

58 9310 _210S

58 9310 _210L

58 9314 _30

58 9314 _210S

Type		30	210S	210L
525 58 9310	HOLEX Shank	XXX	XXX	XXX
58Z 58 9314	LENOX Quick-change mounting shank	XXX	XXX	–
Shank form		Hexagon		
Width across flats shank (58 9310)	mm	11	11	15.4
Width across flats shank (58 9314)	mm	8.7	8.7	–
suitable for hole saw ∅	mm	14 – 30	32 – 210	32 – 210

Centre drills

58 9430 – **HSS** centre drill for general-purpose use.
58 9432 – **Carbide** centre drill for abrasive materials.

Suitable for: Mounting shank No. 589310.

58 9430

58 9432

Type		6KT	∅ mm	Length mm
58Z 58 9430	Centre drill HSS	XXX	6.35	81
58Z 58 9432	Centre drill carbide-tipped	XXX	6.35	79

Bi-metal hole saw sets

Bi-metal hole saw set with popular hole saw diameters.
HSS Vario toothing for smooth cutting and long service life.

58 9710 – With precision rigid foam inlay for secure retention and easy removal of the hole saws. Stackable modular bar.

Supplied with: Impact-resistant plastic box with bi-metal hole saws, mounting shanks and centre drills.

58 9710_19-68

58 9710_16–76

58 9710 _19–121

58 9730_22–64

58 9730_19–121

58 9750_19-76

Type		22-64	22-68	19-68	19-76	16-76	19-121
51S 58 9710	Garant	–	–	XXX	–	XXX	XXX
58Z 58 9730	LENOX Hole saw set	XXX	–	XXX	–	–	XXX
525 58 9750	HOLEX	–	XXX	–	XXX	–	–
Hole saw ∅	mm	22; 29; 35; 44; 51; 64	22; 30; 35; 44; 51; 68	19; 22; 29; 38; 44; 68	19; 22; 25; 32; 35; 38; 44; 51; 57; 64; 76	16; 19; 22; 25; 29; 32; 35; 38; 44; 51; 68; 76	19; 22; 25; 29; 35; 38; 44; 51; 57; 68; 76; 83; 92; 95; 105; 121
Number of pieces		10	10	12	15	19	23
Number of mounting shanks		2					
Number of centre drills		2	2	4	2	5	5

BOSCH Hole saws bi-metal Power Change Plus

HSS bi-metal hole saw with extremely high wear resistance and long working life.
Progressive tooth profile for quick cutting and ideal chip evacuation.
The **Power Change Plus** system makes it possible for the hole saw to be changed quickly without using tools.
Maximum depth of cut for all sizes **44 mm.**

Application: On stationary and hand-held machines. S
uitable for all materials such as steel, aluminium, stainless steel and wood.

Recommendation: The quality of cut depends on the correct speed and temperature.
The use of cutting oil, such as No. 084205 size 0.25, extends the service life and permits more rapid progress through the material.

58 9790

Diameter	54B 58 9790 Hole saw bi-metal Power Change Plus	recommended speed steel	recommended speed INOX	recommended speed aluminium
mm		rpm	rpm	rpm
16	XXX	550	275	825
19	XXX	460	230	690
20	XXX	445	220	660
22	XXX	390	195	585
25	XXX	350	175	525
29	XXX	300	150	450
32	XXX	275	140	410
35	XXX	250	125	375
38	XXX	230	115	345
40	XXX	220	110	330
44	XXX	195	95	295

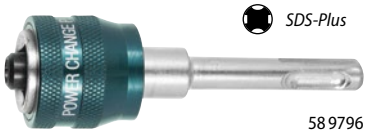
Diameter	54B 58 9790 Hole saw bi-metal Power Change Plus	recommended speed steel	recommended speed INOX	recommended speed aluminium
mm		rpm	rpm	rpm
51	XXX	170	85	255
54	XXX	160	80	240
60	XXX	140	70	220
65	XXX	130	65	200
68	XXX	130	65	190
76	XXX	115	55	170
83	XXX	105	52	155
92	XXX	95	45	140
105	XXX	80	40	120
121	XXX	70	35	105
152	XXX	60	30	85

BOSCH Hole saw accessories and sets

Hole saw mounting shanks Power Change Plus

The **Power Change Plus drive shank** permits change of holes saws and centre drills without the use of tools.

58 9795



58 9796

suitable for hole saw ∅	mm	14-152
54B 58 9795	Drive shank **Power Change Plus hexagonal**	XXX
54B 58 9796	Drive shank **Power Change Plus SDS-Plus**	XXX
Shank form (58 9795)		Hexagon
Shank form (58 9796)		SDS-Plus
Width across flats shank (58 9795)	mm	11
Shank ∅ (58 9796)	mm	10

Centre drills Power Change Plus

HSS Co centre drill for steel and stainless steel. No tools needed for clamping in the drive shank.

Suitable for: Power Change Plus drive shank No. 589795 and 589796.

58 9800

Type		HSS-CO	∅ mm	Length mm
54B 58 9800	Centre drill **Power Change Plus**	XXX	7.15	85

Bi-metal hole sets Power Change Plus

Bi-metal hole saw set with Power Change Plus system in popular diameters.
With hexagonal drive shank and HSS centre drill; in a plastic case.

58 9810

Type		19-83	20-76
54B 58 9810	Bi-metal hole saw set **Power Change Plus**	XXX	XXX
Hole saw ∅	mm	19; 25; 38; 44; 68; 83	20; 22; 25; 32; 35; 40; 44; 51; 60; 68; 76
Number of pieces		9	14
Number of mounting shafts		1	
Number of centre drills		2	

LENOX Carbide hole saw set

Carbide-tipped teeth in popular hole saw diameters.

Application: For cutting wood, steel, stainless steel, cast iron and abrasive materials.

Supplied with: Impact-resistant plastic box with solid carbide hole saws, mounting shanks and centre drills.

58 9065

Type		19-76
58Z 58 9065	Hole saw set **Carbide**	XXX
Hole saw ∅	mm	19;22;25;29;32;35;38;44;51;65;76
Number of pieces		15
Number of mounting shanks		2
Number of centre drills		2

Pictograms

Grinding process		Surface grinding, reciprocating surface grinding		External cylindrical grinding		Bench grinding		
		Internal cylindrical grinding		Profile grinding, tool grinding		Cutting		
Types of abrasive material	**A**	Carborundum, aluminium oxide (Al_2O_3)	**SiC**	Silicon carbide	**D**	Diamond	**CBN**	Cubic boron nitride
Grinding wheel form	**Form 1**	Straight form	**Form 5**	Flat form, recess on one side	**Form 7**	Flat form, recesses on both sides	**Form 6**	Cup form, straight
	Form 41N	Flat form, thin	**Form 1A1R**	Flat form, outer coating	**Form 12A2D**	Backing pad form	**Form 11V9**	Cup form, dished

TYROLIT Ceramic bonded surface grinding wheels

High performance surface grinding wheels with high-porosity bonding system for reduced thermal loading and minimal dressing diamond wear.

- **Universally applicable** for reciprocating grinding processes, which significantly reduces the frequency of wheel changes **in daily operation.**
- For use on all commercially available grinding machines for tool and die making and machine tool building, e.g. Jung, ABA, Blohm, Elb, Mägerle, Ziersch & Baltrusch, Geibel & Hotz, Jones & Shipman.
- **Cooling with emulsion is necessary,** ensure good lubrication, especially on long-chipping materials.

Note: Profile surface grinding wheels available on request.

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
59 0150–59 0696	○	●	●	●				○		○	○					○	●	
59 1106–59 1666		○	○	●	○	○		○	○	○						○	●	
59 1705–59 1735		○	○	●	●	○		●	○								●	
59 1810	●						○		●	●	●			○			●	

Surface grinding wheels for unalloyed and low alloy unhardened steels

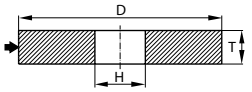
A

Specially treated Aluminium Oxide for grinding **unalloyed and low alloy unhardened steels.**

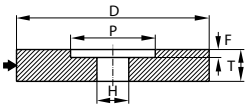
59 0420/0670 – Form 7 with recesses on both sides.
59 0560/0640 – Form 5 with recess on one side.

Application: For rough grinding (roughing).
Specification: **F13A46HH11V-Strato steel low alloyed.**

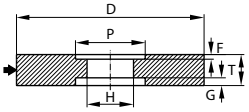
Form 1



Form 5



Form 7



Material	Working speed $v_s = v_c$ (m/s)		Infeed a_e (mm)		Lateral pass (cutting width in %)	Feed rate v_f (mm/min)
	recommended	maximum				
unalloyed/low-alloy unhardened steels	25 – 30	35	Coarse grinding (roughing) fine grinding (finishing)	0.1 – 0.05 0.002 – 0.004	30 – 40 %	10 000 – 20 000
			Spark erosion (without infeed)	1 – 3 passes		
			Depending on the grinding process and type of machine		In relation to the wheel width	Depending on the grinding length and overrun

				Shape	P mm	F mm	G mm
53Y 59 0150	Strato precision surface grinding wheel D×T×H (mm)	200×20×51	XXX	1	–	–	–
53Y 59 0200		225×20×51	XXX	1	–	–	–
53Y 59 0250		225×25×51	XXX	1	–	–	–
53Y 59 0350		250×25×51	XXX	1	–	–	–
53Y 59 0410		300×50×76.2	XXX	1	–	–	–
53Y 59 0420		300×50×76.2	XXX	7	155	10	10
53Y 59 0440		300×50×127	XXX	1	–	–	–
53Y 59 0520		350×40×127	XXX	1	–	–	–
53Y 59 0540		350×50×127	XXX	1	–	–	–
53Y 59 0560		350×50×127	XXX	5	200	10	–
53Y 59 0610		400×40×127	XXX	1	–	–	–
53Y 59 0620		400×50×127	XXX	1	–	–	–
53Y 59 0640		400×50×127	XXX	5	200	10	–
53Y 59 0670		400×80×127	XXX	7	190	15	15

Surface grinding wheels with **100 mm wheel thickness** for cost-effective machining of large workpieces.

59 0694 – Form 5 with recess on one side.

59 0692/0696 – Form 7 with recesses on both sides.

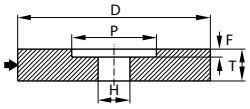
Specification:

59 0692 – **89A462I8AV.**

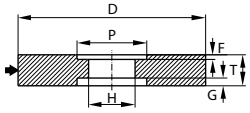
59 0694/0696 – **93A461I9AV.**

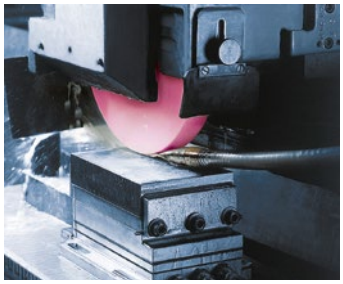
59 0694

Form 5



Form 7





Type			A46	Shape	P mm	F mm	G mm
53Y 59 0692	Precision surface grinding wheel D×T×H (mm)	400×100×127	XXX	7	190	40	10
53Y 59 0694		500×100×203	XXX	5	300	25	–
53Y 59 0696		600×100×304	XXX	7	390	15	15

Material	Working speed $v_s = v_c$ (m/s) recommended	maximum	Infeed a_e (mm)		Lateral pass (cutting width in %)	Feed rate v_f (mm/min)
high alloy steels, hardened steels	20 – 25	35	Coarse grinding (roughing) fine grinding (finishing)	0.002 – 0.02 0.001 – 0.002	30 – 40 %	10 000 – 20 000
			Spark erosion (without infeed)	1 – 3 passes		
stainless, high chromium content steels	25 – 30	35	Coarse grinding (roughing) fine grinding (finishing)	0.005 – 0.02 0.001 – 0.003	30 – 40 %	10 000 – 20 000
			Spark erosion	1 – 3 passes		
Aluminium, non-ferrous metals, castings	25 – 30	35	Coarse grinding (roughing) fine grinding (finishing)	0.005 – 0.1 0.001 – 0.003	30 – 40 %	10 000 – 20 000
			Spark erosion	1 – 3 passes		
			Depending on the grinding process and type of machine		In relation to the wheel width	Depending on the grinding length and overrun

Surface grinding wheels for high alloy and hardened steels

A

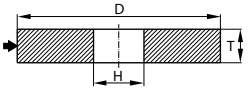
Special Aluminium Oxide for grinding **high-alloy hardened steels, case-hardened and tool steels, Stellite and chilled cast iron.** Especially for hard materials, because of better penetration into the material, the specification of 80 grit achieves optimum results.

59 1426/1666 – Form 7 with recesses on both sides.

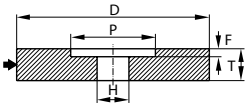
59 1546/1646 – Form 5 with recess on one side.

Specification: 97A801H8AV237-steel high alloyed.

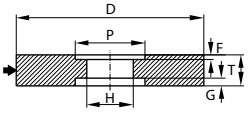
Form 1



Form 5



Form 7



				Shape	P mm	F mm	G mm
53Y 59 1106	Precision surface grinding wheel D×T×H (mm)	200×20×51	XXX	1	–	–	–
53Y 59 1206		225×20×51	XXX	1	–	–	–
53Y 59 1256		225×25×51	XXX	1	–	–	–
53Y 59 1306		250×25×51	XXX	1	–	–	–
53Y 59 1356		250×25×76.2	XXX	1	–	–	–
53Y 59 1426		300×50×76.2	XXX	7	155	10	10
53Y 59 1446		300×50×127	XXX	1	–	–	–
53Y 59 1506		350×40×127	XXX	1	–	–	–
53Y 59 1526		350×50×127	XXX	1	–	–	–
53Y 59 1546		350×50×127	XXX	5	200	10	–
53Y 59 1606		400×40×127	XXX	1	–	–	–
53Y 59 1626		400×50×127	XXX	1	–	–	–
53Y 59 1646		400×50×127	XXX	5	200	10	–
53Y 59 1666		400×80×127	XXX	7	190	15	15

59 1106

Surface grinding wheels for high-alloy hardened steels, HSS and stainless

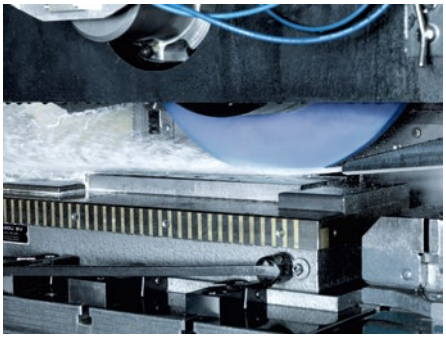
CER

High-performance line with sintered carborundum for **longer working life, freer cutting** and cooler grinding. Particularly suitable for high-alloy hardened steels, stainless steel and high-speed steels with a hardness of 60 HRC. The next higher quality step is offered by the VIB-STAR CBN super-abrasive CBN grinding wheels.

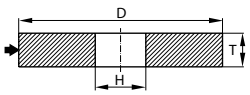
59 1725 – Form 7 with recesses on both sides.

Specification: **454A60J10V3.**

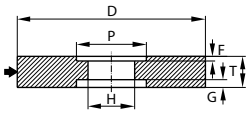
Note:	Suitable also for external cylindrical grinding.



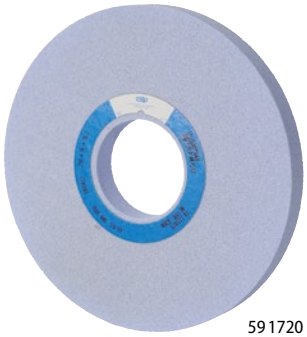
Form 1



Form 7



Type			A60	A80	Shape	P mm	F mm	G mm
53Y 59 1705	Precision surface grinding wheel D×T×H (mm)	200×20×51	XXX	–	1	–	–	–
53Y 59 1710		225×25×51	XXX	–	1	–	–	–
53Y 59 1720		250×25×76.2	XXX	–	1	–	–	–
53Y 59 1725		300×50×76.2	XXX	–	7	155	10	10
53Y 59 1730		350×40×127	XXX	–	1	–	–	–
53Y 59 1735		400×50×127	XXX	XXX	1	–	–	–



59 1720

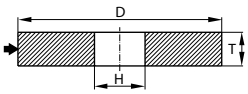
Surface grinding wheels for NF metals, titanium, carbide, cast iron

SiC

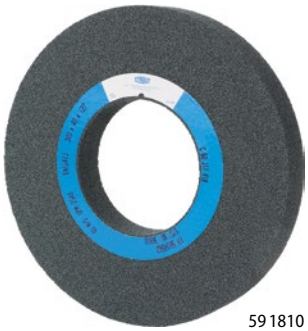
Form 1

Open-pored **silicon carbide** grinding wheel with **low tendency to clog.** Suitable for grinding aluminium, NF metals, titanium, carbide and cast iron.

Specification: **C60J11V18.**



Type			C60	Shape
53Y 59 1810	Precision surface grinding wheel D×T×H (mm)	300×40×127	XXX	1



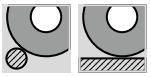
59 1810

TYROLIT Extended precision grinding media range

Other sizes and shapes can be found in the extended Tyrolit range.

- Reciprocating surface grinding
- Profile surface grinding
- External cylindrical grinding
- Internal cylindrical grinding
- Bench grinder
- Saw sharpening
- Tool grinding

The enquiry form for special requirements can be obtained by download from our website.



Form 1A1

TYROLIT Synthetic resin-bonded surface and external cylindrical grinding wheels with CBN or diamond

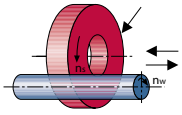
Surface grinding and external cylindrical grinding wheels, **highly developed,** with **super-abrasives** (CBN or diamond) in synthetic resin bonding. The high-strength, **vibration-optimised VIB STAR grinding wheel base body** permits a **high damping** for a smooth, even grinding process with high surface quality.

- **Extreme performance improvement (G-factor)** compared to conventional grinding media.
- **The vibration-damping design of the carrier body significantly increases the working life.**
- **Continuous self-sharpening effect due to even power consumption and avoidance of cyclical sharpening operations.**

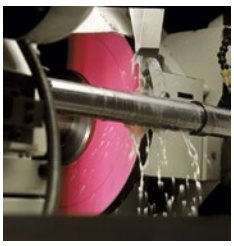
Application:

- **General use for all materials from a hardness of about 58 HRC (limit of economic use).**
- **For surface grinding and external cylindrical grinding (straight longitudinal grinding, recess grinding).**
- Can be used on all commercially available grinding machines for tool and die making and machine tool building, e.g. Jung, ABA, Blohm, Elb, Mägerle, Ziersch & Hotz, Jones & Shipman.
- Cooling with emulsion or grinding oil is necessary.
- Superabrasive CBN / diamond grinding wheels are always used **with less than half the wheel width** compared to that for conventional grinding wheels.

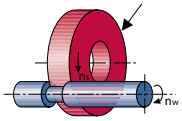
Note: Before initial grinding, these grinding wheels can be dressed on a soft steel block at an infeed of approx. 0.02 mm. Alternatively with a dressing tool No. 599600. Sharpen grinding wheels (opening up the bonding) using sharpening stone No. 599840.



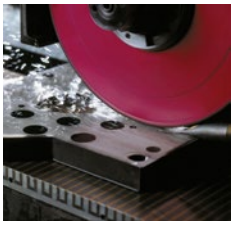
Longitudinal grinding process



External cylindrical grinding process



Recess grinding process



Surface grinding process

Material	Working speed $v_s = v_c$ (m/s)		Workpiece dimensions (mm)	Workpiece rotational speed (rpm)	Infeed a_e (mm)				Lateral pass (longitudinal grinding, surface grinding) %	Feed rate (surface grinding) v_f (mm/min)
	recommended	maximum permissible				Recess grinding a_e (mm/min)	Longitudinal grinding a_e (mm/min)	Surface grinding a_e (mm/min)		
High-alloy, hardened steels, hardened HSS	20 – 25	63	Ø < 25	150 – 300	Initial pass Intermed. pass Finishing pass Spark erosion	1.5 0.5 0.1 5 turns	0.015 0.005 – 0.01 0.002 – 0.005 1 – 2 passes	0.01 – 0.02 0.002 – 0.005 1 – 3 passes	30 – 40 %	10.000 – 20.000
			25 < Ø < 50	80 – 150						
Carbide	15 – 20	63	Ø < 25	150 – 300	Initial pass Intermed. pass Finishing pass Spark erosion	1 0.3 0.1 5 turns	0.01 – 0.015 0.003 – 0.005 0.002 – 0.005 1 – 3 passes	0.005 – 0.02 0.002 – 0.005 1 – 3 passes	30 – 40 %	10.000 – 20.000
			25 < Ø < 50	80 – 150						

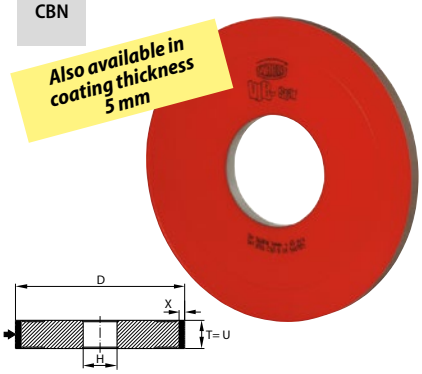
	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
59 2010–59 2035		○	○	●	●	●		○		○							●	
59 2040–59 2065							●		○			○					●	

CBN surface and external cylindrical grinding wheels for workpieces containing iron

CBN grit for high performance grinding of **long-chipping ferrous materials** such as hardened high-alloy chrome steels and HSS tool steels (including powder metallurgy grades) and nickel-based alloys.

Specification: **B126C50B-VIB-STAR HSS**

CBN



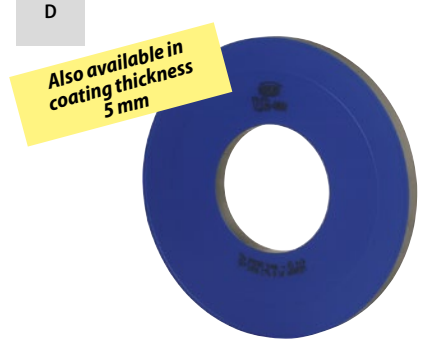
Coating thickness X		mm	3	Shape	U mm	X mm
53Y 59 2010	VIB STAR precision grinding wheel CBN D×T×H (mm) **B126**	200×15×51	XXX	1A1	15	3
53Y 59 2015		225×15×51	XXX	1A1	15	3
53Y 59 2020		300×20×76.2	XXX	1A1	20	3
53Y 59 2025		300×20×127	XXX	1A1	20	3
53Y 59 2030		350×20×127	XXX	1A1	20	3
53Y 59 2035		400×20×127	XXX	1A1	20	3

Diamond surface and external cylindrical grinding wheels for workpieces with zero iron content

Diamond coating for high performance grinding of **short chipping non-ferrous materials** such as carbide, ceramic materials (PCS), hard coatings.

Specification: **D126C75B-VIB-STAR W-Carbide.**

D



Coating thickness X		mm	3	Shape	U mm	X mm
53Y 59 2040	VIB STAR precision grinding wheel DIAMANT D×T×H (mm) **D126**	200×10×51	XXX	1A1	10	3
53Y 59 2045		225×15×51	XXX	1A1	15	3
53Y 59 2050		300×20×76.2	XXX	1A1	20	3
53Y 59 2055		300×20×127	XXX	1A1	20	3
53Y 59 2060		350×20×127	XXX	1A1	20	3
53Y 59 2065		400×20×127	XXX	1A1	20	3

A | Form 1

Ceramic bonded external cylindrical grinding wheels

High performance external cylindrical grinding wheels in ceramic bonding. The grinding wheel structure incorporates the optimum match of grit volume and bonding volume; bonding strength and manufacturing process are characterised by:

- **High cutting effectiveness and reduced grinding times with low wear.**
- **Low thermal loading, cool cutting.**
- **Long cycles between dressing operations mean reduced downtime.**

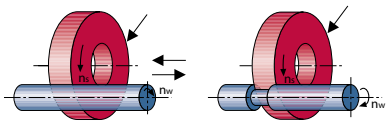
59 4225–4565 – **Specification: 89A 802J5 AV217.** Aluminium oxide for **general purpose** use.

59 4588–4595 – **Specification: 454A 802J10 V3.** Sintered aluminium oxide for longer working life and better metal removal rate. Particularly suitable for **high alloy steels / HSS.**

Application:

- **For general use in external cylindrical grinding (straight/ oblique longitudinal grinding, recess grinding).**
- For use on all grinding machines generally used for tool and die making, and machine tool building (e.g. Kellenberger, Studer, Schaudt, Tschudin, etc.)
- Cooling with emulsion is necessary, good lubrication on long-chipping materials is absolutely necessary.

Note: Suitable also for surface grinding.



Longitudinal grinding process *Recess grinding process*

Material	Working speed $v_s = v_c$ (m/s) recommended	Working speed $v_s = v_c$ (m/s) maximum	Workpiece dimensions (mm)	Workpiece speed (rpm)	Infeed a_e (mm)	Recess grinding a_e (mm/min)	Longitudinal grinding a_e (mm/pass)	Lateral pass (longitudinal grinding)
low-alloy and high-alloy steels, hardened	25 – 40	50	∅ 50	120	Initial pass Intermed. pass Finishing pass Spark erosion	2.5 1 0.1 5 turns	0.02 – 0.05 0.01 – 0.005 0.002 1 – 2 passes	30 – 40 %
			∅ 100	60				

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
59 4225–59 4565		●	●	●	●			○		○						●	●	
59 4588–59 4595				●	●	●		○									●	

			A80	Shape
53Y 59 4225	Precision external cylindrical grinding wheel D×T×H (mm)	350×32×127	XXX	1
53Y 59 4345		400×40×127	XXX	1
53Y 59 4565		500×60×203.2	XXX	1

			A80	Shape
53Y 59 4588	Precision external cylindrical grinding wheel D×T×H (mm)	400×30×127	XXX	1
53Y 59 4590		400×40×127	XXX	1
53Y 59 4592		400×60×127	XXX	1
53Y 59 4593		500×40×203.2	XXX	1
53Y 59 4594		500×50×203.2	XXX	1
53Y 59 4595		500×60×203.2	XXX	1

59 4225 – 59 4565 59 4588 – 59 4595

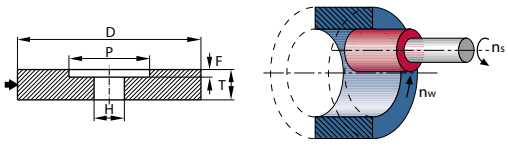
A | Form 5

Ceramic bonded internal cylindrical grinding wheels

High performance special electro-bonded Aluminium Oxide internal cylindrical grinding wheels in ceramic bonding.

Application: General use for internal cylindrical grinding, e.g. for grinding through holes, dowel holes.

Specification: **97A802I5V112 Steel universal.**



Material	Working speed $v_s = v_c$ (m/s) recommended	Working speed $v_s = v_c$ (m/s) maximum	Workpiece dimensions (mm)	Workpiece speed (rpm)	Oscillation (internal longitudinal grinding) (passes/min)	Infeed a_e (mm)	
low-alloy and high-alloy steels, hardened	50 – 80	80	∅ 25	300	60 – 100 %	Initial pass Intermed. pass Finishing pass Spark erosion	0.02 – 0.05 0.01 – 0.005 0.001 – 0.002 5 passes
			∅ 50	150			

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
59 5023–59 5051		○	○	●	○			○									●	

					Shape	P mm	F mm
53Y 59 5023	Precision internal cylindrical grinding wheel D×T×H (mm)	20×20×6	XXX	25	5	13	7
53Y 59 5024		25×25×10	XXX	10	5	16	10
53Y 59 5034		32×32×10	XXX	10	5	18	16
53Y 59 5043		40×40×13	XXX	10	5	20	20
53Y 59 5051		50×40×16	XXX	10	5	30	13

A | SiC | Form 1 | Form 5

TYROLIT Bench grinding wheels and dressing wheels

Size C800 – **Resiliently bonded honing wheels**, very soft. Maximum working speed 25 m/s.
59 6610 – Shape 5 with single-sided recess 125×20 mm.

Size NK36; NK60; EK60; EK80; SC46; SC80 –
High-quality long-lasting bench grinder wheels in ceramic bonding. Very low radial and axial run-out, maximum cutting speed 40 m/s. For **general use** on double-ended bench grinding machines for deburring, sharpening and resharpening tools.

Application:

Size SC46 – For aluminium and non-ferrous metals.
Size SC80 – For sharpening solid carbide and carbide-tipped tools as well as cast iron components.
Size C800 – For sharpening of cutting, polishing, effect grinding and fine deburring work.
The clamping flange diameter area must be at least 2/3 of the wheel diameter.
Size EK60; EK80 – For hardened steels and HSS.
Size NK36; NK60 – For construction steels and low-alloy steels and also grey cast iron.

Supplied with: Reducing ring set for the indicated bores.

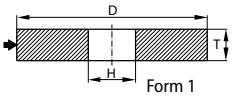
Specification:

Size SC46 – **Silicon carbide,** green, hardness grade H.
Size SC80 – Green **silicon carbide**, hardness grade J.
Size C800 – **PU-bonded silicon carbide.**
Size EK60; EK80 – White **electro-bonded aluminium oxide**, hardness grade M
Size NK36; NK60 – **Standard aluminium oxide** grey-blue, hardness grade M.

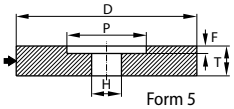
Note:	For compact deburring wheels see No. 568725 ff.

Form 5

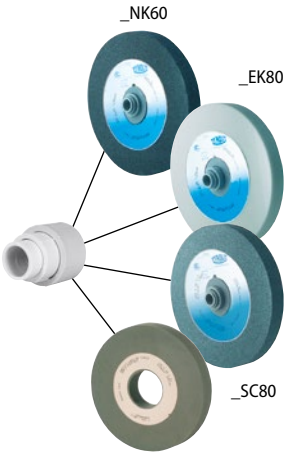
_NK60 _EK60 _SC80 _C800



Form 1



Form 5



	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
C800	○	●	●	●	●	●	●	●	●	○	○	○						●
EK60/EK80	○	○	●	●	●	●		●	○	○	○					●		●
SC46	●										●							●
SC80	○			○	○	○	●	●	○	●	○			●				●
NK36/NK60	○	●	●	●	●			○	○	○	○	○		●		●		●

Type			NK36	NK60	EK60	EK80	SC46	SC80	C800	Reducing ring inner ∅ mm	Shape
53Y 59 6100	Bench grinding wheel D×T×H (mm)	125×20×32	–	–	–	XXX	XXX	XXX	XXX	16; 20; 25	1
53Y 59 6200		150×20×32	XXX	XXX	XXX	XXX	XXX	XXX	XXX	16; 20; 25	1
53Y 59 6220		150×25×51	–	XXX	XXX	XXX	–	XXX	–	32	1
53Y 59 6310		175×25×32	XXX	XXX	XXX	XXX	XXX	XXX	–	16; 20; 25	1
53Y 59 6350		175×25×51	XXX	XXX	XXX	XXX	–	XXX	XXX	32	1
53Y 59 6400		200×25×51	–	XXX	XXX	XXX	XXX	XXX	–	32	1
53Y 59 6410		200×32×51	XXX	XXX	XXX	XXX	–	XXX	–	32	1
53Y 59 6510		250×32×51	XXX	XXX	XXX	XXX	–	XXX	–	32	1
53Y 59 6610		300×40×76	–	XXX	XXX	–	–	XXX	–	40; 51	5
Grit designation			coarse	medium	medium	fine	medium	fine	extra fine		

Reducer ring sets for bench grinding wheels

To reduce the bore ∅ of bench grinding wheels.

for the natural bore of the grinding wheel		mm	32	51	76
53Y 59 6000	Reducing ring set		XXX	XXX	XXX
Reducing ring inner ∅		mm	16; 20; 25	32	40; 51

_32

TYROLIT Cutting discs and laboratory cutting discs

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
59 8500–59 8530		●	●	●	●			●	●			○						●
59 8590–59 8630							●					○		○			●	○
59 8710–59 8740		●	●	●	●	●		●	○	●							●	

Synthetic resin-bonded cutting discs

A | Form 41N

Non-fabric, synthetic resin-bonded Aluminium Oxide abrasive cutting disc for all steels including HSS.

Application:
- **Cutting** on **stationary cutting grinding machines** (without fabric reinforcing, i.e. **not suitable for free-hand cutting).**
- **Working speed 30 m/s, maximum 80 m/s.**

Specification:

59 8500 – **A80N4B68 HSS.**

59 8520/8530 – **A60N5B68 HSS.**

Note: Saw sharpening discs available on request.

59 8530

					Shape
53Y 59 8500	Cutting disc D×T×H (mm)	100×1×20	XXX	10	41N
53Y 59 8520		125×1×20	XXX	10	41N
53Y 59 8530		150×1×20	XXX	10	41N

Synthetic resin-bonded diamond cutting discs

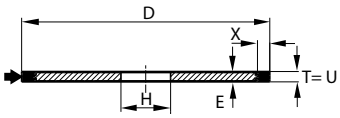
D | Form 1A1R

High performance cutting disc with diamond coating in synthetic resin bonding with very long working life and high cutting performance.

59 8590 – **Specification: D126C75B-Carbide.**

59 8600–8630 – **Specification: D126/D151C100B-Carbide.**

Application:
- **Cutting carbide** on **stationary cutting grinding machines.**
- **Wet cutting is preferred** (working life, temperature, performance).
- Working speed **20–40 m/s.**



59 8630

Type			D126	D151	Shape	U mm	X mm
53Y 59 8590	Diamond cutting disc D×T×H (mm)	75×0.8×20	XXX	–	1A1R	0.8	5
53Y 59 8600		100×1×20	XXX	–	1A1R	1	5
53Y 59 8620		125×1×20	XXX	–	1A1R	1	5
53Y 59 8630		150×1×20	XXX	XXX	1A1R	1	5

Synthetic resin-bonded laboratory cutting discs

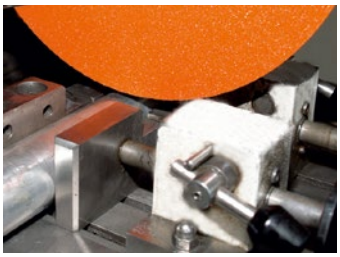
A | Form 41N

SECUR LAB high performance laboratory cutting discs, of non-fabric, synthetic resin-bonded Aluminium Oxide for cutting off smelted steels, all kinds of powdered metallurgy steels, and all ferrous metals of various hardnesses.

Size 60 – Medium-hard cutting disc for material hardnesses of approx. 20 -62 HRC (250 -700 HV). **Specification: A80-BM.**

Size 67 – Soft, extremely quick-cutting disc for material hardnesses of approx. 60 -67 HRC (600 -900 HV). **Specification: A80-BS.**

Application:
- Cutting off metallurgical samples on stationary cutting grinding machines in the laboratory
- Exclusively wet cutting, coolant lubrication is required.
- Working speed **30 m/s, maximum 50 m/s.**
- Excessive pressure will cause the cut to wander.



_60

_67

Type			60	67		Shape
53Y 59 8710	SECUR LAB laboratory cutting disc D×T×H (mm)	230×1.5×32	XXX	–	10	41N
53Y 59 8720		250×1.5×32	XXX	XXX	10	41N
53Y 59 8730		300×2×32	XXX	–	10	41N
53Y 59 8740		350×2.5×32	XXX	–	10	41N

Form 6

A | SiC

TYROLIT Ceramic bonded cup grinding wheels for tool sharpening

Tapered-cup grinding wheel with:

Size EK80 – **White electro-bonded Aluminium Oxide. Specification: 89A80I7AV53 steel, universal.**

Size SK80 – **Sintered aluminium oxide. Specification: 454A801N5V3U5 steel, high alloyed.**

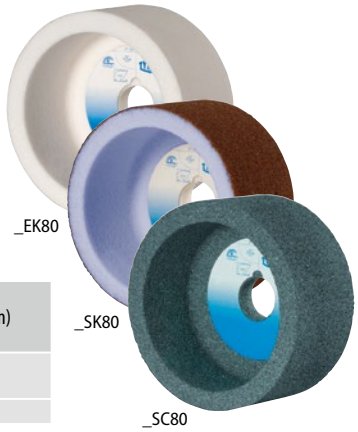
Size SC80 – **Green silicon carbide. Specification: C80I5V15-W-Carbide.**

Advantage:

59 7010 Size SK80 – **With all-round synthetic resin impregnation** for increased edge stability.

59 7025 – **With all-round synthetic resin impregnation** for increased edge stability.

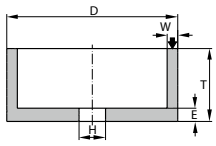
Application: **For sharpening of drills, milling cutters, etc.** Wet cutting with emulsion or cutting oil recommended.



Material	Working speed v_s (m/s) recommended	Working speed v_s (m/s) maximum	Infeed a_e (mm)		Feed rate v_f (mm/min)
high-alloy steels, tool steels, HSS	25 – 30	35	EK80, SK80 grit	0,05 – 0,2	2 000 – 10 000
Carbide	20 – 25	35	SC80 grit	0,005 – 0,05	2 000 – 7 000

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
EK80 -		●	●	●	○			○									●	○
SK80 -		○	○	○	●	●		●									●	○
SC80 -							●			○							●	○

Type			EK80	SK80	SC80	Shape	W mm	E mm
53Y 59 7010	Cup grinding wheel ceramic D×W×H (mm)	80×40×20	XXX	XXX	–	6	6	10
53Y 59 7020		100×50×20	XXX	–	–	6	10	10
53Y 59 7021		100×50×20	–	–	XXX	6	10	10
53Y 59 7025		100×50×20	XXX	XXX	–	6	10	10



59

CBN | Form 1A1 | Form 11V9 | Form 12A2D | Form 12C2F | Form 12V9 | Form 4BT9

TYROLIT CBN synthetic resin bonding - dry grinding

Tool grinding wheels with **CBN grit** in synthetic resin bonding for long service life and consistently high metal removal rates. The sandwich carrier body system of composite aluminium materials ensures high vibration damping and hence smooth grinding with consistent grinding results at high surface quality.

Size B126 – For fine surface quality and good metal removal rates. **Specification: B126C75B AMIGO-HSS.**

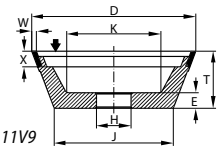
Size B151 – For medium fine surface quality and very good metal removal rates. **Specification: B151C75B AMIGO-HSS.**

Application: **For tool grinding on all common tool grinding machines. For grinding high alloy (HSS) tool steels and case-hardening steels, Stellite.**

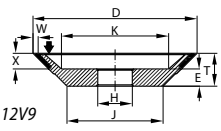
Material	Working speed v_s (m/s) wet	Working speed v_s (m/s) dry	Working speed v_s (m/s) maximum	Infeed a_e (mm)		Feed rate v_f (mm/min)
HSS, high-alloy steels	25 – 40	20 – 25	50	151 – 126 µm grit 91 µm grit	0.009 – 0.02 0.005 – 0.008	20 – 200

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
59 7210–59 7490	○	○	●	●	●												○	●

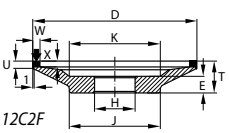
Type			B126	B151	Shape	W mm	X mm	U mm
53Y 59 7210	CBN cup grinding wheel D×T×H (mm)	75×30×20	XXX	–	11V9	2	10	–
53Y 59 7220		100×35×20	XXX	XXX	11V9	2	10	–
53Y 59 7240		100×35×20	XXX	–	11V9	3	10	–
53Y 59 7260		125×40×20	XXX	–	11V9	2	10	–
53Y 59 7310		75×20×20	(XXX)	–	12V9	2	6	–
53Y 59 7320		100×20×20	XXX	–	12V9	2	10	–
53Y 59 7360		125×25×20	XXX	–	12V9	2	10	–
53Y 59 7410	CBN dished grinding wheel D×T×H (mm)	100×21×20	XXX	–	12C2F	5	4	5
53Y 59 7440		125×23×20	–	XXX	12C2F	5	4	5
53Y 59 7430		150×25×20	(XXX)	–	12A2D	10	3	–
53Y 59 7460		100×10×20	(XXX)	–	4BT9	10	1	–
53Y 59 7490		100×10×20	XXX	–	1A1	10	6	–



Form 11V9



Form 12V9



Form 12C2F

TYROLIT Diamond tool grinding wheels

D

Material	Working speed v_s (m/s)			Infeed a_e (mm)		Feed rate v_f (mm/min)
	wet	dry	maximum			
Carbide	20 – 30	15 – 20	50	Grain size 181 – 91 µm grain size 64 – 54 µm	0.009 – 0.02 0.005 – 0.008	20 – 200

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
59 7510–59 7910							●					○					○	●
59 7952–59 7966							●					○					●	

Synthetic resin bonding – dry grinding

Cup grinding wheels and dished grinding wheels with diamond abrasive coating.

Size D64 – Fine-grained for the best surface quality and good metal removal rates. **Specification: D64C50B DIAGO W-Carbide.**

Size D126 – General-purpose grit for medium to fine surface quality and very good metal removal rates. **Specification: D126C75B DIAGO W-Carbide.**

Size D181 – Coarse-grained for the best metal removal rates. **Specification: D181C75B DIAGO W-Carbide.**

Size D91 – General-purpose grit for medium to fine surface quality and very good metal removal rates. **Specification: D91C75B DIAGO W-Carbide.**

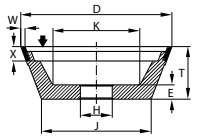
Size D151 – Coarse-grained for the best metal removal rates. **Specification: D151C75B DIAGO W-Carbide.**

Application: **For general use on all common tool grinding machines.** For grinding **carbide tools and short chipping non-ferrous materials.** Very well suited to dry grinding, but can also be used for wet grinding.

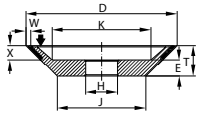
59 7610 59 7700 59 7750

Type			D64	D91	D126	D151	D181	Shape	W mm	X mm
53Y 59 7510	Diamond cup grinding wheel D×T×H (mm)	75×30×20	XXX	–	XXX	–	–	11V9	2	10
53Y 59 7520		100×35×20	XXX	–	XXX	–	XXX	11V9	2	10
53Y 59 7540		100×35×20	XXX	–	XXX	–	–	11V9	3	10
53Y 59 7560		125×40×20	–	–	XXX	–	–	11V9	3	10
53Y 59 7610		75×20×20	XXX	–	XXX	–	–	12V9	2	6
53Y 59 7620		100×20×20	–	XXX	XXX	–	–	12V9	2	10
53Y 59 7700	Diamond dished grinding wheel D×T×H (mm)	100×25×20	XXX	–	XXX	–	–	12A2D	6	2
53Y 59 7710		100×25×20	–	–	XXX	–	–	12A2D	10	3
53Y 59 7720		125×25×20	–	–	XXX	–	–	12A2D	10	3
53Y 59 7730		150×25×20	–	–	XXX	–	–	12A2D	10	3
53Y 59 7750		125×23×20	(XXX)	–	XXX	XXX	–	12A2F	5	4
53Y 59 7760		100×10×20	–	XXX	–	–	–	4BT9	10	1
53Y 59 7810		125×10×20	(XXX)	–	–	–	–	4A2	5	2
53Y 59 7820		150×12×20	XXX	–	–	–	–	4A2	5	2
53Y 59 7910		100×10×20	–	–	XXX	–	–	1A1	10	3

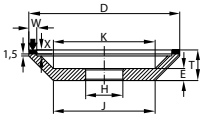
Form 11V9



Form 12V9



Form 12A2D



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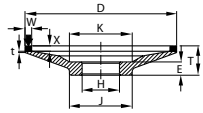
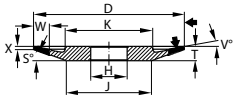
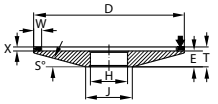


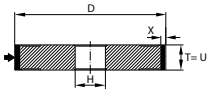
Form 4BT9



Form 4A2



Form 1A1



Metal bonding – wet grinding

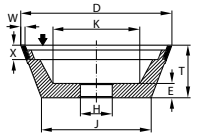
High-performance cup grinding wheels with diamond grit in metal bonding, giving increased strength and optimised binding of the diamond grit. The optimum combination of grit and binding agent reduces the cutting forces, permitting **very high grinding performance** and **feed rates.** Very high edge stability improves the **profile accuracy** even at high feed rates and **extends the dressing intervals** at constant surface finishes. **Specification: D64BXP-P STARTEC XP-P.**

Application: High-performance grinding (slot grinding) of rotating solid carbide cutting tools. For wet grinding with oil (recommended) or emulsion/water.

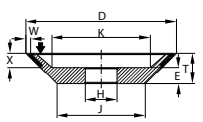
59 7952

Type			D64	Shape	W mm	X mm
53Y 59 7952	Diamond cup grinding wheel STARTEC XP-P D×T×H (mm)	75×30×20	(XXX)	11V9	3	10
53Y 59 7954		100×35×20	XXX	11V9	3	10
53Y 59 7956		125×40×20	(XXX)	11V9	3	10
53Y 59 7964		100×20×20	XXX	12V9	3	10
53Y 59 7966		125×25×20	XXX	12V9	3	10

Form 11V9



Form 12V9



Form 11A2

D CBN

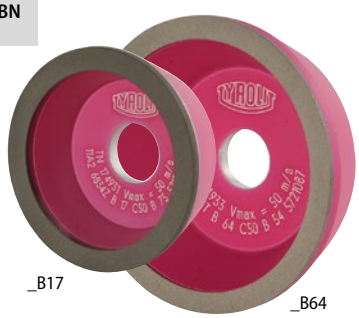
Diamond or CBN combination cup grinding wheel for Deckel S0/S0E

Cup grinding wheels with CBN or diamond abrasive coating.

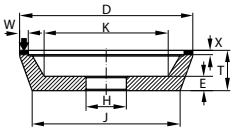
Application: **For cost-effective initial and finish grinding** of HSS and carbide styluses without changing the wheel, for Deckel S0 / S0E. Can be used in pairs with No. 597111 / 597112 or 597121 / 597122.

597111/7112 – Diamond coating for high performance grinding of short-chipping materials with no ferrous content such as carbide, polycrystalline (PCD) tool materials, ceramic materials (PCS).
Specification D15C50B, D64C50B W-Carbide.

597121/7122 – CBN coating for high performance grinding of long-chipping ferrous materials such as hardened chrome steels and HSS tool steels (including powder metallurgy grades) and nickel-based alloys.
Specification: B17C50B, B64C50B HSS.



_B17 _B64



Form 11A2

	AlMg	< 900 N	< 1400 N	< 55 HRC	< 60 HRC	< 67 HRC	Carbide	INOX	Ti	GG(G)	CuZn	Plastics & GRP	Wood	Stone	Varnish	Uni		
597111/7112							●					○						●
597121/7122	○	○	●	●	●													●

Type			D15	D64	B17	B64	Shape	W mm	X mm
53Y 59 7111	Combination diamond cup grinding wheel for Deckel S0 / S0E D×T×H (mm)	75×26×20	XXX	–	–	–	11A2	8	2
53Y 59 7112		100×30×20	–	XXX	–	–	11A2	8	2
53Y 59 7121	Combination CBN cup grinding wheel for Deckel S0 / S0E D×T×H (mm)	75×26×20	–	–	XXX	–	11A2	8	3
53Y 59 7122		100×30×20	–	–	–	XXX	11A2	8	2

59

Grinding wheel dresser

Grinding wheel dresser with wooden handle

Strong, handy wooden handle. A sturdy metal cage prevents grinding grit and sparks from flying out.

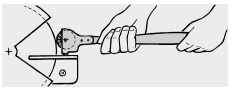
Size DIA – Very high wear resistance, with fixed diamond dressing segments.

Size STEEL – SIEVERT grinding wheel dressers with U-shape profile toothed discs made of Swedish steel, hardened and particularly wear-resistant.

Application: **For coarse dressing and sharpening of grinding wheels.**

D

59 9100_DIA



59 9100_STEEL

Type		DIA	STEEL
53Y 59 9100	Grinding wheel dresser	XXX	XXX
Dresser medium		Diamond segment	Steel roller
Overall length	mm	420	435
for grinding wheel ∅	mm	250 – 600	250 – 500

Replacement dressing set for grinding wheel dresser with wooden handle.

Suitable for:

Size DIA – Diamond grinding wheel dresser No. 599100 DIA.

Size STEEL – Steel grinding wheel dresser No. 599100 STEEL.

D

59 9110_DIA

59 9110_STEEL

Type		DIA	STEEL
53Y 59 9110	Replacement dressing set	XXX	XXX
Roll ∅	mm	–	55
Roller width	mm	–	24
Segment height	mm	5	–
Segment length	mm	5	–
Segment width	mm	24	–

Diamond grinding wheel dresser

D

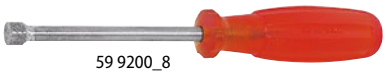
Brazed-on high-quality multi-grit diamond multi-grit dresser with long service life, comfortable plastic handle.

Size 8 – **Round shape.**

Size 40×5 – **Hammer shape,** dressing the circumferential face.

Size 40×5P – **P-shape,** dressing the end face.

Application: For precise dressing and profiling of ceramic grinding wheels.



59 9200_8

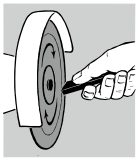
59 9200_40×5

59 9200_40×5P

Dimensions	mm	8	40×5	40×5P
53Y 59 9200	Diamond grinding wheel dresser with handle	XXX	XXX	XXX
Overall length	mm	218	220	215
Diamond weight	ct	2.5	3.5	3.5

Grinding wheel dresser

Boron carbide grinding wheel dresser



Dressing stone of pure sintered **boron carbide (without binding agent),** the hardest material after diamond.

Application: For economical dressing, sharpening, and profiling of **grinding wheels.**
Use only the edges for dressing, never the full face!

53D 59 9450	Boron carbide grinding wheel dresser (without holder)		XXX
Length		mm	75
Width		mm	12
Height		mm	6
suitable for grinding wheels up to ∅		mm	300
suitable for grinding wheels up to hardness			M (medium)

59 9450

Suitable for: Boron carbide grinding wheel dresser No. 599450.
Application: Holder with wooden handle and clamping device.

59 9460

53D 59 9460	Holder with wooden handle for boron carbide dresser		XXX
Overall length		mm	230

Grinding wheel dressing stick / stone

SiC

Coarse grit hard silicon carbide in a metal sleeve; with handy wooden handle.

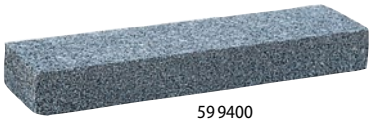
59 9420

53Y 59 9420	TYROLIT Grinding wheel dressing stick		XXX
Rod ∅		mm	17
Overall length		mm	290

SiC

Rectangular, coarse grit block (SiC24).

Application: For grinding wheels, but also for coarse grinding of steel, granite, marble, and synthetic stone.



59 9400

53Y 59 9400	TYROLIT Grinding wheel dressing stone		XXX
Length		mm	200
Width		mm	50
Height		mm	25

TYROLIT Sharpening stone for CBN and diamond grinding wheels

A

Roughening and sharpening stones of homogeneous structures; various sizes.
Aluminium Oxide sharpening stone in **ceramic bonding (standard application).**

Application:
- **Sharpening (recreating the grit projections) of diamond and CBN grinding wheels** after dressing or during the grinding process. The bonding is cut back and the sharp diamond and CBN grit particles are made available again.
- Use **manually** or **stationary** on grinding machines with **radial in-feed.**
- Sharpening wet is recommended.

Note: Store sharpening stones preferably wet.

_EK240

Grit type and grit			EK240	EK600	Length mm	Width mm	Height mm
53Y 59 9800	Sharpening stone for CBN and diamond grinding wheels		–	XXX	100	25	13
53Y 59 9820			XXX	–	200	25	13
53Y 59 9840			XXX	XXX	200	50	25
Specification			A240V	A600V			
for grinding wheel grit range		µm	46 – 126	< 46			

_EK600

TYROLIT Professional precision grinding catalogue

The precision grinding range of Group 59 has been complemented by a **significantly extended precision grinding range** stocked by our supplier TYROLIT.

Request the professional precision grinding catalogue from us now.

The benefits for you:
- Approx. 1400 items in stock.
- Short delivery time.
- Small order quantities acceptable (single wheels or pack quantity).
- Well-proven simple and reliable processing by the Hoffmann Group.

D

TYROLIT Diamond grinding wheel dresser

Diamond grinding wheel dresser with plain, MT0 or MT1 arbor

Standard dressing tool for all machines with suitable holders. The dressers are intended to be **disposable** and should be renewed completely on reaching their wear limit. (They cannot be replaced in the holder.)

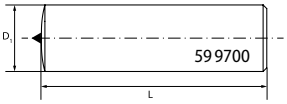
Size 2,4 – Disposable **multi-grit** dresser with several individual diamonds.
Size 0,4–1,5 – Disposable **single grit** diamond dresser.
59 9710/9720 – With spanner flats for each removal.

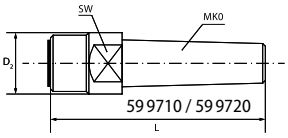
Application: For precision dressing and sharpening of grinding wheels to (re)create a defined condition of the grinding tool (axial and radial run-out, surface structure, grinding behaviour). For one-off and short series manufacture. Ensure sufficient flow of cooling lubrication. Short clamping distances (free length < 2×D) avoid vibration problems.

Size 2,4 – For **straight** grinding wheel profiles for surface and external cylindrical grinding.
Size 0,4–1,5 – For straight, **slightly concave, and convex** grinding wheel profiles for external cylindrical grinding, surface grinding, **internal cylindrical grinding and profile grinding in the absence of sharp points.** Take care to mount the device in the correct position (inclination 3° to 15° to the grinding centre for both axial directions). So that the dresser wheel wears evenly, turn it 90° in the holder at regular intervals.

_0,4; _0,7; _1,5 *Single grit*

_2,4 *Multi-grit*





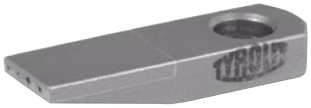
Diamond weight		Carat	0,4	0,7	1,5	2,4
53Y 59 9700	Diamond dresser **cylindrical**		XXX	XXX	XXX	XXX
53Y 59 9710	Diamond dresser **with MT0 arbor**		XXX	XXX	XXX	XXX
53Y 59 9720	Diamond dresser **with MT1 arbor**		XXX	XXX	XXX	XXX
Dresser type			Single grit	Single grit	Single grit	Multi-grit
Ø D_1 (59 9700)		mm	8	10	10	10
Ø D_2 (59 9710)		mm	9.3	9.3	14	14
Ø D_2 (59 9720)		mm	12.4	12.4	12.4	14
L (59 9700)		mm	80	70	70	60
L (59 9710)		mm	31.5	31.5	42	42
L (59 9720)		mm	49	49	49	57
for grinding wheel sizes		mm	Ø125×30–Ø250×15	Ø250×50–Ø400×35	Ø400×100–Ø800×50	maximum Ø500

Diamond dressing tools

Disposable dressing tool, laterally sintered.

Size B115 – Coating length 15 mm, coating width 10 mm, coating thickness 1.15 mm.
Size C180 – Coating length 10 mm, coating width 20 mm, coating thickness 1.8 mm.

Application: For straight and simple grinding wheel profiles or cylindrical and surface grinding machines.



59 9760

Type		B115	C180
53Y 59 9760	Grit dressing tool L×W×H 33×10.5×5 mm	XXX	–
53Y 59 9770	Needle point dressing tool L×W×H 28×20.5×5 mm	–	XXX

TYROLIT Grinding wheel dressing device

Dressing device for **mounting on the support slides** of the grinding machine. The dressing device is fitted with a rotating **silicon carbide grinding wheel.** The dressing operation is performed using the **centrifugal force braking effect.**

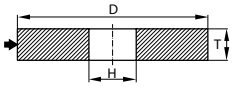
Application: Dressing of **diamond and CBN grinding wheels.**
Subsequent sharpening using a roughening stone; use dry.

59 9600

53Y 59 9600	Dressing device AV500	(XXX)

Size SC70 – Black silicon carbide.
Size SC120 – Green silicon carbide.

Suitable for: **Dressing device AV500** No. 599600.



Form 1

Type			SC70	SC120
53Y 59 9650	Dressing wheel for AV 500 dressing device		XXX	XXX
Specification			1C70M5V15	C120J5V15
D		mm	75	
T		mm	25	20
H		mm	12.7	
for grinding wheel grit range		µm	181-91	≤91
for grinding wheel sizes		mm	Ø ≥ 200; width ≥ 20	Universal

SiC

59 9650_SC70

59 9650_SC120

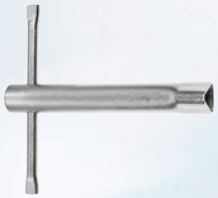
6 Innovations – Fastening tools for screws

NEW

We use this symbol to tag new items in our catalogue range

Pages **459 /464**
GARANT combination and double ended ring spanners

Page **471**
HOLEX double-ended box spanner, forged



Page **476**
HOLEX triangular socket key

Page **480**
HOLEX long L-wrenches, with hole, for Torx® screws

Page **491**
GARANT hexagon key L-wrench with ball point

Page **507**
Set of screwdriver bits and sockets
1/4; 1/2 inch square drive

Page **514**
Socket set, Z-Series, 1/4 inch square drive

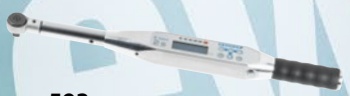
Page **519**
Socket set
1/4 inch square drive

Page **556**
Crank, 1/2 inch QuickRelease

Page **588**
SmartCheck USB torque tester

Page **590**
GARANT HCT electronic torque/ rotational angle wrench

Page **591**
HOLEX HCT electronic torque wrench



Page **593**
E-torc II electronic torque wrench / rotational angle wrench

Page **641**
speedE® II electric VDE set

Page **676**
Flexible extension for 1/4 inch bits

Page **678**
Ratchet bit holder for 1/4 inch bits C 6.3 and E 6.3

Page **681**
BIG Twin Move Elektro 63-piece tool selection

Page **712**
CarryMore carrier frame

Pages **698 /699**
HOLEX textile bags

eShop (No. 623605 1)
Universal control cabinet key

eShop (No. 669924 25)
ESD electronics screwdriver set Big Pack

eShop (No. 675035 6.3F)
Rapidaptor free-running bit holder

eShop (No. 680530 100)
XXL III electric, 100-piece tool selection

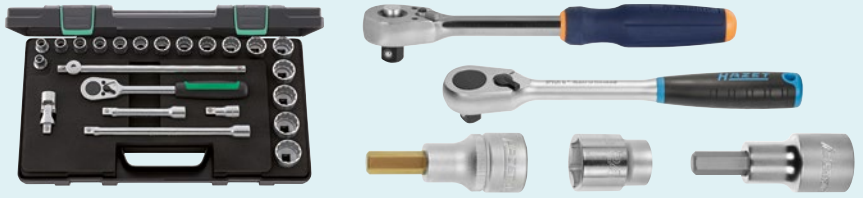
Fastening tools for screws

The whole tooling catalogue for these brands is available from the Hoffmann Group – just ask us!

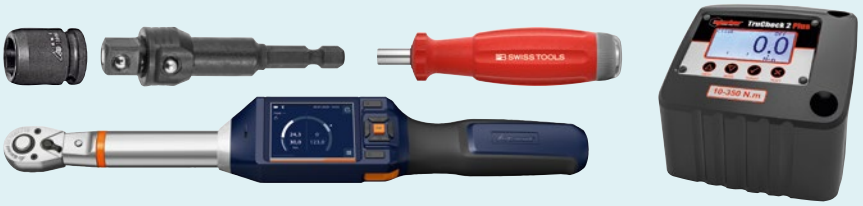
Garant, Stahlwille, Wera, Gedore, Holex — Open ended and ring spanners hexagon and Torx® — 61 — 453 – 470

Garant, PB Swiss Tools, Wera, wiha, Holex — Box spanners, Hexagon keys, Nut spinners, Special and Torx® keys — 62 — 471 – 505

Garant, Stahlwille, Koken, Hazet, Holex — Drive tools and inserts 1/4", 3/8", Socket sets 1/4", 3/8", 1/2" — 63 — 506 – 553



Garant, Stahlwille, Koken, Facom, Holex — Drive tools and inserts 1/2", 3/4", 1", Socket sets 3/4", 1" — 64 — 554 – 570



Garant, Stahlwille, Tohnichi, Gedore, Koken, Holex — Bits for power screwdrivers, torque wrenches, torque analysers — 65 — 571 – 626

Garant, PB Swiss Tools, Wera, Holex — Screwdrivers, Voltmeter — 66 — 627 – 654

Garant, PB Swiss Tools, Fisch, Wera, Koken, Holex — Impact driver, Bits, Bit drill — 67 — 655 – 679

Garant, Knipex, Wera, wiha, Holex — Tool kits — 68 — 680 – 691

Garant, Parat, gt, raaco, Holex — Tool bags, Tool cases, Toolboxes, Small parts cases — 69 — 692 – 713

Pictograms

Square drive	¼″ · ⅜″ · ½″ · ¾″ · 1″ · 1½″	Size Square drive
Range from – to	4-32	Socket with internal hexagon profile, AF range 4 – 32 mm.
	8-19	Socket with internal bi-hex profile, AF range 8 – 19 mm.
	4-34	Socket with Surface Drive profile. AF range 4 – 34 mm.
	3-14	Screwdriver bit with external hexagon profile, AF range 3 – 14 mm.
Output drive profile		The Wobbel-Fix drive offers the choice between a rigid connection to the socket or an angle of inclination.
	Surface Drive	The Surface Drive profile grips the bolt on the faces and protects the corners. This enables higher torque transmission and prevents slipping.
Insulation	VDE GS	Fully insulated up to 1000 V to EN 60 900 / VDE 0682.
ESD		Identification of **tools compatible with** ESD, which avoid the build-up / discharge of static charges (**ESD E**lectro **S**tatic **D**ischarge). For the handles of these tools, DIN EN 61340-5-1 specifies a discharge resistance between 10^4 – 10^{11} Ohm.
Direction of tightening		Suitable for both right-hand and left-hand tightening (triggers in either direction, or triggers in only one direction but can be pushed through).
		Suitable only for right-hand tightening (triggers in only one direction, cannot be changed over or pushed through).
Measuring accuracy	±1%	Accuracy of the torque displayed value.
	±1°	
	±1%	Accuracy of the rotational angle displayed value.
Test certificate		Certification traceable to national standards.
Data interface	RS232C	RS232C interface
		Bluetooth interface
		ONE-KEY. Wireless device settings, stock management and device reporting using an App via Bluetooth.
		USB interface
	IR	Infra-red interface
	HCT	Compatible with the Hoffmann Group Connected Tools (HCT) app.
Plug-in head		Socket for plug-in heads: No. 657582 – 657950.
Calibration	▸ 01 ◂ Cal · ▸ 03 ◂ Cal · ▸ 04 ◂ Cal · ▸ 05 ◂ Cal	The pictograms indicate the calibration group to which a product is assigned. For prices see Group 4 calibration service.
Torque presetting	▸ 06 ◂ Cal	Setting to customer-specific torque value. For prices see Group 4 calibration service.
	▸ 07 ◂ Cal	Setting and calibrating to a customer-specific torque value. For prices see Group 4 calibration service.
Standard	MB 12	Battery circuit system
Hexagon bit Bit holder	C 6.3	Bit with hexagon form C 6.3.
	E 6.3	Bit with hexagon form E 6.3.
	D 6.3	
	D 8	Bit-holder form D 6.3 /D 8 for C 6.3 / C 8 bits.
	F 6.3	Bit-holder form F 6.3 for E 6.3 bits.
Angle	118°	118° point angle
	90°	Countersink with 90° point angle.
Threads	M	Metric thread.
	60°	With 60° flank angle.
	ISO 2 6H	Metric ISO threads application class 2 6H = medium tolerance.
	≤1×D	Suitable for through hole threads to depth 1×d.
Tool material / Number of cutting edges	HSS	High performance high-speed steel
	1	1 cutting edge
	3	3 cutting edges
Version Bags and cases	40 kg	Loading capacity.
		Robust, suitable for rough baggage handling at airports.
		Impact resistant
		Stackable
		Tool gripper
		Shaft pockets
	L-BOXX	System case compatible with L-Boxx system.
		With integral NFC and RDIF chip.
Material		Genuine leather
	ALU	Aluminium shells
	ABS	ABS plastic
	HDPE	HDPE shells (blow moulded)
	PP	Polypropylene shells
	X-ABS	2-component plastic X-ABS
	PX-ABS PU-GRP	PX-ABS with fibreglass-reinforced polyurethane foam on the back.
	PC	Polycarbonate
	S/STL	Stainless steel
Version for roller cabinets and boxes	40 kg	Drawer load capacity for a distributed load + pull-out drawer
	100%	Full extension drawers
		– Drawers anti-tilt device – Only 1 drawer can be pulled out at a time
		Grid 9×9 37 mm intervals
	8G 20G	Size of the classification/ organisation material in GARANT units.
		– Cylinder lock with 5 pins – Modular barrel – Compatible with integrated locking systems
IP Index of protection	IP 67 · IP X4	See the start of product group 4 for further information on IP indices of protection.

Double open ended spanners

Drop-forged. With close tolerance jaw widths.

61 0600 – With optimised profile shank for specially secure grip and ergonomic working. Exceptional tool life and wear resistance.
61 0100/0120 – With easy-grip fluted shaft. Optimum flexional resistance, good torque transmission.
61 0900/0950 – With oval shank.

Standard: **DIN 3110 / ISO 3318**

Material:

61 0600 – Chrome vanadium steel, non-flaking, matt chrome-plated.
61 0900 – Chrome vanadium steel, phosphated.
61 0950 – Chrome vanadium steel, chrome-plated.
61 0100/0120 – Chrome alloy steel, non-flaking chrome-plated over nickel; smoothed finish.

Non-sparking tools can be found in prouct group 75 (product no. 75 9710 to 75 9738).

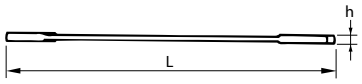
Jaw widths	61A 61 0600 Garant	63A 61 0100 STAHLWILLE	62A 61 0900 HOLEX	62A 61 0950 HOLEX	L		$b_{1\,max}$	$b_{2\,max}$	h_{max}
	Double open ended spanner				61 0600 61 0100	61 0900 61 0950			
mm			phosphated	chrome-plated	mm	mm	mm	mm	mm
4×5	XXX	XXX	XXX	XXX	100	103	13	14	3
5,5×7	XXX	XXX	XXX	XXX	120	122	15	17	4
6×7	XXX	XXX	XXX	XXX	120	122	16	18	4
7×8	XXX	XXX	XXX	XXX	140	130	18	20	4
8×9	XXX	XXX	XXX	XXX	140	136	20	22	4
8×10	XXX	XXX	XXX	XXX	140	136	20	23	5
10×11	XXX	XXX	XXX	XXX	155	151	24	27	5
10×13	XXX	XXX	XXX	XXX	170	171	26	31	6
11×13	–	XXX	XXX	XXX	170	171	29	31	6
12×13	XXX	XXX	XXX	XXX	170	171	29	31	6
12×14	XXX	XXX	XXX	XXX	170	171	29	32	6
13×14	XXX	XXX	XXX	XXX	190	186	33	35	6
13×15	XXX	XXX	XXX	XXX	190	186	33	35	6
13×17	XXX	XXX	XXX	XXX	205	201	33	39	6
14×15	XXX	XXX	XXX	XXX	190	186	33	35	6
14×17	XXX	XXX	XXX	XXX	205	201	33	39	6
16×17	XXX	XXX	XXX	XXX	205	201	36	39	6
16×18	XXX	XXX	XXX	XXX	220	201	36	40	7
17×19	XXX	XXX	XXX	XXX	220	220	40	43	7
18×19	XXX	XXX	XXX	XXX	220	220	40	43	7
18×21	XXX	XXX	XXX	XXX	235	235	40	47	8
19×22	XXX	XXX	XXX	XXX	235	235	44	49	8
19×24	XXX	–	XXX	XXX	250	245	43	53	8
20×22	XXX	XXX	XXX	XXX	235	235	45	49	8
21×23	XXX	XXX	XXX	XXX	250	245	47	51	8
21×24	XXX	XXX	XXX	XXX	250	245	47	53	8
22×24	XXX	XXX	XXX	XXX	250	245	49	53	8
24×26	XXX	XXX	XXX	XXX	270	265	54	58	9
24×27	XXX	XXX	XXX	XXX	280	265	54	60	9
25×28	–	XXX	XXX	XXX	285	274	56	62	9
27×30	XXX	XXX	XXX	XXX	300	274	60	66	10
27×32	XXX	XXX	XXX	XXX	300	299	60	70	10
30×32	XXX	XXX	XXX	XXX	300	299	66	70	10
30×34	XXX	XXX	XXX	XXX	300	302	66	75	10
32×36	XXX	XXX	XXX	XXX	325	325	70	80	10
34×36	–	XXX	XXX	XXX	325	325	75	80	10
36×41	XXX	XXX	XXX	XXX	375	358	80	88	11
41×46	–	XXX	XXX	XXX	425	400	88	95	12

61 0600

61 0100

61 0900

61 0950



61 0600

61 0600

Type	63A 61 0120 STAHLWILLE	Width across flats 1	Width across flats 2	L	$b_{1\,max}$	$b_{2\,max}$	h_{max}
	Double open ended spanner, inch						
		inch	inch	mm	mm	mm	mm
1	XXX	1/4	5/16	140	16	18	4
3	XXX	5/16	3/8	140	18	23	4.5
5	XXX	3/8	7/16	155	23	26	4.8
7	XXX	7/16	1/2	170	26	30	5.3
8	XXX	1/2	9/16	190	30	32	5.3
9	XXX	9/16	5/8	205	32	36	5.8
10	XXX	19/32	11/16	205	35	40	5.8
12	XXX	5/8	11/16	205	36	40	5.8
13	XXX	5/8	3/4	220	36	42	6.7
15	XXX	11/16	3/4	220	40	42	6.7
16	XXX	11/16	13/16	235	40	47	7.3
18	XXX	3/4	7/8	235	42	49	7.3
19	XXX	25/32	13/16	235	45	47	7.3
22	XXX	7/8	15/16	250	49	53	7.8
24	XXX	15/16	1	270	53	55	8.3
32	XXX	1.1/8	1.5/16	300	64	75	9.4

61 0120

Double open ended spanner set

61 0610_12

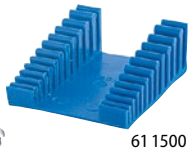
Number of keys	61A 61 0610 Garant	63A 61 1000 STAHLWILLE	62A 61 0910 HOLEX	62A 61 0960 HOLEX	Supplied with: 1 each double open ended spanner No. 610600 / 610100 / 610900 / 610950 / 610120
	Double open ended spanner set				
8	XXX	XXX	XXX	XXX	Size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×21; 19×22
10	XXX	XXX	XXX	XXX	Size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×24; 27×30
12	XXX	XXX	XXX	XXX	Size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×23; 24×26; 27×32; 30×34
13	XXX	XXX	XXX	XXX	Size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×23; 24×26; 27×32; 30×34; 36×41
7 ZOLL	–	XXX	–	–	1/4×5/16; 3/8×7/16; 1/2×9/16; 5/8×3/4; 11/16×13/16; 7/8×15/16; 1.1/8×1.5/16 inch
11 ZOLL	–	XXX	–	–	1/4×5/16; 3/8×7/16; 1/2×9/16; 9/16×5/8; 19/32×11/16; 5/8×3/4; 11/16×13/16; 3/4×7/8; 25/32×13/16; 7/8×15/16; 1.1/8×1.5/16 inch

HOLEX Clip holder for double open ended spanners and combination spanners

Made of plastic, self-clamping.

61 1500 – Suitable only for double open ended spanners.

61 1700 – With closure flap (secure during transport) and flip-up carrying handle. Closure flap easily removable, holder also suitable for wall mounting. **For double open-ended spanners and combination spanners.**



61 1500

61 1500

Application example

61 1700

Application example

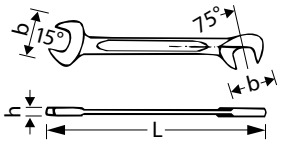
61 1700

for number of sockets		8	9	11	12
62A 61 1500	Plastic clip holder	XXX	–	–	XXX
62A 61 1700	Plastic clip holder with closure flap	–	XXX	XXX	–
Suitable for: Spanner sizes		6 – 22 mm	6 – 24 mm	6 – 32 mm	6 – 34 mm

61

Small double open ended spanners (electrician's spanner)

With very slim heads. Unequal jaw angles (15° and 75°), same jaw width each end.



61 2200

61 2205

Material:

61 2200 – Chrome alloy steel; non-flaking, chrome-plated over nickel.

61 2205 – Chrome vanadium steel, chrome-plated.

Width across flats	mm	3,2	3,5	4	4,5	5	5,5	6	7	8	9	10	11	12	13	14
63A 61 2200 STAHLWILLE	Small double open ended spanner	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 61 2205 HOLEX		–	–	–	–	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L (61 2200)	mm	70	70	70	70	78	78	78	91	96	103	105	116	116	131	131
L (61 2205)	mm	–	–	–	–	–	–	92	107	107	120	120	134	146	160	160
$b_{1\,max}$ (61 2200)	mm	10.5	10.5	10.5	10.5	12.6	12.6	12.6	14.7	16.8	18.9	21	24.2	24.2	28.3	28.3
$b_{1\,max}$ (61 2205)	mm	–	–	–	–	–	–	15.6	19.8	19.8	22.5	22.5	25.5	27.5	27.5	30.5
h_{max} (61 2200)	mm	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
h_{max} (61 2205)	mm	–	–	–	–	–	–	4	4.6	4.6	5	5	5.8	6	6	6.3

Small double open ended spanner set

61 2400_10

61 2405_9

Number of keys	63A 61 2400 STAHLWILLE	62A 61 2405 HOLEX	Supplied with: 1 each small double open ended spanner No. 612200 / 612205
	Small double open ended spanner set		
7	XXX	–	Size 4; 4.5; 5; 5.5; 6; 7; 8
9	–	XXX	Size 6; 7; 8; 9; 10; 11; 12; 13; 14 in a textile tool roll
10	XXX	–	Size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11
13	XXX	–	Size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14
15 T	XXX	–	Size 3.2; 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14 in a textile tool roll
9 ZOLL	XXX	–	5/32; 3/16; 1/4; 5/16; 11/32; 3/8; 7/16; 1/2; 9/16"

Size 15T= 15-piece set in a practical tool roll. 61 2400_15T

Small double open ended spanner set

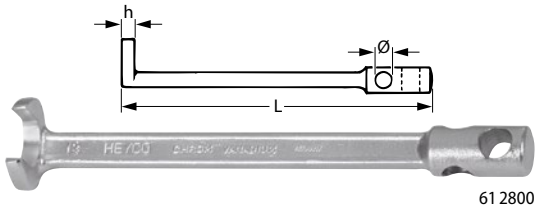
Extra flat spanners (1.5 mm / 2 mm from 7 AF) with unequal jaw widths; in a plastic wallet.
Material: Chrome vanadium steel, laser-profiled, hardened, and nickel-plated.

61 2420

63Q 61 2420	Small double open ended spanner set 6 pieces	XXX
Supplied with: 1 each small double open ended spanner / AF		3×3.5; 4×4.5; 5×5.5; 6×6.5; 7×8; 9×10 mm

Crowfoot spanners

Drop forged, robust shank and powerful jaw.
Material: Chrome vanadium steel, chrome-plated.
Application: For use where access is difficult.
Note: For suitable tommy bars see No. 621600 – 621800.

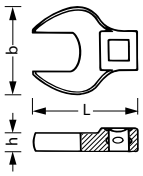


61 2800

Width across flats	mm	13	14	17	19	22	24	27	30	32	36	41	46
66A 61 2800 Crowfoot spanner		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Spanner length, L	mm	160	160	200	200	200	250	250	250	250	315	315	315
Head thickness h	mm	5.5	5.5	6	7	8	9	10	11	12	13	14	15
Bore ∅	mm	8.5	8.5	10.5	12.5	12.5	14.5	14.5	16.5	16.5	19	19	21

Crowfoot wrench with square drive socket

Drop forged, head with square socket for drive tools such as ratchet, extension etc.
Material: Chrome alloy steel, chrome-plated, round finish surface (no sharp edges).
Note: For suitable drive tools see No. 632000 – 641350 and 655230 – 657766.



61 2900

61 2920

Width across flats	mm	13	14	15	17	19	22	24	27	30
63A 61 2900 Crowfoot wrench **Jaw design**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Length L	mm	34.3	37.7	37.7	42.5	42.5	44.5	44.5	47	50
Head width b	mm	25.4	30	30	38	38	41	41	45	50
Head thickness h	mm	6.3	6.3	6.3	6.3	6.3	6.3	6.3	8	8
Square drive	inch					3/8				

Width across flats	mm	12	14	16	17	18	19	21	22	24	27	30	32	36	46
63A 61 2920 Crowfoot wrench **Open ring form**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Length L	mm	30.8	31.7	36.1	39.2	40.8	40.5	42.8	45.3	47.3	52.8	63	62.5	66.5	77.7
Head width b	mm	20.6	22.2	24.6	27.3	29	29	31.3	33.5	35.7	40	48	48	51.9	64.2
Head thickness h	mm	14	14	17.5	17.5	18.5	18.5	18.5	19	19.5	21.4	22.5	22.5	24	26
Square drive	inch	1/4	1/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2	1/2	1/2

Special offset extension

3/8″

Cranked with 3/8 inch square drive. Chrome alloy steel, chrome-plated, round finish surface.
Suitable for: Crowfoot wrench No. 612900 / 612920 (not No. 612920 size 12, 14 and 30 – 46).

61 2950

63A 61 2950	Special extension 3/8 inch	XXX
overall length	mm	150

For torque wrenches see Group 65

HOLEX Double open ended spanners

Drop forged, jaw angle 15°, strong shaft.

Standard: **DIN 895**

Material: Special steel (strength 1200 – 1400 N/mm²). Black oxidised finish.

Widths across flats mm	62A 61 3000 Open ended spanner DIN 895	L mm	h_{max} mm
6×7	XXX	100	3.5
8×9	XXX	110	4
8×10	XXX	120	4.5
9×11	XXX	125	5
10×11	XXX	130	5.5
10×13	XXX	130	5.5
12×13	XXX	140	5.5
12×14	XXX	150	6
13×15	XXX	160	6.5

Widths across flats mm	62A 61 3000 Open ended spanner DIN 895	L mm	h_{max} mm
13×17	XXX	165	7
14×17	XXX	165	7
16×18	XXX	170	7.5
17×19	XXX	180	7.5
19×22	XXX	200	8.5
19×24	XXX	220	9.5
22×24	XXX	230	9.5
24×27	XXX	255	10.5
24×30	XXX	285	11.5

Widths across flats mm	62A 61 3000 Open ended spanner DIN 895	L mm	h_{max} mm
27×32	XXX	285	12.5
30×32	XXX	285	12.5
30×36	XXX	320	13.5
32×36	XXX	320	13.5
36×41	XXX	365	15
41×46	XXX	400	16
46×50	XXX	440	17
50×55	XXX	485	18
55×60	XXX	525	19

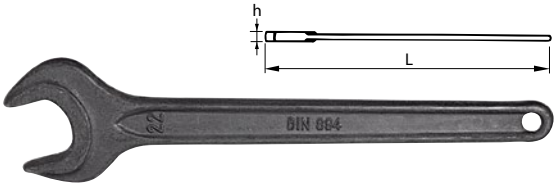
HOLEX Single open ended spanners

Drop forged, jaw angle 15°, strong shaft.

Standard:

Size 6–85 – **DIN 894**

Material: Special steel (strength 1200 – 1400 N/mm²). Black oxidised finish.



Width across flats mm	62A 61 3300 Single open ended spanner	L mm	h_{max} mm
6	XXX	75	3.5
7	XXX	80	3.5
8	XXX	100	4
9	XXX	105	4.5
10	XXX	110	5
11	XXX	120	5.5
12	XXX	130	5.5
13	XXX	140	6
14	XXX	150	6
15	XXX	160	6
16	XXX	165	6.5
17	XXX	165	6.5

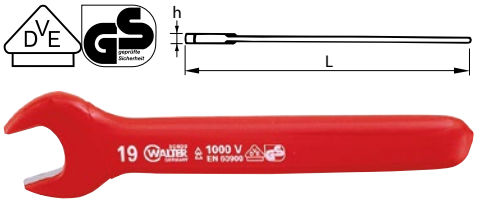
Width across flats mm	62A 61 3300 Single open ended spanner	L mm	h_{max} mm
18	XXX	175	6.5
19	XXX	180	7.5
22	XXX	205	8.5
24	XXX	230	9.5
25	XXX	240	10
27	XXX	250	10.5
30	XXX	275	11.5
32	XXX	290	12.5
34	XXX	305	13
36	XXX	320	13.5
41	XXX	360	15
46	XXX	400	16

Width across flats mm	62A 61 3300 Single open ended spanner	L mm	h_{max} mm
50	XXX	435	17
55	XXX	480	18
60	XXX	520	19
65	XXX	555	20
70	XXX	600	21
75	XXX	640	22
80	XXX	670	23
85	XXX	675	24
90	XXX	720	24
95	XXX	875	26
100	XXX	875	26
110	XXX	1000	28

WALTER Single open ended spanners fully insulated to VDE

Drop forged, chrome-plated; with **plastic insulation up to 1000 Volt to DIN EN 60900 / VDE 0682-201.**

Material: Chrome vanadium steel.



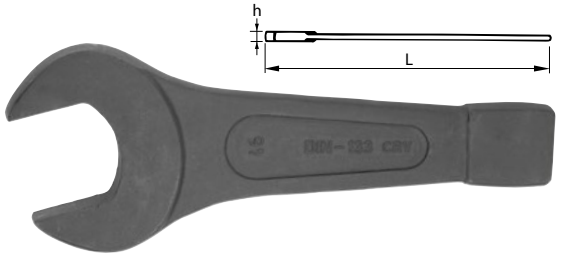
Width across flats	mm	10	12	13	14	16	17	18	19	22	24
66A 61 3330 Single open ended spanner **fully insulated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	110	125	140	150	160	160	170	180	205	215
h_{max}	mm	8.9	10.2	10.9	10.6	10.7	10.7	12.2	12.2	13.5	15

HOLEX Striking face open ended spanner

Sturdy design, drop-forged. Tightly toleranced jaw width, jaw angle 15°.

Standard: **DIN 133**

Material: Special steel, surface finish black.



Width across flats	mm	27	30	36	41	46	50
62A 61 3401 Striking face open ended spanner		XXX	XXX	XXX	XXX	XXX	XXX
L	mm	175	191	205	229	250	272
h_{max}	mm	15.5	16.5	18.5	19	20.5	21

Width across flats	mm	55	60	65	70	75	80
62A 61 3401 Striking face open ended spanner		XXX	XXX	XXX	XXX	XXX	XXX
L	mm	304	316	316	371	380	405
h_{max}	mm	23	24	24	29.5	31.5	34.5

Combination spanner

Drop-forged. With close tolerance jaw width.

Combination spanner, normal version

61 3800 – Particularly suitable where space is tight. The combination of the 7.5° offset for the open jaws and the bi-hexagon geometry for the ring achieves a doubling of the application points. The small working arc of the open jaws allows the bolt head to be gripped every 15° of rotation.

61 3500–3520 – With easy-grip fluted shaft. Optimum flexional resistance, good torque transmission. Ring end with **AS-Drive** profile. (Sizes 3.2 – 5 with hexagon).

61 3600/3610 – With optimised profile shank for specially secure grip and ergonomic working. Exceptional tool life and wear resistance. Ring end with **HT-Drive** profile.

61 3900–3970 – With oval shaft.

Standard: **DIN 3113 A / ISO 3318 / ISO 7738**

Material:

61 3500–3520 – Chrome alloy steel, non-flaking chrome-plated over nickel; smoothed finish.

61 3600/3610 – Chrome vanadium steel, chrome-plated.

61 3800/3810 – Chrome molybdenum steel, matt chrome-plated.

61 3900/3910 – Chrome vanadium steel, phosphated.

61 3950–3970 – Chrome vanadium steel, chrome-plated.

Note:

61 3600/3610 – **HT-Drive** – the particularly close-fitting profile.

Advantage:

- Bolts are gripped on the flanks. – The bolts are protected. – Longer bolt life.
- Larger contact surfaces between bolt and tool. – Secure grip and higher torque transmission.

The small working arc of the open jaws is particularly suitable where space is tight.

61 3600

Ring end AS drive.

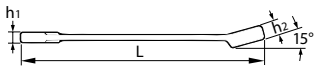
61 3500

Ring end AS drive.

61 3800

61 3900

61 3950

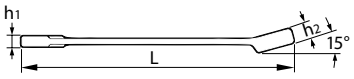


61 3600

Width across flats	61A 61 3600 Garant	63A 61 3500 STAHLWILLE	63F 61 3800 Wera	62A 61 3900 HOLEX	62A 61 3950 HOLEX	L		$h_{1\,max}$	$h_{2\,max}$
	Combination spanner					61 3600 61 3500 61 3800	61 3900 61 3950		
mm				phosphated	chrome-plated	mm	mm	mm	mm
3,2	–	XXX	–	–	–	75	–	3	3.2
3,5	–	XXX	–	–	–	75	–	3	3.2
4	–	XXX	–	XXX	XXX	85	100	4	6
4,5	–	XXX	–	XXX	XXX	85	100	4	6
5	–	XXX	–	XXX	XXX	95	100	4	6
5,5	XXX	XXX	XXX	XXX	XXX	100	100	4	6
6	XXX	XXX	XXX	XXX	XXX	105	100	4	6
7	XXX	XXX	XXX	XXX	XXX	110	110	4	7
8	XXX	XXX	XXX	XXX	XXX	115	120	4.5	7
9	XXX	XXX	–	XXX	XXX	120	130	4.5	8
10	XXX	XXX	XXX	XXX	XXX	125	140	5	9
11	XXX	XXX	XXX	XXX	XXX	135	150	5.5	10
12	XXX	XXX	XXX	XXX	XXX	140	160	5.5	10
13	XXX	XXX	XXX	XXX	XXX	160	170	6.5	11
14	XXX	XXX	XXX	XXX	XXX	165	180	6.5	12
15	XXX	XXX	XXX	XXX	XXX	170	190	7	12
16	XXX	XXX	XXX	XXX	XXX	180	200	8	13
17	XXX	XXX	XXX	XXX	XXX	190	210	8	13
18	XXX	XXX	XXX	XXX	XXX	200	220	9	14
19	XXX	XXX	XXX	XXX	XXX	230	230	9	14
20	XXX	XXX	XXX	XXX	XXX	230	240	9	14
21	XXX	XXX	XXX	XXX	XXX	260	250	10	15
22	XXX	XXX	XXX	XXX	XXX	260	260	10	15
23	–	XXX	–	XXX	XXX	280	270	10	15
24	XXX	XXX	XXX	XXX	XXX	280	280	12	16
25	–	XXX	–	XXX	XXX	300	290	12	16
27	XXX	XXX	XXX	XXX	XXX	300	310	13	18
30	XXX	XXX	XXX	XXX	XXX	330	340	14	20
32	XXX	XXX	XXX	XXX	XXX	360	360	14	21
34	XXX	XXX	–	XXX	XXX	450	380	14	21
36	XXX	XXX	XXX	XXX	XXX	460	400	15	24
38	–	XXX	–	–	–	480	–	11	19
41	–	XXX	–	XXX	XXX	480	442	17	26
46	–	XXX	–	XXX	XXX	500	492	18	28
50	–	XXX	–	–	–	530	–	14	21
55	–	XXX	–	–	–	560	–	15	22
60	–	XXX	–	–	–	590	–	16	24

61 3520
Ring end AS drive.

61 3970



Width across flats	63A 61 3520	62A 61 3970	L		$h_{1\,max}$	$h_{2\,max}$
	Combination spanner, imperial					
inches		chrome-plated	61 3520 mm	61 3970 mm	mm	mm
13/64	XXX	–	95	–	3	3.2
7/32	XXX	–	95	–	3	3.2
15/64	XXX	–	95	–	3	3.2
1/4	XXX	XXX	105	101	4	6
9/32	XXX	–	110	–	3.9	6
5/16	XXX	XXX	115	121	4.5	7
11/32	XXX	–	120	–	4.5	7
3/8	XXX	XXX	125	141	5	9
7/16	XXX	XXX	135	151	5.5	10
1/2	XXX	XXX	160	171	6.5	11
9/16	XXX	XXX	165	181	6.5	12
19/32	XXX	–	170	–	5.3	8.5
5/8	XXX	XXX	180	201	8	13
11/16	XXX	XXX	200	211	8	13
3/4	XXX	XXX	230	231	9	14
25/32	XXX	–	235	–	7	13
13/16	XXX	XXX	260	251	10	15
7/8	XXX	XXX	260	261	10	15
15/16	XXX	XXX	280	281	12	16
1	XXX	XXX	300	291	12	16
1.1/16	XXX	–	300	–	8.4	14.5
1.1/8	XXX	–	330	–	8.9	16
1.1/4	XXX	–	360	–	9.4	16.5
1.5/16	XXX	–	450	–	9.6	17
1.1/2	XXX	–	480	–	11	19

61 3510_12

Number of keys	61A 61 3610	63A 61 3510	63F 61 3810	62A 61 3910	62A 61 3960	**Supplied with:** 1 each combination spanner No. 613600 / 613500 / 613800 / 613900 / 613950 / 613520 / 613970
	Combination spanner set					
				phosphated	chrome-plated	
5	–	–	XXX	–	–	Size 8; 10; 13; 17; 19
9	XXX	XXX	–	XXX	XXX	Size 5.5; 7; 8; 10; 13; 16; 17; 18; 19
11	–	–	XXX	–	–	Size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19 NEW
12	XXX	XXX	–	XXX	XXX	Size 5.5; 7; 8; 10; 13; 16; 17; 18; 19; 21; 22; 24
16	XXX	XXX	–	XXX	XXX	Size 5.5; 7; 8; 10; 13; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34
19	XXX	XXX	–	XXX	XXX	Size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24
23	XXX	XXX	–	XXX	XXX	Size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24; 27; 30; 32; 34
13ZOLL	–	XXX	–	–	XXX	1/4; 5/16; 3/8; 7/16; 1/2; 9/16; 5/8; 11/16; 3/4; 13/16; 7/8; 15/16; 1 inch

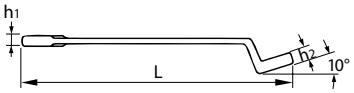
Combination spanner, long version

Standard:
61 4600/4200/4610/4210 – **DIN 3113 B / ISO 3318 / ISO 7738**
61 4900/4910 – **DIN 3113 A / ISO 3318 / ISO 7738**

Material:
61 4200/4210 – Chrome alloy steel, non-flaking chrome-plated over nickel; smoothed finish.
61 4600/4610 – Chrome alloy steel; non-flaking chrome-plated, smoothed finish.
61 4900/4910 – Chrome vanadium steel, chrome-plated.

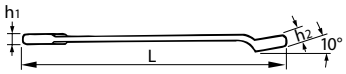
61 4600

Ring end deep cranked with HT-Drive profile.

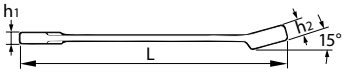


61 4200

Ring end AS drive.



61 4900



Width across flats	61A 61 4600 Garant	63A 61 4200 STAHLWILLE	62A 61 4900 HOLEX	L		$h_{1\,max}$	$h_{2\,max}$
	Combination spanner, long version			61 4600 61 4200	61 4900		
mm				mm	mm	mm	mm
6	–	XXX	XXX	125	128	4.5	6
7	–	XXX	XXX	135	138	5	7
8	XXX	XXX	XXX	145	148	5	7
9	–	XXX	XXX	155	158	5.5	8
10	XXX	XXX	XXX	165	170	5.5	8
11	XXX	XXX	XXX	180	182	6	9
12	XXX	XXX	XXX	180	194	6	9
13	XXX	XXX	XXX	195	206	6.5	10
14	XXX	XXX	XXX	210	218	6.5	10
15	XXX	XXX	XXX	215	230	7	11
16	XXX	XXX	XXX	230	242	8	11
17	XXX	XXX	XXX	240	254	8	12
18	XXX	XXX	XXX	255	266	8.5	12
19	XXX	XXX	XXX	265	278	8.5	13
20	XXX	XXX	XXX	280	290	9	13.1
21	XXX	XXX	XXX	280	302	9.2	13.5
22	XXX	XXX	XXX	300	314	9.5	14.2
24	XXX	XXX	XXX	330	338	10.2	15.7
27	XXX	XXX	XXX	385	386	12	18
30	XXX	XXX	XXX	415	424	13.2	20
32	XXX	XXX	XXX	430	444	14	21
34	XXX	XXX	–	460	–	13	18
36	XXX	XXX	–	480	–	13	19
41	–	XXX	–	560	–	14	20

61 4210_14

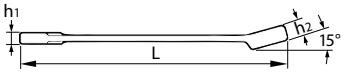
61 4210_14 ring end AS drive.

Number of keys	NEW 61A 61 4610 Garant	63A 61 4210 STAHLWILLE	62A 61 4910 HOLEX	**Supplied with:** 1 each combination spanner No. 614600 / 614200 / 614900
	Combination spanner set, long version			
9	XXX	XXX	XXX	Size 10; 13; 16; 17; 18; 19; 21; 22; 24
11	XXX	XXX	XXX	Size 10; 13; 16; 17; 18; 19; 21; 22; 24; 27; 30
14	XXX	XXX	XXX	Size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24
18	XXX	XXX	–	Size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24; 27; 30; 32; 34

Combination spanner, extra long version

Material: Chrome molybdenum steel, polished and matt chrome-plated.

61 4950

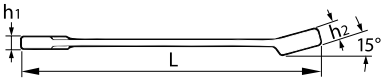


Width across flats	62A 61 4950 HOLEX	L	$h_{1\,max}$	$h_{2\,max}$
	Combination spanner, extra long version			
mm		mm	mm	mm
10	XXX	190	5.5	8
11	XXX	205	6	9
12	XXX	220	6	9
13	XXX	240	6.5	10
14	XXX	260	6.5	10
15	XXX	275	7	11
16	XXX	295	8	11
17	XXX	310	8	12
18	XXX	330	8.5	12
19	XXX	340	8.5	13

GEDORE Combination spanner, extra long

Ring end 15° offset. Ergonomic handy hollow shank handle. Extra long shank for deep access points. Especially suitable for high-torque high-strength screw fastenings.

Material: Chrome vanadium steel, chrome-plated.



61 4750

Width across flats	mm	7	8	9	10	11	12	13	14	15	16	17	18
63M 61 4750	Combination spanner, extra long version	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	160	170	180	190	200	210	225	235	250	265	280	295
$h_{1\,max}$	mm	4	4.5	4.5	5	5.5	5.5	6	6.5	7	7.5	8.5	8.5
$h_{2\,max}$	mm	6.5	7	7.5	8.5	9	10	10.5	10.8	11.2	11.2	12.2	13.2

Width across flats	mm	19	21	22	24	27	30	32	34	36	41	46
63M 61 4750	Combination spanner, extra long version	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	310	340	350	400	450	480	500	520	550	600	640
$h_{1\,max}$	mm	9.5	9.5	11	12	13	14	14	15	15	16	17
$h_{2\,max}$	mm	14.2	14.2	16.2	18.2	20.2	21.2	22.2	23.2	24.2	26	28

Number of keys		8	12
63M 61 4760	Combination spanner set, extra long version	XXX	XXX
Supplied with: 1 each combination spanner No. 614750		Size 8; 9; 10; 11; 13; 14; 17; 19	Size 10; 11; 12; 13; 14; 17; 19; 22; 24; 27; 30; 32

61 4760_8

Garant Spanner / ratchet ring spanner

Drop forged. Ring end with especially smooth–running reversible ring ratchet. Extremely small working arc of 5°.

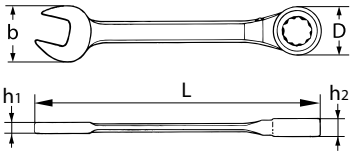
Material: Chrome vanadium steel, matt chrome-plated.

61 4800

61 4812

61 4816

61 4820



Width across flats	61B 61 4800	61B 61 4812	61B 61 4816	61B 61 4820	L		b	h_1	h_2	∅ D	Ratchet torque rating
	Spanner / ratchet ring spanner				61 4800 61 4812 61 4820	61 4816					
		with swivel head	short version	reversible 15° off-set							
mm					mm	mm	mm	mm	mm	mm	Nm
6	XXX	–	–	XXX	136	–	18	5	7	17.5	30
7	XXX	–	–	XXX	136	–	18	5	7	17.5	30
8	XXX	XXX	XXX	XXX	136	88	18	5	7	17.5	30
9	XXX	XXX	XXX	XXX	143	97	19.3	5	7.6	19	40
10	XXX	XXX	XXX	XXX	160	94	22	5.2	7.7	20.8	70
11	XXX	XXX	XXX	XXX	168	99	24	5.3	8.3	22.5	80
12	XXX	XXX	XXX	XXX	174	105	25.9	5.8	8.7	23.7	90
13	XXX	XXX	XXX	XXX	180	107	27.1	6	9.3	25.5	115
14	XXX	XXX	XXX	XXX	193	112	30.9	6.6	9.4	27.3	160
15	XXX	XXX	XXX	XXX	200	118	33.4	6.9	10	28.9	200
16	XXX	XXX	XXX	XXX	216	122	34	7.1	10.6	30.3	250
17	XXX	XXX	XXX	XXX	233	126	36.6	7.9	10.9	33.3	270
18	XXX	XXX	XXX	XXX	239	130	38.6	8.1	11.2	33.4	300
19	XXX	XXX	XXX	XXX	250	137	40.3	8.5	11.5	34.5	325
21	XXX	–	–	XXX	286	–	45.7	9.6	13	42	375
22	XXX	–	–	XXX	286	–	45.7	9.6	13	42	410
24	XXX	–	–	XXX	325	–	50.8	10.2	14.5	47.1	500
27	XXX	–	–	XXX	359	–	55.2	12.5	15	52	670
30	XXX	–	–	XXX	425	–	65	13.8	17	60	795
32	XXX	–	–	XXX	425	–	65	13.8	17	60	900
34	XXX	–	–	–	482	–	76.2	16.6	19.6	65.5	950
36	XXX	–	–	XXX	482	–	76.2	16.6	19.6	65.5	1000
38	XXX	–	–	–	482	–	76.2	16.6	19.6	65.5	1150
41	XXX	–	–	–	550	–	83	18	22	72.9	1300
46	XXX	–	–	–	640	–	96	21	26.5	88	1500
50	XXX	–	–	–	640	–	96	21	26.5	88	1700

Width across flats	61B 61 4825	L	b	h_1	h_2	∅ D	Ratchet torque rating
	Open ended spanner / ratchet ring spanner set, imperial						
inches		mm	mm	mm	mm	mm	Nm
1/4	XXX	136	17.1	4.3	7	17.3	20
5/16	XXX	136	17.7	4.6	7	17.3	30
3/8	XXX	160	22	5.2	7.7	20.8	70
7/16	XXX	168	24	5.3	8.3	22.5	80
1/2	XXX	180	27.1	6	9.3	25.5	115
9/16	XXX	193	30.9	6.6	9.4	27.3	160
5/8	XXX	216	34	7.1	10.6	30.3	250
11/16	XXX	233	36.6	7.9	10.9	33.3	270
3/4	XXX	250	40.3	8.5	11.5	34.5	325
1	XXX	325	50.8	10.2	14.5	47.1	500

Supplied with:

Size 4 – 1 each spanner No. 614800 in sizes 10; 13; 17; 19.
61 4810 Size 5 – 1 each spanner No. 614800 in sizes 8; 10; 13; 16; 17.
Size 10 – 1 each spanner No. 614800 in sizes 8; 9; 10; 11; 13; 14; 16; 17; 18; 19.
61 4814 Size 5 – 1 each spanner No. 614812 in sizes 8; 10; 13; 16; 17.
Size 10 – 1 each spanner No. 614812 in sizes 8; 9; 10; 11; 13; 14; 16; 17; 18; 19.
61 4818 Size 5 – 1 each spanner No. 614816 in sizes 8; 10; 13; 16; 17.
Size 10 – 1 each spanner No. 614816 in sizes 8; 9; 10; 11; 13; 14; 16; 17; 18; 19.
61 4830 Size 5 – 1 each spanner No. 614820 in sizes 8; 10; 13; 16; 17.
Size 10 – 1 each spanner No. 614820 in sizes 8; 9; 10; 11; 13; 14; 16; 17; 18; 19.

Note: Spare tool wallets can be found under No. 614835 / 614836.

Number of keys	61B 61 4810	61B 61 4814	61B 61 4818	61B 61 4830
	Open ended spanner / ratchet ring spanner set, in a wallet			
		with swivel head	short version	reversible 15° offset
4	XXX	–	–	–
5	XXX	XXX	XXX	XXX
10	XXX	XXX	XXX	XXX

61 4810_10

61

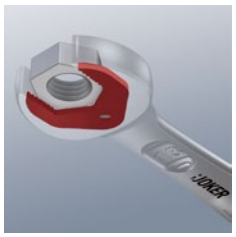
Wera JOKER open ended spanner / ratchet ring spanner

Drop forged. Ring end with smooth-running sturdy precision ring ratchet (80 teeth) with a particularly small working arc of 4.5°.
The open end has a bi-hexagon profile and a replaceable hardened metal plate, which fulfils a stop function, preventing slippage and allowing a small working arc.

61 4875/4885 – Ring end 15° offset, reversible.

Material: Chrome molybdenum steel, matt chrome-plated.

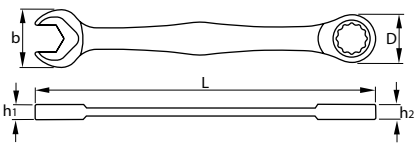
JOKER 6004 is available in our product group 81 (article no. 81 3740 and 81 3745).



Handy stop function for secure engagement on nuts and bolts.

The end stop prevents irritating slipping from the bolt head.

Small working arc, no need to turn the spanner over due to the bi-hex profile.



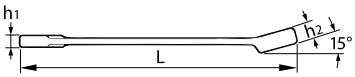
61 4870

Width across flats	mm	8	10	11	12	13	14	15	16	17	18	19
63F 61 4870	JOKER 6000 open ended spanners / ratchet ring spanners	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	144	159	165	170.7	177	188	200	212	224	235	246
b	mm	20	22	25	26.3	27.3	29.3	32.3	35	37.2	39	42
h_1	mm	5.5	5.5	6.3	6.6	7	7.5	7.8	8.2	8.5	9	9.5
h_2	mm	7	7.2	7.5	8.5	8.5	9.2	9.2	10.5	10.5	11	11
∅ D	mm	18	21	22	25	25	28	28.5	32.7	32.7	33.8	34.8

Width across flats	inches	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4
63F 61 4890	JOKER 6000 open ended spanners / ratchet ring spanners, imperial	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	144	159	165	177	188	212	235	246
b	mm	20	22	25	27.3	29.3	35	39	42
h_1	mm	5.5	5.5	6.3	7	7.5	8.2	9	9.5
h_2	mm	7	7.2	7.5	8.6	9.2	10.5	11	11
∅ D	mm	18	21	22	25	28	32.7	33.8	34.8

61 4875

Width across flats	mm	10	13	17	19
63F 61 4875 JOKER 6001 Switch open ended spanner / ratchet ring spanner, **reversible, 15° offset**		XXX	XXX	XXX	XXX
L	mm	144	179	225	246
b	mm	20.3	27.3	37	42
h_1	mm	5.5	7	8.5	9.5
h_2	mm	7	8.5	10.5	11
Ø D	mm	18	26	33	34.7



Number of keys		4	11
63F 61 4880	JOKER 6000 open ended spanner / ratchet ring spanner set	XXX	XXX
Supplied with: 1 each open ended spanner / ratchet ring spanner No. 614870		Size 10; 13; 17; 19	Size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19

61 4880_4

Number of keys		4
63F 61 4885	JOKER 6001 Switch open ended spanner / ratchet ring spanner set, **reversible, 15° offset**	XXX
Supplied with: 1 each open ended spanner / ratchet ring spanner No. 614875		Size 10; 13; 17; 19

61 4885_4

FACOM Spanner / ratchet ring spanner

Drop-forged. Ring and fork with ratchet effect. The additional ratchet mechanism at the open jaws permits quick tightening without having to re-apply the wrench. The ring end has an integral spring to prevent it slipping over the fastener being tightened – reversible for left- and right-hand tightening. Extremely small working arc of 5°.

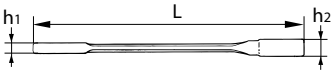
Material: Chrome vanadium steel, chrome-plated.

61 4905

Detail view of the open jaw contour

Width across flats	mm	8	10	11	12	13	14	16	17	18	19
63V 61 4905 Spanner / ratchet ring spanner **reversible 15° offset**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	140	158	165	171	178	190	208	225	236	247
b	mm	18.6	22.7	23.7	26.8	28.4	30.8	34.9	36.8	38.4	41.2
h_1	mm	4.6	5.1	5.2	5.4	5.7	5.9	6.6	6.6	7.4	7.4
h_2	mm	6.5	7.3	7.7	8.2	8.6	9	9.9	10.3	10.7	11.2
Ø D	mm	16.8	20.2	22	23.2	25.3	27	30	31.7	32.8	33.9

Number of keys		10
63V 61 4915	Open ended spanner / ratchet ring spanner set, in a clip **reversible 15° offset**	XXX
Supplied with: 1 each open ended spanner / ratchet ring spanner No. 614905		Size 8; 10; 11; 12; 13; 14; 16; 17; 18; 19
Storage in		Plastic clip



61 4915

Four-way ratchet ring spanner "4 in 1", reversible

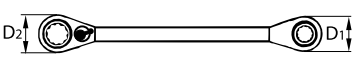
With particularly free-running sturdy ratchet at each end – reversible for left and right hand tightening. The 2 ends have different widths across flats.
Extremely small working arc of 5°.

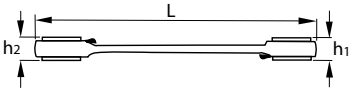
Material: Chrome vanadium steel, matt chrome-plated.

61 4847_16-19

61 4848_10-19

Type		8-13	12-15	9-15	10-19	16-19	21-27
61B 61 4847	Garant	XXX	XXX	–	XXX	XXX	XXX
62A 61 4848	HOLEX	–	–	XXX	XXX	–	–
Four-way ratchet ring spanner "4 in 1"							
Width across flats 1	mm	8	12	9	10	16	21
Width across flats 2	mm	10	13	11	13	17	22
Width across flats 3	mm	12	14	14	17	18	24
Width across flats 4	mm	13	15	15	19	19	27
L	mm	150	190	180	210	230	275
D_1	mm	20.2	26.5	23	26	31.5	40
D_2	mm	24.8	29.5	30	35	33.5	52
h_1	mm	13.8	17.1	14	15	20.2	26
h_2	mm	16.8	18	16	20	21.9	30

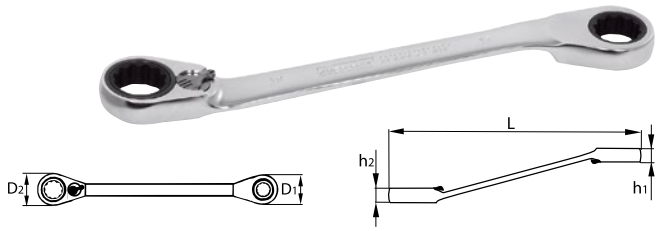




Garant Double ratchet ring spanner, offset, reversible

Drop forged, with particularly free-running sturdy ratchet ring at each end. Reversible for left- and right-hand tightening. Extremely small working arc of 5°.

Material: Chrome vanadium steel, matt chrome-plated.



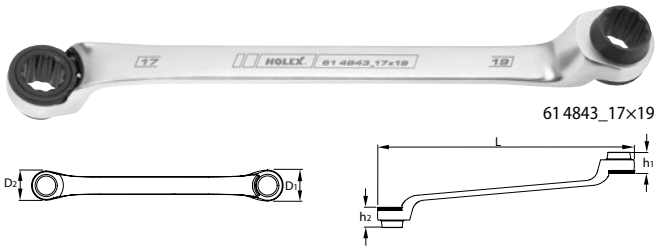
Jaw widths	mm	8×9	10×11	12×13	14×15	16×18	17×19
61B 61 4845	Double ratchet ring spanner, 15° offset	XXX	XXX	XXX	XXX	XXX	XXX
Width across flats 1	mm	8	10	12	14	16	17
Width across flats 2	mm	9	11	13	15	18	19
L	mm	128	150	170	190	230	230
D_1	mm	18.2	21.5	24.6	28.3	34.5	34.5
D_2	mm	21.5	23.1	26.5	32.6	35.6	35.6
h_1	mm	7.4	7.6	8.9	9.4	9.9	10.7
h_2	mm	7.4	8.2	9	9.4	11	11.2

HOLEX Double ratchet ring spanner, deep cranked, reversible

Drop-forged. With close tolerance jaw widths. Reversible for left- and right-hand tightening, plus centre position. With unequal jaw widths, deep cranked. Extremely small working arc of 5°.

Material: Chrome vanadium steel, matt chrome-plated.

Changeover mechanism.



61 4843_17×19

Widths across flats	mm	10×12	11×13	12×14	13×15	13×17	16×18	17×19	19×22	24×27	30×32
62A 61 4843	Double ratchet ring spanner	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Width across flats 1	mm	10	11	12	13	13	16	17	19	24	30
Width across flats 2	mm	12	13	14	15	17	18	19	22	27	32
L	mm	197	218	218	238	245	258	290	300	330	380
D_1	mm	21.5	24	24	28	28	31	33	35	48	60
D_2	mm	24	28	28	31	33	34	35	48	60	64.5
h_1	mm	16	18	18	20	20	21.5	23	24	30	34
h_2	mm	18	20	20.5	21.5	23	23.5	24	30	34	35

HOLEX Adapter for ratchet ring spanner

Hexagon shank with sprung ball or pressure piece for retention in the ring spanner.

61 4850 Size 4 – Hex socket to DIN 3126 D6.3 for bits.
Size 1–3 – External square drive to DIN 3120, with ejector, to take sockets.

Suitable for:

Size 1 – Ratchet ring spanners No. 614800 – 614820, 614845 and 614870 – 614875 size 10 in each case.
Size 2 – Ratchet ring spanners No. 614800 – 614820, 614845 and 614870 – 614875 size 13 in each case.
Size 3 – Ratchet ring spanners No. 614800 – 614820, 614845 and 614870 – 614875 size 19 in each case.
61 4850 Size 4 – Ratchet ring spanners No. 614800 – 614820, 614843 – 614845 and 614870 – 614875 size 10 in each case.

Material: Chrome vanadium steel, chrome-plated.

Advantage: The adaptor converts a ratchet ring spanner size 10, 13 or 19 mm into a fully functioning ratchet.

61 4850_2

61 4850_4

Type		1	2	3	4
62A 61 4850	Adapter for ratchet ring spanner	XXX	XXX	XXX	XXX
Mounting AF	mm	10	13	19	10
Square drive	inch	1/4	3/8	1/2	–
Drive hexagon	mm	–	–	–	D 6.3

Number of pieces		4
62A 61 4852	Adapter set for ratchet ring spanners	XXX
Supplied with: 1 each adapter No. 614850		Size 1; 2; 3; 4

61 4852

Double-ended ring spanners, deeply cranked

Drop-forged. With close tolerance jaw widths.

61 5000 – With easy-grip fluted shaft. Optimum flexional resistance, good torque transmission. Ring end with **AS drive** profile.

61 5600 – With easy-grip profile shaft. Exceptional tool life and wear resistance. Ring ends with **HT-Drive** profile.

61 5900/5950 – With oval shaft.

Standard: **DIN 838 / ISO 3318**

Material:

61 5000 – Chrome vanadium steel, chrome-plated.

61 5600 – Chrome alloy steel; non-flaking chrome-plated, smoothed finish.

61 5900 – Chrome vanadium steel, phosphated.

61 5950 – Chrome vanadium steel, chrome-plated.

Note:

61 5600 – **HT-Drive –** the particularly close-fitting profile.

Advantage

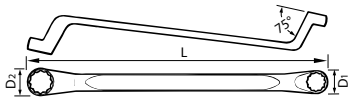
- Bolts are gripped on the flanks.
- The corners are protected.
- Longer bolt life.
- Larger contact surfaces between bolt and tool.
- Secure grip and higher torque transmission.

61 5600
***HT drive** profile*

61 5000
***AS-Drive** profile*

61 5900

61 5950



Width across flats	61A 61 5600 Garant	63A 61 5000 Stahlwille	62A 61 5900 Holex	62A 61 5950 Holex	L		$D_{1\,max}$	$D_{2\,max}$
	Double-ended ring spanner, deeply cranked				61 5600 61 5000	61 5900 61 5950		
mm			phosphated	chrome-plated	mm	mm	mm	mm
6×7	XXX	XXX	XXX	XXX	165	167	11	12
7×8	XXX	–	XXX	XXX	180	180	12	14
8×9	XXX	XXX	XXX	XXX	180	182	14	15
8×10	XXX	XXX	XXX	XXX	180	182	14	16
10×11	XXX	XXX	XXX	XXX	200	197	16	18
10×13	XXX	XXX	XXX	XXX	220	216	16	21
12×13	XXX	XXX	XXX	XXX	220	216	20	21
12×14	XXX	–	XXX	XXX	220	216	20	23
13×14	–	–	XXX	XXX	–	239	22	23
13×15	XXX	–	XXX	XXX	245	239	22	23
13×17	XXX	XXX	XXX	XXX	245	263	22	27
14×15	XXX	XXX	XXX	XXX	245	239	22	23
14×17	XXX	–	XXX	XXX	245	263	22	27
16×17	XXX	XXX	XXX	XXX	255	263	25	27
16×18	XXX	–	XXX	XXX	270	263	25	27
17×19	XXX	XXX	XXX	XXX	270	290	28	29
18×19	XXX	XXX	XXX	XXX	275	290	28	29
18×21	XXX	XXX	XXX	XXX	300	308	28	32
19×22	XXX	XXX	XXX	XXX	300	318	29	34
19×24	–	–	XXX	XXX	–	325	29	35
20×22	XXX	XXX	XXX	XXX	300	318	31	34
21×23	XXX	XXX	XXX	XXX	315	325	32	35
21×24	XXX	XXX	XXX	XXX	330	325	32	35
22×24	XXX	XXX	XXX	XXX	330	325	34	37
24×26	XXX	XXX	XXX	XXX	330	337	36	40
24×27	XXX	XXX	XXX	XXX	330	337	36	40
24×30	–	–	XXX	XXX	–	346	36	44
25×28	–	XXX	XXX	XXX	350	346	36	40
27×30	XXX	XXX	XXX	XXX	360	346	40	44
27×32	XXX	XXX	XXX	XXX	360	360	40	48
30×32	XXX	XXX	XXX	XXX	365	360	44	48
30×34	XXX	XXX	XXX	XXX	365	375	44	50
32×36	–	–	XXX	XXX	–	410	48	52
36×41	XXX	XXX	XXX	XXX	440	440	53	60
41×46	–	–	XXX	XXX	–	475	60	67
46×50	–	XXX	–	–	535	–	67	73

61 5500_12

Double-ended ring spanner set, deeply cranked

Number of keys	61A 61 5610 Garant	63A 61 5500 Stahlwille	62A 61 5910 Holex	62A 61 5960 Holex	**Supplied with:** 1 each double ended ring spanner No. 615600 / 615000 / 615900 / 615950
	Double-ended ring spanner set, deeply cranked				
			phosphated	chrome-plated	
8	XXX	XXX	XXX	XXX	6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×21; 19×22
10	XXX	XXX	XXX	XXX	6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×24; 27×30
12	XXX	XXX	XXX	XXX	6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×23; 24×26; 27×32; 30×34
13	XXX	XXX	XXX	XXX	6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×23; 24×26; 27×32; 30×34; 36×41
10ZOLL	–	XXX	–	–	1/4×5/16; 3/8×7/16; 1/2× 9/16; 9/16×5/8; 19/32×11/16; 5/8×3/4; 11/16×13/16; 3/4×7/8; 25/32×13/16; 7/8×15/16 inch

Double-ended ring spanners, shallow cranked

Drop-forged. With close tolerance jaw widths. Thin, flat rings for use in restricted places. With easy-grip fluted shaft. Optimum flexional resistance, good torque transmission. Shallow cranked head at each end. With **AS Drive** profile.

Standard: **DIN 897 / ISO 3318**

Material: Chrome alloy steel, non-flaking chrome-plated over nickel; smoothed finish.

Width across flats	63A 61 6500	L	$D_{1\,max}$	$D_{2\,max}$	$h_{1\,max}$
	Double-ended ring spanner, shallow cranked				
mm		mm	mm	mm	mm
6×7	XXX	170	9.5	10.8	7
8×9	XXX	179	12.1	13.3	8
10×11	XXX	188	14.6	15.9	9.5
12×13	XXX	203	17.3	18.6	10.5
14×15	XXX	219	20.1	21.4	11.5
16×17	XXX	248	22.7	24.1	12.5
17×19	XXX	250	24.1	27	13.5
18×19	XXX	251	25.5	27	13.5
20×22	XXX	280	28.5	31.3	14.5
21×23	XXX	328	29.8	32.9	14.5
24×27	XXX	376	34.3	38.6	16

Number of keys	63A 61 6510	Content:
	Double-ended ring spanner set, shallow cranked	
8	XXX	6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22

AS-Drive Profil

61 6500

61 6510

Double-ended ring spanners, straight

Drop-forged. With close tolerance jaw widths.

61 7600 – **STAHLWILLE –** With easy-grip fluted shaft. Optimum flexional resistance, good torque transmission. Thin, flat rings for use in restricted places. With **AS Drive** profile.

61 7950 – **HOLEX –** With oval shaft.

Standard: **DIN 837 B / ISO 3318**

Material:

61 7600 – **STAHLWILLE –** Chrome alloy steel; non-flaking chrome-plated over nickel; smoothed finish surface.

61 7950 – **HOLEX –** Chrome vanadium steel, chrome-plated.

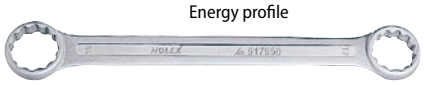
Width across flats	63A 61 7600	62A 61 7950	L		$D_{1\,max}$	$D_{2\,max}$	$h_{1\,max}$
	Double-ended ring spanner, straight		61 7600	61 7950			
mm		chrome-plated	mm	mm	mm	mm	mm
6×7	XXX	XXX	100	100	10.5	12	4.5
8×9	XXX	XXX	115	115	13.5	15	5.5
8×10	XXX	XXX	115	115	13.5	16	6
10×11	XXX	XXX	130	130	16	17	6
12×13	XXX	XXX	150	144	19	21	6.8
13×17	XXX	XXX	170	165	20.5	25.5	8
14×15	XXX	XXX	165	159	21.5	23	7.5
16×17	XXX	XXX	170	169	24.5	25.5	8
16×18	–	XXX	–	169	24.5	25.5	7.8
17×19	XXX	XXX	185	184	26.5	27.6	8.8
18×19	XXX	XXX	185	184	26.5	27.6	9
18×21	XXX	XXX	210	194	26.5	30.5	9.8
19×22	XXX	XXX	210	204	29	32.4	10.8
20×22	XXX	XXX	210	204	29	32.4	10.8
21×24	XXX	XXX	235	228	30.5	34.7	10.8
24×27	XXX	XXX	290	258	35	38.5	11
27×32	XXX	XXX	320	288	38.5	45.5	12.8
30×32	XXX	XXX	325	318	43	48.5	12.8
30×34	XXX	XXX	325	328	43	48.5	13.8

Number of keys	63A 61 7610	62A 61 7960	Content:
	Double-ended ring spanner set, straight		
		chrome-plated	
8	XXX	XXX	6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×21; 19×22
11	XXX	XXX	6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×24; 27×32; 30×34

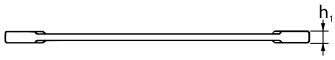
AS-Drive profile

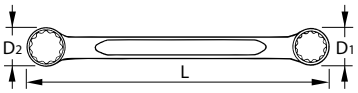
61 7600

Energy profile



61 7950





617610_8

STAHLWILLE Double-ended crescent ring spanners

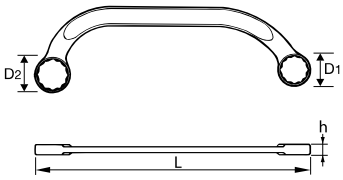
Drop forged ring spanner in a crescent shape. Close tolerance jaw widths. Torsion-resistant fluted shaft. With **AS Drive** profile.

Material: Chrome alloy steel, non-flaking chrome-plated over nickel; smoothed finish surface (no sharp edges).

Application: Specially for working on engine blocks, e.g. fitting carburettors, alternators etc. and everywhere where nuts and bolts are difficult to reach using normal ring spanners.

61 8000

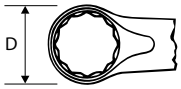
Jaw widths	mm	10×12	11×13	14×17	16×18	19×22
63A 61 8000 Double-ended crescent ring spanner		XXX	XXX	XXX	XXX	XXX
Wrench length	mm	150	150	179	200	225
Ring ∅ D_1	mm	16.5	16.5	21	25.3	28
Ring ∅ D_2	mm	19.5	19.5	24.5	27.5	32
h	mm	6.5	6.5	7.5	8.5	9



Heavy ring spanners, cranked

Drop forged, heavy-duty version, cranked approx. 80°. Spring loaded locking pin for extension tube No. 618600 / 8610.

Material: Chrome vanadium steel, chrome-plated.



61 8500

61 8510

Width across flats	mm	24	27	30	32	36	41	46
66A 61 8500 WALTER	Heavy ring spanner (without tube)	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 61 8510 HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Wrench length	mm	180	190	200	235	245	265	280
Ring ∅ D (61 8500)	mm	38	41	48	49	55	62	69
Ring ∅ D (61 8510)	mm	36	40	46	48	53	61	68

Width across flats	mm	50	55	60	65	70	75	85
66A 61 8500 WALTER	Heavy ring spanner (without tube)	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 61 8510 HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Wrench length	mm	290	300	345	355	365	375	385
Ring ∅ D (61 8500)	mm	76	81	90	98	105	110	125
Ring ∅ D (61 8510)	mm	75	81	89	98	104	108	123

Extension tube for heavy ring spanners

Chrome-plated.

Application: For heavy ring spanners No. 618500 / 618510.

61 8600

Length	mm	460	610	760	860
66A 61 8600 WALTER	Extension tube	XXX	XXX	XXX	XXX
62A 61 8610 HOLEX		XXX	XXX	XXX	XXX
for width across flats	mm	24 – 30	32 – 41	46 – 55	60 – 85
Tube ∅ internal (61 8600)	mm	19	22	25	30
Tube ∅ internal (61 8610)	mm	19	22	25.5	30
Tube ∅ external (61 8600)	mm	25	27	32	38
Tube ∅ external (61 8610)	mm	25	28	31.5	36

WALTER Single ended ring spanners fully insulated to VDE

Drop forged, chrome-plated; with **plastic insulation up to 1000 Volt to DIN EN 60900 / VDE0682-201.**

Material: Chrome vanadium steel.

61 8200

Width across flats	mm	8	10	13	17	19
66A 61 8200 Ring spanner **fully insulated**		XXX	XXX	XXX	XXX	XXX
Wrench length	mm	165	200	200	250	250

Slogging ring spanners, straight

Drop forged, with short, strong profile shaft and reinforced striking end.

61 9000 – Extremely thin ring, exact tolerance jaw widths for working on bolts in very restricted places. The ring is higher than standard nuts, thus jamming is impossible. Stronger than any bolt.

Standard: **DIN 7444**

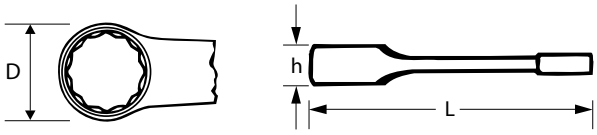
Material:

61 9000 – Chrome alloy steel, painted green.

61 9161 – Chrome vanadium steel, phosphated.

61 9000

61 9161



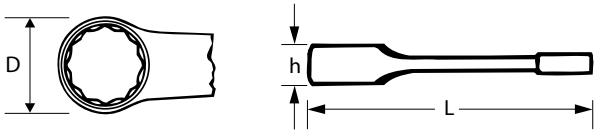
Width across flats	63A 61 9000	62A 61 9161	L		∅ D		h	
	Slogging ring spanner, straight		61 9000	61 9161	61 9000	61 9161	61 9000	61 9161
mm			mm	mm	mm	mm	mm	mm
24	–	XXX	–	166	–	40.5	–	15
27	–	XXX	–	178	–	42	–	15
30	–	XXX	–	190	–	49	–	17
32	XXX	XXX	195	195	47	51	24	17
34	–	XXX	–	196	–	53	–	17
36	XXX	XXX	195	205	52.4	57.5	26	19
41	XXX	XXX	200	230	59	64.5	29	21
46	XXX	XXX	250	238	65	73	32	22.5
50	XXX	XXX	280	255	70	78	35	24
55	XXX	XXX	300	267	76	85	38	25
60	XXX	XXX	300	276	82.5	92	42	26
65	XXX	XXX	325	295	90.5	102	45	28
70	XXX	XXX	355	320	97	108	48	32.5
75	XXX	XXX	360	330	103.5	113	51	34
80	XXX	XXX	440	362	110	125	57	36.5
85	XXX	XXX	440	362	117	128	57	36.5

FACOM Slogging ring spanner, secured

Drop forged, with short, strong profile shaft and reinforced striking end. The patented locking system holds the wrench to the nut. This means there is no need to hold the wrench whilst it is being struck, thereby minimising the risk of injury and ensuring maximum safety. Innovative and user-friendly operating lever. Hook-in hole for working at high places.

Material: Tough steel, black phosphated.

61 9050



Width across flats	63V 61 9050	L	∅ D	h
	Slogging ring, secured			
mm		mm	mm	mm
24	XXX	180	45	19.5
27	XXX	180	45	19.5
30	XXX	195	48	21
32	XXX	195	51	21.5
36	XXX	205	59	25
41	XXX	231	62	26
46	XXX	240	71	28
50	XXX	255	75	31
55	XXX	270	80	35
60	XXX	280	85	38
65	XXX	300	93	41
70	XXX	320	102	43
75	XXX	330	108	48
80	XXX	360	118	52

Double-ended open ring spanner (hydraulic / brake pipe wrench)

Drop forged; with reinforced ring, therefore exceptionally strong; jaw widths to exact tolerances. 10° angled heads.

61 9200 – With easy-grip fluted shaft. Optimum flexural strength, good torque transmission, very light and easy to use. Up to size 12×14 mm with hexagon ring - size 14×17 mm and above with bi-hexagon.

61 9705 – With oval, easy grip shaft, very strong. Up to size 12×14 mm with hexagon ring - size 14×17 mm and above with bi-hexagon.

Standard: **DIN 3118 / ISO 3318**

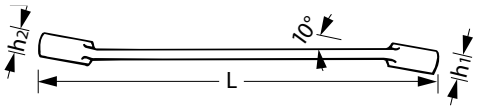
Material:

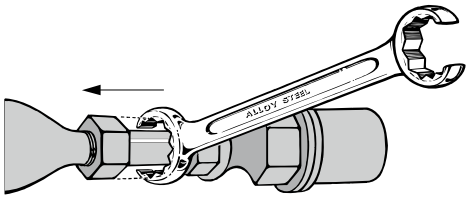
61 9200 – Chrome alloy steel; non-flaking, chrome-plated over nickel.

61 9705 – Chrome vanadium steel, chrome-plated.

***AS-Drive** profile* 61 9200

61 9705





Width across flats	63A 61 9200 STAHLWILLE	62A 61 9705 HOLEX	L		$D_{1\,max}$		$D_{2\,max}$		$h_{1\,max}$		$h_{2\,max}$	
	Double-ended open ring spanner		61 9200	61 9705	61 9200	61 9705	61 9200	61 9705	61 9200	61 9705	61 9200	61 9705
mm			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
8×10	XXX	XXX	145	139	17.5	17.8	19.5	19.3	7	6.5	8.5	7.5
9×11	XXX	XXX	155	153	18.5	19.4	21.5	21.4	8.5	8	9	8.5
10×11	XXX	XXX	155	153	19.5	19.4	21.5	21.4	8.5	8	9	8.5
10×12	XXX	XXX	160	153	19.5	19.4	22.5	21.4	8.5	8	9.5	8.5
11×13	XXX	XXX	170	174	21.5	22.8	24	25.3	9	8.5	10	10.5
12×14	XXX	XXX	180	174	24	22.8	26	25.3	9.5	8.5	10.5	10.5
14×17	XXX	XXX	200	195	26	27.4	30	31.4	10.5	11	12	12.5
17×19	XXX	XXX	220	213	30	31.2	33	33.3	12	12	13	13
19×22	XXX	XXX	230	228	33	33.4	37	38.4	13	13	15	14
22×24	XXX	XXX	245	243	37	38.5	40.5	42	15	15	16	16
24×27	XXX	XXX	270	258	40.5	42.4	44.5	46.4	16	16	17.5	17
30×32	XXX	XXX	300	297	48.5	50.4	50.5	52.4	20	19	22	20.5
27×36	XXX	–	300	–	42	–	54	–	16	–	19	–

FACOM Ratchet ring spanner for union nuts

Sturdy shank with split ring, which can be assembled around the hexagon nut. The split ring can be used like a ratchet.

Size 8–11 – With hexagonal ring.

Size 12–30 – With bi-hex.

Application: Predominantly for union nuts on pipework.

61 9300

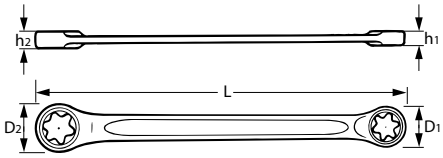
Width across flats	mm	8	10	11	12	13	14	16	17	18	19	22	24	27	30
63V 61 9300 Ratchet ring spanner		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	139.5	139.5	139.5	139.5	139.5	191	191	191	191	191	233	235	325	325

STAHLWILLE Double-ended ring spanners, straight, for Torx® screws

Drop forged, straight design. Flat heads and thin rings for restricted places. Fluted shaft.

Material: Chrome alloy steel, chrome-plated over nickel.

61 9400



Torx® profile		E6XE8	E10XE12	E14XE18	E20XE24
63A 61 9400	Double ended ring spanner, straight, for Torx® screws	XXX	XXX	XXX	XXX
L	mm	115.5	149.5	185	227
$D_{1\,max}$	mm	9.6	13.7	17.8	24.7
$D_{2\,max}$	mm	11.6	15.7	22.5	29.2
$h_{1\,max}$	mm	4.5	6.5	8	10.5
$h_{2\,max}$	mm	5.5	7.5	9.5	12.5

Number of keys		4
63A 61 9410	Double ended ring spanner set, straight, for Torx® screws	XXX
Content: 1 each spanner No. 619400		E6×E8, E10×E12, E14×E18, E20×E24

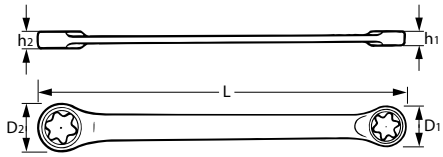
61 9410

HOLEX Double ratchet ring spanners for Torx® screws

Drop forged. With particularly smooth-running ring ratchets. Extremely small working arc of 5°.

Material: Chrome vanadium steel, chrome-plated.

61 9440



Torx® profile		E6XE8	E10XE12	E14XE18	E20XE24
62A 61 9440	Double ratchet ring spanner for Torx® screws	XXX	XXX	XXX	XXX
L	mm	130	150	190	230
D_1	mm	16.5	18.5	25.3	30.5
D_2	mm	17	20	28.4	32.5
h_1	mm	6.5	7.3	9	10.4
h_2	mm	7	7.7	10	11.2

Number of keys		4
62A 61 9460	Double ratchet ring spanner set for Torx® screws, in a wallet	XXX
Content: 1× each spanner No. 619440		E6×E8, E10×E12, E14×E18, E20×E24

61 9460

8-19 5/16-3/4"

HOLEX Push-through insert set

Hexagon push-through inserts with external hexagon drive, precision ratchet with 60 teeth, reversible.

Material: Chrome vanadium steel, matt chrome-plated.

Application: For flexible screwing of nuts on both studs and threaded rods. For right-hand and left-hand threads.

Application example

62A 61 9500	Push-through insert set, 18 pieces, metric / imperial	XXX
Content: Metric push-through inserts		8 pcs. size 8; 10; 12; 13; 14; 15; 17; 19 mm
Imperial push-through inserts		8 pcs. size 5/16; 3/8; 7/16; 1/2; 9/16; 5/8; 11/16; 3/4 inch
Through extension		1 pc. size 75 mm
Through ratchet		1 pc. / reversible

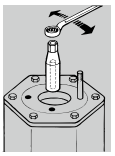
61 9500

HOLEX Stud extractor

Strong steel body with axial through hole. Three eccentrically placed rollers grip the stud firmly without causing damage. The unit is placed on the stud and is turned. It automatically clamps and holds the stud. Steel body size 6 to 12 with 1/2 inch square socket drive. Size 16 only with spanner flats.

Material: Chrome vanadium steel, chrome-plated surface.

Application: For screwing and unscrewing studs. For right-hand and left-hand threads.



for stud ∅	mm	6	7	8	10	12	16
62A **61 9600**	Stud extractor	XXX	XXX	XXX	XXX	XXX	XXX
External ∅	mm	24	24	24	28	28	34
Hexagon shoulder (AF)	mm	22					
overall length	mm	65	65	65	75	75	75
for stud ∅	mm	6	7	8	10	12	16
Square socket drive	inch	1/2	1/2	1/2	1/2	1/2	–

61 9600

Stud extractor set in a sheet steel case

½″

62A **61 9610**	Stud extractor set, 4 pieces, 6 – 12 mm in a sheet steel case	XXX
Sheet metal case length	mm	220
Sheet metal case width	mm	85
Sheet metal case height	mm	38
Content: 1 each stud extractor No. 619600		Size 6; 8; 10; 12

61 9610

HOLEX Box spanners

Made from thin-walled heat-treatable steel tube, with cross-hole for tommy bar.

Standard: **DIN 896 B**

Material: Heat-treatable steel tube, chrome-plated.

62 0120

Width across flats mm	62C 62 0120 Box spanner	overall length mm	Hole for tommybar ∅ mm
5,5×7	XXX	110	6.3
6×7	XXX	110	6.3
8×9	XXX	110	6.3
8×10	XXX	120	6.3
10×11	XXX	120	6.3
10×13	XXX	140	8.5
12×13	XXX	140	8.5
13×17	XXX	150	10.5
14×15	XXX	140	8.5
14×17	XXX	150	10.5

Width across flats mm	62C 62 0120 Box spanner	overall length mm	Hole for tommybar ∅ mm
16×17	XXX	150	10.5
17×19	XXX	160	12.5
18×19	XXX	160	12.5
18×21	XXX	160	12.5
19×22	XXX	170	12.5
20×22	XXX	170	12.5
21×23	XXX	170	14.5
21×24	XXX	170	14.5
22×24	XXX	190	14.5
24×27	XXX	190	14.5

Width across flats mm	62C 62 0120 Box spanner	overall length mm	Hole for tommybar ∅ mm
25×28	XXX	200	16.5
27×32	XXX	200	16.5
30×32	XXX	200	16.5
30×34	XXX	200	16.5
32×36	XXX	220	18.5
36×41	XXX	220	18.5
41×46	XXX	240	21
46×50	XXX	240	21
50×55	XXX	240	21
55×60	XXX	240	21

Box spanner set

Number of keys		6/1	8/1	11/3
62C **62 0320**	Box spanner set	XXX	XXX	XXX
Number of tommy bars		1	1	3
Packaging		Plastic tool roll		
Supplied with: 1 each box spanner No. 620120		Size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17	Size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×21; 19×22	Size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×24; 27×32; 30×34

62 0320_8/1

HOLEX Double-ended box spanner, forged

Forged, with solid hexagon shaft for use with spanners and cross-hole for tommy bar.
Very strong, with deep hexagon sockets for projecting threads.

Standard: Similar to **DIN 896 A.**

Material: Chrome vanadium steel, chrome-plated.

62 0502

S - *Shank for open-jawed spanner*

Width across flats mm	62 0502 Double-ended box spanner	overall length mm	Hole for tommybar ∅ mm	Shaft external hexagon S mm
6×7	XXX	105	4	9
8×9	XXX	110	4	9
10×11	XXX	120	5	11
12×13	XXX	140	5.6	13
14×15	XXX	145	6	14
16×17	XXX	155	7	16

Width across flats mm	62 0502 Double-ended box spanner	overall length mm	Hole for tommybar ∅ mm	Shaft external hexagon S mm
18×19	XXX	165	8	19
20×22	XXX	175	9	20
21×23	XXX	185	10	21
24×26	XXX	195	12	24
24×27	XXX	195	12	24
30×32	XXX	210	14	30

Double-ended box spanner set, forged

62 0602

Number of pieces		11
○ 62 0602	Double-ended box spanner set	XXX
Content: 1 each double-ended box spanner No. 620502		Size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×23
Tommy bar No. 621600		Size 10×200
Tommy bar No. 621800		Size 175

62

HOLEX Tommy bar for sockets

Material: Special steel, chrome-plated.

Standard: **DIN 900**

Suitable for: Box spanner No. 620120 / 620500 as well as crowfoot wrench No. 612800.

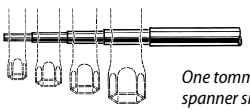
62 1600

∅×overall length mm		5×125	6×160	8×180	10×200	12×250	14×320	16×400	18×500	20×630
62 1600	Tommy bar, cylindrical	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ mm		5	6	8	10	12	14	16	18	20

Standard: Similar to **DIN 900 C.**

Application: The stepped shape means that one tommy bar fits several box spanner sizes.

62 1800



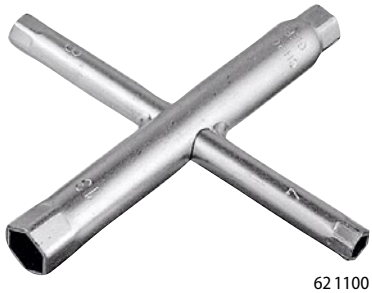
One tommy bar for several box spanner sizes.

overall length mm		175	180	245
62 1800	Tommy bar, stepped	XXX	XXX	XXX
∅ mm		3.5; 4.5; 5.5; 6; 8	6; 8; 10; 12	6; 8; 10; 12; 14

HOLEX Four way wheel brace

Made from thin walled heat-treated steel tube with 4 different hexagon width across flats.

Material: Heat-treatable steel tube, chrome-plated.



62 1100

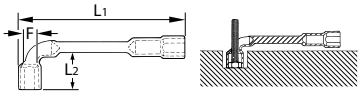
Type		3	5
○ 62 1100	Four way wheel brace	XXX	XXX
overall length mm		110×110	128×129
Width across flats 1 mm		7	11
Width across flats 2 mm		8	13
Width across flats 3 mm		10	14
Width across flats 4 mm		13	17

HOLEX Tubular socket wrenches, angled

Drop-forged for the most arduous duties with especially close-tolerance jaw widths. Special hollow form, even for nuts on long projecting threads. Same jaw width at each end; on sizes 6 and 7 these are both single hexagon, from size 8 single hexagon at the long leg and bi-hexagon on the short leg. Angled at approx. 90 - 95°.

Material: Chrome vanadium steel, chrome-plated.

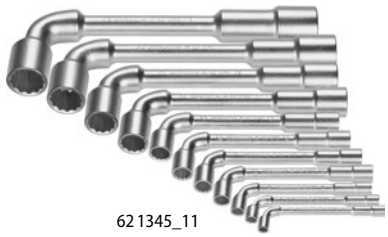
62 1340



Width across flats	mm	6	7	8	9	10	11	12	13	14	15	16	17	18
62C 62 1340	Tubular socket wrench, angled	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Socket length L_1	mm	102	106	114	122	129	136	144	152	160	169	178	187	195
Socket length L_2	mm	17	17.5	19.5	20	24	26.5	28	30	31.5	34	37	39	40
Bore ∅ F	mm	4.5	4.5	7	7	8	8	9	9	10.5	10.5	13	13	13

Width across flats	mm	19	20	21	22	23	24	25	26	27	28	29	30	32
62C 62 1340	Tubular socket wrench, angled	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Socket length L_1	mm	204	212	221	230	240	250	260	270	280	290	300	310	330
Socket length L_2	mm	41	43	46	48	50.5	54	56	58	58	60	62	64	70
Bore ∅ F	mm	15	15	15	15	18	18	20	20	22	22	22	24	24

Tubular socket wrench set, angled



62 1345_11

Number of keys		8	11
62C 62 1345	Tubular socket wrench set, angled	XXX	XXX
Content: 1 each socket wrench No. 621340		Size 8; 10; 11; 13; 16; 17; 18; 19	Size 6; 7; 8; 10; 11; 12; 13; 17; 19; 22; 24

62

Flexible head wrench

Drop-forged; precisely toleranced jaw widths; bi-hexagon. An integral compression spring keeps the heads in the respective position.

62 1400 – Strong double T-profile shank; with thin-walled, deep AS-Drive profile socket heads. Swivel heads (movement up to 220°).

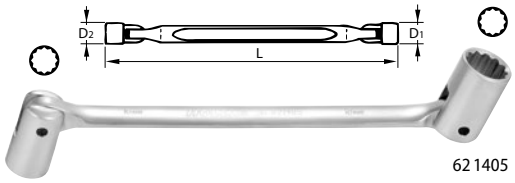
62 1405 – Swivel heads (movement up to 200°).

Material:

62 1400 – Chrome alloy steel, chrome-plated, smoothed finish (no sharp edges).

62 1405 – Chrome vanadium steel, chrome-plated, smoothed finish.

***AS-Drive** profile* 62 1400



62 1405

Width across flats	mm	10×11	12×13	14×15	16×18	17×19
63A 62 1400 STAHLWILLE	Flexible head wrench	XXX	XXX	XXX	XXX	XXX
62C 62 1405 HOLEX		XXX	XXX	XXX	XXX	XXX
L (62 1400)	mm	202	228	227	249	250
L (62 1405)	mm	202	220	240	260	275
∅ D_1 (62 1400)	mm	14.7	17.2	19.7	22.2	23.7
∅ D_1 (62 1405)	mm	14.1	16.7	21.6	21.6	23.7
∅ D_2 (62 1400)	mm	15.9	18.4	20.9	24.7	26.3
∅ D_2 (62 1405)	mm	16.7	17.6	21.6	25.8	25.8

HOLEX Open jaw / socket wrenches

Drop-forged, close-tolerance jaw width, equal at each end. Socket can be swivelled approx. 180°.

Material: Chrome vanadium steel, chrome-plated.

62 1500

Width across flats	mm	10	12	13	14	17	19
62C 62 1500	Open jaw / socket wrench	XXX	XXX	XXX	XXX	XXX	XXX
Wrench length	mm	178	191	205	224	234	251
Jaw width	mm	20.7	25.2	28.5	31.5	36.6	41.6
Head ∅	mm	14.8	17.8	18.8	19.8	23.8	25.8
Open jaw height	mm	6.6	7	7	7.2	8	8.5

Socket set with flip-over handle

Spcket set consisting of 8 blades and one flip-over handle. Handle of transparent impact resistant plastic.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness.
Surface nickel-plated and chrome-plated.

Advantage: The flip-over handle permits 2 functions:
- Quick rotation (in the upright position).
- Power tightening (in the 90° angle position).

Note: Spare interchangeable blades can be found under No. 659870 – 659884.

62 2005

Number of pieces		9
63D 62 2005	Socket set, 9 pieces, with flip-over handle, in a tool roll	XXX
Content: Flip-over handle		1 pc.
1 each tubular socket wrench No. 659880		Size 5.5; 6; 7; 8; 9; 10; 11; 13

Nut spinner with precision plastic screw grip

Multi-component **power handle** with grip zone optimised for torque and comfort.
Blade made of chrome vanadium steel, chrome-plated.
With **Kraftform Micro** multi-element precision screw grip and revolving centre cap.

Width across flats	mm	2	2,5	3	3,2	3,5	4	4,5
63F 62 2100 Nut spinner with precision screw grip **Kraftform Micro**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm				157			
Blade length	mm				60			

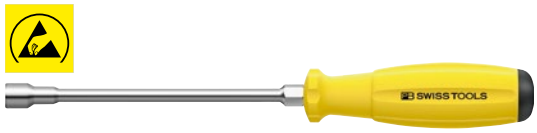
Nut spinner with 2-component power handle

Power grip with non-allergenic secure grip surface and a particularly tough impact resistant polypropylene core. The special surface structure allows transmission of high torques, even with wet or oily hands.
From size 8 with hexagon flats for wrench assistance.

62 2150 – Power grip with comfortable, easy-grip **Haptoprene** surface. Blade made from chrome vanadium special alloy, surface nickel-plated and chrome-plated.

62 2170 – **SwissGrip power grip** with a non-allergenic elastomer coating.
Tool handle made of conductive plastic, **suitable for ESDs.**
Blade of PB Swiss Tools special alloy.
Surface nickel-plated and chrome-plated.

62 2150



62 2170

Width across flats	mm	4	4,5	5	5,5	6	7	8	9	10	11	12	13
61C 62 2150 Garant Nut spinner with 2-component Haptoprene handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 2170 PB SWISS TOOLS Nut spinner with 2-component SwissGrip handle **ESD**		–	–	XXX	XXX	XXX	–	XXX	–	XXX	–	–	–
overall length	mm	150	170	180	190	195	205	230	250	270	300	310	320
Blade length	mm	70	80	85	90	90	100	120	140	160	180	190	200

62 2160_9

Number of keys		9	12
61C 62 2160 Garant Nut spinner set with 2-component Haptoprene handle		XXX	XXX
Content: 1 each tubular socket wrench No. 622150		Size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10	Size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13

ESD

Four golden rules

1. Always assume that **all active devices are ESD-sensitive**.
2. Handle electronic devices **only in electrostatic protected areas (EPA)** and even then only if they are **properly grounded**.
3. **Store and transport** ESD sensitive devices in ESD protected containers.
4. **Check** the ESD protection system regularly.

Follow the principle
„Where there is no charge, there can be no discharge".

Making as few movements as possible and using ESD safe equipment keeps the risk of static charge caused by personnel to a minimum.

More about the basics of electrostatic charges and discharge can be found under:

http://ho7.eu/esd1

ESD Protective Symbol (for items that possess at least one ESD control property)

Warning symbol for ESD sensitive devices

HOLEX Nut spinner with 2-component plastic handle

Multi-component **power handle** with grip zone optimised for torque and comfort.
Blade made of chrome vanadium steel, chrome-plated.

62 2201

62 2301

62 2401

Note:
62 2201 – HOLEX nut spinner screwdrivers also available in imperial sizes from our eShop (No. 622202).

		Width across flats	mm	4	4,5	5	5,5	6	7	8	9	10	11	12	13	14	16	17
○	62C 62 2201	Nut spinner with handle **long**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○	62C 62 2301	Nut spinner with handle **short**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	XXX	–	–	–
○	62C 62 2401	Nut spinner with handle **flexible**		–	–	XXX	XXX	XXX	XXX	XXX	–	XXX	–	–	–	–	–	–
		overall length (62 2201)	mm	212	212	212	212	212	232	232	232	232	245	245	245	245	245	245
		overall length (62 2301)	mm	152	152	152	152	172	172	172	172	172	–	–	185	–	–	–
		overall length (62 2401)	mm	–	–	231	231	231	251	251	–	289	–	–	–	–	–	–

Nut spinner set with 2-component plastic handle

		Number of keys	6	9	15
○	62C 62 2211	Nut spinner set with handle **long**	–	XXX	XXX
○	62C 62 2311	Nut spinner set with handle **short**	–	XXX	–
○	62C 62 2411	Nut spinner set with handle **flexible**	XXX	–	–
		Content: 1 pc. each No. 622201 (62 2211)	–	Size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10	Size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 16; 17
		1 pc. each No. 622301 (62 2311)	–	Size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10	–
		1 pc. each No. 622401 (62 2411)	Size 5; 5.5; 6; 7; 8; 10	–	–

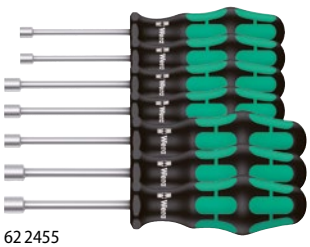
62 2211_9

62

Wera Hollow shank nut driver with Kraftform handle

Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm. The shank is a hollow tube, nicromatt chrome-plated. The hollow shank allows nuts to be tightened even where the screw thread projects beyond the nut.

62 2450



62 2455

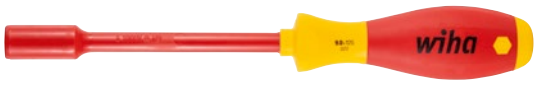
		Width across flats	mm	5	5,5	6	7	8	10	13
○	63F 62 2450	Hollow shank nut driver with Kraftform handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX
		overall length	mm	188	188	188	195	195	202	202

Hollow shank nut driver set with Kraftform handle

○	63F 62 2455	Hollow shank nut driver set with Kraftform handle, 7 pieces	XXX
		Content: 1 pc. each No. 622450	Size 5; 5.5; 6; 7; 8; 10; 13

wiha Nut spinner with plastic handle, fully insulated to VDE

Long design, deep hexagon nut spinner head for projecting threads.
Plastic insulation up to 1000 volts to DIN EN 60900 / VDE 0682-201.
Standard: **DIN 3125**
Material: **Ergonomic multi-component handle** with non-roll flats.
Blade of chrome vanadium steel, burnished, fully insulated.



62 2500_9

		Width across flats	mm	5,5	6	7	8	9	10	11	13	17
○	63K 62 2500	Nut spinner with handle **fully insulated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
		overall length	mm	236	236	243	243	243	243	243	243	243

Nut spinner set, fully insulated

		Number of keys	5	11
○	63K 62 2510	Nut spinner set **fully insulated**	XXX	XXX
		Content: 1 pc. each No. 622500	7; 8; 9; 10; 13 mm	Size 5.5; 6; 7; 8; 9; 10; 11; 13; 14; 16; 17

62 2510_5

Nut spinner with T-handle

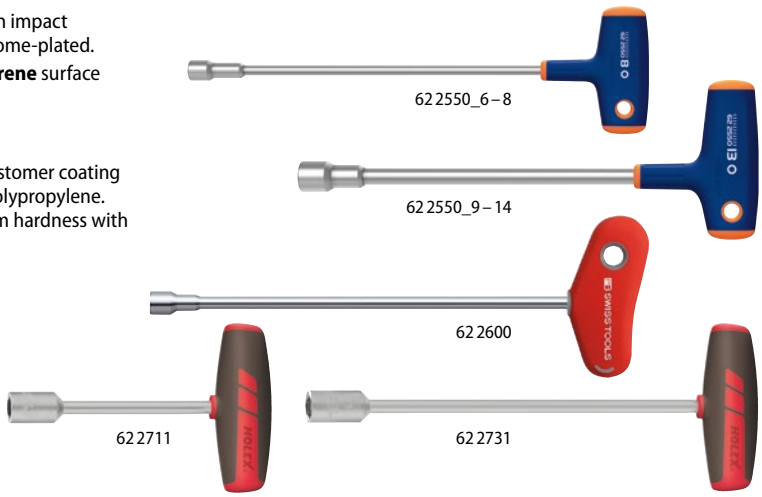
Ergonomically shaped T-handle with easy-grip Santoprene® surface and an impact resistant plastic core. Blade of chrome vanadium special steel. Surface chrome-plated.

62 2550 – Ergonomically shaped T-handle with easy-grip **Haptoprene** surface and an impact-resistant plastic core.
Blade of chrome vanadium special alloy.
Surface nickel-plated and chrome-plated.

62 2600 – Ergonomically shaped T-handle with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness.
Surface nickel-plated and chrome-plated.

62 2711–2751 – Impact resistant plastic T-handle.
Blade of special vanadium steel, surface matt chrome-plated.

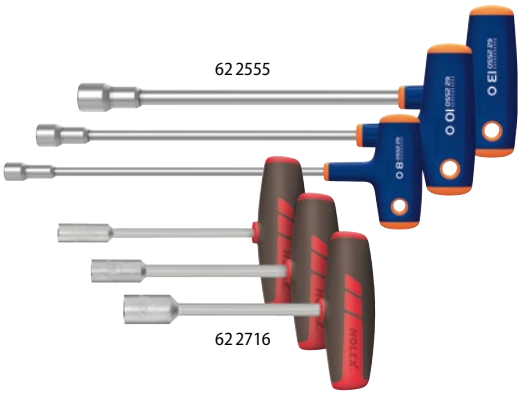
Note:
62 2731 – HOLEX nut spinner screwdrivers with T-handle also available in imperial sizes from our eShop (No. 622732).



Width across flats			mm	6	7	8	9	10	11	12	13	14	17
○ 61C 62 2550	Garant	Nut spinner with 2-component Haptoprene T-handle, blade length **200 mm**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
○ 63D 62 2600	PB SWISS TOOLS	Nut spinner with T-handle, blade length **230 mm**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
○ 62C 62 2711		Nut spinner with T-handle, blade length **125 mm**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○ 62C 62 2731	HOLEX	Nut spinner with T-handle, blade length **230 mm**		XXX	XXX	XXX	–	XXX	–	–	XXX	–	–
○ 62C 62 2751		Nut spinner with T-handle, blade length **350 mm**		–	–	XXX	–	XXX	–	–	XXX	–	–
overall length (62 2550)			mm	263	263	263	277	277	277	277	277	277	–
overall length (62 2600)			mm	270	270	270	275	275	275	275	275	275	–
overall length (62 2711)			mm	157									
overall length (62 2731)			mm	262	262	262	–	262	–	–	262	–	–
overall length (62 2751)			mm	–	–	382	–	382	–	–	382	–	–

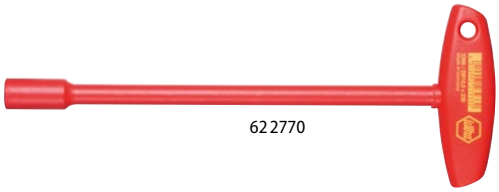
Nut spinner set with T-handle

Number of keys			3
○ 61C 62 2555	Garant	Nut spinner set with 2-component Haptoprene T-handle, blade length **200 mm**	XXX
○ 62C 62 2716	HOLEX	Nut spinner set with T-handle, blade length **125 mm**	XXX
○ 62C 62 2736		Nut spinner set with T-handle, blade length **230 mm**	XXX
Content:			
1 pc. each No. 622550 (62 2555)			Size 8; 10; 13
1 pc. each No. 622711 (62 2716)			Size 8; 10; 13
1 pc. each No. 622731 (62 2736)			Size 8; 10; 13



wiha Nut spinner with T-handle, insulated to VDE

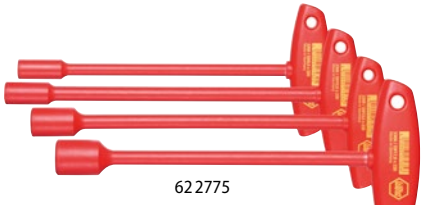
Cleanly formed, deep hexagon spinner head with internal hole for screw threads that project beyond the nut. Impact-resistant plastic T-handle, blade of chrome vanadium steel, chrome-plated, with sprayed-on protective insulation.
Insulated up to 1000 V, made to DIN EN 60900 / VDE 0682-201.



Width across flats		mm	8	10	13	17
○ 63K 62 2770	Nut spinner with T-handle **VDE insulated**		XXX	XXX	XXX	XXX
overall length		mm	232	262	262	268
Blade length		mm	200	230	230	230

Nut spinner set with T-handle, insulated to VDE

Number of keys		4
○ 63K 62 2775	Nut spinner set with T-handle **VDE insulated**	XXX
Content:		
1 pc. each No. 622770		Size 8; 10; 13; 17



Square socket spanner with square drive

Broached square socket, hardened.

Standard: **DIN 248**

Material: Special steel, tempered and burnished.

Width across flats	mm	8	10	12	14	17	19	22
63Q 62 3100	Square socket spanner	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	160	195	235	270	315	345	385
Head ∅	mm	17	21	24	27	30	35	39

External and internal square keys with T-handle

Shaft hardened, solid inserted T-handle.

62 3200 – With **internal** square.

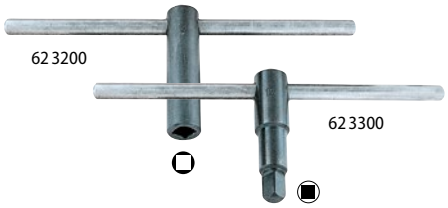
62 3300 – With **external** square.

Standard:

62 3200 – **DIN 904**

62 3300 – **DIN 905**

Material: Special steel, tempered and burnished.



Width across flats	mm	4	5	6	7	8	9	10	11	12	14	17	19
63Q 62 3200	External square key with T-handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX
63Q 62 3300	Internal square key with T-handle	–	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–
Shaft length (62 3200)	mm	60	60	80	80	80	100	100	–	100	120	160	200
Shaft length (62 3300)	mm	–	–	–	80	80	80	100	100	100	120	–	–
Head ∅ (62 3200)	mm	12	12	12	14.6	16	18	20	–	24	28	34	36

62

Triangular socket key

Precision steel tube, galvanised, with tommy bar.

Standard: **DIN 22417 A**

Application: For triangular head bolts to DIN 22424 and triangular nuts to DIN 22425.

62 3503

for screws		M4	M5	M6	M8	M10	M12	M16
62C 62 3503	Triangular socket key	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shaft length	mm	90	100	112	125	140	160	180
Head height internal size F	mm	6.8	8.3	10.05	12.05	15.05	16.55	20.55
Shank ∅	mm	10	10	12.5	15	19	19	24

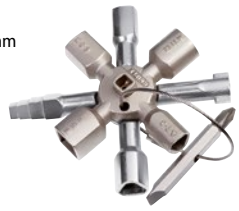
Multi-function key TwinKey®

2 four-way wrenches of die-cast zinc with reversible bit (Phillips and slot). The two wrenches are **linked with a magnet** to save space. When separated, two wrenches and the reversible bit are connected with a sturdy stainless steel cord so that they are captive.

Suitable for: Square socket 5; 6–7; 8–9; 10–11 mm,
triangular socket 7–8; 9–10; 11–12 mm,
two-wing ∅ 3–5 mm, half moon 6 mm,
stepped square plug 6; 7; 8; 9 mm, cross-head PH2,
slot-head 1.0×7 mm.

Application: Multi-function wrenches for operating locks in the field of building services (heating and sanitation, air conditioning and ventilation, electrical systems), gas and water supplies, and security systems.

- 5; 6–7; 8 – 9; 10–11 mm
- 7-8; 9-10; 11-12 mm
- ∅ 3–5 mm
- 6; 7; 8; 9 mm
- 6 mm
- 1/4"
- PH2
- 1.0×7 mm


62 3550

64D 62 3550	TwinKey® multi-function key		XXX
overall length		mm	95

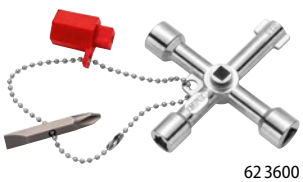
Control cabinet key

Four-way wrench of die-cast zinc with plastic adapter and exchangeable bit (Phillips and slot-head).

Suitable for: Square socket 5; 6; 8 mm, triangular socket 7; 9 mm, two-wing dia. 3–5 mm, cross-head PH2, slot-head 1.0 × 7 mm.

Application: For control cabinets, shut-off valves, and mains switchboards.

- 5; 6; 8 mm
- 7; 9 mm
- ∅ 3–5 mm
- 1/4"
- PH2
- 1.0×7 mm


62 3600

Type			1
64D 62 3600	Control cabinet key		XXX
overall length		mm	76

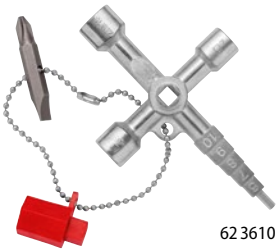
Universal socket key

Four-way wrench of die-cast zinc with plastic adapter and exchangeable bit (Phillips and slot-head).

Suitable for: Square socket 5; 7; 8 mm, triangular socket 9 – 10 mm, stepped square plug 6; 7; 8; 9; 10 mm, hexagon 3 mm (for grub screws), bit holder 1/4 inch, cross-head PH2, slot-head 1.0 × 7 mm.

Application: For heating, air conditioning, sanitation, and building services.

5; 7; 8 mm
9–10 mm
6; 7; 8; 9; 10 mm
3; 1/4"
PH2
1.0×7 mm



62 3610

Type		1
64D 62 3610	Universal socket key	XXX
overall length	mm	90

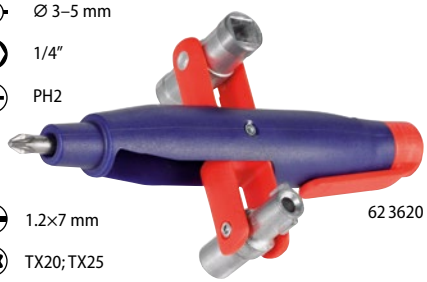
Pocket control cabinet key

Handy control cabinet key, fits in your pocket. The key arm swings out to offer 4 different key profiles; body of plastic, zinc die-cast functional parts.

Suitable for: Square 5; 6; 8 mm, triangular socket 9 mm, two-wing Ø 3–5 mm, bit holder 1/4 inch with magnet, cross-head PH2, slot-head 1.2×7 mm and for Torx® TX20 and TX25.

Application: For control cabinets, shut-off valves, and mains switchboards.

5; 6; 8 mm
9 mm
Ø 3–5 mm
1/4"
PH2
1.2×7 mm
TX20; TX25



62 3620

64D 62 3620	Pocket control cabinet key	XXX
overall length	mm	145

Universal JointKey Quadro

Handy universal wrench with die-cast zinc swivel inserts. Swing arms and connectors of plastic. A total of eight different lock heads can be fitted in position (for a total of 10 different locks). For use either as a T-handle or as a compact retracted variant. The 1/4 inch socket drive permits easy fitting and retention of 1/4 inch sockets.

Suitable for: Square 5; 6-7; 8-9 mm, 1/4 inch socket drive, 1/4 inch bit holder, triangular 5-6; 6-7; 8-9 mm, two-wing Ø 3-5 mm.

Application: For heating, air conditioning, sanitation, and building services.

5; 6–7; 8–9 mm
5–6; 6–7; 8–9 mm
Ø 3–5 mm
1/4"

62 3625

Type		1
64D 62 3625	Universal JointKey Quadro	XXX
overall length	mm	130

L-wrench for TORX screw

L-shank; through hardened (hard and tough).

62 4800

62 4850

PB Swiss Tools colour coding for sizes

62 4855

Material:

62 4800 – PB Swiss Tools special alloy, surface nickel-plated and chrome-plated. Black tip.
62 4850 – PB Swiss Tools special alloy, surface nickel-plated, chrome-plated and powder-coated for quick location using clear "Rainbow" colour coding. Black tip.
62 4855 – Chromium vanadium steel, phosphated.

Torx® profile			TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40	TX45	TX50	TX55	TX60
63D 62 4800	PB SWISS TOOLS	Torx® key L-wrench **chrome-plated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–
63D 62 4850	PB SWISS TOOLS	Torx® key L-wrench **powder-coated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–	–	–	–
62C 62 4855	HOLEX	Torx® key L-wrench **phosphated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length (62 4800, 62 4850)		mm	55×18	58×19	63×20	66×20	71×22	76×24	81×25	88×27	96×29	104×31	114×34	125×37	138×42	–	–
Stock length (62 4855)		mm	42×16	48×16	48×16	48×16	51×17	54×18	57×19	60×20	64×21	70×24	76×26	83×29	95×32	108×35	120×38

L-wrench set, for Torx® screws

Material:

62 4810 – PB Swiss Tools special alloy, surface nickel-plated and chrome-plated. Black tip.

62 4860 – PB Swiss Tools special alloy, surface nickel-plated, chrome-plated and powder-coated for quick location using clear "Rainbow" colour coding. Black tip.

62 4870 – Chromium vanadium steel, phosphated.

62 4810_10

62 4810_8

62 4810_12

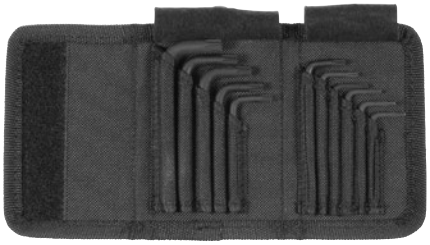
Number of screwdrivers		8	10	12
63D 62 4810	Torx® key L-wrench set **chrome-plated**	XXX	XXX	XXX
63D 62 4860	Torx® key L-wrench set **powder-coated**	XXX	–	–
Supplied with: 1 each L-wrench No. 624800 (62 4810)		TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25	TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40	TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45
1 each L-wrench No. 624850 (62 4860)		TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25	–	–
Presented in		Plastic clip	Fabric wallet	Plastic clip

62 4860_8

Number of screwdrivers		8H
63K 62 4820	Screwdriver set for Torx®	XXX
Supplied with: 1 each screwdriver		TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Presented in		Fold-away handle

62 4820

Number of screwdrivers		8	11	15
62C 62 4870	Torx® key L-wrench set **phosphated**	XXX	XXX	XXX
Supplied with: 1 each L-wrench No. 624855		TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40	TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40	TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45; TX50; TX55; TX60
Presented in		Fabric wallet		

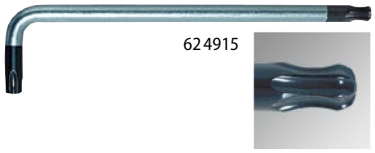


62 4870_11

L-wrenches with ball point for Torx® screws

L-shank; through hardened (hard and tough). Long shank with ball point, can be used at angles up to 25°.

Material: Chrome vanadium steel, chrome-plated. Black tips.



62 4915

Torx® profile		TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
62C 62 4915	Torx® key L-wrench **with ball point**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length	mm	64×16	73×17	83×17	94×18	96×18	106×20	119×24	132×26

Number of screwdrivers		8
62C 62 4921	Torx® key L-wrench set **with ball point**	XXX
Supplied with: 1 each L-wrench No. 624915		TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Presented in		Plastic clip

62 4921_8

Wera L-wrenches with retainer function for Torx® screws

The tapered Torx® HF profile reliably retains all Torx® screws.
L-shank; through hardened (hard and tough).

Material: Chrome vanadium steel, manganese phosphated.

Advantage: Ideal for starting and tightening Torx® screws where access is difficult.

62 4940

Torx® profile		TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
63F 62 4940	Torx® key L-wrench **with retainer function**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length mm		76×16	80×16	86×17	90×18	96×19	104×21	112×22	122×24	132×27

Number of screwdrivers		9
63F 62 4944	Torx® key L-wrench set **with retainer function**	XXX
Supplied with: 1 each L-wrench with T-handle No. 624940		TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Presented in		Plastic clip

62 4944

Flip-up plastic clip.

Advantage: "Take it easy" tool finder with colour marking by sizes – **to find the required tool quickly and easily.**

Number of screwdrivers		9
63F 62 4955	Torx® key L-wrench set, long **with retainer function**	XXX
Supplied with: 1 each L-wrench, long		TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Presented in		Plastic clip

62 4955

62

Long L-wrenches – with retainer function for Torx® screws

L-shank; through hardened (hard and tough).
Long arm with **MagicSpring® retaining spring** from size TX6, which reliably holds all Torx® screws secure.

62 5020

62 5030

Material:

62 5020 – Chrome vanadium steel, electro-galvanised.
62 5030 – Chrome vanadium steel, manganese phosphated.

Torx® profile			TX5	TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40	TX45
61C 62 5020	Garant	Torx® key L-wrench, with MagicSpring® retainer function	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63K 62 5030	wiha		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length mm			72×13	80×15	88×18	101×20	111×21	121×23	136×27	148×29	163×33	176×36	191×38	210×43	232×50

The **plastic clip** enables easy removal of each individual wrench, without the need to move another one.

Material:

62 5025 – Chrome vanadium steel, electro-galvanised.
62 5035 – Chrome vanadium steel, manganese phosphated.

62 5025

Number of screwdrivers			13
61C 62 5025	Garant	Torx® key L-wrench set, with MagicSpring® retainer function	XXX
63K 62 5035	wiha		XXX
Supplied with: 1 each L-wrench with T-handle No. 625020 (62 5025)			TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45
1 each L-wrench with T-handle No. 625030 (62 5035)			TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45
Presented in			Plastic clip

ErgoStar pivot mechanism.

62 5035

Safety L-wrenches – long with knurling, for Torx® screws

L-shank; through hardened (hard and tough). PB Swiss Tools special steel combining maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated. Black tip.

Advantage: The knurling to ISO 13444 type B increases the grip in wet or oily environments and thus enhances safety.

62 5037

Torx® profile		TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25
63D 62 5037	Torx® key L-wrench, with knurling	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length	mm	83×18	93×19	103×20	113×20	124×22	139×24	154×25	170×27

Number of screwdrivers		8
63D 62 5038	Torx® key L-wrench set, with knurling	XXX
Supplied with: 1 each L-wrench No. 625037		TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25
Presented in		Plastic clip

62 5038

Long L-wrenches – with hole, for Torx® screws

L-shank; through hardened (hard and tough).

Material: PB Swiss Tools special steel combining maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated. Black tip.

Advantage: With **centre hole in the internal Torx® profile** for screws with a tamper-proof pin.

62 5040

Torx® profile		TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25
63D 62 5040	Torx® key L-wrench, with centre hole	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length	mm	83×18	93×19	103×20	113×20	124×22	139×24	154×25	170×27

Number of screwdrivers		8
63D 62 5045	Torx® key L-wrench set, with centre hole	XXX
Supplied with: 1 each L-wrench No. 625040		TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25
Presented in		Plastic clip

62 5045

Long L-wrenches – with hole, for Torx® screws

L-shank; through hardened (hard and tough). In steel grey.

Material: Chrome vanadium steel.

Advantage: With centre hole in the internal Torx® profile for screws with a tamper-proof pin.

62 5060

Torx® profile		TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
62C 62 5060	Torx® key L-wrench, with centre hole	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length	mm	111×21	121×23	136×27	148×29	163×33	170×36	178×38	188×43

Number of hexagon key L-wrenches		8
62C 62 5065	Torx® key L-wrench set, with centre hole	XXX
Supplied with: 1 each L-wrench No. 625060		TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Presented in		Plastic clip

62 5065

Long L-wrenches with ball point – for Torx® screws

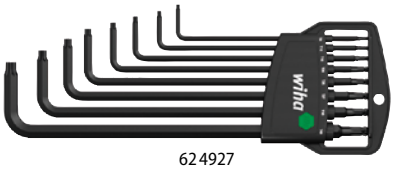
L-shank; through hardened (hard and tough). Long shank with ball point, can be used at angles up to 25°. With extended Torx® profile behind the ball point.

Material: Chrome vanadium steel, manganese phosphated.

62 4925

Torx® profile		TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
63K 62 4925	Torx® key L-wrench, long **with ball point**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length	mm	111×21	121×23	136×27	148×29	163×33	176×36	191×38	210×43

Number of screwdrivers		8
63K 62 4927	Torx® key L-wrench set, long **with ball point**	XXX
Supplied with: 1 each L-wrench No. 624925		TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Presented in		Plastic clip



62 4927

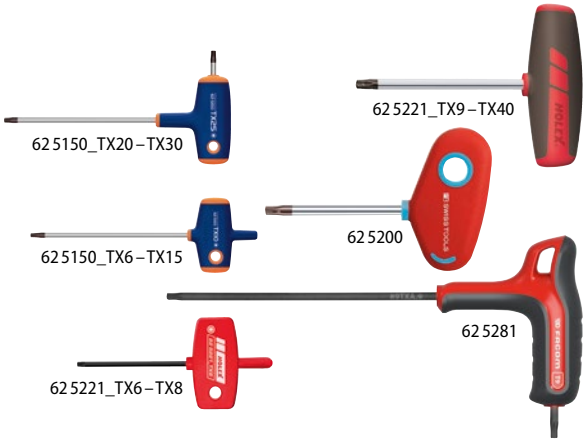
Screwdrivers with T-handle for Torx® screws

62 5150 – Ergonomically shaped T-handle with easy-grip **Haptoprene** surface and an impact-resistant plastic core. Blade of chrome vanadium special alloy. Surface nickel-plated and chrome-plated, black tip. Size TX20 – TX40 with side drive.

62 5200 – Ergonomically shaped T-handle with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. Blade of PB Swiss Tools special alloy, surface nickel-plated and chrome-plated. Black tip.

62 5281 – Ergonomically shaped T-handle with soft inlays. Blade of chrome vanadium steel, burnished.

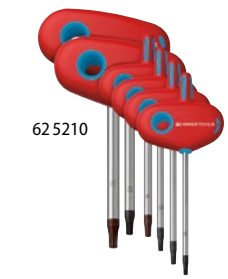
62 5221/5231 – Impact resistant plastic T-handle. Blade of vanadium special steel, matt chrome-plated, black tips.



Torx® profile			TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40	TX45	TX50
61C 62 5150	Garant	Screwdriver for Torx®, with 2-component Haptoprene T-handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–
63D 62 5200	PB SWISS TOOLS	Screwdriver for Torx®, with T-handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–	–
63V 62 5281	FACOM	Offset screwdriver for Torx®, with T-handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62C 62 5221	HOLEX	Screwdriver for Torx®, short, with T-handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62C 62 5231	HOLEX	Screwdriver for Torx®, long, with T-handle	–	–	–	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length (62 5150)	mm		100	100	100	100	100	100	125	125	125	125	170	–	–
Blade length (62 5200)	mm		50	60	60	60	60	60	60	80	–	–	–	–	–
Blade length (62 5281)	mm		90	90	90	90	90	90	130	130	130	175	175	175	175
Blade length (62 5221)	mm		35	35	40	100	100	100	100	100	100	100	100	150	150
Blade length (62 5231)	mm		–	–	–	–	–	200	200	200	200	200	200	250	250
overall length (62 5150)	mm		145	145	145	145	145	145	187	187	187	187	243	–	–
overall length (62 5200)	mm		100	100	100	100	100	100	100	120	–	–	–	–	–
overall length (62 5281)	mm		133	133	133	133	133	133	183	183	183	240	240	240	240
overall length (62 5221)	mm		70	70	75	119	119	125	125	125	132	132	132	182	182
overall length (62 5231)	mm		–	–	–	–	–	225	225	225	232	232	232	282	282

Note:
62 5161 – **Easyfix holders** can also be inserted into **GARANT perforated panels** and used flexibly on **GARANT ladders** with **Easyfix mountings**.

Number of screwdrivers		8
61C 62 5161	Garant Screwdriver set for Torx®, with Haptoprene T-handle, in an Easyfix sheet metal stand **8 pieces**	XXX
Content: 1 each screwdriver No. 625150		TX8; TX9; TX10; TX15; TX20; TX25; TX30; TX40
63D 62 5210	PB SWISS TOOLS Screwdriver set for Torx®, with T-handle **6 pieces**	XXX
Supplied with: 1 each screwdriver No. 625200		TX8; TX9; TX10; TX15; TX20; TX25
Number of hexagon keys		9
63V 62 5291	FACOM Offset screwdriver set for Torx®, with T-handle **9 pieces**	XXX
Supplied with: 1 each screwdriver No. 625281		TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Number of screwdrivers		7
62C 62 5241	HOLEX Screwdriver set for Torx®, with T-handle, in an Easyfix sheet metal stand **7 pieces**	XXX
Supplied with: 1 pc. each screwdriver No. 625221		TX10; TX15; TX20; TX25; TX30
1 pc. each screwdriver No. 625231		TX40; TX50


62 5210

62 5161

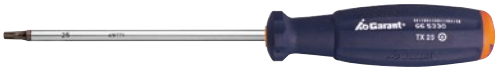
62 5241

62 5291

Garant Screwdriver with 2-component Haptoprene handle, for Torx® screws with hole

Power grip with easy-to-hold **Haptoprene** surface and an especially tough, impact-resistant polypropylene core. High torques can be exerted even with wet or oily hands. **Blade** of chrome vanadium special alloy combining maximum hardness and exceptional toughness. Surface nickel-plated and chrome-plated, black tip. From size TX30 with hexagon flats for wrench assistance.

Advantage: With **centre hole in the internal Torx® profile** for screws with a tamper-proof pin.



Torx® profile		TX6	TX7	TX8	TX9	TX10	TX10/200	TX15	TX15/200
61C 62 5330	Screwdriver for Torx® with 2-component Haptoprene handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length	mm	50	50	60	60	70	200	80	200
overall length	mm	110	110	140	140	160	290	175	295

Torx® profile		TX20	TX20/250	TX25	TX25/300	TX30	TX30/350	TX40	TX40/400
61C 62 5330	Screwdriver for Torx® with 2-component Haptoprene handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length	mm	100	250	120	300	130	350	140	400
overall length	mm	200	350	225	405	240	460	260	520

Number of screwdrivers		7	9
61C 62 5331	Screwdriver set for Torx®, with 2-component Haptoprene handle	XXX	XXX
Content: 1 each screwdriver No. 625330		TX6; TX7; TX8; TX9; TX10; TX15; TX20	TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX30

62

Screwdrivers, for Torx® screws

62 5400 – **"multicraft" power grip**; exceptionally good grip, even with oily hands. Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip. From size TX27 with hexagon flats for wrench assistance.

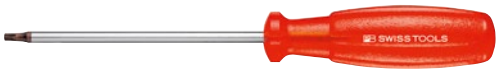
62 5405 – Handle with "Rainbow" colour coding for finding the correct drive size quickly.

62 5420 – Tool handle made of conductive plastic, **suitable for ESDs.**

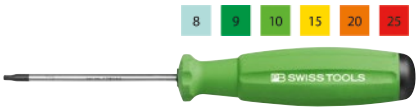
62 5500 – **Kraftform handle** with integral soft zones. Blade of high quality tool steel, surface matt chrome-plated, black tips.

62 5701 – **Multi-component power grip** with grip zone optimised for torque and comfort. Blade of high quality tool steel, surface matt chrome- plated, ChromTop tip.

62 5405/5420 – **SwissGrip-power grip** with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. High torques can be exerted even with wet or oily hands. **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.



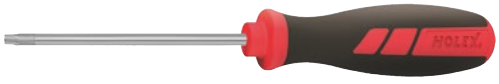
62 5400



62 5405_TX10

62 5420

62 5500



62 5701

Torx® profile		TX5	TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40	TX45	TX50
63D 62 5400	PB SWISS TOOLS Screwdriver for Torx®	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 5405	PB SWISS TOOLS Screwdriver for Torx®	–	–	–	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–	–
63D 62 5420	PB SWISS TOOLS Screwdriver for Torx® **ESD**	–	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–	–	–	–
63F 62 5500	Wera Screwdriver for Torx®	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
62C 62 5701	HOLEX Screwdriver for Torx®	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–
Blade length (62 5400, 62 5405, 62 5420)	mm	–	50	50	60	60	70	80	100	120	125	130	140	145	150
Blade length (62 5500, 62 5701)	mm	60	60	60	60	60	80	80	100	100	115	115	130	130	–
overall length (62 5400)	mm	–	110	110	150	155	165	180	205	225	230	240	260	265	270
overall length (62 5405, 62 5420)	mm	–	127	127	140	140	160	175	200	225	–	–	–	–	–
overall length (62 5500)	mm	130	130	130	141	141	161	178	198	205	220	220	242	242	–
overall length (62 5701)	mm	–	147	147	147	147	167	187	207	207	222	235	250	–	–

62 5410 – **"multicraft" power grip**; exceptionally good grip, even with oily hands. Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip. From size TX27 with hexagon flats for wrench assistance.

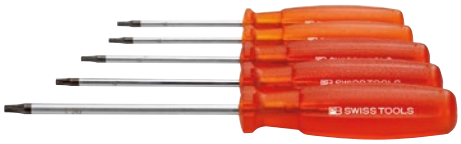
62 5415 – **SwissGrip-power grip** with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. High torques can be exerted even with wet or oily hands. **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip. Handle with "Rainbow" colour coding for finding the correct drive size quickly.

62 5550 – **Kraftform handle** with integral soft zones. Blade of high quality tool steel, surface matt chrome-plated, black tips.

62 5751 – **Multi-component power grip** with grip zone optimised for torque and comfort. Blade of high quality tool steel, surface matt chrome- plated, ChromTop tip.

Supplied with:

62 5415 – With wall bracket.



62 5410_5

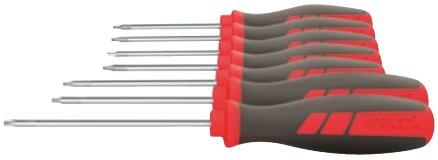
62 5415_6

Number of screwdrivers		5	8	10
63D 62 5410	Screwdriver set for Torx®	XXX	XXX	XXX
Content: 1 each screwdriver No. 625400		TX8; TX9; TX10; TX15; TX20	TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25	TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45; TX50

Number of screwdrivers		6
63D 62 5415	Screwdriver set for Torx®	XXX
Content: 1 each screwdriver No. 625405		TX8; TX9; TX10; TX15; TX20; TX25

62 5550_7

Number of screwdrivers		7	11	13
63F 62 5550	Screwdriver set for Torx®	XXX	XXX	XXX
Content: 1 each screwdriver No. 625500		TX6; TX7; TX8; TX9; TX10; TX15; TX20	TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30	TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45


62 5751_7

Number of screwdrivers		7	10
62C 62 5751	Screwdriver set for Torx®	XXX	XXX
Content: 1 pc. each screwdriver No. 625701		TX6; TX7; TX8; TX9; TX10; TX15; TX20	TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30

62

Wera Screwdrivers with retainer function, for Torx® screws

Kraftform handle with integral soft zones. Blade of high-quality tool steel, surface matt chrome-plated, tips chemically nickel plated. The tapered Torx® HF profile reliably retains all Torx® screws.

62 5510

Torx® profile		TX8	TX9	TX10	TX15	TX20	TX25	TX30
63F 62 5510	Screwdriver for Torx® **with retainer function**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length	mm	60	60	80	80	100	100	115
overall length	mm	141	141	161	178	198	205	220

Number of screwdrivers		5	7
63F 62 5570	Screwdriver set for Torx® **with retainer function**	XXX	XXX
Content: 1 each screwdriver No. 625510		TX8; TX10; TX15; TX20; TX25	TX8; TX9; TX10; TX15; TX20; TX25; TX30

62 5570_7

62 5590_TX25

Torx® profile		TX20	TX25	TX27	TX30
63F 62 5590	Screwdriver for Torx®, long **with retainer function**	XXX	XXX	XXX	XXX
Blade length	mm	300			
overall length	mm	398	405	405	405

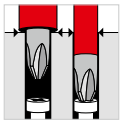
Screwdrivers, fully insulated to VDE, for Torx® screws

Power grip with easy to hold comfortable elastomer coating and a core of particularly tough impact resistant polypropylene. **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Handle and blade **fully insulated up to 1000 V to DIN EN 60900 / VDE0682-201.**

62 5753/5758 – **Reduced blade Ø with integral protective insulation** for deep-lying screws of spring elements (blade Ø = insulation Ø near the tip of the blade).

62 5754

62 5753


Application illustration

Torx® profile			TX8	TX9	TX10	TX15	TX20	TX25	TX30
63D 62 5754	PB SWISS TOOLS	Screwdriver for Torx®, Classic **fully insulated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 5753	PB SWISS TOOLS	Slim screwdriver for Torx®, Classic, **fully insulated**	–	–	XXX	XXX	XXX	–	–
Blade length		mm	60	70	70	80	100	125	130
overall length		mm	150	165	165	175	205	230	250

62 5756

Number of screwdrivers			3	7
63D 62 5756	PB SWISS TOOLS	Screwdriver set for Torx®, Classic **fully insulated**	–	XXX
63D 62 5758	PB SWISS TOOLS	Slim screwdriver set for Torx®, Classic, **fully insulated**	XXX	–
Content: 1 each screwdriver No. 625754 (62 5756)			–	Size TX8; TX9; TX10; TX15; TX20; TX25; TX30
1 each screwdriver No. 625753 (62 5758)			Size TX10; TX15; TX20	–

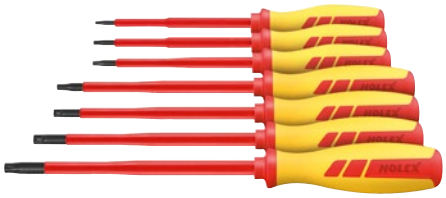
62 5758

with multi-component power grip, fully insulated

Multi-component power handle with grip zone optimised for torque and comfort. **Blade** of high-alloy tool steel, handle and blade**fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**

62 5780

Torx® profile			TX8	TX9	TX10	TX15	TX20	TX25	TX30
62C 62 5780	HOLEX	Screwdriver for Torx®, **fully insulated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length		mm	60	60	60	80	80	80	100
overall length		mm	147	147	147	187	187	187	220



62 5782

Number of screwdrivers			7
62C 62 5782	HOLEX	Screwdriver set for Torx® **fully insulated**	XXX
Content: 1 pc. each L-wrench No. 625780			Size TX8; TX9; TX10; TX15; TX20; TX25; TX30

S/STL

Wera Screwdriver with stainless steel blade „Stainless“, for Torx® screws

Kraftform handle made of impact resistant plastic with integral soft zones facilitates torque transmission and thus protects hand and arm. Blade of stainless steel.

62 5785

Torx® profile			TX8	TX9	TX10	TX15	TX20	TX25	TX30
63F 62 5785		"Stainless" screwdriver for Torx®, with stainless steel blade	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length		mm	60	60	80	80	100	100	115
overall length		mm	141	141	161	178	198	205	220

Electronics screwdrivers for Torx® screws

Ergonomic multi-component handle with rotating cap.
62 5760–5767 – Additionally with a handy stand / wall rack.
62 5760/5770/5772 – **Blade** of high-quality tool steel, surface matt chrome-plated, black tip.
62 5760/5770 – **From TX7 Torx® profile with hole** for screws with and without a tamper-proof pin.
62 5765/5767/5775/5777 – **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.
62 5767/5772/5777 – Tool handle made of conductive plastic, **suitable for ESDs.**
62 5775/5777 – **From TX6 Torx® profile with hole** for screws with and without a tamper-proof pin.

Application: For precise, efficient screw driving operations for electronics applications. Also ideal for all sensitive setting and adjustment work.

62 5775

62 5777

62 5770

62 5772

Torx® profile			TX3	TX4	TX5	TX6	TX7	TX8	TX9	TX10	TX15	TX20
63D 62 5775	PB SWISS TOOLS	Electronics screwdriver for Torx®	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
63D 62 5777	PB SWISS TOOLS	Electronics screwdriver for Torx® **ESD**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
63F 62 5770	Wera	Electronics screwdriver for Torx® **Kraftform Micro**	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63H 62 5772	Wera	Electronics screwdriver for Torx® **Kraftform Micro, ESD**	–	XXX	XXX	XXX	–	–	–	–	–	–
Blade length (62 5775, 62 5777)	mm		40	40	50	50	50	60	60	70	80	–
Blade length (62 5770, 62 5772)	mm		–	40	40	40	60	60	60	60	60	60
overall length (62 5775, 62 5777)	mm		133	133	143	143	143	153	153	163	173	–
overall length (62 5770, 62 5772)	mm		–	137	137	137	157	157	157	157	157	157

Number of screwdrivers			6
63D 62 5765	PB SWISS TOOLS	Electronics screwdriver set for Torx®	XXX
63D 62 5767	PB SWISS TOOLS	Electronics screwdriver set for Torx® **ESD**	XXX
63F 62 5760	Wera	Electronics screwdriver set for Torx® **Kraftform Micro**	XXX
Content: 1 each screwdriver No. 625775 (62 5765)			Size TX5; TX6; TX7; TX8; TX9; TX10
1 each screwdriver No. 625777 (62 5767)			Size TX5; TX6; TX7; TX8; TX9; TX10
1 each screwdriver No. 625770 (62 5760)			Size TX5; TX6; TX7; TX8; TX9; TX10

62 5765

62 5767

62 5760

Assembly screwdriver set for Torx® screws

„multicraft" handle made of impact resistant plastic (cadmium-free), for holding different bits. Exceptionally good grip, even with oily hands. Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.

Supplied with: With high-quality textile tool roll.

Note: Spare interchangeable blades can be found under No. 659921 – 659928.

Number of pieces		10
63D 62 5441	Screwdriver set for Torx®, with "multicraft" power grip	XXX
Supplied with: Precision screwdriver No. 625775		TX6; TX7
Blades No. 659922		TX8; TX9; TX10; TX15; TX20; TX25; TX30
Plastic grip		1 pc.

62 5441

Wera Ball point screwdrivers, for Torx® screws

Kraftform handle made of impact-resistant plastic with integral soft zones. Blade of high-alloy tool steel, tip shown as **ball point**; can be applied up to an angle of 25°.

62 5800

Torx® profile			TX15	TX20	TX25	TX30
63F 62 5800	Screwdrivers for Torx® **with ball point**		XXX	XXX	XXX	XXX
Blade length		mm	80	100	100	115
overall length		mm	178	198	205	220

Number of screwdrivers		5
63F 62 5850	Screwdriver set for Torx® **with ball point**	XXX
Content: 1 each screwdriver No. 625800		Sizes TX15; TX20; TX25; TX27; TX30

62 5850

Wera Short screwdriver, for Torx® screws

Kraftform handle made of impact-resistant plastic with integral soft zones.
Blade of high-alloy tool steel.

62 5860

Torx® profile			TX10	TX15	TX20	TX25	TX27	TX30	TX40
63F 62 5860	Screwdriver for Torx®, short		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length		mm	25						
overall length		mm	79						

Number of screwdrivers		5
63F 62 5865	Screwdriver set for Torx®, short	XXX
Content: 1 each short screwdriver No. 625860		Sizes TX10; TX15; TX20; TX25; TX30

62 5865

Torx®/ Torx Plus®

Torx Plus® is a further development of the Torx® profile.
The larger contact surfaces of Torx Plus® tools and the Torx Plus® screw as well as the improved angle of drive force enable higher torques and extend the service life of both tool and screw.
Torx Plus® tools cannot be used on Torx® screws.

Tool Screw

Tool Screw

Advantages of Torx Plus®:
- Larger contact area between tool / blade and screw.
- The line of effective force is in the direction of movement (direction of rotation).

Torx® and Torx Plus® are the registered trademarks of Acument Intellectual Properties, LLC, an Acument Global Technologies, Inc. company.

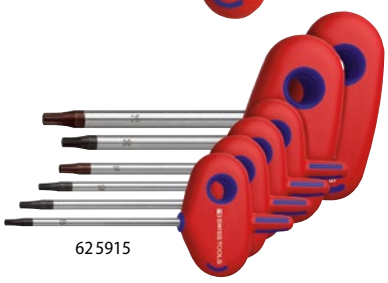
PB Swiss Tools Screwdrivers with T-handle for Torx Plus® screws

Ergonomically shaped T-handle with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.

62 5910

Torx Plus® profile			7IP	8IP	9IP	10IP	15IP	20IP	25IP
63D 62 5910	Screwdriver for Torx Plus®, with T-handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length		mm	60	60	60	60	60	60	80
overall length		mm	100	100	100	100	100	100	120

63D 62 5915	Screwdriver set for Torx Plus®, with T-handle, 6 pieces	XXX
Content: 1 each screwdriver No. 625910		Size 8IP; 9IP; 10IP; 15IP; 20IP; 25IP


62 5915

Garant Screwdriver with wing handle for Torx Plus® screws

Wing handle (single-sided) with non-slip Haptoprene surface and polypropylene core. **Blades** of chromium molybdenum steel, surface chrome-plated, tips black.

62 5920

Torx Plus® profile		5IP	6IP	7IP	8IP	9IP	10IP	15IP	20IP
61C 62 5920	Screwdriver for Torx Plus®, with wing handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length	mm	40							
overall length	mm	82							

Number of screwdrivers		7
61C 62 5925	Screwdriver set for Torx Plus®, with wing handle	XXX
Content: 1 each screwdriver No. 625920		Size 6IP; 7IP; 8IP; 9IP; 10IP; 15IP; 20IP

62 5925

Garant Screwdriver with 2-component Haptoprene handle, for Torx Plus® screws

Power grip with easy-to-hold **Haptoprene** surface and an especially tough, impact-resistant polypropylene core. High torques can be exerted even with wet or oily hands.
Blade of chrome vanadium special alloy combining maximum hardness and exceptional toughness. Surface nickel-plated and chrome-plated, black tip.

62 5940

Torx Plus® profile		6IP	7IP	8IP	9IP	10IP	15IP	20IP	25IP
61C 62 5940	Screwdriver for Torx Plus®	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length	mm	50	50	60	60	70	80	100	120
overall length	mm	127	127	140	140	160	175	200	225

Number of screwdrivers		6	8
61C 62 5945	Screwdriver set for Torx Plus®	XXX	XXX
Content: 1 each screwdriver No. 625940		Size 6IP; 7IP; 8IP; 9IP; 10IP; 15IP	Size 6IP; 7IP; 8IP; 9IP; 10IP; 15IP; 20IP; 25IP

62 5945_8

Wera Screwdrivers with Kraftform handle, for Torx Plus® screws

Kraftform handle made of impact resistant plastic with integral soft zones.
Blade made of high quality tool steel. Surface matt chrome-plated, black tips.

62 5960

Torx Plus® profile		5IP	6IP	7IP	8IP	9IP	10IP	15IP	20IP	25IP	30IP
63F 62 5960	Screwdriver for Torx Plus®	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length	mm	60	60	60	60	60	80	80	100	100	115
overall length	mm	130	130	130	130	141	161	178	198	205	220

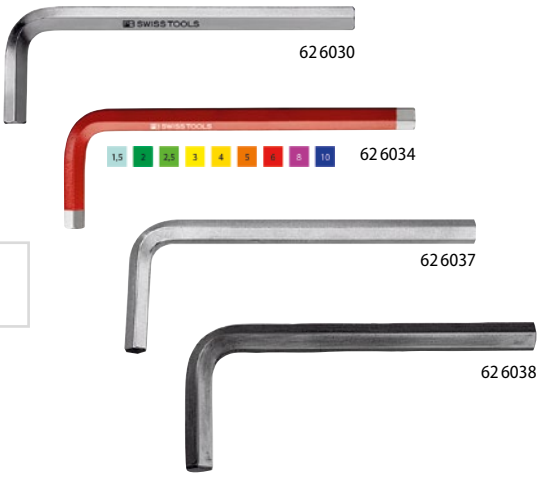
Number of screwdrivers		9
63F 62 5965	Screwdriver set for Torx Plus®	XXX
Content: 1 each screwdriver No. 625960		Size 6IP; 7IP; 8IP; 9IP; 10IP; 15IP; 20IP; 25IP; 30IP

62 5965

Hexagon key L-wrenches

62 6030 – Surface nickel-plated and chrome-plated (sizes 0.7 and 0.9 burnished).
62 6034 – Surface nickel-plated, chrome-plated and powder-coated for quick location using clear "Rainbow" colour coding.
62 6037 – Nickel-plated.
62 6037/6038 – L-form shaft to DIN 911/DIN ISO 2936. Chromium-Vanadium steel, end faces squared and chamfered.
62 6038 – Surface phosphated.
62 6030/6034 – L-form shaft; optimum blade stock lengths. PB Swiss Tools special steel combining maximum hardness with exceptional toughness.

Note:
62 6037/6038 – HOLEX hexagon key L-wrenches including imperial sizes are available from our eShop (No. 626039 and No. 626042).



Hexagon		mm	0,7	0,9	1,3	1,5	2	2,5	3	3,5	4	4,5	5	6	7
63D 62 6030	PB SWISS TOOLS	Hexagon key L-wrench **chrome-plated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	–	XXX	XXX	XXX
63D 62 6034	PB SWISS TOOLS	Hexagon key L-wrench **powder-coated**	–	–	–	XXX	XXX	XXX	XXX	–	XXX	–	XXX	XXX	–
62C 62 6037	HOLEX	Hexagon key L-wrench **nickel-plated**	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62C 62 6038	HOLEX	Hexagon key L-wrench **phosphated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	–	XXX	XXX	XXX
Stock length (62 6030, 62 6034)		mm	36×8	41×11	46×13	52×16	58×18	66×21	74×23	–	84×26	–	95×30	106×34	112×37
Stock length (62 6037, 62 6038)		mm	33×7	33×11	41×13	46.5×15.5	52×18	58.5×20.5	66×23	69.5×25.5	74×29	80×30.5	85×33	96×38	102×41

Hexagon		mm	8	9	10	11	12	14	17	19	22	24	27	32
63D 62 6030	PB SWISS TOOLS	Hexagon key L-wrench **chrome-plated**	XXX	–	XXX	–	XXX	XXX	XXX	XXX	XXX	–	–	–
63D 62 6034	PB SWISS TOOLS	Hexagon key L-wrench **powder-coated**	XXX	–	XXX	–	–	–	–	–	–	–	–	–
62C 62 6037	HOLEX	Hexagon key L-wrench **nickel-plated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62C 62 6038	HOLEX	Hexagon key L-wrench **phosphated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length (62 6030, 62 6034)		mm	120×40	–	135×46	–	152×52	174×59	197×67	219×75	246×85	–	–	–
Stock length (62 6037, 62 6038)		mm	108×44	114×47	122×50	129×53	137×57	154×70	177×80	199×89	222×102	248×114	277×127	347×157

HOLEX Hexagon key L-wrenches with pin for Ribe CS screws

L-form hexagon shank, through hardened (toughened), with centring pins at each end, suitable for screws to **DIN 6912** (Ribe CS).
Standard: Similar to **DIN 6911.**
Material: Chrome vanadium steel, surface **nickel-plated.**

Hexagon		mm	3	4	5	6	8	10	12	14	17
62C 62 6070	Hexagon key L-wrench, **with pin**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length		mm	20×63	25×71	28×80	32×90	36×100	40×112	45×125	55×140	60×160
Pin ∅		mm	2	2.5	3	4	5	6	7	8	10

Number of screwdrivers		5
62C 62 6073	Hexagon key L-wrench set, **with pin**	XXX
Supplied with: 1 each screwdriver No. 626070		Size 3; 4; 5; 6; 8
Storage in		Plastic clip

Hexagon key L-wrench set

Number of screwdrivers		5	7	8	9
63D 62 6040	PB SWISS TOOLS Hexagon key L-wrench set **chrome-plated**	XXX	XXX	XXX	XXX
Supplied with: 1 each L-wrench No. 626030, chrome-plated (size 0.7 and 0.9 burnished)		Size 0.7; 0.9; 1.3; 1.5; 2	Size 0.9; 1.30; 1.5; 2; 2.5; 3; 4	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip			

62 6040_8

Number of screwdrivers		6	7	9
63D 62 6050	PB SWISS TOOLS Hexagon key L-wrench set **powder-coated**	XXX	XXX	XXX
Supplied with: 1 each L-wrench No. 626034, powder-coated		Size 1.5; 2; 2.5; 3; 4; 5	Sizes 1.5; 2; 2.5; 3; 4; 5; 6	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip		

62 6050_9

8 9 10 15 20 25

PB Swiss Tools colour coding for sizes

Number of screwdrivers		6	7	8	9
62C 62 6072	HOLEX Hexagon key L-wrench set **nickel-plated**	XXX	XXX	XXX	XXX
Supplied with: 1 each L-wrench No. 626037		Size 1.5; 2; 2.5; 3; 4; 5	Size 2; 2.5; 3; 4; 5; 6; 8	Size 2; 2.5; 3; 4; 5; 6; 8; 10	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip			

62 6072_6

Number of screwdrivers		9
62C 62 6077	HOLEX Hexagon key L-wrench set **phosphated**	XXX
Supplied with: 1 each L-wrench No. 626038		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip

62 6077_9

Hexagon key L-wrenches in **inch sizes**

Number of screwdrivers		8	13
62C 62 6078	HOLEX Hexagon key L-wrench set **nickel-plated**	XXX	XXX
Supplied with: 1 each L-wrench No. 626039		Size 5/64; 3/32; 1/8; 5/32; 3/16; 7/32; 1/4; 5/16	Size 1/20; 1/16; 5/64; 3/32; 7/64; 1/8; 9/64; 5/32; 3/16; 7/32; 1/4; 5/16; 3/8
Storage in		Plastic clip	

62 6078_13

Conversion table inches to millimetres

inches	3/64	1/20	1/16	5/64	3/32	7/64	1/8	9/64	5/32	3/16	13/64	7/32	15/64	1/4	9/32
mm	1.19	1.27	1.59	1.98	2.38	2.78	3.18	3.57	3.97	4.76	5.16	5.56	5.95	6.35	7.14

inches	5/16	11/32	3/8	7/16	1/2	9/16	19/32	5/8	11/16	3/4	25/32	13/16	7/8	15/16	1
mm	7.94	8.73	9.53	11.11	12.70	14.29	15.08	15.88	17.46	19.05	19.84	20.64	22.23	23.81	25.40

Compact screwdriver set

62 6061 – PocketTool with 9 screwdriving tools and two tyre levers of glass-fibre-reinforced plastic. A compact companion for on the road (101 mm long and only 91 g).
62 6062 – Handy fold–away handle made of fibre–reinforced plastic, **with extraction button.**
62 6067 – Fold-away handle of painted sheet steel.

62 6061

Number of screwdrivers		9
63D 62 6061	PB SWISS TOOLS BikeTool screwdriver set in plastic holder	XXX
Content: 1 hexagon key L-wrench		5 mm
1 bit each for hex socket		No. 675290 size 2; 2.5; 3; 4; 6
1 bit for slot-head		No. 675300 size 5.5
1 bit for Phillips		No. 675281 size 2/25
1 bit for internal Torx®		No. 675295 size TX25
1 adapter with magnet		Hex socket 5 mm – bit holder C 6.3

62 6062 _9

62 6062_7/8

Number of screwdrivers		9	7/6	7/8
63K 62 6062	wiha Hexagon key / screwdriver set in fold-away handle	XXX	XXX	XXX
Content: 1 each screwdriver for hex socket		3; 4; 5; 6 mm	1.5; 2; 2.5; 3; 4; 5; 6 mm	2; 2.5; 3; 4; 5; 6; 8 mm
1 screwdriver for slot-head		4.5×0.6 mm	–	–
1 screwdriver for Phillips		PH2	–	–
1 each screwdriver for Torx®		TX10; TX15; TX20	–	–

62 6067_9KOMBI

Number of screwdrivers		9KOMBI
63Q 62 6067	AMF Hexagon key / screwdriver set in fold-away handle	XXX
Content: 1 each screwdriver for hex socket		1.5; 2; 2.5; 3; 4; 5; 6 mm
1 screwdriver for slot-head		7 mm
1 screwdriver for Phillips		PH1
4 hexagon keys DIN 659		7; 8; 10; 13 mm

62

PB SWISS TOOLS Hexagon key L-wrenches with ball point and short arm

L-form shaft, ball point can be applied up to an angle of 30°. PB Swiss Tools special steel combining maximum hardness with exceptional toughness.
Surface nickel-plated and chrome-plated.

Application: Thanks to the short arm and the angle of 100°, can reach even into places where access is difficult.

62 6068

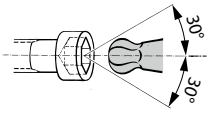
Hexagon	mm	1,5	2	2,5	3	4	5	6	8	10
63D 62 6068 Hexagon key L-wrench, short stock, with ball point **chrome-plated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length	mm	55×6	60×7	67×9	74×11	84×13	95×16	106×19	120×24	135×28

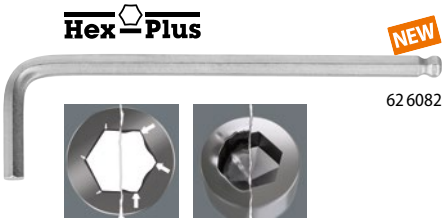
62 6069

Number of screwdrivers		9
63D 62 6069	Hexagon key L-wrench set, short stock, with ball point **chrome-plated**	XXX
Supplied with: 1 each L-wrench No. 626068		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip

Hexagon key L-wrenches with ball point

L-form shaft; optimum blade stock lengths. With ball point, can be used up to an angle of 30°.





62 6082

Standard 6-k / HexPlus

Reduced notch effect and protection of the profile.

62 6063 – PB Swiss Tools special alloy combining maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.

62 6064 – PB Swiss Tools special alloy combining maximum hardness with exceptional toughness. Surface nickel-plated, chrome-plated and **powder-coated** for quick location using clear "Rainbow" colour coding.

62 6082 – Chrome vanadium steel, through hardened (toughened), surface chrome-plated.

62 6063

62 6064

PB Swiss Tools colour coding for sizes

Hexagon			mm	1,5	2	2,5	3	4	5	6	8	10
61C 62 6082	Garant	Hexagon key L-wrench, with ball point **chrome-plated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 6063				XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 6064	PB SWISS TOOLS	Hexagon key L-wrench, with ball point **powder-coated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length (62 6082)			mm	50×14	56×16	63×18	71×20	80×22	90×25	100×28	112×32	125×36
Stock length (62 6063, 62 6064)			mm	52×16	58×18	66×21	74×23	84×26	95×30	106×34	120×40	135×46

62

62 6065 – PB Swiss Tools special alloy combining maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.

62 6084 – Chrome vanadium steel, through hardened (toughened), surface chrome-plated. The plastic clip enables easy removal of each individual wrench, without the need to move another one.

62 6084

62 6065_9

Number of hexagon key L-wrenches			8	9
61C 62 6084	Garant	Hexagon key L-wrench set, with ball point **chrome-plated**	–	XXX
63D 62 6065	PB SWISS TOOLS		XXX	XXX
Supplied with: 1 each L-wrench No. 626082 (62 6084)			–	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
1 each L-wrench No. 626063 (62 6065)			Size 1.5; 2; 2.5; 3; 4; 5; 6; 8	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Presented in a			Plastic clip	

PB Swiss Tools special alloy combining maximum hardness with exceptional toughness. Surface nickel-plated, chrome-plated and **powder-coated** for quick location using clear "Rainbow" colour coding.

62 6066

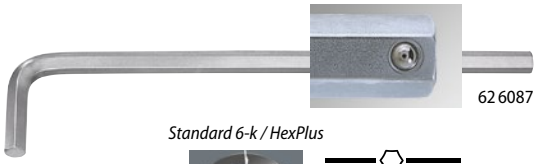
PB Swiss Tools colour coding for sizes

Number of screwdrivers			6	7	9
63D 62 6066	PB SWISS TOOLS	Hexagon key L-wrench set, with ball point **powder-coated**	XXX	XXX	XXX
Supplied with: 1 each L-wrench No. 626064			Size 1.5; 2; 2.5; 3; 4; 5	Sizes 1.5; 2; 2.5; 3; 4; 5; 6	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in			Plastic clip		

Garant Hexagon key L-wrenches long, with retainer ball

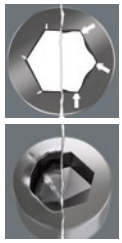
The spring-loaded retainer ball made of high quality steel keeps the screws very secure in all positions. This retention function makes the screwdriver the ideal tool, particularly when screws have to be inserted and tightened horizontally, at an upward or downward angle or into deep blind holes.

Material: Chrome vanadium steel, through hardened (toughened), surface chrome-plated.



62 6087

Standard 6-k / HexPlus



Hex Plus

Reduced notch effect and protection of the profile.

Hexagon	mm	3	4	5	6	8	10
61C 62 6087	Hexagon key L-wrench, with retainer ball **chrome-plated**	XXX	XXX	XXX	XXX	XXX	XXX
Stock length	mm	126×20	140×25	160×28	180×32	200×36	219×40

The **plastic clip** enables easy removal of each individual wrench, without the need to move another one.

closed

62 6089

open

Number of screwdrivers		9
61C 62 6089	Hexagon key L-wrench set, with retainer ball **chrome-plated**	XXX
Supplied with: 1 each L-wrench No. 626087 – from size 3 mm with retainer ball		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip

Hexagon key L-wrenches long

L-form shaft to DIN ISO 2936 L, end faces squared and chamfered. Chrome vanadium steel, through hardened (toughened).

62 6090/6095 – PB Swiss Tools special alloy, surface nickel-plated and chrome-plated.
62 6105/6106 – Nickel-plated.
62 6125/6126 – Surface manganese phosphated.

Note:
62 6105–6126 – HOLEX hexagon key L-wrenches including imperial sizes are available from our eShop (No. 626108 and No. 626128).

62 6090

62 6105

62 6125

Hexagon	mm	1,5	2	2,5	3	4	5	6	7	8	9	10	12	14	17	19
63D 62 6090	Hexagon key L-wrench, long **chrome-plated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX	–
62C 62 6105	Hexagon key L-wrench, long **nickel-plated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62C 62 6125	Hexagon key L-wrench, long **phosphated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	–	–	–
Stock length (62 6090)	mm	82×16	92×18	113×21	128×23	154×26	170×30	191×34	199×37	208×40	–	230×46	252×52	279×59	307×67	–
Stock length (62 6105)	mm	92×16	102×18	115×21	129×23	144×29	165×33	186×38	197×41	208×44	219×47	234×50	262×57	294×70	337×80	379×89
Stock length (62 6125)	mm	92×16	102×18	115×21	129×23	144×29	165×33	186×38	197×41	208×44	–	234×50	262×57	–	–	–

Number of L-wrenches		9
63D 62 6095	Hexagon key L-wrench set	XXX
Content: 1 each L-wrench No. 626090		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip

62 6095

Number of L-wrenches		8	9	11
62C 62 6106	Hexagon key L-wrench set	XXX	XXX	XXX
Content: 1 each L-wrench No. 626105		Size 2; 2.5; 3; 4; 5; 6; 8; 10	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10	Size 1.5; 2; 2.5; 3; 4; 5; 6; 7; 8; 9; 10
Stored in		Plastic clip		

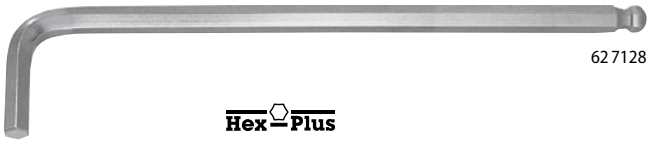
62 6106_9

Number of L-wrenches		9
62C 62 6126	Hexagon key L-wrench set	XXX
Content: 1 each L-wrench No. 626125		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip

62 6126

Hexagon key L-wrenches, long with ball point and retainer ball

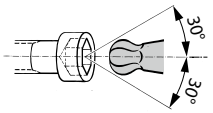
The **spring-loaded retainer ball**, made of high quality steel, retains screws very securely in all positions even when the screw is at an angle. This retention function makes the screwdriver the ideal tool, particularly when screws have to be inserted and tightened horizontally, at an upward or downward angle or into deep blind holes.



62 7128

Material: Chrome vanadium steel, through hardened (toughened), surface chrome-plated.

Hexagon			mm	3	4	5	6	8	10
61C 62 7128	Garant	Hexagon key L-wrench, with retainer ball **chrome-plated**		XXX	XXX	XXX	XXX	XXX	XXX
Stock length			mm	126×20	140×25	160×28	180×32	200×36	219×40



The **plastic clip** premits easy removal of every individual key, without having to move another one.
Material: Chrome vanadium steel, through hardened (toughened), surface chrome-plated.

Number of screwdrivers			9
61C 62 7132	Garant	Hexagon key L-wrench set, with retainer ball **chrome-plated**	XXX
Content: 1 each L-wrench No. 627128 – from size 3 mm with retainer ball			Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in			Plastic clip

closed 62 7132

open 62 7132

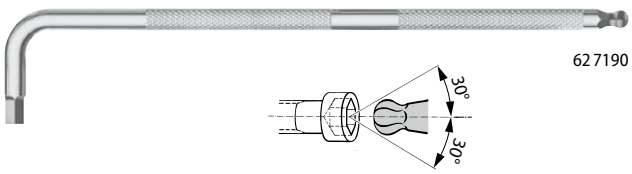
The **plastic clip** premits easy removal of every individual key, without having to move another one.
Material: Chrome vanadium steel, through hardened (toughened), BlackLaser surface.
Advantage: "Take it easy" tool finder with colour marking by sizes – **to find the required tool quickly and easily.**

Number of screwdrivers			9
63F 62 7133	Wera	Hexagon key L-wrench set, with retainer ball **Multi-colour plastic sheathed, Hex-Plus**	XXX
Content: 1 each L-wrench – from 3 mm with retainer ball			Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Presented in a			Plastic clip

62 7133

PB SWISS TOOLS Safety hexagon key L-wrench, long, with knurling and ball point

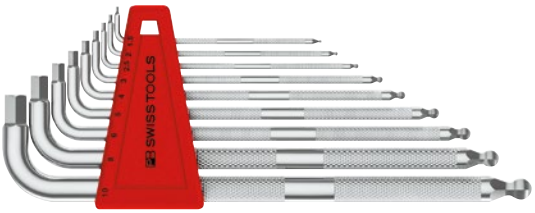
L-form shaft; ball point can be applied up to an angle of 30°.
PB Swiss Tools special steel combining maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.
Advantage: The knurling to ISO 13444 type B increases the grip in wet or oily environments and thus enhances safety.



62 7190

Hexagon			mm	1,5	2	2,5	3	4	5	6	8	10
63D 62 7190		Hexagon key L-wrench, long **with knurling**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length			mm	92×17	103×19	115×21	130×24	145×27	166×31	187×35	208×43	234×49.5

Number of screwdrivers			7	9
63D 62 7191		Hexagon key L-wrench set, long **with knurling**	XXX	XXX
Content: 1 each L-wrench with T-handle No. 627190			Sizes 1.5; 2; 2.5; 3; 4; 5; 6	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Stored in			Plastic clip	



62 7191_9

Hexagon key L-wrenches long, with ball point

L-form shaft; ball point can be applied up to an angle of **30°**.

62 7140 – PB Swiss Tools special steel combining maximum hardness with exceptional toughness. Surface nickel-plated, chrome-plated and **powder-coated.** Edges slightly chamfered.

62 7150 – PB Swiss Tools special steel combining maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated**.** Edges slightly chamfered.

62 7200 – Chrome vanadium steel, through hardened (toughened). **Hex-plus profile** prevents deformation of the screw head and transmits more torque, chrome-plated.

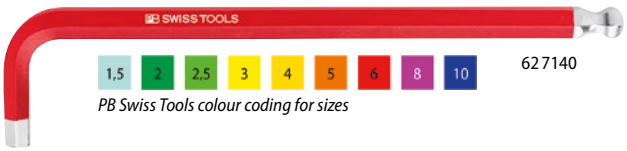
62 7320 – Stainless steel, vacuum ice-hardened, **Hex-plus profile** prevents deformation of the screw head and transmits more torque.

62 7323 – Chrome vanadium steel, through hardened (toughened), nickel plated.

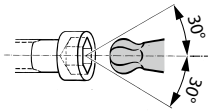
62 7325 – Chrome vanadium steel, through hardened (toughened), surface phosphated.

Note:

62 7323/7325 – HOLEX offset screwdrivers including imperial sizes are available from our eShop (No. 627328).



PB Swiss Tools colour coding for sizes



Hexagon			mm	1,5	2	2,5	3	4	5	6	8	10	12	14	17
63D 62 7150	PB SWISS TOOLS	Hexagon key L-wrench, long **chrome-plated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 7140	PB SWISS TOOLS	Hexagon key L-wrench, long **powder-coated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
63F 62 7200	Wera	Hexagon key L-wrench, long **chrome-plated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
63F 62 7320	Wera	Hexagon key L-wrench, long **Stainless steel (INOX)**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
62C 62 7323	HOLEX	Hexagon key L-wrench, long **nickel-plated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
62C 62 7325	HOLEX	Hexagon key L-wrench, long **phosphated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
Stock length (62 7150, 62 7140)			mm	82×16	92×18	113×21	128×23	154×26	170×30	191×34	208×40	230×46	252×52	279×59	307×67
Stock length (62 7200)			mm	90×14	100×16	112×18	126×20	140×25	160×28	180×32	200×36	219×40	–	–	–
Stock length (62 7320)			mm	90×14	101×16	112×19	123×21	137×24	154×27	172×31	195×37	224×42	–	–	–
Stock length (62 7323, 62 7325)			mm	91.5×15.5	102×18	114.5×20.5	129×23	144×29	165×33	186×38	208×44	234×50	–	–	–

Hexagon key L-wrenches in inch sizes

PB Swiss Tools special steel combining maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated (sizes 1/20 burnished)**.** Edges slightly chamfered.

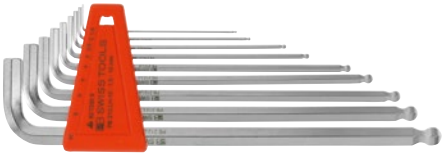
Hexagon			inch	1/20	1/16	5/64	3/32	7/64	1/8	9/64	5/32	3/16	7/32	1/4	5/16	3/8
63D 62 7170	PB SWISS TOOLS	Hexagon key L-wrench, long **chrome-plated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length			mm	71×13	82×17	92×18	99×19	108×21	118×22	129×24	136×26	150×29	168×32	186×35	208×40	230×45

Hexagon key L-wrench set long, with ball point

Number of screwdrivers		6	7	9
63D 62 7141	Hexagon key L-wrench set, long **powder-coated**	XXX	XXX	XXX
Content: 1 each L-wrench No. 627140		Size 1.5; 2; 2.5; 3; 4; 5	Sizes 1.5; 2; 2.5; 3; 4; 5; 6	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Presented in		Plastic clip		

62 7141_9

Number of screwdrivers		6	8	9
63D 62 7330	Hexagon key L-wrench set **chrome-plated**	XXX	XXX	XXX
Content: 1 each L-wrench No. 627150		Size 1.5; 2; 2.5; 3; 4; 5	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Presented in		Plastic clip		


62 7330_9

Number of screwdrivers		12Z
63D 62 7331	Hexagon key L-wrench set **imperial dimensions, chrome plated**	XXX
Content: 1 each L-wrench No. 627170		Size 1/20; 1/16; 5/64; 3/32; 7/64; 1/8; 9/64; 5/32; 3/16; 7/32; 1/4; 5/16
Storage in		Plastic clip

62 7331

Hex-Plus

Reduced notch effect and protection of the profile.

Standard hexagon / HexPlus

TAKE IT EASY TOOL FINDER

Number of screwdrivers		9
63F 62 7216	Hexagon key L-wrench set, BlackLaser surface **Multi-colour plastic sheathed, Hex-Plus**	XXX
Content: 1 each L-wrench		1.5; 2; 2.5; 3; 4; 5; 6; 8; 10 mm
Presented in		Plastic clip

Flip-up plastic clip

62 7216

Number of screwdrivers		7	9
63F 62 7210	Hexagon key L-wrench set **Hex-plus chrome-plated**	XXX	XXX
Content: 1 each L-wrench No. 627200		Sizes 1.5; 2; 2.5; 3; 4; 5; 6	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Presented in		Plastic clip	

Flip-up plastic clip.

62 7210 _9

S/STL

TAKE IT EASY TOOL FINDER

Number of screwdrivers		9
63F 62 7351	Hexagon key L-wrench set **Stainless steel, multi-colour plastic sheathed, Hex-Plus**	XXX
Content: 1 each L-wrench		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10 mm
Presented in a		Plastic clip

Flip-up plastic clip.

62 7351

S/STL

Number of screwdrivers		9
63F 62 7350	Hexagon key L-wrench set **Stainless steel, Hex-Plus**	XXX
Content: 1 each L-wrench No. 627320		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Presented in		Plastic clip

Flip-up plastic clip.

62 7350

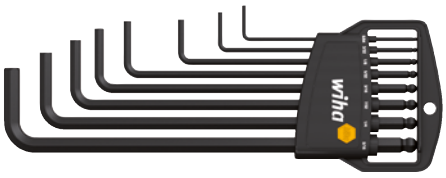
Number of screwdrivers		9
62C 62 7225	HOLEX Hexagon key L-wrench set **nickel-plated**	XXX
Content: 1 each L-wrench No. 627323		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10 mm
Stored in		Plastic clip

62 7225

Number of screwdrivers		9
62C 62 7327	HOLEX Hexagon key L-wrench set **phosphated**	XXX
Content: 1 each L-wrench No. 627325		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Stored in		Plastic clip

62 7327

Number of screwdrivers		8
63K 62 7315	wiha Hexagon key L-wrench set **imperial dimensions, phosphated**	XXX
Content: 1 each L-wrench		5/64; 3/32; 1/8; 5/32; 3/16; 7/32; 1/4; 5/16 inch
Presented in		Plastic clip



62 7315

PB SWISS TOOLS Hexagon key L-wrench long, with ball point and short arm

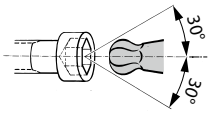
L-form shaft, ball point can be applied up to an angle of 30°. PB Swiss Tools special steel combining maximum hardness with exceptional toughness.

Application: Thanks to the short arm and the angle of 100°, can reach even into places where access is difficult.

62 7370

62 7372

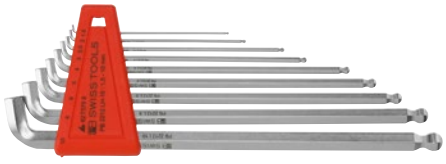
62 7370 – Surface nickel-plated and chrome-plated.
62 7372 – Surface nickel-plated, chrome-plated and **powder-coated** for quick location using clear "Rainbow" colour coding.



Hexagon mm		1,5	2	2,5	3	4	5	6	8	10
63D 62 7370	Hexagon key L-wrench, long and short stock, with ball point **chrome-plated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 7372	Hexagon key L-wrench, long and short stock, with ball point **powder-coated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length mm		82×6	92×7	113×9	128×11	154×13	170×16	191×19	208×24	230×28

62 7375 – Surface nickel-plated and chrome-plated.
62 7377 – Surface nickel-plated, chrome-plated and **powder-coated** for quick location using clear "Rainbow" colour coding.

Number of screwdrivers		9
63D 62 7375	Hexagon key L-wrench set, long and short stock, with ball point **chrome-plated**	XXX
63D 62 7377	Hexagon key L-wrench set, long and short stock, with ball point **powder-coated**	XXX
Content: 1 each L-wrench No. 627370 / 627372		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Presented in		Plastic clip



62 7375

62 7377

Hexagon key L-wrench 90°-100°, long, with ball point and short arm

Extra-short arm with flexible angle (90°– 100°), ball point can be inclined at an angle up to 30°. PB Swiss Tools special steel combining maximum hardness with exceptional toughness.

Size 1,5; 2 – Only with 90° angle.

Material:

62 7381/7386 – Surface nickel-plated and chrome-plated.

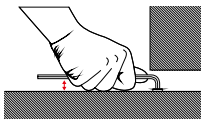
62 7382/7387 – Surface nickel-plated, chrome-plated and **powder-coated** for quick location using clear "Rainbow" colour coding.

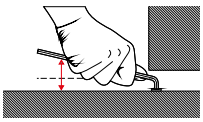
Advantage: Flexible angle at the short arm (90°– 100°).
90° for insertion: Even places that are very difficult to access can easily be reached.
100°for working: The free space for the hand ensures pleasant and safe working.

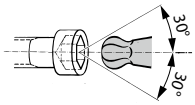
62 7381

62 7382

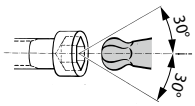
Shorter shank length for screws where access is difficult:


90° for insertion.


100° for working.



Hexagon	mm	1,5	2	2,5	3	4	5	6	8	10
63D 62 7381	Hexagon key L-wrench 90°– 100°, long, with ball point and short arm **chrome-plated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 7382	Hexagon key L-wrench 90°– 100°, long, with ball point and short arm **powder-coated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Stock length	mm	82×6	92×7	113×9	128×11	154×13	170×16	191×19	208×24	230×28



Number of hexagon key L-wrenches		9
63D 62 7386	Hexagon key L-wrench set 90°– 100°, long, with ball point and short arm **chrome-plated**	XXX
63D 62 7387	Hexagon key L-wrench set 90°– 100°, long, with ball point and short arm **powder-coated**	XXX
Supplied with: 1 each L-wrench with T-handle No. 627381 (62 7386)		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
1 each L-wrench with T-handle No. 627382 (62 7387)		Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10
Storage in		Plastic clip

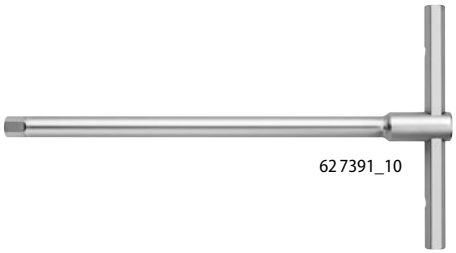
62 7386

62 7387

3-way hexagon wrenches with sliding T-handle

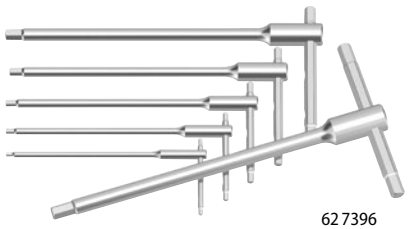
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness.

Advantage: Ideal for high torque screw connections where access is difficult.


62 7391_10

Hexagon	mm	2	2,5	3	3,5	4	4,5	5	6	7	8	9	10	12	14
63D 62 7391	3-way hexagon wrench	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	125	140	155	165	175	185	195	215	230	245	260	270	300	330
Sliding handle length	mm	55	60	65	70	75	80	85	100	105	115	125	135	155	180

Number of screwdrivers		5	6
63D 62 7396	3-way hexagon wrench set	XXX	XXX
Supplied with: 1 each hexagon screwdriver No. 627391		Size 2.5; 3; 4; 5; 6	Size 3; 4; 5; 6; 8; 10


62 7396

Hexagon screwdrivers with T-handle

62 7485 – Comfortable multi-component plastic T-handle.
Blade made of chrome vanadium steel, chrome-plated. T-handle with side drive.

62 7420/7430 – Ergonomically shaped T-handle with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene.
Blade of PB Swiss Tools special alloy. Surface nickel-plated and chrome-plated.

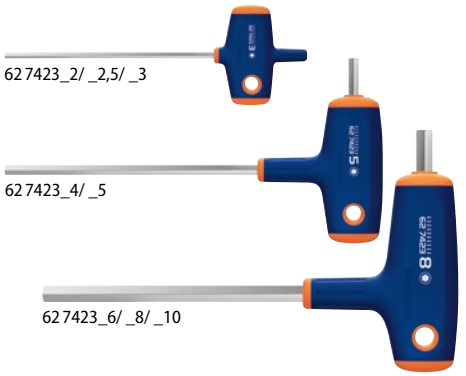
62 7421/7431 – Ergonomically shaped multi-component T-handle.
Blade of phosphated silicon steel, with ball point. T-handle with side drive.

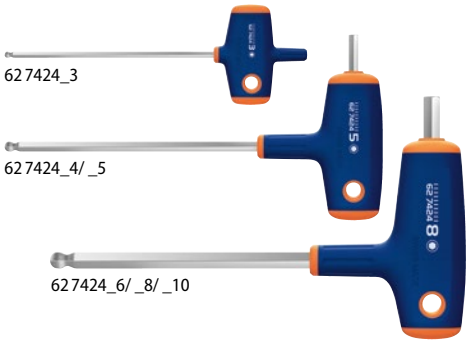
62 7423/7438 – Ergonomically shaped T-handle with easy-grip **Haptoprene** surface and an impact-resistant plastic core. Blade of chrome vanadium special alloy.
Surface nickel-plated and chrome-plated. Size 4 – 10 with side drive

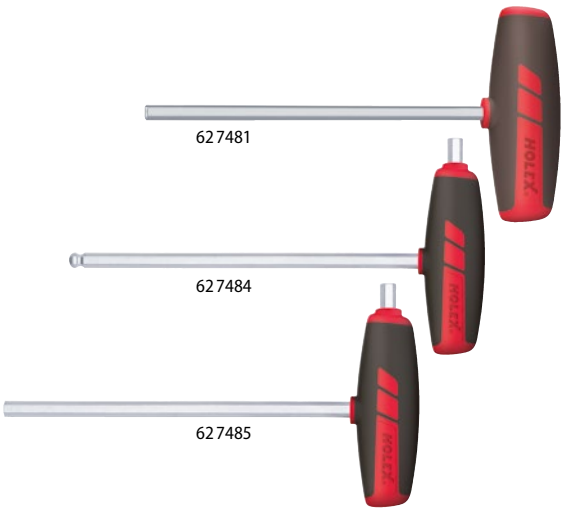
62 7424/7439 – Ergonomically shaped T-handle with easy-grip **Haptoprene** surface and an impact-resistant plastic core. Blade made from chrome vanadium special alloy, with ball point.
Surface nickel-plated and chrome-plated. Size 4 – 10 with side drive.

62 7481–7483/7487 – Comfortable multi-component plastic T-handle.
Blade made of chrome vanadium steel, chrome-plated.

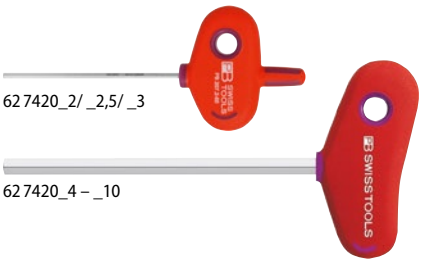
62 7484/7486 – Comfortable multi-component plastic T-handle.
Blade made of chrome vanadium steel, chrome-plated, with ball point.
T-handle with side drive.







HOLEX hexagon screwdrivers incl. imperial sizes are available from our eShop (No. 62 7581, 62 7584 62 7585)



Hexagon			mm	2	2,5	3	4	5	6	8	10	12
61C	62 7423	Garant	Hexagon screwdriver, with T-handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
61C	62 7424	Garant	Hexagon screwdriver, with T-handle **and ball point**	–	–	XXX	XXX	XXX	XXX	XXX	XXX	–
63D	62 7420	PB SWISS TOOLS	Hexagon screwdriver, with T-handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
63V	62 7421	FACOM	Hexagon screwdriver, with T-handle **and ball point**	–	–	–	XXX	XXX	XXX	XXX	XXX	–
62C	62 7481		Hexagon screwdriver, with T-handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–
62C	62 7482		Hexagon screwdriver, long, with T-handle	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62C	62 7483	HOLEX	Hexagon screwdriver, extra long, with T-handle	–	–	–	XXX	XXX	XXX	XXX	XXX	–
62C	62 7484		Hexagon screwdriver, with T-handle **and ball point**	–	–	XXX	XXX	XXX	XXX	XXX	XXX	–
62C	62 7485		Hexagon screwdriver, with T-handle	–	–	XXX	XXX	XXX	XXX	XXX	XXX	–
Blade length (62 7423, 62 7424)			mm	100	100	100	125	125	125	125	170	–
Blade length (62 7420)			mm	60	60	100	150	150	150	150	200	–
Blade length (62 7421)			mm	–	–	–	130	130	175	175	175	–
Blade length (62 7481)			mm	100	100	150	150	150	150	150	–	–
Blade length (62 7482)			mm	–	–	200	200	200	200	200	200	200
Blade length (62 7483)			mm	–	–	–	350	350	350	350	350	–
Blade length (62 7484, 62 7485)			mm	–	–	150	150	150	150	200	200	–
overall length (62 7423, 62 7424)			mm	145	145	145	187	187	200	200	243	–
overall length (62 7420)			mm	100	100	140	190	190	195	195	245	–
overall length (62 7421)			mm	–	–	–	183	183	240	240	240	–
overall length (62 7481)			mm	119	119	169	175	182	182	182	–	–
overall length (62 7482)			mm	–	–	219	225	232	232	232	235	235
overall length (62 7483)			mm	–	–	–	375	382	382	382	385	–
overall length (62 7484, 62 7485)			mm	–	–	175	175	182	182	232	235	–

Number of screwdrivers			8
61C	62 7438	Garant Hexagon screwdriver set **chrome-plated**	XXX
Storage in			Easy-Fix stand
Supplied with: 1 each screwdriver No. 627423			Size 2; 2.5; 3; 4; 5; 6; 8; 10

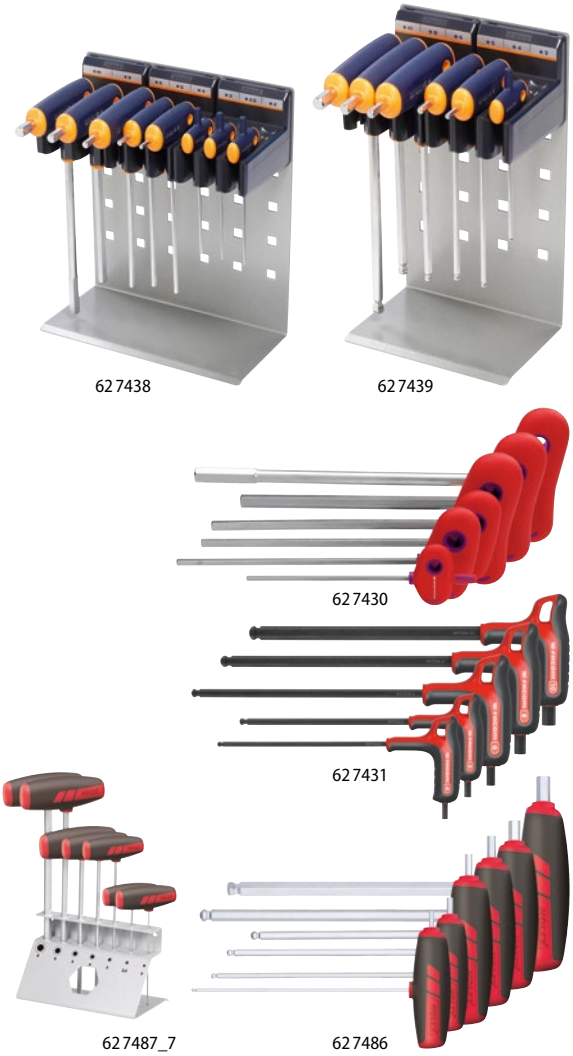
Number of screwdrivers			6
61C	62 7439	Garant Hexagon screwdriver set **with ball point, chrome-plated**	XXX
Storage in			Easy-Fix stand
Supplied with: 1 each screwdriver No. 627424			Size 3; 4; 5; 6; 8; 10

Number of screwdrivers			6
63D	62 7430	PB SWISS TOOLS Hexagon screwdriver set **chrome-plated**	XXX
Supplied with: 1 each screwdriver No. 627420			Size 3; 4; 5; 6; 8; 10

Number of screwdrivers			5
63V	62 7431	FACOM Hexagon screwdriver set **with ball point, phosphated**	XXX
Supplied with: 1 pc. each screwdriver No. 627421			Size 4; 5; 6; 8; 10

Number of screwdrivers			6
62C	62 7486	HOLEX Hexagon screwdriver set **with ball point, chrome-plated**	XXX
Supplied with: 1 pc. each screwdriver No. 627484			Size 3; 4; 5; 6; 8; 10

Number of screwdrivers			6	7
62C	62 7487	HOLEX Hexagon screwdriver set **chrome-plated**	XXX	XXX
Storage in			–	Sheet metal stand
Supplied with: 1 pc. each screwdriver No. 627481			Size 2.5; 3; 4; 5	Size 2; 2.5; 3; 4; 5
1 pc. each screwdriver No. 627482			Size 6; 8	

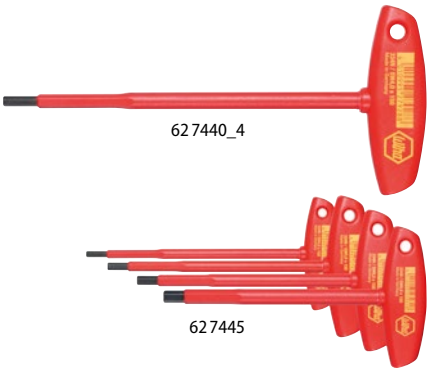


wiha Hexagon screwdriver with T-handle, fully insulated

Impact resistant plastic T-handle, blade of chrome vanadium steel, burnished, with sprayed-on protective insulation.
Insulated up to 1000 V, made to DIN EN 60900 / VDE 0682-201.

Hexagon		mm	4	5	6	8
63K	62 7440	Hexagon screwdriver, with T-handle **fully insulated**	XXX	XXX	XXX	XXX
Blade length		mm	150			
overall length		mm	176	182	182	182

Number of screwdrivers			4
63K	62 7445	Hexagon screwdriver set, with T-handle **fully insulated**	XXX
Supplied with: 1 each screwdriver No. 627440			Size 4; 5; 6; 8



HOLEX Tri-square L-wrench set / splined L-wrench set

L-shank; through hardened (hard and tough). Chrome vanadium steel, surface nickel-plated.
62 7535 – **For XZN screws.**
62 7565 – **For splined socket head screws (Ribe CV).**

Number of screwdrivers			8
62C	62 7535	Tri-square L-wrench set	XXX
Supplied with: 1 each multi-tooth L-wrench			Size M4; M5; M6; M8; M10; M12; M14; M16
Packaging			Wallet

Number of screwdrivers			8
62C	62 7565	Splined L-wrench set	XXX
Supplied with: 1 each spline L-wrench			Size M4; M5; M6; M8; M10; M12; M14; M16
Packaging			Wallet

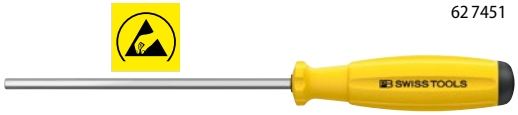
Hexagon screwdriver with 2-component power grip

62 7630 – **SwissGrip-power grip** with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. High torques can be exerted even with wet or oily hands.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.
Tool handle made of conductive plastic, **suitable for ESDs.**

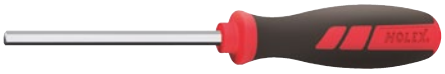
62 7451/7456 – **Power grip** with easy-to-hold **Haptoprene** surface and an especially tough, impact-resistant polypropylene core. High torques can be exerted even with wet or oily hands.
Blade made from chrome vanadium special alloy combines maximum possible hardness and exceptional toughness. Surface nickel-plated and chrome-plated.

62 7500–7504 – **Multi-component power grip**. Impact resistant plastic core with torque and comfort optimised grip zone. Chromium vanadium steel, through hardened (toughened) hexagon blade, surface chrome-plated.

62 7451



62 7630



62 7500

62 7501

Hexagon		mm	1,27	1,5	2	2,5	3	4	5	6	8	10
61C 62 7451	Garant	Hexagon screwdriver, straight, with power grip	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63D 62 7630	PB SWISS TOOLS	Hexagon screwdriver, with 2-component Swiss-Grip handle **ESD**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
62C 62 7500	HOLEX	Hexagon screwdriver, straight, with power grip	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
62C 62 7501	HOLEX	Hexagon screwdriver, offset, with power grip	–	–	–	–	XXX	XXX	XXX	XXX	XXX	XXX
Blade length (62 7451, 62 7630)		mm	50	70	80	90	100	120	140	160	180	200
Blade length (62 7500)		mm	–	–	60	75	75	75	75	100	100	–
Blade length (62 7501)		mm	–	–	–	–	35	40	45	50	60	75
overall length (62 7451, 62 7630)		mm	127	147	157	170	190	220	245	270	300	320
overall length (62 7500)		mm	–	–	147	162	162	182	182	207	220	–
overall length (62 7501)		mm	–	–	–	–	122	127	152	157	180	195

Hexagon		inches	5/64	3/32	7/64	1/8	9/64	5/32
62C 62 7502	HOLEX	Hexagon screwdriver, straight, with power grip **imperial**	XXX	XXX	XXX	XXX	XXX	XXX
Blade length		mm	60	75	75	75	75	75
overall length		mm	147	162	162	162	182	182

Hexagon		inches	3/16	7/32	1/4	5/16	3/8
62C 62 7502	HOLEX	Hexagon screwdriver, straight, with power grip **imperial**	XXX	XXX	XXX	XXX	XXX
Blade length		mm	75	75	100	100	100
overall length		mm	183	183	207	220	220

Number of screwdrivers			7
61C 62 7456	Garant	Hexagon screwdriver set, straight, with power grip	XXX
Supplied with: 1 each hexagon screwdriver No. 627451			Size 2; 2.5; 3; 4; 5; 6; 8

62 7456

Number of screwdrivers			7
62C 62 7503	HOLEX	Hexagon screwdriver set, straight, with power grip	XXX
Supplied with: 1 each hexagon screwdriver No. 627500			Size 2; 2.5; 3; 4; 5; 6; 8

62 7503

Number of screwdrivers			6
62C 62 7504	HOLEX	Hexagon screwdriver set, offset, with power grip	XXX
Supplied with: 1 each hexagon screwdriver No. 627501			Size 3; 4; 5; 6; 8; 10

62 7504

Hexagon electronics screwdriver

Ergonomically configured multi-component handle with smooth-running **rotating cap** (for fingertip pressure during precision work). Optimally shaped **quick turning zone** for fast, efficient screwdriving and **power zone** for transferring higher torques.

62 7470/7475 – Blades of high-quality tool steel, surface matt chrome-plated, black tip. **Hex-plus profile** prevents deformation of the screw head and transmits more torque.

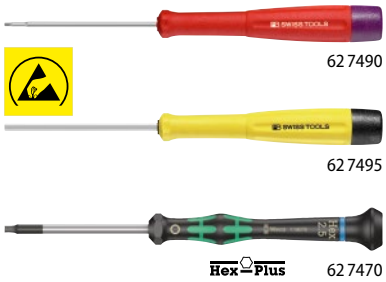
62 7490–7499 – **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Very high accuracy of the blades. Surface nickel-plated and chrome-plated.

62 7495/7499 – Tool handle made of conductive plastic, **suitable for ESDs.**

Application: For precise, efficient screw driving operations for electronics applications. Also ideal for all sensitive setting and adjustment work.

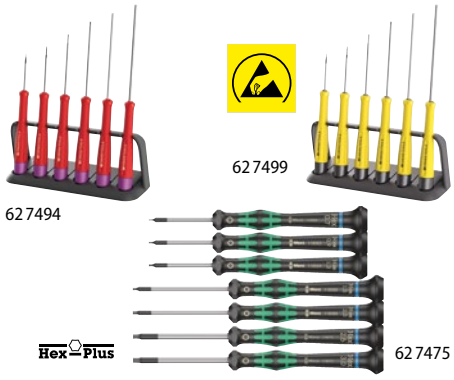
Supplied with:

62 7494/7499 – Practical stand / wall rack.



Hexagon			mm	0,7	0,71	0,89	0,9	1,27	1,3	1,5	2	2,5	3
63D 62 7490	PB SWISS TOOLS	Hexagon electronics screwdriver		–	XXX	XXX	–	XXX	–	XXX	XXX	XXX	XXX
63D 62 7495	PB SWISS TOOLS	Hexagon electronics screwdriver **ESD**		–	XXX	XXX	–	XXX	–	XXX	XXX	XXX	XXX
63F 62 7470	Wera	Hexagon electronics screwdriver **Kraftform Micro**		XXX	–	–	XXX	–	XXX	XXX	XXX	XXX	XXX
Blade length (62 7490, 62 7495)			mm	–	40	40	–	50	–	65	80	90	100
Blade length (62 7470)			mm	40	–	–	40	–	40	60	60	60	60
overall length (62 7490, 62 7495)			mm	–	133	133	–	143	–	158	173	183	191
overall length (62 7470)			mm	137	–	–	137	–	137	157	157	157	157

Number of screwdrivers			6	7
63D 62 7494	PB SWISS TOOLS	Hexagon electronics screwdriver set	XXX	–
63D 62 7499	PB SWISS TOOLS	Hexagon electronics screwdriver set **ESD**	XXX	–
63F 62 7475	Wera	Hexagon electronics screwdriver set **Kraftform Micro**	–	XXX
Supplied with: 1 each electronics screwdriver No. 627490 (62 7494)			Size 0.89; 1.27; 1.5; 2; 2.5; 3	–
1 each electronics screwdriver No. 627495 (62 7499)			Size 0.89; 1.27; 1.5; 2; 2.5; 3	–
1 each electronics screwdriver No. 627470 (62 7475)			–	Size 0.7; 0.9; 1.3; 1.5; 2; 2.5; 3



Hexagon ball point screwdrivers

Straight hexagonal shank with ball point.

62 7453/7458 – **Power grip** with easy-to-hold **Haptoprene®** surface and an especially tough, impact-resistant polypropylene core. High torques can be exerted even with wet or oily hands. **Blade** made from chrome vanadium special alloy combines maximum possible hardness and exceptional toughness. Surface nickel-plated and chrome-plated.

62 7620 – **„Multicraft" power grip** of impact resistant plastic (cadmium free), particularly easy grip, even with oily hands. **Blade** of PB Swiss Tools special alloy combining maximum hardness and exceptional toughness, surface nickel-plated and chrome-plated.

62 7633 – **SwissGrip-power grip** with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. High torques can be exerted even with wet or oily hands.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.
Tool handle made of conductive plastic, **suitable for ESDs.**

62 7400/7410 – **Kraftform handle** made of impact-resistant plastic with integral soft zones. Blade of high quality tool steel, surface matt chrome-plated, black tips.

62 7511/7512 – **Multi-component power grip**. Impact-resistant core with torque and comfort optimised grip zone. Blade of chrome vanadium steel, surface chrome-plated.

Hexagon			mm	1,27	1,5	2	2,5	3	4	5	6	8	10	12
61C 62 7453	Garant	Hexagon ball point screwdriver, with power grip		–	–	–	–	XXX	XXX	XXX	XXX	XXX	XXX	–
63D 62 7620	PB SWISS TOOLS	Hexagon ball point screwdriver, with "multicraft" power grip		–	–	–	–	–	XXX	XXX	XXX	XXX	–	–
63D 62 7633	PB SWISS TOOLS	Hexagon ball-point screwdriver, with 2-component SwissGrip handle **ESD**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–
63F 62 7400	Wera	Hexagon ball point screwdriver, with Kraftform handle		–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62C 62 7511	HOLEX	Hexagon ball point screwdriver, with power grip		–	–	–	XXX	XXX	XXX	XXX	XXX	XXX	–	–
Blade length (62 7453, 62 7620, 62 7633)			mm	50	70	80	90	100	120	140	160	180	200	–
Blade length (62 7400, 62 7511)			mm	–	60	80	100	100	100	100	125	150	150	150
overall length (62 7453, 62 7633)			mm	127	147	157	167	180	210	235	260	290	320	–
overall length (62 7620)			mm	–	–	–	–	–	215	240	265	300	–	–
overall length (62 7400)			mm	–	89	169	181	181	198	205	230	262	262	267
overall length (62 7511)			mm	–	–	–	187	187	207	207	232	257	–	–

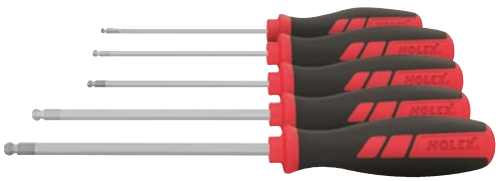
Number of screwdrivers			5
61C 62 7458	Garant	Hexagon ball-point screwdriver set, with power grip	XXX
Supplied with: 1 each hexagon ball-point screwdriver No. 627453			Size 3; 4; 5; 6; 8

62 7458

Number of screwdrivers			5	8	10
63F 62 7410	Wera	Hexagon ball-point screwdriver set, with Kraftform handle	XXX	XXX	XXX
Supplied with: 1 each hexagon ball-point screwdriver No. 627400			Size 3; 4; 5; 6; 8	Size 2.5; 3; 4; 5; 6; 8; 10; 12	Size 1.5; 2; 2.5; 3; 4; 5; 6; 8; 10; 12

62 7410_10

Number of screwdrivers			5
62C 62 7512	HOLEX	Hexagon ball-point screwdriver set, with power grip	XXX
Supplied with: 1 each hexagon ball-point screwdriver No. 627511			Size 3; 4; 5; 6; 8



62 7512

62

Adjustable C-hook (pin) spanners

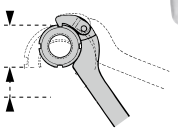
Adjustable C-hook spanner with square pin.

62 7990 – Nirosta stainless steel.

62 8000 – Special steel, drive head ground, hardened and nickel-plated.

Application: For slotted nuts to DIN 1804 and roller bearing nuts to DIN 981.

S/STL



62 7990

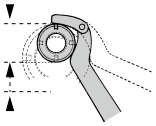
62 8000

for external nut ∅	mm	20-35	35-60	60-90	90-155	155-230
63Q 62 7990	Stainless steel adjustable C-hook (pin) spanner **with square pin**	XXX	XXX	XXX	XXX	XXX
63Q 62 8000	Adjustable C-hook (pin) spanner **with square pin**	XXX	XXX	XXX	XXX	XXX
overall length	mm	165	210	280	335	460

Adjustable C-hook pin spanner.

Special steel, drive head ground, hardened and burnished.

Application: For capstan nuts to DIN 1816.



62 8100

largest ∅ / pin ∅	mm	22/2,5	35/3	60/4	90/5	90/6	155/6	155/8	230/8	230/10
63Q 62 8100	Adjustable C-hook (pin) spanner **with pin**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	135	165	205	280	280	335	335	460	460

C-hook (pin) spanners

Special steel, drive head ground, hardened and burnished.

62 8400 – Hook spanner with square pin to DIN 1810 A.
62 8500 – Hook spanner with round pin to DIN 1810 B.

Application:

62 8400 – For slotted nuts to DIN 1804 and roller bearing slotted nuts to DIN 981.
62 8500 – For DIN 1816 capstan nuts.

Note:
62 8400 – Sizes 135/145; 260/270 thickness is different to DIN.

62 8400

62 8500

for external nut ∅	mm	12/14	16/20	25/28	30/32	34/36	40/42	45/50	52/55	58/62	68/75
62 8400	C-hook (pin) spanner **with square pin**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62 8500	C-hook (pin) spanner **with pin**	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	110	110	136	136	170	170	206	206	240	240
Pin ∅ (62 8500)	mm	–	–	3	4	4	4	5	5	5	6

for external nut ∅	mm	80/90	95/100	110/115	120/130	135/145	155/165	180/195	205/220	230/245	260/270
62 8400	C-hook (pin) spanner **with square pin**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62 8500	C-hook (pin) spanner **with pin**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
overall length	mm	280	280	335	335	385	385	470	470	568	568
Pin ∅ (62 8500)	mm	6	8	8	8	8	8	10	–	–	–

Adjustable C-hook spanner

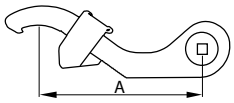
Hook spanner with square pin. Special steel, hardened and burnished.

62 8520 – With square socket 1/2 inch or 3/4 inch (sizes 95 – 165) for use with a torque wrench (from No. 655500).

Application: For slotted nuts to DIN 1804 and roller bearing nuts to DIN 981.

62 8510

62 8520



for external nut ∅	mm	20-42	45-90	95-165
62 8510	Adjustable C-hook spanner **with square pin**	XXX	XXX	XXX
62 8520	Adjustable C-hook spanner, for torque wrench **with square pin**	XXX	XXX	XXX
overall length (62 8510)	mm	180	250	335
overall length (62 8520)	mm	135	192	298
effective length A (62 8520)	mm	100	150	220

Adjustable caliper pin wrench

62 8620 – Stainless steel, stainless, with fixed pin.
62 8600/8610 – Special steel, drive head ground, hardened and burnished; with fixed pins.

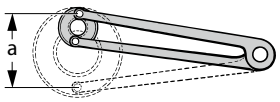
Application: For twin hole nuts.

Note: Pin ∅ = pin nominal ∅ - 0.1 mm. Tolerance zone h12.

62 8600

S/STL

62 8620



62 8610

Pin nominal ∅	mm	1,5	2	2,5	3	4	5	6	8	10	12
62 8600	Adjustable caliper pin wrench **flat**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62 8620	Adjustable caliper pin wrench **straight, stainless steel**	–	–	–	XXX	XXX	–	–	–	–	–
62 8610	Adjustable caliper pin wrench **cranked**	–	–	–	XXX	XXX	XXX	XXX	–	–	–
overall length (62 8600, 62 8620)	mm	115	115	115	160	160	215	215	215	260	260
overall length (62 8610)	mm	–	–	–	153	153	205	205	–	–	–
Pin spacing adjustable a	mm	7 – 40	7 – 40	7 – 40	11 – 60	11 – 60	14 – 100	14 – 100	14 – 100	22 – 125	22 – 125

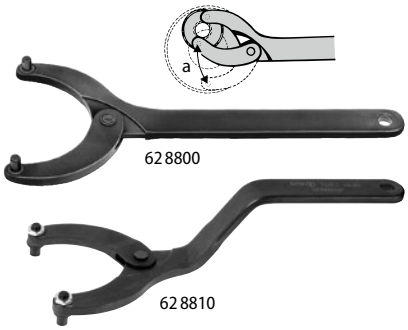
Hinged pin wrenches adjustable

Special steel, drive head ground, annealed and burnished.

62 8800 – With fixed pins.
62 8810 – Cranked, with interchangeable pins.
62 8820 – With square drive for use with a torque wrench. With interchangeable pins.

Application: For twin hole nuts.

Note: Pin Ø = pin nominal Ø - 0.1 mm; tolerance field h12.



62 8800

62 8810

largest Ø / pin nominal Ø		mm	40/3	40/4	80/4	80/5	80/6	125/6	125/7	125/8	200/8	200/10
63Q 62 8800	Hinged pin wrench **straight**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63Q 62 8810	Hinged pin wrench **offset**		XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	–	–
overall length (62 8800)		mm	150	150	220	220	220	295	295	295	405	405
overall length (62 8810)		mm	158	158	215	215	215	290	–	290	–	–
Pin spacing adjustable a		mm	18 – 40	18 – 40	40 – 80	40 – 80	40 – 80	80 – 125	80 – 125	80 – 125	125 – 200	125 – 200

largest Ø / pin nominal Ø		mm	40/4	80/5	80/6	125/6	125/8
63Q 62 8820	Hinged pin wrench **for torque wrenches**		XXX	XXX	XXX	XXX	XXX
overall length		mm	120	180	180	250	250
Pin spacing adjustable a		mm	18 – 40	40 – 80	40 – 80	80 – 125	80 – 125
Square drive		inch	1/2	3/4	3/4	3/4	3/4

62 8820

Sorting box with loose pins

2 pins each with Ø 4; 5; 6; 7 and 8 mm. Incl. 10 M6 nuts in a clear plastic sorting box.

Suitable for: Articulated pin wrench No. 628810 from size 80/4 to 125/8 and No. 628820 from size 80/5 to 125/8.

Material: Special steel, hardened and burnished.

Note: Pin Ø = pin nominal Ø - 0.1 mm; tolerance field h12.

63Q 62 8850	Sorting box, 20 pieces, with loose pins and nuts.	XXX

62 8850

Pin wrenches for angle grinders

Special steel galvanised, pins welded on. Pin spacing 35 mm, pin Ø 5 mm.

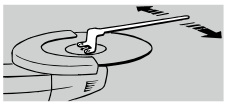
62 8900 – Crank height 50 mm.

Application: For DIN 44716 flange nuts for angle grinders.

63Q 62 8900	Face pin wrench **cranked**		XXX
63Q 62 8950	Face pin wrench **straight**		XXX
overall length (62 8900)		mm	200
overall length (62 8950)		mm	180

62 8900

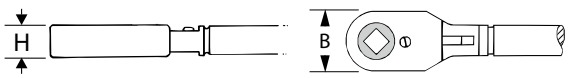
62 8950



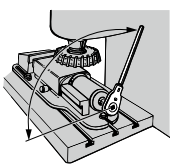
Reversible universal ratchet for ring inserts

Reversible using the lever on the ratchet head for clockwise / anticlockwise working or locked position. All drive parts hardened. Handle made of precision steel tube. The exchangeable square inserts are securely held in place by the housing cover.

Material: Special steel, surface burnished, handle bright finished.



Type			0	1	2	3	4
66C 62 9400	Universal ratchet (without insert)		XXX	XXX	XXX	XXX	XXX
Ratchet head width		mm	29.5	36.7	45	56	70
Ratchet head height		mm	10	15.9	20	25.8	32
overall length		mm	170	195	245	330	415
rated torque		Nm	100	130	180	400	500



Universal ratchet with square insert for use as vice tightening lever.

Square drive ring insert

Material: Special steel, through hardened.

Type - square		0-3,4	0-4,9	0-5,5	0-6,2	0-7	0-8	0-9	0-11
66C 62 9600	Square drive insert	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Suitable for: Ratchet No. 629400		Size 0							

Type - square		1-7	1-8	1-9	1-10	1-11	1-12	1-14	2-12	2-14,5	2-16	2-17
66C 62 9600	Square drive insert	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Suitable for: Ratchet No. 629400		Size 1	Size 1	Size 1	Size 1	Size 1	Size 1	Size 1	Size 2	Size 2	Size 2	Size 2

Type - square		3-18	3-20	3-22	4-22	4-24	4-30
66C 62 9600	Square drive insert	XXX	XXX	XXX	XXX	XXX	XXX
Suitable for: Ratchet No. 629400		Size 3	Size 3	Size 3	Size 4	Size 4	Size 4

Universal ratchet set

Supplied with: 1 ratchet size 0 with 8 inserts and 1 screwdriver in a steel case with moulded plastic insert.

62 9410

Type		OK
66C 62 9410	Universal ratchet, complete **with square drive inserts**	XXX
Content: 1 universal ratchet No. 629400		Size 0
1 each square drive insert No. 629600		Size 0-3.4; 0-4.9; 0-5.5; 0-6.2; 0-7; 0-8; 0-9; 0-11

¼″ ⅜″ 4-22 3-8

Socket set 1/4 + 3/8 inch square drive

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

Material: Chrome alloy steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M14.
For spark plugs 16 mm.
For slot-head screws with thread M1.6 – M5.
For Phillips screws with thread M2 – M6.
For hexagon socket head screws with thread M4 – M10.

63 0006

		63A 63 0006
		Socket set, 1/4; 3/8 inch square drive **48 pieces**
		XXX
Length	mm	413
Width	mm	230
Height	mm	57
Supplied with:		
1/4 inch hexagon socket set		8 pcs. No. 631000 size 4; 4.5; 5; 5.5; 6; 7; 8; 9
3/8 inch hexagon socket set		12 pcs. No. 637200 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22
3/8 inch spark plug socket		1 pc. No. 637310 size 16
BITS for Phillips C 6.3		3 pcs. No. 675310 size 1/25; 2/25; 3/25
Bits for Pozidriv, C 6.3		1 pc. No. 675320 size 2/25
Bits for slot-head, C 6.3		6 pcs. No. 675250 size 3; 3.5; 4; 5.5; 6.5; 8
Bits for hex socket, C 6.3		5 pcs. No. 675240 size 3; 4; 5; 6; 8
Bit adapter		2 pcs. similar to No. 676800 size 4/4; 8/4
3/8 inch adaptor		1 pc. No. 649505 size 3
3/8 inch tommy-bar		1 pc. No. 635700 size 165
1/4 inch spinner handle		1 pc. No. 632800 size 150
1/4 inch extension		1 pc. No. 632400 size 150
3/8 inch extensions		2 pcs. No. 63 5400 size 75; 240 mm
1/4 inch universal joint		1 pc. No. 633500 size 1/4
3/8 inch universal joint		1 pc. No. 636200 size 3/8
1/4 inch ratchet		1 pc. No. 632000 size 1/4
3/8 inch ratchet		1 pc. No. 635000 size 3/8
Presented in		ABS plastic box

Socket set 1/4 + 1/2 inch square drive

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.**
Internal / external square drives to **DIN 3120.**

63 0012 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

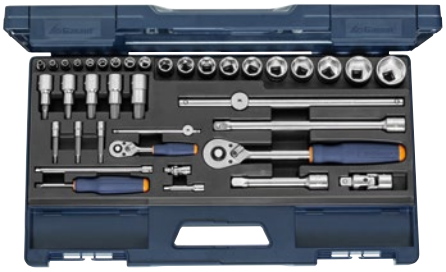
Material:

63 0012 – Chrome vanadium steel, chrome-plated.
63 0016 – Chrome alloy steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M20.
For hexagon socket head screws with thread M4 – M18.

Type		61A 63 0012 Garant	63A 63 0016 STAHLWILLE
		Socket set 1/4; 1/2 inch square drive	
		38 pieces	
6		XXX	XXX
Length	mm	510	454
Width	mm	294	253
Height	mm	61	64
Supplied with:			
1/4 inch hexagon socket set		9 pcs. No. 631029 size 4; 5; 5.5; 6; 7; 8; 9; 10; 11	9 pcs. No. 631000 size 4; 5; 5.5; 6; 7; 8; 9; 10; 11
1/2 inch hexagon socket set		10 pcs. No. 642229 size 13; 16; 17; 18; 19; 21; 22; 24; 27; 30	10 pcs. No. 642200 size 13; 16; 17; 18; 19; 21; 22; 24; 27; 30
1/4 inch hexagon screwdriver bits		3 pcs. No. 631729 size 3; 4; 5	3 pcs. No. 631700 size 3; 4; 5
1/2 inch hexagon screwdriver bits		5 pcs. No. 643229 size 6; 8; 10; 12; 14	5 pcs. No. 643200 size 6; 8; 10; 12; 14
1/4 inch tommy-bar		1 pc. No. 633029 size 116	1 pc. No. 633000 size 116
1/2 inch tommy-bar		1 pc. No. 641329 size 295	1 pc. No. 641300 size 300
1/4 inch spinner handle		1 pc. No. 632829 size 1/4	1 pc. No. 632800 size 150
1/4 inch extensions		2 pcs. No. 632429 size 50; 150	2 pcs. No. 632400 size 50; 150
1/2 inch extensions		2 pcs. No. 641029 size 130; 255	2 pcs. No. 641000 size 130; 255
1/4 inch universal joint		1 pc. No. 633529 size 1/4	1 pc. No. 633500 size 1/4
1/2 inch universal joint		1 pc. No. 641629 size 1/2	1 pc. No. 641600 size 1/2
1/4 inch ratchet		1 pc. No. 632025 size 1/4	1 pc. No. 632000 size 1/4
1/2 inch ratchet		1 pc. No. 640025 size 1/2	1 pc. No. 640100 size 1/2
Storage in		ABS plastic box	

1/4″ 1/2″ 4-30 3-14 8G 20G



63 0012

1/4″ 1/2″ 4-30 3-14

63 0016

The assortments 63 0012 and 63 0023 each offer space for 4 pcs. of small parts storage bins No. 95 1251 size 2×3/1 or 2 pcs. of No. 95 1251 size 2×6/1 (not included in the scope of supply).

All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**
Drives / accessories to **DIN 3122 / 3123**; **sockets** to **DIN 3124**. Internal / external square drives to **DIN 3120**.

Material: Chrome vanadium steel, chrome-plated.

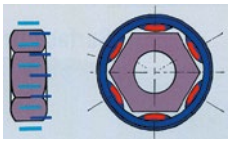
Application: For external hexagon screws / nuts with thread M4 – M20 and
for hexagon socket head screws with thread M4 – M18.
For Pozidriv and Phillips screws with threads M2 – M6, slot-head screws with thread M2.5 – M5,
for internal Torx® screws with thread M3 – M8 and for Trisquare screws with thread M4 – M8.

Type		61A 63 0023 Garant
		Socket set 1/4; 1/2 inch square drive
		65 pieces
SD		XXX
Length	mm	510
Width	mm	294
Height	mm	61
Supplied with:		
1/4 inch hexagon sockets, SurfaceDrive		13 pcs. No. 631225 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14
1/2 inch hexagon sockets, Surface Drive		12 pcs. No. 642325 size 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34
1/2 inch hexagon screwdriver bits		4 pcs. No. 643229 size 6; 8; 10; 14
1/4 inch hexagon BITS C 6.3		4 pcs. similar to No. 675240 size 3; 4; 5; 6
1/4 inch BITS for Phillips C 6.3		3 pcs. similar to No. 675310 size 1/25; 2/25; 3/25
1/4 inch Pozidriv BITS C 6.3		3 pcs. similar to No. 675320 size 1/25; 2/25; 3/25
1/4 inch slot-head BITS C 6.3		3 pcs. similar to No. 675250 size 3.5×0.6; 5.5×0.8; 8×1.2
1/4 inch BITS for Torx® C 6.3		6 pcs. similar to No. 675340 size TX10; TX15; TX20; TX25; TX30; TX40
1/4 inch tri-square BITS C 6.3		4 pcs. similar to No. 675565 size M4; M5; M6; M8
1/4 inch tommy-bar		1 pc. No. 633029 size 116
1/4 inch spinner handle		1 pc. No. 632829 size 1/4
1/4 inch "Wobble-Fix" extensions		2 pcs. No. 632519 size 50; 100
1/2 inch extensions "Wobble-Fix"		1 pc. No. 641129 size 125
1/4 inch universal joint		1 pc. No. 633529 size 1/4
1/2 inch universal joint		1 pc. No. 641629 size 1/2
1/4 inch ratchet		1 pc. No. 632025 size 1/4 with ejector
1/2 inch ratchet		1 pc. No. 640025 size 1/2 with ejector
1/4 inch adapter E 6.3		1 pc. similar to No. 675020 6.3K for 1/4 inch BITS C 6.3
1/4 inch converter		1 pc. similar to No. 650005 size 2 hexagon coupling 1/4 inch E 6.3 – external square 1/4 inch
1/2 inch converter		1 pc. similar to No. 650005 size 5 hexagon coupling 7/16 inch E 11.2 – external square 1/2 inch
1/4 inch bit adapter		1 pc. similar to No. 676800 square socket 1/4 inch – bit holder 1/4 inch
Presented in		ABS plastic box

1/4″ 1/2″ 4-34 6-14 Surface Drive 8G 20G

63 0023

inches



mm

Material: Chrome alloy steel, chrome-plated.
Application: For external hexagon screws / nuts with thread M2 – M20.
For hexagon socket head screws with thread M4 – M18.
For external Torx® with thread M3 – M14. For internal Torx® with thread M2.5 – M14.

		63A 63 0021
		STAHLWILLE Socket set 1/4; 1/2 inch square drive **63 pieces**
		XXX
Length	mm	481
Width	mm	288
Height	mm	82
Supplied with:		
1/4 inch hexagon socket set		9 pcs. No. 631000 size 4; 5; 5.5; 6; 7; 8; 9; 10; 11
1/2 inch hexagon socket set		10 pcs. No. 642200 size 13; 16; 17; 18; 19; 21; 22; 24; 27; 30
1/4 inch sockets for Torx®		5 pcs. No. 631500 size E4; E5; E6; E7; E8
1/2 inch sockets for Torx®		7 pcs. No. 642700 size E10; E12; E14; E16; E18; E20; E24
1/4 inch hexagon screwdriver bits		3 pcs. No. 631700 size 3; 4; 5
1/2 inch hexagon screwdriver bits		5 pcs. No. 643200 size 6; 8; 10; 12; 14
1/4 inch bits for Torx®		6 pcs. No. 631801 size TX8; TX9; TX10; TX15; TX20; TX25
1/2 inch bits for Torx®		7 pcs. No. 643650 size TX27; TX30; TX40; TX45; TX50; TX55; TX60
1/4 inch tommy-bar		1 pc. No. 633000 size 116
1/2 inch tommy-bar		1 pc. No. 641300 size 300
1/4 inch spinner handle		1 pc. No. 632800 size 150
1/4 inch extensions		2 pcs. No. 632400 size 50; 150
1/2 inch extensions		2 pcs. No. 641000 size 130; 255
1/4 inch universal joint		1 pc. No. 633500 size 1/4
1/2 inch universal joint		1 pc. No. 641600 size 1/2
1/4 inch ratchet		1 pc. No. 632000 size 1/4
1/2 inch ratchet		1 pc. No. 640100 size 1/2
Presented in		ABS plastic box

1/4″ 1/2″ 4-30 3-14

63 0021

Material: Chrome vanadium steel, chrome-plated.

With a new 1/2 inch ratchet – extremely sturdy.

Number of pieces		63C 63 0028
		HAZET Socket set 1/4; 1/2 inch square drive **47 pieces**
47		XXX
Length	mm	355
Width	mm	235
Height	mm	65
Supplied with:		
1/4 inch hexagon socket set		9x; size 5; 6; 7; 8; 9; 10; 11; 12; 13 mm
1/2 inch hexagon socket set		13x; size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27 mm
Phillips bits, C 6.3		2x; size 1; 2
Pozidriv bits, C 6.3		2x; size 1; 2
Slot-head bits, C 6.3		3x; size 4; 6; 8
Hexagonal bits, C 6.3		5x; size 2; 3; 4; 5; 6
BITS for Torx® C 6.3		5x; size TX10; TX15; TX20; TX25; TX30
1/4 inch bit adapter		Square socket 1/4 inch – bit holder 1/4 inch
1/4 inch extension		1x; size 101.5 mm
1/2 inch extension		2x; size 123; 248 mm
1/4 inch spinner handle		1 pc.
1/4 inch ratchet		1 pc. No. 632060
1/2 inch ratchet		1 pc. No. 640480
Storage in		Plastic case with stand / tray for parts

63 0028

1/4″ 1/2″ 5-27 2-6

63 0028

63 0028/0035 – Smartcase with stand-up function.

		63C 63 0036
		HAZET Range of screwdriver bits 1/4; 1/2 inch square drive **30 pieces**
35		XXX
Length	mm	355
Width	mm	235
Height	mm	65
Supplied with:		
1/4 inch sockets for Torx®		7 pc. size E5; E6; E7; E8; E10; E11; E12
1/2 inch sockets for Torx®		6 pcs. size E12; E14; E16; E18; E20; E24
1/4 inch screwdriver bits for Torx®, TiN coated		9 pcs. size TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
1/2 inch screwdriver bits for Torx®, TiN coated		9 pcs. size TX20; TX25; TX27; TX30; TX40; TX45; TX50; TX55; TX60
1/2 inch screwdriver bits for Torx®, TiN coated, long		4 pcs. size TX30; TX40; TX45; TX50
Presented in a		Plastic case with holder/tray for parts

1/4″ 1/2″

63 0036

NEW

63 0036

Number of pieces		62A 63 0038 HOLEX Socket set 1/4; 1/2 inch square drive 43 pieces
43		XXX
Length	mm	507
Width	mm	227
Height	mm	62
Supplied with: 1/4 inch hexagon socket set		11 pcs. No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 13
1/2 inch bi-hexagon socket set		13 pcs. No. 642120 size 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32
1/4 inch hexagon screwdriver bits		3 pcs. No. 631720 size 3; 4; 5
1/2 inch hexagon screwdriver bits		5 pcs. No. 643220 size 6; 8; 10; 12; 14
1/4 inch tommy-bar		1 pc. similar to No. 633029
1/2 inch tommy-bar		1 pc. No. 641320 size 295
1/4 inch spinner handle		1 pc. No. 632840 size 1/4
1/4 inch extensions		2 pcs. No. 632420 size 50; 150
1/2 inch extensions		2 pcs. No. 641020 size 130; 255
1/4 inch universal joint		1 pc. No. 633520 size 1/4
1/2 inch universal joint		1 pc. No. 641620 size 1/2
1/4 inch ratchet		1 pc. No. 632090 size 1/4
1/2 inch ratchet		1 pc. No. 640190 size 1/2
Storage in		ABS plastic box

1/4″ 1/2″ 4-13 13-32 3-14

63 0038

STAHLWILLE Socket set 1/ 4+ 3/8 + 1/2 inch square drive

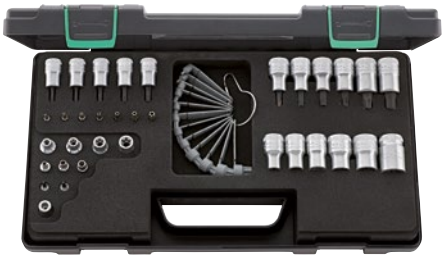
Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

Material: Chrome alloy steel, chrome-plated.

Application: For external Torx® screws with thread M3 – M20. For internal Torx® screws with thread M2.5 – M14. For internal Torx® screws with retaining pin with thread M3 – M8. Including a gauge for Torx® screws.

		63A 63 0031 Socket set for Torx®, 1/4; 3/8; 1/2 inch square drive 35 pieces
		XXX
Length	mm	413
Width	mm	230
Height	mm	57
Supplied with: 1/4 inch sockets for Torx®		3 pcs. No. 631500 size E4; E5; E6
3/8 inch sockets for Torx®		4 pcs. No. 637450 size E7; E8; E10; E12
1/2 inch sockets for Torx®		6 pcs. No. 642700 size E11; E14; E16; E18; E20; E24
1/4 inch bits for Torx®		2 pcs. No. 631801 size TX8; TX9
3/8 inch bits for Torx®		5 pcs. No. 637560 size TX10; TX15; TX20; TX25; TX27
1/2 inch bits for Torx®		6 pcs. No. 643650 size TX30; TX40; TX45; TX50; TX55; TX60
Bits with bore for Torx®, C 6.3		7 pcs. similar to No. 675350 size TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bit adapter		1 pc. similar to No. 676945 size 8/4
Presented in		ABS plastic box

1/4″ 3/8″ 1/2″



63 0031

See product group 68 for tool organiser systems

HOLEX Socket set, imperial

Drives and connecting parts to DIN 3122 / 3123. All parts in plastic boxes.
Material: Chrome vanadium steel, chrome-plated.

Number of pieces	62A	63 0045
		Socket set, 1/4 inch square drive, imperial
		27 pieces
27		XXX
Length	mm	280
Width	mm	176
Height	mm	66
○ **Supplied with:** Hexagon sockets		11 pcs. similar to No. 631022 size 5/32; 3/16; 7/32; 1/4; 9/32; 5/16; 11/32; 3/8; 7/16; 1/2; 9/16 inch
○ Hexagon sockets, long		10 pcs. similar to No. 631417 size 5/32; 3/16; 7/32; 1/4; 9/32; 5/16; 11/32; 3/8; 7/16; 1/2 inch
Tommy bar		1 pc. similar to No. 633029
Spinner handle		1 pc. similar to No. 632840 size 150
Extensions		2 pcs. similar to No. 632420 size 50; 100
Universal joint		1 pc. similar to No. 633520
Ratchet		1 pc. similar to No. 632090
Storage		Plastic case

1/4″ 5/32-9/16″

63 0045

Number of pieces	62A	63 0047
		Socket set, 3/8 inch square drive, imperial
		28 pieces
28		XXX
Length	mm	350
Width	mm	302
Height	mm	84
○ **Supplied with:** Bi-hexagon sockets		12 pcs. similar to No. 637100 size 1/4; 5/16; 11/32; 3/8; 7/16; 1/2; 9/16; 5/8; 11/16; 3/4; 13/16; 7/8 inch
○ Bi-hex sockets, long		9 pcs. similar to No. 637322 size 5/16; 11/32; 3/8; 7/16; 1/2; 9/16; 5/8; 11/16; 3/4 inch
○ Bi-hex spark plug sockets		2 pcs. similar to No. 637329 size 16; 20.8
Tommy bar		1 pc. similar to No. 635720 size 200
Extensions		2 pcs. similar to No. 635420 size 75; 250
Universal joint		1 pc. similar to No. 636220
Ratchet		1 pc. similar to No. 635090
Storage		Plastic case

3/8″ 1/4-7/8″

63 0047

Number of pieces	62A	63 0049
		Socket set, 1/2 inch square drive, imperial
		20 pieces
20		XXX
Length	mm	350
Width	mm	302
Height	mm	84
○ **Supplied with:** Bi-hexagon sockets		15 pcs. similar to No. 642122 size 3/8; 7/16; 1/2; 9/16; 5/8; 11/16; 3/4; 13/16; 7/8; 15/16; 1; 1.1/16; 1.1/8; 1.3/16; 1.1/4 inch
Tommy bar		1 pc. similar to No. 641320 size 295
Extensions		2 pcs. similar to No. 641020 size 125; 250
Universal joint		1 pc. similar to No. 641620
Ratchet		1 pc. similar to No. 640190
Storage		Plastic case

1/2″ 3/8-1 1/4″

63 0049

HOLEX Socket set

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**
All parts in plastic cases.
Economy version.
Material: Chrome vanadium steel, chrome-plated.

Number of pieces	46
62A **63 0002** Socket set	XXX
Supplied with: 46 pieces – 1/4 inch	13 sockets 1/4 inch, hexagon 4 – 14 mm 1 converter 6 bits for hexagon sockets 3 – 8 mm 3 bits for slot-head 3, 4.5, 7 mm 3 bits for Phillips PH1 – PH3 3 bits for Pozidriv PZ1 – PZ3 7 bits for Torx® TX8; TX10; TX15; TX20; TX25; TX30; TX40 3 hexagon key L-wrenches 1.5; 2.0; 2.5 mm 1 ratchet with ejector 1/4 inch 1 spinner handle 1/4 inch 1 T-handle 1/4 inch 1 flexible extension 1/4 inch 150 mm 1 universal joint 1/4 inch 2 extensions 1/4 inch 50 and 100 mm
Presented in	Plastic case (257×170×52 mm)

1/4" | 4-14 | 3-8

63 0002_46

Number of pieces	73
62A **63 0002** Socket set	XXX
Supplied with: 73 pieces – 3/8 inch	18 sockets 3/8 inch, hexagon 6 - 24 mm 9 deep sockets 3/8 inch, hexagon 8 - 24 mm 2 spark plug sockets 3/8 inch 16 and 21 mm 3 sockets with magnets 6; 8; 10 mm (with hexagon shank E 6.3) 1 converter E 6.3 hexagon to 1/4 inch square 1 converter E 6.3 hexagon to 3/8 inch square 4 bits for hexagon sockets 3 - 6 mm 3 bits for slot-head 4; 5.5; 7 mm 2 bits for Phillips PH1; PH2 2 bits for Pozidriv PZ1; PZ2 7 bits for Torx® TX8; TX10; TX15; TX20; TX25; TX30; TX40 1 ratchet with ejector 3/8 inch 1 T-handle 3/8 inch 1 universal joint 3/8 inch 2 extensions 3/8 inch 75 and 225 mm 1 extension 3/8 inch 50 mm WobbleFix 1 adapter 3/8 - 1/4 inch 1 adapter 3/8 - 1/2 inch 13 combination spanners 6 - 19 mm
Presented in	Plastic case (380×285×85 mm)

3/8" | 6-24 | 3-6

63 0002_73

Number of pieces	48
62A **63 0002** Socket set	XXX
Supplied with: 48 pieces – 1/2 inch	14 sockets 1/2 inch, hexagon 8 - 24 mm 3 deep sockets 1/2 inch, hexagon 17 - 19 mm 2 spark plug sockets 1/2 inch 16 and 21 mm 1 ratchet with ejector 1/2 inch 1 universal joint 1/2 inch 1 extension 1/2 inch 125 mm 1 extension 1/2 inch 250 mm / T-handle 1/2 inch 1 hexagon screwdriver set in a fold-away handle 1.5 - 8 mm 1 screwdriver set for Torx® in a fold-away handle TX9 - TX40 14 combination spanners 6 - 19 mm 3 slot-head screwdrivers 5.5×100, 6.5×38, 6.5×125 3 Phillips screwdrivers 1×75, 2×38, 2×100 1 combination pliers 180 mm 1 water pump pliers 250 mm 1 hammer 300 g
Presented in	Plastic case (450×350×90 mm)

1/2" | 8-24

63 0002_48

Number of pieces	82
62A **63 0002** Socket set	XXX
Supplied with: 82 pieces – 1/4; 1/2 inch	25 sockets 1/4, 1/2 inch, hexagon 4 – 32 mm 1 converter 1/4 inch hexagon to 1/4 inch square 2 spark plug sockets 1/2 inch 16 and 21 mm 1 bit adapter 1/2 inch for 5/16 inch bits 4 bits for Torx TX40; TX45; TX50; TX55 4 bits for hexagon sockets 8 mm; 10 mm; 12 mm; 14 mm 3 bits for slot-head 8 mm; 10 mm; 12 mm 2 bits for Phillips PH3; PH4 2 bits for Pozidriv PZ3; PZ4 2 ratchets with ejectors 1/4 inch and 1/2 inch 1 spinner handle 1/4 inch 1 T-handle 1/4 inch 2 universal joints 1/4, 1/2 inch 4 extensions 1/4, 1/2 inch 50; 100; 125; 250 mm 1 flexible extension 1/4 inch 150 mm 1 sliding head 1/2 inch 4 bits 1/4 inch for hexagon sockets 3 – 6 mm 6 bits 1/4 inch for Torx® TX8; TX10; TX15; TX20; TX25; TX30 3 bits 1/4 inch for slot-head 4; 5.5; 7 mm 2 bits 1/4 inch for Phillips PH1; PH2 2 bits 1/4 inch for Pozidriv PZ1; PZ2 9 combination spanners 8 – 22 mm
Presented in	Plastic case (380×285×85 mm)

1/4″ 1/2″ 4-32 3-14

63 0002_82

Number of pieces	148
62A **63 0002** Socket set	XXX
Supplied with: 148 pieces – 1/4; 3/8; 1/2 inch	30 sockets 1/4, 1/2 inch, hexagon 4 – 32 mm 13 deep sockets 1/4, 1/2 inch, hexagon 6 – 22 mm 13 bits 1/4, 3/8, 1/2 inch, for Torx® E4 – E22 2 spark plug sockets 1/2 inch 16 + 21 mm 1 adapter 1/2 – 3/8 inch 1 bit adapter 1/2 inch drive, 5/16 inch hexagon 1 bit adapter 1s/4 inch drive, 1/4 inch hexagon 1 converter E 6.3 hexagon to 1/4 inch square 15 bits 5/16 inch (PH3; PH4; PZ3; PZ4; for Torx® TX40 – TX60, for hex socket 8; 10; 12 mm, slot-head 8; 10; 12) 32-piece 1/4 inch bits set (No. 675591) in a plastic box 2 ratchets with ejectors 1/4 inch and 1/2 inch 1 spinner handle 1/4 inch 2 T-handles 1/4, 1/2 inch 2 universal joints 1/4, 1/2 inch 4 extensions 1/4, 1/2 inch 50, 100, 125, 250 mm 3 hexagon key L-wrenches 1.5– 2.5 mm 9 combination spanners 8 – 22 mm 3 slot-head screwdrivers 6×38, 6×100, 8×150 3 screwdrivers for Phillips 1×75, 2×38, 2×100 1 general-purpose knife (retractable) with 2 spare blades 1 caliper 150 mm 1 locking tape measure 3 m 1 small spirit level 200 mm 1 adjustable spanner 200 mm 1 combination pliers 180 mm 1 side cutter 160 mm 1 snipe nose pliers 160 mm 1 water pump pliers 250 mm 1 hammer 300 g
Presented in	Plastic case (550×420×105 mm)

1/4″ 3/8″ 1/2″ 4-32

63 0002_148

Number of pieces	154
62A **63 0002** Socket set	XXX
Supplied with: 154 pieces – 1/4; 1/2 inch	32 sockets 1/4, 1/2 inch, hexagon 4–32 mm 20 deep sockets 1/4, 1/2 inch, hexagon 4–24 mm 6 sockets with magnet 5.5 – 13 mm (with hexagon shank E 6.3) 1 adapter E 6.3 hexagon to 1/4 inch square 1 adapter E 6.3 hexagon to 1/2 inch square 50-piece 1/4 inch bits set (No. 675596) in a plastic box 2 ratchets with ejectors 1/4 inch and 1/2 inch 1 spinner handle 1/4 inch 1 T-handle 1/4 inch 2 universal joints 1/4, 1/2 inch 4 extensions 1/4, 1/2 inch 50, 100, 125, 250 mm 1 sliding head for 1/2 inch extension 9 hexagon key L-wrenches with ball point 1.5–10 mm 14 combination spanners 8 – 24 mm 5 double ratchet ring spanners 10–19 mm 1 bit adapter for C 6.3 bits / drive 10 mm hexagon 1 adapter 10 mm hexagon to 1/4 inch square with ejector 1 adapter 19 mm hexagon to 1/2 inch square with adapter 1 adjustable spanner 200 mm 1 telescopic magnetic retriever 135 – 635 mm
Presented in	Plastic case (550×420×105 mm)

1/4″ 1/2″ 4-32

63 0002_154

¼″

Socket set, 1/4 inch, small

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.**
Internal / external square drives to **DIN 3120.**

63 0062/0162 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Material:
63 0062/0068/0162/0168 – Chrome vanadium steel, chrome-plated.
63 0066/0166 – Chrome alloy steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M8.

Type		61A 63 0062 Garant	63A 63 0066 STAHLWILLE	62A 63 0068 HOLEX
		Socket set 1/4 inch square drive		
		13 pieces		
SD		XXX	–	–
6		–	XXX	XXX
Length	mm	257	227	257
Width	mm	147	131	149
Height	mm	45	57	47
Supplied with: Sockets single hexagon		9 pcs. No. 631225 size 4; 5; 5.5; 6; 7; 8; 10; 11; 13	9 pcs. No. 631000 size 4; 5; 5.5; 6; 7; 8; 10; 11; 13	9 pcs. No. 631020 size 4; 5; 5.5; 6; 7; 8; 10; 11; 13
Extensions "Wobble-Fix"		2 pcs. size 50, 150 mm	–	–
Extensions		–	2 pcs. No. 632400 size 50; 150	2 pcs. No. 632420 size 50; 150
Universal joint		1 pc. No. 633529 size 1/4	1 pc. No. 633500 size 1/4	1 pc. No. 633520 size 1/4
Ratchet		1 pc. No. 632025 size 1/4	1 pc. No. 632000 size 1/4	1 pc. No. 632090 size 1/4
Storage in		ABS plastic box		

¼″ | 4-13 | Surface Drive | 5G 10G

63 0062

¼″ | 4-13

63 0066

¼″ | 4-13

63 0068

¼″ | 3.5-13 | 5G 10G

63 0162

¼″ | 3.5-13

63 0166

¼″ | 4-13

63 0168

Type		61A 63 0162 Garant	63A 63 0166 STAHLWILLE	62A 63 0168 HOLEX
		Socket set 1/4 inch square drive		
		19 pieces	19 pieces	17 pieces
6		XXX	XXX	XXX
Length	mm	257	227	257
Width	mm	147	131	149
Height	mm	45	57	47
Supplied with: Sockets single hexagon		13 pcs. No. 631029 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13	13 pcs. No. 631000 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13	12 pcs. No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
T-handle		1 pc. No. 633029 size 116	1 pc. No. 633000 size 116	1 pc. similar to No. 633029 size 116
Spinner handle		1 pc. No. 632829 size 146	1 pc. No. 632800 size 150	1 pc. No. 632840 size 150
Extensions		2 pcs. No. 632429 size 50; 150	2 pcs. No. 632400 size 50; 150	1 pc. No. 632420 size 150
Universal joint		1 pc. No. 633529 size 1/4	1 pc. No. 633500 size 1/4	1 pc. No. 633520 size 1/4
Ratchet		1 pc. No. 632025 size 1/4	1 pc. No. 632000 size 1/4	1 pc. No. 632090 size 1/4
Storage in		ABS plastic box		

3.5-13 | 3-6

QuickRelease – Ratchet, extension, universal joint, and pocket fit **securely together to form a unit.** The combination is quickly and easily released by pressing the button.

Material: Chrome alloy steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M8 and for hexagon socket head screws with thread M4 – M8.

1/4" | 3.5-13 | 3-6

63 0291

		63A 63 0291
		STAHLWILLE
		QuickRelease socket set, 1/4 inch square drive
		22 pieces
		XXX
Length	mm	227
Width	mm	131
Height	mm	57
○ **Supplied with:** Socket single hexagon		13 pcs. No. 631000 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
◉ Hexagon screwdriver bits		4 pcs. No. 631700 size 3; 4; 5; 6
QR T-handle		1 pc. No. 633050 size 116
QR spinner handle		1 pc. No. 632950 size 150
Extension QR		1 pc. No. 632545 size 150
Universal joint QR		1 pc. No. 633550 size 1/4
Ratchet QR		1 pc. No. 632355 size 1/4
Presented in		ABS plastic box

3-6

63 0262 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Material:

63 0266 – Chrome alloy steel, chrome-plated.

63 0262/0268 – Chrome vanadium steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M8 and for hexagon socket head screws with thread M4 – M8.

1/4" | 3.5-13 | 3-6 | 5G 10G

63 0262

1/4" | 3.5-13 | 3-6

63 0266

Type		61A 63 0262	63A 63 0266	62A 63 0268
		Garant	STAHLWILLE	HOLEX
		Socket set 1/4 inch square drive		
		22 pieces	22 pieces	21 pieces
6		XXX	XXX	XXX
Length	mm	257	227	257
Width	mm	147	131	149
Height	mm	45	57	47
○ **Supplied with:** Sockets single hexagon		13 pcs. No. 631029 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13	13 pcs. No. 631000 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13	12 pcs. No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
◉ Hexagon screwdriver bits		4 pcs. No. 631729 size 3; 4; 5; 6	4 pcs. No. 631700 size 3; 4; 5; 6	4 pcs. No. 631720 size 3; 4; 5; 6
T-handle		1 pc. No. 633029 size 116	1 pc. No. 633000 size 116	1 pc. similar to No. 633029 size 116
Spinner handle		1 pc. No. 632829 size 146	1 pc. No. 632800 size 150	1 pc. No. 632840 size 150
Extension		1 pc. No. 632429 size 150	1 pc. No. 632400 size 150	1 pc. No. 632420 size 150
Universal joint		1 pc. No. 633529 size 1/4	1 pc. No. 633500 size 1/4	1 pc. No. 633520 size 1/4
Ratchet		1 pc. No. 632025 size 1/4	1 pc. No. 632000 size 1/4	1 pc. No. 632090 size 1/4
Storage in			ABS plastic box	

1/4" | 4-13 | 3-6

63 0268

4-14

All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Advantage:
- Due to the low height, particularly suitable for use in restricted spaces.
- Up to 50% space saving compared to conventional products.

Application: For external hexagon screws / nuts with thread M2 – M8.

1/4" 4-14

Number of pieces	61A	63 0355
		Garant
		Low Profile socket set, 1/4 inch square
		14 pieces
14		XXX
Length	mm	127
Width	mm	85
Height	mm	47
○ **Supplied with:** Sockets single hexagon		13 pcs. size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14 mm
Ratchet		1 pc.
Storage in		ABS plastic box

63 0355

5.5-14

Advantage:
- Due to the low height, particularly suitable for use in restricted spaces.
- Up to 50% space saving compared to conventional products.

Application: For external hexagon screws / nuts with thread M3 – M8.

1/4" 5.5-14

Number of pieces	63V	63 0372
		FACOM
		Socket set, 1/4 inch square drive
		11 pieces
11		XXX
Length	mm	125
Width	mm	65
Height	mm	33
○ **Supplied with:** Hexagon sockets		10 pcs. size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14 mm
Ratchet		1 pc.
Stored in		Plastic case

63 0372

4-14 3-6

Advantage: The Z series offers sockets with **low overall height** and a reversible ratchet (36 teeth) with narrow head, which makes this range particularly suitable for **hard-to-reach places.**
The socket openings are manufactured with lower tolerances (to DIN/ISO) and thus ensure a sturdier connection between the screw and tool.

Application: For external hexagon screws / nuts with thread M2– M8 and for hexagon socket head screws with thread M4 – M8.

1/4" 4-14 3-6

Number of pieces	63R	63 0400
		Koken
		Socket set, Z-Series, 1/4 inch square drive
		26 pieces
26		XXX
Length	mm	245
Width	mm	120
Height	mm	45
○ **Supplied with:** Sockets single hexagon		12 pcs. size 4; 4.5; 5; 5.5; 6; 7; 8; 10; 11; 12; 13; 14 mm
● Hexagon screwdriver bits		4 pc. size 3; 4; 5; 6
⊕ Screwdriver bits for Phillips		3pcs. size 1; 2; 3
⊖ Screwdriver bits for slot-head		2 pcs. size 5; 6
Extensions		2 pcs. size 50, 150 mm
Hexagon socket with joint		1 pc. length 29.9 mm
Knurled disc		1 pc.
Ratchet		1 pc.
Presented in a		Plastic case

63 0400

Socket set metric/imperial, 1/4 inch

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

Application: For hexagon head screws / nuts with thread M1.6 – M8.
For hexagon head screws / nuts with thread up to 3/8 inch (American sizes).

		63A 63 0661
		Socket set 1/4 inch square drive **33 pieces metric / imperial**
		XXX
Length	mm	322
Width	mm	135
Height	mm	57
○ **Supplied with:** Socket single hexagon		15 pcs. No. 631000 size 3.2; 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14
◉ Socket single hexagon		10 pcs. No. 631100 size 3/16; 7/32; 1/4; 9/32; 5/16; 11/32; 3/8; 7/16; 1/2; 9/16
T-handle		1 pc. No. 633000 size 116
Spinner handle		1 pc. No. 632800 size 150
Extensions		2 pcs. No. 632400 size 50; 150
Flexible extension		1 pc. No. 632500 size 150
Swivel handle		1 pc.
Universal joint		1 pc. No. 633500 size 1/4
Ratchet		1 pc. No. 632000 size 1/4
Presented in		ABS plastic box

1/4" | 3.2-14 | 3/16-9/16"

63 0661

Socket set 1/4 inch

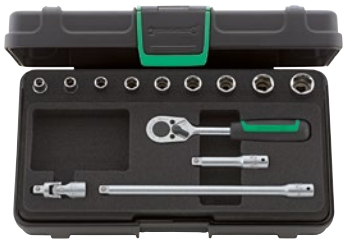
Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.**
Internal / external square drives to **DIN 3120.**

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

Application: For hexagon head screws / nuts with thread up to 3/8 inch (American sizes).

		63A 63 0561
		Socket set 1/4 inch square drive **13 pieces inch sizes**
		XXX
Length	mm	227
Width	mm	131
Height	mm	57
○ **Supplied with:** Socket single hexagon		9 pcs. No. 631100 size 3/16; 7/32; 1/4; 9/32; 5/16; 11/32; 3/8; 7/16; 1/2
Extensions		2 pcs. No. 632400 size 50; 150
Universal joint		1 pc. No. 633500 size 1/4
Ratchet		1 pc. No. 632000 size 1/4
Presented in		ABS plastic box

1/4" | 3/16-1/2"



63 0561

Bit socket set 1/4 inch

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.**
Internal / external square drives to **DIN 3120.**

Material: Chrome vanadium steel, chrome-plated.

Application:

63 0905 – For hexagon socket head screws with thread M3 – M10.
63 0910 – For internal Torx® screws with thread M2.5 – M8.
63 0920 – For Trisquare / XZN screws with thread M5 – M10.

1/4"

63 0905

63 0910

63 0920

Type		62A 63 0905	62A 63 0910	62A 63 0920
		Set of hexagon bits, 1/4 inch square drive **6 pieces**	Set of bits for Torx®, 1/4 inch square drive **9 pieces**	Set of tri-square screwdriver bits, 1/4 inch square drive **4 pieces**
1/4		XXX	XXX	XXX
◉ **Supplied with:** Bits for hexagon		6 pcs. No. 631720 size 2.5; 3; 4; 5; 6; 8	–	–
✱ Bits for Torx®		–	9 pcs. No. 631805 size TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40	–
◉ Bits for multi-tooth		–	–	4 pcs. (25 mm long) size M5; M6; M8; M10

¼″

HOLEX Clip bar for hexagon sockets 1/4 inch

Plastic bar with clips which can be slid into position.

Application: For storage and ready access to 1/4 inch sockets.

63 1900

62A	63 1900	Clip bar for 1/4 inch sockets		XXX
	overall length		mm	305
	Number of mountings			14

Socket set 1/4 inch, large

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

¼″ | 5.5-13 | 3-6

With all-steel ratchet, 15° offset, reversible

Material: Chrome vanadium steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M8 and for hexagon socket head screws with thread M4 – M8.
For Pozidriv and Phillips screws with thread M2 – M5, slot-head screws with thread M2.5, and for internal Torx® screws with thread M3 – M8.

¼″ | 5.5-13 | 3-6

63 0380

	63 0380
	HAZET
	Socket set 1/4 inch square drive
	25 pieces
	XXX
Length mm	125
Width mm	87
Height mm	38
Supplied with: Hexagon sockets	7 pcs. size 5.5; 6; 7; 8; 10; 12; 13 mm
Bits, C 6.3, for hex socket	4 pcs. size 3; 4; 5; 6 mm
Bits, C 6.3, for Phillips	2 pcs. size 1; 2
Bits, C 6.3, for Pozidriv	2 pcs. size 1; 2
Bit, C 6.3, for slot-head	1 pc. size 0.6×4.5
Bits, C 6.3 for internal TORX® with pin	6 pcs. size TX10; TX15; TX20; TX25; TX30; TX40
Bit ratchet, D 6.3	1 pc. for 1/4 inch bits, C 6.3
Adaptor, D 6.3	1 pc. for 1/4 inch bits, C 6.3
Converter	1 pc. hexagon coupling C 6.3 – square 1/4 inch
Presented in	Plastic case

¼″ | 5-13 | 3-6

Material: Chrome molybdenum steel, matt chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M8 and for hexagon socket head screws with thread M4 – M8.
For Pozidriv and Phillips screws with threads M2 – M6 and internal Torx® screws with thread M3 – M6.

Content: Size S - with reversible ratchet No. 632295. Size P - With push-through square No. 632290.

¼″ | 5-13 | 3-6

63 0295_S

63 0295_P

Type	63 0295
	Wera
	Socket set 1/4 inch square drive
	28 pieces
P	XXX
S	XXX
Length mm	204
Width mm	91
Height mm	51
Supplied with: Hexagon sockets	9x; size 5; 5.5; 6; 7; 8; 10; 11; 12; 13 mm
Bits, C 6.3, for hex socket	4 pcs. No. 675240 size 3; 4; 5; 6
Bits, C 6.3, for Phillips	3 pcs. No. 675310 size 1/25; 2/25; 3/25
Bits, C 6.3, for Pozidriv	2 pcs. No. 675320 size 1/25; 2/25
Bits, C 6.3, for internal Torx®	6 pcs. No. 675340 size TX10; TX15; TX20; TX25; TX27; TX30
Extension with quick-rotation sleeve	1x 150 mm
Wobble extension	1x 56 mm
Adapter with quick-change chuck	1 pc. square socket 1/4 inch – bit holder 1/4 inch
Reversible ratchet (size S)	1 pc. No. 632295
Push-through square ratchet (size P)	1 pc. No. 632290
Presented in	Textile wallet with hook and loop fastener

Material:

63 0366 – Chrome alloy steel, chrome-plated.
63 0368 – Chrome vanadium steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M8 and for hexagon socket head screws with thread M4 – M8. For Phillips screws with thread M2 – M6 and for slot-head screws with thread M2.5 – M5.

1/4″ | 4-13 | 3-6

Type		63A 63 0366 STAHLWILLE	62A 63 0368 HOLEX
		Socket set 1/4 inch square drive	
		30 pieces	29 pieces
6		XXX	XXX
Length	mm	322	257
Width	mm	134	149
Height	mm	57	47
Supplied with: Socket single hexagon		12 pcs. No. 631000 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13	12 pcs. No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
Hexagon screwdriver bits		4 pcs. No. 631700 size 3; 4; 5; 6	4 pcs. No. 631720 size 3; 4; 5; 6
Bits, C 6.3, for Phillips		3 pcs. No. 675310 size 1; 2; 3	3 pcs. similar to No. 675200 size 1, 2; 3
Bits, C 6.3, for slot-head		4 pcs. No. 675250 size 3.5; 4; 5.5; 8	3 pcs. similar to No. 675250 size 4, 5.5; 8
Holder for bits		1 pc. similar to No. 676800 size 4/4	1 pc. No. 676800 size 4/4
T-handle		1 pc. No. 633000 size 116	1 pc. similar to No. 633029
Spinner handle		1 pc. No. 632800 size 150	1 pc. No. 632840 size 150
Extensions		2 pcs. No. 632400 size 50; 150	1 pc. 75 mm 1 pc. No. 632420 size 150
Universal joint		1 pc. No. 633500 size 1/4	1 pc. No. 633520 size 1/4
Ratchet		1 pc. No. 632000 size 1/4	1 pc. No. 632090 size 1/4
Presented in		ABS plastic box	

63 0366

1/4″ | 4-13 | 3-6

63 0368

1/4″ | 4-14 | 3-6

TiN-coated blades for extremely high bonding strength and resistance to abrasion. With optimised corrosion protection.

Application: For external hexagon screws / nuts with thread M2 – M8 and for hexagon socket head screws with thread M4 – M8. For Pozidriv and Phillips screws with threads M2.5 – M5 and internal Torx® screws with thread M3 – M6.

1/4″ | 4-14 | 3-6

		630 63 0340 HAZET
		Socket set, TiN coated, 1/4 inch square drive
		30 pieces
		XXX
Length	mm	180
Width	mm	150
Height	mm	54
Supplied with: Socket single hexagon		12 pcs. size 4; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14 mm
Screwdriver bits hexagon TiN-coated		4 pcs. No. 631733 size 3; 4; 5; 6
Screwdriver bits for internal Torx® TiN-coated		5 pcs. size TX10; TX15; TX20; TX25; TX30
Screwdriver bits for Phillips, TiN-coated		2 pcs. size 1; 2
Screwdriver bits Pozidriv, TiN-coated		2 pcs. size 1; 2
Spinner handle		1 pc.
Extensions		2 pcs. size 55; 147 mm
Universal joint		1 pc.
Ratchet		1 pc.
Presented in		Plastic case with stand / tray for parts

63 0340

Plastic case can be used as a stand with tray for parts.

¼″ | 4-13 | 2.5-8

Material: Chrome vanadium steel, chrome-plated.
Application: For external hexagon screws / nuts with thread M2 – M8 and for hexagon socket head screws with thread M4 – M8.

¼″ | 4-13 | 2.5-8

63 0308

Type		62A 63 0308 HOLEX Socket set with long sockets and bits, 1/4 inch square drive 35 pieces
6		XXX
Length	mm	357
Width	mm	174
Height	mm	47
Supplied with: Hexagon sockets, long		12 pcs. No. 631415 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
Sockets single hexagon		12 pcs. No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
Hexagon screwdriver bits		6 pcs. No. 631720 size 2.5; 3; 4; 5; 6; 8
T-handle		1 pc. similar to No. 633029
Spin type speeder		1 pc. No. 632840 size 150
EXTENSION		1 pc. No. 632420 size 150
Universal joint		1 pc. No. 633520 size 1/4
Ratchet		1 pc. No. 632090 size 1/4
Storage in		ABS plastic box

¼″ | 5.5-14 | 3-7

Application: For external hexagon screws / nuts with thread M3 – M8 and for hexagon socket head screws with thread M4 – M8.
For Pozidriv and Phillips screws with thread M2 – M6, slot-head screws with thread M3 – M5 and for internal Torx® with thread M3 – M8.

¼″ | 5.5-14 | 3-7

63 0335

		630 63 0335 HAZET Socket set 1/4 inch square drive 35 pieces
		XXX
Length	mm	180
Width	mm	150
Height	mm	54
Supplied with: Hexagon sockets		10 pcs. size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14 mm
Bits, C 6.3, for hex socket		5 pcs. size 3; 4; 5; 6; 7 mm
Bits, C 6.3 for internal TORX® with pin		7 pcs. size TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits, C 6.3, for Phillips		3pcs. size 1; 2; 3
Bits, C 6.3, for Pozidriv		3pcs. size 1; 2; 3
Bits, C 6.3, for slot-head		3 pcs. size 4.5×0.6; 6.5×1.2; 8×1.2 mm
Holder for bits		1 pc. 1/4 inch square – 1/4 inch bit holder
Extensions		2 pcs. size 55 and 101.5 mm
Ratchet		1pc.
Presented in		Plastic case with stand/tray for parts

Plastic case can be used as a stand with tray for parts.

¼″ | 5-13 | 3-8

63 0855 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Material:

63 0855 – Chrome vanadium steel, chrome-plated.

63 0861 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

Application: For external hexagon screws / nuts with thread M2.5 – M8. For external Torx® with thread M3 – M8.
For hexagon socket head screws with thread M4 – M8. For internal Torx® with thread M2.5 – M8.

¼″ | 5-13 | 3-8 | 5G 10G

63 0855

¼″ | 5-13 | 3-8

63 0861

Type		61A 63 0855 Garant	63A 63 0861 STAHLWILLE
		Socket set 1/4 inch square drive	
		38 pieces	36 pieces
6		XXX	XXX
Length	mm	257	322
Width	mm	147	134
Height	mm	45	57
Supplied with: Sockets for external hexagon		10 pcs. No. 631029 size 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13	10 pcs. No. 631000 size 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
Sockets for external Torx®		6 pcs. similar to No. 631500 size E4; E5; E6; E7; E8; E10	6 pcs. No. 631500 size E4; E5; E6; E7; E8; E10
Bits, C 6.3, for hex socket		5x; size 3; 4; 5; 6; 8 mm	–
Screwdriver bits for hex socket		–	5 pcs. No. 631710 size 3; 4; 5; 6; 8
Bits, C 6.3, for internal Torx®		10 pcs. size TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45	–
Screwdriver bits for internal Torx®		–	9 pcs. No. 631801 size TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
T-handle		1 pc. No. 633029 size 116	1 pc. No. 633000 size 116
Spinner handle		1 pc. No. 632829 size 146	1 pc. No. 632800 size 150
Extensions		2 pcs. No. 632429 size 50; 150	2 pcs. No. 632400 size 50; 150
Universal joint		1 pc. No. 633529 size 1/4	1 pc. No. 633500 size 1/4
Ratchet		1 pc. No. 632025 size 1/4	1 pc. No. 632000 size 1/4
Adapter for bits		1x	–
Storage in		ABS plastic box	

¼″ | 5-13 | 3-8

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

Application: For external hexagon screws / nuts with thread M2.5 – M8. For external Torx® with thread M3 – M8. For hexagon socket head screws with thread M4 – M8. For internal Torx® with thread M2.5 – M8.

¼″ | 5-13 | 3-8 | NEW

63 0345

Type		63A 63 0345 STAHLWILLE
		Socket set 1/4 inch square drive
		38 pieces
38		XXX
Length	mm	227
Width	mm	131
Height	mm	57
Supplied with: Sockets for bi-hexagon		10 pcs. No. 630950 size 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
Sockets for external Torx®		6 pcs. No. 631500 size E4; E5; E6; E7; E8; E10
Screwdriver bits for Phillips		PH1; PH2
Screwdriver bits for hex socket		5 pcs. No. 631710 size 3; 4; 5; 6; 8
Screwdriver bits for internal Torx®		9 pcs. No. 631801 size TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
QR T-handle		1 pc. No. 633050 size 116
QR spinner handle		1 pc. No. 632950 size 150
Extensions QR		2 pcs. No. 632545 size 50; 150
Universal joint QR		1 pc. No. 633550 size 1/4
Ratchet QR		1 pc. No. 632355 size 1/4
Storage in		ABS plastic box

¼″ | 5.5-14 | 3-7

Application: For external hexagon screws / nuts with thread M3 – M8 and for hexagon socket head screws with thread M4 – M8.
For Pozidriv and Phillips screws with thread M2 – M6, slot-head screws with thread M3 – M5 and for internal Torx® with thread M3 – M8.

		63V 63 0370 FACOM
		Socket set 1/4 inch square drive
		38 pieces
		XXX
Length	mm	152
Width	mm	92
Height	mm	48
Supplied with: Sockets for external hexagon		10 pcs. size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14 mm
Bits, C 6.3, for hex socket		5 pcs. size 3; 4; 5; 6; 7 mm
Bits, C 6.3 for internal TORX® with pin		7 pcs. size TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits, C 6.3, for Phillips		3 pcs. size 1; 2; 3
Bits, C 6.3, for Pozidriv		3 pcs. size 1; 2; 3
Bits, C 6.3, for slot-head		3 pcs. size 4.5×0.6; 6.5×1.2; 8×1.2 mm
Holder for bits		1 pc. 1/4 inch square socket – bit holder 1/4 inch
Converter		1 pc. bit shank E 6.3 – square 1/4 inch
Spinner handle		1 pc.
Extension		2 pcs. size 55, 100 mm
Universal joint		1 pc.
Ratchet		1 pc.
Presented in		Plastic case

¼″ | 5.5-14 | 3-7

63 0370

¼″ | 5.5-14 | 3-7

Application: For external hexagon screws / nuts with thread M3 – M8 and for hexagon socket head screws with thread M4 – M8.
For Pozidriv and Phillips screws with thread M2 – M6, slot-head screws with thread M3 – M5 and for internal Torx® with thread M3 – M8.

63 0331

Number of pieces		630 63 0331 HAZET
		Socket set 1/4 inch square drive
		38 pieces
38		XXX
Length	mm	180
Width	mm	98
Height	mm	52
Supplied with: Sockets for external hexagon		10 pcs. size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14 mm
Bits, C 6.3, for hex socket		5 pcs. size 3; 4; 5; 6; 7 mm
Bits, C 6.3 for internal TORX® with pin		7 pcs. size TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits, C 6.3, for Phillips		3pcs. size 1; 2; 3
Bits, C 6.3, for Pozidriv		3pcs. size 1; 2; 3
Bits, C 6.3, for slot-head		3 pcs. size 4.5×0.6; 6.5×1.2; 8×1.2 mm
Holder for bits		1 pc. 1/4 inch square socket – bit holder 1/4 inch
Converter		1 pc. bit shank E 6.3 – square 1/4 inch
Spinner handle		1 pc.
Extensions		2 pcs. size 55, 101.5 mm
Universal joint		1 pc.
Ratchet		1 pc. No. 632389 size 1/4
Presented in		Plastic case with non-slip 2-component coating

¼″ | 4-13 | 3-8 | 5G 10G

System box of virtually indestructible ABS plastic with integral hinges and innovative, easy-to-use snap fastener.
All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Material: Chrome vanadium steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M8
and for hexagon socket head screws with thread M4 – M10.
For Pozidriv and Phillips screws with thread M2 – M6, slot-head screws with thread M2 – M4
and for internal Torx® screws with thread M2.5 – M8.

Type		61A 63 0299 Garant
		Socket set 1/4 inch square drive
		39 pieces
6		XXX
Length	mm	257
Width	mm	147
Height	mm	45
Supplied with: Sockets single hexagon		12 pcs. No. 631029 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13
Bits, C 6.3, for hex socket		5 pcs. similar to No. 675240 size 3; 4; 5; 6; 8
Bits, C 6.3, for Phillips		3 pcs. similar to No. 675310 size 1, 2; 3
Bit, C 6.3, for Pozidriv		1 pc. similar to No. 675320 size 2
Bits, C 6.3, for slot-head		4 pcs. similar to No. 675250 size 3; 4; 5.5; 6.5
Bits, C 6.3, for internal Torx®		8 pcs. similar to No. 675340 size TX8; TX9; TX10; TX15; TX20; TX25; TX30; TX40
Holder for bits		1 pc. similar to No. 676800 size 4/4
Spinner handle		1 pc. No. 632829 size 146
Extensions		2 pcs. No. 632429 size 50; 100
Universal joint		1 pc. No. 633529 size 1/4
Ratchet		1 pc. No. 632025 size 1/4
Storage in		ABS plastic box

¼″ | 4-13 | 3-8 | 5G 10G

63 0299

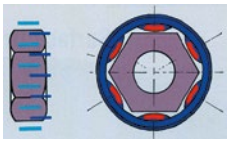
¼″ | 3-6

63 0325 – The Surface Drive profile works directly on the faces of the nuts and bolts; weaker corners are protected. Even intermediate sizes (e.g. inch size bolts) and worn bolt heads can be tightened or released using the Surface Drive profile. The Wobble-Fix extensions allow use at an angle and can be secured by clicking into place.
All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Material: Chrome vanadium steel, chrome-plated.

Application: For external hexagon screws / nuts with thread M2 – M8 and for hexagon socket head screws with thread M4 – M10.
For Pozidriv and Phillips screws with thread M2 – M6, slot-head screws with thread M2 – M4
and for internal Torx® screws with thread M2.5 – M8.

inches



mm

Type		61A 63 0325 Garant	62A 63 0329 HOLEX
		Socket set 1/4 inch square drive	
		41 pieces	42 pieces
SD		XXX	–
6		–	XXX
Length	mm	257	357
Width	mm	147	174
Height	mm	45	47
Supplied with: Surface Drive hexagon sockets		13 pcs. No. 631225 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14	–
Sockets single hexagon		–	13 pcs. No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14
Bits, C 6.3, for hex socket		4 pcs. similar to No. 675240 size 3; 4; 5; 6	
Bits, C 6.3, for Phillips		3 pcs. similar to No. 675310 size 1/25; 2/25; 3/25	
Bits, C 6.3, for Pozidriv		3 pcs. similar to No. 675320 size 1/25; 2/25; 3/25	
Bits, C 6.3, for slot-head		3 pcs. similar to No. 675250 size 3.5×0.6; 5.5×0.8; 8×1.2	
Bits, C 6.3, for internal Torx®		6 pcs. similar to No. 675340 size TX10; TX15; TX20; TX25; TX30; TX40	7 pcs. similar to No. 675340 size TX8; TX10; TX15; TX20; TX25; TX30; TX40
T-handle		1 pc. No. 633029 size 116	1 pc. similar to No. 633029 size 116
Spin type speeder		1 pc. No. 632829 size 146	1 pc. No. 632840 size 150
Extensions		–	2 pcs. No. 632420 size 50; 100
Extensions "Wobble-Fix"		2 pcs. 632519 size 50; 100	–
Universal joint		1 pc. No. 633529 size 1/4	1 pc. No. 633520 size 1/4
Ratchet		1 pc. No. 632025 size 1/4 with ejector	1 pc. No. 632090 size 1/4 with ejector
Adaptor E 6.3		1 pc. similar to No. 675020 size 6.3K for 1/4 inch bits C 6.3	
Converter		1 pc. similar to No. 650005 size 2, bit shank E 6.3 – square 1/4 inch	1 pc. No. 650005 size 2, bit shank E 6.3 – square 1/4 inch
Bit adapter		1 pc. similar to No. 676800, 1/4 inch square socket – bit holder 1/4 inch	1 pc. No. 676800, 1/4 inch square – bit holder 1/4 inch
Presented in		ABS plastic box	

¼″ | 4-14 | 3-6 | Surface Drive | 5G 10G

63 0325

¼″ | 4-14 | 3-6

63 0329

¼″ | 4-14 | 2-8

42-piece ratchet set in a sturdy textile box. Freely pivoted ratchet head with 5 defined fixings. Torx®, Hex-Plus and external hexagon sockets for nuts and bolts.

Number of pieces		42
63F 63 0297	Wera Socket set Zyklop-Speed 1/4 inch **with retainer function**	XXX
Supplied with: Hexagon sockets		13 pcs. size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14 mm
Hexagon screwdriver bits		8 pcs. size 2; 2.5; 3; 4; 5; 6; 7; 8 mm
Screwdriver bits for Phillips		3pcs. size 1; 2; 3
Screwdriver bits Pozidriv		3pcs. size 1; 2; 3
Screwdriver bits, slot-head		2 pcs. size 0.8×5.5; 1.2×6.5 mm
Screwdriver bits for internal Torx®		9 pcs. size TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Wobbel extension		1 pc. size 56 mm
"flexible-lock" extension		1 pc. size 150 mm
Zyklop Speed ratchet		1 pc. No. 632390
Masonry tool		1 pc. size 14 mm
Presented in		Textile wallet with hook and loop fastener

¼″ | 4-14 | 2-8

TAKE IT EASY TOOL FINDER

63 0297

¼″

Hexagon socket, 1/4 inch, short

Forged from high quality steel, internally bevelled for easy fitting to bolt heads. Square drive socket with bore to DIN 3120-D 6.3.

63

Hexagon socket

63 1000 – Optimum grain orientation due to special forging process. Close tolerance width across flats. No rounding of bolt corners, nuts and bolt heads are protected. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Rounded surface with **AS Drive** profile.

63 1029 – Close tolerance jaw sizes with **HT drive** profile protect corners of nuts and bolt heads. Thin walls for access to restricted places.

Standard: **DIN 3124-S**

Material:

63 1000 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

63 1020/1029 – Chrome vanadium steel, chrome-plated.

Note:

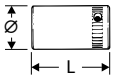
63 1020/1029 – GARANT and HOLEX bi-hex sockets are available also in imperial sizes from our eShop (GARANT: No. 631032; HOLEX: No. 631022).

HT drive profile

63 1029

AS Drive profile

63 1000



63 1020

Width across flats		mm	3,5	4	4,5	5	5,5	6	7	8	9	10	11	12	13	14
61A 63 1029	Garant		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 63 1000	Stahlwille	Hexagon socket 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 63 1020	Holex		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (63 1029)		mm	6.2	6.8	7.4	8.1	8.7	9.3	10.8	11.9	13.4	14.5	15.9	16.9	18	19.6
Ø drive output end (63 1000)		mm	6	6.7	7.3	7.9	8.5	9.2	10.7	11.6	12.8	14.3	15.5	16.5	17.8	18.8
Ø drive output end (63 1020)		mm	6.2	6.8	7.3	7.9	8.5	9.2	10.5	11.7	13.2	14.4	15.8	16.8	18	19.6
Length (63 1029, 63 1020)		mm	25													
Length (63 1000)		mm	23	23	23	23	23	23	23	23	23	23	23	23	23	24

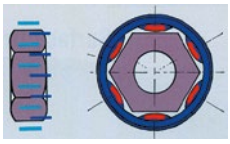
Hexagon Surface Drive socket

Surface Drive

The Surface Drive socket allows a tighter fit and a higher effectiveness. The pressure works directly on the faces of the nuts and bolts; weaker corners are protected. Intermediate sizes e.g. in inch (A/F, BSF, BSW) and rounded heads can be tightened or loosened using the Surface Drive. Sockets with hole.

Material: Chrome vanadium steel, chrome-plated.

inches



mm

63 1225

Width across flats		mm	4	4,5	5	5,5	6	7	8	9	10	11	12	13	14
61A 63 1225	Garant	Hexagon socket 1/4 inch **Surface Drive**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
suitable for inches (American sizes)		inch	5/32	–	3/16	13/64	15/64; 7/32	17/64	5/16	–	3/8	13/32; 7/16	15/32	1/2	17/32
Ø drive output end		mm	6.8	7.4	8.1	8.7	9.3	10.8	11.9	13.3	14.5	15.9	16.9	18	19.6
Length		mm	24.8												

Hexagon socket with universal joint

Material: Chrome vanadium steel, chrome-plated.

Width across flats		mm	8	10	13
○ 63R 63 1270	Koken	Hexagon socket with universal joint, 1/4 inch	XXX	XXX	XXX
Ø drive output end		mm	11.7	14.2	18
Length		mm	34	35	37

63 1270

Bi-hexagon socket

63 0929 – Close tolerance jaw sizes with **HT drive** profile protect corners of nuts and bolt heads. Thin walls for access to restricted places.

63 0950 – Optimum grain orientation due to special forging process. Close tolerance width across flats. No rounding of bolt corners, nuts and bolt heads are protected. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Rounded surface with **AS Drive** profile.

Standard: **DIN 3124**

Material:

63 0929 – Chrome vanadium steel, chrome-plated.

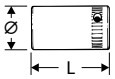
63 0950 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

Note:

63 0929 – GARANT and HOLEX bi-hex sockets are available also in imperial sizes from our eShop (GARANT: No. 630932; HOLEX: No. 630962).

HT drive profile

63 0929



AS Drive profile

63 0950

Width across flats		mm	5	5,5	6	7	8	9	10	11	12	13	14
○ 61A 63 0929	Garant	Bi-hexagon socket, 1/4 inch	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○ 63A 63 0950	STAHLWILLE		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (63 0929)		mm	–	–	9.3	10.8	11.9	13.4	14.5	15.9	16.9	18	19.6
Ø drive output end (63 0950)		mm	7.9	8.5	9.2	10.7	11.6	12.8	14.3	15.5	16.5	17.8	18.8
Length (63 0929)		mm	–	–	25	25	25	25	25	25	25	25	25
Length (63 0950)		mm	23	23	23	23	23	23	23	23	23	23	24

Bi-hexagon socket, inch sizes (American inch sizes)

Optimum grain orientation due to special forging process. Close tolerance width across flats. No rounding of bolt corners, nuts and bolt heads are protected. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Rounded surface with **AS Drive** profile.

Material: HPQ® high performance steel, non-flaking chrome-plated over nickel.

AS Drive profile

63 1105

Width across flats		inches	3/16	7/32	1/4	9/32	5/16	11/32	3/8	7/16	1/2	9/16
○ 63A 63 1105	STAHLWILLE	Bi-hexagon socket, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	7.6	8.6	9.4	10.7	11.6	12.7	13.7	15.8	17.3	18.8
Length		mm	23	23	23	23	23	23	23	23	23	24

Socket for Torx® screws

Material:

63 1500 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

63 1515 – Chrome vanadium steel, chrome-plated.

Torx® profile			E4	E5	E6	E7	E8	E10
✪ 63A 63 1500	STAHLWILLE	Socket, 1/4 inch for Torx®	XXX	XXX	XXX	XXX	XXX	XXX
✪ 62A 63 1515	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX
A		mm	3.8	4.7	5.7	6.2	7.5	9.4
Ø drive output end (63 1500)		mm	5.6	6.7	8	9.6	10.5	12.7
Ø drive output end (63 1515)		mm	5.4	6.7	7.7	8.3	9.6	11.3
Length (63 1500)		mm	23					
Length (63 1515)		mm	25					

63 1500

63 1515

¼″

Hexagon socket, 1/4 inch, long

Forged from high quality steel, internally bevelled for easy fitting to bolt heads. Square drive socket with bore to DIN 3120-D 6.3.

Standard: **DIN 3124-L**

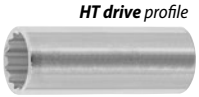
Bi-hexagon socket, deep

Close tolerance jaw sizes with **HT drive** profile protect corners of nuts and bolt heads. Thin walls for access to restricted places.

Material: Chrome vanadium steel, chrome-plated.

Note: GARANT and HOLEX bi-hex sockets, long, are available also in imperial sizes from our eShop (GARANT: No. 631442; HOLEX: No. 631452).

HT drive profile


63 1439

Width across flats		mm	6	7	8	9	10	12	13
○ 61A 63 1439	Garant	Bi-hexagon socket, 1/4 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	9.3	10.8	11.9	13.4	14.5	16.9	18
Length		mm	50						

Hexagon socket, deep

63 1400 – Optimum grain orientation due to special forging process. Close tolerance width across flats. No rounding of bolt corners, nuts and bolt heads are protected. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Rounded surface with **AS Drive** profile.

Material:

63 1400 – HPQ® high performance steel, non-flaking chrome-plated over nickel.
63 1415 – Chrome vanadium steel, chrome-plated.

Note:
63 1415 – HOLEX Bi-hex sockets, long, also in imperial sizes are available from our eShop (No. 631417).

AS drive profile

63 1400

63 1415

Width across flats		mm	5	5,5	6	7	8	9	10	11	12	13
○ 63A 63 1400	STAHLWILLE	Hexagon socket 1/4 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○ 62A 63 1415	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (63 1400)		mm	7.9	8.5	9.2	10.7	11.6	12.8	14.3	15.5	16.5	17.8
Ø drive output end (63 1415)		mm	8.1	8.7	9.3	10.8	11.9	13.4	14.5	15.9	16.9	18
Length		mm	50									

¼″

Bit, 1/4 inch, short

Forged from high quality steel, internally bevelled for easy fitting to bolt heads. Square drive socket with bore to DIN 3120-D 6.3.

63 1709_4

Hexagon bit for socket head screws

63 1720 – Bit made of hard toughened steel, bright finish.

Standard: **DIN 7422**

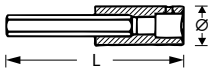
Material:

63 1709 – Chrome vanadium steel, satin chromium plated.
63 1710 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
63 1720 – Chrome vanadium steel, chrome-plated.

Note:
63 1720 – HOLEX hexagon bits also in imperial sizes are available from our eShop (No. 631722).

63 1710

63 1720



Hexagon		mm	2,5	3	4	5	6	8
◉ 61A 63 1709	Garant	Hexagon screwdriver bit 1/4 inch **short**	XXX	XXX	XXX	XXX	XXX	XXX
◉ 63A 63 1710	STAHLWILLE		–	XXX	XXX	XXX	XXX	XXX
◉ 62A 63 1720	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end (63 1709)		mm	12.5					
Ø drive end (63 1710)		mm	–	11.6	11.6	11.6	11.6	11.6
Ø drive end (63 1720)		mm	13					
Length (63 1709, 63 1720)		mm	36					
Length (63 1710)		mm	–	28	28	28	28	28

Hexagon bit, TiN coated, for socket head screws

TiN-coated blades for extremely high bonding strength and resistance to abrasion. With optimised corrosion protection.

Standard: **DIN 7422**
Material: Chrome vanadium steel, TiN coated.
Application: Ideally suited to sustained loads such as series screw fastenings.

63 1733

Hexagon		mm	2,5	3	4	5	6	8
◉ 630 63 1733	HAZET	Hexagon bit TiN coated,1/4 inch **short**	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end		mm	12					
Length		mm	28					

Bit for slot-head screws

Material:

63 1609 – Chrome vanadium steel, satin chromium plated.
63 1615 – Chrome vanadium steel, chrome-plated.

63 1609_4

63 1615

Blade width		mm	3,5	4	5,5	8
⊖ 61A 63 1609	Garant	Bit for slot-head, 1/4 inch	XXX	XXX	XXX	XXX
⊖ 62A 63 1615	HOLEX		XXX	XXX	XXX	XXX
Ø drive end (63 1609)		mm	12.5			
Ø drive end (63 1615)		mm	11			
Length (63 1609)		mm	36			
Length (63 1615)		mm	25			
Blade thickness		mm	0.6	0.8	1	1.2

Bit for cross-head screws (Phillips, Pozidriv)

Material: Chrome vanadium steel, chrome-plated.

Cross-head size			1	2	3	4
62A 63 1625	HOLEX	Screwdriver bit for Phillips, 1/4 inch	XXX	XXX	XXX	XXX
62A 63 1630	HOLEX	Pozidriv screwdriver bit, 1/4 inch	XXX	XXX	XXX	XXX
for screw ∅	mm		2.1 – 3	3.1 – 5.2	5.3 – 7.2	7.3 – 12.7
∅ drive end	mm		11			
Length	mm		25			

63 1625

63 1630

Bit for Torx® screws

Material:

63 1801 – Chrome alloy steel, chrome-plated.
63 1805 – Chrome vanadium steel, chrome-plated.
63 1809 – Chrome vanadium steel, satin chromium plated.

63 1809_TX25

63 1801

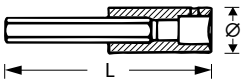
63 1805

Torx® profile			TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
61A 63 1809	Garant	Torx® screwdriver bit, 1/4 inch **short**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 63 1801	STAHLWILLE		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 63 1805	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A	mm		2.3	2.5	2.7	3.3	3.8	4.4	5	5.5	6.6
∅ drive end (63 1809)	mm		12.5								
∅ drive end (63 1801)	mm		11.6								
∅ drive end (63 1805)	mm		11								
Length (63 1809)	mm		36								
Length (63 1801)	mm		28								
Length (63 1805)	mm		25								

¼″

Bit, 1/4 inch, long

Forged from high quality steel, internally bevelled for easy fitting to bolt heads. Square drive socket with bore to DIN 3120-D 6.3.



Hexagon bit, long, for socket head screws

Bit made of hard toughened steel, bright finish.

Standard: **DIN 7422**

Material:

63 1700 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
63 1715/1729 – Chrome vanadium steel, chrome-plated.

63 1729

63 1700

63 1715

Hexagon	mm		2,5	3	4	5	6
61A 63 1729	Garant	Hexagon screwdriver bit 1/4 inch **long**	XXX	XXX	XXX	XXX	XXX
63A 63 1700	STAHLWILLE		–	XXX	XXX	XXX	XXX
62A 63 1715	HOLEX		XXX	XXX	XXX	XXX	XXX
∅ drive end (63 1729, 63 1715)	mm		12				
∅ drive end (63 1700)	mm		–	10.7	10.7	10.7	11.6
Length	mm		55				

Hexagon bit with ball point, long, for socket head screws

Material:

63 1739 – Chrome vanadium steel, satin chromium plated.
63 1745 – Chrome vanadium steel, chrome-plated.

63 1739_3

63 1745

Hexagon	mm		3	4	5	6
61A 63 1739	Garant	Hexagon screwdriver bit 1/4 inch, with ball point **long**	XXX	XXX	XXX	XXX
62A 63 1745	HOLEX		XXX	XXX	XXX	XXX
∅ drive end (63 1739)	mm		12.5			
∅ drive end (63 1745)	mm		12			
Length	mm		100			

Bit, long, for Torx® screws

Material: Chrome vanadium steel, chrome-plated.

63 1780

Torx® profile			TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
62A 63 1780	HOLEX	Torx® screwdriver bit, 1/4 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A	mm		2.3	2.5	2.7	3.2	3.8	4.4	5	5.5	6.6
∅ drive end	mm		12								
Length	mm		100								

¼″

Drive part 1/4 inch

Material selection and special forging method guarantee optimal functioning and long life.
Standard: External square drives to **DIN 3120-A 6.3** with spring ball, square socket drives to **DIN 3120.**
Suitable for: Manual use.

Ratchet reversible

With reversing lever for right-hand and left-hand threads.
Standard: **DIN 3122-D 6.3**
Material:
63 2000 – Chrome alloy steel, chrome-plated.
63 2025–2090 – Chrome vanadium steel, chrome-plated.

Type			1/4	overall length mm	No. of teeth
61A 63 2025	Garant	Reversible ratchet, 1/4 inch with ejector	XXX	115	36
63A 63 2000	Stahlwille	Reversible ratchet, 1/4 inch	XXX	117	22
63R 63 2050	Koken	Reversible ratchet, 1/4 inch with ejector	XXX	115	20
63O 63 2060	Hazet	Reversible ratchet, 1/4 inch	XXX	115	20
62A 63 2090	Holex	Reversible ratchet, 1/4 inch with ejector	XXX	125	36

63 2025

63 2000

63 2050

63 2060

63 2090

Reversible flexi-head ratchet with ejector

With reversing lever for right-hand and left-hand threads.
Material: Chrome vanadium steel, chrome-plated.

				overall length mm	No. of teeth
63R 63 2335	Koken	Flexi-head ratchet, 1/4 inch with ejector	XXX	161	20

63 2335

All-steel ratchet, reversible 15° offset

With reversing lever for right-hand and left-hand threads.
Sturdy all-steel ratchet in short slim design Particularly suitable for use in restricted spaces.
With ergonomic finger supports at the end of the handle. 15° offset.
Material: Chrome vanadium steel, chrome-plated.

				overall length mm	No. of teeth
63O 63 2065	Hazet	Reversible ratchet, 1/4 inch, 15° offset	XXX	89	20

63 2065

Precision ratchet push-through, with ejector

With captive push-through square for reversible right and left-hand action. With ejector.
Material: Chrome molybdenum steel, matt chrome-plated.

				overall length mm	No. of teeth
63F 63 2290	Wera	Precision ratchet "Zyklop Metal" push-through square drive, 1/4 inch with ejector	XXX	141	76

63 2290

Precision reversible ratchet, with ejector

With reversing lever for right-hand and left-hand threads. With ejector.
Material: Chrome molybdenum steel, matt chrome-plated.

				overall length mm	No. of teeth
63F 63 2295	Wera	Precision ratchet "Zyklop Metal" reversible, 1/4 inch with ejector	XXX	141	72

63 2295

Precision reversible ratchet, with knurl

With reversing lever for right-hand and left-hand threads.
The knurl permits quick screwdriving in restricted situations where there is no room for a ratchet.
Material: Chrome molybdenum steel, matt chrome-plated.

Type			1/4	overall length mm	No. of teeth
63F 63 2298	Wera	Precision ratchet "Zyklop Mini 3" reversible, 1/4 inch	XXX	87	60

63 2298

Reversible precision ratchet

63 2350 – With reversing lever for right-hand and left-hand threads.
63 2355 – With reversing lever for right-hand and left-hand threads.
63 2365 – With innovative converter control, positioned directly on the handle.
63 2389 – With reversing lever for right-hand and left-hand threads, working arc 4°.

Material:
63 2365 – Chromium vanadium steel, polished version.
63 2389 – Chrome vanadium steel, chrome-plated.
63 2350/2355 – Chrome alloy steel, chrome-plated.

63 2350

QuickRelease 63 2355

63 2365

New type of change-over mechanism on the handle, ideal for one-handed use.

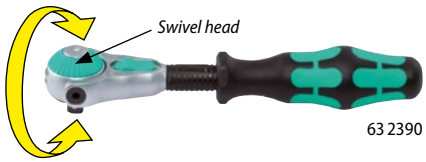
Type			1/4	overall length mm	No. of teeth
63A 63 2350		Reversible precision ratchet, 1/4 inch	XXX	118	60
63A 63 2355	STAHLWILLE	Reversible precision ratchet, 1/4 inch with ejector **QuickRelease**	XXX	117	80
63V 63 2365	FACOM	Reversible precision ratchet, 1/4 inch	XXX	120	80
63O 63 2389	HAZET		XXX	116	90

Double load capacity (static and dynamic compared to DIN)

63 2389

Precision reversible ratchet, with swivel head

With ejector and reversing disc for right-hand and left-hand rotation.
Ratchet head can be swivelled with defined engagement positions at 0° (use like a screwdriver) and 75° and 90° positions to either side. Working angle 5°.

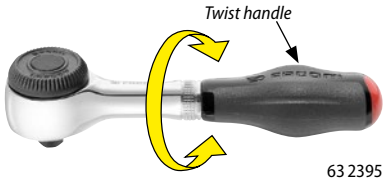


63 2390

				overall length mm	No. of teeth
63F 63 2390	Wera	Precision ratchet "Zyklop Speed" reversible, 1/4 inch with swivel head and ejector	XXX	152	72

Precision ratchet, with swivel handle

With ejector and reversing disc for right-hand and left-hand rotation.
For conventional use 6° working arc, for use with the twist handle 0° working angle.
Material: Chrome vanadium steel, chrome-plated.



63 2395

				overall length mm	No. of teeth
63V 63 2395	FACOM	Reversible precision ratchet, 1/4 inch with twist handle and ejector	XXX	120	60

Tommy-bar with ratchet function

With reversing lever for right-hand and left-hand threads.
With ejector.
Advantage: Quick, sensitive, and powerful working.

63 2382

				overall length mm	No. of teeth
63O 63 2382	HAZET	Tommy-bar with ratchet, 1/4 inch	XXX	100	20

Push-through ratchet with short handle, non-slip

Application: Ideal for working in restricted places. **Working arc 0°.**
With captive push-through square for reversible right and left-hand action.

63 2600

				overall length mm
62A 63 2600	HOLEX	Push-through ratchet with short handle, 1/4 inch	XXX	77

Spinner handle

With impact-resistant plastic handle.

Standard: **DIN 3122-E 6,3**

Material:

63 2800/2950 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

63 2829/2840 – Chrome vanadium steel, chrome-plated.

Application:

63 2900 – Only for right-hand use up to maximum 5 Nm.

63 2950 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.

63 2829

63 2800

63 2840

Flexible due to spring shaft.

63 2900

overall length		mm	146	150	240
61A 63 2829	Garant	Spinner handle, 1/4 inch	XXX	–	–
63A 63 2800	STAHLWILLE		–	XXX	–
62A 63 2840	HOLEX		–	XXX	–
63A 63 2900	STAHLWILLE	Spinner handle, 1/4 inch **Flexible shaft**	–	–	XXX
63A 63 2950		Spinner handle, 1/4 inch **QuickRelease**	–	XXX	–

QuickRelease

63 2950

Spinner handle with ratchet action, reversible

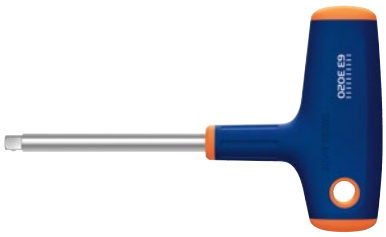
Reversible for right and left hand use with integral centre setting (ratchet locked).
24 teeth, 15° working arc.

63 2980

63D 63 2980	PB SWISS TOOLS	Spinner handle, 1/4 inch **Ratchet reversible**	XXX
overall length		mm	158

T-handle

Ergonomically shaped T-handle with easy-grip **Haptoprene®** surface and an impact-resistant plastic core. Blade of chrome vanadium special alloy. Surface nickel-plated and chrome-plated.



63 3020

				overall length mm
61A 63 3020	Garant	Haptoprene® T-handle, 1/4 inch	XXX	160

T-handle with movable sliding head

With movable sliding head.

Standard: **DIN 3122-A 6.3**

Material:

63 3029 – Chrome vanadium steel, chrome-plated.

63 3000/3050 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

Application:

63 3050 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.

63 3029

63 3000

overall length		mm	116
61A 63 3029	Garant	T-handle, 1/4 inch	XXX
63A 63 3000			XXX
63A 63 3050	STAHLWILLE	T-handle, 1/4 inch **QuickRelease**	XXX

QuickRelease

63 3050

1/4″

Adaptor, 1/4 inch

Material selection and special forging process guarantee optimal external square drives to DIN 3120 A 6.3 with sprung ball, internal square drives to DIN 3120.

Extension

Standard:
63 2400–2545 – **DIN 3123-B 6.3**
Material:
63 2549 – Drive input and output parts of chrome vanadium steel.
63 2555 – Drive input and output parts of heat treatable steel, Cr-Ni surface.
63 2400/2545 – Chrome alloy steel, chrome-plated.
63 2420/2429 – Chrome vanadium steel, chrome-plated.
Application:
63 2545 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.
63 2549/2555 – Only for right-hand use up to maximum 5 Nm.

63 2429

63 2400

63 2420

QuickRelease 63 2545

63 2549
Flexible due to spring shaft.

63 2555

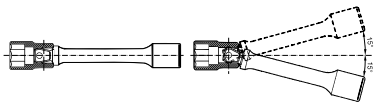
overall length			mm	50	100	150	254	355
61A 63 2429	Garant	Extension, 1/4 inch		XXX	XXX	XXX	–	–
63A 63 2400	STAHLWILLE			XXX	XXX	XXX	XXX	–
62A 63 2420	HOLEX			XXX	XXX	XXX	–	–
63A 63 2545	STAHLWILLE	Extension, 1/4 inch **QuickRelease**		XXX	–	XXX	–	XXX
61A 63 2549	Garant	Extension, 1/4 inch **flexible**		–	–	XXX	–	–
63A 63 2555	STAHLWILLE			–	–	XXX	–	–

"Wobble-Fix" extensions

Two-stage extension. The wobble type extension clicks into place and allows up to 15° of movement.
Standard: **DIN 3123-B 6.3**
Material: Chrome vanadium steel, chrome-plated.

63 2519

63 2525



overall length			mm	50	100
61A 63 2519	Garant	Extension, 1/4 inch **"Wobble-Fix"**		XXX	XXX
63R 63 2525	Koken			XXX	XXX

Universal joint

Standard: **DIN 3123-C 6,3**
Material:
63 3500/3550 – Chrome alloy steel, chrome-plated.
63 3520/3529 – Chrome vanadium steel, chrome-plated.
Application:
63 3550 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.

63 3529

63 3500

63 3520

QuickRelease 63 3550

Type			1/4	overall length mm
61A 63 3529	Garant	Universal joint 1/4 inch	XXX	36
63A 63 3500	STAHLWILLE		XXX	37
62A 63 3520	HOLEX		XXX	38
63A 63 3550	STAHLWILLE	Universal joint 1/4 inch **QuickRelease**	XXX	45

3/8″

Socket set, 3/8 inch, small

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

For external hexagon and bi-hex

3/8″ | 8-19 | 5G 10G

63 3812 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**
63 3812 Size 6 – With hexagon sockets No. 637229.
Size 12 – With bi-hexagon sockets No. 637029.
63 3816 Size 6 – With hexagon sockets No. 637200.
Size 12 – With bi-hexagon sockets No. 637000.

Material:
63 3812 – Chrome vanadium steel, chrome-plated.
63 3816 – Chrome alloy steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M12.

63 3812_6

Type		61A 63 3812 Garant	63A 63 3816 STAHLWILLE
		Socket set 3/8 inch square drive **15 pieces**	
○ 6		XXX	XXX
○ 12		XXX	XXX
Length	mm	257	322
Width	mm	147	134
Height	mm	45	57
Supplied with: Sockets		11 pcs. size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19 mm	11 pcs. size 8; 10; 11; 12; 13; 14;15; 16; 17; 18; 19 mm
Extensions		2 pcs. No. 635429 size 75; 240	2 pcs. No. 63 5400 size 75; 240 mm
Universal joint		1 pc. No. 636229	1 pc. No. 636200
Ratchet		1 pc. No. 635025	1 pc. No. 635000
Storage in		ABS plastic box	

3/8″ | 8-19

63 3816_6

3/8″ | 8-22 | 6G 14G

63 3912 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**
63 3912 Size 6 – With hexagon sockets No. 637229.
Size 12 – With bi-hexagon sockets No. 637029.
63 3916 Size 6 – With hexagon sockets No. 637200.
Size 12 – With bi-hexagon sockets No. 637000.
63 3918 Size 6 – With hexagon sockets No. 637220.
Size 12 – With bi-hexagon sockets.

Material:
63 3916 – Chrome alloy steel, chrome-plated.
63 3912/3918 – Chrome vanadium steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M14.

63 3912_6

3/8″ | 8-22

63 3916_6

Type		61A 63 3912 Garant	63A 63 3916 STAHLWILLE	62A 63 3918 HOLEX
		Socket set 3/8 inch square drive **19 pieces**		
○ 6		XXX	XXX	XXX
○ 12		XXX	XXX	XXX
Length	mm	357	322	357
Width	mm	176	134	174
Height	mm	45	57	47
Supplied with: Sockets		14 pcs. size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22 mm		
T-handle		1 pc. No. 635729	1 pc. No. 635700	1 pc. No. 635720
Extensions		2 pcs. No. 635429 size 75; 240	2 pcs. No. 63 5400 size 75; 240 mm	2 pcs. No. 635420 size 75; 240
Universal joint		1 pc. No. 636229	1 pc. No. 636200	1 pc. No. 636220
Ratchet		1 pc. No. 635025	1 pc. No. 635000	1 pc. No. 635090
Storage in		ABS plastic box		

3/8″ | 8-22

63 3918_6

QuickRelease set in unbreakable ABS plastic box with foam inlay. Ratchet, extension, universal joint, and socket fit **securely together to form a unit.** The combination is quickly and easily released by pressing the button.

Material: Chrome alloy steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M14.

		63A 63 3991
		STAHLWILLE QuickRelease socket set, 3/8 inch square drive **19 pieces**
○		XXX
Length	mm	322
Width	mm	134
Height	mm	57
Supplied with: Bi-hexagon sockets		14 pcs. No. 637000 size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22
QR T-handle		1 pc. No. 635750
Extensions QR		2 pcs. No. 635645 size 75; 240
Universal joint QR		1 pc. No. 636250
Ratchet QR		1 pc. No. 635155
Presented in		ABS plastic box

3/8″ | 8-22

QuickRelease 63 3991

Wera Socket set 3/8 inch, small, VDE insulated

Socket set **fully insulated up to 1000 V** to **DIN EN 60900 / VDE 0682-201.**

Material: Chrome molybdenum steel, matt chrome-plated.

Application: For hexagon head screws / nuts with thread M3.5 – M12.

Type		63F 63 3995
		Socket set, 3/8 inch square drive, VDE insulated **17 pieces**
○ 6		XXX
Length	mm	300
Width	mm	180
Height	mm	60
Supplied with: VDE insulated hexagon sockets		14 pcs. size 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19 mm
VDE insulated extensions		91 mm and 166 mm
VDE insulated ratchet		1 piece
Stored in		Textile wallet with hook and loop fastener

3/8″ | 6-19 | DVE | GS

63 3995

Wera Bit socket set 3/8 inch, short, VDE insulated

Bit socket set **fully insulated up to 1000 V** to **DIN EN 60900 / VDE 0682-201.**
Arranged on a sturdy textile belt for attachment to e.g. a wall, shelf, tool trolley or Wera 2go tool transport system by means of enclosed hook and loop strip.

Material: Chrome molybdenum steel, matt chrome-plated.

Application: For hexagon socket head screws M2 – M5.
For internal Torx® screws M4 – M8.

Number of pieces		63F 63 3996
		Bit socket set 3/8 inch square VDE-insulated **10 pieces**
10		XXX
Length	mm	230
Width	mm	85
Height	mm	80
● **Supplied with:** Hexagon screwdriver bits, insulated to VDE		4 pcs. size 4; 5; 6; 8 mm
✱ Screwdriver bits for Torx®, insulated to VDE		6 pcs. size TX20; TX25; TX27; TX30; TX40; TX45
Storage in		Textile belt

3/8″ | DVE | GS

63 3996

Hex-Plus

3/8″

Socket set with spark plug socket, 3/8 inch

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.** The Surface Drive profile works directly on the faces of the nuts and bolts; weaker corners are protected. Even intermediate sizes (e.g. inch size bolts) and worn bolt heads can be tightened or released using the Surface Drive profile. The Wobble-Fix extensions allow use at an angle and can be secured by clicking into place.

Material: Chrome vanadium steel, chrome-plated.

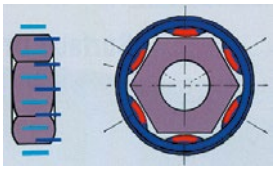
Application: For hexagon head screws / nuts with thread M5 – M14 and 1/4 – 1/2 inch (American inch sizes), for spark plugs 16 and 20.8 mm and for hexagon socket head screws with thread M5 – M12.

Type		61A 63 4025
		Garant
		Socket set 3/8 inch square drive, 30 pieces
SD		XXX
Length	mm	357
Width	mm	176
Height	mm	45
○ **Supplied with:** Surface Drive hexagon sockets		14 pcs. No. 637125 size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22
◉ Spark plug sockets		2 pcs. No. 637329 size 16; 20.8
◌ Screwdriver bits hexagon		5 pcs. No. 637629 size 4; 5; 6; 8; 10
✱ Screwdriver bits for Torx®		3 pcs. similar to No. 637560 size TX25; TX30; TX40
T-handle		1 pc. No. 635729
Extensions "Wobble-Fix"		2 pcs. similar to No. 635635 size 75; 240
Universal joint		1 pc. No. 636229
Ratchet		1 pc. No. 635025
Converter		1 pc. similar to No. 650000 size 3 drive input hexagon 1/4 inch E 6.3 - drive output square 3/8 inch
Presented in		ABS plastic box

8-22 | 4-10 | 3/8″ | Surface Drive | 6G 14G

63 4025

inches



mm

63 4312 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Size 6 – With hexagon sockets No. 637229.

Size 12 – With bi-hexagon sockets No. 637029.

63 4316 Size 6 – With hexagon sockets No. 637200.

Size 12 – With bi-hexagon sockets No. 637000.

63 4318 Size 6 – With hexagon sockets No. 637220.

Size 12 – With bi-hexagon sockets.

Material:

63 4316 – Chrome alloy steel, chrome-plated.

63 4312/4318 – Chrome vanadium steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M12, for spark plugs and for hexagon socket head screws with thread M4 – M12.

3/8″ | 8-19 | 3-10 | 6G 14G

63 4312_6

3/8″ | 8-19 | 3-10

63 4316_6

Type		61A 63 4312	63A 63 4316	62A 63 4318
		Garant	STAHLWILLE	HOLEX
		Socket set 3/8 inch square drive		
		25 pieces	24 pieces	26 pieces
6		XXX	XXX	XXX
12		XXX	XXX	XXX
Length	mm	357	413	357
Width	mm	176	230	174
Height	mm	45	57	47
○ **Supplied with:** Sockets bi-hexagon or single hexagon		11 pcs. size 8; 10; 11; 12; 13; 14;15; 16; 17; 18; 19 mm	11 pcs. size 8; 10; 11; 12; 13; 14;15; 16; 17; 18; 19 mm	12 pcs. size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19 mm
○ Spark plug sockets		2 pcs. No. 637329 size 16; 20.8	1 pc. No. 637310 size 16	2 pcs. similar to No. 637329 size 16; 20.8
◉ Hexagon screwdriver bits		7 pcs. No. 637629 size 3; 4; 5; 6; 7; 8; 10	7 pcs. No. 637600 size 3; 4; 5; 6; 7; 8; 10	7 pcs. No. 637620 size 3; 4; 5; 6; 7; 8; 10
T-handle		1 pc. No. 635729	1 pc. No. 635700	1 pc. No. 635720
Extensions		2 pcs. No. 635429 size 75; 240	2 pcs. No. 63 5400 size 75; 240 mm	2 pcs. No. 635420 size 75; 240
Universal joint		1 pc. No. 636229	1 pc. No. 636200	1 pc. No. 636220
Ratchet		1 pc. No. 635025	1 pc. No. 635000	1 pc. No. 635090
Storage in		ABS plastic box		

3/8″ | 8-19 | 3-10

63 4318_6

Socket set metric/imperial, 3/8 inch

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

Material: Chrome alloy steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M4 – M14, for nuts / bolts with thread up to 9/16 inch (American inch sizes).

		63A 63 4711
		Socket set 3/8 inch square drive **33 pieces metric / imperial**
		XXX
Length	mm	413
Width	mm	230
Height	mm	57
Supplied with: Bi-hexagon sockets		16 pcs. No. 637000 size 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22
Bi-hexagon sockets		12 pcs. No. 637100 size 1/4; 5/16; 11/32; 3/8; 7/16; 1/2; 9/16; 5/8; 11/16; 3/4; 13/16; 7/8
T-handle		1 pc. No. 635700
Extensions		2 pcs. No. 63 5400 size 75; 240 mm
Universal joint		1 pc. No. 636200
Ratchet		1 pc. No. 635000
Presented in		ABS plastic box

3/8″ | 7-22 | 1/4-7/8″

63 4711

3/8″

Bit set, 3/8 inch

Material: Chrome vanadium steel, chrome-plated.

Application:

63 4825 – For hexagon socket head screws with thread M4 – M12.
63 4830 – For internal Torx® screws with thread M2.5 – M8.
63 4840 – For Trisquare / XZN screws with thread M5 – M10.

63 4825

63 4830

63 4840

Type		62A 63 4825	62A 63 4830	62A 63 4840
		Set of hexagon bits, 3/8 inch square drive, 7 pieces	Set of bits for Torx®, 3/8 inch square drive, 9 pieces	Set of tri-square bits, 3/8 inch square drive, 4 pieces
3/8		XXX	XXX	XXX
Supplied with: Hexagon screwdriver bits		7 pcs. No. 637620 size 3; 4; 5; 6; 7; 8; 10	–	–
Screwdriver bits for Torx®		–	9 pcs. (50 mm long) size TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40	–
Tri-square bits		–	–	4 pcs. (50 mm long) size M5; M6; M8; M10

There's more in it for you!

The entire tooling catalogues for the following brands are available from the Hoffmann Group – just ask for them!

3/8″

Socket set 3/8 inch, large

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

8-19 | 3-8

Material: Chrome molybdenum steel, matt chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M12 and for hexagon socket head screws with thread M4 – M10. For Phillips and Pozidriv screws with thread M2 – M6 and for internal Torx® screws with thread M3.5 – M8.

Content:

Size P – With push-through square No. 635290.

Size S – With reversible ratchet No. 635295.

Type		63F 63 4120
		Wera Socket set 3/8 inch square drive **29 pieces**
P		XXX
S		XXX
Length	mm	262
Width	mm	120
Height	mm	57
Supplied with:		9 pcs.
Socket single hexagon		size 8; 10; 12; 13; 15; 16; 17; 18; 19 mm
Hexagon bit		5 pcs. No. 675240 size 3; 4; 5; 6; 8
BITS for Phillips		3 pcs. No. 675310 size 1/25; 2/25; 3/25
Pozidriv bit		2 pcs. No. 675320 size 1/25; 2/25
BITS for Torx®		6 pcs. No. 675340 size TX15; TX20; TX25; TX27; TX30; TX40
Extension with quick rotation sleeve		1 pc. 200 mm
Wobbel extension		1 pc. 76 mm
Adapter with quick-release holder		1 pc. 3/8 inch square – 1/4 inch hexagon bit holder
Ratchet (size P)		1 pc. No. 635290 with push-through square
Ratchet (size S)		1 pc. No. 635295 with reversible ratchet
Presented in		Textile wallet with hook and loop fastener

TAKE IT EASY TOOL FINDER

3/8″ | 8-19 | 3-8

63 4120

8-19 | 4-10

63 4799 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Material:

63 4799 – Chrome vanadium steel, chrome-plated.

63 4811 – Chrome alloy steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M12, for external Torx® with thread M4 – M12, for socket head screws with thread M5 – M12, for internal Torx® with thread M3 – M8.

Note:

63 4799 – The range offers in addition space for 4 pieces of small parts storage bins No. 951251 size 2×3/1 or 2 pieces of small parts storage bins No. 951251 size 2×6/1 (not included in the scope of supply).

3/8″ | 8-19 | 4-10 | 8G | 20G

63 4799

Type		61A 63 4799	63A 63 4811
		Garant	STAHLWILLE Socket set 3/8 inch square drive **37 pieces**
12		XXX	XXX
Length	mm	510	413
Width	mm	294	230
Height	mm	61	57
Supplied with:		11 pcs. No. 637029 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19	11 pcs. No. 637000 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19
Bi-hexagon sockets			
Sockets for Torx®		7 pcs. size E5; E6; E7; E8; E10; E12; E14	7 pcs. No. 637450 size E5; E6; E7; E8; E10; E12; E14
Hexagon screwdriver bits		6 pcs. No. 637629 size 4; 5; 6; 7; 8; 10	6 pcs. No. 637600 size 4; 5; 6; 7; 8; 10
Screwdriver bits for Torx®		8 pcs. size TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40	8 pcs. No. 637560 size TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
T-handle		1 pc. No. 635729	1 pc. No. 635700
Extensions		2 pcs. No. 635429 size 75, 240	2 pcs. No. 635400 size 75; 240
Universal joint		1 pc. No. 636229	1 pc. No. 636200
Ratchet		1 pc. No. 635025	1 pc. No. 635000
Storage in		ABS plastic box	

3/8″ | 8-19 | 4-10

63 4811

3/8″

Drive part 3/8 inch

Standard: External square drives to **DIN 3120-A 10** with sprung ball, for internal square drives to **DIN 3120-C 10** with grooves.

Suitable for: Manual use.

63 5025

Ratchet reversible

With reversing lever for right-hand and left-hand threads.

Standard: **DIN 3122-D 10**

Material:

63 5000 – Chrome alloy steel, chrome-plated.

63 5025–5090 – Chrome vanadium steel, chrome-plated.

63 5000

63 5050

Type			3/8	overall length mm	No. of teeth
61A 63 5025	Garant	Reversible ratchet, 3/8 inch with ejector	XXX	196	38
63A 63 5000	STAHLWILLE	Reversible ratchet, 3/8 inch	XXX	193	30
63R 63 5050	Koken	Reversible ratchet, 3/8 inch with ejector	XXX	200	24
63O 63 5060	HAZET	Reversible ratchet, 3/8 inch	XXX	200	30
62A 63 5090	HOLEX	Reversible ratchet, 3/8 inch with ejector	XXX	195	38

63 5060

63 5090

Precision ratchet push-through, with ejector

With captive push-through square for reversible right and left-hand action.
With ejector.

Material: Chrome molybdenum steel, matt chrome-plated.

63 5290

				overall length mm	No. of teeth
63F 63 5290	Wera	Precision ratchet "Zyklop Metal" push-through square drive, 3/8 inch with ejector	XXX	222	76

Reversible precision ratchet

With reversing lever for right-hand and left-hand threads.
With ejector.

Material: Chrome molybdenum steel, matt chrome-plated.

63 5295

				overall length mm	No. of teeth
63F 63 5295	Wera	Precision ratchet "Zyklop Metal" reversible, 3/8 inch with ejector	XXX	222	72

63 5150 – With reversing disc for right-hand and left-hand threads, working arc 6°.

63 5155 – With ejector and reversing lever for right-hand and left-hand rotation, working arc 4.5°.

63 5176 – With reversing lever for right-hand and left-hand threads, working arc 4°.

Material:

63 5176 – Chrome vanadium steel, chrome-plated.

63 5150/5155 – Chrome alloy steel, chrome-plated.

63 5150

QuickRelease 63 5155

Type			3/8	overall length mm	No. of teeth
63A 63 5150		Reversible precision ratchet, 3/8 inch	XXX	194	60
63A 63 5155	STAHLWILLE	Reversible precision ratchet, 3/8 inch with ejector **QuickRelease**	XXX	193	80
63O 63 5176	HAZET	Reversible precision ratchet, 3/8 inch	XXX	200	90

Double load capacity (static and dynamic compared to DIN)

63 5176

Precision reversible ratchet, with swivel head

3/8″

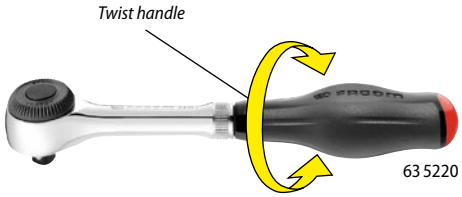
Ratchet head can be swivelled with defined engagement positions at 0° (use like a screwdriver) and 75° and 90° positions to either side.
Working arc 5°, with ejector and reversing plate for right-hand and left-hand threads.
Material: Chrome vanadium steel, chrome-plated.

63 5190

			overall length mm	No. of teeth
63F 63 5190	Wera	Precision ratchet "Zyklop Speed" reversible, 3/8 inch with swivel head and ejector	XXX	199	72

Precision ratchet, with swivel handle

For conventional use 6° working arc, for use with the **swivel handle** 0°working arc.
With ejector and reversing disc for right-hand and left-hand rotation.



63 5220

			overall length mm	No. of teeth
63V 63 5220	FACOM	Reversible precision ratchet 3/8 inch with ejector and swivel handle	XXX	235	60

Reversible flexi-head ratchet with ejector

With reversing lever for right-hand and left-hand threads.
Material: Chrome vanadium steel, chrome-plated.

63 5335

			overall length mm	No. of teeth
63R 63 5335	Koken	Flexi-head ratchet, 3/8 inch with ejector	XXX	285	24

Push-through ratchet with short handle, non-slip

Material: Chrome molybdenum steel.
Application: Ideal for working in restricted places, **working arc 0°.**
With captive push-through square for reversible right and left-hand action.

63 5900

			overall length mm
62A 63 5900	HOLEX	Push-through ratchet, 3/8 inch with short handle	XXX	106

T-handle

With movable sliding head.
63 5750 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.
Standard: **DIN 3122-A 10**
Material:
63 5700/5750 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
63 5720/5729 – Chrome vanadium steel, chrome-plated.

63 5729

63 5700

63 5720

63 5750

overall length mm			165	200	overall length mm
61A 63 5729	Garant		–	XXX	200
63A 63 5700	STAHLWILLE	T-handle, 3/8 inch	XXX	–	165
62A 63 5720	HOLEX		–	XXX	200
63A 63 5750	STAHLWILLE	T-handle, 3/8 inch **QuickRelease**	XXX	–	165

Swivel handle

External square drive to DIN 3120.
Joint with 180° arc. With 2-component handle.
Standard: **DIN 3122-F 10**
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

63 6000

63A 63 6000	STAHLWILLE	Swivel handle, 3/8 inch	XXX
overall length		mm	253.5

3/8″

Adaptor 3/8 inch

Standard:
63 5400–5500/5645 – **DIN 3123-B 10**
Material:
63 5400/5600/5645 –Chrome alloy steel, chrome-plated.
63 5420–5500 – Chrome vanadium steel, chrome-plated.
Advantage:
63 5645 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.
Application:
63 5600 – For right-hand use only; up to 7 Nm.

63 5429

63 5400

63 5420

QuickRelease 63 5645

overall length		mm	40	75	125	160	240
61A 63 5429	Garant		–	XXX	XXX	–	XXX
63A 63 5400	STAHLWILLE	Extension, 3/8 inch	XXX	XXX	XXX	XXX	XXX
62A 63 5420	HOLEX		XXX	XXX	XXX	XXX	XXX
63A 63 5645	STAHLWILLE	Extension, 3/8 inch **QuickRelease**	–	XXX	–	XXX	XXX

63 5500

overall length		mm	305	508	711
630 63 5500	HAZET	Extension, 3/8 inch **extra long**	XXX	XXX	XXX

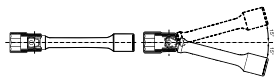
overall length		mm	194
63A 63 5600	STAHLWILLE	Extension, 3/8 inch **flexible**	XXX

63 5600

"Wobble-Fix" extensions

Two-stage extension. The wobble type extension clicks into place and allows up to 15° of movement.
Material: Chrome vanadium steel, chrome-plated.

63 5635



overall length		mm	75	150	250
63R 63 5635	Koken	Extension, 3/8 inch **"Wobble-Fix"**	XXX	XXX	XXX

Universal joint

Standard: The **QuickRelease** locking system prevents inadvertent release or loss of a tool.
Material:
63 6200/6250 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
63 6220/6229 – Chrome vanadium steel, chrome-plated.
Advantage:
63 6250 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.

63 6229

63 6200

Type		3/8	overall length mm
61A 63 6229	Garant	XXX	52
63A 63 6200	STAHLWILLE Universal joint 3/8 inch	XXX	46
62A 63 6220	HOLEX	XXX	52
63A 63 6250	STAHLWILLE Universal joint 3/8 inch **QuickRelease**	XXX	60

63 6220

QuickRelease 63 6250

3/8″

Hexagon socket, 3/8 inch, short

Forged from high quality steel, internally bevelled for easy fitting to bolt heads.
Square socket drives to **DIN 3120.**

Hexagon socket

63 7200 – Optimum grain orientation due to special forging process. Close tolerance sockets with **AS drive** profile protect corners of bolt head. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

63 7229 – Close tolerance jaw sizes with **HT drive** profile protect corners of nuts and bolt heads. **Thin walls** for access to restricted places.

Standard: **DIN 3124**

Material:

63 7200 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

63 7220/7229 – Chrome vanadium steel, chrome-plated.

Note:

63 7220/7229 – GARANT and HOLEX hexagon sockets including are available also in imperial sizes from our eShop (GARANT: No. 637232; HOLEX: No. 637222).

***HT drive** profile*

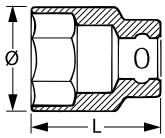
63 7229

***AS drive** profile*

63 7200

63 7220

Width across flats		mm	7	8	9	10	11	12	13	14
61A	63 7229	Garant	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A	63 7200	STAHLWILLE Hexagon socket, 3/8 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A	63 7220	HOLEX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (63 7229, 63 7220)		mm	10.9	11.8	13.4	14.6	15.9	17	18.4	19.6
Ø drive output end (63 7200)		mm	10.5	11.7	13	14.3	15.6	16.9	18	19.4
Length (63 7229, 63 7220)		mm	25	25	25	25	25	25	25	27
Length (63 7200)		mm	24	25	25	27	27	28	30	30



Width across flats		mm	15	16	17	18	19	20	21	22
61A	63 7229	Garant	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX
63A	63 7200	STAHLWILLE Hexagon socket, 3/8 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A	63 7220	HOLEX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX
Ø drive output end (63 7229, 63 7220)		mm	20.9	22	23.4	24.5	25.6	–	27.9	29.6
Ø drive output end (63 7200)		mm	20.6	21.7	23	24.2	25.2	26.2	27.7	28.7
Length (63 7229, 63 7220)		mm	27	27	27	27	29	–	29	31
Length (63 7200)		mm	31	31	31	32	32	34	34	35

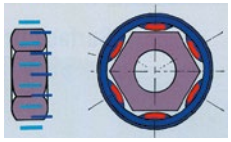
Hexagon Surface Drive socket

Surface Drive

The Surface Drive socket allows a tighter fit and higher effectiveness. The pressure works directly on the faces of the nuts and bolts; weaker corners are protected. Intermediate sizes e.g. in inches (A/F, BSF, BSW) and rounded heads can be tightened or loosened using the Surface Drive.

Material: Chrome vanadium steel, chrome-plated.

inches



mm

63 7125

Width across flats		mm	7	8	9	10	11	12	13	14
61A	63 7125	Garant Hexagon socket, 3/8 inch **Surface Drive**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Width across flats		inch	17/64	5/16	–	3/8	13/32; 7/16	15/32	1/2	17/32
Ø drive output end		mm	10.9	11.8	13.4	14.6	15.9	17	18.4	19.6
Length		mm	25.5	25.5	25.5	25.5	25.5	25.5	25.5	27

Width across flats		mm	15	16	17	18	19	21	22	24
61A	63 7125	Garant Hexagon socket, 3/8 inch **Surface Drive**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Width across flats		inch	19/32; 9/16	5/8	21/32	11/16	3/4	13/16	–	15/16
Ø drive output end		mm	20.9	22	23.4	24.5	25.6	27.9	29.6	32
Length		mm	27	27	27	27	29	29	31	31

Bi-hexagon socket

3/8"

63 7000 – Optimum grain orientation due to special forging process. Close tolerance sockets with **AS drive** profile protect corners of bolt head. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

63 7029 – Close tolerance jaw sizes with **HT drive** profile protect corners of nuts and bolt heads.

Standard: **DIN 3124**

Material:

63 7000 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

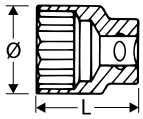
63 7029 – Chrome vanadium steel, chrome-plated.

Note:

63 7029 – GARANT Bi-hex sockets also in imperial sizes are available from our eShop (No. 637032).

***HT drive** profile*

63 7029



Width across flats		mm	7	8	9	10	11	12	13	14
○ 61A 63 7029	Garant	Bi-hexagon socket, 3/8 inch	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○ 63A 63 7000	STAHLWILLE		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (63 7029)		mm	–	11.8	13.4	14.6	15.9	17	18.4	19.6
Ø drive output end (63 7000)		mm	10.5	11.7	13	14.3	15.6	16.9	18	19.4
Length (63 7029)		mm	–	25.5	25.5	25.5	25.5	25.5	25.5	27
Length (63 7000)		mm	24	25	25	27	27	28	30	30

Width across flats		mm	15	16	17	18	19	20	21	22
○ 61A 63 7029	Garant	Bi-hexagon socket, 3/8 inch	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX
○ 63A 63 7000	STAHLWILLE		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (63 7029)		mm	20.9	22	23.4	24.5	25.6	–	27.9	29.6
Ø drive output end (63 7000)		mm	20.6	21.7	23	24.2	25.2	26.2	27.7	28.7
Length (63 7029)		mm	27	27	27	27	29	–	29	31
Length (63 7000)		mm	31	31	31	32	32	34	34	35

***AS drive** profile*

63 7000

Bi-hexagon socket, inch sizes (American inch sizes)

Optimum grain orientation due to special forging process. Close tolerance sockets with **AS drive** profile protect corners of bolt head. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

Material: HPQ® high performance steel, non-flaking chrome-plated over nickel.

***AS drive** profile*

63 7100

Width across flats		inch	1/4	5/16	11/32	3/8	7/16
○ 63A 63 7100	STAHLWILLE	Bi-hexagon socket, 3/8 inch	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	9.7	11.7	12.5	13.7	15.7
Length		mm	24	25	25	27	28

Width across flats		inch	1/2	9/16	5/8	11/16	3/4
○ 63A 63 7100	STAHLWILLE	Bi-hexagon socket, 3/8 inch	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	18	20.2	21.7	23.4	25.2
Length		mm	30	31	31	32	32

Bi-hex socket with universal joint

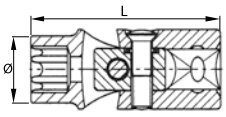
Optimum grain orientation due to special forging process. Close tolerance sockets with **AS drive** profile protect corners of bolt head. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

Standard: **DIN 3124 L**

Material: HPQ® high performance steel, non-flaking chrome-plated over nickel.

***AS drive** profile*

63 7400



Width across flats		mm	10	12	13	14	15	16	17	19
○ 63A 63 7400	STAHLWILLE	Universal joint socket, 3/8 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	14.3	16.9	18.3	19.4	20.6	21.8	23	25.5
Length		mm	45.5	48	48	48.5	48.5	51.5	53.5	57

Socket for Torx® screws

Optimum grain orientation due to special forging process. Close tolerance width across flats. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

Material: HPQ® high performance steel, non-flaking chrome-plated over nickel.

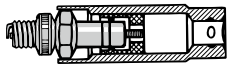
Torx® profile			E5	E6	E7	E8	E10	E12	E14
✪ 63A 63 7450	STAHLWILLE	Socket, 3/8 inch for Torx®	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A		mm	4.7	5.7	6.2	7.5	9.4	11.1	12.9
Ø drive output end		mm	7	8	9	10.5	13	14.9	16.5
Length		mm				28			

63 7450

Hexagon socket, 3/8 inch, long

3/8"

Forged from high quality steel, internally bevelled for easy fitting to bolt heads. Square socket drives to **DIN 3120.**



Rubber retainer 63 7329

Hexagon socket for spark plugs, long

63 7310 – Optimum grain orientation due to special forging process.
Close tolerance sockets with **AS drive** profile protect corners of bolt head.
Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

63 7329 – Close tolerance jaw sizes with **HT drive** profile protect corners of nuts and bolt heads.
Thin walls for access to restricted places.

63 7310 Size 18/63 7340 Size 16; 20,8 – Hex sockets.

63 7329/7310 Size 16/63 7340 Size 14 – Bi-hex sockets.

Material:

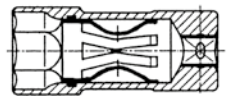
63 7310 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

63 7329/7340 – Chrome vanadium steel, chrome-plated.

HT drive profile 63 7329

AS drive profile 63 7310_size 18

Width across flats		mm	14	16	18	20,8
○ 61A 63 7329	Garant	Single hexagon socket for spark plugs 3/8 inch	–	XXX	–	XXX
○ 63A 63 7310	STAHLWILLE		–	XXX	XXX	–
○ 63O 63 7340	HAZET		XXX	XXX	–	XXX
∅ drive output end		mm	18	21.7	24.2	27.2
Length		mm	64	60	65	65
Retention mechanism for spark plugs			Crown spring	Rubber retainer	Rubber retainer	Rubber retainer



Crown spring 63 7340

63 7340_size 14

Bi-hex socket, long

63 7300 – Optimum grain orientation due to special forging process. Close tolerance sockets with **AS drive** profile protect corners of bolt head. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

Standard:

63 7300 – **DIN 3124-L**

Material:

63 7300 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

63 7320 – Chrome vanadium steel, chrome-plated.

HOLEX bi-hex sockets are available also in imperial sizes from the eShop.

Width across flats		mm	10	11	12	13	14	15
○ 63A 63 7300	STAHLWILLE	Bi-hexagon socket, 3/8 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX
○ 62A 63 7320	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end (63 7300)		mm	14.3	15.6	16.9	18	19.4	20.6
∅ drive output end (63 7320)		mm	14.6	15.9	17	18.4	19.6	20.9
Length (63 7300)		mm	54	54	54	54	60	60
Length (63 7320)		mm	64					

AS drive profile

63 7300

Width across flats		mm	16	17	18	19	21	22
○ 63A 63 7300	STAHLWILLE	Bi-hexagon socket, 3/8 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX
○ 62A 63 7320	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end (63 7300)		mm	21.7	23	24.2	25.2	27.7	28.7
∅ drive output end (63 7320)		mm	22	23.4	24.5	25.6	27.9	29.6
Length (63 7300)		mm	60	65	65	65	65	65
Length (63 7320)		mm	64					

63 7320

Bit, 3/8 inch, short

3/8"

Forged from high quality steel, internally bevelled for easy fitting to bolt heads.
Square socket drives to **DIN 3120.** Bit made from high-alloy special steel, bright finished.

Standard: **DIN 7422**

GARANT and HOLEX hexagon bits are available also in imperial sizes from the eShop.

Hexagon bit for socket head screws

63 7600/7640 – Optimum grain orientation due to special forging process.
Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

Hexagon		mm	3	4	5	6	7	8	10
◉ 61A 63 7629	Garant	Hexagon screwdriver bit 3/8 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX
◉ 63A 63 7600	STAHLWILLE		XXX	XXX	XXX	XXX	XXX	XXX	XXX
◉ 62A 63 7620	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive end (63 7629, 63 7620)		mm	19						
∅ drive end (63 7600)		mm	17.8						
Length (63 7629, 63 7620)		mm	46						
Length (63 7600)		mm	52						

63 7629

63 7600

63 7620

Hexagon		inch	1/8	5/32	3/16	7/32	1/4	9/32	5/16	3/8
◉ 63A 63 7640	STAHLWILLE	Hexagon screwdriver bit 3/8 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive end		mm	17.8							
Length		mm	52							

63 7640

Hexagon bit, TiN coated, for socket head screws

TiN-coated blades for high bonding strength and resistance to abrasion. With optimised corrosion protection.

Material: Sleeve of chrome vanadium steel, non-flaking, chrome-plated.
Blade of special steel with TiN coating.

Application: Ideally suited to sustained loads such as series screw fastenings.

3/8″

63 7633

Hexagon		mm	3	4	5	6	7	8	10
630 63 7633	HAZET	Hexagon screwdriver bit 3/8 inch, long **TiN coated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end		mm	17	17	17	17	19	19	19
Length		mm	43.5						

Bit for Torx® screws

3/8″

63 7560 – Optimum grain orientation due to special forging process.
Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

Material:

63 7539 – Chrome vanadium steel, satin chromium plated.

63 7560 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

63 7539_TX25

Torx® profile			TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40	TX45
61A 63 7539	Garant	Torx® screwdriver bit, 3/8 inch **short**	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 63 7560	STAHLWILLE		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A		mm	2.5	2.7	3.3	3.8	4.4	5	5.5	6.6	7.8
Ø drive end (63 7539)		mm	–	–	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Ø drive end (63 7560)		mm	17.8								
Length (63 7539)		mm	–	–	43	43	43	43	43	43	43
Length (63 7560)		mm	49								

63 7560

Trisquare socket head bit

3/8″

Optimum grain orientation due to special forging process.
Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

for screws			M5	M6	M8	M10
63A 63 7520	STAHLWILLE	Tri-Square bit, 3/8 inch square drive, for XZN screws	XXX	XXX	XXX	XXX
Ø drive end		mm	17.8			
Length		mm	52			

63 7520

63

Bit, 3/8 inch, long

3/8″

Forged from high quality steel, internally bevelled for easy fitting to bolt heads.
Square socket drives to **DIN 3120.**

63 7625 – Bit made from high-alloy special steel, bright finished.

Standard:

63 7609/7625 – **DIN 7422**

Material:

63 7549/7609 – Chrome vanadium steel, satin chromium plated.

63 7565/7625 – Chrome vanadium steel, chrome-plated.

Advantage:

63 7609 – Hexagon screwdriver set with retainer ball, for secure clamping of the inserted screw

63 7609_4

63 7625

63 7549

63 7565

Hexagon		mm	4	5	6	8	10
61A 63 7609	Garant	Hexagon screwdriver bit 3/8 inch **long, with retainer ball**	XXX	XXX	XXX	XXX	XXX
62A 63 7625	HOLEX	Hexagon screwdriver bit 3/8 inch **long, with ball point**	XXX	XXX	XXX	XXX	XXX
Ø drive end (63 7609)		mm	17.5				
Ø drive end (63 7625)		mm	18	18	18	18	20
Length (63 7609)		mm	107	107	107	100	100
Length (63 7625)		mm	100				

Torx® profile			TX15	TX20	TX25	TX30	TX40	TX45	TX50	TX55
61A 63 7549	Garant	Torx® screwdriver bit, 3/8 inch **long**	–	–	XXX	XXX	XXX	XXX	XXX	–
62A 63 7565	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A		mm	3.3	3.8	4.4	5.5	6.6	7.8	8.8	11.2
Ø drive end (63 7549)		mm	–	–	17.5	17.5	17.5	17.5	17.5	–
Ø drive end (63 7565)		mm	17.8							
Length (63 7549)		mm	–	–	107	107	107	107	107	–
Length (63 7565)		mm	100							

3/8″

STAHLWILLE Oil filter claw 3/8 inch

Standard: **DIN 3120**
Application: For undoing oil filters on cars.

63 7315

63A	**63 7315**	Oil filter claw, 3/8 inch	XXX
	Claw length	mm	50
	overall height	mm	65
	Clamping range	mm	68 – 120

3/8″

HOLEX Clip bar for 3/8 inch hexagon sockets

Plastic bar with clips which can be slid into position.
Application: For storage and ready access to 3/8 inch sockets.

Application example

62A	**63 7590**	Clip bar for 3/8 inch sockets	XXX
	overall length	mm	305
	Number of mountings		14

63

3/8″

FRIEDRICH Drive part / adapter / socket, fully insulated to VDE, 3/8 inch

With plastic insulation **up to 1000 V** to DIN EN 60900 / VDE 0682-201.

Note: For working at voltages up to 1000 Volts. In safety areas only **fully insulated** tools (No. 637650 – 637656) may be used in combination.

Standard: **DIN EN 60900 / VDE 0682-201**

63 7650

			overall length mm
66A	**63 7650**	Ratchet, 3/8 inch **reversible with locking fully insulated**	XXX	200

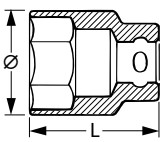
63 7652

	overall length	mm	125	250
66A	**63 7652**	Extension, 3/8 inch **fully insulated**	XXX	XXX

Standard: **DIN 7422 / DIN EN 60900 / VDE 0682-201**

63 7654

	Hexagon	mm	5	6	8
◉ 66A	**63 7654**	Hexagon screwdriver bit, 3/8 inch **fully insulated**	XXX	XXX	XXX
	Uninsulated blade length	mm	9	10	11
	Length	mm		80	



63 7656

Standard: **DIN EN 60900 / VDE 0682-201**

	Width across flats	mm	10	11	12	13	14	17	19
○ 66A	**63 7656**	Hexagon socket, 3/8 inch **fully insulated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	Ø drive output end	mm	18	20	20.5	22	24	28	30.2
	Length	mm				45			

½″

Socket set, 1/2 inch, small

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.**
Internal / external square drives to **DIN 3120.**

10-24

63 7662 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**

Material: Chrome vanadium steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M6 – M16.

½″ | 10-24 | 6G 14G

63 7662

Type	61A 63 7662 Garant	62A 63 7668 HOLEX
	Socket set 1/2 inch square drive	
	12 pieces	
6	XXX	XXX
Length mm	357	407
Width mm	176	227
Height mm	52	62
Supplied with: Sockets single hexagon	9 pcs. No. 642229 size 10; 13; 16; 17; 18; 19; 21; 22; 24	9 pcs. No. 642220 size 10; 13; 16; 17; 18; 19; 21; 22; 24
2 extensions	1 pc. each No. 641029 size 130; 255	1 pc. each No. 641020 size 130; 255
1 ratchet	No. 640025	No. 640190
Storage in	ABS plastic box	

½″ | 10-24

63 7668

63

63 7712 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**
63 7712 Size 6 – With hexagon sockets No. 642229.
Size 12 – With bi-hexagon sockets No. 642129.
63 7714 Size 6 – With hexagon sockets No. 642200.
Size 12 – With bi-hexagon sockets No. 642100.
63 7818 Size 6 – With hexagon sockets No. 642120.
Size 12 – With bi-hexagon sockets No. 642120.

Material:
63 7714 – Chrome alloy steel, chrome-plated.
63 7712/7718 – Chrome vanadium steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M6 – M22.

Note:
63 7712 – The range offers in addition space for 4 pieces of small parts storage bins No. 951251 size 2×3/1 or 2 pieces of small parts storage bins No. 951251 size 2×6/1 (not included in the scope of supply).

½″ | 10-34 | 8G | 20G

63 7712_12

½″ | 10-32

63 7714_6

Type	61A 63 7712 Garant	63A 63 7714 STAHLWILLE	62A 63 7718 HOLEX
	Socket set 1/2 inch square drive		
	16 pieces	15 pieces	16 pieces
6	XXX	XXX	XXX
12	XXX	XXX	XXX
Length mm	510	413	407
Width mm	294	226	227
Height mm	61	64	62
Supplied with: Sockets	13 pcs. size 10; 13; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34 mm	12 pcs. size 10; 13; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32 mm	13 pcs. size 10; 13; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34 mm
2 extensions	No. 641029 size 130; 255	No. 641000 size 130; 255	No. 641020 size 130; 255
1 ratchet	No. 640025	No. 640100	No. 640190
Storage in	ABS plastic box		

½″ | 10-34

63 7718_12

All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**
Material: Chrome vanadium steel, chrome-plated.
Application: For hexagon socket head screws with thread M5 – M24.

Type	61A	63 7702
		Garant
		Set of hexagon screwdriver bits, 1/2 inch square drive
		12 pieces
6		XXX
Length	mm	357
Width	mm	176
Height	mm	52
Supplied with: Hexagon screwdriver bits		8 pcs. No. 643229 size 4; 5; 6; 8; 10; 12; 14; 17
T-handle		1 pc. No. 641329
Extensions		2 pcs. No. 641029 130; 255
Ratchet		1 pc. No. 640025
Storage in		ABS plastic box

½" | 4-17 | 6G 14G

63 7702

Dustproof **telescopic reversible ratchet**. Extendable from 264 – 397 mm length in 8 stages.
Application: For hexagon head screws / nuts with thread M5 – M32.

Type	63V	63 7716
		FACOM
		Socket set 1/2 inch square drive
		21 pieces
6		XXX
Length	mm	340
Width	mm	180
Height	mm	58
Supplied with: Socket single hexagon		17 pcs. size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32 mm
Wobble type extension		1 pc. 8°; 130 mm
Extension		1 pc. 250 mm
Universal joint		1 pc.
Ratchet		1 pc.
Presented in		Plastic box with retainer function

½" | 8-32

63 7716

Adjustable length

Sockets with **retainer function** and knurling at the rear end for a good grip when fitting/removing by hand.
Application: For hexagon head screws / nuts with thread M5 – M12.
Content: Ratchet with reversing lever and extension No. 640385.

TAKE IT EASY TOOL FINDER

With retainer function

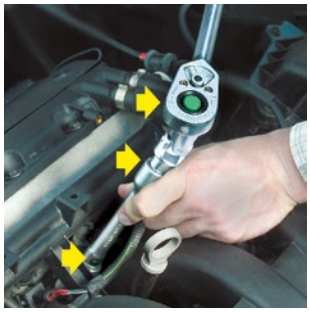
	63F	63 7945
		Wera
		Socket set 1/2 inch square drive
		13 pieces
		XXX
Length	mm	325
Width	mm	148
Height	mm	73
Supplied with: Socket single hexagon		10 pcs. size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19 mm
Extension with quick rotation sleeve		1 pc. 250 mm
Ratchet		1 pc. No. 640385 with reversing lever and extension 341 mm
Presented in		Textile wallet with hook and loop fastener

½" | 10-19

63 7945

QuickRelease set in unbreakable ABS plastic box with foam inlay.
Ratchet, extension, universal joint, and socket fit **securely together to form a unit.**
The combination is quickly and easily released by pressing the button.

Material: Chrome alloy steel, chrome-plated.
Application: For hexagon head screws / nuts with thread M6 – M22.



***QuickRelease**: Captive, but at the same time quickly released.*

		63A 63 7891
		STAHLWILLE
		QuickRelease socket set, 1/2 inch square drive
		22 pieces
		XXX
Length	mm	454
Width	mm	253
Height	mm	64
Supplied with:		16 pcs. No. 642200
○ Socket single hexagon		size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32
1 T-handle QR		No. 641350
3 extensions QR		No. 641045 size 75; 130; 255
1 universal joint QR		No. 641650
1 ratchet QR		No. 640440
Presented in		ABS plastic box

½″ 10-32

QuickRelease 63 7891

63 7812 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay.**
637812 Size 6 – With hexagon sockets No. 642229.
Size 12 – With bi-hexagon sockets No. 642129.
637816 Size 6 – With hexagon sockets No. 642200.
Size 12 – With bi-hexagon sockets No. 642100.
637818 Size 6 – With hexagon sockets No. 642120.
Size 12 – With bi-hexagon sockets No. 642120.

Material:
63 7816 – Chrome alloy steel, chrome-plated.
63 7812/7818 – Chrome vanadium steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M6 – M22.

Note:
63 7812 – The range offers in addition space for 4 pieces of small parts storage bins No. 951251 size 2×3/1 or 2 pieces of small parts storage bins No. 951251 size 2×6/1 (not included in the scope of supply).

½″ 10-34 8G 20G

63 7812

½″ 10-32

63 7816

Type		61A 63 7812	63A 63 7816	62A 63 7818
		Garant	STAHLWILLE	HOLEX
		Socket set 1/2 inch square drive		
		23 pieces	**22 pieces**	**23 pieces**
○ 6		XXX	XXX	XXX
○ 12		XXX	XXX	XXX
Length	mm	510	454	407
Width	mm	294	253	227
Height	mm	61	64	62
Supplied with: Sockets		17 pcs. size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34 mm	16 pcs. size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32 mm	17 pcs. size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34 mm
T-handle		1 pcs 641329	1 pc. 641300	1 pc. 641320
Extensions		3 pcs. No. 641029 size 75; 130; 255	3 pcs. No. 641000 size 75; 130; 255	3 pcs. No. 641020 size 75; 130; 255
Universal joint		1 pc. No. 641629	1 pc. No. 641600	1 pc. No. 641620
Ratchet		1 pc. No. 640025	1 pc. No. 640100	1 pc. No. 640190
Storage in		ABS plastic box		

½″ 10-34

63 7818

½″

Socket set with spark plug socket, 1/2 inch

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

10-30

Material: Chrome vanadium steel, chrome-plated.
Application: For hexagon head screws / nuts with thread M6 – M20 and for spark plugs.

½″ 10-30

63 8168

Type		62A 63 8168 HOLEX Socket set 1/2 inch square drive 22 pieces
6		XXX
Length	mm	407
Width	mm	227
Height	mm	62
Supplied with: Sockets single hexagon		15 pcs. No. 642220 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30
Spark plug sockets		2 pcs. similar to No. 642450 size 16; 20.8
T-handle		1 pc. No. 641320 size 295
Extensions		2 pcs. No. 641020 size 130; 255
Universal joint		1 pc. No. 641620 size 1/2
Ratchet		1 pc. No. 640190 size 1/2
Storage in		ABS plastic box

8-34 4-12

Material: Chrome alloy steel, chrome-plated.
Application: For hexagon head screws / nuts with thread M5 – M22. Spark plugs 16 and 20.8 mm. Hexagon socket head screws with thread M5 – M12.

½″ 8-34 4-12

63 8561

		63A 63 8561 STAHLWILLE Socket set and combination spanners, 1/2 inch square drive 47 pieces
		XXX
Length	mm	481
Width	mm	288
Height	mm	82
Supplied with: Socket single hexagon		19 pcs. No. 642200 size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34
Spark plug sockets		2 pcs. No. 642450 size 16; 20.8
Hexagon screwdriver bits		7 pcs. No. 643200 size 4; 5; 6; 7; 8; 10; 12
T-handle		1 pc. No. 641300 size 300
Extensions		3 pcs. No. 641000 size 75; 130; 255
Universal joint		1 pc. No. 641600 size 1/2
Ratchet		1 pc. No. 640100 size 1/2
Combination spanner		13 pcs. No. 613500 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24
Presented in		ABS plastic box

8-34 | 4-10

Material: Chrome alloy steel, chrome-plated.
Application: For hexagon head screws / nuts with thread M5 – M22. Spark plugs 16 and 20.8 mm. Hexagon socket head screws with thread M5 – M12.

½″ | 8-34 | 4-10

63 8610

		63A 63 8610
		STAHLWILLE Socket set 1/2 inch square drive **50 pieces**
		XXX
Length	mm	540
Width	mm	290
Height	mm	53
○ **Supplied with:** Bi-hexagon sockets		23 pcs. No. 642100 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 23; 24; 25; 26; 27; 28; 30; 32; 34
○ Deep sockets, bi-hexagon		7 pcs. No. 642500 size 13; 17; 18; 19; 22; 24; 27
○ Spark plug sockets		2 pcs. No. 642450 size 16; 20.8
○ Sockets with universal joint		6 pcs. No. 642600 size 10; 13; 16; 17; 18; 19
◉ Hexagon screwdriver bits		5 pcs. No. 643200 size 4; 5; 6; 8; 10
T-handle		1 pc. No. 641300 size 300
Extensions		3 pcs. No. 641000 size 75; 130; 255
Universal joint		1 pc. No. 641600 size 1/2
Swivel handle		1 pc. No. 641200 size 396
Ratchet		1 pc. No. 640100 size 1/2
Presented in		Sheet steel case

63

½″ | 10-34 | 3/8-1 1/4″

STAHLWILLE Socket set metric/imperial, 1/2 inch

½″ | 10-34 | 3/8-1 1/4″

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

Material: Chrome alloy steel, chrome-plated.
Application: For hexagon head screws / nuts with thread M6 – M22. For hexagon head screws / nuts with thread up to 3/4 inch (American inch size).

63 8810

		63A 63 8810
		Socket set metric/imperial, 1/2 inch square drive **45 pieces**
		XXX
Length	mm	540
Width	mm	290
Height	mm	53
○ **Supplied with:** Bi-hexagon sockets		22 pcs. No. 642100 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 23; 24; 25; 26; 27; 28; 30; 32; 34
○ Bi-hexagon sockets		17 pcs. No. 642400 size 3/8; 7/16; 1/2; 9/16; 19/32; 5/8; 11/16; 3/4; 25/32; 13/16; 7/8; 15/16; 1; 1.1/16; 1.1/8; 1.3/16; 1.1/4
T-handle		1 pc. No. 641300 size 300
Extensions		3 pcs. No. 641000 size 75; 130; 255
Universal joint		1 pc. No. 641600 size 1/2
Ratchet		1 pc. No. 640100 size 1/2
Presented in		Sheet steel case

½″ 3/8-1 1/4″

Socket set imperial, 1/2 inch

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

Material: Chrome alloy steel, chrome-plated.

Application: For hexagon head screws / nuts with thread up to 3/4 inch (American sizes).

		63A 63 8711
		Imperial sizes socket set, 1/2 inch square drive **23 pieces**
		XXX
Length	mm	454
Width	mm	253
Height	mm	64
Supplied with: ○ Bi-hexagon sockets		17 pcs. No. 642400 size 3/8; 7/16; 1/2; 9/16; 19/32; 5/8; 11/16; 3/4; 25/32; 13/16; 7/8; 15/16; 1; 1.1/16; 1.1/8; 1.3/16; 1.1/4
T-handle		1 pc. No. 641300 size 300
Extensions		3 pcs. No. 641000 size 50; 130; 255
Universal joint		1 pc. No. 641600 size 1/2
Ratchet		1 pc. No. 640100 size 1/2
Presented in		ABS plastic box

½″ 3/8-1 1/4″

63 8711

63

½″

Socket set 1/2 inch, large

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** Internal / external square drives to **DIN 3120.**

10-19 5-10

Material: Chrome molybdenum steel, matt chrome-plated.

Application: For hexagon head screws / nuts with thread M6 – M12 and for hexagon socket head screws with thread M6 – M12.

Content:

Size P – With push-through square No. 640390.

Size S – With reversible ratchet No. 640395.

Type		63F 63 7935
		Wera Socket set 1/2 inch square drive **28 pieces**
P		XXX
S		XXX
Length	mm	325
Width	mm	148
Height	mm	73
Supplied with: ○ Socket single hexagon		10 pcs. size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19 mm
◉ Hexagon bits 5/16 inch		4 pcs. No. 675440 size 5; 6; 8; 10
⊕ BITS 5/16 inch for Phillips		2 pcs. No. 675400 size 2; 3
✱ BITS 5/16 inch for Torx®		8 pcs. No. 675470 size TX20; TX25; TX27; TX30; TX40; TX45; TX50; TX55
Extension with quick-rotation sleeve		1 pc. 250 mm
Extension Wobble		1 pc. 50 mm
Adapter with quick-change chuck		1 pc. square socket 1/2 inch – bit holder 5/16 inch
Ratchet (size S)		1 pc. No. 640395 with changeover lever
Ratchet (size P)		1 pc. No. 640390 with push-through square
Storage in		Textile wallet with hook and loop fastener

½″ 10-19 5-10 TAKE IT EASY TOOL FINDER

63 7935_P

63 7912 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay**.
637912 Gr. 6 – With hexagon sockets No. 642229.
Gr. 12 – With bi-hexagon sockets No. 642129.
637916 Gr. 6 – With hexagon sockets No. 642200.
Gr. 12 – With bi-hexagon sockets No. 642100.

Material:
63 7912 – Chrome vanadium steel, chrome-plated.
63 7916 – Chrome alloy steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M6 – M22.

Note:
63 7912 – The range offers in addition space for 4 pieces of small parts storage bins No. 951251 size 2×3/1 or 2 pieces of small parts storage bins No. 951251 size 2×6/1 (not included in the scope of supply).

½″ | 8-34 | 8G | 20G

63 7912_12

Type	61A 63 7912 Garant	63A 63 7916 STAHLWILLE
	Socket set 1/2 inch square drive	
	29 pieces	28 pieces
○ 6	XXX	XXX
○ 12	XXX	XXX
Length mm	510	454
Width mm	294	253
Height mm	61	64
Supplied with: Hexagon socket	23 pcs. size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 23; 24; 26; 27; 28; 30; 32; 34 mm	22 pcs. size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 23; 24; 26; 27; 28; 30; 32 mm
T-handle	1 pc. No. 641329 size 295	1 pc. No. 641300 size 300
Extensions	3 pcs. No. 641029 size 75; 130; 255	3 pcs. No. 641000 size 75; 130; 255
1 each hexagon socket	1 pc. No. 641629 size 1/2	1 pc. No. 641600 size 1/2
Ratchet	1 pc. No. 640025 size 1/2	1 pc. No. 640100 size 1/2
Presented in	ABS plastic box	

½″ | 8-32

63 7916_6

4-14

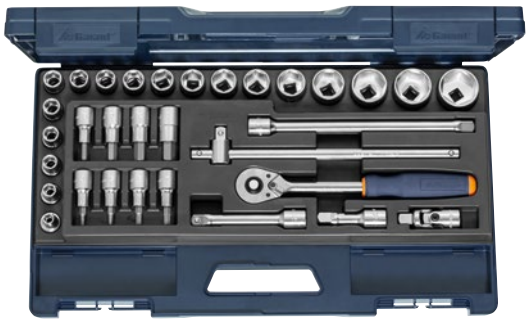
63 8012 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay**.
638012 size 6 – With hexagon sockets No. 642229.
size 12 – With bi-hexagon sockets No. 642129.
638016 size 6 – With hexagon sockets No. 642200.
Size 12 – With bi-hexagon sockets No. 642100.
63 8018 – With bi-hexagon sockets No. 642120.

Material:
63 8016 – Chrome alloy steel, chrome-plated.
63 8012/8018 – Chrome vanadium steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M6 – M22 and hexagon socket head screws with thread M5 – M18.

Note:
63 8012 – The range offers in addition space for 4 pieces of small parts storage bins No. 951251 size 2×3/1 or 2 pieces of small parts storage bins No. 951251 size 2×6/1 (not included in the scope of supply).

½″ | 8-34 | 8G | 20G | 4-14



63 8012_6

½″ | 8-32 | 4-14

63 8016_6

Type	61A 63 8012 Garant	63A 63 8016 STAHLWILLE	62A 63 8018 HOLEX
	Socket set 1/2 inch square drive		
	32 pieces	31 pieces	33 pieces
○ 6	XXX	XXX	–
○ 12	XXX	XXX	XXX
Length mm	510	454	507
Width mm	294	253	227
Height mm	61	64	62
Supplied with: Hexagon socket	18 pcs. size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34 mm	17 pcs. size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32 mm	19 pcs. size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34 mm
◉ Hexagon screwdriver bits	8 pcs. No. 643229 size 4; 5; 6; 7; 8; 10; 12; 14	8 pcs. No. 643200 size 4; 5; 6; 7; 8; 10; 12; 14	8 pcs. No. 643220 size 4; 5; 6; 7; 8; 10; 12; 14
T-handle	1 pc. 641329 size 295	1 pc. No. 641300 size 300	1 pc. 641320 size 295
Extensions	3 pcs. No. 641029 size 75; 130; 255	3 pcs. No. 641000 75; 130; 255	3 pcs. No. 641020 75; 130; 255
1 each hexagon socket	1 pc. No. 641629 size 1/2	1 pc. No. 641600 size 1/2	1 pc. No. 641620 size 1/2
Ratchet	1 pc. No. 640025 size 1/2	1 pc. No. 640100 size 1/2	1 pc. No. 640190 size 1/2
Presented in	ABS plastic box		

½″ | 8-34 | 4-14

63 8018_12

8-34

63 9062 – All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay**.

Material:

63 9062 – Chrome vanadium steel, chrome-plated.

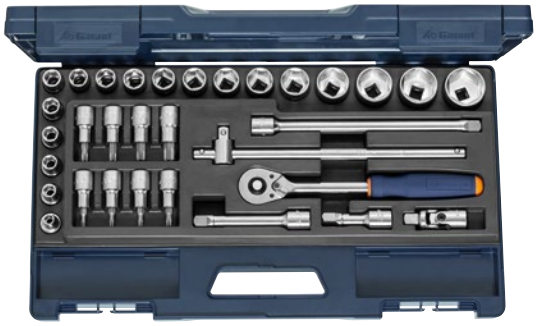
63 9066 – Chrome alloy steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M22 and for internal Torx® with thread M5 – M14.

Note:

63 9062 – The range offers in addition space for 4 pieces of small parts storage bins No. 951251 size 2×3/1 or 2 pieces of small parts storage bins No. 951251 size 2×6/1 (not included in the scope of supply).

½″ | 8-34 | 8G | 20G



63 9062

Type	61A 63 9062 Garant	63A 63 9066 STAHLWILLE
	Socket set 1/2 inch square drive **32 pieces**	
6	XXX	XXX
Length mm	510	454
Width mm	294	253
Height mm	61	64
Supplied with: Hexagon sockets	18 pcs. No. 642229 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34	18 pcs. No. 642200 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34
Screwdriver bits for Torx®	8 pcs. No. 643629 size TX25; TX27; TX30; TX40; TX45; TX50; TX55; TX60	8 pcs. similar to No. 643650 size TX25; TX27; TX30; TX40; TX45; TX50; TX55; TX60
T-handle	1 pc. No. 641329 size 295	1 pc. No. 641300 size 300
Extensions	3 pcs. No. 641029 size 75; 130; 255	3 pcs. No. 641000 size 75; 130; 255
1 each hexagon socket	1 pc. No. 641629 size 1/2	1 pc. No. 641600 size 1/2
Ratchet	1 pc. No. 640025 size 1/2	1 pc. No. 640100 size 1/2
Presented in	ABS plastic box	

½″ | 8-34

63 9066

10-32 | 5-14

With hexagon sockets and **TiN-coated** screwdriver bits. TiN-coated blades for high bonding strength and resistance to abrasion. With optimised corrosion protection.

Application: For hexagon head screws / nuts with thread M6 – M22, hexagon socket head screws with thread M6 – M18,
internal Torx® screws with thread M4 – M10.

Plastic case can be used as a stand with tray for parts.

	630 63 7940 HAZET
	Socket set 1/2 inch square drive **32 pieces**
	XXX
Length mm	355
Width mm	235
Height mm	65
Supplied with: Socket single hexagon	16 pcs. size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32 mm
Hexagon bits, TiN-coated	7 pcs. No. 643233 size 5; 6; 7; 8; 10; 12; 14
Screwdriver bits for Torx®, TiN-coated	6 pcs. size TX20; TX25; TX30; TX40; TX45; TX50
Extensions	1 pc. size 123 mm
Universal joint	1 pc.
Ratchet	1 pc.
Presented in	Plastic case with stand

½″ | 10-32 | 5-14

63 7940

8-34 | 4-14 | Surface Drive | 8G | 20G

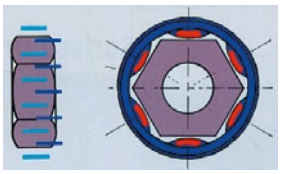
The Surface Drive profile works directly on the faces of the nuts and bolts; weaker corners are protected. Even intermediate sizes (e.g. inch size bolts) and worn bolt heads can be tightened or released using the Surface Drive profile. The Wobble-Fix extensions allow use at an angle and can be secured by clicking into place.
All tools are held securely for easy access in a specially moulded hard-wearing **PUR foam inlay**.

Material: Chrome vanadium steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M22 and 1/4 – 7/8 inch (American inch size) and hexagon socket head screws with thread M5 – M18.

Note: The range offers in addition space for 4 pieces of small parts storage bins No. 951251 size 2×3/1 or 2 pieces of small parts storage bins No. 951251 size 2×6/1 (not included in the scope of supply).

inches



mm

Type	61A 63 8025 Garant Socket set 1/2 inch square drive 35 pieces
SD	XXX
Length mm	510
Width mm	294
Height mm	61
Supplied with:	19 pcs. No. 642325 size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34
Hexagon sockets, Surface Drive	
Hexagon screwdriver bits	8 pcs. No. 643229 size 4; 5; 6; 7; 8; 10; 12; 14
T-handle	1 pc. No. 641329 size 295
Extensions "Wobble-Fix"	2 pcs. No. 641129 size 125; 250
Universal joint	1 pc. No. 641629 size 1/2
Ratchet	1 pc. No. 640025 size 1/2
Converter	1 pc. similar to No. 650000 size 5 drive input hexagon 7/16 inch E 11.2 - drive output square 1/2 inch
Adapters	2 pcs. similar to No. 649500 drive input square socket 3/8 inch - drive output square 1/2 inch drive input square socket 1/2 inch - drive output square 3/8 inch
Presented in	ABS plastic box

1/2" | 8-34 | 4-14 | Surface Drive | 8G | 20G

63 8025

8-30 | 5-14

Material: Chrome alloy steel, chrome-plated.

Application: For hexagon head screws / nuts with thread M5 – M20, external Torx® with thread M6 – M20. Hexagon socket head screws with thread M6 – M18, internal Torx® with thread M4 – M14.

	63A 63 9261 STAHLWILLE Socket set 1/2 inch square drive 39 pieces
	XXX
Length mm	481
Width mm	288
Height mm	82
Supplied with:	12 pcs. No. 642200 size 8; 10; 13; 16; 17; 18; 19; 21; 22; 24; 27; 30
Socket single hexagon	
Sockets for Torx®	7 pcs. No. 642700 size E10; E12; E14; E16; E18; E20; E24
Hexagon screwdriver bits	6 pcs. No. 643200 size 5; 6; 8; 10; 12; 14
Screwdriver bits for Torx®	9 pcs. No. 643650 size TX20; TX25; TX27; TX30; TX40; TX45; TX50; TX55; TX60
T-handle	1 pc. No. 641300 size 300
Extensions	2 pcs. No. 641000 size 130; 255
Universal joint	1 pc. No. 641600 size 1/2
Ratchet	1 pc. No. 640100 size 1/2
Presented in	ABS plastic box

1/2" | 8-30 | 5-14

63 9261

Bits and sockets 1/2 inch

Drive components / connecting parts to **DIN 3122 / 3123;**
sockets to **DIN 3124.**
Internal / external square drives to **DIN 3120.**

Material:
63 9404 – Chrome alloy steel, chrome-plated.
63 9402/9408 – Chrome vanadium steel, chrome-plated.
Application: For hexagon socket head screws with thread M5 – M27.

Number of inserts		61A 63 9402 Garant	63A 63 9404 Stahlwille	62A 63 9408 Holex
		Set of hexagon screwdriver bits 1/2 inch square drive		
		10 pieces		
10		XXX	XXX	XXX
Length	mm	257	227	257
Width	mm	147	131	149
Height	mm	45	57	47
Supplied with: Screwdriver bits hexagon		10 pcs. No. 643229 size 4; 5; 6; 7; 8; 10; 12; 14; 17; 19	10 pcs. No. 643200 size 4; 5; 6; 7; 8; 10; 12; 14; 17; 19	10 pcs. No. 643220 size 4; 5; 6; 7; 8; 10; 12; 14; 17; 19
Presented in		ABS plastic box		

1/2″ | 5G 10G | 4-19

63 9402

4-19

63 9404

4-19

63 9408

Material:
63 9504 – Chrome alloy steel, chrome-plated.
63 9501/9528 – Chrome vanadium steel, chrome-plated.
Application: For internal Torx® screws with thread M4 – M14.

Number of inserts		61A 63 9501 Garant	63A 63 9504 Stahlwille	62A 63 9528 Holex
		Set of bits for Torx®, 1/2 inch square drive		
		10 pieces		
10		XXX	XXX	XXX
Length	mm	257	227	257
Width	mm	147	131	149
Height	mm	45	57	47
Supplied with: Screwdriver bits for Torx®		10 pcs. No. 643629 size TX20; TX25; TX27; TX30; 2×TX40; TX45; TX50; TX55; TX60	10 pcs. No. 643650 size TX20; TX25; TX27; TX30; 2×TX40; TX45; TX50; TX55; TX60	10 pcs. No. 643620 size TX20; TX25; TX27; TX30; 2×TX40; TX45; TX50; TX55; TX60
Presented in		ABS plastic box		

5G 10G

63 9501

63 9504

63 9528

Material: Chrome alloy steel, chrome-plated.
Application:
63 9508 – For external Torx® screws with thread M8 – M20.
63 9511 – For Trisquare / XZN screws with thread M6 – M14.

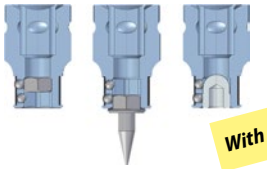
	63A 63 9508 Stahlwille	63A 63 9511 Stahlwille
	Set of sockets for Torx®, 1/2 inch square drive	Set of tri-square screwdriver bits, 1/2 inch square drive
	8 pieces	
	XXX	XXX
Length mm	227	227
Width mm	131	131
Height mm	57	57
Supplied with: Sockets	8 pcs. No. 642700 size E10; E11; E12; E14; E16; E18; E20; E24	5 pcs. No. 642800 (short) size M6; M8; M10; M12; M14 3 pcs. No. 642900 (long) size M8; M10; M12
Presented in	ABS plastic box	

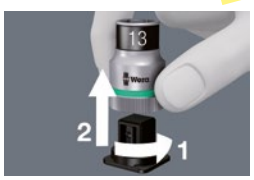
63 9508

63 9511

Material: Chrome molybdenum steel, matt chrome-plated.
Application: For hexagon head screws / nuts, hexagon socket with thread M6– M12.

	63F 63 9430 Wera
	Set of hexagon sockets, 1/2 inch square drive
	10 pieces
	XXX
Length mm	165
Width mm	140
Height mm	65
Supplied with: Socket single hexagon	10 pcs. size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19 mm
Presented in a	Textile wallet with hook and loop fastener





With retainer function

TAKE IT EASY TOOL FINDER

10-19

63 9430

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.
Application:
63 9409 – For hexagon socket head screws with thread M6 – M18.
63 9509 – For internal Torx® screws with thread M6 – M14.

		63A 63 9409	63A 63 9509
		STAHLWILLE	STAHLWILLE
		Set of hexagon screwdriver bits 1/2 inch square drive	Set of bits for Torx®, 1/2 inch square drive
		7 pieces, long	**6 pieces, long**
		XXX	XXX
Length	mm	322	322
Width	mm	135	135
Height	mm	57	57
Supplied with: Screwdriver bits		7 pcs. size 5; 6; 7; 8; 10; 12; 14 mm	6 pcs. size TX30; TX40; TX45; TX50; TX55; TX60
Presented in		ABS plastic box	

5-14

63 9409

63 9509

Material: Chrome molybdenum steel, matt chrome-plated.
Application:
63 9416 – For hexagon socket head screws with thread M5 – M24.
63 9417 – For hexagon socket head screws with thread M5 – M12.

		63F 63 9416	63F 63 9417
		Wera	Wera
		Set of hexagon screwdriver bits 1/2 inch square drive	
		9 pieces	**6 pieces, long**
		XXX	XXX
Length	mm	165	165
Width	mm	140	140
Height	mm	65	65
◉ **Supplied with:** Screwdriver bits		9 pcs. size 4; 5; 6; 7; 8; 10; 12; 14; 17 mm	6 pcs. size 4; 5; 6; 7; 8; 10 mm
Presented in a		Textile wallet with hook and loop fastener	

TAKE IT EASY TOOL FINDER

With retainer function

4-17

63 9416

4-10

63 9417

Material: Chrome molybdenum steel, matt chrome-plated.
Application:
63 9516 – For internal Torx® screws with thread M4 – M14.
63 9517 – For internal Torx® screws with thread M4 – M10.

		63F 63 9516	63F 63 9517
		Wera	Wera
		Set of bits for Torx®, 1/2 inch square drive	
		9 pieces	**6 pieces, long**
		XXX	XXX
Length	mm	165	165
Width	mm	140	140
Height	mm	65	65
✹ **Supplied with:** Screwdriver bits		9 pcs. size TX20; TX25; TX27; TX30; TX40; TX45; TX50; TX55; TX60	6 pcs. size TX20; TX25; TX30; TX40; TX45; TX50
Presented in a		Textile wallet with hook and loop fastener	

TAKE IT EASY TOOL FINDER

With retainer function

63 9516

63 9517

TiN-coated blades for extremely high bonding strength and resistance to abrasion. With optimised corrosion protection.
Material: Sleeve of chrome vanadium steel, non-flaking, chrome-plated. Blade of special steel with TiN coating.
Application:
63 9406 – For hexagon socket head screws with thread M6 – M24.
63 9506 – For internal Torx® screws with thread M4 – M14.

		630 63 9406	630 63 9506
		HAZET	HAZET
		Set of hexagon bits, TiN-coated, 1/2 inch square drive	Set of TiN-coated bits for Torx®, 1/2 inch square drive
		9 pieces	
		XXX	XXX
Length	mm	185	185
Width	mm	153	153
Height	mm	52	52
◉ ✹ **Supplied with:** Screwdriver bits		9 pcs. No. 643233 size 5; 6; 7; 8; 9; 10; 12; 14; 17	9 pcs. size TX20; TX25; TX27; TX30; TX40; TX45; TX50; TX55; TX60
Presented in		Smart case with stand-up function.	

5-17

63 9406

63 9506

Drive part 1/2 inch

½"

Material selection and special forging method guarantee optimal functioning and long life.
Standard: External square drives to **DIN 3120-A 12.5** with spring ball.

Ratchet reversible

With reversing lever for right-hand and left-hand threads.
Standard: **DIN 3122-D 12.5**
Material:
64 0025/0150/0160/0190 – Chrome vanadium steel, chrome-plated.
64 0100/0200 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 0025

64 0100

64 0200

Type			1/2	overall length mm	No. of teeth
61A 64 0025	Garant	Reversible ratchet, 1/2 inch with ejector	XXX	263	40
63A 64 0100	STAHLWILLE	Reversible ratchet, 1/2 inch	XXX	266	36
63A 64 0200	STAHLWILLE	Reversible ratchet, 1/2 inch extra long	XXX	380	36
63R 64 0150	Koken	Reversible ratchet, 1/2 inch with ejector	XXX	250	30
63O 64 0160	HAZET	Reversible ratchet, 1/2 inch	XXX	275	32
62A 64 0190	HOLEX	Reversible ratchet, 1/2 inch with ejector	XXX	255	40

64 0150

64 0160

64 0190

Reversible flexi-head ratchet with ejector

With reversing lever for right-hand and left-hand threads.
Standard: **DIN 3122-D 12.5**
Material: Chrome vanadium steel, chrome-plated.

64 0235

64 0237

				overall length mm	No. of teeth
63R 64 0235	Koken	Flexi-head ratchet, 1/2 inch with ejector	XXX	330	24
62A 64 0237	HOLEX		XXX	285	72

Heavy-duty ratchet driver „Koloss" with hammer function

64 0250 – Heavy-duty ratchet driver with forged hammer head and push-through square. Double-release toothing for only 6° working arc. Hollow end to the handle for extension or for spreader and centring mandrel.

Suitable for:
64 0260/0270 – Heavy-duty ratchet "Koloss" No. 640250.

Application:
64 0250 – 2 tools in one for heavy bolt-tightening / assembly work e. g. in plant installation, shipbuilding, scaffolding, maintenance work etc.

Supplied with:
64 0250 – Ratchet with protective elastomer pad and nylon belt strap.

Extremely robust – for loads up to 600 Nm

64 0250

Double-release toothing

Hollow end to the handle

64 0260

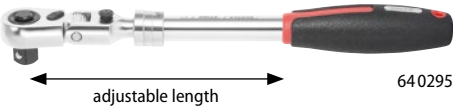
64 0270

				overall length mm	No. of teeth
63F 64 0250		Heavy-duty ratchet, 1/2 inch "Koloss" with hammer function	XXX	340	30
63F 64 0260	Wera	290 mm extension for "Koloss" ratchet	XXX	340	–
63F 64 0270		Spreader and centring mandrel for "Koloss" ratchet	XXX	135	–

Reversible telescopic ratchet

Fixing is performed by the locking ring. With reversing lever for right-hand and left-hand threads.
64 0291 – Steplessly extendable from 414 – 614 mm length. Reversible fine-tooth ratchet with 90 teeth. Maximum permissible torque 1000 Nm.
64 0295 – Extendable from 290 – 430 mm length in 6 stages. **With lockable swivel head and ejector**. Maximum permissible torque 600 Nm.

64 0291



64 0295

Type			1/2	overall length mm	No. of teeth
63O 64 0291	HAZET	Steplessly extendable telescopic precision ratchet 1/2 inch	XXX	414 – 614	90
62A 64 0295	HOLEX	Extendable telescopic precision ratchet, 1/2 inch	XXX	290 – 430	72

Precision ratchet with extension

½″

With reversing lever for right-hand and left-hand threads. With ejector.
Material: Chrome molybdenum steel, matt chrome-plated.
Supplied with: Precision ratchet with extension 290 mm.

				overall length mm	No. of teeth
63F 64 0385	Wera	Precision ratchet, 1/2 inch with ejector, 290 mm extension	XXX	280 – 505	72

64 0385

Precision ratchet push-through, with ejector

With captive push-through square for reversible right and left-hand action. With ejector.
Material: Chrome molybdenum steel, matt chrome-plated.

				overall length mm	No. of teeth
63F 64 0390	Wera	Precision ratchet "Zyklop Metal" push-through square drive 1/2 inch with ejector	XXX	281	76

64 0390

Reversible precision ratchet

With reversing lever for right-hand and left-hand threads. With ejector.
Material: Chrome molybdenum steel, matt chrome-plated.

				overall length mm	No. of teeth
63F 64 0395	Wera	Precision ratchet "Zyklop Metal" reversible, 1/2 inch with ejector	XXX	281	72

64 0395

64 0440 – With reversing lever for right-hand and left-hand threads and Quick Release.
64 0450 – With reversing disc for right-hand and left-hand threads.
64 0480/0483 – With reversing lever for right-hand and left-hand threads.
Material:
64 0440/0450 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
64 0480/0483 – Chrome vanadium steel, chrome-plated.

Type			1/2	overall length mm	No. of teeth
63A 64 0440	STAHLWILLE	Precision ratchet, 1/2 inch with ejector **QuickRelease**	XXX	266	80
63A 64 0450	HAZET	Precision ratchet, 1/2 inch	XXX	265	60
630 64 0480	HAZET	Precision ratchet, 1/2 inch	XXX	275	90
630 64 0483	HAZET	Precision ratchet, extra long, 1/2 inch	XXX	415	90

QuickRelease 64 0440

64 0450

64 0480

Double load capacity (static and dynamic in relation to DIN)

64 0483

Precision reversible ratchet, with swivel head

Ratchet head can be swivelled with defined engagement positions at 0° (use like a screwdriver) and 75° and 90° positions to either side. Working arc 5°, with ejector and reversing plate for right-hand and left-hand threads.

				overall length mm	No. of teeth
63F 64 0490	Wera	Precision ratchet "Zyklop" reversible, 1/2 inch **with swivel head and ejector**	XXX	277	72

64 0490
Swivel head

Precision ratchet, with twist handle

For conventional use 6° working arc, for use with the swivel handle 0° working angle. With ejector and reversing disc for right-hand and left-hand rotation.

				overall length mm	No. of teeth
63V 64 0495	FACOM	Reversible precision ratchet, 1/2 inch with twist handle and ejector	XXX	300	60

64 0495
Twist handle

Push-through ratchet

½″

With **push-through square** for reversible right-hand and left-hand action. With 2-component handle.
Material: Chrome vanadium steel, chrome-plated.

64 0520

Type		1/2	overall length mm	No. of teeth
66A 64 0520	HEYCO Push-through ratchet, 1/2 inch	XXX	270	30

Push-through ratchet with short handle, non-slip

Material: Chrome molybdenum steel, chrome-plated.
Application: Ideal for working in restricted places, **working arc 0°.** With captive push-through square for reversible right and left-hand action.

64 0720

			overall length mm
62A 64 0720	HOLEX Push-through ratchet, 1/2 inch with short handle	XXX	115

Swivel handle

Joint with 180° arc. With 2-component handle.
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

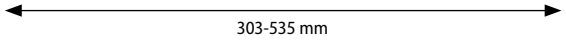
64 1200

overall length	mm	396	468	610
63A 64 1200	STAHLWILLE Swivel handle, 1/2 inch	XXX	XXX	XXX
overall length	mm	396	468	610

Wheel nut wrench, extendable

Very sturdy design, drop forged. Extendable from 303 – 535 mm.
Material: Chrome vanadium steel, chrome-plated.

64 1220



303-535 mm

630 64 1220	HAZET Wheel nut wrench extendable, 1/2 inch	XXX	
overall length	mm	303 – 535	

Crank

Swing radius 105 mm. The QuickRelease locking system prevents inadvertent release or loss of the tool. With steel handle.
Standard: **DIN 3122-B 12.5**
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

QuickRelease 64 1801

Type		1/2
63A 64 1801	STAHLWILLE Crank, 1/2 inch **QuickRelease**	XXX
overall length	mm	456

T-handle

T-handle with movable sliding head.
64 1350 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.
Standard: **DIN 3122-A 12.5**
Material:
64 1300/1350 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
64 1320/1329 – Chrome vanadium steel, chrome-plated.

64 1329

64 1300

64 1320

QuickRelease 64 1350

overall length	mm	295	300
61A 64 1329	Garant	XXX	–
63A 64 1300	STAHLWILLE T-handle, 1/2 inch	–	XXX
62A 64 1320	HOLEX	XXX	–
63A 64 1350	STAHLWILLE T-handle, 1/2 inch **QuickRelease**	–	XXX

½″

Adaptor, 1/2 inch

Material selection and special forging process guarantee optimal functioning and long life.

Standard: External square drives to **DIN 3120-A 12.5** with sprung ball, internal square drives to **DIN 3120-C 12.5** with grooves.

Suitable for: Manual use.

Ratchet attachment, reversible

Reversible, for right-hand and left-hand threads.

Suitable for: For drive components No. 641200 – 641350 and 641800, but also as a ratchet for torque wrenches with rigid 1/2 inch square drive.

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 0800

63A	64 0800	STAHLWILLE Ratchet attachment, 1/2 inch	XXX
overall length		mm	68
No. of teeth			20

Extension

64 1045 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.

64 1029/1000 – Drives and connectors can be assembled "blind" due to chamfered edges on male and female couplings and four snap grooves. With "collar" for totally solid but freely interchangeable fit.

Standard: **DIN 3123-B 12.5**

Material:

64 1000/1045 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 1029/1020 – Chrome vanadium steel, chrome-plated.

64 1029

64 1000

64 1020

overall length		mm	50	75	130	255
61A	64 1029	Garant	XXX	XXX	XXX	XXX
63A	64 1000	STAHLWILLE Extension, 1/2 inch	XXX	XXX	XXX	XXX
62A	64 1020	HOLEX	XXX	XXX	XXX	XXX
63A	64 1045	STAHLWILLE Extension, 1/2 inch **QuickRelease**	XXX	XXX	XXX	XXX

QuickRelease 64 1045

"Wobble" extension

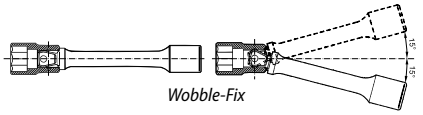
"Blind" interlocking possible due to bevelled edges on male and female coupling. Pivot angle up to 15° available to either side.

64 1129/1135 – Two-stage extension, can be fixed by registration.

Material:

64 1134 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 1129/1135 – Chrome vanadium steel, chrome-plated.



Wobble-Fix

64 1129

64 1135

overall length		mm	50	75	125	130	250	255
61A	64 1129	Garant Extension, 1/2 inch **"Wobble-Fix"**	–	XXX	XXX	–	XXX	–
63R	64 1135	Koken Extension, 1/2 inch **"Wobble-Fix"**	XXX	–	XXX	–	XXX	–
63A	64 1134	STAHLWILLE Extension, 1/2 inch **"Wobble Drive"**	XXX	XXX	–	XXX	–	XXX

64 1134

Universal joint

64 1650 – The **QuickRelease** locking system prevents inadvertent release or loss of a tool.

64 1629/1600 – Drives and connectors can be assembled "blind" due to chamfered edges on male and female couplings and four snap grooves.

Standard: **DIN 3123-C 12.5**

Material:

64 1600/1650 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 1629/1620 – Chrome vanadium steel, chrome-plated.

64 1629

64 1600

64 1620

Type			1/2	overall length mm
61A	64 1629	Garant	XXX	67.5
63A	64 1600	STAHLWILLE Universal joint, 1/2 inch	XXX	71
62A	64 1620	HOLEX	XXX	67.5
63A	64 1650	STAHLWILLE Universal joint, 1/2 inch **QuickRelease**	XXX	80

QuickRelease 64 1650

½″

Hexagon socket, 1/2 inch, short

Forged from high quality steel, internally bevelled for easy fitting to bolt heads. Close tolerance internal square for secure fit on the tool. Square socket drives to **DIN 3120.**

Bi-hexagon socket

64 2100 – Optimum grain orientation due to special forging process. Close tolerance width across flats. No rounding of bolt corners, nuts and bolt heads are protected. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish. **AS drive** profile.

64 2129 – **Close tolerance widths across flats** protects nuts and bolt heads. **Thin walls** for access to restricted places. Bi-hexagon (double hexagon) with **HT Drive** profile that protects the corners of nuts and bolt heads.

Standard: **DIN 3124**

Material:

64 2100 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

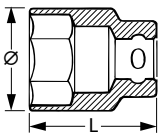
64 2120/2129 – Chrome vanadium steel, chrome-plated.

Note:

64 2120/2129 – GARANT and HOLEX bi-hex sockets including are available also in imperial sizes from our eShop (GARANT: No. 642132; HOLEX: No. 642122).

HT drive profile 64 2129

AS drive *profile* 64 2100



64 2120

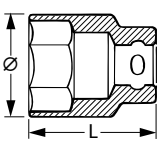
Width across flats	mm	8	9	10	11	12	13	14	15	16	17	18	19	20
61A 64 2129 Garant		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 64 2100 STAHLWILLE Bi-hexagon socket, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 64 2120 HOLEX		XXX	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (64 2129)	mm	12.5	14	15.4	16.6	17.9	19.1	20.4	21.4	22.6	24.1	25.4	26.5	27.8
Ø drive output end (64 2100)	mm	13	13.7	14.5	15.8	17	18.3	19.9	21.2	22.4	24	24.7	26.2	27.2
Ø drive output end (64 2120)	mm	12.5	–	15.4	16.6	17.9	19.1	20.4	21.6	22.9	24.1	25.4	26.5	27.8
Length (64 2129)	mm							38						
Length (64 2100)	mm	38	38	38	38	38	38	38	38	38	38	38	38	42
Length (64 2120)	mm	38	–	38	38	38	38	38	38	38	38	38	39	39

Width across flats	mm	21	22	23	24	25	26	27	28	30	32	34	36
61A 64 2129 Garant		XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX	XXX	XXX	–
63A 64 2100 STAHLWILLE Bi-hexagon socket, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 64 2120 HOLEX		XXX	XXX	–	XXX	–	–	XXX	–	XXX	XXX	–	XXX
Ø drive output end (64 2129, 64 2120)	mm	28.5	29.9	31.1	32	–	34.5	36	37.5	39.8	42	45	48
Ø drive output end (64 2100)	mm	28.7	29.7	30.7	32	33.2	34.4	36.2	37.4	39.7	42.2	45	48
Length (64 2129)	mm	38	41	41	41	–	44	44	44	44	44	44	–
Length (64 2100)	mm	42	42	42	42	42	42	45	45	45	47	47	52
Length (64 2120)	mm	39	41	–	41	–	–	44	–	44	44	–	50

Bi-hexagon socket, inch sizes (American inch sizes)

Optimum grain orientation due to special forging process. Close tolerance width across flats. No rounding of bolt corners, nuts and bolt heads are protected. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish. **AS drive** profile.

Material: HPQ® high performance steel, non-flaking chrome-plated over nickel.



AS drive *profile* 64 2400

Width across flats	inch	3/8	7/16	1/2	9/16	19/32	5/8	11/16	3/4	25/32
63A 64 2400 STAHLWILLE Bi-hexagon socket, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	14.3	16.3	18.3	20.3	21.3	22.4	24.2	26.2	27
Length	mm	38	38	38	38	38	38	38	38	41

Width across flats	inch	13/16	7/8	15/16	1	1.1/16	1.1/8	1.3/16	1.1/4
63A 64 2400 STAHLWILLE Bi-hexagon socket, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	28.2	29.7	32	33.7	36.2	38.1	39	40
Length	mm	41	42	42	42	45	45	45	45

Hexagon socket

64 2200 – Optimum grain orientation due to special forging process. Close tolerance width across flats. No rounding of bolt corners, nuts and bolt heads are protected. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish. **AS drive** profile.

64 2229 – **Close tolerance widths across flats** protects nuts and bolt heads. **Thin walls** for access to restricted places. Hexagon with **HT drive** profile protects the corners of nuts and bolts.

Standard: **DIN 3124**

Material:

64 2200 – HPQ® high performance steel, non-flaking chrome-plated over nickel.

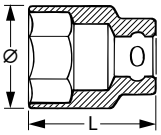
64 2220/2229 – Chrome vanadium steel, chrome-plated.

Note:

64 2229/2220 – GARANT and HOLEX hexagon sockets including are available also in imperial sizes from our eShop (GARANT: No. 642232; HOLEX: No. 642222).

***HT drive** profile* 64 2229

***AS drive** profile* 64 2200



64 2220

Width across flats	mm	8	9	10	11	12	13	14	15	16	17	18	19
61A 64 2229 Garant		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 64 2200 STAHLWILLE Hexagon socket, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 64 2220 HOLEX		XXX	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (64 2229)	mm	12.5	14	15.4	16.6	17.9	19.1	20.4	21.4	22.6	24.1	25.4	26.5
Ø drive output end (64 2200)	mm	13	13.7	14.5	15.8	17	18.3	19.9	21.2	22.4	24	24.7	26.2
Ø drive output end (64 2220)	mm	12.5	–	15.4	16.6	17.9	19.1	20.4	21.6	22.9	24.1	25.4	26.5
Length	mm	38											

Width across flats	mm	20	21	22	23	24	25	26	27	28	30	32	34	36
61A 64 2229 Garant		XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX	XXX	XXX	–
63A 64 2200 STAHLWILLE Hexagon socket, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 64 2220 HOLEX		XXX	XXX	XXX	–	XXX	–	–	XXX	–	XXX	XXX	–	XXX
Ø drive output end (64 2229, 64 2220)	mm	27.8	28.5	29.9	31.1	32	–	34.5	36	37.5	39.8	42	45	48
Ø drive output end (64 2200)	mm	27.2	28.7	29.7	30.7	32	33.2	34.4	36.2	37.4	39.7	42.2	45	48
Length (64 2229, 64 2220)	mm	38	38	41	41	41	–	44	44	44	44	44	44	50
Length (64 2200)	mm	42	42	42	42	42	42	42	45	45	45	47	47	52

Hexagon Surface Drive socket

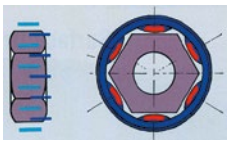
Surface Drive

The **Surface Drive** socket opening allows a tight fit and higher effectiveness. The pressure works directly on the faces of the nuts and bolts; weaker corners are protected. Intermediate sizes e.g. in inches (A/F, BSF, BSW) and rounded heads can be tightened or loosened using the Surface Drive.

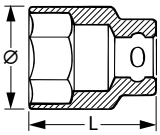
Standard: **DIN 3124**

Material: Chrome vanadium steel, chrome-plated.

inch



mm



64 2325

Width across flats	mm	8	9	10	11	12	13	14	15	16	17
61A 64 2325 Garant Surface Drive hexagon socket, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
suitable for inches (American sizes)	inch	5/16	–	3/8	13/32; 7/16	15/32	1/2	17/32	19/32; 9/16	5/8	21/32
Ø drive output end	mm	12.5	14	15.4	16.6	17.9	19.1	20.4	21.4	22.6	24.1
Length	mm	38									

Width across flats	mm	18	19	21	22	24	27	30	32	34	36
61A 64 2325 Garant Surface Drive hexagon socket, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
suitable for inches (American sizes)	inch	11/16	3/4	13/16	–	15/16	1.1/16	1.3/16	1,1/4	–	–
Ø drive output end	mm	25.4	26.5	28.5	29.9	32	36	39.8	42	45	48
Length	mm	38	38	38	41	41	44	44	44	44	50

Socket for Torx® screws

Optimum grain orientation due to special forging process. Close tolerance width across flats. No rounding of bolt corners. Nuts and bolt heads are protected. Hardened in an oil bath, stress-relieved and distortion-free for a precision fit. Smoothed finish.

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 2700

Torx® profile		E10	E11	E12	E14	E16	E18	E20	E24
63A 64 2700 STAHLWILLE Socket, 1/2 inch for Torx®		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A	mm	9.4	10.1	11.1	12.9	14.7	16.6	18.4	22.1
Ø drive output end	mm	13	14	14.9	16.7	19	21	23.5	27.8
Length	mm	38	38	38	38	38	38	38	41.2

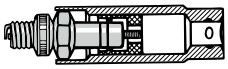
½″

Hexagon socket, 1/2 inch, long

Forged from high quality steel, internally bevelled for easy fitting to bolt heads.
Close tolerance internal square for secure fit on the tool. Square socket drives to **DIN 3120.**

Bi-hexagon socket for spark plugs

With rubber insert for holding the spark plug.
Optimum grain orientation due to special forging process. Close tolerance width across flats.
No rounding of bolt corners, nuts and bolt heads are protected.
Hardened in an oil bath, stress-relieved and distortion-free for a precision fit.
Smoothed finish.
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.



***AS drive** profile* 64 2450

Width across flats	mm	16	20,8
○ 63A **64 2450** STAHLWILLE Bi-hexagon spark plug socket, 1/2 inch		XXX	XXX
Width across flats	inch	5/8	13/16
∅ drive output end	mm	22.4	27.7
Length	mm	83	
Retention mechanism for spark plugs		Rubber retainer	

Bi-hexagon socket, long

64 2500 – Optimum grain orientation due to special forging process. Close tolerance width across flats.
No rounding of bolt corners, nuts and bolt heads are protected.
Hardened in an oil bath, stress-relieved and distortion-free for a precision fit.
Smoothed finish. Bi-hexagon with **AS drive** profile.

64 2529 – **Close tolerance widths across flats** protects nuts and bolt heads.
Thin walls for access to restricted places.
Bi-hex **HT drive** profile protects the corners of nuts and bolt heads.

Standard: **DIN 3124-L**

Material:

64 2500 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 2529/2520 – Chrome vanadium steel, chrome-plated.

Note:

64 2529/2520 – GARANT and HOLEX bi-hex sockets, long, including are available also in imperial sizes from our eShop (GARANT: No. 642532; HOLEX: No. 642522).

***HT drive** profile* 64 2529

***AS drive** profile* 64 2500

64 2520

Width across flats	mm	9	10	11	12	13	14	15	16	17	18
○ 61A **64 2529** Garant		–	XXX	–	–	XXX	XXX	XXX	XXX	XXX	XXX
○ 63A **64 2500** STAHLWILLE Bi-hexagon socket long, 1/2 inch		–	XXX	–	–	XXX	XXX	XXX	XXX	XXX	XXX
○ 62A **64 2520** HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end (64 2529)	mm	–	15.4	–	–	19.1	20.4	21.3	22.5	24.1	25.4
∅ drive output end (64 2500)	mm	–	14.5	–	–	18.3	19.9	21.2	22.4	24	24.7
∅ drive output end (64 2520)	mm	14	15.4	16.6	17.9	19.1	20.4	21.6	22.9	24.1	25.4
Length (64 2529, 64 2520)	mm	77									
Length (64 2500)	mm	–	83	–	–	83	83	83	83	83	83

Width across flats	mm	19	20	21	22	23	24	27	28	30	32
○ 61A **64 2529** Garant		XXX	–	XXX	XXX	–	XXX	XXX	–	XXX	XXX
○ 63A **64 2500** STAHLWILLE Bi-hexagon socket long, 1/2 inch		XXX	–	XXX	XXX	–	XXX	XXX	–	XXX	XXX
○ 62A **64 2520** HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end (64 2529)	mm	26.5	–	28.5	29.9	–	32	36	–	39.8	42
∅ drive output end (64 2500)	mm	26.2	–	28.7	29.7	–	32	36.2	–	39.7	42.4
∅ drive output end (64 2520)	mm	26.6	27.8	28.5	29.9	31.1	32	36	37.5	39.8	42
Length (64 2529, 64 2520)	mm	77									
Length (64 2500)	mm	83	–	83	83	–	83	83	–	83	83

Hexagon socket with universal joint

Optimum grain orientation due to special forging process. Close tolerance width across flats.
No rounding of bolt corners, nuts and bolt heads are protected.
Hardened in an oil bath, stress-relieved and distortion-free for a precision fit.
Smoothed finish. Ring end with **AS drive** profile.
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

***AS drive** profile* 64 2600

Width across flats	mm	13	16	17	18	19
○ 63A **64 2600** STAHLWILLE Hexagon socket with universal joint, 1/2 inch		XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	18.4	22.4	23.5	25	26.3
Length	mm	70	69	70	70	70

½″

Bit, 1/2 inch, short

High quality products made of two parts. Hardened body for receiving and transferring drive energy.
Closely toleranced square drive for a safe and wobble-free fit on the drive tool. Square socket drives to **DIN 3120.**

Hexagon bit for socket head screws

Standard: **DIN 7422**

Material:

64 3200 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

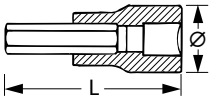
64 3220 – Chrome vanadium steel, chrome-plated.

64 3229 – Chrome vanadium steel, chrome-plated.
Bit made of hard tough material, bright finish.

Note:
64 3220/3229 – GARANT and HOLEX hexagon bits are available also in imperial sizes from our eShop (GARANT: No. 643232; HOLEX: No. 643222).

64 3229

64 3200



64 3220

Hexagon	mm	4	5	6	7	8	10	11	12	14	17	19
61A 64 3229 Garant	Hexagon screwdriver bit 1/2 inch	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX
63A 64 3200 STAHLWILLE		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 64 3220 HOLEX		XXX	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX
Ø drive end (64 3229)	mm	22.5	22.5	22.5	22.5	22.5	22.5	–	22.5	25	28	30
Ø drive end (64 3200)	mm	22.7	22.7	22.7	22.7	22.7	22.7	22.7	23.7	23.7	27.5	31
Ø drive end (64 3220)	mm	24	24	24	24	24	24	–	24	24	27	29
Length (64 3229)	mm	60	60	60	60	60	60	–	61	61	61	61
Length (64 3200)	mm						60					
Length (64 3220)	mm	58	58	58	58	58	58	–	60	60	60	60

Hexagon bit, TiN coated, for socket head screws

TiN-coated blades for extremely high bonding strength and resistance to abrasion. With optimised corrosion protection.

Standard: **DIN 7422**

Material: Sleeve of chrome vanadium steel, non-flaking, chrome-plated. Blade of special steel with TiN coating.

Application: Ideally suited to sustained loads such as series screw fastenings.

64 3233

Hexagon	mm	4	5	6	7	8	10	12	14	17	19
63D 64 3233 HAZET	Hexagon screwdriver bit 1/2 inch **TiN coated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end	mm	23	23	23	23	23	23	24.6	24.6	28.5	31.5
Length	mm	60									

Hexagon bit inch sizes for socket head screws

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

64 3210

Hexagon	inch	7/32	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4
63A 64 3210 STAHLWILLE Hexagon screwdriver bit 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end	mm	22.7	22.7	22.7	22.7	22.7	23.7	23.7	27.5	31
Length	mm	60								

Hexagon bit with pin guide, for socket head screws

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

Application: For Ribe CS screws to DIN 6912.

64 3400

Hexagon	mm	5	6	8	10	12	14
63A 64 3400 STAHLWILLE Hexagon screwdriver bit with pin guide, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end	mm	22.7	22.7	22.7	22.7	23.7	23.7
Length	mm	60					

Bit, for Torx® screws

Material:

64 3620 – Chrome vanadium steel, chrome-plated.
64 3629 – Chrome alloy steel, chrome-plated.
Bit made of hard tough material, bright finish.
64 3650 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

64 3629

64 3650

64 3620

Torx® profile		TX20	TX25	TX27	TX30	TX40	TX45	TX50	TX55	TX60	TX70
61A 64 3629	Garant	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
63A 64 3650	STAHLWILLE Bit for Torx®, 1/2 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 64 3620	HOLEX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
A	mm	3.8	4.4	5	5.5	6.6	7.8	8.8	11.2	13.2	15.5
Ø drive end (64 3629)	mm	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	–
Ø drive end (64 3650)	mm	22.7	22.7	22.7	22.7	22.7	22.7	22.7	23.7	23.7	27.5
Ø drive end (64 3620)	mm	22	22	22	22	22	22	22	25	25	–
Length (64 3629)	mm	60	60	60	60	60	60	60	60	60	–
Length (64 3650)	mm	55	55	55	55	55	55	55	58	58	60
Length (64 3620)	mm	55	55	55	55	55	55	55	55	55	–

Screwdriver bit

Blade width	mm	12	14	16
63R 64 3600	Koken Bit for slot-head, 1/2 inch	XXX	XXX	XXX
Ø drive end	mm	23	24	24
Length	mm		60	
Blade thickness	mm	2	2.5	2.5

64 3600

Trisquare socket head bit

Standard: **DIN 2324**

Material:

64 2800 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.
64 2850 – Chrome vanadium steel, chrome-plated.

Application:

64 2800 – For XZN screws.

64 2800

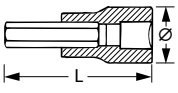
64 2850

for screws		M5	M6	M8	M10	M12	M14	M16
63A 64 2800	STAHLWILLE Tri-square screwdriver bit, short, 1/2 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 64 2850	HOLEX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end (64 2800)	mm	22.7	22.7	22.7	22.7	23.7	23.7	27.5
Ø drive end (64 2850)	mm	22	22	22	22	24	24	24
Length	mm				60			

Splined screwdriver bit

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

Application: For Ribe CV screws.



64 3100

for screws		M5	M6	M8	M10	M12	M14	M16
63A 64 3100	STAHLWILLE Splined screwdriver bit, 1/2 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end	mm	22.7	22.7	22.7	22.7	23.7	23.7	27.5
Length	mm	60	60	60	60	60	60	63

½″

Bit, 1/2 inch, long

High quality products made of two parts. Hardened body for receiving and transferring drive energy.
Closely toleranced square drive for a safe and wobble-free fit on the drive tool. Square socket drives to **DIN 3120.**

Hexagon bit, long, for socket head screws

Standard: **DIN 7422**

Material:

64 3300 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

64 3320 – Chrome vanadium steel, chrome-plated.

64 3329 – Chrome vanadium steel, chrome-plated.
Bit made of hard tough material, bright finish.

64 3360 – Chrome vanadium steel, satin chromium plated.

Advantage:

64 3360 – Hexagon screwdriver set **with retainer ball**, for secure clamping to the connected screw.

64 3360_5

64 3329

64 3300

64 3320

Hexagon		mm	4	5	6	7	8	10	12	14
61A 64 3360	Garant	Hexagon screwdriver bit 1/2 inch, long **with retainer ball**	XXX	XXX	XXX	–	XXX	XXX	–	–
61A 64 3329	Garant		–	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 64 3300	STAHLWILLE	Hexagon screwdriver bit 1/2 inch, long	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62A 64 3320	HOLEX		–	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end (64 3360)		mm	21.5	21.5	21.5	–	23.5	23.5	–	–
Ø drive end (64 3329)		mm	–	22.5	22.5	22.5	22.5	22.5	22.5	25
Ø drive end (64 3300)		mm	–	22.7	22.7	22.7	22.7	22.7	23.7	23.7
Ø drive end (64 3320)		mm	–	22	22	22	22	22	24	24
Length (64 3360, 64 3329)		mm	140							
Length (64 3300, 64 3320)		mm	–	120	120	120	120	140	140	140

Hexagon bit, long, TiN coated, for socket head screws

TiN-coated blades for high bonding strength and resistance to abrasion. With optimised corrosion protection.

Standard: **DIN 7422**

Material: Sleeve of chrome vanadium steel, non-flaking, chrome-plated.
Blade of special steel with TiN coating.

Application: Ideally suited to sustained loads such as series screw fastenings.

64 3333

Hexagon		mm	5	6	7	8	10	12	14
63D 64 3333	HAZET	Hexagon screwdriver bit 1/2 inch, long **TiN coated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end		mm	23	23	23	23	23	24.6	24.6
Length		mm	140						

Hexagon bit with ball point, long, for socket head screws

Material:

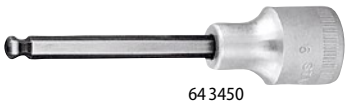
64 3420 – Chrome vanadium steel, chrome-plated.

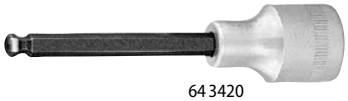
64 3439 – Chrome vanadium steel, satin chromium plated.

64 3450 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

Application: For screw tightening at angles less than 25°.

64 3439_5


64 3450


64 3420

Hexagon		mm	5	6	8	10
61A 64 3439	Garant		XXX	XXX	XXX	XXX
63A 64 3450	STAHLWILLE	Hexagon screwdriver bit 1/2 inch, long **with ball point**	XXX	XXX	XXX	XXX
62A 64 3420	HOLEX		XXX	XXX	XXX	XXX
Ø drive end (64 3439)		mm	23.5			
Ø drive end (64 3450)		mm	22.7			
Ø drive end (64 3420)		mm	22			
Length (64 3439)		mm	140			
Length (64 3450, 64 3420)		mm	100			

Bit, long, for Torx® screws

Material:

64 3639 – Chrome vanadium steel, satin chromium plated.

64 3660 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

Torx® profile			TX30	TX40	TX45	TX50	TX60
61A 64 3639	Garant	Torx® bit, 1/2 inch, long	XXX	XXX	XXX	XXX	–
63A 64 3660	STAHLWILLE		XXX	XXX	XXX	XXX	XXX
A		mm	5.5	6.6	7.8	8.8	13.2
Ø drive end (64 3639)		mm	23.5	23.5	23.5	23.5	–
Ø drive end (64 3660)		mm	22.7	22.7	22.7	22.7	23.7
Length (64 3639)		mm	140	140	140	140	–
Length (64 3660)		mm	120	140	140	140	140

64 3639_TX30

64 3660

Trisquare socket head bit

Standard: **DIN 2324**

Material:

64 2900 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
Bit made of hard toughened steel, bright finish.

64 2950 – Chrome vanadium steel, chrome-plated.

Application:

64 2900 – For XZN screws.

for screws			M8	M10	M12
63A 64 2900	STAHLWILLE	Trisquare bit, 1/2 inch, long	XXX	XXX	XXX
62A 64 2950	HOLEX		XXX	XXX	XXX
Ø drive end (64 2900)		mm	22.7		
Ø drive end (64 2950)		mm	22	22	24
Length		mm	140		

64 2900

64 2950

64

½″

FRIEDRICH Drive component / adapter / socket, 1/2 inch, fully insulated to VDE

With plastic insulation **up to 1000 V** to **DIN EN 60900 / VDE 0682-201**.

64 3820 – With security attachment, which prevents inadvertent loss of the socket.

Note: For working at voltages up to 1000 Volts. In safety areas only **fully insulated** tools (No. 643810 – 643841) may be used in combination.

			overall length mm
66A 64 3810	Ratchet, 1/2 inch **with locking reversible fully insulated**	XXX	260

64 3810

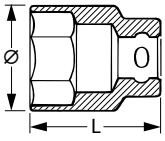
overall length		mm	125	250
66A 64 3820	Extension, 1/2 inch **fully insulated**		XXX	XXX
overall length		mm	125	250

64 3820

Width across flats		mm	10	11	12	13	14	16
66A 64 3840	Hexagon socket, 1/2 inch **fully insulated**		XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	19.5	20.5	20.5	22.4	24.2	26
Length		mm	56.5					

64 3840

Width across flats		mm	17	18	19	22	24	27
66A 64 3840	Hexagon socket, 1/2 inch **fully insulated**		XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	27.5	30	31	34	36.5	41
Length		mm	56.5	56.5	56.5	56.5	58	58



Width across flats		mm	10	11	12	13	14	16
66A 64 3841	Hexagon socket, 1/2 inch, long **fully insulated**		XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	19.5	20.5	20.5	22.4	24.2	26
Length		mm	96					

Width across flats		mm	17	18	19	22	24
66A 64 3841	Hexagon socket, 1/2 inch, long **fully insulated**		XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	27.5	30	31	34	36.5
Length		mm	96				

64 3841

½″

Air filter claw 1/2 inch

Application: For releasing air filters on HGV braking systems.

63A 64 2550	Air filter claw, 1/2 inch	XXX
Claw length	mm	60
overall height	mm	85
Clamping range	mm	100 – 145

64 2550

½″

Clip bar for 1/2 inch sockets

Plastic bar with clips which can be slid into position.

Application: For storage and ready access to 1/2 inch sockets.

62A 64 3690	Clip bar for 1/2 inch sockets	XXX
overall length	mm	305
Number of mountings		14

64 3690

Socket set 3/4 inch

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** External squares to DIN 3120-B 20 with spring pin, for sockets to DIN 3120-D 20 with hole and release button.

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

	63A 64 4000 Socket set 3/4 inch square drive **16 pieces**	¾″ 22-50
	XXX	
Length mm	575	
Width mm	220	
Height mm	86	
○ **Supplied with:** 10 hexagon sockets	No. 644500 size 22; 24; 27; 30; 32; 34; 36; 41; 46; 50	
1 sliding head	No. 645500	
1 universal joint	1 pc.	
2 extensions	No. 645400 200 and 400 mm	
1 ratchet head	No. 645000	
1 handle	No. 646200	
Presented in a	sheet metal case	

64 4000

	63A 64 4100 Socket set, 3/4 inch square drive **15 pieces**	¾″ 32-60
	XXX	
Length mm	575	
Width mm	220	
Height mm	86	
○ **Supplied with:** 9 hexagon sockets	No. 644500 size 32; 34; 36; 38; 41; 46; 50; 55; 60	
1 sliding head	No. 645500	
1 universal joint	1 pc.	
2 extensions	No. 645400 200 and 400 mm	
1 ratchet head	No. 645000	
1 handle	No. 646200	
Presented in a	sheet metal case	

64 4100

Material: Chrome vanadium steel, chrome-plated.

	62A 64 4200 Socket set 3/4 inch square drive **15 pieces**	¾″ 22-50
	XXX	
Length mm	540	
Width mm	190	
Height mm	80	
○ **Supplied with:** 10 hexagon sockets	No. 644550 size 22; 24; 27; 30; 32; 34; 36; 41; 46; 50	
1 T-handle with sliding head	1 pc.	
1 universal joint	1 pc.	
2 extensions	200 mm and 400 mm	
1 ratchet	1 pc.	
Presented in a	sheet metal case	

64 4200

¾″

Socket 3/4 inch

Forged from high quality steel, internally bevelled for easy fitting to bolt heads.
Close tolerance jaw widths. Internal squares to DIN 3120-D 20 with hole and release button.

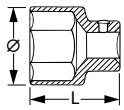
Hexagon socket

Standard: **DIN 3124-S**
Material:
64 4500 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
64 4550 – Chrome vanadium steel, chrome-plated.

Width across flats	mm	19	21	22	24	27	30	32	34
○ 63A 64 4500 STAHLWILLE	Hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○ 62A 64 4550 HOLEX	Hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end (64 4500)	mm	28.5	31	32	34	38.5	42	44.5	47
∅ drive output end (64 4550)	mm	29.2	31.2	32.2	34.2	38	42	44	47
Length (64 4500)	mm	50	50	51	51	54	58	58	60
Length (64 4550)	mm	50	50	50	51	52	54	56	56

Width across flats	mm	36	38	41	46	50	55	60
○ 63A 64 4500 STAHLWILLE	Hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○ 62A 64 4550 HOLEX	Hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end (64 4500)	mm	49.5	52	55.5	61	66	72	78
∅ drive output end (64 4550)	mm	50	52	56	62	68	74	80
Length (64 4500)	mm	60	64	67	73	80	80	80
Length (64 4550)	mm	58	60	64	66	70	76	78

AS-Drive profile 64 4500



64 4550

Bi-hexagon socket, inch sizes (American inch sizes)

Standard: **DIN 3120-D 20**
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

Width across flats	inch	7/8	15/16	1	1.1/16	1.1/8	1.1/4	1.5/16
○ 63A 64 4600 STAHLWILLE	Bi-hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	33	34	37	38.5	41	44.5	46.5
Length	mm	51	51	52	54	57	58	59

Width across flats	inch	1.3/8	1.1/2	1.5/8	1.3/4	1.7/8	2
○ 63A 64 4600 STAHLWILLE	Bi-hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	48.5	52	56	59.5	63.5	67
Length	mm	59	64	67	70	76	80

AS-Drive profile 64 4600

Hexagon socket, deep

Standard: **DIN 3124-L**
Material:
64 4700 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
64 4705 – Chrome vanadium steel, chrome-plated.

Width across flats	mm	22	24	27	30	32	34	36	41
○ 63A 64 4700 STAHLWILLE	Hexagon socket deep, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○ 62A 64 4705 HOLEX	Hexagon socket deep, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end (64 4700)	mm	32	34	38.5	42	44.5	47	49.5	55.5
∅ drive output end (64 4705)	mm	33.3	35.8	39.6	43.3	45.8	48.3	50.8	57.1
Length (64 4700)	mm	90							
Length (64 4705)	mm	85							

AS-Drive profile 64 4700

64 4705

Bit, 3/4 inch

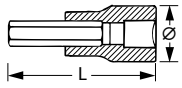
Forged of high quality steel. Internal squares to DIN 3120-D 20 with hole and release button.
Standard: **DIN 7422**
Material:
64 4800 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
64 4805 – Chrome vanadium steel, chrome-plated.

Hexagon	mm	14	17	19	22
◉ 63A 64 4800 STAHLWILLE	Hexagon screwdriver bit 3/4 inch	XXX	XXX	XXX	XXX
◉ 62A 64 4805 HOLEX	Hexagon screwdriver bit 3/4 inch	XXX	XXX	XXX	XXX
∅ drive end (64 4800)	mm	34.7	34.7	34.7	40
∅ drive end (64 4805)	mm	36			
Length (64 4800)	mm	80			
Length (64 4805)	mm	78			

¾″

64 4800

64 4805



3/4″

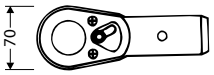
Drive part / connection part, 3/4 inch

Ratchet reversible

Standard: DIN 3122-D 20

				overall length mm	No. of teeth
63A 64 5000	STAHLWILLE	Ratchet head, 3/4 inch **without handle**	XXX	165	36
63A 64 5100		Ratchet head, 3/4 inch **with handle**	XXX	622	36
62A 64 5105	HOLEX		XXX	505	40

64 5000



64 5100

64 5105

Ratchet with push-thru square drive

64 5300 – Forged; sturdy and practical design with profile shank. With push-through square drive. Right and left hand tightening by pushing the drive pin through.

Standard: DIN 3122-C 20

64 5300

				overall length mm	No. of teeth
66A 64 5300	HEYCO	Push-through ratchet, 3/4 inch	XXX	490	36

64 5310

66A 64 5310	HEYCO	Square push-through piece, 3/4 inch, separate	XXX

Extension

Standard: DIN 3123-B 20

overall length mm			95	100	200	400
63A 64 5400	STAHLWILLE	Extension, 3/4 inch	XXX	–	XXX	XXX
62A 64 5405	HOLEX		–	XXX	XXX	XXX

64 5400

64 5405

T-handle

Standard: DIN 3122-A 20

				overall length mm
63A 64 5500	STAHLWILLE	Sliding head without handle, 3/4 inch	XXX	61.5
63A 64 5600		T-handle, complete, 3/4 inch	XXX	510
62A 64 5605	HOLEX		XXX	500

64 5500

64 5600

64 5605

Universal joint

Standard: DIN 3123-C 20

				overall length mm
63A 64 6000	STAHLWILLE	Universal joint 3/4 inch	XXX	109

64 6000

Handle

With spring-mounted pin for non-slip connection to the working tool.

Suitable for: Ratchet head No. 645000 and sliding head No. 645500.

64 6200

				overall length mm
63A 64 6200	STAHLWILLE	Tommy bar for 3/4 inch	XXX	510

Ratchet attachment

Very sturdy design, reversible for right-hand and left-hand use.

Application:

64 6300 – As ratchet attachment for drive components No. 645500 and 645600, but also as ratchet attachment to torque wrenches with 3/4 inch square drive.

Square inch			3/4
63A 64 6300	STAHLWILLE	Ratchet attachment, 3/4 inch	XXX
62A 64 6305	HOLEX		XXX
overall length (64 6300) mm			106
overall length (64 6305) mm			96
No. of teeth (64 6300)			44
No. of teeth (64 6305)			72

64 6300

64 6305

Socket set 1 inch

Drives / accessories to **DIN 3122 / 3123; sockets** to **DIN 3124.** External square to DIN 3120-B 25 with spring pin.
Internal squares to DIN 3120-D 25 with hole and release button.

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

Application: For hexagon head screws / nuts with thread M30 – M52.

1″ | 46-60 | 65-80

		63A 64 6500
		Socket set, 1 inch square drive **14 pieces**
		XXX
Length	mm	785
Width	mm	200
Height	mm	122
Supplied with:		
○ 4 bi-hexagon – sockets		1 pc. each No. 647000 size 46; 50; 55; 60
○ 4 sockets – single hexagon		1 pc. each No. 647100 size 65; 70; 75; 80
1 universal joint		1 piece
1 sliding head		No. 648200
1 handle		No. 648700
2 extensions		1 pc. each No. 648000 size 200; 410
1 ratchet head		No. 647500
Presented in		Sheet steel case

64

1″

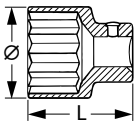
Socket 1 inch

Bi-hexagon or single hexagon socket

Forged from high quality steel, internally bevelled for easy fitting to bolt heads. Close tolerance jaw widths. Internal square to DIN 3120 D 25 with hole and release button.

Standard: **DIN 3124**

Material:
64 7000/7100 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
64 7050/7150 – Chrome vanadium steel, chrome-plated.



64 7000

64 7050

Width across flats	mm	30	32	34	36	41	46	50	55	60
○ 63A 64 7000 STAHLWILLE Bi-hexagon socket, 1 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
○ 62A 64 7050 HOLEX Bi-hexagon socket, 1 inch		–	–	–	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end (64 7000)	mm	42.5	45	47	49.5	55.5	61	66	72	78
Ø drive output end (64 7050)	mm	–	–	–	52	57	65	70	76	82
Length (64 7000)	mm	65	67	67	67	70	75	80	85	90
Length (64 7050)	mm	–	–	–	65	70	75	75	80	84

Width across flats	mm	65	70	75	80
○ 63A 64 7100 STAHLWILLE Hexagon socket, 1 inch		XXX	XXX	XXX	XXX
○ 62A 64 7150 HOLEX Hexagon socket, 1 inch		XXX	XXX	XXX	XXX
Ø drive output end (64 7100)	mm	87	94	101	108
Ø drive output end (64 7150)	mm	88	94	100	105
Length (64 7100)	mm	105	110	115	120
Length (64 7150)	mm	87	93	97	103

64 7100

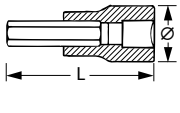
Hexagon bit

Standard: **DIN 7422**

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 7300

Hexagon	mm	14	17	19	22	24	27
◉ 63A 64 7300 STAHLWILLE Hexagon screwdriver bit 1 inch		XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end	mm	43	43	43	48	48	49
Length	mm	85	85	85	90	90	90



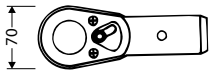
1″

Drive part / connection part, 1 inch

Ratchet reversible

64 7605 – Reversible for right-hand and left-hand use (36 teeth); handle and ratchet head are separate.
64 7500/7600 – Reversible for right-hand and left-hand use (36 teeth); handle and ratchet head are separate. Wearing parts are replaceable (spare parts set No. 647610).

Standard: **DIN 3122-D 25**
Material:
64 7605 – Chrome vanadium steel, chrome-plated.
64 7500/7600 – Chrome alloy steel, non-flaking, chrome-plated over nickel.



64 7500

64 7600

64 7605

				overall length mm	No. of teeth
63A 64 7500	STAHLWILLE	Ratchet head, 1 inch **without handle**	XXX	185	36
63A 64 7600		Ratchet head, 1 inch **with handle**	XXX	817	36
62A 64 7605	HOLEX		XXX	835	36

Extension

External squares to DIN 3120-B 25 with spring pin, for sockets to DIN 3120-D 25 with hole.

Standard: **DIN 3123-B 25**
Material:
64 8000 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
64 8005 – Chrome vanadium steel, chrome-plated.

64 8000

64 8005

overall length mm			200	400	410
63A 64 8000	STAHLWILLE	Extension, 1 inch	XXX	–	XXX
62A 64 8005	HOLEX		XXX	XXX	–

T-handle

Sliding head can be moved for the most suitable leverage.

Standard: **DIN 3122-A 25**
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 8200

64 8300

				overall length mm
63A 64 8200	STAHLWILLE	Sliding head, 1 inch **without handle**	XXX	80
63A 64 8300		Tommy-bar, 1 inch **complete**	XXX	700

Handle

With spring-mounted cylindrical pin for non-slip connection to the working tool.

Suitable for: Ratchet head No. 647500, sliding head No. 648200.
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

64 8700

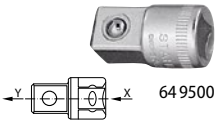
				overall length mm
63A 64 8700	STAHLWILLE	Tommy bar for 1 inch	XXX	700

Increaser piece / reducer piece

External and internal square drives to DIN 3120. Forged external square drives with spring-mounted balls or pins, internal square drives with hole or snap grooves.

Standard: **DIN 3123-A**
Material:
64 9500/9505 – Chrome alloy steel, non-flaking, chrome-plated over nickel.
64 9550/9555 – Chrome vanadium steel, chrome-plated.

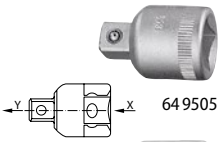
Note: Size 2 – Does not satisfy the standard 3123-A.



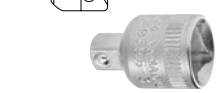
64 9500

64 9550

Type			1	2	4	6	8
63A 64 9500	STAHLWILLE	Increaser piece	XXX	XXX	XXX	XXX	XXX
62A 64 9550	HOLEX		XXX	XXX	XXX	XXX	–
Drive square [x]		inch	1/4	1/4	3/8	1/2	3/4
Drive square [y]		inch	3/8	1/2	1/2	3/4	1



64 9505


64 9555

Type			3	5	7	9
63A 64 9505	STAHLWILLE	Reducer piece	XXX	XXX	XXX	XXX
62A 64 9555	HOLEX		XXX	XXX	XXX	–
Drive square [x]		inch	3/8	1/2	3/4	1
Drive square [y]		inch	1/4	3/8	1/2	3/4

Supplied with: (x–y) inch 1/4 – 3/8; 1/4 – 1/2; 3/8 – 1/2; 1/2 – 3/4.

Number of inserts		4
62A 64 9551	HOLEX Set of increaser pieces, 4 pieces	XXX
Supplied with: 1 pc. each reducer piece No. 649550		Size 1; 2; 4; 6

64 9551

Supplied with: (x–y) inch 3/8 – 1/4; 1/2 – 3/8; 3/4 – 1/2.

Number of inserts		3
62A 64 9556	HOLEX Set of reducer pieces, 3 pieces	XXX
Supplied with: 1 pc. each reducer piece No. 649555		Size 3; 5; 7

64 9556

STAHLWILLE Adapter set

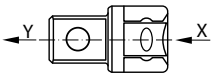
Compact set with adapter pieces, consisting of 3 increaser and 2 reducer pieces. Supplied in an ABS plastic box.

Standard: **DIN 3123-A**

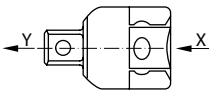
Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

Supplied with: (x–y) inch 1/4 - 3/8; 3/8 - 1/2; 1/2 - 3/4; 3/8 - 1/4; 1/2 - 3/8.

Number of inserts		5
63A 64 9515	Adapter set, 5 pieces	XXX
Supplied with: 1 each increaser piece No. 649500		Size 1; 4; 6
1 each reducer piece No. 649505		Size 3; 5



Increaser piece



Reducer piece

64 9515

HOLEX Converter

65 0000 – With spring pin.
65 0005 – With spring ball.
65 0007 – With spring ball and release function – inserts are securely held.

Material:
65 0007 – Chrome vanadium steel, chrome-plated.
65 0000/0005 – Chrome vanadium steel, phosphated.

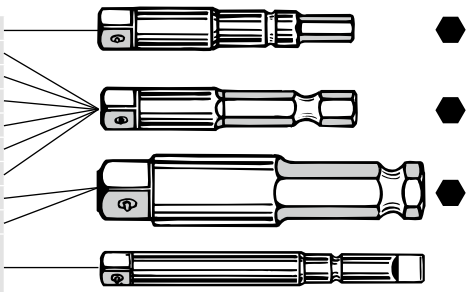
Application: As adapter to allow sockets with internal square drives to be driven by power screwdrivers with internal hexagon drives.

65 0000

65 0005

65 0007

Type	62D 65 0000 Converter with pin	62D 65 0005 Converter with ball	62D 65 0007 Converter with release	overall length mm	Square drive inch	Machine drive
1	XXX	–	–	50	1/4	A 5,5
2	XXX	XXX	–	50	1/4	E 6.3 (1/4 inch)
2/60	–	–	XXX	60	1/4	E 6.3 (1/4 inch)
2/100	XXX	XXX	–	100	1/4	E 6.3 (1/4 inch)
3	XXX	XXX	–	50	3/8	E 6.3 (1/4 inch)
3/75	–	–	XXX	75	3/8	E 6.3 (1/4 inch)
9	XXX	XXX	–	50	1/2	E 6.3 (1/4 inch)
4	XXX	–	–	75	3/8	E 11.2 (7/16 inch)
5	XXX	XXX	–	75	1/2	E 11.2 (7/16 inch)
6	XXX	–	–	75	1/4	Round shank ∅ 7 mm with wing tangs



HOLEX Adapter shank for impact wrenches

Sturdy shape, suitable for impact wrenches and impulse wrenches with 1/4 inch hex (hex socket) drives. With spring ball and release function – inserts are securely held.

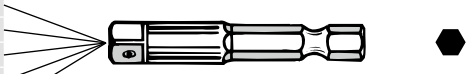
Material: Chrome vanadium steel. Surface burnished.

Application: As adapter to allow sockets with internal square drives to be driven by impact / impulse wrenches with internal hexagon drives.

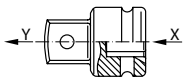
65 0009_3/75

65 0009_9/85

Type	62D 65 0009 Adapter shank for impact / impulse wrenches	overall length mm	Square drive inch	Machine drive
2/75	XXX	75	1/4	E 6.3 (1/4 inch)
2/150	XXX	150	1/4	E 6.3 (1/4 inch)
3/75	XXX	75	3/8	E 6.3 (1/4 inch)
3/150	XXX	150	3/8	E 6.3 (1/4 inch)
9/85	XXX	85	1/2	E 6.3 (1/4 inch)

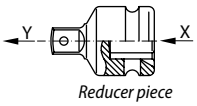


Increaser piece / reducer piece (impact wrench attachment)



Increaser piece

65 0011_6



Reducer piece

65 0012_8

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.
65 0011 Size 4/0012 Size 4/0016 Size 3–7/0017 Size 3 – Output drive square with retaining pin.
Material: Chrome molybdenum steel, surface burnished.

Type		4	6	8	10
63R 65 0011 / 62D 65 0012	IMPACT increaser piece	XXX / XXX	XXX / XXX	XXX / XXX	– / XXX
Drive square [x]	inch	3/8	1/2	3/4	1
Drive square [y]	inch	1/2	3/4	1	1,1/2
overall length (65 0011)	mm	32.5	44	62	–
overall length (65 0012)	mm	36	48	63	100

65 0016_11

Type		3	5	7	9	11
63R 65 0016 / 62D 65 0017	IMPACT reducer piece	XXX / XXX	XXX / XXX	XXX / XXX	– / XXX	XXX / –
Drive square [x]	inch	3/8	1/2	3/4	1	1,1/2
Drive square [y]	inch	1/4	3/8	1/2	3/4	1
overall length (65 0016)	mm	25	36	52	–	97
overall length (65 0017)	mm	32	38	56	75	–

65 0017_7

Socket for power screwdrivers (impact wrench sockets) 1/4 inch

¼″

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121. With nut and bolt protection profile similar to **AS-Drive** profile.
Material: Chrome molybdenum steel, surface burnished.

Socket hexagon

Standard: **DIN 3129**

Width across flats	mm	5,5	6	7	8	10	13
○ 62D 65 0040	IMPACT hexagon socket, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	9.4	10	11.3	12.5	15	18.8
Length	mm	23					

65 0040

Width across flats	mm	5,5	6	7	8	10	13
○ 62D 65 0045	IMPACT hexagon socket, 1/4 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	9.5	10	11.3	12.5	15	18.8
Length	mm	50					

65 0045

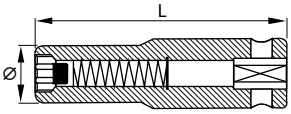
Width across flats	mm	6	7	8	10	13
○ 62D 65 0050	IMPACT hexagon socket, 1/4 inch **with magnet**	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	10.3	11.6	12.8	15.3	19.1
Length	mm	23	23	25	28	30

65 0050

Advantage: The bolt is securely held by a spring-mounted magnet. This also ensures that the bolt head is fully engaged. The spring allows nuts / bolts to be easily removed after they have been unscrewed.

65 0052

Width across flats	mm	7	8	10	13
○ 62D 65 0052	IMPACT hexagon socket, 1/4 inch **long, with spring-mounted magnet**	XXX	XXX	XXX	XXX
∅ drive output end	mm	11.3	12.5	15	18.8
Length	mm	50			



Drive part / connection part

External square similar to DIN 3121 with double spring ball. Internal square to DIN 3121-G 6.3 with hole and snap ring groove.

62D 65 0055	IMPACT quick-change adaptor, 1/4 inch	XXX
Square drive	inch	1/4
overall length	mm	35
Drive square	inch	1/4

65 0055

External square to DIN 3121 – Form E 6.3 with spring pin. Internal square to DIN 3121 - Form G 6.3.

overall length	mm	50	150
62D 65 0057	IMPACT extension, 1/4 inch	XXX	XXX

65 0057

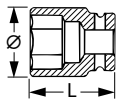
Socket for power screwdrivers (impact wrench socket) 3/8 inch

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.

3/8″

Socket hexagon

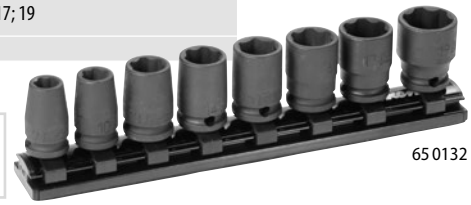
Material: Chrome molybdenum steel, surface burnished.



Width across flats	mm	7	8	9	10	13	14	15	16	17	19
63R 65 0130 — Koken — IMPACT hexagon socket, 3/8 inch **Surface Drive**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	12	13.3	14.5	15.8	19.5	20.8	22	23.3	24.5	27
Length	mm	32									

65 0130

63R 65 0132 — Koken — IMPACT 8-piece hexagon socket set, 3/8 inch **Surface Drive**	XXX	
Supplied with: 1 each socket No. 650130	Size 9; 10; 13; 14; 15; 16; 17; 19	
Magnetic holder rail 200 mm long	1 piece	


65 0132

Material: Chrome molybdenum steel, surface burnished.

Note:
65 0100 – HOLEX IMPACT hexagon sockets including imperial sizes are available from our eShop (No. 650102).

Width across flats	mm	7	8	9	10	13	14	15	16	17	18	19
62D 65 0100 — HOLEX — IMPACT hexagon socket, 3/8 inch		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	12.5	13.8	15	16	20	21	22	24	25	26	27.5
Length	mm	30										

65 0100

Width across flats	mm	7	8	9	10	13	14	15	16	17	19
62D 65 0135 — HOLEX — IMPACT hexagon socket, 3/8 inch **with magnet**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	12.5	14	15	16.5	20	21.5	22	24	25	27.5
Length	mm	30									

65 0135

Hexagon socket, long

Material: Chrome molybdenum steel, surface burnished.

Note:
65 0200 – HOLEX IMPACT hexagon sockets including imperial sizes are available from our eShop (No. 650202).

Width across flats	mm	9	10	13	14	15	16	17	18	19
62D 65 0200 — HOLEX — IMPACT hexagon socket, 3/8 inch **long**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	15	16	20	21	22	24	25	26	27.5
Length	mm	65								

65 0200

Width across flats	mm	9	10	13	14	15	16	17	18	19
62D 65 0210 — HOLEX — IMPACT hexagon socket, 3/8 inch **long, with spring-mounted magnet**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	15	16.5	20	21.5	22	24	25	26	27.5
Length	mm	55								

65 0210

Socket for Torx® screws

Material: Chrome molybdenum steel, surface burnished.

Torx® profile		E8	E10	E12
62D 65 0500 — HOLEX — IMPACT socket 3/8 inch, for Torx® screws		XXX	XXX	XXX
A	mm	7.52	9.42	11.7
Ø drive output end	mm	10.5	12.5	15
Length	mm	32		

65 0500

Hexagon bit for socket-head screws

Material: Chrome molybdenum steel, surface burnished.

Hexagon	mm	5	6	7	8	10	12
62D 65 0550 — HOLEX — IMPACT hexagon screwdriver bit, 3/8 inch		XXX	XXX	XXX	XXX	XXX	XXX
Ø drive end	mm	25					
Length	mm	50					

65 0550

Bit for Torx® screws

3/8"

Material: Chrome molybdenum steel, surface burnished.

Torx® profile			TX20	TX25	TX30	TX40	TX45
62D 65 0560	HOLEX	IMPACT Torx® screwdriver bit, 3/8 inch	XXX	XXX	XXX	XXX	XXX
Ø drive end		mm	19				
Length		mm	50				

65 0560

Drive part / connection part

65 0390–0600 – External square to DIN 3121 E 10 with spring pin, internal square to DIN 3121 G 10 with hole and snap ring groove.

65 0390

overall length		mm	75	125	250
63R 65 0390	Koken	IMPACT extension, 3/8 inch	XXX	XXX	XXX

overall length		mm	75	100	150	250
62D 65 0400	HOLEX	IMPACT extension, 3/8 inch	XXX	XXX	XXX	XXX

65 0400

63R 65 0590	Koken	IMPACT universal joint, 3/8 inch	XXX
62D 65 0600	HOLEX		XXX
overall length (65 0590)		mm	48
overall length (65 0600)		mm	50

65 0590

overall length		mm	45	46
63R 65 0660	Koken	IMPACT quick-change adaptor, 3/8 inch	XXX	–
62D 65 0650	HOLEX		–	XXX
Square drive		inch	3/8	
Drive square		inch	3/8	

65 0660

65 0650

Type			1	2
63R 65 0790	Koken	Retainer clip set, 10 pieces, for bits and sockets, 3/8 inch, including extractor	XXX	XXX
Suitable for: Sockets (width across flats)			9 – 12 mm	13 – 19 mm

65 0790

Ø		mm	18	22
63R 65 0800	Koken	"O" ring for bits and sockets, 3/8 inch	XXX	XXX
Suitable for: Sockets (width across flats)			9 – 12 mm, No. 650500 all sizes	13 – 19 mm

65 0800

65 0900

Size 2.5×18 Also suitable for extensions, universal joints and adapters.

Ø×Length		mm	2,5×14	2,5×18
63R 65 0900	Koken	Locking pin for bits and sockets, 3/8 inch	XXX	XXX
Ø		mm	2.5	
Suitable for: Sockets (width across flats)			9 – 12 mm	13 – 19 mm

Material: Chrome molybdenum steel, surface burnished.
Application: Bit holder with 3/8 inch internal square for flexible driving of 1/4 inch C 6.3 bits.

63R 65 0950	Koken	Impact bit holder 3/8 inch for 1/4 inch C 6.3 bits	XXX
Ø drive end		mm	19
Square drive		inch	3/8
overall length		mm	30

65 0950

½″

Socket, short, for impact wrenches (impact wrench socket) 1/2 inch

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.
Material: Chrome molybdenum steel, surface burnished.

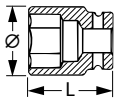
Socket hexagon

Advantage:

65 1010 – The surface drive profile grips the bolt on the faces and protects the weaker corners. This reliably prevents the socket jamming or damaging the bolt heads.

Note:

65 1000 – HOLEX IMPACT sockets including imperial sizes are available from our eShop (No. 651002).



Width across flats	mm	10	13	14	15	16	17	18	19	21	22	24	27
63R 65 1010	Kokon IMPACT hexagon socket, 1/2 inch **Surface Drive**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	17	20.7	22	23.2	24.5	25.7	27	28.2	30.7	32	34.5	38.2
Length	mm	38	38	38	38	38	38	38	38	38	38	38	40

65 1010

Width across flats	mm	9	10	11	12	13	14	15	16
62D 65 1000	HOLEX IMPACT hexagon socket, 1/2 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	16	17.5	18.7	20	21	22.5	23.7	25
Length	mm	38							

65 1000

Width across flats	mm	17	18	19	21	22	24	27	30	32
62D 65 1000	HOLEX IMPACT hexagon socket, 1/2 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	26	27.5	28.7	30	32	35	38.7	42	44
Length	mm	38	38	38	38	38	45	50	50	50

Width across flats	mm	10	12	13	14	15	16
62D 65 1005	HOLEX IMPACT hexagon socket, 1/2 inch **with magnet**	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	17.5	20	21	22.5	23.7	25
Length	mm	38					

65 1005

Width across flats	mm	17	18	19	21	22	24
62D 65 1005	HOLEX IMPACT hexagon socket, 1/2 inch **with magnet**	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	26	27.5	29	31	32.5	35
Length	mm	38	38	38	38	38	45

Width across flats	mm	10	13	14	15	16	17
62D 65 1020	HOLEX IMPACT hexagon socket, 1/2 inch, thin-walled **Surface Drive**	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	15.5	19.2	21	21.7	23	24
Length	mm	38					

65 1020

Width across flats	mm	18	19	21	22	24	27
62D 65 1020	HOLEX IMPACT hexagon socket, 1/2 inch, thin-walled **Surface Drive**	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	25	26	28	29.5	32	36
Length	mm	38	38	38	38	45	50

Hexagon swivel socket

Standard: **DIN 3129**
Advantage: Direct access for bolt tightening where access is difficult, no universal joint required.

Width across flats	mm	13	15	17	18	19	21	22	24
63R 65 1215	Kokon IMPACT hexagon socket, 1/2 inch **with swivel joint**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end	mm	20.7	23.2	25.7	27	28.2	30.7	32	34.5
Length	mm	67.5	69.5	69.5	69.5	73.5	73.5	73.5	73.5

65 1215

Socket for Torx® screws

Torx® profile		E10	E12	E14	E16	E18	E20	E24
62D 65 1500	HOLEX IMPACT socket 1/2 inch, for Torx®	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	14	15.9	17.7	20	22	24.5	30
Length	mm	38	38	38	38	38	38	41.2

65 1500

½″

HOLEX Socket, long, for impact wrenches (impact wrench sockets) 1/2 inch

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.
Material: Chrome molybdenum steel, surface burnished.

Note: HOLEX IMPACT hexagon sockets including imperial sizes are available from our eShop (No. 651202).

65 1200

Width across flats	mm	10	13	14	15	16	17
62D 65 1200	IMPACT hexagon socket, 1/2 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	25	25	25	30	30	30
Length	mm	78					

Width across flats	mm	18	19	21	22	24	27
62D 65 1200	IMPACT hexagon socket, 1/2 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	30	30	30	32	35	38.5
Length	mm	78					

Advantage: The bolt is securely held by a spring-mounted magnet. This also ensures that the bolt head is fully engaged. The spring allows nuts / bolts to be easily removed after they have been unscrewed.

65 1210

Width across flats	mm	10	13	15	16	17	18	19	21	22	24
62D 65 1210	IMPACT hexagon socket, 1/2 inch **long, with spring-mounted magnet**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end	mm	17.5	21	23.7	25	26.5	27.5	29	31	32.5	35
Length	mm	78									

½″

Koken Socket set for impact wrenches (impact wrench sockets) 1/2 inch

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.
65 1040/1205 – Compressed IMPACT range for the most popular bolt sizes. Stored in a sturdy metal box.
Standard:
65 1040/1205 – **DIN 3129**
Material: Chrome molybdenum steel, surface burnished.
Advantage:
65 1012 – The surface drive profile grips the bolt on the faces and protects the weaker corners. This reliably prevents the socket jamming or damaging the bolt heads.

65 1012

63R 65 1012	IMPACT 9-piece hexagon socket set, 1/2 inch **Surface Drive**	XXX
Supplied with: 1 each IMPACT socket No. 651010		Size 10; 13; 14; 15; 16; 17; 18; 19; 21
Magnetic clamping rail 300 mm long		1 piece

63R 65 1040	IMPACT 18-piece hexagon socket set, 1/2 inch	XXX
Content: 1 each hexagon socket		Size 10; 11; 12; 13; 14; 15; 16; 17; 19; 21; 22; 27 mm
Extension		125 mm
Universal joint		1 pc.
"O" ring / locking pin		2 pcs. / 2 pcs.

65 1040

63R 65 1205	IMPACT 13-piece hexagon socket set, 1/2 inch **long**	XXX
Content: 1 each hexagon socket		10; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27 mm

65 1205

½″

Socket with plastic sleeve for impact wrenches (impact wrench socket) 1/2 inch

Material: Chrome molybdenum steel, surface burnished.

Thin-walled hexagon socket, with rotating protective sleeve

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.

Standard: **DIN 3129**

Advantage:
- **Smaller Ø** and perfectly matched overall length of the socket permits working on bolts where access is difficult.
- Protective sleeve prevents damage to delicate components (such as aluminium rims).
- Can be positioned while the wrench is running, because the protective sleeve is **free-running**.
- Inserts are quickly distinguished colour code.
- The **torsion zone** permits the socket to accept high loadings.

Application: Especially for avoiding damage to delicate components (such as alloy wheel rims) during assembly.

Note: For spare protective sleeves see No. 651242

Plastic sleeve

65 1240

Width across flats	mm	17	19	21	22
63R 65 1240 Koken IMPACT hexagon socket, 1/2 inch **thin-walled, with plastic sleeve**		XXX	XXX	XXX	XXX
Ø drive output end	mm	25.2	27.2	29	30.5
Length	mm	110			

63R 65 1241 Koken IMPACT hexagon socket set, 1/2 inch **thin-walled, with plastic sleeve**	XXX
Content: 1 each socket No. 651240	Size 17; 19; 21

65 1241

Socket with protective sleeve

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.

65 1230/1231 – Deep sockets.

Advantage: The surface drive profile grips the bolt on the faces and protects the weaker corners. This reliably prevents the socket jamming or damaging the bolt heads.

Application: To protect light metal bodies / rims during assembly.
Reliable protection due to projecting impact resistant plastic casing.
Quick differentiation of the sockets due to colour coding.

65 1220

Width across flats	mm	17	19	21
62D 65 1220 HOLEX IMPACT hexagon socket, 1/2 inch **Surface Drive with nylon sleeve**		XXX	XXX	XXX
Ø drive output end	mm	27	29	31
Length	mm	85		

62D 65 1221 HOLEX IMPACT hexagon socket set, 1/2 inch **Surface Drive with nylon sleeve**	XXX
Content: 1 each socket No. 651220	Size 17; 19; 21

65 1221

Width across flats		mm	17	19	21
62D 65 1230	HOLEX	IMPACT hexagon socket, 1/2 inch **long, surface drive with nylon sleeve**	XXX	XXX	XXX
∅ drive output end		mm	27	29	31
Length		mm	130		

65 1230

62D 65 1231	HOLEX	IMPACT hexagon socket set, 1/2 inch **long, surface drive with nylon sleeve**	XXX
Content: 1 each socket No. 651230			Size 17; 19; 21

65 1231

Socket with rotating protective sleeve

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets.

Advantage:
- With rotating plastic sleeve (external) to protect the wheel rims of the wheel bolts become jammed.
- Can be positioned while the wrench is running, because the protective sleeve is free-running.
- With plastic insert to protect the wheel bolt surfaces.
- Hexagonal transaction profile contributes to longer tool life.

Width across flats		mm	17	19	21
630 65 1260	HAZET	IMPACT hexagon socket, 1/2 inch **with rotating plastic sleeve**	XXX	XXX	XXX
∅ drive output end		mm	30		
Length		mm	85		

65 1260

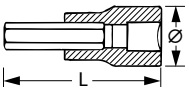
Number of pieces			3
630 65 1265	HAZET	IMPACT hexagon socket set, 1/2 inch **with rotating plastic sleeve**	XXX
Content: 1 each socket No. 651260			Size 17; 19; 21

65 1265

½″

Bit for power screwdrivers (impact wrench bit) 1/2 inch

Sturdy shape especially for use with electric or compressed air impact wrenches. With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.
Material: Chrome molybdenum steel, surface burnished.



Bit for Torx® screws

Torx® profile			TX30	TX40	TX50	TX55	TX60
62D 65 1350	HOLEX	IMPACT Torx® screwdriver bit, 1/2 inch	XXX	XXX	XXX	XXX	XXX
∅ drive end		mm	25				
Length		mm	55				

65 1350

Hexagon bit for socket-head screws

Bit of high alloy special steel.

Hexagon			mm	5	6	7	8	10	12
63R 65 1301	Koken	IMPACT hexagon screwdriver bit, 1/2 inch		XXX	XXX	XXX	XXX	XXX	XXX
62D 65 1310	HOLEX			XXX	XXX	XXX	XXX	XXX	XXX
62D 65 1315	HOLEX	IMPACT hexagon screwdriver bit, 1/2 inch with ball point		XXX	XXX	XXX	XXX	XXX	XXX
∅ drive end			mm	25					
Length (65 1301)			mm	52					
Length (65 1310, 65 1315)			mm	75					

65 1301

65 1310

65 1315

Bit for XZN screws

for screws			M8	M10	M12	M14
62D 65 1355	HOLEX	IMPACT Tri-square screw (XZN) screwdriver bit, 1/2 inch	XXX	XXX	XXX	XXX
∅ drive end		mm	25			
Length		mm	55			

65 1355

HOLEX Stud driver for impact wrenches (impact wrench socket) 1/2 inch

½″

Sturdy shape especially for use with electric or compressed air impact wrenches.
With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.

Material: Chrome molybdenum steel, surface burnished.

for threads		M6	M8	M10	M12
62D 65 1390	Stud driver, 1/2 inch	XXX	XXX	XXX	XXX
∅ drive end	mm	25			
Length	mm	55			

65 1390

Adaptor for power screwdrivers (impact wrench bit) 1/2 inch

½″

Sturdy shape especially for use with electric or compressed air impact wrenches.
With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.

65 1400–1610 – External square drives to DIN 3121 E 12.5 (spring pin) or F 12.5 (pin hole). Internal square to DIN 3121 G 12.5 with hole and snap ring groove.

Material: Chrome molybdenum steel, surface burnished.

overall length	mm	75	125	250
63R 65 1410	Koken IMPACT extension 1/2 inch, E 12.5	XXX	XXX	XXX
62D 65 1400	HOLEX IMPACT extension 1/2 inch, F 12.5	XXX	XXX	XXX

63R 65 1610	Koken IMPACT universal joint, 1/2 inch, E 12.5	XXX
62D 65 1600	HOLEX IMPACT universal joint, 1/2 inch, F 12.5	XXX
overall length (65 1610)	mm	65
overall length (65 1600)	mm	60

overall length	mm	60
63R 65 1660	Koken IMPACT quick-change adaptor, 1/2 inch	XXX
62D 65 1650	HOLEX IMPACT quick-change adaptor, 1/2 inch	XXX
Square drive	inch	1/2
Drive square	inch	1/2

65 1410

65 1610

65 1650

NEW

65 1660

Koken Accessories for sockets (impact wrench attachments) 1/2 inch

½″

Type		3	4
63R 65 1790	Retainer clip set, 10 pieces, for sockets, 1/2 inch, including extractor	XXX	XXX
Suitable for: Sockets (width across flats)		9–14 mm; No. 651301 – 651400; 651650 all sizes	15–27 mm; No. 651410; 651600; 651610 all sizes

Application

65 1790

∅	mm	25	30
63R 65 1800	"O" ring for sockets, 1/2 inch	XXX	XXX
Suitable for: Sockets (width across flats)		9–14 mm; No. 651301 – 651400; 651650 all sizes	15–27 mm; No. 651410; 651600; 651610 all sizes

65 1800

∅×Length	mm	3×20	3×25
63R 65 1900	Locking pin for sockets, 1/2 inch	XXX	XXX
Length	mm	20	25
Suitable for: Sockets (width across flats)		9–14 mm; No. 651301 – 651400; 651650 all sizes	15–27 mm; No. 651410; 651600; 651610 all sizes

Size 3x25
Suitable also for extensions, universal joints and adaptors.

65 1900

Koken Socket with plastic rotating protective sleeves

The rotating plastic sleeves increase working safety during the assembly process.

The protectors avoid damage to painted, polished or delicate surfaces.

On request

Socket for power screwdrivers (impact wrench socket) 3/4 inch

3/4"

Sturdy shape especially for use with electric or compressed air impact wrenches.
With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.

Socket hexagon

3/4"

Standard:
65 2010 – **DIN 3129**

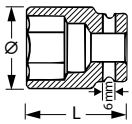
Material: Chrome molybdenum steel, surface burnished.

Note:
65 2000 – HOLEX IMPACT sockets including imperial sizes are available from our eShop (No. 652002).
65 2200 – HOLEX IMPACT hexagon sockets including imperial sizes are available from our eShop (No. 652202).

Width across flats		mm	17	18	19	21	22	24	
○ 63R 65 2010	Koken	IMPACT hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	
∅ drive output end		mm	30	31.3	32.5	35	36.3	38.8	
Length		mm	50						

65 2010

Width across flats		mm	27	30	32	34	36	41	46
○ 63R 65 2010	Koken	IMPACT hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end		mm	42.5	46.3	48.8	51.3	53.8	60	66.3
Length		mm	50	53	53	55	55	57	62



Width across flats		mm	16	17	18	19	21	22	24	27	28
○ 62D 65 2000	HOLEX	IMPACT hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end		mm	44								
Length		mm	50	50	50	50	50	50	50	54	54

65 2000

Width across flats		mm	29	30	31	32	34	36	41	46	50
○ 62D 65 2000	HOLEX	IMPACT hexagon socket, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end		mm	45	47	48	49	52	54	60	67	71
Length		mm	54	54	56	56	56	56	58	63	72

Width across flats		mm	21	22	24	27	30	32	34	36
○ 62D 65 2200	HOLEX	IMPACT hexagon socket, 3/4 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end		mm	44	44	44	44	47	49	52	54
Length		mm	95							

65 2200

Width across flats		mm	22	24	27	30	32	36	41	46
○ 63R 65 2210	Koken	IMPACT hexagon socket, 3/4 inch **thin-walled, long**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end		mm	34.3	36.8	40.5	44.3	46.8	51.8	58	64.3
Length		mm	100							

65 2210

Hexagon socket set, 13 pieces

3/4"

Compressed IMPACT set for the most popular bolt sizes. Stored in a sturdy metal box.

Standard: **DIN 3129**

Material: Chrome molybdenum steel, surface burnished.

65 2020

○ 63R 65 2020	Koken	IMPACT 13-piece hexagon socket set, 3/4 inch	XXX
Content: 1 pc. each socket, hexagon No. 652010			Size 19; 21; 22; 23; 24; 26; 27; 30; 32; 33; 36; 38; 41

Hexagon bit for socket-head screws

3/4"

Material: Chrome molybdenum steel, surface burnished.

Hexagon		mm	14	17	19	22	24	27
◉ 62D 65 2300	HOLEX	IMPACT hexagon screwdriver bit, 3/4 inch	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive end		mm	44					
Length		mm	62					

65 2300

Drive part / connection part

3/4"

65 2410/2400/2610/2600 – External square to DIN 3121 F 20 with through pin hole.
Internal square to DIN 3121 G 20 with hole and snap ring groove.

Material: Chrome molybdenum steel, surface burnished.

overall length		mm	175	250	330
63R 65 2410	Koken	IMPACT extension, 3/4 inch	XXX	XXX	XXX
62D 65 2400	HOLEX		XXX	XXX	XXX

65 2410

63R 65 2610	Koken	IMPACT universal joint, 3/4 inch	XXX
62D 65 2600	HOLEX		XXX
overall length (65 2610)		mm	95
overall length (65 2600)		mm	107

65 2600 / 2610

62D 65 2650	HOLEX	IMPACT quick-change adaptor, 3/4 inch	XXX
Square drive		inch	3/4
overall length		mm	81
Drive square		inch	3/4

65 2650

63R 65 2800	Koken	"O" ring for sockets, 3/4 inch	XXX
63R 65 2900		Locking pin for sockets, 3/4 inch	XXX
Ø (65 2800)		mm	42
Ø (65 2900)		mm	5.5
Length (65 2900)		mm	35
Suitable for: Sockets (width across flats)			17 – 36 mm and No. 652400 – 2650

65 2900

65 2800

Socket for power screwdrivers (impact wrench socket) 1 inch

1"

Sturdy shape especially for use with electric or compressed air impact wrenches.
With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.

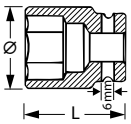
Socket hexagon

1"

Standard:
65 3010 – **DIN 3129**

Material: Chrome molybdenum steel, surface burnished.

Note:
65 3000 – HOLEX IMPACT sockets including imperial sizes are available from our eShop (No. 653002).
65 3200 – HOLEX IMPACT hexagon sockets including imperial sizes are available from our eShop (No. 653202).



Width across flats		mm	27	30	32	34	36
○ 63R 65 3010	Koken	IMPACT hexagon socket, 1 inch	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	45.3	49	51.5	54	56.5
Length		mm	57	62	62	62	62

65 3010

Width across flats		mm	41	46	50	55	60
○ 63R 65 3010	Koken	IMPACT hexagon socket, 1 inch	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	62.8	69	74	80.3	86.5
Length		mm	66	70	70	75	75

Width across flats		mm	27	30	32	34	36
○ 62D 65 3000	HOLEX	IMPACT hexagon socket, 1 inch	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	54	54	54	55	57
Length		mm	60	62	62	62	67

65 3000

Width across flats		mm	41	46	50	55	60
○ 62D 65 3000	HOLEX	IMPACT hexagon socket, 1 inch	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	63	70	75	81	87
Length		mm	70	76	80	84	87

65 3200

Width across flats		mm	24	27	30	32	36	41	46
○ 62D 65 3200	HOLEX	IMPACT hexagon socket, 1 inch **long**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	54	54	54	54	57	63	70
Length		mm	100						

Drive part / connection part

1″

Material: Chrome molybdenum steel, surface burnished.

65 3400

overall length		mm	175	330
62D 65 3400	HOLEX	IMPACT extension, 1 inch	XXX	XXX

62D 65 3600	HOLEX	IMPACT universal joint, 1 inch	XXX
overall length		mm	113

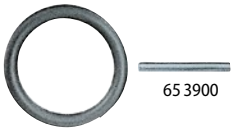
62D 65 3650	HOLEX	IMPACT quick-change adaptor, 1 inch	XXX
Square drive		inch	1
overall length		mm	100
Drive square		inch	1

65 3600

65 3650

Standard: DIN 3129

Type			1	2	3
63R 65 3800	Koken	"O" ring for sockets, 1 inch	XXX	XXX	XXX
63R 65 3900		Locking pin for sockets, 1 inch	XXX	XXX	XXX
Ø (65 3800)		mm	45	57	75
Ø (65 3900)		mm		5	
Length (65 3900)		mm	45	57	75
Suitable for: Sockets (width across flats)			17 – 46 mm	47 – 70 mm	75 – 100 mm



65 3900

65 3800

Koken Socket for power screwdrivers (impact wrench socket) 1.1/2 inch

1½″

Sturdy shape especially for use with electric or compressed air impact wrenches.
With cross hole and snap ring groove for securing sockets. Internal square to DIN 3121.
For safety reasons must always be secured using a suitable locking pin and O-ring.

Socket hexagon

1½″

Standard: DIN 3129
Material: Chrome molybdenum steel, surface burnished.

65 3950

Width across flats		mm	41	46	50	55	60
○ 63R 65 3950		IMPACT hexagon socket, 1.1/2 inch	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	68	74	79	85	91
Length		mm	80	84	84	90	90

Width across flats		mm	65	70	80	90	105
○ 63R 65 3950		IMPACT hexagon socket, 1.1/2 inch	XXX	XXX	XXX	XXX	XXX
Ø drive output end		mm	97	103	115	128	146
Length		mm	95	100	110	112	120

65 3960_175

Drive part / connection part

Material:
65 3960/3970 – Chrome molybdenum steel, surface burnished.

overall length		mm	175	330
63R 65 3960		IMPACT extension 1.1/2 inch	XXX	XXX

63R 65 3970		IMPACT universal joint, 1.1/2 inch	(XXX)
overall length		mm	200

Ø		mm	95	134
63R 65 3990		"O" ring for sockets, 1.1/2 inch	XXX	XXX
Suitable for: Sockets (width across flats)			41 – 90 mm and No. 653960 – 3970	105 mm

Ø×Length		mm	7×75	7×110
63R 65 3995		Locking pin for sockets, 1.1/2 inch	XXX	XXX
Suitable for: Sockets (width across flats)			41 – 90 mm and No. 653960 – 3970	105 mm

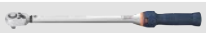
65 3970

65 3990

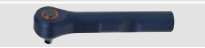
65 3995

Torque range – Overview

Use this overview to select the appropriate tool for your requirements.

Designation		Product code	Nm	°	Click	1 2	1 2	Torque range in Nm (0.01 · 1 · 10 · 50 · 100 · 500 · 1000 · 5000)
Calibration device		65 4240	●			●		6 – 400
Analysers for torque wrenches / screwdrivers, measurement transducers		65 4250	●			●		0.4 – 1100
		65 4300 – 65 4350	●			●		0.04 – 1500
		65 4460	●			●		1.2 – 1500
		65 4471	●			●		1 – 1100
		65 4476	●			●		0.1 – 350
		65 4651/ 65 4656	●			●		1 – 800 1 – 10
		65 4660		●		●		≤ 400*
Electronic torque / rotational angle wrenches		65 5010	●	●		●		2.4 – 340
		65 5001 / 65 5002	●	●		●		1.5 – 300
		65 5007	●	●		●		2 – 300
		65 5230	●	●		●		1 – 400
		65 5255	●	●		●		1.5 – 400
		65 5270	●	●		●		3 – 400
		65 5302	●	●	●	●		6 – 340
		65 5360	●			●		2 – 850
		65 5365	●	●		●		2 – 350
Electronic torque wrenches, torque screwdrivers, measuring systems		654900 / 654910	●			●		0.6 – 2711
		65 5025	●			●		2.4 – 340
		65 5275	●			●		1 – 20
		65 5290	●		●	●		10 – 1000
		65 5305	●			●		13.6 – 203.4
		65 5345	●			●		2.4 – 340
		65 5550	●					2.4 – 340
		65 9005	●			●		0.3 – 10
		65 9010	●			●		0.1 – 4
		65 9050	●			●		0.1 – 4
Mechanical torque wrenches, torque measure-ment systems		65 5500	●					0.2 – 2100
		65 5520	●					1.2 – 1000
		65 6050			●	●		1 – 1600
		65 6300			●	●		40 –200
		65 6500			●	●		1 – 2000
		65 6650			●	●		10 – 300
		65 7000			●	●		2.5 – 2000
		65 7090			●	●		4 – 1000
		65 7095			●	●		10 – 400
		65 7105			●	●		6 – 650
		65 7220 / 65 7225			●	●		30 – 1000
		65 7235			●	●		1 – 2800
		65 7272			●	●		4 – 1000
		65 7300			●		●	1.5 – 300
		65 7320			●		●	1 – 420

* suitable for torque wrenches up to 400 Nm.

Designation		Product code	Nm	Click		
Mechanical torque wrenches, torque measurement systems		65 7352		●		●
		65 7410		●		●
		65 7460		●		●
		65 7500		●		●
		65 7551		●	●	
		65 7556		●	●	
		65 7735		●	●	
		65 7750		●		●
		65 7762		●	●	
		65 7766		●		●
		65 7765		●		●
		65 8800	●			
Mechanical torque screwdrivers		21 1750		●		●
		65 9200	●			
		65 9905		●	●	
		65 9906		●	●	
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		65 9954		●		●
		65 9935		●	●	
		65 9936		●	●	
		65 9939		●	●	
		65 9945		●	●	
		65 9949		●	●	
		65 9950		●		●
		65 9953		●		●
		65 9965		●		●
		65 9990		●		●
Torque multipliers		65 9980 / 65 9975	Recommended in conjunction with torque wrenches			

Torque range in Nm

0.01 | 1 | 10 | 50 | 100 | 500 | 1000 | 5000

- 4 – 300
- 4 – 300
- 2 – 320
- 2 – 200
- 10 – 50
- 2 – 120
- 1 – 50
- 0.5 – 60
- 1 – 10
- 1 – 125
- 0.15 – 3
- 0.004 – 1.5
- 0.2 – 5.7
- 0.15 – 6
- 0.1 – 5
- 0.4 – 16
- 0.1 – 5
- 0.4 – 16
- 0.1 – 16
- 0.1 – 5
- 0.4 – 5
- 0.4 – 5
- 0.1 – 0.5
- 0.1 – 14
- 1.2 – 3
- 0.1 – 8.8
- 0.1 – 6
- 0.1 – 1.2
- 0.4 – 5
- 0.5 – 10
- 0.02 – 5
- 0.3 – 6
- 0.01 – 5
- 0.6 – 5
- 5
- 0.6 – 5.7
- 0,6 – 5
- 200 – 7000

±0.5% ▶ 04 ◀ Cal

Manutork® mechanical calibration system for torque tools

Complete calibration system with components well matched to each other. A special torque transmission system avoids movement of the torque application point during calibration.

Application: **Calibration means the regular checking of the precision and reliability of torque drive tools and the documenting and management thereof.** For torque drive tools to deliver precise and reliable measurement values over a long period of time, they must be checked regularly for calibration, and documented.

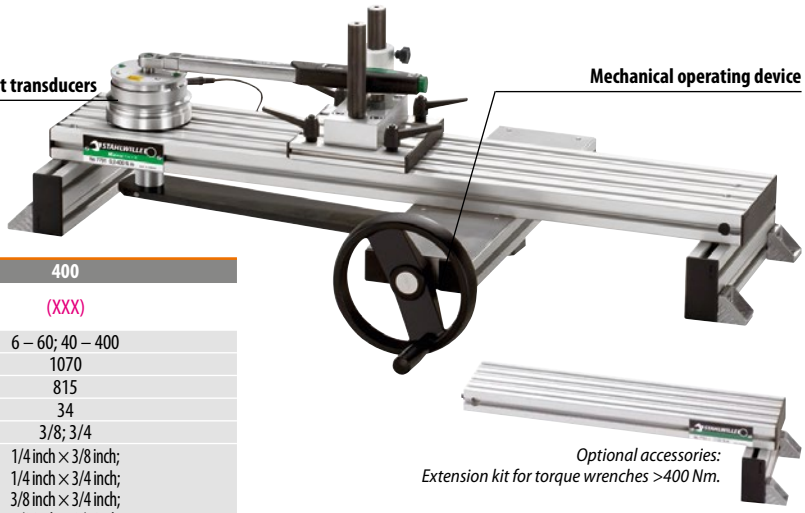
Supplied with: Mechanical operating device for even and precise loading of the torque wrench. This ensures that in accordance with DIN EN ISO 6789 the torque is applied slowly and progressively.

- 2 transducers **Laboratory** size 6 – 60 Nm and 40 – 400 Nm (display divergence from the measured value is ±0.5 %) with **DAkkS** calibration certificate.
- Software for generating calibration certificates to DIN EN ISO 6789 and measuring equipment management.
- USB adaptor cable for connecting measurement transducers to a PC.
- 4 square drive adaptors to accept various square drives.

Note: An additional test set is required for testing torque screwdrivers.
Requirements for PC: min. 1 USB port.
Further transducers available on request.

Optional accessories:
Test set for calibrating torque screwdrivers.

Software and USB adapter cable.



Optional accessories:
Extension kit for torque wrenches >400 Nm.

maximum torque	Nm	400
63B 65 4240	Manutork® mechanical calibration system	(XXX)
Measuring range	Nm	6 – 60; 40 – 400
overall length	mm	1070
for wrench length up to	mm	815
Weight	kg	34
Square socket	inch	3/8; 3/4
Supplied with: Square drive adapter (square socket drive × external square drive)		1/4 inch × 3/8 inch; 1/4 inch × 3/4 inch; 3/8 inch × 3/4 inch; 1/2 inch × 3/4 inch

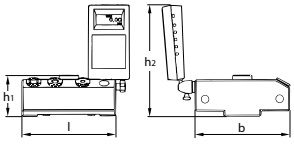
▶ 04 ◀ Cal

SENSOTORK® 7707W electronic workshop torque analyser

Compact workshop torque analyser for torque wrenches.
Flexible extension by exchanging the measurement transducer. High accuracy due to flat measurement transducers (low lateral forces) with measured value post-processing and digitising directly within the measurement transducer (deviation from measured value is ± 0.25 % in the range from 20 % - 100 % of the nominal value; ± 0.5 % in the range from 10 % - 20 % of the nominal value and ± 1 % in the range from 2 % -10 % of the nominal value).
High security due to additional display of the actual torque applied when testing triggering torque wrenches.

Supplied with: Measurement transducer, retainer, display, support for display, flexible coiled cable, mains adapter, 1.5 m connection cable, fixing kit for horizontal and vertical checking positions.

65 4250



maximum torque	Nm	20	100	1100
63B 65 4250	SENSOTORK® workshop torque analyser	(XXX)	XXX	XXX
Measuring range	Nm	0.4 – 20	2 – 100	25 – 1100
Dimension b	mm		180	
Dimension h_1	mm		79	
Dimension h_2	mm		215	
Dimension l	mm		180	
Weight	kg	6.2	7	7.5
Square socket	inch	1/4	3/8	3/4
Supplied with: Square drive adaptor (square socket drive × external square drive)		–	1/4 inch × 3/8 inch	1/4 inch × 3/4 inch

Measurement transducer

High accuracy due to measurement processing / digitising directly within the measurement transducer.
Insensitive to lateral forces due to particularly flat form.

Suitable for: Workshop torque analyser No. 654250.

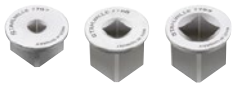
Note: Analysers and measurement transducers with other measuring ranges available on request.

65 4255

maximum torque		Nm	20	100	1100
63B 65 4255	Measurement transducer		(XXX)	(XXX)	(XXX)
Measuring range		Nm	0.4 – 20	2 – 100	25 – 1100
Weight		kg	1.7	2.5	3.1
Square socket		inch	1/4	3/8	3/4

Square drive adapter

Suitable for: Measurement transducer No. 654255 and workshop torque analyser No. 654250.



_1 _2 _3

Type			1	2	3	4	5	6
63B 65 4383	Square drive adapter		XXX	XXX	XXX	XXX	XXX	XXX
Square socket drive		inch	1/4	1/4	3/8	1/2	3/4	1
External square drive		inch	3/8	3/4	3/4	3/4	1.1/2	1.1/2

±0.5% RS232C

Electronic torque analyser

- Robust polyurethane body for table mounting or wall hanging.
- Large-format LCD display.
- Direct choice from the test procedure pictogram keypad for
- Interface for connection to an **external sensor.** When using sensors No. 654350 the measurement range and the calibration parameters are recognised automatically.
- Frequency displays for checking pulsed tools or screwdrivers with slip couplings.
- **Target torque values with upper and lower tolerance limits** can be programmed.
- Serial interface for connection to a printer or PC.
- **Power supply:** Integral rechargeable battery for approx. 16 hours free-standing use, or 230 V mains operation.
- TCS calibration software (available free of charge after registration at www.norbar.com/en-gb/downloads/torque-certification-system).

65 4300 – Integral sensor with 1/4 inch hexagon C 6.3 and additional connection for 1 external sensor.
65 4340 – Without integral sensor, with **connections for 3 external sensors.**

Advantage: Flexible measuring system can be extended to 100,000 Nm. Very easy to use.

Application: Calibrating torque screwdrivers with adjustment scale or display. Setting and calibrating torque screwdrivers without scale. **Setting and calibrating electric or pneumatic screwdrivers** with automatic shut-off. Use optional external measurement transducers to calibrate torque wrenches or torque screwdrivers up to 100,000 Nm.

Supplied with:

65 4300 – **Supplied with UKAS calibration certificate, right-hand** and screw tightening simulator for calibrating electric or pneumatic screwdrivers, 2 fastening screws, serial data transmission cable in a plastic case.
65 4340 – **With UKAS calibration certificate, right-hand.**

Note: **Not suitable for impact wrenches.**
65 4300 – Screw tightening simulators for No. 654300 and 654350 under No. 654352.

▶ 04 ◀ Cal

65 4300

Optional accessories: Calibration device for TST, TTT in conjunction with sensors FMT up to 1500 Nm.

maximum torque		Nm	2	10	25
66D 65 4300	Electronic torque screwdriver tester **"TST"**		XXX	XXX	XXX
Measuring range		Nm	0.04 – 2	0.5 – 10	1.25 – 25
Display unit width		mm		288	
Display unit height		mm		72	
Display unit depth		mm		160	
Weight		kg		2.2	

66D 65 4340	Electronic torque tool tester **"TTT"**		(XXX)
Display unit width		mm	200
Display unit height		mm	150
Display unit depth		mm	180
Weight		kg	1

65 4340

±0.5%

▶ 04 ◀ Cal

up to size 400

Flange mounted transducer „FMT“

- Static sensors complete with cable (2 m) for direct connection to No. 654300 or No. 654340 (automatic detection of calibration data).
- Direct fixing to the workbench with 3 screws (not included).

Supplied with: **UKAS calibration certificate on the right.**
Up to and including size 150 with screw tightening simulator for checking electric and pneumatic screwdrivers. In a sturdy plastic case.

Note: Not suitable for impact wrenches.

65 4350_2–25

65 4350_150–1500

maximum torque		Nm	2	10	25	150	400	1500
66D 65 4350	Flange mounted transducer “FMT”		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Measuring range		Nm	0.04 – 2	0.5 – 10	1.25 – 25	7.5 – 150	20 – 400	30 – 1500
Square socket		inch	1/4	1/4	1/4; 3/8	3/8; 1/2	1/2; 3/4	3/4; 1
Hexagon socket		inch	1/4	1/4	1/4	–	–	–

±0.5% RS232C ▶ 04 ◀ Cal

“ProTest” electronic torque analyser

- Sturdy cast aluminium body.
- Large-format LCD display.
- Easy to use – pictogram keypad for direct choice of the test procedure etc.
- User-specific input of target torque with upper and lower tolerances; acoustic and visual signal (3 LEDs) on reaching / exceeding the target torque.
- 3 user modes: Following, inflection point detection, and peak value display.

Advantage:
- Checking to DIN EN ISO 6789; only the target value has to be put in – the torque analyser does the rest.
- 11 display languages.
- Testing in horizontal and vertical position.
- Display and measured value sensor can be separated.

Application: For setting and calibrating torque tools.

Supplied with: Measured value sensor, display unit, mains adapter, RS-232C connecting cable to PC or printer, 2 securing screws, and square drive adapter all in a sturdy case, **including UKAS calibration certificate, right-hand.**

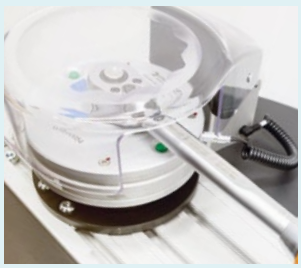
Note: Wall bracket under No. 654462.

maximum torque		Nm	60	400	1500
66D 65 4460	Electronic torque analyser “ProTest”		XXX	XXX	XXX
Measuring range		Nm	1.2 – 60	8 – 400	30 – 1500
Display unit width		mm		185	
Display unit height		mm		128	
Display unit depth		mm		104	
Measuring value sensor width		mm		106	
Measuring value sensor height		mm		100	
Measuring value sensor depth		mm		185	
Weight		kg	6.3	6.4	7.3
Square drive adapter		inch	1/4; 3/8; 1/2	3/8; 1/2; 3/4	3/4

Calibration of torque tools

Torque screwdrivers are measurement tools.
At regular intervals, using appropriate equipment, they must be calibrated and if necessary adjusted.
(See DIN EN ISO 6789:2003, 5.3 Calibration, or DIN EN ISO 9789-1:2017,
5.3 Checking conformity or DIN EN ISO 6789-2:2017, 4.1 Calibration.)

More detailed information on and an overview of the provided calibration services can be found in the front section of product group 01.



±1% ▶ 04 ◀ Cal

“TruCheck™ 2” and “TruCheck™ 2 Plus” electronic torque analyser

Application: Setting and testing triggering and indicating, right-hand triggering torque wrenches.

TruCheck™ 2

±1%

- Compact, handy torque analyser.
- Screw attachment to a flat surface (table, wall etc.).
- LCD display. LED background lighting ensures good legibility under poor lighting conditions.
- The integral micro-USB 2.0 port provides the power supply.
- Units of measure: N·m.

Accuracy:

Size 1100 – Percentage measured value error ±1% for the measurement range 110-1100 N·m; ±2% for the measurement range less than 110 N·m.

Size 30; 350 – Percentage measured value error ±1%.

Advantage:
- Very easy to use (reduces errors).
- Suitable even for users who are not “Calibration Specialists”.
- Only a single push button to zero the display.

Supplied with: USB power supply unit (EU/UK/US/AUS), micro USB 2.0 cable, in sturdy plastic case.

65 4471_30

±1%
±2%

65 4471_1100

maximum torque		Nm	30	350	1100
66D 65 4471	Electronic torque analyser „TruCheck™ 2“		XXX	XXX	XXX
Measuring range		Nm	1.5 – 30	10 – 350	50 – 1100
Display unit width		mm	175	138	140
Display unit height		mm	64	110	120
Display unit depth		mm	72	117	132.5
Weight		kg	1.4	2.7	3.5
Square drive adapter		inch	1/4; 3/8	1/2	3/4
External hexagon drive		mm	10	–	27

TruCheck™ 2 Plus

- 3 user modes: Tracking display **(Track)** Trigger point sensing **(First Peak)** Peak value display **(Final-Peak)**.
- Easy input of target torque with tolerances.
- LCD display. LED background lighting ensures good legibility under poor lighting conditions.
- The integral micro-USB 2.0 port provides the power supply and data transmission.
- 12 display languages.
- Memory for saving up to 15 measured values.
- Units of measure: N·m, lbf·ft, lbf·in.

Accuracy: Percentage measured value error ±1%.

Advantage: Quick and visually easily recognised status display thanks to change of colour of the display (red, yellow, green). Simple transmission of measured data available via a USB interface.

Application: Adjusting **torque screwdrivers** and **torque wrenches** with or without setting scale.

Supplied with: USB power supply unit (EU/UK/US/AUS), micro USB 2.0 cable, in sturdy plastic case.

65 4476_3

65 4476_30

65 4476_350

maximum torque		Nm	3	30	350
66D 65 4476	Electronic torque analyser „TruCheck™ 2 Plus“		XXX	XXX	XXX
Measuring range		Nm	0.1 – 3	1.5 – 30	10 – 350
Display unit width		mm	175	175	138
Display unit height		mm	72	64	110
Display unit depth		mm	64	72	117
Weight		kg	1.4	1.4	2.7
Square drive adapter		inch	1/4	1/4; 3/8	1/2
External hexagon drive		mm	6.3	10	–

±1% ▶ 04 ◀ Cal

“SmartCheck USB” torque tester

Variable and flexible torque wrench analyser with rotating display and base body. Can be mounted horizontally and vertically. The display and the membrane keypad are splash-proof and the body is made of impact-resistant plastic. **Micro-USB interface** for **data export** and for power supply.
3 user modes:

- Tracking display **(track)**
- Trigger point sensing **(first peak)**
- Peak value display **(peak hold)**

Units of measure: N·m, lbf·ft, lbf·in.

Advantage: Compact and variable torque analyser. Operation on power supply or batteries.

Application: Adjusting **torque screwdrivers and torque wrenches** with or without setting scale.

Supplied with: Including power supply unit and SmartCheck USB software for transmitting values and creating test certificates. In a sturdy plastic case.

Body and display can be rotated.

maximum torque		Nm	10	100	400	800
60N 65 4651	Torque analyser for torque wrenches „SmartCheck USB“		XXX	XXX	XXX	XXX
60N 65 4656	Torque analyser for torque screwdrivers „SmartCheck USB“		XXX	–	–	–
Measuring range		Nm	1 – 10	10 – 100	40 – 400	80 – 800
Display unit width		mm	120			
Display unit height		mm	124			
Display unit depth		mm	167			
Weight		kg	5.21	5.31	5.69	5.69
Square socket		inch	1/4	3/8	3/4	3/4

NEW

65 4651

±0.05° ▶ i ◀ Cal

“SmartCheck Angle” rotational angle test device

Variable and flexible rotational angle test device due to exchangeable sockets for rotational angle wrenches up to 400 Nm. Display, display bracket and base body can be rotated by 180°. The display and the membrane keypad are splash-proof and the body is made of impact-resistant plastic. The rotational arm can be locked for transport. Rotational angle measurements up to 720° with nominal value specification and evaluation of the measuring results directly at the device. USB interface for documentation of the test values. Additionally, a bi-directional interface, which permits parametrisation of new test values and the use of individual systems for control. Up to 2000 test values with a timestamp can be stored in the device. Optional documentation software available via free of charge download link.

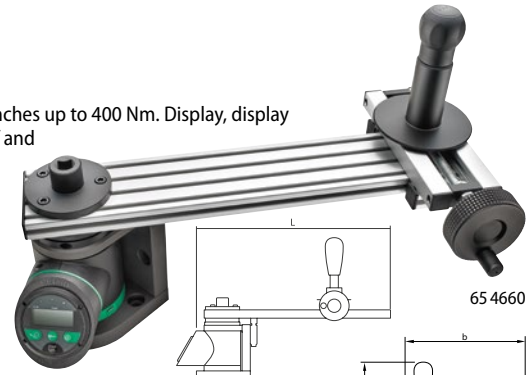
User modes:

- Tracking display **(track)**
- Peak value display **(peak hold)**

Advantage: Compact and variable rotational angle test device. Operation on power supply or batteries.

Application: Testing **rotational angle wrenches** for compliance with the specified tolerance.

Supplied with: Supplied with a USB power supply unit, reducing adapters to 1/4 inch and 3/8 inch, in a sturdy plastic case.



65 4660

SmartCheck Angle
Software

Optional documentation software available by free of charge download link:https://www.stahlwille.de/de/downloads/software-and-firmware/.

Max. measuring range		degrees	720
60N 65 4660	Rotational angle test device for torque wrenches “SmartCheck Angle”		(XXX)
Length L		mm	452; 752
Width b		mm	263
Height h_1		mm	187
Height h_2		mm	327
Weight		kg	7.8
Square socket		inch	1/2

Motorised calibration and adjustment device

The electronic perfectControl calibration device with electric drive greatly reduces the forces and time required for calibration and adjustment.

Functions including:

- Semi-automatic calibration of mechanical torque wrenches.
- Fully automatic calibration of STAHLWILLE electronic torque wrenches.
- The precision bearings of the spindle and the accurately controlled motor prevent incorrect measurement.
- Extremely precise calibration by optimising the bearings and the square sockets of the transducer.
- The QuickRelease locking allows transducers to be changed more quickly and with fewer problems.
- Measured values transferred by USB interface to a PC for post-processing and archiving.
- After calibration, a calibration certificate can be printed or saved as a PDF file.

perfect Control®

On request

Electronic torque measurement system

Versatile compact portable torque measurement and measured data recording system. Precise and repeatable torque measurements can be applied in combination with conventional ratchets, extensions, universal joints, sockets or even with release tools. The TTS-2000 recognises the torque sensor **(plug and play)** for which the measuring range and calibration parameters are stored on the sensor internal memory.

Display: 4-digit sharp contrast easy-to-read LCD display.
Modes:

- In **tracking mode** the actual torque values are shown continuously.
- In **peak mode** the highest torque value achieved is shown as a static display.
- Using **first peak mode** the trigger point (switch point) can be recorded for mechanically triggering torque wrenches.

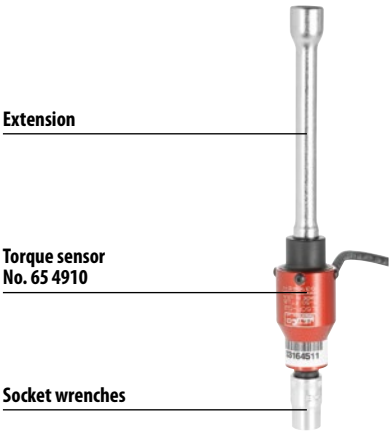
An acoustic and visual evaluation of the screw driving operation can be performed by inputting upper and lower tolerances **(multi-coloured LED strip)**.
Units of measure: N·m, lbf·ft, lbf·in, kgf·m, ozf·in.
Sampling rate: 10 kHz with 5 pre-set low-pass filters. These filters additionally allow the system to be used for dynamic testing of electric tools (impact/impulse screwdrivers), if appropriate sensors and additional screwing operation simulators are used (available on request). The high sampling rate permits also a precise recording of breakaway torque value / further tightening torque value.
Memory capacity: Up to 1300 measured values can be saved and called up again, and provided with a date/time stamp.
Interface: USB mini-B which can be controlled serially.
Power consumption: The TTS-2000 is powered by a rechargeable nickel-cadmium battery. The maximum operating time is approx. 20 hours, charging time approx. 8 hours.

Advantage: The torque measuring system and torque sensor turn a ratchet into a torque wrench.

Application: Precise torque control due to high sampling rate for controlled screw tightening. Ideal for prototype building and small series. Particularly suitable for screw tightening where access is difficult and for assemblies where space is too tight to allow use of a torque wrench.

Supplied with: Mains adapter for supplying power to the tool and also for charging the batteries. USB 2.0 A cable on Mini-B cable for transmitting the measured data to a printer or PC. Adjustable wall-mounting / bench-mounting and also a carrying case.

Application example



66D 65 4900	TTS-2000 electronic torque measurement system	XXX
Length	mm	185
Width	mm	80
Height	mm	50
Weight	kg	1

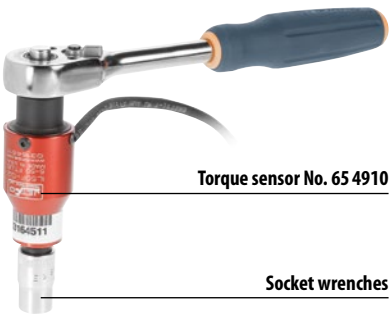
Torque sensor

±1%

04 Cal *up to size 340*

The built-in SMART chip stores the sensor identification, so that all system components are interchangeable. The torque sensor can withstand a mechanical overload up to 150% of the nominal value. On reaching of 110% of nominal value the sensor emits an acoustic warning signal, plus in addition a visual warning appears on the display. The torque sensor is equipped with a durable cable proof against polarity inversion, which can be exchanged if necessary without problems.

Standard: Square drives to DIN 3120 / ISO1174-1.



maximum torque	Nm	5,6	28	68	340	1355	2711
66D 65 4910	Torque sensor for TTS-2000	XXX	XXX	XXX	XXX	XXX	XXX
Torque range	Nm	0.6 – 5.6	2.8 – 28	6.8 – 68	34 – 340	135 – 1355	271 – 2711
Length	mm	51	83	83	92	178	178
Diameter	mm	21	32	32	37	64	64
Cable length	m	1.2					
Weight	kg	0.16	0.24	0.25	0.37	3.2	3.2
Square drive	inch	1/4	3/8	3/8	1/2	1	1
Drive square	inch	1/4	3/8	3/8	1/2	1	1

65 4910

±2% ±3% ±1% ±1° ▶ 03 ◀ Cal ▶ 05 ◀ Cal

HCT

GERMAN INNOVATION AWARD '21 WINNER

GERMAN DESIGN AWARD SPECIAL 2021

Garant

Electronic torque / rotational angle wrench HCT

- **Display:** Large sharp contrast illuminated 2.8 inch TFT display with double scale with viewing angle stability. With battery display and memory display. Torque and rotational angle both displayed at the same time.
- **Display:** Peak and Track function modes.
- **Modes:** Displaying torque, triggering torque, triggering rotational angle, triggering rotational angle with rotational angle monitoring, triggering rotational angle with torque monitoring. Up to 100 screw tightening profiles can be programmed. Recurrent screw tightening profiles and be summarised into a procedure (up to 10 procedures each with up to 10 screw tightening profiles). Screw tightening profiles and procedures can be programmed both directly at the wrench and also conveniently via the app.
- **App:** available free of charge for iOS and Android. The torque/rotational angle wrench has a bi-directional interface, which allows parametrisation directly via the HCT app.
  The wrench can also be used independently (without an app).
- **Memory capacity:** 1000 measurement values with timestamp (incl. date and time). The memory on the wrench can be manually deactivated if the connection to the end device has been established by HID.
- **Data output:** Available via Bluetooth or USB-C. Via Bluetooth: Available via the app as a .csv file, or directly at the torque wrench via the HID interface for simple and convenient digital documentation.
  Via the USB C interface: The data can the exported as a .csv file.
- **Wireless approval:** The torque / rotational angle wrenches with Buetooth interface have wireless approval in all EU countries, in Switzerland, in Norway and in Russia, and may be sold there.
- **Password protection:** can be used to secure screw tightening cases and procedural plans. In addition, you can set that reworking a screw connection that has been performed incorrectly requires input of a password.
- **Warning signal outputs** are haptic (vibration), visual (change of colour at the display, visible through 360° in any direction due to the LED ring with "traffic light function") and acoustic (buzzer, beep sound). The pre-warning point can be configured individually. Haptic and acoustic warning signals can be disabled if desired.
- **Easy input of reference dimensions:** For tools with a different pitch setting simply input the new pitch. No laborious calculations with formulae.
- **Protection class IP40.** The display is splash-proof.
- **The 2-component handle** of the torque / rotational angle wrench ensures specially good ergonomics and high torque transmission. User friendliness.
- **Resistant** to oils, grease, fuel, brake fluid and Skydrol.
- **Languages:** German, English, Spanish, Italian, French.
- **Factory settings:** The wrench can be reset to the factory settings.
- **Time and date** on the wrench are updated automatically as soon as it is connected to the app.
- **Display** of the software version with serial number, load cycle counter and calibration date.
- **Calibration reminder:** after number of load cycles.

Units of measure: N·m, lbf·ft, lbt·in.

Standard: Tested to DIN EN ISO 6789.

Accuracy: Torque: Clockwise ± 2 %, anticlockwise ± 3 %.
Rotational angle: +/-1° for the measurement range up to 100°, +/-1% for the measurement range 100° and beyond.

Supplied with: USB-C data cable, plug-in ratchet (reversible) with ejector, 1 commercially available Li-ion battery type 18650 3.6V / 3400 mAh (can be charged directly within the tool via the USB-C port). Supplied in a sturdy plastic case.

Note: Suitable additional batteries can be found under No. 081574 size 3500. Charger for 4 batteries available as options under: 081590 size 4ULTRA.

65 5010

maximum torque		Nm	12	30	50	100	200	340
61D 65 5010	Electronic torque wrench / rotational angle wrench **HCT**		–	–	–	–	–	–
Overall length L		mm	370	370	407.5	423.4	530	650
Torque range		Nm	2.4 – 12	6 – 30	10 – 50	20 – 100	40 – 200	68 – 340
Resolution		Nm	0.01	0.01	0.01	0.1	0.1	0.1
Angular resolution		degrees	0.1					
Weight		g	735	735	890	1052	1460	1625
Adjusted reference dimension on the torque wrench [l_2]		mm	21.1	21.1	28	28	34.1	34.1
Square drive		inch	1/4	1/4	3/8	1/2	1/2	1/2
Socket for plug-in head		mm	9×12	9×12	9×12	9×12	14×18	14×18

±2% ±3% ▶ 03 ◀ Cal

HCT

GERMAN INNOVATION AWARD '21 WINNER

HOLEX HCT electronic torque wrench

- **Display:** Large sharp contrast illuminated 2 inch TFT display with viewing angle stability. With battery display.
- **Fixed ratchet** with changeover lever.
- **Display:** Peak and Track function modes.
- **Modes:** Displaying torque, triggering torque.
- **App:** available free of charge for iOS and Android. The torque wrench has a bi-directional interface, which allows parametrisation directly via the HCT app. The wrench can also be used independently (without an app).
- **Data output:** Via Bluetooth. Available via the app as a .csv file, or directly at the torque wrench via the HID interface for simple and convenient digital documentation.
- **Wireless approval:** The torque wrenches with Bluetooth interface have valid wireless approval in all EU countries, in Switzerland, in Norway and in Turkey, and may be sold there.
- **Password protection:** possible as protection against unauthorised access to the menu (master password).
- **Warning signals** are haptic (vibration), visual (change of colour on the display) and acoustic (buzzer). The pre-warning point can be configured individually. Haptic and acoustic warning signals can be disabled if desired.
- **Easy input of reference dimensions:** When using extensions, simply input the new value (additional pitch). No laborious calculations with formulae.
- **Protection class IP40:** The display is splash-proof.
- **The 2-component handle** of the torque / rotational angle wrench ensures specially good ergonomics and high torque transmission.
- **Resistant** to oils, grease, fuel, brake fluid and Skydrol.
- **Languages:** German, English, Spanish, Italian, French.
- **Factory settings:** The wrench can be reset to the factory settings.
- **Time and date** on the wrench are updated automatically as soon as it is connected to the app.
- Display of the software version with serial number, load cycle counter and calibration date.
- **Calibration reminder:** after number of load cycles.
- **Counting function:** Load cycle counter is optionally displayed on the screen. This value can be reset at any time.
- **Last measurement:** The last measurement performed can be called up quickly and easily in the main screen.

Units of measure: N·m, lbf·ft, lbf·in.

Standard: Tested to DIN EN ISO 6789.

Accuracy: Torque: Clockwise ±2 %, anticlockwise ±3 %.

Supplied with: 1 commercially available Li-ion battery type 18650 3.6 V / 3400 mAh (can be charged directly within the tool via an USB-C plug). Supplied in a sturdy plastic case.

Note: Suitable additional batteries can be found under No. 081574 size 3500. Charger for 4 batteries optionally available under No. 081590 size 4ULTRA.

65 5025

maximum torque		Nm	12	30	50	100	200	340
61D 65 5025	Electronic torque wrench **HCT**		XXX	XXX	XXX	XXX	XXX	XXX
Overall length L		mm	355	355	398.5	418.6	535	655
Torque range		Nm	2.4 – 12	6 – 30	10 – 50	20 – 100	40 – 200	68 – 340
Resolution		Nm	0.01	0.01	0.01	0.1	0.1	0.1
Weight		g	590	590	755	910	1360	1525
Square drive		inch	1/4	1/4	3/8	1/2	1/2	1/2

Hoffmann Group Connected Tools (HCT)

The Hoffmann Group presents tools with Bluetooth capability, together with an innovative optional app for quick and precise documentation and data transmission.
Free of charge for iOS and Android.

1. Measurement is performed.
2. Measured data is saved and evaluated in the HCT app.
3. Measured data can be sent as a.csv file.

HCT All products compatible with the HCT app are indicated by this pictogram.

±1% ±1% ▶ 03 ◀ Cal ▶ 05 ◀ Cal

GEDORE E-Torc Q / QR electronic torque wrench / rotational angle wrench

The E-Torc Q / QR is a powerful electronic torque / rotational angle measuring wrench with the latest sensor technology and a 4.3 inch TFT display. Operation is optionally by **touch function or hardware buttons**. Curve depiction and evaluation can be displayed directly on the measuring tool. Parameter sets can be displayed with image data.
Data is exchanged between the torque wrench and stationary PC control software by means of Wi-Fi (2.4 and 5 GHz) or USB mini-port (from Windows® 7).
The signal transmission is shown visually by progress bars, acoustically by beep tone and by touch by means of vibration. Load cycle counter and date of the last calibration can be viewed via a menu.
Units of measure: N·m, lbf·ft.

65 5002 – Battery with quick-change system.

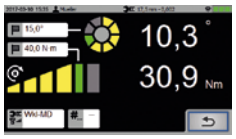
Function:
- **Torque control**
- **Torque / rotational angle control**
- **Elastic limit monitoring:** Determination of the elastic limit of bolted connections on the basis of the difference quotients.
- **Prevailing torque:** All processes to VDI / VDE 2645 sheet 3.
- **Slackening / tightening:** Determination of the torque value of a bolted connection e.g. after application of the operating load.

Application: As an analysis and quality key. In research and development, the E-Torc Q / QR saves on costly experimental test rigs. Bolt fastening trials of tightening specifications can be performed directly on the component and documented.

Supplied with: Supplied with plug-in reversible ratchet, charger cable, data cable, 4 GB memory, USB stick with documentation, operating manual and evaluation / operation software.

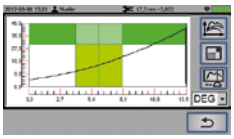
65 5001 – With display and connecting cable in a GEDORE box.
65 5002 – In a rectangular box with foam inlay.

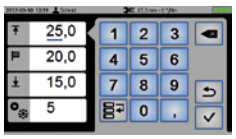
Note: Please comply with the **specific national requirements**!
Accessories on request.



Virtual progress bars for torque and angle.

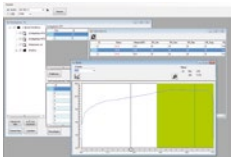
Measured value summary and evaluation.


Curve depiction and evaluation can be displayed directly on the E-torq Q.



Clear input of target values via the touch screen.

Working with workflows.


Communication to powerful PC operating software or connection to CAQ systems (optional).

65 5001
Torque wrench with separate graphics display on the ETQ base (available as an option).

maximum torque		Nm	12	60	100	200	300
60N 65 5001	Electronic torque wrench / rotational angle wrench, with separate display and connecting cable **E-Torc QR**		(XXX)	(XXX)	–	–	–
60N 65 5002	Electronic torque wrench / rotational angle wrench, with integral display **E-Torc Q**		–	–	(XXX)	(XXX)	(XXX)
Overall length L		mm	263	339	510	615	760
Torque range		Nm	1.5 – 12	6 – 60	10 – 100	20 – 200	30 – 300
Resolution		Nm	0.01	0.01	0.05	0.1	0.1
Weight		g	500	600	1800	2000	2300
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	17.5	17.5	25	25
Square drive		inch	3/8	3/8	1/2	1/2	1/2
Socket for plug-in head		mm	9×12	9×12	9×12	14×18	14×18

±1% ±1% RS232C ▶ 03 ◀ Cal ▶ 05 ◀ Cal

GEDORE E-torc II electronic torque wrench / rotational angle wrench

- The E-torc II impresses with a sturdy aluminium casing and an ergonomically designed handle, which enables easy and secure handling, even for high tightening torques.
- Measurement of torque and angle of rotation. Torque and rotational angle both displayed at the same time. The signal upon reaching the set screw-tightening parameter is output visually (additional visualisation by LED progress bar) and acoustically by a beep tone.
- LCD graphics display with background illumination.
- Saves and documents 2000 measured values.
- Data is exchanged between the torque wrench and stationary PC operating software (from Windows® 7) using the RS232C interface (USB adapter supplied).
- Operating modes: Track, Peak, Preset.
- Can be switched from N·m to lbf·ft using software.
- Ergonomic push-button on the side (Reset/Enter button, rapid function).
- Procedure with 5 screw-tightening parameters.
- Curve display and associated evaluation performed using the software supplied.

Units of measure: N·m, lbf·ft.

Size 150; 300 – Aluminium casing can be swivelled 120°.

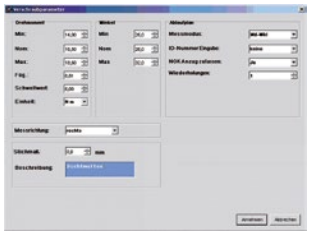
Application: As a production wrench for very small series assembly work, quality assurance, testing laboratories and for checking and analysing screw fastenings.

Supplied with: 2 batteries (AA), data cable, operating instructions, evaluation and operating software, USB adapter, hexagon key L-wrench for opening the battery compartment. Supplied with sturdy sheet metal case with inlay.

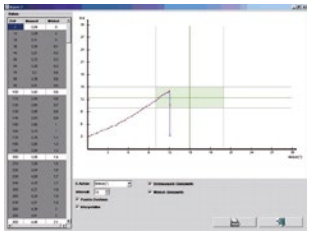
Size 25 – With rigid 1/4 inch square drive.

Size 150; 300 – Supplied with plug-in reversible ratchet.

Note:	Special solutions (options) and accessories available on request.

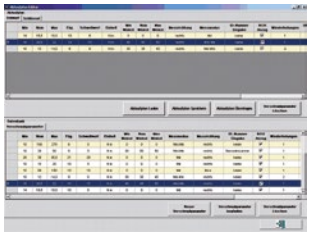


Screw-fastening parameters adjusted via the software.



Precise curve depiction for the measurement processes.

Main screen in the software with overview of the measurement processes that have already been performed.



Procedure editor.

65 5007_150;_300

maximum torque		Nm	25	150	300
61D 65 5007	Electronic torque wrench / rotational angle wrench **E-torc II**		XXX	XXX	XXX
Overall length L		mm	347	514	753
Torque range		Nm	2 – 25	10 – 150	30 – 300
Resolution		Nm	0.01	0.1	0.1
Angular resolution		degrees		0.1	
Weight		g	850	1330	1840
Adjusted reference dimension on the torque wrench [l_2]		mm	–	17.5	25
Square drive		inch	1/4	1/2	1/2
Socket for plug-in head		mm	–	9×12	14×18

▶ 03 ◀ Cal ▶ 05 ◀ Cal

Electronic torque wrench / rotational angle wrench

Highly precise electronic torque / rotational angle wrench for very reliable screw tightening and checking of screw fastenings. Clear OLED display with colour screen and extremely simple menu navigation. Sturdy wrench with compact housing and sturdy rectangular section shaft. "Direct mode" allows quick general-purpose use. There are up to 200 user-specific screw tightening cases which can be programmed, which can be incorporated in procedural plans. 4 measurement modes: Torque and angle of rotation. Process reliability results achieved by torque with angular monitoring or rotational angle with torque monitoring. Memory capacity for up to 2500 measurements included. Can be programmed by a PC; password protection for security against tampering. Rotary angle measurement can be programmed easily, no reference arm required. Target values and tolerances can be specified. Peak and Track function modes. Integrated automatic reminder of calibration after the number of operations and elapsed time.

Units of measure: N·m, lbf·ft, lbf·in.

Standard: Tested to DIN EN ISO 6789.

GARANT „TWdrive"

Torque/rotational angle wrench with **outstanding ergonomics and uniquely user-friendly operation.**

Size 15 – Accuracy class ±3 %.

Size 30–400 – Accuracy class ±2 %.

Supplied with: With sturdy plastic case (size 400 in a sturdy sheet metal case) and 3 batteries (1.5 V Mignon / AA / LR6), USB data cable, and software for transmitting the measured data.

Unique convenient adjustment by encoder wheel:
- *quick menu navigation*
- *quick and precise adjustment*

Visual signal by LED traffic light function and colour display.

65 5255_120

±2% ±2% ±3%

65 5250_120

- *Reversible ratchet with **ejector.***
- ***Easy input of reference dimensions:***
  For plug–in heads with a different reference dimension, simply input the new dimension. No laborious calculations with formulae are necessary.
- ***QuickRelease***
  Secure fit and quick change for insert tools.
- ***Data output:***
  The USB interface allows the saved data to be exported and analysed via PC.
- ***Warning signals:***
  – Acoustic (buzzer)
  – Visual via 3 LEDs and a colour screen
  – Tactile (vibration in the handle)
- ***Secure controls.***
  No duplication of button assignments.
- ***Comfort setting***

Vibration – *Reliable signal even in noisy / very bright environments.*

maximum torque		Nm	15	30	120	200	400
61E 65 5255	Garant	"TWdrive" electronic torque/rotational angle wrench **with plug-in ratchet**	XXX	XXX	XXX	XXX	XXX
61E 65 5250	Garant	"TWdrive" electronic torque/rotational angle wrench **without plug-in head**	XXX	XXX	XXX	XXX	XXX
Overall length L (65 5250)		mm	277	277	476	575	800
Torque range		Nm	1.5 – 15	3 – 30	12 – 120	20 – 200	40 – 400
Resolution		Nm	0.01	0.01	0.1	0.1	0.1
Weight (65 5250)		g	490	490	950	1170	1810
Adjusted reference dimension on the torque wrench [l_2]		mm	21	21	34	34	34
Square drive (65 5255)		inch	1/4	1/4	1/2	1/2	3/4
Socket for plug-in head		mm	9×12	9×12	14×18	14×18	14×18

STAHLWILLE MANOSKOP® 714

As well as the functional modes Peak and Track the wrench can also be used in trigger mode. When the set torque or rotational angle is reached the wrench triggers with audible and tactile signals like a conventional mechanical torque wrench.

Supplied with: With sturdy plastic case (size 400 in a sturdy sheet metal case) and 4 batteries (1.5 V micro / AAA / LR3), USB data cable, and SENSOMASTER 4 software for transmitting the measured data.

±2%

65 5230

±1% ▶ 01 ◀ Cal

65 5235

- ***Reversible ratchet***
- ***Easy input of reference dimensions:***
  For plug–in heads with a different reference dimension, simply input the new dimension. No laborious calculations with formulae are necessary.
- ***QuickRelease***
  Secure fit and quick change for insert tools.
- ***Data output:***
  The USB interface allows the saved data to be exported and analysed via PC.
- ***Easy to use:***
  The arrow keys allow all functions to be selected. Clear and simple menu navigation.
- ***Warning signals:***
  – Acoustic (buzzer)
  – Visual via 3 LEDs and a colour screen
- ***2-component handle:***
  Resistant to oils, greases, fuels and Skydrol.

maximum torque		Nm	10	60	100	200	400
63A 65 5230	STAHLWILLE	Electronic torque wrench / rotational angle wrench **with plug-in ratchet**	XXX	XXX	XXX	XXX	(XXX)
63A 65 5235	STAHLWILLE	Electronic torque wrench / rotational angle wrench **without plug-in head**	XXX	XXX	XXX	XXX	(XXX)
Overall length L (65 5235)		mm	226	393	466	547	687
Torque range		Nm	1 – 10	6 – 60	10 – 100	20 – 200	40 – 400
Resolution		Nm	0.01	0.1	0.1	0.1	0.1
Weight (65 5235)		g	370	810	1090	1360	1770
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	17.5	17.5	25	25
Square drive (65 5230)		inch	1/4	3/8	1/2	1/2	3/4
Socket for plug-in head		mm	9×12	9×12	9×12	14×18	14×18

±1% ±1% ▶ 03 ◀ Cal ▶ 05 ◀ Cal

SENSOTORK® 713R electronic torque wrench / rotational angle wrench

- Robust, compact body.
- Easy and flexible operation with menu selection on a large display.
- Recurrent screw settings can be collected on to a menu driven procedure.
- Especially large measuring range (5% – 100% of the nominal value).
- Adjustable early warning of the **visual, tactile and acoustic** signals.
- Resistant to oils, grease, fuel, brake fluid and Skydrol.
- Programmable using a PC.
- Easy to maintain due to simple adjustment.
- Integrated automatic reminder of calibration after the number of operations and elapsed time.
- Password protection against inadvertent change of settings and tampering.
- With 2 batteries (1.5 V mignon / AA / LR6).
- Torque and rotational angle both displayed at the same time.
- Convenient rotation angle measurement, no need for a reference arm.

Units of measure: N·m, lbf·ft, lbf·in.

Standard: Tested to DIN EN ISO 6789.

Supplied with: Sturdy plastic box (size 400 in sturdy sheet metal box) and 2 batteries (1.5V mignon / AA / LR6).

Optional extras: USB adapter, cable with latching plug and SENSOMASTER 4 software.

- ***Easy input of reference:***
  For plug-in heads with a different reference dimension, simply input the new dimension. No laborious calculations with formulae.
- ***QuickRelease:***
  Secure fit and quick change for insert tools.
- ***Rotation angle measurement needs no reference arm.***
- ***Easy to use:***
  The arrow keys allow all functions to be selected. Clear and simple controls.
- ***Warning signals:***
  Warning signals can be selected as audible (buzzer), touch (vibration in the handle), visual (LEDs and display) or any combination of these. The early warning point can be entered individually.
- ***Any point of application of force:***
  The measurement remains precise in all cases, irrespective of where you grip the torque wrench.
- ***Data output:***
  The USB interface allows the saved data to be exported and analysed via PC.
- ***Background illumination** of the display for better legibility and evaluation of the screwing process **(traffic light principle).***

65 5270

maximum torque		Nm	60	200	400
63A	65 5270	Electronic torque wrench / rotational angle wrench	XXX	XXX	(XXX)
Overall length L		mm	378	608	838
Torque range		Nm	3 – 60	10 – 200	20 – 400
Resolution		Nm		0.01	
Weight		g	856	1552	2330
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	25	25
Square drive		inch	3/8	1/2	3/4
Socket for plug-in head		mm	9×12	14×18	14×18

65

±2% ▶ 01 ◀ Cal

MANOSKOP® 730DR electromechanical torque wrench Service / Series

Unique electro-mechanical wrench, which combines both the **"displaying" and "triggering"** functions in a single device. When the set torque is reached the wrench triggers, with acoustic and tactile signals like a conventional mechanical torque wrench. In addition the value achieved is displayed and can be transferred to a PC. The additional "displaying" mode provides a continuous visual indication to the user of the torque that is being applied. Saves and documents up to 7500 screw tightening events. An automatic key lock prevents accidental changes to the settings. A PIN code can be entered to prevent unauthorised changes to the settings. The wrench offers a very wide measurement range. Integrated automatic reminder of calibration after the number of operations and elapsed time.

Units of measure: N·m, lbf·ft, lbf·in.

Size 100–650 – With reversible plug-in ratchet.

Size 800; 1000 – Plug-in ratchet with push-through square.

Standard: Tested to DIN EN ISO 6789.

Supplied with: Sturdy plastic box (sizes 100 and 200) and sturdy metal box (from size 400) with 2 batteries (1.5 V mignon / AA / LR6).

Optional extras: USB adapter, cable with latching plug, SENSOMASTER 4 software.

- ***Easy input of reference:***
  For plug-in heads with a different reference dimension, simply input the new dimension. No laborious calculations with formulae.
- ***QuickRelease:***
  Secure fit and quick change for insert tools.
- *Robust, compact body.*
- *Tolerance limit settings,shown clearly on a display with colour changes.*
- *Very simple operation; complete use and menu selection with 4 buttons.*
- *2-component handle, resistant to oils, greases, fuels, brake fluids, and Skydrol.*
- *USB interface for exporting the data.*

65 5290

maximum torque		Nm	100	200	400	650	800	1000
63A	65 5290	Electromechanical torque wrench	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
Overall length L		mm	500	594	738	920	1253	1437
Torque range		Nm	10 – 100	20 – 200	40 – 400	65 – 650	80 – 800	100 – 1000
Adjustment resolution		Nm	0.2	0.5	1	1	1	1
Display resolution		Nm	0.1					
Weight		g	1232	1663	2232	3767	6492	6910
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	25	25	25	55	55
Square drive		inch	1/2	1/2	3/4	3/4	3/4	3/4
Socket for plug-in head		mm	9×12	14×18	14×18	14×18	22×28	22×28

±2% ±1° ▶ 03 Cal ◀ ▶ 05 Cal ◀

FACOM Electronic torque wrench / rotational angle wrench

- Connection via **Bluetooth 4.0** to smartphone/tablet with a range more than 10 metres. App available on **Android and iOS.** Settings of the values and operation are performed **exclusively** via the app. Screw tightening procedures can be tacked live on the app, then past measured values can be called up. The associated report can be exported as a CSV file.
- Measurement of torque and angle of rotation.
- **OLED display** with high contrast for particularly good legibility. Protected with a rubber surround.
- 4 LEDs for 360° visibility. Gives feedback via a graduated traffic light system.
- Rechargeable via the **Docking Station.**
- Operating modes: Torque frequency (procedural flow chart), quick torque.
- Signal output **haptic** (vibration as the set value is approached, and click when it is reached), **visual** (LEDs and display) and **acoustic** (click).
- **With calibration reminders.** After a certain number of duty cycles and elapsed time.

Units of measure: N·m, lbf·ft, lbf·in, kg·cm.

Standard: Tested to DIN EN ISO 6789.

Supplied with: Supplied with a Li-ion battery 3.7 V / 2.6 Ah type 18650, docking station with micro-USB cable, mains plug and sturdy plastic case.

Live transmission of the course of the torque and angle of rotation, via an app.

65 5302

With haptic signal output (click).

maximum torque		Nm	30	135	340
61D	65 5302	"SMART TORQUE WRENCH" electronic torque wrench / rotational angle wrench	XXX	XXX	XXX
Overall length L		mm	330	440	650
Torque range		Nm	6 – 30	13.5 – 135	34 – 340
Resolution		Nm		0.01	
Weight		g	1000	1200	1800
Square drive		inch	1/4	3/8	1/2
Battery capacity		Ah		2.6	
Nominal voltage		V		3.7	

65

MB 12 ±2% ±3% ▶ i Cal ◀

Milwaukee Electronic torque wrench with electric drive

- The electric drive can be used to run the screw forward to the point where torque is applied. The screw is then tightened manually to the set torque. Setting and operation directly at the torque wrench.
- Quick reporting of the torque via **ONE-KEY™** for generation of reports.
- **LCD display** with strong colours and quick response times. Feedback on status and display of relevant information.
- Warning signals can be optionally set as **tactile** (vibration), **visual** (LEDs and display) and **acoustic** or combinations of these. The early warning point can be entered individually.
- Up to **28,000 measured values** can be saved on the torque wrench.
- **With calibration reminders.** After a certain number of duty cycles and elapsed time.

Units of measure: N·m, ft·lbs, in·lbs, kg·cm.

Standard: Tested to DIN EN ISO 6789.

Accuracy: Clockwise +/- 2%, anticlockwise +/- 3%.

Supplied with: Supplied with 12 V / 2.0 Ah Red Li-ion battery, C12C charger and sturdy plastic case.

Note: See No. 073814ff and No. 073840 for suitable batteries and chargers. Recalibration is performed by the manufacturer.

Visual signal by LED traffic light function.

65 5305

maximum torque		Nm	136	203
03L	65 5305	Electronic torque wrench with electric drive	XXX	XXX
Overall length L		mm	592	597
Torque range		Nm	13.6 – 135.6	16.9 – 203.4
Resolution		Nm	0.1	
Weight		g	2500	2600
Square drive		inch	3/8	1/2
Battery capacity		Ah	2	
Nominal voltage		V	12	
Motor design			Fuel™	
No load speed		rpm	0 – 100	

±4% ▶ 03 ◀ Cal

SENSOTORK® 701 electronic torque wrench

- Very slim and compact design for small torques from 1 N·m.
- Easy to use with single button controls.
- 3 measurement modes: Track, Peak Hold, Tightening with evaluation.
- Additional functions with SENSOMASTER 4 software (available at www.stahlwille.de/ download free of charge after registration):- Tightening adjustable- Evaluation of the screw tightening procedure by means of coloured LEDs, buzzer and vibration- Adjustable calibration interval- Facility for generating documentation
- Compact design makes work possible even in confined spaces.
- Fixed fine ratchet (80 teeth) with QuickRelease technology.
- Clear display.
- USB interface.
- Any desired force.
- Integrated automatic reminder of calibration after the number of operations and elapsed time.

Units of measure: cN·m, N·m, lbf·ft, lbf·in.

Standard: Tested to DIN EN ISO 6789.

Supplied with: Including sturdy plastic case, USB cable, and battery (3.6 V/type 14500) No. 081560 size SL760.

65 5275

maximum torque		Nm	20
63A	65 5275	Electronic torque wrench	XXX
Overall length L		mm	210
Torque range		Nm	1 – 20
Resolution		Nm	0.01
Weight		g	145
Square drive		inch	1/4

±2% ±3% ▶ 03 ◀ Cal

Electronic torque wrench with digital display

Robust torque wrench with impact resistant casing, 2-component handle, large display and reversible ratchet. Easy operation using large input buttons. Visual and acoustic signal indicates achievement of the set torque **visually and audibly**. Two working modes; selectable between peak value display and following display. The working memory can store up to 50 torque settings.

Units of measure: N·m, lbf·ft, lbf·in, kgf·m.

Size 12 – Captive push-through ratchet with ejector. **Any desired force.** Irrespective of where the wrench is held, the measurement always remains accurate.

Size 30–340 – Sturdy plug-in ratchet with change-over wheel.

Standard: Tested to DIN EN ISO 6789.

Accuracy: Clockwise ± 2 %, anticlockwise ± 3 %.

Application: Torque control; controlled tightening of screws in a single operation or for small batch production.

Application example
Optional accessories: Coin driver No. 66 4310 / 66 4311 for unscrewing without damage, for extracting blanking plugs.

65 5345_12

65 5345_135

maximum torque		Nm	12	30	135	200	340
62E	65 5345	Electronic torque wrench	XXX	XXX	XXX	XXX	XXX
Overall length L		mm	216	390	410	545	640
Torque range		Nm	2.4 – 12	6 – 30	27 – 135	40 – 200	68 – 340
Resolution		Nm	0.01	0.01	0.1	0.1	0.1
Weight		g	650	1400	1570	2170	2320
Adjusted reference dimension on the torque wrench [l_2]		mm	–	17.5	17.5	25	25
Square drive		inch	1/4	1/4	3/8	1/2	1/2
Socket for plug-in head		mm	–	9×12	9×12	14×18	14×18

±1% RS232C ▶ 03 ◀ Cal

Your Torque Partner TOHNICHI

Electronic torque testing wrench with digital display

Sturdy test wrench with exchangeable ratchet and compact display and control unit. Visual and acoustic signal indicates achievement of the set torque **visually and audibly**. For right-hand and left-hand threads.
Memory: 999 measured value pairs.
Power supply: NiMH rechargeable battery, operates 20 hours on a charge, charging time 3.5 hours.

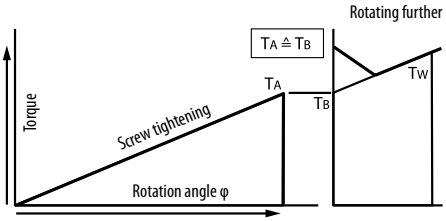
Size 850 – **Units of measure:** N·m, lbf·ft.
Size 10–500 – **Units of measure:** N·m, lbf·ft, lbf·in, kgf·cm.

Standard: Tested to DIN EN ISO 6789.

Application: For quick **checking of screw connections.**
The screw connection is further rotated by a defined angle. The final torque required (T_W) is used to automatically calculate and display the initial tightening torque (T_A equivalent to T_B) for the fastening.

Supplied with: Battery charger, instruction manual in German and English.

Optional extras: Data cable No. 655265.



maximum torque	Nm	10	20	50	100	200	360	500	850
66E 65 5360	Electronic torque testing wrench	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Overall length L	mm	255	265	340	450	555	815	1055	1565
Torque range	Nm	2 – 10	4 – 20	10 – 50	20 – 100	40 – 200	72 – 360	100 – 500	170 – 850
Resolution	Nm	0.01	0.02	0.05	0.1	0.2	0.4	0.5	1
Weight	g	460	470	580	630	780	1130	4000	5140
Square drive	inch	1/4	3/8	3/8	1/2	1/2	3/4	3/4	1

±1% ±1% ▶ 03 ◀ Cal ▶ 05 ◀ Cal

HOLEX

Electronic torque testing wrench with torque / rotational angle function

Compact electronic torque wrench with a versatile applications profile:

- Measurement of torque and angle of rotation.
- Measurement of **breakaway torque** of an existing screw fastening. The measured breakaway torque value closely matches the **existing torque.** The following operating modes are available:
- Track or Peak mode.
- "QuickTest" – screw tightening to the specified torque or rotational angle.
- Screw tightening to the specified values and tolerances.
- **Breakaway torque** – closely matches the existing torque. Acoustic and visual warning signals or reaching or exceeding the set value. Stores up to 900 values. Operating life approx. 40 h. Angular measurement without any need for a reference arm.

Clear display with background illumination.

Units of measure: N·m, lbf·ft, lbf·in, kgf·m.

Standard: Tested to DIN EN ISO 6789.

Application: Controlled screw tightening for prototype building and small series production. **Checking screw fastenings.**

Supplied with:

Size 10 – With plastic case and 9 V block (Aerocell / 9 V e-block / 6LP3146 / alkaline), with data transmission cable, and software, reversible precision ratchet.
Size 50–350 – With plastic case and 4 batteries (1.5 V Mignon / AA / LR6), with data transmission cable, and software, reversible precision ratchet.

Defined further tightening up to the breakaway of the screw → calculation of the torque.

maximum torque	Nm	10	50	100	200	350
62E 65 5365	Electronic torque testing wrench	XXX	XXX	XXX	XXX	XXX
Overall length L	mm	240	393	455	560	655
Torque range	Nm	2 – 10	10 – 50	20 – 100	40 – 200	70 – 350
Resolution	Nm	0.001	0.01	0.01	0.1	0.1
Weight	g	400	900	1040	1250	1440
Adjusted reference dimension on the torque wrench [l_2]	mm	–	17.5	17.5	25	25
Square drive	inch	1/4	3/8	1/2	1/2	3/4
Socket for plug-in head	mm	–	9×12	9×12	14×18	14×18

±2% ±3% ▶ 03 ◀ Cal

Garant Electronic torque wrenches with digital dial gauge display.

High-precision, electronic torque wrench with digital dial gauge display. Body of steel, satin chrome-plated, integral reversible ratchet with ejector. Digital display of the Nm value and battery charge status. A control switch for switching on and reset, automatic switch-off after 2 minutes.

Units of measure: N·m, lbf·ft.

Size 12–50 – 2.8 inch TFT display with double scale (N·m-lbf·ft).

Size 100–340 – 3.5 inch TFT display with double scale (N·m-lbf·ft).

Standard: Tested to DIN EN ISO 6789.

Accuracy: Clockwise ± 2 %, anticlockwise ± 3 %.

Function: Actual torque can be read on the gauge whilst working; the final value is held to be read later.
Display: Peak and Track function modes.

Application: For controlled single tightening of screws and for controlled measurements.

Supplied with: Mini-USB charger cable for the TFT display. Supplied in a sturdy plastic case

Optional accessories:
Coin driver No. 66 4310 / 66 4311 for unscrewing without damage, for extracting blanking plugs.

- Reversible ratchet with ejector.
- Display with battery indicator.
- One button for On / Reset.
- Mini USB port for charging.
- Ergonomic handle.

maximum torque		Nm	12	30	50	100	200	280	340
61E 65 5550	Electronic torque wrench with digital dial gauge display		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L		mm	345	345	388	417	535	655	655
Torque range		Nm	2.4 – 12	6 – 30	10 – 50	20 – 100	40 – 200	56 – 280	68 – 340
Resolution		Nm	0.01	0.01	0.01	0.1	0.1	0.1	0.1
Weight		g	700	700	860	1020	1470	1650	1650
Square drive		inch	1/4	1/4	3/8	3/8	1/2	1/2	1/2

±3% ▶ 03 ◀ Cal

Tohnichi Torque wrenches with dial gauge display

One-armed; slim design with easily readable dial gauge. Body entirely of steel, chrome-plated with fixed square drive for plug-in heads.

Units of measure: N·m.

Standard: Tested to DIN EN ISO 6789.

Function: Actual torque can be read on the gauge whilst working; the final value is held by the memory pointer to be read later.

Application: For controlled single tightening of screws and for controlled measurements.

65 5500_12

Available with plug-in rectangle on request

65 5500_100

65 5500_700

maximum torque		Nm	1,5	3	6	12	25	50	100
66F 65 5500	Torque wrench with dial gauge display		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L		mm	205	205	225	225	245	320	400
Torque range		Nm	0.2 – 1.5	0.3 – 3	0.6 – 6	1 – 12	3 – 25	5 – 50	10 – 100
Scale graduation, 1 graduation =		Nm	0.02	0.05	0.1	0.2	0.5	0.5	1
Weight		g	330	330	330	330	400	430	550
Square drive		inch	1/4	1/4	1/4	1/4	1/4	3/8	1/2

maximum torque		Nm	200	280	420	700	1000	1400	2100
66F 65 5500	Torque wrench with dial gauge display		XXX	XXX	XXX	XXX	XXX	(XXX)	(XXX)
Overall length L		mm	501	691	890	1260	1488	1740	2140
Torque range		Nm	20 – 200	30 – 280	40 – 420	70 – 700	100 – 1000	200 – 1400	200 – 2100
Scale graduation, 1 graduation =		Nm	2	5	5	10	20	20	20
Weight		g	800	1650	2400	5300	7400	9800	12000
Square drive		inch	1/2	1/2	3/4	3/4	1	1	1

±4% ▶ O3 ◀ Cal

HOLEX Torque wrenches with dial gauge display

One-armed; slim design with easily readable dial gauge. Body entirely of steel, chrome-plated with fixed square drive for plug-in heads.

Units of measure: N·m

Size 6–280 – Non-slip 2-component handle.

Size 420–1000 – Knurled metal handle.

Standard: Tested to DIN EN ISO 6789.

Function: Actual torque can be read on the gauge whilst working; the final value is held by the memory pointer to be read later.

Application: For controlled single tightening of screws and for controlled measurements.

65 5520_6 – 280

65 5520_420 – 1000

maximum torque		Nm	6	12	25	50	100	200	280	420	700	1000
62E 65 5520	Torque wrench with dial gauge display		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L		mm	225	225	250	332	380	470	690	890	1260	1490
Torque range		Nm	1.2 – 6	2.4 – 12	5 – 25	10 – 50	20 – 100	40 – 200	56 – 280	84 – 420	140 – 700	200 – 1000
Scale graduation, 1 graduation =		Nm	0.1	0.2	0.5	0.5	1	2	5	5	10	10
Weight		g	400	400	400	600	700	1000	1650	2500	5500	6400
Square drive		inch	1/4	1/4	1/4	3/8	1/2	1/2	1/2	3/4	3/4	1

▶ O1 ◀ Cal

Torque wrenches with setting scale – automatic triggering

Handy and very compact single-arm torque wrench, adjustable by scale and self-triggering. Extremely high repeat accuracy, since high quality materials are used throughout. Wearing parts, such as compression springs, are specially pre-treated and sorted. Reversible ratchet for left-hand and right-hand tightening.

Units of measure: N·m

Standard: Tested to DIN EN ISO 6789.

Function: The wrench triggers giving a "signal" (clearly audible acoustic tone and noticeable vibration) and afterwards is immediately ready for use again.

Application: For medium to larger batch productions.

Note: DAkkS calibration option.

65

GARANT

Acoustic and perceptible "click effect" ensures particularly easy use and accurate setting of the desired torque.

65 6050 – With built-in **reversible ratchet** with ejector – **for left-hand and right-hand tightening.**

65 6055 – Basic tool with **square plug-in socket** (without plug-in head). Suitable spare jaws No. 657582 - 657950.

Size 1000; 1600 – **2-piece** with release tool in nylon carrying bag.

Accuracy:

Size 6 – Of the displayed value **only for right-hand tightening:** ±4 %

Size 25–1600 – Of the displayed value **only for right-hand tightening:** ±3 %

unlocked

locked

±3%

65 6050_200

65 6050_1000

65 6055_200

maximum torque		Nm	6	25	60	60-1/2	120	200	320	400	500	800	1000	1600
61E 65 6050	Garant Torque wrench **with reversible ratchet**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
61E 65 6055	Torque wrench base unit **without plug-in head**		–	XXX	XXX	–	XXX	XXX	XXX	XXX	XXX	XXX	–	–
Overall length L (65 6050)		mm	225	242	307	307	409	507	633	778	1021	1259	1764	2431
Overall length L (65 6055)		mm	–	225	278	–	372	471	596	692	935	1173	–	–
Torque range		Nm	1 – 6	2.5 – 25	10 – 60	10 – 60	20 – 120	40 – 200	60 – 320	100 – 400	200 – 500	300 – 800	400 – 1000	600 – 1600
Scale graduation, 1 graduation =		Nm	0.1	0.25	0.5	0.5	1	1	2	2.5	2.5	2.5	5	5
Weight (65 6050)		g	300	400	550	550	1000	1300	1400	3700	5500	6300	10000	16000
Adjusted reference dimension on the torque wrench [l_2] (65 6055)		mm	–	17.5	17.5	–	25	25	25	25	25	25	–	–
Square drive (65 6050)		inch	1/4	1/4	3/8	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	1
Socket for plug-in head (65 6055)		mm	–	9×12	9×12	–	14×18	14×18	14×18	14×18	14×18	14×18	–	–

HAZET

65 6500 – With built-in **reversible ratchet – for left and right hand tightening.**
Size 2000 – **3-piece** with release tool in nylon carrying bag.
65 6510 – Basic tool with **square plug-in socket** (without plug-in head).
Suitable spare jaws No. 657582 - 657950.
Size 1000; 1600 – **2-piece** with release tool in nylon carrying bag.
Accuracy:
Size 6; 2000 – Of the displayed value **only for right-hand tightening:** ±4 %.
Size 10–800 – Of the displayed value **only for right-hand tightening:** ±2 %.
Size 1000; 1600 – Of the displayed value **only for right-hand tightening:** ±3 %.

±3%

65 6500_1000

Locking at the end of the handle.

±2%

65 6500_200

65 6510_200

maximum torque		Nm	6	10	60	120	200	320	400	800	1000	1600	2000
630 65 6500	Torque wrench **with reversible ratchet**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	(XXX)
630 65 6510	Torque wrench base unit **without plug-in head**		–	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–
Overall length L (65 6500)		mm	197	198	335	435	543	659	802	1283	1789	2455	3033
Overall length L (65 6510)		mm	–	180	305	400	510	620	718	–	–	–	–
Torque range		Nm	1 – 6	2 – 10	5 – 60	20 – 120	40 – 200	60 – 320	100 – 400	300 – 800	400 – 1000	600 – 1600	800 – 2000
Scale graduation, 1 graduation =		Nm	0.1	0.2	0.5	1	1	2	2.5	2.5	5	5	6
Weight (65 6500)		g	350	400	1000	1700	2000	2300	5100	9000	10400	14000	18000
Adjusted reference dimension on the torque wrench [l_2] (65 6510)		mm	–	19.5	30	38.5	38.5	38.5	44	–	–	–	–
Square drive (65 6500)		inch	1/4	1/4	3/8	1/2	1/2	1/2	3/4	3/4	3/4	1	1
Socket for plug-in head (65 6510)		mm	–	9×12	9×12	14×18	14×18	14×18	14×18	–	–	–	–

65

O1 Cal

HOLEX Torque wrenches with setting scale – automatic triggering

±4%

65 7272_500 – 1000

Robust torque wrench, adjustable with micrometer scale, with protection against accidental changes to the setting.
Units of measure: N·m, lbf·ft.
65 7272 – Integral ratchet to accept sockets.
Size 20 – With **reversible ratchet** and fixed square drive pin – **only for right-hand tightening.**
65 7277 – Basic tool with square plug-in socket (without plug-in head). Suitable spare jaws No. 657582 - 657950.
65 7272 Size 50–300 – Ratchet with captive **push-through square drive pin** and retaining pin, for **right-hand and left-hand tightening.**
Size 500–1000 – Ratchet with **push-through square drive pin** and retaining pin, for **right-hand and left-hand tightening.**
Standard: Tested to DIN EN ISO 6789.
Accuracy:
Size 20–300 – ±3 % of the displayed value.
Size 500–1000 – ±4 % of the displayed value.
Function: On reaching the set torque value the wrench triggers giving a "signal" (audible and perceptible) and is then immediately ready for use again.
Application: For small to medium series.

±3%

65 7272_50 – 300

±3%

65 7272_20

±3%

65 7277_100

Detail view size 50 – 300

maximum torque		Nm	20	50	100	200	300	500	800	1000
62E 65 7272	Torque Wrench **with ratchet**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
62E 65 7277	Torque wrench base unit **without plug-in head**		XXX	XXX	XXX	XXX	XXX	–	–	–
Overall length L (65 7272)		mm	232	328	375	459	587	830	1030	1330
Overall length L (65 7277)		mm	215	335	380	465	588	–	–	–
Torque range		Nm	4 – 20	10 – 50	20 – 100	40 – 200	60 – 300	100 – 500	160 – 800	200 – 1000
Scale graduation, 1 graduation =		Nm	0.1	0.5	1	1	1	5	5	5
Weight		g	400	700	800	1000	1350	3800	4700	5700
Adjusted reference dimension on the torque wrench [l_2] (65 7277)		mm	31.8	31.8	40	40	40	–	–	–
Square drive (65 7272)		inch	1/4	3/8	1/2	1/2	1/2	3/4	3/4	3/4
Socket for plug-in head (65 7277)		mm	9×12	9×12	14×18	14×18	14×18	–	–	–

±4% ▶ 01 ◀ Cal

Garant Torque wrenches with digital display – automatic triggering

Handy and very compact, single-handed torque wrench, self-triggering. The setting is performed using a digital display (OLED display with battery charge display, rechargeable by mini-USB cable). The unit of measure is easily changed using the multi-function button. Extremely high repeat accuracy, since high quality materials are used throughout. Wearing parts, such as compression springs, are specially pre-treated and sorted.
Acoustic and perceptible "click effect" ensures particularly easy use and accurate setting of the desired torque.
Units of measure: N·m, lbf·ft, lbf·in, kgf·cm.

Size 300 – With built-in **ratchet – for clockwise and anti-clockwise tightening.**
Size 50–200 – With built-in **ratchet - only for clockwise tightening.**

Standard: Tested to DIN EN ISO 6789.
Function: The wrench triggers giving a "signal" (clearly audible acoustic tone and noticeable vibration) and afterwards is immediately ready for use again.
Application: For medium to larger batch productions.
Supplied with: Mini-USB charger cable for the OLED display.

- *Sturdy ratchet, reversible / push-through.*
- *Tough and robust steel tube (hardened and hard chrome-plated), slim design.*
- *OLED display showing the value, battery charge level and unit of measure.*
- *Mini-USB port for charging the display battery.*
- *Handle ergonomically embossed. End collar prevents slipping. Sealed for protection against ingress of dirt and liquids.*
- *Unlocking display of the setting mechanism, easily visible from any position.*

_50 – 200

unlocked

_300

maximum torque		Nm	50	100	200	300
61E 65 6650	Torque wrench **with digital display**		XXX	XXX	XXX	XXX
Overall length L		mm	340	392	474	598
Torque range		Nm	10 – 50	20 – 100	40 – 200	60 – 300
Resolution		Nm	0.5	0.5	1	1
Weight		g	820	950	1100	1500
Square drive		inch	3/8	1/2	1/2	1/2

½" ±3% ▶ 01 ◀ Cal 10-19 6-10

Wera Torque wrench set 1/2 inch

Very sturdy single-handed torque wrench (square drive 1/2 inch) with ergonomic 2-component handle and reversible ratchet for easy adjustment and locking the specified value. Sturdy trigger mechanism ensures clearly audible and sensed response on reaching the set torque. Easy adjustment and locking of the desired torque value, due to display with main scale and fine scale. For right-handed use.
Units of measure: N·m, lbf·ft.
Accuracy: Tested to DIN EN ISO 6789.

65 6300

maximum torque			200
63F 65 6300	Torque wrench set		XXX
Overall length L		mm	510
Torque range		Nm	40 – 200
Scale graduation, 1 graduation =		cNm	100
Content: Hexagon sockets			1 pc. each size 10; 13; 17; 19 mm
Hexagon screwdriver bits			1 pc. each 6; 8; 10 mm
Screwdriver bits for Torx®			1 pc. each TX30; TX40; TX45; TX50
Extension			1 pc. 125 mm
"Click-Torque" torque wrench			1 pc. 40-200 Nm
Presented in			Textile box

▶ 01 ◀ Cal

STAHLWILLE

Torque wrenches with quick adjustment – automatic triggering Service MANOSKOP®

Sturdy compact one-armed torque wrench, adjustable to scale and self-triggering. The accuracy is sustained for many thousands of operations, because high quality material is used for all wearing parts with stressed parts loaded only briefly on each occasion. Body and handle are of sturdy square section. Scales adjustable. **Anti-clockwise tightening by pushing through the drive shank**

Standard: Tested to DIN EN ISO 6789.

Function: If the set value is reached while using the wrench, the wrench triggers giving a "signal" (acoustic and perceptible) and is then immediately ready for use again.

Application: Since the set torque can be varied, it is ideal for repairs and short series production.

QuickRelease:
Secure location and quick change-over of any plug-in heads with QuickRelease safety locking.
The rectangular socket allows use of a wide variety of plug-in heads.

65 7090_100

65 7092_100

65 7094_100

Service MANOSKOP® 730 N with QuickSelect quick adjustment

Size 20 – **Units of measure:** N·m, lbf·in.
65 7092 – With **square drive plug–in head.**
65 7094 – Without any plug-in head (basic model); see No. 657582 – 657950 for suitable plug-in heads.
65 7090 Size 20–650 – With **plug–in reversible ratchet.**
Size 50–1000 – **Units of measure:** N·m, lbf·ft.
65 7090 Size 800; 1000 – With **plug-in ratchet with push-through square.**

Advantage:
- Ergonomically shaped two-component handle, resistant to aggressive liquids such as fuel, Skydrol etc.
- The adjustment scale is placed behind a sight glass for protection against dirt and damage.
- Quick, precise, and reliable setting: Pull the setting knob, "Twist" to set the desired value and "Press" to save it. Setting knob moves easily since there is no spring pressure to be overcome.

±3%

QuickSelect quick adjustment

maximum torque		Nm	20	50	100	130	200	400	650	800	1000
63A 65 7090	Torque wrench QuickSelect **with plug-in ratchet**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 65 7092	Torque wrench QuickSelect **with square drive plug-in head**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–
63A 65 7094	Torque wrench QuickSelect **without plug-in head**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L (65 7094)		mm	275	330	386	421	467	607	890	1178	1363
Torque range		Nm	4 – 20	10 – 50	20 – 100	25 – 130	40 – 200	80 – 400	130 – 650	160 – 800	200 – 1000
Scale graduation, 1 graduation =		Nm	0.2	0.25	0.5	0.5	1	2	2.5	5	5
Weight (65 7094)		g	737	831	988	1128	1264	1655	3231	4825	5000
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	17.5	17.5	25	25	25	25	55	55
Square drive (65 7090, 65 7092)		inch	3/8	3/8	1/2	1/2	1/2	3/4	3/4	3/4	3/4
Socket for plug-in head		mm	9×12	9×12	9×12	14×18	14×18	14×18	14×18	22×28	22×28

Service MANOSKOP® 730 Fix with QuickSelect quick adjustment and adjustment locking

65 7095 – With **plug–in reversible ratchet.**
Units of measure: N·m, lbf·ft.
65 7099 – Without any plug-in head (basic model); see No. 657582 – 657950 for suitable plug-in heads.

Advantage: Can be pre-set using the scale, and secured against further changes by removal of the setting knob. Optionally the wrench can be secured against tampering using the locking screw and the sticker supplied.

±3%

Adjustment button

Security screw

Security sticker

Maximum torque		Nm	50	100	130	200	400
63A 65 7095	QuickSelect torque wrench **with adjustment locking and plug-in ratchet**		XXX	XXX	XXX	XXX	XXX
63A 65 7099	QuickSelect torque wrench **with adjustment locking, without plug-in head**		XXX	XXX	XXX	XXX	XXX
Overall length L (65 7099)		mm	330	386	421	467	607
Torque range		Nm	10 – 50	20 – 100	25 – 130	40 – 200	80 – 400
Scale graduation, 1 graduation =		Nm	0.25	0.5	0.5	1	2
Weight (65 7099)		g	831	988	1128	1264	1655
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	17.5	25	25	25
Square drive (65 7095)		inch	3/8	1/2	1/2	1/2	3/4
Socket for plug-in head		mm	9×12	9×12	14×18	14×18	14×18

Service MANOSKOP® 730 Quick with quick adjustment

±4%

65 7105 – With **plug–in reversible ratchet.**
65 7205 – With **square drive plug–in head.**
65 7215 – Without any plug-in head (basic model);
see No. 657582 – 657950 for suitable plug-in heads.
Size 20L; 40L – **Units of measure:** N·m.
Size 50–650 – **Units of measure:** N·m, lbf·ft.
Function: Quick adjustment of the torque with the slide setting button.
The value is fixed using the locking key in the handle.

65 7105_100

65 7205_100

65 7215_100

Integral magnifying glass for more precise reading of the scale.

Quick adjustment

NEW

Maximum torque		Nm	50	100	130	200	300	400	650
63A 65 7105	Torque wrench **with plug-in reversible ratchet**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 65 7205	Torque wrench **with square plug-in head**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 65 7215	Torque wrench **without plug-in head**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L (65 7215)		mm	315	370	410	455	520	590	875
Torque range		Nm	6 – 50	20 – 100	25 – 130	40 – 200	60 – 300	80 – 400	130 – 650
Scale graduation, 1 graduation =		Nm	2	2.5	2.5	5	10	10	20
Weight (65 7215)		g	780	940	1080	1210	1400	1620	3190
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	17.5	25	25	25	25	25
Square drive (65 7105, 65 7205)		inch	3/8	1/2	1/2	1/2	1/2	3/4	3/4
Socket for plug-in head		mm	9×12	9×12	14×18	14×18	14×18	14×18	14×18

Locking button in the end of the handle.

Maximum torque		Nm	20L	40L
63A 65 7105	Torque wrench **with plug-in reversible ratchet**		XXX	XXX
63A 65 7205	Torque wrench **with square plug-in head**		XXX	XXX
63A 65 7215	Torque wrench **without plug-in head**		XXX	XXX
Overall length L (65 7215)		mm	179	222
Torque range		Nm	4 – 20	8 – 40
Scale graduation, 1 graduation =		Nm	0.5	1
Weight (65 7215)		g	315	395
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	
Square drive (65 7105, 65 7205)		inch	3/8	
Socket for plug-in head		mm	9×12	

65 7215_20L

±4% ▶ 01 ◀ Cal

Torque wrenches with setting scale – automatic triggering – Standard MANOSKOP®

integral magnifying glass for more precise reading of the scale

Sturdy compact, torque wrench, adjustable to scale (N·m and lbf·ft) and self-triggering.
The accuracy is sustained for many thousands of operations, because high quality material is used for all wearing parts with stressed parts loaded only briefly on each occasion.
It returns immediately to an off-position after the torque has been achieved.
Body and handle are of sturdy square section.
Units of measure: N·m, lbf·ft.

Locking button in the end of the handle

Size 150 – With **integral ratchet** – **only for right-hand tightening.**
Size 300 – Ratchet with **push-through square drive pin** for **right-hand and left-hand tightening.**
Size 800; 1000 – With **push-through square** for **right-hand and left-hand tightening.**
Standard: Tested to DIN EN ISO 6789.
Function: If the set value is reached while using the wrench, the wrench triggers giving a "signal" (acoustic and perceptible) and is then immediately ready for use again.
65 7225 – Quick adjustment of the torque with the slide setting button.
The value is fixed using the locking key in the handle.
Application: The quick setting features makes it ideal for repairs and small series production.

Quick adjustment

65 7225_150

65 7220_800

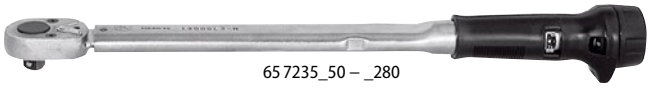
maximum torque		Nm	150	300	800	1000
63A 65 7220	Torque wrench with ratchet "Standard Manoskop"		–	–	XXX	XXX
63A 65 7225			XXX	XXX	–	–
Overall length L		mm	452	553	1051	1504
Torque range		Nm	30 – 150	60 – 300	160 – 800	200 – 1000
Scale graduation, 1 graduation =		Nm	5	10	20	25
Weight		g	1300	1700	6380	7010
Square drive		inch	1/2	1/2	3/4	3/4

±3% ▶ 01 ◀ Cal

Torque wrenches with setting scale – automatic triggering

Your Torque Partner TOHNICHI

65 7235_5 – _25



65 7235_50 – _280

Torque wrench, adjustable using micrometer scale, with protection against accidental changes to the setting.
With reversible ratchet head and square drive for sockets.
Units of measure: N·m.
Size 5; 10; 15; 25; 420; 750; 1400; 2100; 2800 – With knurled metal handle.
Size 50–280 – With synthetic resin handle.
Standard: Tested to DIN EN ISO 6789.
Function: On reaching the set torque value the wrench triggers giving a "signal" (acoustic and perceptible) and is then immediately ready for use again.
Application: For medium and large batch productions.

Note:
Size 1400–2800 – Use only sockets with lock hole.

maximum torque	Nm	5	10	15	25	50	100	140	280	420	750	1400	2100	2800
66F 65 7235	Torque wrench with setting scale	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
Overall length L	mm	194	195	195	230	260	335	400	695	995	1342	1787	1899	2405
Torque range	Nm	1 – 5	2 – 10	3 – 15	5 – 25	10 – 50	20 – 100	30 – 140	40 – 280	60 – 420	150 – 750	300 – 1400	500 – 2100	800 – 2800
Scale graduation, 1 graduation =	Nm	0.05	0.1	0.1	0.25	0.5	1	1	2	3	5	10	10	20
Weight	g	160	190	190	250	400	650	750	2000	4000	5600	10800	17000	24500
Square drive	inch	1/4	1/4	1/4	3/8	3/8	1/2	1/2	1/2	3/4	3/4	1	1	1.1/2

±3% ▶ 01 ◀ Cal

GEDORE Torque wrenches with setting scale – automatic triggering – DREMOMETER

Handy, robust construction, light weight. All heavily loaded parts high-quality steel.
Fixed square drive (no ratchet).
Size 12 – With body of glass fibre reinforced plastic and 2-component handle.
Size 2000 – **Units of measure:** N·m.
Size 12; 40 – **Units of measure:** N·m, lbf·in.
Size 120–1000 – **Units of measure:** N·m, lbf·ft.
Size 120–300 – Square drive with push-button unlocking.
Size 1000; 2000 – With extension tube.
Standard: Tested to DIN EN ISO 6789.
Function: On reaching the set torque value the wrench triggers giving a "signal" (acoustic and perceptible) and is then immediately ready for use again.
The desired torque is set using a captive hexagon L-wrench that is pulled out from the end of the handle.
The set torque can be easily read on the scale.
No inadvertent changes to the setting can be made whilst working.
Application: For medium to larger series production.

_12

_200

_1000

maximum torque	Nm	12	40	120	200	300	550	760	1000	2000
63L 65 7000	DREMOMETER® torque wrench with fixed square drive	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L	mm	211	338	462	551	617	812	812	1403	2353
Torque range	Nm	2.5 – 12	8 – 40	25 – 120	40 – 200	60 – 300	110 – 550	155 – 760	520 – 1000	750 – 2000
Scale graduation, 1 graduation =	Nm	0.5	5	5	5	5	10	10	10	50
Weight	g	320	1000	1500	1400	2000	2900	3200	5600	11600
Square drive	inch	1/4	3/8	1/2	1/2	1/2	3/4	3/4	3/4	1

Note!

Torque tools are measuring tools.
At regular intervals, using appropriate equipment, they must be calibrated and if necessary adjusted.
(See DIN EN ISO 6789, 5.3 Recalibration/conformity test).

±3% ▶ 01 ◀ Cal

Service MANOSKOP® 730R VDE fully insulated torque wrench with setting scale – automatic triggering

Torque wrench **fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**
Sturdy compact one-armed torque wrench, adjustable to scale and self-triggering. The accuracy is sustained for many thousands of operations, because high quality material is used for all wearing parts with stressed parts loaded only briefly on each occasion. With **plug–in reversible ratchet.**
Units of measure: N·m, lbf·ft.

Standard: Tested to DIN EN ISO 6789.

Function: **Adjustment:** Quick adjustment of the torque with the slide setting button. The value is fixed using the locking key in the handle.

Advantage: The double-insulated plastic sleeve for working on live components houses more than just the proven STAHLWILLE precision. It is, at the same time, part of a revolutionary concept that is unique in the world: The torque wrench allows the end user to adjust and calibrate it themselves - without having to send it in - for instance using the mechanical calibration system No. 654240 size 400. Even the ratchet head can be exchanged without having to recheck the insulation.

Note: For working at voltages up to 1000 Volts. In safety areas only **fully insulated** tools may be used in combination.

Exchangeable plug-in ratchet. The unique insulated torque wrench with user-exchangeable plug-in ratchet (9×12 mm). Other plug-in tools on request.

Quick adjustment without dismantling. Adjustment and calibration (using for instance the calibration system 65 4240 size 400) can easily be performed by the user – without having to send it in

- ***QuickRelease.*** *Plug-in ratchet, easily reversible between left-hand and right-hand action. With QuickRelease safety locking for quick changeover of tools and efficient protection against loss.*
- *No need to reset to zero. Patented non-wearing trigger system with stressed parts. No need to reset to »0« in order to relax the spring.*
- *QuickSelect. Proven QuickSelect quick setting of the torque, and additional scale ring for fine adjustment.*

Maximum torque		Nm	50
63A 65 7551	Torque wrench, fully insulated **with plug-in reversible ratchet**		XXX
Overall length L		mm	390
Torque range		Nm	10 – 50
Scale graduation, 1 graduation =		Nm	0.25
Weight		g	1660
Adjusted reference dimension on the torque wrench [l_2]		mm	28
Square drive		inch	3/8
Socket for plug-in head		mm	9×12

Easy-to-read double scale with different colours for Nm and lbf.ft/lbf.in facilitates clear assignment when performing fine adjustment.

▶ 01 ◀ Cal

Fully insulated torque wrench with setting scale – automatic triggering

Torque wrench **fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**
Single-handed torque wrench, adjustable using the scale, with protection against accidental changes to the setting. Integral ratchet, **reversible left-hand and right-hand** tightening by push-through drive square.
Units of measure: N·m.

Standard: Tested to DIN EN ISO 6789.

Accuracy:
Size 10 – ±6% of the set value.
Size 25; 120 – ±4% of the set value.

Function: On reaching the set torque value the wrench triggers giving a "signal" (audible and perceptible) and is then immediately ready for use again.

Advantage: Long working life and accuracy due to availability of calibration, adjustment and repair.

Attention: Any repairs must be performed on in the HAZET Service Centre, since the wrench must be subjected after repair to an individual 10,000 V test to DIN EN 60900 / VDE 0682-201!

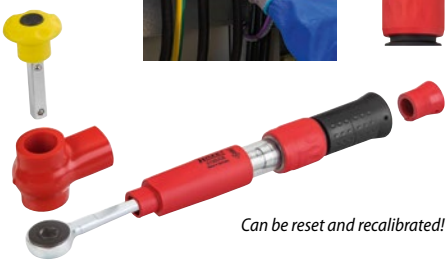
Note: For working at voltages up to 1000 Volts. In safety areas only **fully insulated** tools may be used in combination.

±6%

65 7556_10

±4%

65 7556_120



Can be reset and recalibrated!

Maximum torque		Nm	10	25	120
630 65 7556	Torque wrench, fully insulated **with push-through square**		XXX	XXX	XXX
Overall length L		mm	275	305	420
Torque range		Nm	2 – 10	5 – 25	20 – 120
Scale graduation, 1 graduation =		Nm	0.2	0.5	1
Weight		g	590	640	1440
Square drive		inch	3/8	3/8	1/2

▶ 06 ◀ Cal ▶ 07 ◀ Cal

Torque wrenches without scale – automatic triggering

Single-handed torque wrenches without a setting scale. Wrench setting using torque analyser.

Standard: Tested to DIN EN ISO 6789.

Function: If the set value is reached while using the wrench, the wrench triggers giving a "signal" (audible and perceptible) and is then immediately ready for use again.

Application: For controlled screw tightening etc. to specified torques in series production.

±4%

65 7300 _12,5

65 7300_40-300

Size 12,5 – With **integral ratchet** – only for right-hand tightening.

Size 20 – With **reversible ratchet** and fixed square drive pin – only for right-hand tightening.

65 7300 Size 40–300 – With reversible plug-in ratchet – left-hand tightening by reversing the plug-in head.

65 7352 Size 50–300 – Integral ratchet with captive push-through square drive pin for **right-hand and left-hand tightening.**

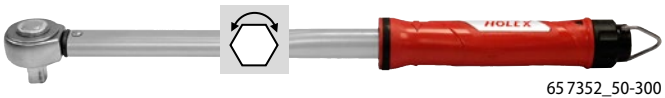
±3%

65 7352_20

Accuracy:

65 7300 – ±4% of the set value.

65 7352 – ±3% of the set value.



65 7352_50-300

maximum torque	Nm	12,5	20	40	50	100	200	300
63A 65 7300 STAHLWILLE Torque wrench without scale		XXX	–	XXX	–	XXX	XXX	XXX
62E 65 7352 HOLEX Torque wrench without scale		–	XXX	–	XXX	XXX	XXX	XXX
Overall length L (65 7300)	mm	174	–	234.5	–	351.5	504	656
Overall length L (65 7352)	mm	–	232	–	328	375	459	587
Torque range	Nm	1.5 – 12.5	4 – 20	4 – 40	10 – 50	20 – 100	40 – 200	60 – 300
Torque range (65 7300)	lbfft	1 – 9	–	4 – 30	–	15 – 74	30 – 147	40 – 220
Weight (65 7300)	g	340	–	677	–	780	1362	1512
Weight (65 7352)	g	–	400	–	1000	1000	1200	1600
Adjusted reference dimension on the torque wrench [l_2] (65 7300)	mm	–	–	17.5	–	17.5	25	25
Square drive	inch	1/4	1/4	3/8	3/8	1/2	1/2	1/2
Socket for plug-in head (65 7300)	mm	–	–	9×12	–	9×12	14×18	14×18

±3%

Fixed reversible ratchet.

Size 6–140 – With synthetic resin handle.

Size 280; 420N – With knurled metal handle.

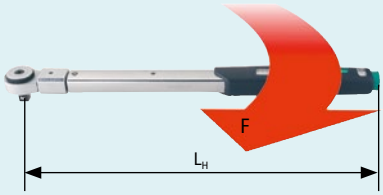
Note: Suitable setting tools No. 657325.

65 7320_100

65 7320_280

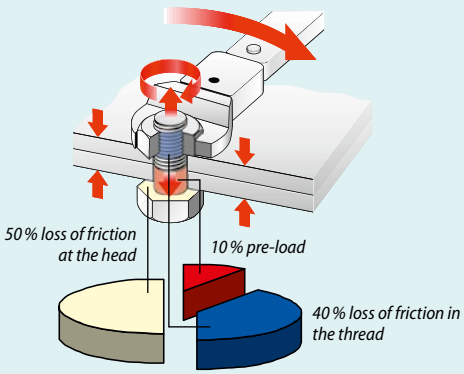
Maximum torque	Nm	6	12	25	50	100	140	280	420N
66F 65 7320 TOHNICHI Torque wrench without scale		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L	mm	165	175	215	240	315	380	665	970
Torque range	Nm	1 – 6	2 – 12	5 – 25	10 – 50	20 – 100	30 – 140	40 – 280	60 – 420
Weight	g	190	190	250	400	650	700	1800	3100
Square drive	inch	1/4	1/4	3/8	3/8	1/2	1/2	1/2	3/4

What does tightening torque mean?



The torque (M) is the product of the force (F) and the lever arm (L_H). It is responsible for generating the pre-load of a screw fastening. It is this pre-load which holds the components together.

$M = F \times L_H$



As the nut is tightened, the two plates become tightly connected. Amongst other things, the pitch angle of the screw is responsible for generating the extension of the screw. The aim is to achieve a defined pre-load by extending the screw.
A large part of the tightening torque is devoted to overcoming the frictional effects, such as those due to surface quality, (whether oiled, whether coated), the type of material (steel or plastic) and the accuracy of e.g. holes/bolts, threads etc. This means that up to 90% of the tightening torque is lost overcoming frictional effects and only 10% is devoted to creating a pre-load in the screw fastening.

Garant Torque wrench base unit without scale – automatic triggering

±2% | ▶ 06 ◀ Cal | ▶ 07 ◀ Cal

Single-handed torque wrench without a setting scale. Set the desired torque value using setting tool 657455 size 1 in conjunction with a suitable testing device.

65 7450 – **Anti-clockwise tightening by reversing the plug-in head.** Without plug-in head (base model);for suitable plug-in heads see No. 657582 – 657950.

65 7460 – With built-in **reversible ratchet** with ejector – **for left-hand and right-hand tightening.** Torque wrench, only right-hand triggering.

Standard: Tested to DIN EN ISO 6789.

Function: On reaching the set torque value the wrench triggers giving a "signal"(audible and perceptible) and is then immediately ready for use again.

Application: For controlled screw tightening etc. to specified torques in batch productions.

65 7450

65 7460

maximum torque		Nm	10	25	50	100	200	320
61E 65 7450	Torque wrench base unit without scale **without plug-in head**		XXX	XXX	XXX	XXX	XXX	XXX
61E 65 7460	Torque wrench without scale **with reversible ratchet**		XXX	XXX	XXX	XXX	XXX	XXX
Overall length L (65 7450)		mm	139	189	247	368	410	636
Overall length L (65 7460)		mm	155	205	276	404	446	672
Torque range		Nm	2 – 10	5 – 25	10 – 50	20 – 100	50 – 200	60 – 320
Weight (65 7450)		g	170	230	290	450	700	1100
Weight (65 7460)		g	190	280	340	550	800	1200
Square drive (65 7460)		inch	1/4	1/4	3/8	1/2	1/2	1/2
Socket for plug-in head (65 7450)		mm	9×12	9×12	9×12	14×18	14×18	14×18

Application: For setting and locking the torque value.

Type		1
61E 65 7455	Setting wrench for the torque value	XXX
suitable for		Torque wrench No. 657450; 657460

65 7455

Torque wrench base unit without scale – automatic triggering

±4% | | ▶ 06 ◀ Cal | ▶ 07 ◀ Cal

Single-handed torque wrench without a setting scale. Wrench setting using torque analyser. **Left-hand tightening by reversing the plug-in head.**
Without plug-in head (base model); see No. 657582 – 657590 for suitable plug-in heads.

Standard: Tested to DIN EN ISO 6789.

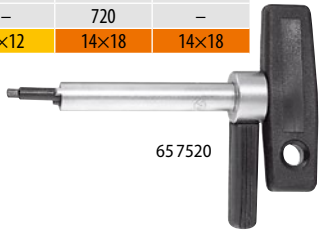
Function: On reaching the set torque value the wrench triggers giving a "signal"(audible and perceptible) and is then immediately ready for use again.

Application: For controlled screw tightening etc. to specified torques in batch productions.

65 7410

65 7500

maximum torque		Nm	12	35	40	80	85	100	200	300
63A 65 7410	STAHLWILLE	Torque wrench base unit	–	–	XXX	–	–	XXX	XXX	XXX
62E 65 7500	HOLEX		XXX	XXX	–	XXX	XXX	–	XXX	–
Overall length L (65 7410)		mm	–	–	201	–	–	318	457	609
Overall length L (65 7500)		mm	125	180	–	240	315	–	405	–
Torque range (65 7410)		Nm	–	–	4 – 40	–	–	20 – 100	40 – 200	60 – 300
Torque range (65 7500)		Nm	2 – 12	7 – 35	–	10 – 80	15 – 85	–	50 – 200	–
Weight (65 7410)		g	–	–	520	–	–	640	1060	1210
Weight (65 7500)		g	190	250	–	310	380	–	720	–
Socket for plug-in head		mm	9×12	9×12	9×12	9×12	9×12	9×12	14×18	14×18



65 7520

62E 65 7520	HOLEX	Setting wrench for the torque value	XXX
suitable for			Torque wrench No. 657500

Garant Deflecting torque wrench without scale – automatic triggering

Torque wrench without scale. Wrench setting using torque analyser. **The trigger mechanism makes unintentional overtightening extremely unlikely. Anti-clockwise tightening** by reversing the plug-in head.

Standard: Tested to DIN EN ISO 6789.

Accuracy:

Size 5; 14 – ±4 % of the set value.

Size 25; 60 – ±3 % of the set value.

Function: On reaching the preset torque value the wrench triggers a clearly detectable deflection and is then immediately ready for use again. The long-travel indication gives the user an unmistakable signal that the set torque has been reached.

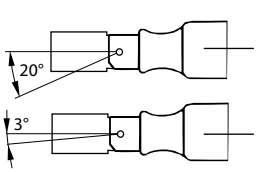
Note: Suitable spare jaws No. 657582 - 657950.

±3%

_25

±4%

_14



With long-travel indication No. 65 7750. Unintentional overtightening extremely unlikely.

Standard mechanism

maximum torque		Nm	5	14	25	60
61E 65 7750	Deflecting torque wrench **without scale**		XXX	XXX	XXX	XXX
Overall length L		mm	145	205	240	360
Torque range		Nm	0.5 – 5	4 – 14	5 – 25	10 – 60
Weight		g	220	290	650	870
Adjusted reference dimension on the torque wrench [l_2]		mm	17.5	17.5	17.5	25
Socket for plug-in head		mm	9×12			

Closure cap and internal locking screw prevent inadvertent change of the setting.

Garant Deflecting torque wrench with scale – automatic triggering

One-arm torque wrench, adjustable by a scale, self-triggering. **The trigger mechanism makes unintentional overtightening extremely unlikely. Anti-clockwise tightening** by reversing the plug-in head.

Units of measure: N·m

Standard: Tested to DIN EN ISO 6789.

Accuracy:

Size 5; 10 – ±6 % of the set value.

Size 25; 50 – ±4 % of the set value.

Function: On reaching the preset torque value the wrench triggers a clearly detectable deflection and is then immediately ready for use again. The long-travel indication gives the user an unmistakable signal that the set torque has been reached.

Note: Size 5; 10 – Suitable spare jaws No. 657582 - 657950.

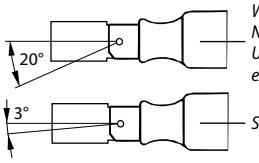
±4%

_25

±6%

_5

maximum torque		Nm	5	10	25	50
61E 65 7735	Deflecting torque wrench **with scale**		XXX	XXX	XXX	XXX
Overall length L		mm	222	230	345	365
Torque range		Nm	1 – 5	2 – 10	5 – 25	10 – 50
Scale graduation, 1 graduation =		Nm	0.025	0.05	0.1	0.25
Weight		g	290	300	1110	1140
Adjusted reference dimension on the torque wrench [l_2]		mm	18.3	18.3	–	–
Square drive		inch	–	–	1/4	3/8
Socket for plug-in head		mm	9×12	9×12	–	–



With long-travel indication No. 65 7735. Unintentional overtightening extremely unlikely.

Standard mechanism

TorqueScout

Quick and easy search of the desired torque tools, or determination of the correction to the reference dimension.

- Direct and simple ordering process.
- Search by torque value, range or by the screw to be tightened.
- If adapters, extensions, and special plug-in tools are used, a correction must be made to the reference dimension; this value can be calculated easily and automatically.

Visit us online at www.toolscout.com
and discover the wide range of solutions offered by the ToolScout.

Garant

Torque wrenches „Slipper“, automatic triggering

The special slipping trigger mechanism **reliably prevents unintentional overtightening.**

Standard: Tested to DIN EN ISO 6789.

Function: On reaching the set torque value the wrench triggers a clearly detectable deflection and is then immediately ready for use again. The special trigger mechanism ensures that the set torque values are reliably achieved, **but not exceeded.**

Advantage: Precision triggering mechanism facilitates working in inaccessible places.

Application: For medium to larger batch productions.

With adjustment scale

Torque wrench with **micrometer scale for setting**, self-triggering. Hold in position at the end of the handle against inadvertent adjustment. With integral ratchet.

Units of measure: N·m.

Accuracy: ±6 % of the set value.

▶ 01 ◀ Cal | ±6%

65 7762_5

maximum torque		Nm	5	10
61E 65 7762	Torque wrench “Slipper” **with scale**		XXX	XXX
Overall length L		mm	204	
Torque range		Nm	1 – 5	2 – 10
Scale graduation, 1 graduation =		Nm	0.05	0.1
Weight		g	235	
Square drive		inch	1/4	

Without adjustment scale

Torque wrench **without scale.** Wrench setting using torque analyser.

Size 1,5 – **Bit holder with magnet** to take 1/4 inch bits.

Accuracy:

65 7765 – ±4 % of the set value.

65 7766 – ±6 % of the set value.

▶ 06 ◀ Cal | ▶ 07 ◀ Cal | ±4%

65 7765

maximum torque		Nm	1,5	3
61E 65 7765	Torque wrench “Slipper” **without scale**		XXX	XXX
Overall length L		mm	124	
Torque range		Nm	0.15 – 1.5	0.3 – 3
Weight		g	130	
Square drive		inch	–	1/4

▶ 06 ◀ Cal | ▶ 07 ◀ Cal | ±6%

65 7766_125

maximum torque		Nm	5	10	25	55	125
61E 65 7766	Torque wrench “Slipper” **without scale**		XXX	XXX	XXX	XXX	XXX
Overall length L		mm	185	185	216	324	460
Torque range		Nm	1 – 5	2 – 10	5 – 25	15 – 55	40 – 125
Weight		g	190	190	340	800	1360
Square drive		inch	1/4	1/4	1/4	3/8	1/2

65 7766_10

Comparison of the various types of self-triggering torque wrenches

“Click” wrench

No. 65 6050 – 65 7556

The triggering movement of the wrench is approx. 3°. It would be possible without further action to tighten the joint beyond the set torque. The attained accuracy is thus dependent on the position of the hand. **Overtightening is possible.**

“Deflection” wrench

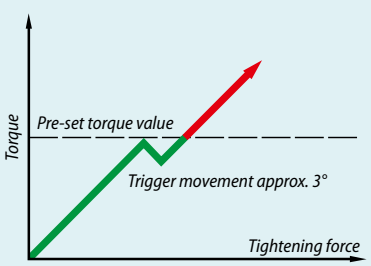
No. 65 7735 – 65 7755

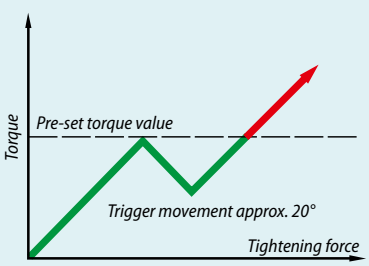
When the set torque is reached the wrench deflects 20°. It would be possible to tighten the joint beyond the set torque. The accuracy attained is thus dependent on the position of the hand. **Overtightening is unlikely.**

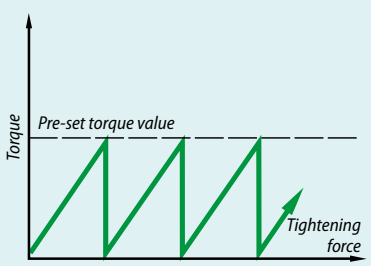
“Slipper”

No. 65 7762 – 65 7766

When the set value is reached the wrench slips briefly. Even if it is tightened further, the set torque cannot be exceeded. The accuracy attained is thus independent of the position of the hand. **Overtightening is not possible.**







Plug-in head for torque wrench

Drop-forged; all plug-in heads = Rectangular shank with spring retaining pin.
This ensures a solid and secure fit of the plug-in head in the torque wrench.

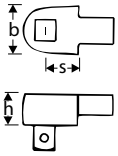
Suitable for: Torque wrench with rectangular sockets.

Plug-in ratchet / plug-in tool

65 7582 – Very compact **plug-in reversible ratchet with ejector**.
65 7590 – **Plug-in reversible ratchet with ejector.**
Size 1-1/4 – With reversing lever.
65 7640 – **Slim plug-in ratchet** with recessed reverser.
65 7600/7630 – **Plug-in reversible ratchet.**
65 7698/7700 – **Square plug-in head.**

Material:
65 7582/7630/7640/7698 – Chrome vanadium steel, chrome-plated.
65 7590/7600/7700 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!



65 7582

65 7590_1-1/4

65 7600_1- 3/8

65 7640

65 7698

65 7700

65 7630

Further plug-in heads with plug-in shank ☐ 22×28 mm available on request.

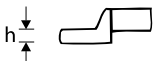
Type-Square drive			inch	1-1/4	1-3/8	1-1/2	2-3/8	2-1/2	2-3/4	2-3/4HD	3-3/4HD
61E	65 7582	Garant	Plug-in ratchet reversible **with ejector**	XXX	XXX	XXX	–	XXX	–	–	–
63A	65 7590	STAHLWILLE	Plug-in ratchet reversible **with QuickRelease ejector**	XXX	XXX	XXX	–	XXX	–	–	–
63A	65 7600		Plug-in ratchet reversible	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX
63O	65 7640	HAZET	Plug-in ratchet slim with recessed reverser	–	–	–	XXX	XXX	–	–	–
61E	65 7698	Garant	Square Drive Insert	XXX	XXX	XXX	–	–	–	–	–
63A	65 7700	STAHLWILLE	Square Drive Insert	XXX	XXX	XXX	–	XXX	XXX	–	–
62E	65 7630	HOLEX	Plug-in ratchet	XXX	XXX	XXX	–	XXX	XXX	–	–
b (65 7582)			mm	25	32	32	–	39	–	–	–
b (65 7590)			mm	22	29	29	–	41	–	–	–
b (65 7600)			mm	22	33	33	–	43	50	58	61
b (65 7640, 65 7698)			mm	23	23	23	40	40	–	–	–
b (65 7700)			mm	20	20	20	–	27	40	–	–
b (65 7630)			mm	25	35	35	–	43	43	–	–
h (65 7582)			mm	11.5	16.4	16.4	–	20.5	–	–	–
h (65 7590)			mm	14.5	14.5	14.5	–	22.3	–	–	–
h (65 7600)			mm	13.8	24	24	–	26	32	36	35
h (65 7640, 65 7698)			mm	15	15	15	14.3	14.3	–	–	–
h (65 7630)			mm	15.3	22.5	22.5	–	29	29	–	–
h (65 7700)			mm	14	14	14	–	22.3	25	–	–
Long-term rated loading (65 7582, 65 7698, 65 7630)			Nm	30	135	135	–	340	450	–	–
Long-term rated loading (65 7590)			Nm	40	100	100	–	200	–	–	–
Long-term rated loading (65 7600)			Nm	40	80	100	–	300	400	650	650
Long-term rated loading (65 7640)			Nm	–	–	–	200	320	–	–	–
Long-term rated loading (65 7700)			Nm	40	80	100	–	300	650	–	–
Pitch S (65 7582)			mm	21	28	28	–	34	–	–	–
Pitch S (65 7590)			mm	17.5	28	28	–	38.5	–	–	–
Pitch S (65 7600, 65 7698, 65 7700, 65 7630)			mm	17.5	17.5	17.5	–	25	25	30	55
Pitch S (65 7640)			mm	–	–	–	36	36	–	–	–
No. of teeth (65 7582)				48	48	48	–	48	–	–	–
No. of teeth (65 7590)				22	30	30	–	36	–	–	–
No. of teeth (65 7600)				22	60	60	–	60	60	60	60
No. of teeth (65 7640)				–	–	–	40	40	–	–	–
No. of teeth (65 7630)				52	52	52	–	52	52	–	–
Plug-in shank			mm	9×12	9×12	9×12	14×18	14×18	14×18	14×18	22×28

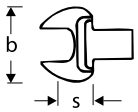
Open jaw plug-in head

Material:

65 7792 – Chrome vanadium steel, chrome-plated.
65 7800 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!





65 7792

65 7800

Type-Width across flats	mm	1-8	1-10	1-11	1-12	1-13	1-14	1-15	1-16	1-17	1-18	1-19
61E 65 7792 Garant / 63A 65 7800 STAHLWILLE	Open jaw plug-in head	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
b (65 7792)	mm	22	24.8	26	27.5	28.8	31.5	33.5	36	37.7	39	41.6
b (65 7800)	mm	22	26	26	30	30	35	35	38	38	42	42
h (65 7792)	mm	5.7	5.7	5.7	5.7	5.7	7.7	7.7	7.7	7.7	7.7	7.7
h (65 7800)	mm	5	5.5	5.5	7	7	8	8	8.5	8.5	9	9
Pitch S (65 7792)	mm	17.5	17.5	17.5	17.5	17.5	20	20	20	20	20	20
Pitch S (65 7800)	mm	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	20	20
Plug-in shank	mm	9×12										

Type-Width across flats	mm	2-13	2-14	2-16	2-17	2-18	2-19	2-21	2-22	2-24	2-27	2-30	2-32	2-36	2-38	2-41
61E 65 7792 Garant / 63A 65 7800 STAHLWILLE	Open jaw plug-in head	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	XXX
		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
b (65 7792)	mm	29.7	31.1	35.8	37	38.6	40.6	45.2	47.3	50.8	58.7	62.7	65.2	66.5	–	82.5
b (65 7800)	mm	30	35	38	38	42	42	50	50	53	60	66	66	74	74	82
h (65 7792)	mm	7	7	9	9	9	9	11	11	11	14	14	14	14	–	14
h (65 7800)	mm	7	8	9	9	10	10	11	11	12	13	14	14	15	15	15
Pitch S (65 7792)	mm	25	25	25	25	25	25	25	25	25	32.5	32.5	33	33	–	40
Pitch S (65 7800)	mm	25	25	25	25	25	25	25	25	25	30	30	32.5	32.5	32.5	36.5
Plug-in shank (65 7800)	mm	14×18														

Open ring plug-in head

Material:

65 7902 – Chrome vanadium steel, chrome-plated.
65 7910 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!
The rated load on this plug-in head is limited to the corresponding jaw width, and may be less than that of the torque wrench.

65 7902

65 7910

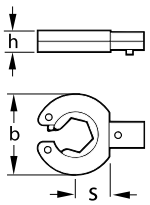
Type-Width across flats	mm	1-10	1-11	1-12	1-13	1-14	1-16	1-17	1-19	1-22	1-24
61E 65 7902 Garant / 63A 65 7910 STAHLWILLE	Open ring plug-in head	XXX	XXX	–	XXX	XXX	–	XXX	XXX	XXX	–
		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
b (65 7902)	mm	21.2	22.6	–	25.2	27.3	–	31.6	34.6	39.3	–
b (65 7910)	mm	21.5	22.5	24.5	26	27	30.5	31.5	34	39.5	40
h (65 7902)	mm	12	12	–	12	13	–	13	15	15	–
h (65 7910)	mm	11	11	12	12	13	13	13	15	15	15
Pitch S (65 7902)	mm	17.5	17.5	–	17.5	17.5	–	17.5	17.5	17.5	–
Pitch S (65 7910)	mm	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	20	20
Plug-in shank	mm	9×12									

Open ring ratchet plug–in head

Patented special head for screw fitting pipework connectors and other union nuts.
Size 11–13 – With stop for screw heads; prevents slipping off.

Advantage: The **ratchet function saves huge amounts of time and makes work easier** compared to conventional open ring tools.

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!



65 7920

Width across flats		mm	10	11	12	13	17
66F 65 7920	WALTER	Open ring ratchet plug–in head	XXX	XXX	XXX	XXX	XXX
b		mm	33	33	33	33	45
h		mm	11	11	11	11	16
Pitch S		mm	17	17.5	17.5	17.5	21
Plug-in shank		mm	9×12				

Adjustable spanner plug-in head

Great versatility due to the adjustable opening width.

Material: Chrome vanadium steel, chrome-plated.

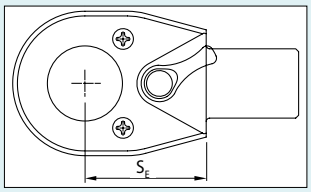
Advantage: Adjustment of the opening width **does not necessitate modification of the reference dimension.**

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!

65 7850

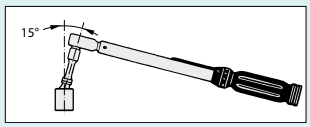
Type-Opening width		mm	1-27	1-30	2-30	2-41
61E 65 7850	Garant	Adjustable spanner plug-in head	XXX	XXX	XXX	XXX
b		mm	61.8	71.8	71.8	88.6
h		mm	14.6	16.9	16.9	20.4
Opening width		mm	4 – 27	5 – 30	5 – 30	7 – 41
Opening width		inch	1/8 – 1.1/16	3/16 – 1.3/16	3/16 – 1.3/16	1/4 – 1.1/2
Pitch S		mm	62.7	74.4	74.4	85.4
Plug-in shank		mm	9×12	9×12	14×18	14×18

Use of plug-in heads, adapters and extensions

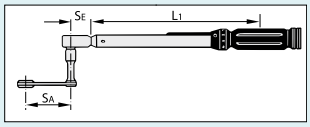


If the torque wrench is used with a plug-in head, adapter or extension whose reference dimension S (effective length) differs from the adjusted reference dimension on the torque wrench S_J (see supplied test report or operating instructions), this will mean that the effective length of the wrench is altered compared to the "normal" drive take-off point. This, in turn, will affect the effective torque and the reference dimension will need to be corrected.

The reference dimension S_E of the plug-in head is determined as shown on the drawing.
If several plug-in heads and adapters are combined with each other, the sum of all "S"s must be taken into account.



The use of **"Wobble" extensions** with less than 15° displacement has only a negligible effect on the effective torque. When using universal joint drives, it is recommended that a new effective torque is determined (see below). The use of plug-in heads or adapters alters the effective length of the wrench compared to the "normal" drive take-off point, which changes the effective torque setting.



For a torque wrench basic tool, the torque to be set is calculated as follows:

$$MDE = \frac{MDV \times (L_1 + S_J)}{L_1 + S_E + S_A}$$

MDE = torque to be set.
MDV = prescribed torque.
L_1 = effective length of the torque tool.
S_J = adjusted reference dimension on the torque wrench.
S_E = reference dimension of the plug-in head.
S_A = length of the adapter.

Ring plug-in head

Material:

65 7892 – Chrome vanadium steel, chrome-plated.
65 7900 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!

Type-Width across flats	mm	1-7	1-8	1-10	1-12	1-13	1-14	1-15	1-16	1-17	1-18	1-19	1-22
61E 65 7892 Garant	Ring plug-in head	–	XXX	XXX	XXX	XXX	–	–	XXX	XXX	XXX	XXX	–
63A 65 7900 STAHLWILLE	Ring plug-in head	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
b (65 7892)	mm	–	13.1	17.6	20.3	21.1	–	–	26.4	27.4	28.9	31	–
b (65 7900)	mm	13	14.2	17.2	20.5	21.5	22.5	24.5	26	27	28	30.5	34.5
h (65 7892)	mm	–	8	8	12.2	12.2	–	–	13.2	13.2	13.2	13.2	–
h (65 7900)	mm	8	8	9	11	11	11	12	12	13	13	13	15
Pitch S	mm	17.5											
Plug-in shank	mm	9×12											

Type-Width across flats	mm	2-13	2-14	2-15	2-16	2-17	2-18	2-19	2-21	2-22	2-24	2-27	2-30	2-32	2-36	2-41
61E 65 7892 Garant	Ring plug-in head	–	XXX	–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63A 65 7900 STAHLWILLE	Ring plug-in head	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
b (65 7892)	mm	–	23	–	–	27.5	29.5	31	33	35	38	42	45.1	48	53	59.3
b (65 7900)	mm	22.5	23	24	25.5	27	29	30.5	33	34.5	37.5	42.5	46	47.5	54	60
h (65 7892)	mm	–	12	–	–	12.5	12.5	12.5	15	15	15	17.5	17.5	17.5	19	19
h (65 7900)	mm	11	11	11	12	12	13	13	15	15	15	17	19	19	19	20
Pitch S (65 7892)	mm	–	25	–	–	25	25	25	25	25	25	31	31	31	31	31
Pitch S (65 7900)	mm	25	25	25	25	25	25	25	25	25	25	25	25	25	28	30
Plug-in shank	mm	14×18														

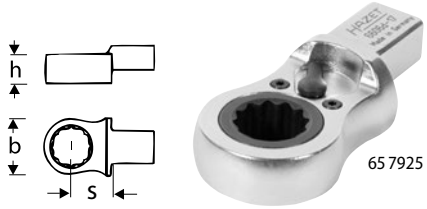
Ratchet ring plug-in heads

Deep cranked **ring ratchet**, reversible. Working angle of 9°.

Material: Chrome vanadium steel, chrome-plated.

Advantage: Ratchet operation at extremely inaccessible places.

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!

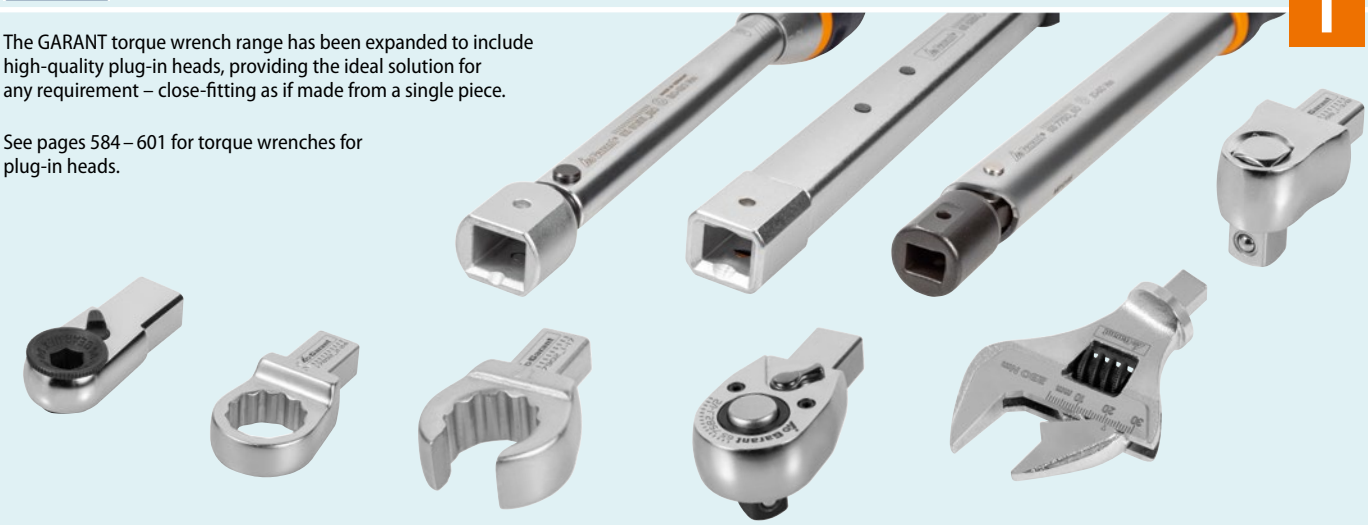


Type-Width across flats	mm	2-16	2-17	2-18	2-19	2-21
630 65 7925 HAZET	Ratchet ring plug-in head	XXX	XXX	XXX	XXX	XXX
b	mm	40				
h	mm	14.3				
Pitch S	mm	36				
Plug-in shank	mm	14×18				

Garant Compatible and close-fitting

The GARANT torque wrench range has been expanded to include high-quality plug-in heads, providing the ideal solution for any requirement – close-fitting as if made from a single piece.

See pages 584 – 601 for torque wrenches for plug-in heads.



Ratchet plug–in head to take bits

Ratchet reversible for clockwise / anticlockwise tightening.

Material:

65 7932 – Chrome vanadium steel, chrome-plated.

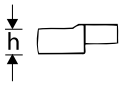
65 7940 – Chrome alloy steel, non-flaking, chrome-plated over nickel.

Application:

Size 1/4 – To take bits with hexagon shank to DIN ISO 1173 C 6.3 and E 6.3 (1/4 inch).

Size 5/16 – To take bits with hexagon shank to DIN ISO 1173 C 8 and E 8 (5/16 inch).

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!



65 7932

65 7940

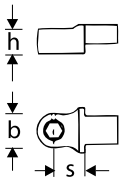
Bit-holder		inch	1/4	5/16
61E 65 7932	Garant	BIT ratchet socket plug-in head	XXX	–
63A 65 7940	STAHLWILLE		XXX	XXX
b (65 7932)		mm	17.5	–
b (65 7940)		mm	22	29
h (65 7932)		mm	12.4	–
h (65 7940)		mm	13.6	17.9
Long-term rated loading (65 7932)		Nm	15	–
Long-term rated loading (65 7940)		Nm	40	
No. of teeth (65 7932)			60	–
No. of teeth (65 7940)			22	30
Pitch S		mm	17.5	28
Plug-in shank		mm	9×12	

Plug-in head to take 5/16 inch square drive bits

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

Application: To take bits with hexagon shank to DIN ISO 1173 C 8 (5/16 inch).

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!



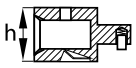
65 7930

Type			1	2
63A 65 7930	STAHLWILLE	Bit holder plug-in head	XXX	XXX
b		mm	16	
h		mm	12.5	
Pitch S		mm	17.5	25
Plug-in shank		mm	9×12	14×18

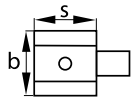
Plug-in adapters

Material: Chrome alloy steel, non-flaking, chrome-plated over nickel.

Note: Please note the pitch of the plug-in head and match this to that of the adjustment tool (see test certificate/operating instructions of the torque wrench you are using). If these vary, correct the pitch!



65 7948

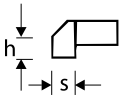


65 7949

Type			1	2
63A 65 7948	STAHLWILLE	Plug-in adapter enlarger	XXX	–
63A 65 7949	STAHLWILLE	Plug-in adapter reducer	–	XXX
b		mm	31	28
h		mm	26	21
for plug-in heads		mm	14×18	9×12
Pitch S		mm	30.5	21.5
Plug-in shank		mm	9×12	14×18

Weld-on plug-in head (tool-blank)

Application: To take customer's own tools, e.g. a special crank wrench.
The scale has to be corrected in accordance with the length of the part welded on.



65 7950

Type			1	2
63A 65 7950	STAHLWILLE	Weld-on plug-in head	XXX	XXX
l		mm	8	12
h		mm	8	11
Plug-in head (tool blank)		mm	8×14	11×25
Plug-in shank		mm	9×12	14×18

¼" ±4% F 6.3 ▶ 03 ◀ Cal

STAHLWILLE TORSIOTRONIC electronic torque screwdriver with digital display

Integral bit ratchet with 80 teeth for a working angle of just 4.5°. This permits precise working even where screw fastenings are difficult to access.
Ball release mechanism can be felt and heard to trigger when the target torque is reached.
Ergonomically shaped ball handle permits non-fatiguing working. A 1/4 inch square drive is incorporated into the end of the handle.
Resistant to oils, greases, fuels and brake fluids.

- Three operating modes with visual, acoustic and haptic stop signal.
- Memory capacity: Up to 2500 measured values.
- An integral micro-USB port permits the measurement data to be read and documented at terminals.
- Bright OLED power display, low power consumption places little burden on the battery.

Units of measure: cN·m, N·m, lbf·ft, lbf·in, ozf·in

Standard: Tested to DIN EN ISO 6789.

Supplied with: Supplied with a 3.6 V / 2.6 Ah Lithium-ion battery type 18650 (external charging), SENSOMASTER 4 software, micro-USB on a USB-A cable, bit-holder (hexagonal drive D 6.3; 1/4 inch). In a plastic case.

Size 1000 – With T-handle.

Note: Suitable charger and charger adapter available on request. Additional batteries can be found under No. 081574 size 2600 or alternatively size 3500.

The appropriate charger can be found under No. 08 1590 size 4ULTRA. Additional batteries can be found under No. 08 1574 size 2600 or alternatively size 3500.

65 9005

maximum torque		cNm	300	600	1000
63A 65 9005	Electronic torque screwdriver		XXX	XXX	XXX
Overall length L		mm		317	
Torque range		cNm	30 – 300	60 – 600	100 – 1000
Resolution		cNm	0.1	0.1	1
Weight		g	679	682	684

65

±1% F 6.3 ▶ 03 ◀ Cal

TOHNICHI Electronic testing torque screwdriver with digital display

High precision electronic torque screwdriver with large easy-to-read display.

- Display: Track mode and Peak mode.
- Memory capacity: Up to 1000 measured values.
- Interface: The saved measured data can be uploaded to a PC via the USB cable. Choice of 2 measurement modes:
- Screw tightening mode (specification of the required torque value, with warning limit).
- Inspection mode (specification of the upper and lower tolerance values). The respective measurement result is indicated by LEDs and a buzzer.

Units of measure: cN·m, lbf·in, kgf·cm, ozf·in

Standard: Tested to DIN EN ISO 6789.

Supplied with: With lithium ion battery.

Optional extras: See No. 65 5265 for USB data transmission cables.

maximum torque		cNm	50	200	400
66F 65 9010	Electronic torque screwdriver		XXX	XXX	XXX
Overall length L		mm		230	
Torque range		cNm	10 – 50	40 – 200	80 – 400
Resolution		cNm	0.05	0.2	0.5
Weight		g		340	

±2% F 6.3 ▶ 03 ◀ Cal

HOLEX Electronic torque screwdriver with digital display

Torque screwdriver with a flexible range of applications; with a 2-component handle, large display and quick-change coupling shank for bits. When the set value is reached, the torque screwdriver gives a clear visual and audible signal. 2 working modes are available - peak value display and tracking value display. Stores up to 50 values.

Units of measure: cN·m, lbf·in, kgf·cm

Standard: Tested to DIN EN ISO 6789.

maximum torque		cNm	50	200	400
62E 65 9050	Electronic torque screwdriver		XXX	XXX	XXX
Overall length L		mm		203	
Torque range		cNm	10 – 50	40 – 200	80 – 400
Resolution		cNm		0.1	
Weight		g		200	

Optional accessories: Coin-Driver No. 664310 / 664311, for unscrewing blanking plugs without damaging them.

±6%

Wera Set of VDE torque screwdrivers

Kraftform handle made of impact resistant plastic with integral soft zones facilitates torque transmission and thus protects hand and arm. Handle and blade **fully insulated up to 1000 V** to **DIN EN 60900 / VDE 0682-201.**

maximum torque	cNm	300
63F **65 9355**	Torque screwdriver set, 16 pieces **fully insulated**	XXX
Torque range	cNm	120 – 300
Content: Slot-head blades		0.4×2.5; 0.6×3.5; 0.8×4.0; 1.0×5.5
Blades for Phillips		PH1 and PH2
Pozidriv bits		PZ1 and PZ2
blades for Torx®		TX10; TX15; TX20; TX25
Pozidriv-slot-head combination profile		PZ/ S1 and PZ/ S2 (combination profile)
Torque screwdriver		1 pc.
Kraftform handle for interchangeable blades		1 pc.

±6%

Garant Torque screwdrivers, adjustable, automatic triggering

Power grip with comfortable easy-grip **Haptoprene®** surface allows transmission of the required torque with no problems even with **wet or oily hands.** On reaching the set torque value, the screwdriver can be felt and heard to trigger and is then again immediately ready for use. The release torque is higher than the tightening torque (overload protection).

65 9906/9908 Size 1600 – To **take 8 mm interchangeable blades** (No. 659870 – 659884). With pistol grip for delivering high torques.

65 9905/9907 – **Bit holder with magnet** to take C 6.3 bits.

65 9907/9908 – The desired torque can be set by stepless adjustment using a torque analyser (No. 654300 – 654460) and a 5 AF hexagon screwdriver (not supplied). When 20 or more of a size are ordered, they can be factory pre-set.

65 9905/9906 – The desired torque is set using an adjustment wheel at the end of the handle. Putting the wheel into the locked position prevents inadvertent changes to the setting. Easy to read micrometer scale, protected against dirt.

65 9906/9908 Size 200; 500 – To **take 6 mm interchangeable blades** (No. 659920 – 659928).

Standard: Tested to DIN EN ISO 6789.

D 6.3 ▸ 01 ◂ Cal

65 9905_200

6 mm blade

65 9906_200–_500

8 mm blade

65 9906_1600

Torque setting under the cover flap.
Labelling field for the customer's torque setting.

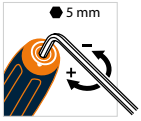
D 6.3

▸ 06 ◂ Cal ▸ 07 ◂ Cal

65 9907_500

6 mm blade

65 9908_200–_500



maximum torque	cNm	50	200	500	1600
61E **65 9905**	Torque screwdriver **with scale, to take D 6.3 bits**	XXX	XXX	XXX	–
61E **65 9906**	Torque screwdriver **with scale, to take interchangeable blades**	–	XXX	XXX	XXX
61E **65 9907**	Torque screwdriver **without scale, to take D 6.3 bits**	XXX	XXX	XXX	–
61E **65 9908**	Torque screwdriver **without scale, to take interchangeable blades**	–	XXX	XXX	XXX
Overall length L (65 9905, 65 9907)	mm	126	144	144	–
Overall length L (65 9906, 65 9908)	mm	–	124	124	126
set torque (65 9907, 65 9908)	Nm	0.2	1.2	3	10
Torque range	cNm	10 – 50	40 – 200	100 – 500	320 – 1600
Torque range	Nm	0.1 – 0.5	0.4 – 2	1 – 5	3.2 – 16
Scale graduation, 1 graduation = (65 9905, 65 9906)	cNm	1	5	10	25
maximum ∅	mm	29	35	35	–
suitable interchangeable blades (65 9906, 65 9908)	mm	–	6	6	8

±6% ▶ 01 ◀ Cal

Torque screwdrivers, adjustable, automatic triggering

Power grip with non-allergenic elastomer coating allows transmission of the required torque with no problems even with **wet or oily hands.** On reaching the set torque value, the screwdriver can be felt and heard to trigger and is then again immediately ready for use. The release torque is higher than the tightening torque (overload protection).

65 9912 Size 50 – To **take interchangeable blades** (No. 669605 – 669608).
Size 1600 – To **take 8 mm interchangeable blades** (No. 659870 – 659884).
65 9918 – To **take 6 mm interchangeable blades** (No. 659920 – 659928).
65 9912/9913 – Torque adjustment **without using tools** just pull the cap and turn it. The torque setting is displayed in a window **(digital display at the end of the handle).** Built-in electronics with NFC interface. Battery can be replaced by the customer (button cell CR 1/3 N; 3V). **Units of measure:** N·m, lbf·ft.
65 9912 Size 200; 500 – To **take 6 mm interchangeable blades** (No. 659920 – 659928).
65 9913/9917 – **Bit holder with magnet** to take C 6.3 bits.
65 9917/9918 – The desired torque is set using an adjustment wheel at the end of the handle. Putting the wheel into the locked position prevents inadvertent changes to the setting. Easy to read micrometer scale, protected against dirt. Tool handle made of conductive plastic, **suitable for ESDs.** **Units of measure:** N·m.

Standard: Tested to DIN EN ISO 6789.
Application: For controlled tightening of screws to a pre-set torque.

65 9912_500

65 9912_1600

65 9913

65 9917

65 9918

maximum torque		cNm	50	200	500	1600
63D 65 9912	Torque screwdriver **with digital display, to take interchangeable blades**		XXX	XXX	XXX	XXX
63D 65 9913	Torque screwdrivers **with digital display, to take D 6.3 bits**		XXX	XXX	XXX	–
63D 65 9917	Torque screwdriver **with scale, to take D 6.3 bits, ESD**		–	XXX	XXX	–
63D 65 9918	Torque screwdriver **with scale, to take interchangeable blades, ESD**		–	XXX	XXX	–
Overall length L (65 9912)		mm	107	126	126	125
Overall length L (65 9913)		mm	127.5	146.5	146.5	–
Overall length L (65 9917)		mm	–	144	144	–
Overall length L (65 9918)		mm	–	124	124	–
Torque range		cNm	10 – 50	40 – 200	100 – 500	340 – 1600
Torque range		Nm	0.1 – 0.5	0.4 – 2	1 – 5	3.4 – 16
Resolution (65 9912, 65 9913)		cNm	1	2	5	10
Scale graduation, 1 graduation = (65 9917, 65 9918)		cNm	–	5	10	–

65

±6% ▶ 01 ◀ Cal

Torque screwdriver set, adjustable, automatic triggering

Power grip with a non-allergenic elastomer coating. On reaching the set torque value, the screwdriver can be felt and heard to trigger and is then again immediately ready for use. The release torque is higher than the tightening torque (overload protection). The desired torque is set using an adjustment wheel at the end of the handle. Putting the wheel into the locked position prevents inadvertent changes to the setting. Easy to read micrometer scale, protected against dirt.
Tool handle made of conductive plastic, **suitable for ESDs.**

Standard: Tested to DIN EN ISO 6789.

maximum torque		cNm	50
63D 65 9919	Torque screwdriver set, 8 pieces **with scale, to take interchangeable blades, ESD**		XXX
Torque range		Nm	0.1 – 0.5
Torque range		cNm	10 – 50
Scale graduation, 1 graduation =		cNm	1
Content: Torque screwdriver			1 pc.
3 blades for slot-head / Phillips (No. 669605)			2 / 00; 2.5 / 0; 3.5 / 1
2 hexagon blades (No. 669606)			1.5 / 2; 2.5 / 3
2 bits for Torx® screws (No. 669607)			TX6 / TX7; TX8 / TX9

65 9919

Interchangeable blade – 6 mm for torque screwdrivers

Suitable for: Torque screwdrivers No. 659906 / 659908 / 659911 size 80; 250; 500 (up to Cat. 48) / 659912 **size 200, 500** and assembly screwdriver sets No. 625441, 667532 / 667551 / 667601 / 667615.

65 9921

Cross-head size		0	1	2
63D 65 9921	6 mm blade **for Phillips**	XXX	XXX	XXX
63D 65 9923	6 mm blade **Pozidriv**	XXX	XXX	XXX
overall length	mm	160	190	200
Usable length	mm	80	110	120

65 9928

Blade width	mm	4	5,5	6,5	8
63D 65 9928	6 mm blade **Slot-head**	XXX	XXX	XXX	XXX
Blade designation		2	3	4	5
Cutter thickness	mm	0.6	0.8	1	1.2
overall length	mm	170	180	190	200
Usable length	mm	90	100	110	120

65 9925

overall length	mm	140	180
63D 65 9925	6 mm blade with magnet **with 1/4 inch bit holder**	XXX	XXX
Usable length	mm	60	100

D 6.3

65 9927

External square drive	inch	1/4
63D 65 9927	6 mm blade **With square drive**	XXX
overall length	mm	140
Usable length	mm	60

¼″

65 9920

Hexagon	mm	1,5	2	2,5	3	4	5
63D 65 9920	6 mm blade **Hexagon**	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	150	160	170	180	190	205
Usable length	mm	70	80	90	100	110	125

65 9922

Torx® profile		TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25
63D 65 9922	6 mm blade **for Torx®**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	150	150	160	160	170	180	190	200
Usable length	mm	70	70	80	80	90	100	110	120

65 9924

Torx Plus® profile		6IP	7IP	8IP	9IP	10IP	15IP	20IP	25IP
63D 65 9924	6 mm blade **for Torx Plus®**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	150	150	160	160	170	180	190	200
Usable length	mm	70	70	80	80	90	100	110	120

65

Interchangeable blade – 8 mm for torque screwdrivers

Suitable for: Torque screwdrivers No. 659906 / 659908 / 659911 (up to Cat. 48) and 659912 **size 1600** and screwdriver sets with flip-over handle No. 667625 / 667645.

Note: See No. 659870 / 659872 and 659878 – 659884 for further blades.

overall length	mm	50	80
63D 65 9874	8 mm blade with magnet **with 1/4 inch bit holder**	XXX	XXX
Usable length	mm	34	64

D 6.3

65 9874

63D 65 9875	Plug-in reversible ratchet with magnet **with 1/4 inch bit holder**	XXX
overall length	mm	70
Usable length	mm	54

D 6.3

65 9875

External square drive	inch	1/4	3/8
63D 65 9876	8 mm blade **with square drive**	XXX	XXX
overall length	mm	80	
Usable length	mm	64	

¼″ ⅜″

65 9876

External square drive	inch	1/4
63D 65 9877	Plug-in ratchet reversible **with square drive**	XXX
overall length	mm	67
Usable length	mm	51

¼″

65 9877

±3% ▶ O3 ◀ Cal

KANON Minimal torque gauge

Accurate measuring instrument for the smallest torques. Easy-to-read scale with memory pointer on the top and additional scale on the side. **With 3-jaw steel chuck.**

Standard: Tested to DIN EN ISO 6789.

Application: For measuring the smallest torques (such as rotation and frictional resistances) and for controlled tightening of screws.

maximum torque	cNm	3	6	12	24	36	60	90	150
66F 65 8800	Minimal torque gauge	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L	mm	106	106	106	132	132	132	132	132
Torque range	cNm	–	–	–	2 – 24	4 – 36	5 – 60	10 – 90	10 – 150
Torque range	mNm	4 – 30	5 – 60	10 – 120	–	–	–	–	–
Scale graduation, 1 graduation =	cNm	–	–	–	0.2	0.5	1	2	2
Scale graduation, 1 graduation =	mNm	0.5	1	2	–	–	–	–	–
Clamping chuck range	mm	1 – 6.5	1 – 6.5	1 – 6.5	1 – 8.5	1 – 8.5	1 – 8.5	1 – 8.5	1 – 8.5
∅	mm	43	43	43	63	63	63	63	63
Weight	g	290	290	290	600	600	600	600	600

FACOM Torque screwdrivers with setting scale

±6% D 6.3 ▶ O1 ◀ Cal

Robust torque screwdriver, adjustable with parallax-free micrometer scale. 1/4 inch internal square at the end of the handle.

Standard: Tested to DIN EN ISO 6789.

Function: When the set torque is reached the screwdriver triggers and signals clearly (audibly and perceptibly). It is then again immediately ready for use.

65 9936

maximum torque	cNm	250	1000
63V 65 9936	Torque screwdriver with scale	XXX	XXX
Torque measuring accuracy	%	±6	
Overall length L	mm	147	168
Torque range	cNm	50 – 250	200 – 1000
Torque range	Nm	0.5 – 2.5	2 – 10
Scale graduation, 1 graduation =	cNm	10	50

Handle with reversible ratchet

¼″

Application: Suitable for No. 659936 For quick screw tightening and for increased tightening torque.

65 9937

63V 65 9937	Handle with reversible ratchet	XXX
overall length	mm	100

Torque screwdriver set with bits

¼″ ±6% D 6.3 ▶ O1 ◀ Cal

Robust torque screwdriver, adjustable with parallax-free micrometer scale. 1/4 inch internal square at the end of the handle.

Standard: Tested to DIN EN ISO 6789.

Function: When the set torque is reached the screwdriver triggers and signals clearly (audibly and perceptibly). It is then again immediately ready for use.

65 9938

maximum torque	cNm	250	1000
63V 65 9938	Set of torque screwdrivers	XXX	XXX
Content: 9 bits assorted		1 pc. each of: PZ 1-2-3; hexagon 3-4-5 mm; slot-head 4.5-6.5-8	
Ratchet handle		No. 659937	
Bit extension		100 mm	
Torque screwdriver No. 659936		1 pc. size 250	1 pc. size 1000

±4% F 6.3 ▶ 03 ◀ Cal

Torque screwdrivers „Torsiometer“ with display scale

Ergonomic handle with torsion rod measuring device.
Scale with memory pointer for right hand threads.
Units of measurement: cN·m, lbf·in
Standard: Tested to DIN EN ISO 6789.
Application: For controlled single tightening of screws and for controlled measurements.

65 9200

maximum torque		cNm	75	150	300	600
63A 65 9200	“Torsiometer” torque screwdriver		XXX	XXX	XXX	XXX
Overall length L		mm	185			
Torque range		cNm	15 – 75	30 – 150	60 – 300	120 – 600
Torque range		lbfin	1.5 – 6.5	3 – 13	6 – 26	12 – 52
Scale graduation, 1 graduation =		cNm	2.5	5	10	20

▶ 01 ◀ Cal

Torque screwdrivers TorqueVario® with scale

±6% ±10%

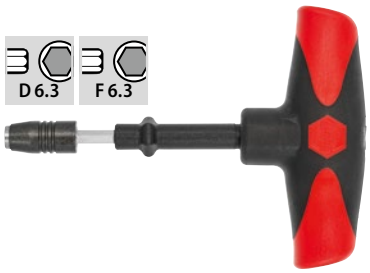
65 9930_60-700

Numerical display of the torque value via scale in the window (40 – 50 individual values, depending on the torque range). Torque continuously adjustable using Torque–Setter (included). On reaching the set torque value, the screwdriver can be felt and heard to trigger and is then immediately ready for use again.

Size 60 – Accuracy class ±10 %.
Size 100–1400 – Accuracy class ±6 %.
Standard: Tested to DIN EN ISO 6789.
Application:
Size 1400 – With T-handle and bit holder for 1/4 inch bits.
Size 60–700 – For checking threaded fastenings to the specified torque, in combination with a Wiha Torque interchangeable bit No. 659932 – 659946.

Note: Setting standard for size 60-700: No. 659931 size1 and for size 1400: No. 659931 size 2.

D 6.3 F 6.3



65 9930_1400

maximum torque		cNm	60	100	200	500	700	1400
63K 65 9930	Torque screwdriver TorqueVario®		XXX	XXX	XXX	XXX	XXX	XXX
Overall length L		mm	127	127	131	138	142	120
Torque range		cNm	10 – 60	40 – 100	50 – 200	80 – 500	200 – 700	500 – 1400
Torque range		Nm	0.1 – 0.6	0.4 – 1	0.5 – 2	0.8 – 5	2 – 7	5 – 14
Scale graduation, 1 graduation =		Nm	0.05	0.05	0.1	0.2	0.2	–
∅		mm	23	23	30	36	41	–

±6% D 6.3 F 6.3 ▶ 01 ◀ Cal

Torque screwdrivers with digital display

High-quality comfortable metal-plastic composite handle ensures ergonomic working and easy application of the set torques. Quick and easy reading and setting **via the large digital display.** Automatic switch-off after 15 seconds (battery life at least 1 year). The battery can be changed at the factory or during recalibration. Display changeover between Nm and lbf. in. Includes bit-holder blade No. 659932 to take 1/4 inch bits.
Units of measure: N·m, lbf·in
Standard: Tested to DIN EN ISO 6789.
Function: On reaching the set torque value, the screwdriver can be felt and heard to trigger and is then again immediately ready for use.
Advantage: An **integral counter function** records the number of tightening operations, providing the basis for monitoring by test instruments.
Application: For controlled tightening of screws to a pre-set torque.

Note: For further options see No. 659940 - 659946.

65 9935

maximum torque		cNm	150	300	500
63K 65 9935	Torque screwdriver **with digital display**		XXX	XXX	XXX
Overall length L		mm	134		
Torque range		cNm	40 – 150	80 – 300	100 – 500
Torque range		Nm	0.4 – 1.5	0.8 – 3	1 – 5
Resolution		cNm	1		
∅		mm	34	34	40

No additional tool required for setting

Calibration alarm after 5000 tightening operations.

wiha Interchangeable blade for torque screwdriver

Suitable for: Torque screwdrivers No. 659930 up to size 700, No. 659935 and 659945.
Material: Chrome vanadium steel, matt chrome-plated. ChromTop tips for maximum dimensional accuracy.

D 6.3 F 6.3

65 9932

63K 65 9932	Bit-holder		XXX
overall length		mm	162
Usable length		mm	50

Colour coding: **Red.**

65 9942

Hexagon		mm	1,5	2	2,5	3	4
63K 65 9942	Torque interchangeable blade **Hexagon**		XXX	XXX	XXX	XXX	XXX
overall length		mm	175				
Usable length		mm	42				

Colour coding: **Dark green.**
The **Magic Spring reliably holds all Torx® screws secure.**

65 9944

Torx® profile			TX6	TX7	TX8	TX9	TX10	TX15	TX20
63K 65 9944	Torque interchangeable blade **for Torx® MagicSpring**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	175						
Usable length		mm	42						

Colour coding: **Pale green**

65 9946

Torx Plus® profile			6IP	7IP	8IP	9IP	10IP	15IP	20IP
63K 65 9946	Torque interchangeable blade **for Torx Plus®**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	175						
Usable length		mm	42						

65

±6% D 6.3 F 6.3

Wera Torque screwdrivers, adjustable, automatic triggering

Kraftform handle for easy transmission of the required torque. With **Rapidaptor** quick-change holder for 1/4 inch bits with C 6.3 **and** E 6.3 shank.

65 9933 – Torque setting by hand using a micrometer scale (from size 600 using the integral auxiliary tool or a 17AF open spanner).
65 9954 – Tool handle made of conductive plastic, **suitable for ESDs.**
Size 600; 880 – With pistol grip for delivering high torques.
65 9934/9954 – The torque can be set using a torque analyser (No. 654300 – 654460) and a 7AF hexagon screwdriver (10AF for size 600) . **The torque screwdrivers are factory-set to the most frequently used torque setting.**

Standard: Tested to DIN EN ISO 6789.
Function: When the set torque is reached the screwdriver triggers, with clearly audible and perceptible signals. The triggering torque is unrestricted.

Note: Rapidaptor free-running coupling shank available from our eShop (No. 675035 size 6.3F).

65 9933_34-300

▶ O1 ◀ Cal

65 9933_600+880

65 9934_34-300

▶ O6 ◀ Cal

65 9934_600

maximum torque		cNm	34	120	300	600	880
63F 65 9933	Torque screwdriver **with scale**		XXX	XXX	XXX	XXX	XXX
Overall length L		mm	142	155	155	150	150
Torque range		cNm	10 – 34	30 – 120	120 – 300	300 – 600	400 – 880
Torque range		Nm	0.1 – 0.34	0.3 – 1.2	1.2 – 3	3 – 6	4 – 8.8
Scale graduation, 1 graduation =		cNm	1.5	5	10	25	40

65 9954_120

maximum torque		cNm	34	120	300	600
63F 65 9934	Torque screwdriver **without scale**		XXX	XXX	XXX	XXX
63F 65 9954	Torque screwdriver **without scale, ESD**		XXX	XXX	–	–
Overall length L		mm	133	155	155	150
set torque		Nm	0.1	0.3	1.2	3
Torque range		cNm	10 – 34	30 – 120	120 – 300	300 – 600
Torque range		Nm	0.1 – 0.34	0.3 – 1.2	1.2 – 3	3 – 6
1 turn (360°) corresponds to		cNm	–	10	20	50

Remove cover flap in the end of the handle for torque setting.

±10%

Wera Torque screwdrivers without scale, automatic triggering

Proven Kraftform handle, from 5 Nm with pistol grip. Every screwdriver is preset to the **correct torque for each size of screw.**
A sealing ring protects the mechanism in the handle from interference and inadvertent adjustment.
Drive size and torque are stamped on the end of the handle.
When the set torque is reached the screwdriver triggers with clearly audible and perceptible signals.
It is **not possible to tighten the screw any further.**
Size 2 – 4 for socket head screws.
Size TX6 – TX20 for screws with **Torx® profile.**
Size 6IP – 20IP for screws with **Torx Plus® profile.**
Size TX20; 4; 20IP – With pistol grip for delivering high torques.
Standard: Tested to DIN EN ISO 6789.
Application: Ideal for fitting indexable inserts.

Pistol grip size 4; TX20; 20IP

Type		2	2,5	3	4
63F 65 9950	Torque screwdriver	XXX	XXX	XXX	XXX
Overall length L	mm	175	175	175	160
Blade length	mm		65		
set torque	Nm	1.4	2	3	5
set torque	cNm	140	200	300	500

Type		TX6	TX7	TX8	TX9	TX10	TX15	TX20
63F 65 9950	Torque screwdriver	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L	mm	175	175	175	175	175	175	160
Blade length	mm				65			
set torque	Nm	0.6	0.9	1.2	1.4	2	3	5
set torque	cNm	60	90	120	140	200	300	500

Type		6IP	7IP	8IP	9IP	10IP	15IP	20IP
63F 65 9950	Torque screwdriver	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L	mm	175	175	175	175	175	175	160
Blade length	mm				65			
set torque	Nm	0.6	0.9	1.2	1.4	2	3	5
set torque	cNm	60	90	120	140	200	300	500

±10% ±15% F 6.3

Garant Torque screwdriver set „TQ-Station“, 27 pieces

Torque screwdriver with easy-grip 2-component T-handle and **fixed torque.** 1/4 inch bit holder with magnet.
Flexible modular bit-holder station with a sturdy sheet metal body and light-weight plastic storage units.
Quick access to the torque screwdrivers and also to the E 6.3 precision bits. Handy storage of items such as indexable inserts in 3 retractable container boxes. Non-tipping solution for the workbench or machine, or for hanging from a perforated panel.
Standard: Tested to DIN EN ISO 6789.
Accuracy: Size 0.6 - 1.5 = ± 15 % of the stated value.
Size 2.2 - 5.7 = ± 10 % of the stated value.
Function: On reaching the set torque value, the screwdriver can be felt and heard to trigger and is then again immediately ready for use. Unlimited release torque.

Note: The individual sizes of the torque screwdrivers are available under No. 211750.

Pull-out drawers for small components.

65 9965

21B 65 9965	"TQ-Station" torque screwdriver set	XXX
Overall length L	mm	107
Supplied with: Torque screwdriver No. 211750		1× each size 0.6; 0.9; 1.2; 1.5; 2.2; 3.0; 3.8; 5.0; 5.7
Bits for Torx®		1 pc. each No. 674248 size TX6; TX7; TX8; TX9; TX10; TX15; TX20
Bits for Torx Plus®		1 pc. each No. 674252 size 6IP; 7IP; 8IP; 9IP; 10IP; 15IP; 20IP
Storage station		1 pc.
Container boxes (drawers)		3 pcs.

±6%

Torque screwdriver set, 15 pieces

Torque screwdrivers of anodised aluminium. Easy to use, **no adjustment necessary,** because **this is done automatically when the blade is inserted** - each blade has its own exactly pre-set torque value.
Blade with coloured sleeve for quick location of the correct drive size.

Application: TX6/6IP – 0.6 Nm; TX7/7IP – 0.9 Nm; TX8/8IP – 1.2 Nm; TX9/9IP – 1.4 Nm; TX10/10IP – 2.0 Nm; TX15/15IP – 3.0 Nm; TX20/20IP – 5.0 Nm.

Type		15
66F 65 9990	Set of "Dinaplus" torque screwdrivers	XXX
Supplied with:		
1 each blade No. 659995		Size TX6; TX7; TX8; TX9; TX10; TX15; TX20
1 each blade No. 659996		Size 6IP; 7IP; 8IP; 9IP; 10IP; 15IP; 20IP
Torque screwdriver holder No. 659991		1 piece

6 7 8 9 10 15 20

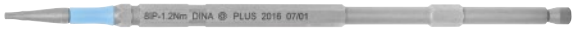
Interchangeable blade for torque screwdriver

Suitable for: Torque screwdriver set No. 659990.

6 7 8 9 10 15 20

Torx® profile		TX6	TX7	TX8	TX9	TX10	TX15	TX20
66F 65 9995	Torque interchangeable blade for **Torx®**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm				175			
Torque	Nm	0.6	0.9	1.2	1.4	2	3	5

6 7 8 9 10 15 20



Torx Plus® profile		6IP	7IP	8IP	9IP	10IP	15IP	20IP
66F 65 9996	Torque interchangeable blade for **Torx Plus®**	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm				175			
Torque	Nm	0.6	0.9	1.2	1.4	2	3	5

±6% D 6.3 ▶ 01 ◀ Cal

Torque screwdrivers, adjustable, automatic triggering

Practical handle for transmission of the required torques without problems.
Easy to read micrometer scale, protected against dirt.
Lock at the end of the handle against inadvertent adjustment. Interchangeable blade to take 1/4 inch bits included.

Standard: Tested to DIN EN ISO 6789.

Function: On reaching the set torque value, the screwdriver can be felt and heard to trigger and is then again immediately ready for use.

Application: For controlled tightening of screws to a pre-set torque.

maximum torque	cNm	150	300	600
62E 65 9945	Torque screwdriver with scale	XXX	XXX	XXX
Overall length L	mm		153	
Torque range	cNm	30 – 150	60 – 300	120 – 600
Torque range	Nm	0.3 – 1.5	0.6 – 3	1.2 – 6
Scale graduation, 1 graduation =	cNm	5	10	20

Unlocked

Locked

TorqueScout

Quick and easy search of the desired torque tools, or determination of the correction to the reference dimension.

- Direct and simple ordering process.
- Search by torque value, range or by the screw to be tightened.
- If adapters, extensions, and special plug-in tools are used, the reference dimension will need to be corrected; this value can be calculated easily and automatically.

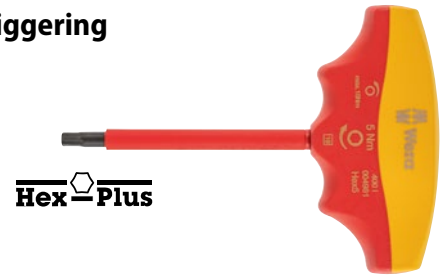
Visit us online at www.toolscout.com
and discover the wide range of solutions offered by the ToolScout.

±10%

Wera Torque screwdrivers without scale, fully insulated, automatic triggering

Ergonomically shaped multi-component cross-head handle for optimum force transfer. Every screwdriver is preset to the **correct torque for each size of screw** . Drive size and torque are stamped on to the handle. When the set torque is reached the screwdriver triggers, with clearly audible and perceptible signals. It is **not possible to tighten the screw any further**. The release torque is higher than the tightening torque (overload protection).
Handle and blade **fully insulated up to 1000 V** to **DIN EN 60900 / VDE 0682-201.**

Suitable for: Hexagon socket head screws.



65 9953_5

65 9953_5

Type		4	5
63F 65 9953	Torque screwdriver **fully insulated**	XXX	XXX
Overall length L	mm	141	
Blade length	mm	93	
set torque	Nm	5	
set torque	cNm	500	

±3% F 6.3 ▶ 01 ◀ Cal

TOHNICHI Torque screwdriver with setting scale

Torque screwdrivers with over-torque protection for different applications from series production to maintenance work. With a locking mechanism that prevents adjustment of the torque when in use. The hexagon lock shape prevents rolling away. Setting by using micrometer scale.
Size 15; 30; 60; 500 – Profiled light metal handle.
Size 120; 260 – With synthetic resin handle for better grip.

Standard: Tested to DIN EN ISO 6789.

Function: When the set torque is reached the screwdriver triggers and signals clearly (audibly and perceptibly). It is then again immediately ready for use. The trigger mechanism is unavailable for tightening left-handed threads.

65 9939_60

65 9939_120

maximum torque	cNm	15	30	60	120	260	500
66F 65 9939	Torque screwdriver with scale	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L	mm	100	100	110	130	150	155
Torque range	cNm	2 – 15	4 – 30	10 – 60	20 – 120	60 – 260	100 – 500
Torque range	Nm	0.02 – 0.15	0.04 – 0.3	0.1 – 0.6	0.2 – 1.2	0.6 – 2.6	1 – 5
Scale graduation, 1 graduation =	cNm	0.1	0.2	0.5	1	2	5
∅	mm	16	16	20	24	30.5	33

±6% F 6.3 ▶ 03 ◀ Cal

KANON Torque screwdrivers with setting scale

Setting using a micrometer scale. Profiled light alloy handle.

Standard: Tested to DIN EN ISO 6789.

Function: When the set torque is reached the screwdriver triggers and signals clearly (audibly and perceptibly). It is then again immediately ready for use.

65 9949_60

65 9949_300

maximum torque	cNm	15	30	60	120	300	500
66F 65 9949	Torque screwdriver with scale	XXX	XXX	XXX	XXX	XXX	XXX
Overall length L	mm	107	107	110	157	157	200
Torque range	cNm	1 – 15	2 – 30	5 – 60	20 – 120	40 – 300	100 – 500
Torque range	Nm	0.01 – 0.15	0.02 – 0.3	0.05 – 0.6	0.2 – 1.2	0.4 – 3	1 – 5
Scale graduation, 1 graduation =	cNm	0.1	0.2	0.5	1	1	2.5
∅	mm	16	16	25	30	34	40

Torque multiplier

Mechanical manual torque multiplier for controlled screw tightening. Multiplier and support of high-quality steel. With overload shut-off to protect the transmission. **Input drive** with internal square socket for drive tools such as a ratchet, T-handle, torque wrench. It is sensible to operate the device with a torque wrench, so that the maximum load and the screw torque values can be checked. **Output drive** with external square for holding sockets (preferably use impact sockets due to the high torques).

65 9975 – Precise planetary transmissions guarantee exact torque transfer with long-term accuracy of **±5 %.**

65 9980 – Extremely precisely machined transmissions with ground gears and honed bores guarantee exact and consistently reproducible torque multiplication. Unique accuracy of not less than **±4 %.** Very compact and lightweight design, exceptionally long working life, and low maintenance.

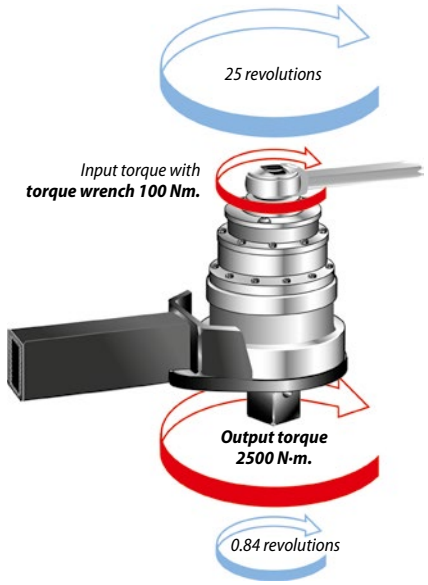
Advantage: Torque multipliers allow the transmission of higher torques with a correspondingly shorter lever arm.

Note:

65 9980 – Alternative reaction plates for No. 659980 size 2000 and 7000 available on request. No. 659980 size 2000 available on request with electronic measured value sensors.

65 9980_1000

65 9980_2000



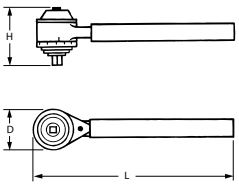
Operating principle torque multiplier.
At a stated transmission ratio of 1:25, 25 revolutions at the input (and 0.84 revolutions at the output) are necessary to convert an input torque of 100 Nm into an output torque of 2500 Nm.

65 9980_1300 / _2700

65 9980_7000

65 9980_3000 / _4500

65 9975_2000



maximum output capacity	Nm	1000	1300	2000	2700	3000	4500	7000
66D **65 9980** Torque multiplier in a plastic case		XXX	XXX	XXX	XXX	XXX	XXX	(XXX)
Length L	mm	240	210	201.5	210	450	450	259
Height H	mm	84	126	182.3	128	156	173	252
maximum input capacity	Nm	200	260	74	540	193	173	275
Torque multiplication / effective force multiplication		1:5	1:5	1:27	1:5	1:15,5	1:26	1:25,5
recommended torque wrench / tightening range	Nm	250	300	100	600	250	200	300
Number of supports (reaction plates)		2	2	1	2	1	1	1
Drive square	inch	3/4	3/4	1	1	1	1	1.1/2
Square drive	inch	1/2	1/2	1/2	3/4	1/2	1/2	1/2
∅ D	mm	65	108	72	108	108	108	119
Weight	kg	1.6	3.8	3.2	3.8	6.1	7	9.3
Non-return valve		no	no	yes	no	yes	yes	yes
Overload protection					yes			

maximum output capacity	Nm	800	1350	2000	3000	5000
63A **65 9975** Torque multiplier in a sheet metal case		XXX	XXX	XXX	XXX	(XXX)
Length L	mm	215	265	330	330	400
Height H	mm	85	106	161	161	180
maximum input capacity	Nm	229	375	160	240	294
Torque multiplication / effective force multiplication		1:3,5	1:3,6	1:12,5	1:12,5	1:17
recommended torque wrench / tightening range	Nm	250	400	200	300	400
Number of supports (reaction plates)				1		
Drive square	inch	3/4	3/4	1	1	1.1/2
Square drive	inch	1/2	3/4	1/2	3/4	3/4
∅ D	mm	66	90	95	95	120
Weight	kg	2	3.4	7	7	10.4
Non-return valve		no	no	yes	yes	yes
Overload protection				yes		

Workshop screwdriver with 2-component power grip (slot-head)

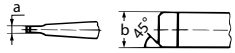
Versatile, robust screwdriver with taper blade.
The special surface structure allows transmission of high torques, even with wet or oily hands. **Blade** of chrome vanadium special alloy combining maximum hardness and exceptional toughness.
Surface nickel-plated and chrome-plated, with black plane parallel stepped tip.

66 0030 – **Power grip** with non-allergenic, easy-grip **Haptoprene** surface and a core of particularly tough and impact-resistant polypropylene. **From size 8 with hexagon flats for wrench assistance.**
66 0040 – Handle with "Rainbow" colour coding for finding the correct drive size quickly.
66 0050 – Tool handle made of conductive plastic, **suitable for ESDs.**
66 0040/0050 – **SwissGrip-power grip** with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene.

Application: For repair and assembly work, for loosening tight screws etc.

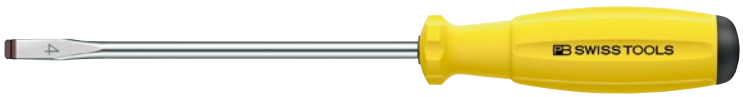
- *Stepped plane parallel tips provide full-surface instead of linear contact, enabling higher torque transmission.*
- *No cam-out effect.*
- *Tips perfectly fit standard and non-standard screw slot sizes.*
- *Smooth, burr-free rounding of the end of the handle prevents friction in the palm of the hand.*
- *Convex ergonomic shape with comfortable easy-grip surface ensures non-fatiguing working and high torque transmission.*
- *Non-roll flats.*
- *Marked with drive symbol and size.*

66 0030



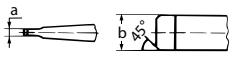
66 0040

PB Swiss Tools colour coding for sizes



66 0050

Blade width b		mm	2	2,5	3,5	4	5,5	6,5	8	10
61F 66 0030	Garant	Screwdriver for slot-head, with 2-component Haptoprene handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63E 66 0040	PB SWISS TOOLS	Screwdriver for slot-head, with 2-component SwissGrip handle	–	–	XXX	XXX	XXX	XXX	XXX	XXX
63E 66 0050	PB SWISS TOOLS	Screwdriver for slot-head, with 2-component SwissGrip handle **ESD**	–	XXX	XXX	XXX	XXX	XXX	–	–
Blade designation			00	0	1	2	3	4	5	6
Tip thickness a		mm	0.3	0.4	0.5	0.6	0.8	1	1.2	1.6
Blade length		mm	40	80	90	100	120	140	160	180
overall length		mm	100	160	180	195	220	245	270	300
Hexagon collar for wrench assistance (66 0030)		mm	–	–	–	–	–	–	10	13



66 0031_6

Supplied with:
66 0041 – With wall bracket.

66 0041

Number of screwdrivers			5	6
61F 66 0031	Garant	Screwdriver set for slot-head, with 2-component Haptoprene handle	XXX	XXX
63E 66 0041	PB SWISS TOOLS	Screwdriver set for slot-head, with 2-component SwissGrip handle	–	XXX
Content: 1 each screwdriver No. 660030 (66 0031)			Size 3.5; 4; 5.5; 6.5; 8	Size 3.5; 4; 5.5; 6.5; 8; 10
1 each screwdriver No. 660040 (66 0041)			–	Size 3.5; 4; 5.5; 6.5; 8; 10

Workshop screwdriver with power grip (slot-head)

with „multicraft“ power grip

“Multicraft” power grip of impact resistant plastic (cadmium free), particularly easy grip, even with oily hands.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. With parallel stepped tip. From size 8 with hexagon flats for wrench assistance. Surface nickel-plated and chrome-plated, black tip.

- *Stepped plane parallel tips provide full-surface instead of linear contact, enabling higher torque transmission.*
- *No cam-out effect.*
- *Tips perfectly fit standard and non-standard screw slot sizes*
- *Smooth, burr-free rounding of the end of the handle prevents friction in the palm of the hand.*
- *Convex ergonomic shape allows sustained non-fatiguing working and high torques.*
- *Non-roll flats.*
- *Marked with drive symbol and size.*

66 0900

Blade width b	mm	3,5	4	5,5	6,5	8	10	13
63E **66 0900** PB SWISS TOOLS Screwdriver for slot-head, with “multicraft” power grip		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade designation		1	2	3	4	5	6	7
Tip thickness a	mm	0.5	0.6	0.8	1	1.2	1.6	2
Blade length	mm	90	100	120	140	160	180	200
overall length	mm	180	195	220	245	270	300	320
Hexagon collar for wrench assistance	mm	–	–	–	–	10	13	13

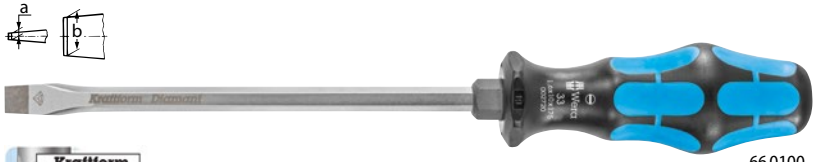
Number of screwdrivers		5	6	7
63E **66 0910** PB SWISS TOOLS Screwdriver set for slot-head, with “multicraft” power grip		XXX	XXX	XXX
Content: 1 each screwdriver No. 660900		Size 3.5; 4; 5.5; 6.5; 8	Size 3.5; 4; 5.5; 6.5; 8; 10	Size 3.5; 4; 5.5; 6.5; 8; 10; 13

66 0910_7

with Kraftform handle

Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm.
Blade of high hardness special steel with special toughness; **diamond-coated tips.** Hexagon profile blade from size 5.5 with hexagon flats for wrench assistance, nicromatt chromium plated surface.

- *Very high wear resistance and secure fit in the screw due to diamond coating.*
- *Fast and ergonomic working due to the Kraftform handle.*
- *High transfer of torque due to integral soft zones.*
- *Non-roll flats.*
- *Marked with drive symbol and size on cap.*



66 0100

Blade width b	mm	3,5	4	5,5	7	9	10
63H **66 0100** Wera Screwdriver for slot-head, with Kraftform handle		XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a	mm	0.6	0.8	1	1.2	1.6	1.6
Blade length	mm	75	90	100	125	150	175
overall length	mm	156	188	198	230	262	287
Hexagon collar for wrench assistance	mm	–	–	8	10	13	13

Number of screwdrivers		5	6
63H **66 0110** Wera Screwdriver set for slot-head, with Kraftform handle		XXX	XXX
Content: 1 each screwdriver No. 660100		Size 3.5; 4; 5.5; 7; 9	Size 3.5; 4; 5.5; 7; 9; 10

66 0110_6

with 2-component SwissGrip handle, through blade and impact head

SwissGrip-power grip with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. Optimum shock absorption for the hand guiding the tool. Handle neck tapers including collar for a secure hold. Through blade with impact head of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.
With hexagon collar for wrench assistance.

66 0201

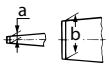
Blade width b	mm	5,5	6,5	8
63E 66 0201 PB SWISS TOOLS Screwdriver for slot-head, with 2-component SwissGrip handle **and impact head**		XXX	XXX	XXX
Blade designation		3	4	5
Tip thickness a	mm	0.8	1	1.2
Blade length	mm	80	100	150
overall length	mm	180	200	260
Hexagon collar for wrench assistance	mm	8	10	10

Number of screwdrivers		3
63E 66 0211 PB SWISS TOOLS Screwdriver set for slot-head, with 2-component SwissGrip handle **and impact head**		XXX
Content: 1 each screwdriver No. 660201		Size 5.5; 6.5; 8

66 0211

with Kraftform handle, hexagon blade and impact cap

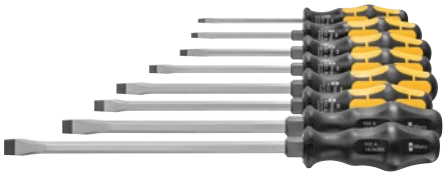
Kraftform handle made of impact resistant plastic **with integrated soft zones** and **impact cap** (sizes 12 and 14 without soft zones; size 3.5 without impact cap and through blade).
Hexagon blade made of impact resistant special steel, **through to the end of the handle.** From size 4.5 with hexagon flats for wrench assistance, nicromatt chromium plated surface.



66 0300

Blade width b	mm	3,5	4,5	5,5	7	9	10	12	14
63H 66 0300 Wera Screwdriver for slot-head, with Kraftform handle **and impact cap**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a	mm	0.6	0.8	1	1.2	1.6	1.6	2	2.5
Blade length	mm	80	90	100	125	150	175	200	250
overall length	mm	161	188	205	230	262	287	317	367
Hexagon collar for wrench assistance	mm	–	8	10	10	13	13	16	16

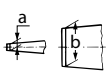
Number of screwdrivers		5	6	8
63H 66 0310 Wera Screwdriver set for slot-head, with Kraftform handle **and impact cap**		XXX	XXX	XXX
Content: 1 each screwdriver No. 660300		Size 3.5; 4.5; 5.5; 7; 9	Size 3.5; 4.5; 5.5; 7; 9; 10	Size 3.5; 4.5; 5.5; 7; 9; 10; 12; 14

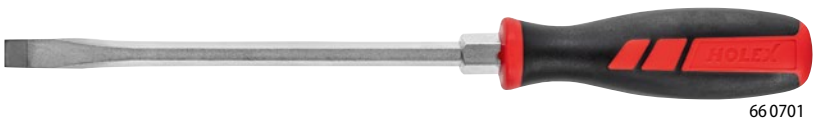


66 0310_8

with multi-component power grip, hexagon blade

Multi-component power handle with grip zone optimised for torque and comfort. Hex blade of chrome vanadium steel, chrome-plated. Chrom-Top tips for optimum rust protection.
From size 5.5 with hexagon flats for wrench assistance.





66 0701

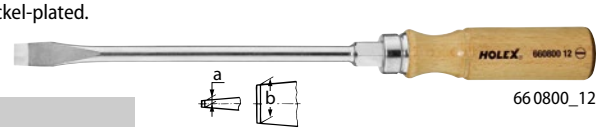
Blade width b	mm	2,5	3	3,5	4	5,5	7	8	10	12
62F 66 0701 HOLEX Screwdriver for slot-head, with power grip		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a	mm	0.4	0.5	0.6	0.8	1	1.2	1.2	1.6	2
Blade length	mm	75	80	100	100	100	125	150	175	200
overall length	mm	162	167	187	207	200	225	264	295	320
Hexagon collar for wrench assistance	mm	–	–	–	–	8	10	12	13	16

Number of screwdrivers		5	9
62F 66 0711 HOLEX Screwdriver set for slot-head, with power grip		XXX	XXX
Content: 1 pc. each screwdriver No. 660701		Size 3.5; 4; 5.5; 7; 8	Size 2.5; 3; 3.5; 4; 5.5; 7; 8; 10; 12

66 0711_9

HOLEX Workshop screwdriver (slot-head)

Handle of sealed beechwood, with leather impact cap. Blade of chrome vanadium steel, through hardened.
From size 5.5, through blade with hexagon flats for wrench assistance. Surface bright nickel-plated.



66 0800_12

With wooden handle, round steel blade

Blade width b	mm	3,5	4,5	5,5	7	9	10	12	14
62F 66 0800 Screwdriver for slot-head, with wooden handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a	mm	0.6	0.8	1	1.1	1.4	1.6	2	2.5
Blade length	mm	75	90	100	125	150	175	200	250
overall length	mm	177	192	205	230	269	294	319	384
Hexagon collar for wrench assistance	mm	–	–	8	10	13	13	13	17

Number of screwdrivers		5	6	7	8
62F 66 0810 Screwdriver set for slot-head, with wooden handle		XXX	XXX	XXX	XXX
Content: 1 each screwdriver No. 660800		Size 3.5; 4.5; 5.5; 7; 9	Size 3.5; 4.5; 5.5; 7; 9; 10	Size 3.5; 4.5; 5.5; 7; 9; 10; 12	Size 3.5; 4.5; 5.5; 7; 9; 10; 12; 14

66 0810_8

Blade screwdriver (slot-head)

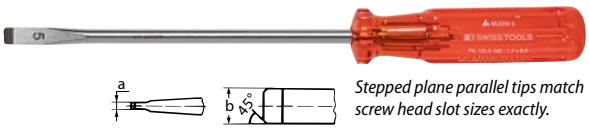
Forged blades, the tips are precisely manufactured to the standard sizes of slot-head screws.

Note: Optimum working life for blade screwdrivers if screwdrivers always match the screw slot size (see table).
Incorrect screwdriver size selection will cause damage to the screw head.

66

With cylindrical handle and round steel blade

"Classic" power grip of transparent, impact-resistant plastic (cadmium-free).
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. With parallel stepped tip. Surface nickel-plated and chrome-plated, black tip.
Standard: Similar to **DIN 5265 form A.**



Stepped plane parallel tips match screw head slot sizes exactly.

Blade width b	mm	2×50	2×70	2,5	3,5	4	5,5	6,5	8	10	13
63E 66 2000 PB SWISS TOOLS Blade screwdriver for slot-head, with plastic handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade designation		00	00	0	1	2	3	4	5	6	7
Tip thickness a	mm	0.3	0.3	0.4	0.5	0.6	0.8	1	1.2	1.6	2
Blade length	mm	50	70	80	90	100	120	140	160	180	200
overall length	mm	125	145	165	180	195	220	245	270	300	325

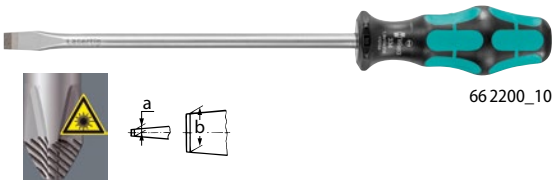
Number of screwdrivers		5	6	9
63E 66 2010 PB SWISS TOOLS Blade screwdriver set for slot-head, with plastic handle		XXX	XXX	XXX
63E 66 2020 PB SWISS TOOLS Blade screwdriver set for slot-head, with plastic handle and wall rack		–	XXX	–
Content: 1 each screwdriver No. 662000		Size 4; 5.5; 6.5; 8; 10	Size 3.5; 4; 5.5; 6.5; 8; 10	Size 2x70; 2.5; 3.5; 4; 5.5; 6.5; 8; 10; 13

66 2020_6

66 2010_6

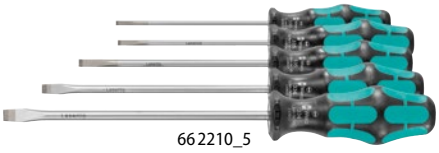
with Kraftform handle and round steel blade

Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm.
Blade of high-alloy special steel. Nicromatt chrome-plated surface, black tips or chemically nickel-coated Lasertip tips.
Standard: **DIN 5265 Form A**


66 2200_10

Blade width b	mm	2,5	3	3,5	4	5,5	6,5	8	10
63H 66 2200 Wera Blade screwdriver for slot-head, with Kraftform handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a	mm	0.4	0.5	0.6	0.8	1	1.2	1.2	1.6
Blade length	mm	75	80	100	100	125	150	175	200
overall length	mm	145	161	181	198	223	255	287	312
Blade tip		black	black	Lasertip	Lasertip	Lasertip	Lasertip	Lasertip	Lasertip

Number of screwdrivers		5	8
63H 66 2210 Wera Blade screwdriver set for slot-head, with Kraftform handle		XXX	XXX
Content: 1 each screwdriver No. 662200		Size 3.5; 4; 5.5; 6.5; 8	Size 2.5; 3; 3.5; 4; 5.5; 6.5; 8; 10


66 2210_5

S/STL

Wera Blade screwdriver (slot-head)

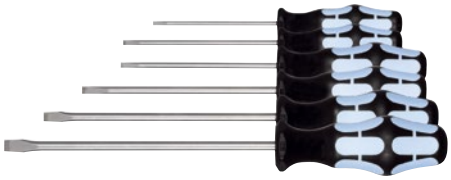
Forged blades, the tips are precisely manufactured to the standard sizes of slot-head screws.
Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm.
Wera Lasertip blade of stainless steel with tapered **micro-textured drive tip** (from size 3.5).
Standard: **DIN 5265 form A**

with Kraftform handle and stainless steel blade „Stainless“

66 2500

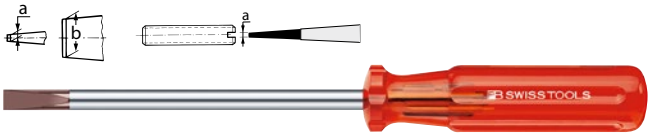
Blade width b		mm	3	3,5	4	5,5	6,5	8	10
63H 66 2500	"Stainless" blade screwdriver for slot-head, with Kraftform handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a		mm	0.5	0.6	0.8	1	1.2	1.2	1.6
Blade length		mm	80	100	100	125	150	175	200
overall length		mm	161	181	198	223	255	287	312

Number of screwdrivers		6
63H 66 2510	"Stainless" blade screwdriver set for slot-head, with Kraftform handle	XXX
Content: 1 each screwdriver No. 662500		Size 3; 3.5; 4; 5.5; 6.5; 8


66 2510_6

PB SWISS TOOLS Grub screw screwdrivers (terminal board screwdrivers)

"Classic" power grip of transparent, impact-resistant plastic (cadmium-free). **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. With **stronger tip for terminal screws.**
Surface nickel-plated and chrome-plated, black tip.



Blade width b		mm	3	4	5	6
63E 66 2700	Terminal-blade screwdriver for slot-head, with plastic handle		XXX	XXX	XXX	XXX
Blade designation			1	2	3	4
Tip thickness a		mm	0.6	0.8	1	1.2
Blade length		mm	100	110	120	130
overall length		mm	190	205	220	235

Electrician's screwdriver (slot-head)

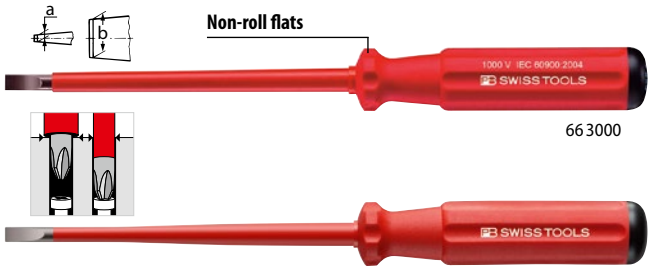
Handle and blade **fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**
Each of these screwdrivers is individually tested in a water bath for insulation breakdown under high voltage.
Application: For use at voltage up to 1000 V.

Drive symbol
moulded into the end of the handle

with Classic 2-component handle, fully insulated

Slim handle with a non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. Due to its special surface structure, the grip is non-slip even with oily or wet hands.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness.
66 3003/3013 – **Reduced blade Ø with integral protective insulation** for deep-lying screws of spring elements (blade Ø = insulation Ø near the tip of the blade).

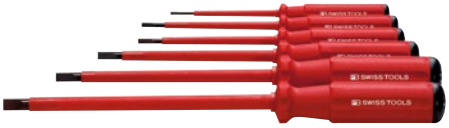
Non-roll flats



66 3000
66 3003_4

Blade width b		mm	2	2,5	3	3,5	4	5,5	6,5	8	10
63E 66 3000	Electrician's screwdriver for slot-head, Classic **fully insulated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63E 66 3003	Slim electrician's screwdriver for slot-head, Classic **fully insulated**		–	–	–	XXX	XXX	XXX	XXX	–	–
Blade designation			00	0	1	2	3	4	5	6	8
Tip thickness a		mm	0.4	0.4	0.5	0.6	0.8	1	1.2	1.2	1.6
Blade length		mm	45	80	100	100	100	125	150	180	200
overall length		mm	125	165	190	190	195	230	255	300	320

Number of screwdrivers			4	6	8
63E 66 3010	PB SWISS TOOLS	Electrician's screwdriver set, for slot-head, Classic **fully insulated**	–	XXX	XXX
63E 66 3013	PB SWISS TOOLS	Slim electrician's screwdriver set, for slot-head, Classic **fully insulated**	XXX	–	–
Content: 1 each screwdriver No. 663000 (66 3010)			–	Size 2.5; 3.5; 4; 5.5; 6.5; 8	Size 2; 2.5; 3.5; 4; 5.5; 6.5; 8; 10
1 pc. each L-wrench No. 663003 (66 3013)			Size 3.5; 4; 5.5; 6.5	–	–



66 3010_6

66 3013_4

with Kraftform handle, fully insulated

Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm.

66 3100/3110 – **Blade** of high-alloy special steel. Nicromatt chrome-plated surface, black tips or chemically nickel-coated Lasertip tips.
From size 5.5 the outside ∅ of the insulation is the same as the tip width (helpful when working in narrow spaces).

66 3200/3210 – Blade made of high-alloy special steel with taper tip, zinc phosphated. **Reduced blade ∅ with integral protective insulation** for deep-lying screws of spring elements
(blade ∅ = insulation ∅ near the tip of the blade).

66 3100

66 3200

Blade width b	mm	2,5	3	3,5	4	5,5	6,5	8	10
63H 66 3100	Wera	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63H 66 3200	Wera	–	–	XXX	XXX	XXX	–	–	–
Tip thickness a	mm	0.4	0.5	0.6	0.8	1	1.2	1.2	1.6
Blade length	mm	80	100	100	100	125	150	175	200
overall length	mm	161	181	181	198	223	255	287	312
Blade tip (66 3100)		black	black	Lasertip	Lasertip	Lasertip	Lasertip	Lasertip	Lasertip

Electrician's screwdriver for slot-head, with Kraftform handle **fully insulated**

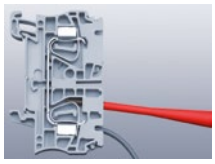
66 3100 / 3110

Number of screwdrivers			3	5	6	8
63H 66 3110	Wera	Electrician's screwdriver set for slot-head, with Kraftform handle **fully insulated**	–	XXX	XXX	XXX
63H 66 3210	Wera		XXX	–	–	–
Content: 1 each screwdriver No. 663100 (66 3110)			–	Size 2.5; 3; 3.5; 4; 5.5	Size 2.5; 3; 3.5; 4; 5.5; 6.5	Size 2.5; 3; 3.5; 4; 5.5; 6.5; 8; 10
1 each screwdriver No. 663200 (66 3210)			Size 3.5; 4; 5.5	–	–	–

66 3110_5

66 3210_3

Insulation ∅ matches the blade ∅ for optimum access e.g. for spring terminals.



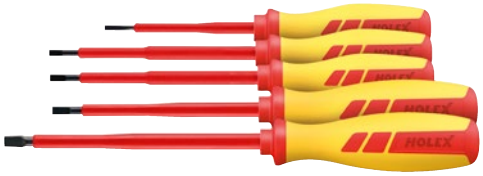
with multi-component power grip, fully insulated

Multi-component power handle with grip zone optimised for torque and comfort. Blade of high-alloy tool steel. From size 5.5 the outside ∅ of the insulation is the same as the tip width (helpful when working in narrow spaces).

66 3301_5,5

Blade width b	mm	2,5	3	3,5	4	5,5	6,5	8	10
62F 66 3301	HOLEX	Electrician's screwdriver for slot-head **fully insulated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a	mm	0.4	0.5	0.6	0.8	1	1.2	1.2	1.6
Blade length	mm	75	100	100	100	125	150	175	200
overall length	mm	162	187	187	207	232	257	295	320

Number of screwdrivers			5	6	8
62F 66 3311	HOLEX	Electrician's screwdriver set for slot-head **fully insulated**	XXX	XXX	XXX
Content: 1 each screwdriver No. 663301			Size 2.5; 3; 3.5; 4; 5.5	Size 2.5; 3; 3.5; 4; 5.5; 6.5	Size 2.5; 3; 3.5; 4; 5.5; 6.5; 8; 10



66 3311_5

Screwdriver with long blade (slot-head)

with cylindrical handle

"Classic" power grip of transparent, impact-resistant plastic (cadmium-free). Forged blades, the tips are precisely manufactured to the standard sizes of slot-head screws.

Material: Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.

66 3700

Blade width b×Blade length	mm	2,5×125	3,5×150	4×150	4×200	5,5×200	5,5×250	5,5×300	6,5×200	6,5×300	8×400	10×500
63E 66 3700 PB SWISS TOOLS Screwdriver for slot-head, with long blade		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade designation		0	1	2	2	3	3	3	4	4	5	6
Tip thickness a	mm	0.4	0.5	0.6	0.6	0.8	0.8	0.8	1	1	1.2	1.6
Blade length	mm	125	150	150	200	200	250	300	200	300	400	500
overall length	mm	210	240	245	295	300	350	400	305	405	510	620

with Kraftform handle

Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm.
Blade of high-alloy special steel. Nicromatt chrome-plated surface, black tips or chemically nickel-coated Lasertip tips.

66 3750

Blade width b×Blade length	mm	3×150	3×200	3,5×200	4×200	4×300	5,5×200	5,5×300
63H 66 3750 Wera Screwdriver for slot-head, with long blade and Kraftform handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a	mm	0.5	0.5	0.6	0.8	0.8	1	1
Blade length	mm	150	200	200	200	300	200	300
overall length	mm	231	281	281	298	398	298	398
Blade tip		black	black	Lasertip	Lasertip	black	Lasertip	black

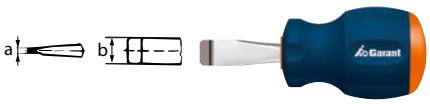
66

Short screwdriver (slot-head)

Standard: Similar to **DIN 5265B.**

Power grip with non-allergenic, easy-grip **Haptoprene** surface and a core of particularly tough and impact-resistant polypropylene. The special surface structure allows transmission of high torques, even with wet or oily hands. **Blade** of chrome vanadium special alloy combining maximum hardness and exceptional toughness. Surface nickel-plated and chrome-plated, with black plane parallel stepped tip.

Blade width b	mm	4	5,5	6,5	8	10
61F 66 4120 Garant Screwdriver for slot-head, short		XXX	XXX	XXX	XXX	XXX
Blade designation		2	3	4	5	6
Tip thickness a	mm	0.6	0.8	1	1.2	1.6
Blade length	mm			30		
overall length	mm	80	80	80	85	85



66 4120

"Classic" power grip of transparent, impact-resistant plastic (cadmium-free). Forged parallel blade.

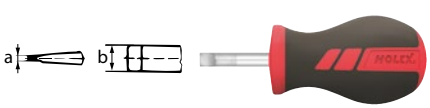
Material: Blade of PB Swiss Tools special alloy, nickel-plated and chrome-plated; black tip.

Blade width b	mm	4	5,5	6,5	8	10
63E 66 4100 PB SWISS TOOLS Screwdriver for slot-head, short		XXX	XXX	XXX	XXX	XXX
Blade designation		2	3	4	5	6
Tip thickness a	mm	0.6	0.8	1	1.2	1.6
Blade length	mm			30		
overall length	mm	75	75	75	80	80

66 4100

Multi-component power handle with grip zone optimised for torque and comfort. Blade of chrome vanadium steel, chrome-plated. Chrom-Top tips for optimum rust protection.

Blade width b	mm	4	5,5	6,5
62F 66 4201 HOLEX Screwdriver for slot-head, short		XXX	XXX	XXX
Tip thickness a	mm	0.8	1	1.2
Blade length	mm		25	
overall length	mm		82	



66 4201

Coin driver

Power grip with skin-friendly elastomer coating and a core of particularly tough and impact-resistant polypropylene. The special surface structure allows transmission of high torques, even with wet or oily hands.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.

Application: For unscrewing plastic screws and blanking plugs (e.g. battery compartment cover) without damaging them.

66 4310

Application example

66 4311

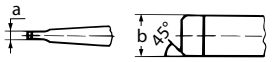
Blade length		mm	45
63E 66 4310	Coin-Driver		XXX
63E 66 4311	Coin-Driver, short		XXX
overall length (66 4310)		mm	150
overall length (66 4311)		mm	100

Electronics screwdriver (slot-head)

Narrow blade with plane parallel stepped tip. Handle of transparent impact resistant plastic.

Material: PB Swiss Tools special alloy, nickel-plated and chrome-plated, black tip.

66 4400



Blade width b		mm	2	2,5	3,5
63E 66 4400	Electronics screwdriver for slot-head, with plastic handle		XXX	XXX	XXX
Blade designation			00	0	1
Tip thickness a		mm	0.3	0.4	0.5
Blade length		mm	70	80	90
overall length		mm	180	190	205

66 4410

Ergonomic multi-component handle with rotating cap.

66 4410/4415 – **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Very high precision tips. Surface nickel-plated and chrome-plated, black tip.

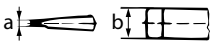
66 4415/9900 – Tool handle made of conductive plastic, **suitable for ESDs.**

66 4600/9900 – **Blade** of high-quality tool steel, surface matt chrome-plated, black tip.

66 4415

66 4600

66 9900



Blade width b		mm	1,2	1,5	1,8	2	2,5	3	3,5	4
63E 66 4410	Electronics screwdriver for slot-head		XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
63E 66 4415	Electronics screwdriver for slot-head **ESD**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
63H 66 4600	Electronics screwdriver for slot-head **Kraftform Micro**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63H 66 9900	Electronics screwdriver for slot-head **Kraftform Micro, ESD**		XXX	XXX	XXX	–	XXX	XXX	–	XXX
Tip thickness a (66 4410, 66 4415)		mm	0.2	0.25	0.3	0.4	0.4	0.5	0.6	–
Tip thickness a (66 4600, 66 9900)		mm	0.25	0.23	0.3	0.4	0.4	0.5	0.6	0.8
Blade length		mm	40	40	60	60	80	80	80	80
overall length (66 4410, 66 4415)		mm	133	133	153	153	173	173	173	–
overall length (66 4600, 66 9900)		mm	137	137	157	157	177	177	177	177

Offset screwdriver (slot-head)

Two equal width tips, offset 90° from one another. PB Swiss Tools special alloy, surface nickel-plated and chrome-plated. Black tips.
Knurled shank for a secure hold in wet or oily environments. With forged offset tips to standard slot head widths.

66 4800

Blade width b		mm	4	5,5	6,5	8	10	13
63E 66 4800	Offset screwdriver for slot-head		XXX	XXX	XXX	XXX	XXX	XXX
Tip thickness a		mm	0.6	0.8	1	1.2	1.6	2
overall length		mm	100	100	110	125	150	175

Voltage tester up to 250 Volt – to VDE 0680/6

Plastic handle with insulated screwdriver blade and pocket clip.

66 5010 – High quality screwdriver blade, test range 110 - 250 V.
66 5020 – High-quality screwdriver tip, size 3.5 without pocket clip. Testing range 110 - 250 V.
66 5030 – Testing range 150 - 250 V.
66 5050 – Simple design, size 3.5 without pocket clip. Testing range 120 - 250 V.

Note: These voltage testers conform to VDE 0680/6 safety standards. Bulbs therefore are non–replaceable.

66 5010_2,5

66 5020_2,5

66 5020_3,5

66 5030

66 5050_3,5

Blade width		mm	2,5	3	3,5
61F 66 5010	Garant Voltage tester special quality		XXX	–	–
63E 66 5020	PB Swiss Tools Voltage tester special quality		XXX	–	XXX
63H 66 5030	Wera Voltage tester		–	XXX	–
66B 66 5050	Voltage tester		–	XXX	XXX
Blade length (66 5010, 66 5020, 66 5030)		mm	50	70	75
Blade length (66 5050)		mm	–	60	100
overall length (66 5010, 66 5020, 66 5030)		mm	125	145	175
overall length (66 5050)		mm	–	145	190

Special tester for vehicles

Sturdy casing with metal clip and needle probe.

66 5133 – Slide mechanism for clamping the needle probe to the cable.

Standard:
66 5133 – DIN EN 61010-1; DIN EN 61326.
Advantage: No need to strip insulation from the cable.
Application:
66 5133 – For cars, HGVs and e-bikes.

66 5133

66 5700

			overall length mm	Test range V
73H 66 5133	Weidmüller Voltage tester VT CTB	XXX	137	3 – 48
66B 66 5700	Vehicle light test lamp	XXX	120	6 – 24

Screw-in fuse carrier key

Changeover between fuse carrier screws 2 – 25 A and 35 – 63 A. **Fully insulated** up to 1000 V to DIN EN 60900 / VDE 0682-201.

66 5800

			overall length mm
66B 66 5800	Screw-in fuse carrier key, dual function **fully insulated**	XXX	110

Wera Screw holder

Permanently elastic blade grip for sliding on to screwdriver blades and bits.
The resilient and highly wear-resistant screw grip retains the screw mechanically.
Screwing the screw into the workpiece releases the screw automatically.

Size 2; 3 – For screwdrivers **fully insulated** to VDE.

Suitable for: All commonly-used screwdrivers and long bit blades.
Can be used for round and hexagon shaft screwdrivers, irrespective of the drive profile.

Application: For holding screws when working in narrow areas.

66 6425_1

66 6425_2

66 6425_3

Type		1	2	3
63H 66 6425	Screw holder	XXX	XXX	XXX
for blade ∅	mm	4.5 – 6	4.5 – 6	6.5 – 8
External ∅	mm		17	
Length	mm		41	

Application examples

Wera Magnetiser / demagnetiser

Application: For magnetising and demagnetising screwdriver bits.

63H 66 6450	Magnetiser	XXX
Length	mm	47
Width	mm	47
Height	mm	20

66 6450

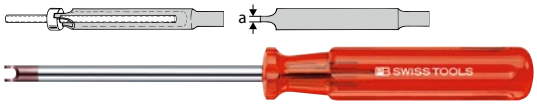
66

PB SWISS TOOLS Screwdriver for slotted nuts, with handle

"Classic" power grip of transparent, impact-resistant plastic (cadmium-free).
Tubular blade with exceptionally deep head for projecting screw threads.

Material: Blade of PB Swiss Tools special alloy, surface nickel-plated and chrome-plated.

Application: For slotted round nuts DIN 546.



66 6600

Blade ∅	mm	2,5	3	4	5	6	8	9	11	14	18
63E 66 6600	Screwdriver for slotted nuts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
for nuts		M1	M1.2; M1.4	M1.7; M2	M2.5	M3	M4	M5	M6	M8	M10
Blade length	mm	50	60	70	80	90	100	100	110	120	120
overall length	mm	125	135	155	170	185	200	205	220	240	245
Hole ∅	mm	1.2	1.5	2.2	2.8	3.7	4.2	5.3	6.4	8.4	10.5
Drive bit thickness a	mm	0.3	0.4	0.5	1	1.2	1.4	2	2.5	3	3.5

Screwdriver set

with 2-component Haptoprene handle (workshop screwdriver)

Power grip with non-allergenic, easy-grip **Haptoprene** surface and impact-resistant polypropylene core.
Blade of chrome vanadium special alloy combining maximum hardness and exceptional toughness. Black tip.

Supplied with:

66 6950 – 1 each slot-head screwdriver No. 660030 size 3.5; 4; 5.5; 6.5.
1 each screwdriver for Phillips No. 667690 size 1; 2.

66 6960 – 1 each slot-head screwdriver No. 660030 size 3.5; 4; 5.5; 6.5;
1 each Posidriv screwdriver No. 667693 size 1; 2.

66 6950

Number of screwdrivers			4/2
61F 66 6950	Garant	Workshop screwdriver set, 6 pieces **For slot-head and Phillips**	XXX
61F 66 6960	Garant	Workshop screwdriver set, 6 pieces **for slot-head and Pozidriv**	XXX

with 3-component ergo handle

3-component ergonomic handle made of impact resistant plastic.
Blade made of chrome vanadium steel, chrome-plated. Black tips.

Supplied with: 1 each slot-head screwdriver 0.5×3; 0.8×4; 1.0×5.5; 1.2×6.5,
1 each screwdriver for Phillips size 1; 2.

66 7280

Number of screwdrivers			4/2
63U 66 7280	BAHCO	ergo screwdriver set, 6 pieces **For slot-head and Phillips**	XXX

Screwdriver set

with „multicraft“ power grip (workshop screwdrivers)

“multicraft” power grip of transparent, impact-resistant plastic (cadmium-free). **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.

Supplied with:

66 7000 Size 4/2 – 1 each slot-head screwdriver No. 660900 size 3.5; 4; 5.5; 6.5.
1 each screwdriver for Phillips No. 668100 size 1; 2; **with wall bracket.**
Size 6/2 – 1 each slot-head screwdriver No. 660900 size 3.5; 4; 5.5; 6.5.; 8; 10.
1 each screwdriver for Phillips No. 668100 size 1; 2.
66 7050 – 1 each slot-head screwdriver No. 660900 size 3.5; 4; 5.5; 6.5.
1 each Posidriv screwdriver No. 668150 size 1; 2; **with wall bracket.**

66 7000_4/2

66 7000_6/2

Number of screwdrivers			4/2	6/2
63E 66 7000	PB SWISS TOOLS	Workshop screwdriver set **For slot-head and Phillips**	XXX	XXX
63E 66 7050	PB SWISS TOOLS	Workshop screwdriver set **for slot-head and Pozidriv**	XXX	–

with Kraftform handle (workshop screwdrivers)

Handle of impact resistant plastic with integral soft zones. **Blade** of special steel; tips **diamond coated.**

Supplied with:

66 7100 – 1 each slot-head screwdriver No. 660100 size 3.5; 4; 5.5; 7.
1 each screwdriver for Phillips No. 667700 size 1; 2.
66 7150 – 1 each slot-head screwdriver No. 660100 size 3.5; 4; 5.5; 7;
1 each Posidriv screwdriver No. 667800 size 1; 2.

66 7100

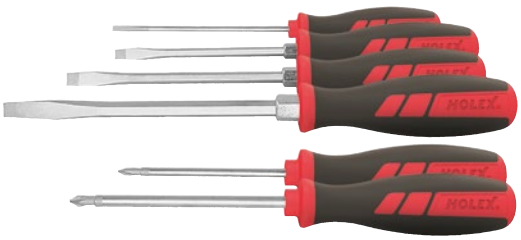
Number of screwdrivers			4/2
63H 66 7100	Wera	Workshop screwdriver set, 6 pieces **For slot-head and Phillips**	XXX
63H 66 7150	Wera	Workshop screwdriver set, 6 pieces **for slot-head and Pozidriv**	XXX

with multi-component power grip

Multi-component power handle with grip zone optimised for torque and comfort. **Blade** of chrome vanadium steel.

Supplied with:

66 7312 – 1 each slot-head screwdriver No. 660701 size 3.5; 5.5; 7; 8.
1 each screwdriver for Phillips No. 668401 size 1; 2.
66 7322 – 1 pc. each slot-head screwdriver No. 660701 size 3.5; 5.5; 7; 8.
1 pc. each Posidriv screwdriver No. 668501 size 1; 2.
66 7332 – 1 pc. each slot-head screwdriver No. 660701 size 3.5; 5.5; 7; 8.
1 pc. each screwdriver for Phillips No. 668401 size 1; 2.
1 pc. each Pozidriv screwdriver No. 668501 size 1; 2.



66 7312_4/2

Number of screwdrivers			4/2	4/2/2
62F 66 7312	HOLEX	Screwdriver set, 6 pieces **For slot-head and Phillips**	XXX	–
62F 66 7322	HOLEX	Screwdriver set, 6 pieces **for slot-head and Pozidriv**	XXX	–
62F 66 7332	HOLEX	Screwdriver set, 8 pieces **for slot-head, Phillips and Pozidriv**	–	XXX

Multi-component power handle with grip zone optimised for torque and comfort. **Blade** of chrome vanadium steel.

Supplied with:

66 7316 – 1 pc. each slot-head screwdriver No. 664201 size 4; 5.5; 6.5.
1 pc. each stub screwdriver for Phillips No. 668471 size 1; 2.
66 7326 – 1 pc. each slot-head screwdriver No. 664201 size 4; 5.5; 6.5.
1 pc. each stub Posidriv screwdriver No. 668476 size 1; 2.

66 7316

Number of screwdrivers			3/2
62F 66 7316	HOLEX	Screwdriver set, stub, 5 pieces **For slot-head and Phillips**	XXX
62F 66 7326	HOLEX	Screwdriver set, stub, 5 pieces **for slot-head and Pozidriv**	XXX

with 2-component SwissGrip handle, through blade and impact head

SwissGrip-power grip with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. Optimum shock absorption for the hand guiding the tool. Handle neck tapers including collar for a secure hold. Through blade with impact head of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.
With hexagon collar for wrench assistance.

Supplied with: 1 each slot-head screwdriver No. 660201 size 5.5; 6.5; 8.
1 each screwdriver for Phillips No. 668320 size 1; 2; 3

Number of screwdrivers			3/3
63E 66 7090	PB SWISS TOOLS	Screwdriver set, with impact head, 6 pieces **For slot-head and Phillips**	XXX

with Kraftform handle; through hexagon blade and impact cap

Handle of impact resistant plastic with integral soft zones. Impact cap and wrench assistance (apart from slot-head size 3.5). Hexagon **blade** of special steel, through to the end of the handle.(Size 3.5 not through).

Supplied with:

Size 4/2 – 6 pieces.
1 each slot-head screwdriver No. 660300 size 3,5; 4,5; 5,5; 7.
1 each screwdriver for Phillips No. 668300 size 1; 2.

Size 13 – 13 pieces in 2 plastic clips.
1 each slot-head screwdriver No. 660300 size 3.5; 4.5; 5.5; 7; 9.
1 each screwdriver for Phillips No. 668300 size 1; 2; 3.
1 each Pozidriv screwdriver No. 668305 size 1; 2; 3.
1 each screwdriver for Torx® size TX20; TX25.

66 7270_4/2

66 7270_13

Number of screwdrivers			4/2	13
63H 66 7270	Wera	Screwdriver set	XXX	XXX

with wooden handle (workshop screwdriver)

Handle of sealed beechwood, with leather impact cap. **Blade** of chrome vanadium steel, through hardened. **From size 5.5, through blade with hexagon flats for wrench assistance.** Surface bright nickel-plated.

Supplied with: 1 each slot-head screwdriver No. 660800 size 3,5; 4,5; 5,5; 7.
1 each screwdriver for Phillips No. 668450 size 1; 2.

66 7360

Number of screwdrivers			4/2
62F 66 7360	HOLEX	Screwdriver set, with wooden handle, 6 pieces **For slot-head and Phillips**	XXX

with precision handle „Kraftform-Micro“ (electronics screwdriver)

Handle with rotating centring cap and quick-spinning zone. **Blade** of special steel.

Size 25 – **“Big Pack”** 25 pieces in a textile folder.

66 9924 – Tool handle made of conductive plastic, **suitable for ESDs.**

Supplied with:

Size 12 – 12 pieces in a textile tool roll. 1 each slot-head screwdriver No. 664600 size 1.5; 1.8; 2; 2.5; 3. 1 each screwdriver for Phillips No. 668800 size 00 and 0. 1 each screwdriver for Torx ® similar to No. 625770 size TX5 and TX6. 1 each hexagon screwdriver No. 627470 size 0.9; 1.5; 2.

Size 25 – 25 pieces in a textile tool roll.
1 each screwdriver for Phillips size PH000; PH00; PH0.
1× each screwdriver for Torx® size TX1; TX3.
1 each screwdriver for Torx® with hold function size TX5; TX6; TX7; TX8; TX10.
1 screwdriver for TorxPlus® size 1IPR.
1 each hex screwdriver No. 627470 size 0.9; 1.3; 1.5; 2.
1 each slot-head screwdriver size 0.23×1.0; 0.3×1.8; 0.4×2.0; 0.35×2.5; 0.4×2.5; 0.5×3.0.
1 each socket screwdriver size 4; 5.5.
1 screwdriver for Microstix® m × 40 mm.
1 chip lifter 3.5×50 mm.

Size 3/3 – 6 pieces in a plastic clip. 1× each slot-head screwdriver No. 664600 size 1.5; 2; 3.5. 1 each screwdriver for Phillips No. 668800 size 00; 0; 1.

Size 4/2 – 6 pieces in a plastic clip. 1 each slot-head screwdriver No. 669900 size 1.2; 1.5; 1.8; 2.5. 1 each screwdriver for Phillips No. 669905 size 0; 1.

Note: 25-piece ESD “Big Pack” available from our shop under No. 669924 size 25.

66 7170_3/3

66 7170_12

66 7170_25

66 9924_4/2

Number of screwdrivers			3/3	12	25	4/2
63H 66 7170	Wera	Electronics screwdriver set **Kraftform Micro**	XXX	XXX	XXX	–
63H 66 9924	Wera	Electronics screwdriver set **Kraftform Micro, ESD**	–	–	–	XXX

with 2-component handle (electronics screwdriver)

Handle with rotating cap. **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.

66 7160 – 6 pieces in a plastic clip. 1 each slot-head screwdriver No. 664410 size 1.2; 1.5; 1.8; 2.5. 1 each screwdriver for Phillips No. 668891 size 00; 0.

66 7165 – 6 pieces in a plastic clip. 1 each slot-head screwdriver No. 664415 size 1.2; 1.5; 1.8; 2.5. 1 each screwdriver for Phillips No. 668895 size 00; 0.
Tool handle made of conductive plastic, **suitable for ESDs.**

66 7160

66 7165

Number of screwdrivers			4/2
63E 66 7160	PB SWISS TOOLS	Workshop screwdriver set, 6 pieces **For slot-head and Phillips**	XXX
63E 66 7165	PB SWISS TOOLS	Workshop screwdriver set, 6 pieces **for slot-head and Phillips, ESD**	XXX

Screwdriver set

with 2-component Classic handle, fully insulated (electrician's screwdriver)

66 7077 – Aluminium rack with spring-loaded plastic slots for secure storage of screwdrivers. Suitable for attachment to a wall.

66 7070/7071 – Slim handle with comfortable elastomer surface and tough impact-resistant polypropylene core. Handle and blade **fully insulated up to 1000 V** to **DIN EN 60900 / VDE 0682-201.**

66 7072/7074 – Slim handle with comfortable elastomer surface and tough impact-resistant polypropylene core. Handle and blade **fully insulated up to 1000 V** according to **DIN EN 60900 / VDE 0682-201.**
Reduced blade Ø with integral protective insulation for deep-lying screws of spring elements (blade Ø = insulation Ø near the tip of the blade).

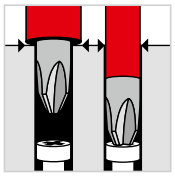
Supplied with:

66 7070 – 1 each slot-head screwdriver No. 663000 size 2.5; 3.5; 4; 5.5.
1 each screwdriver for Phillips No. 668370 size 1; 2.
1 **tool rack** No. 667077 size M.

66 7071 – 1 each slot-head screwdriver No. 663000 size 2.5; 3.5; 4; 5.5.
1 each Pozidriv screwdriver No. 668380 size 1 and 2.

66 7072 – 1 each slim slot-head screwdriver No. 663003 size 3.5; 4; 5.5; 6.5.
1 each screwdriver for Phillips No. 668372 size 1 and 2.

66 7074 – 1 each slim slot-head screwdriver No. 663003 size 3.5; 4; 5.5; 6.5.
1 each Pozidriv screwdriver No. 668382 size 1 and 2.



66 7070

66 7071

66 7072

66 7077_M

Number of screwdrivers			4/2
63E 66 7070	SWISS TOOLS	Electrician's screwdriver set, 6 pieces **for slot-head and Phillips, fully insulated**	XXX
63E 66 7071	SWISS TOOLS	Electrician's screwdriver set, 6 pieces **for slot-head and Pozidriv, fully insulated**	XXX
63E 66 7072	SWISS TOOLS	Electrician's slim screwdriver set, 6 pieces **for slot-head and Phillips, fully insulated**	XXX
63E 66 7074	SWISS TOOLS	Electrician's slim screwdriver set, 6 pieces **for slot-head and Pozidriv, fully insulated**	XXX

Type			S	M	L
63E 66 7077	SWISS TOOLS	Tool rack for wall mounting	XXX	XXX	XXX
overall length		mm	230	280	330
Number of tool sockets			6	9	11

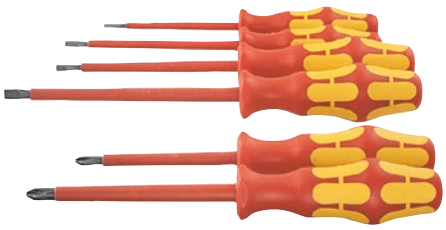
with Kraftform handle, fully insulated (electrician's screwdriver)

Wear laser tip blade fully insulated up to 1000 V to **DIN EN 60900 / VDE 0682-201.**

Supplied with:

66 7200 – 1 each slot-head screwdriver No. 663100 size 2.5; 3.5; 4; 5.5.
1 each screwdriver for Phillips No. 668600 size 1 and 2.

66 7250 – 1 each slot-head screwdriver No. 663100 size 2.5; 3.5; 4; 5.5.
1 each screwdriver for Pozidriv No. 668700 size 1 and 2.



66 7200

Number of screwdrivers			4/2
63H 66 7200	Wera	Electrician's screwdriver set, 6 pieces **for slot-head and Phillips, fully insulated**	XXX
63H 66 7250	Wera	Electrician's screwdriver set, 6 pieces **for slot-head and Pozidriv, fully insulated**	XXX

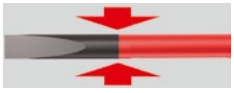
with Kraftform handle, fully insulated (electrician's screwdriver)

Blade with reduced blade Ø, fully insulated up to 1000 V to **EN 60900 / VDE 0682-201.**

Supplied with:

66 7230 – 1 each slot-head screwdriver No. 663200 size 3.5; 4; 5.5.
1 each screwdriver for Phillips No. 668620 size 1 and 2.

66 7240 – 1 each slot-head screwdriver No. 663200 size 3.5; 4; 5.5.
1 each screwdriver for Pozidriv No. 668720 size 1 and 2.



Insulation Ø matches the blade Ø for optimum access e.g. for spring terminals.

66 7230

Number of screwdrivers			3/2
63H 66 7230	Wera	Electrician's screwdriver set, 5 pieces **for slot-head and Phillips, fully insulated**	XXX
63H 66 7240	Wera	Electrician's screwdriver set, 5 pieces **for slot-head and Pozidriv, fully insulated**	XXX

with multi-component power grip, fully insulated (electrician's screwdriver)

Multi-component power handle with grip zone optimised for torque and comfort.
Blade of high-alloy tool steel, **fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**
Supplied with:

66 7216 – 1 each slot-head screwdriver No. 663301 size 2.5; 3.5; 4; 5.5.
1 each screwdriver for Phillips No. 668631 size 1 and 2.

66 7226 – 1 each slot-head screwdriver No. 663301 size 2.5; 3.5; 4; 5.5.
1 each screwdriver for Pozidriv No. 668731 size 1 and 2.

Number of screwdrivers			4/2
62F 66 7216	HOLEX	Electrician's screwdriver set, 6 pieces **for slot-head and Phillips, fully insulated**	XXX
62F 66 7226		Electrician's screwdriver set, 6 pieces **for slot-head and Pozidriv, fully insulated**	XXX

66 7216

Wera Kraftform Kompakt Turbo VDE set

Up to **4-fold multiplication of the screw tightening speed** by a planetary gearbox in the handlethat can optionallybe **engaged/disengaged**. Switching off is recommended before fine adjustment and the final tightening or release of a screw with a high torque (up to 14 Nm). Kraftform handle with 154 mm long **interchangeable blades fully insulated up to 1000V** to **DIN EN 60900 / VDE 06082-201**.
Supplied in a sturdy textile folder with hook and loop fastening.

Advantage:
- Powerful final tightening and simple fine adjustment.
- Purely mechanical multiplication (without battery) of the screw speed.

Number of screwdrivers		16
63H 66 7255	Kraftform Kompakt Turbo VDE set	XXX
Content: Slot-head blades		0.4×2.5; 0.6×3.5; 0.8×4.0; 1.0×5.5
Blades for Phillips		PH1 and PH2
Pozidriv bits		PZ1 and PZ2
Pozidriv / slot-head (combination profile)		PZ/ S1 and PZ/ S2 (combination profile)
blades for Torx®		TX10; TX15; TX20; TX25
Kraftform handle for interchangeable blades No. 667411		Size 1
Kraftform turbo handle		1 piece

66 7255

Up to four different screw tightening speeds by means of the planetary gear-box that can be engaged/disengaged

Wera Kraftform Kompakt VDE sets

Kraftform handle with 154 mm long **insulated interchangeable blades (including control cabinet keys) fully insulated up to 1000 V** according to **DIN EN 60900 / VDE 0682-201** and a voltage tester (up to 250 V to VDE 0680/6) in a sturdy textile folder with hook and loop fasteners and belt loop.

Number of pieces		18
63H 66 7260	Kraftform Kompakt VDE set	XXX
Content: Slot-head blades		0.4×2.5; 0.6×3.5; 0.8×4.0; 1.0×5.5
Blades for Phillips		PH1 and PH2
Pozidriv bits		PZ1 and PZ2
Phillips / slot-head (combination profile)		PH/ S1 and PH/ S2 (combination profile)
Pozidriv / slot-head (combination profile)		PZ/ S1 and PZ/ S2 (combination profile)
Square		8 mm and 1/4 inch (89 mm long)
3-square		9 mm (89 mm long)
Two-wing		(89 mm long)
Voltage tester No. 665030		Size 3
Kraftform handle for interchangeable blades No. 667411		Size 1

66 7260

wiha VDE range „speedE® II electric" cordless bit screwdriver with interchangeable blades

Quicker working due to electronic screw tightening over 2 power levels: 0.4 Nm and 1.0 Nm. This opens up a new range of applications. A material protection function for both power levels is integrated, which switches off the screw tightening function after the tightening torque of 0.4 Nm or 1.0 Nm is reached. Further tightening by hand is possible without having to change grip, using the electronic ratchet. The manual strength of the user determines the maximum tightening torque. The integrated ring LED ensures optimum illumination of the screw during the screw fastening. Holder and bits **fully insulated to 1000 V** to **DIN EN 6000 / VDE 0682-201.**

Supplied with: E-screwdriver handle speedE® II
1× slimBit SL 0.6×3.5; bit length: 75 mm.
1× PowerBit SL/PZ2; bit length: 75 mm.
USB charger (without mains adapter).
2 rechargeable Li-ion batteries.
In a sturdy plastic box L-BOXX® Mini

Type		1
60N 66 7268	„speedE®" VDE set 1	XXX

Quick and efficient screw fastening by cordless drive

Garant Assembly screwdriver set with voltage tester

Power grip with easy-to-hold, easy-grip **Haptoprene** surface and a core of particularly tough and impact-resistant polypropylene. Due to its special surface structure, the grip is non-slip even with oily or wet hands.
Blade of chrome vanadium special alloy combining maximum hardness and exceptional toughness. Surface nickel-plated and chrome-plated. Black tips, accurately dimensioned.
Voltage tester 110 – 250 V in accordance with VDE 0680/6.

Supplied with: Textile roll-up wallet.

Note:	Spare blades can be found under No. 659921 – 659928.

66 7532_10

Number of pieces		10	14
61F **66 7532**	Screwdriver set	XXX	XXX
Content:			
Slot-head blades No. 659928		Size 4; 5.5; 6.5; 8	
Blades for Phillips No. 659921		Sizes 1 and 2	
Pozidriv blade No. 659923		Size 2	
Blades for Torx® No. 659922		–	Sizes TX10; TX15; TX20; TX25
Reamer blade No. 667640		1 pc.	
Voltage tester No. 665010		Size 2.5	
2-component plastic handle No. 667531		1 pc.	

66 7532_14

PB SWISS TOOLS „All-rounder“ assembly screwdriver set

“Multicraft” power grip and telescopic precision handle to hold the bits.
8 double bits, 14 bits, and 1 voltage tester (110 - 250 V to VDE 0680/6) for all common screw connections.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated. Black tips, accurately dimensioned.

Supplied with: Plastic tool roll.

Note:	Spare blades can be found under No. 669605 – 669608 and No. 659921 – 659928.

66 7615

Number of pieces		25
63E **66 7615**	Assembly screwdriver set “All-rounder”	XXX
Content:		
Slot-head blades		Size 2; 2.5; 3.5; 4; 5.5; 6.5; 8
Blades for Phillips		Size 00; 0; 1; 2
Pozidriv bits		Size 0; 1; 2
Hexagon blade		Sizes 1.5; 2; 2.5; 3; 4; 5; 6
blades for Torx®		Size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25
Voltage tester No. 665020		Size 2.5
Reamer blade No. 667640		1 pc.
Plastic handle No. 667620		1 pc.
Telescopic handle		1 pc.

PB SWISS TOOLS Screwdriver set, flip-over handle with interchangeable blades

Handle of transparent impact resistant plastic. **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.

Advantage: Greatly reduced “cam-out-effect” due to exceptionally precise tips, e.g. plane parallel slot-head tips and accurately milled cross-head tips. The flip-over handle permits 2 functions:
- Quick rotation (in the upright position).
- Power tightening (in the 90° angle position).

Note:	Spare interchangeable blades can be found under No. 659870 – 659884.

66 7645

Number of pieces		9
63E **66 7645**	Screwdriver set, with flip-over handle, 9 pieces **for Phillips and hexagonal**	XXX
Content:		
Flip-over handle		1 pc.
Blades for Phillips No. 659870		Size 1; 2; 3
Hexagon blades No. 659878		Size 3; 4; 5; 6; 8

PB SWISS TOOLS PC and assembly screwdriver set

Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Slot-head blades with parallel, stepped tip, ensuring an exact fit to standard screw head slot sizes. Tips of cross-head blades precisely milled. Surface nickel-plated and chrome-plated, black tip.

66 7551 – Assorted specially for working on a PC.

66 7605 – **Power grip** with a non-allergenic elastomer surface and a particularly tough impact-resistant polypropylene core to hold different blades, particularly secure grip, even with oily hands.

66 7551/7601 – **"multicraft" power grip** of impact-resistant plastic (cadmium-free), for holding different bits, particularly easy grip, even with oily hands.

Supplied with: Textile roll-up wallet.

66 7551

Number of pieces		11
63E **66 7551**	PC screwdriver set with "multicraft" power grip	XXX
Content:		
Slot-head blades No. 659928		Sizes 4 and 5.5
Blade for Phillips No. 659921		Sizes 1 and 2
Blades for Torx® No. 659922		Size TX10 and TX15
Precision screwdriver (slot-head) No. 664415		Sizes 2 and 3
Screwdriver (for Phillips) No. 668891		Size 0
Fine socket (for external hex-head bolts)		5 mm
Plastic grip		1 pc.

66 7601

Number of pieces		11
63E **66 7601**	Assembly screwdriver set with "multicraft" power grip	XXX
Content:		
Slot-head blades No. 659928		Size 4; 5.5; 6.5; 8
Blades for Phillips No. 659921		Sizes 1 and 2
Pozidriv blade No. 659923		Size 2
Reamer blade No. 667640		1 pc.
Plastic handle No. 667620		1 pc.
Electronics screwdriver (slot-head) No. 664400		Sizes 2.5 and 3.5

66 7605

Number of pieces		10
63E **66 7605**	Screwdriver set with 2-component SwissGrip handle **ESD**	XXX
Content:		
Slot-head blades No. 659928		Size 4; 5.5; 6.5; 8
Blades for Phillips No. 659921		Sizes 1 and 2
Reamer blade No. 667640		1 pc.
Precision screwdriver (slot-head) No. 664415		Sizes 2.5 and 3
Plastic grip		1 pc.

Wera Assembly screwdriver set – Vario – (handle with exchangeable bits)

Kraftform handle of impact resistant plastic to hold different bits. **Hexagon bits** of special steel combining exceptional toughness and hardness. Nicromatt chrome-plated, steel grey tips.

66 7405 – Handle with **additional ratchet function** (right-handed, left-handed and fixed settings).

Supplied with: Textile tool roll.

66 7405

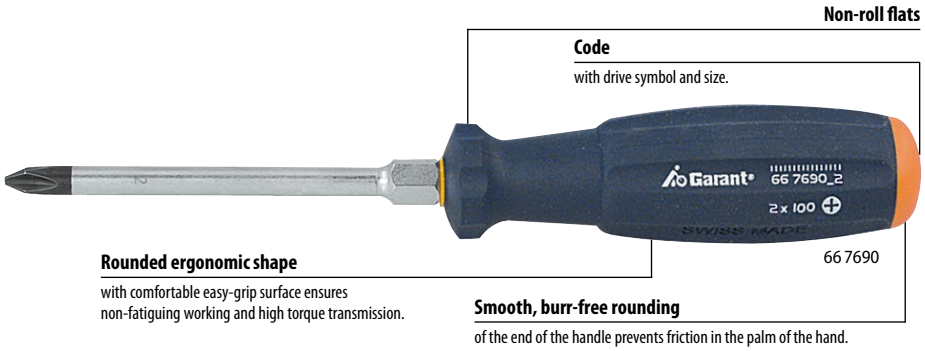
Number of pieces			7
63H **66 7405**	Assembly screwdriver set **with ratchet function**		XXX
overall length		mm	175
Blade length		mm	100
Content:			
1 slot-head blade			4×0.6 / 6×1
1 blade for Phillips			Size 1 / Size 2
1 Pozidriv blade			Size 1 / Size 2
1 hexagonal blade			4 / 5 mm
2 blades for Torx®			TX10 / TX15; TX20 / TX25
Kraftform handle with ratchet			1 pc.

66 7400

Number of pieces			11
63H **66 7400**	Assembly screwdriver set		XXX
overall length		mm	175
Blade length		mm	100
Content:			
2 slot-head blades			4×0.6 / 6×1; 5×0.8 / 7×1.2
1 blade for Phillips			Size 1 / Size 2
1 Pozidriv blade			Size 1 / Size 2
3 hexagonal bits			4 / 4; 5 / 5; 6 / 6 mm (1 end with ball head)
3 blades for Torx®			TX10 / TX15; TX20 / TX25; TX30 / TX40
Kraftform handle No. 667410			1 pc.

Screwdriver (Phillips, Pozidriv)

Power grip with non-allergenic secure grip surface and a particularly tough impact resistant polypropylene core.
The special surface structure allows transmission of high torques, even with wet or oily hands.
Blade of chrome vanadium special alloy combining maximum hardness and exceptional toughness.
Surface nickel-plated and chrome-plated, black tip.



with 2-component handle

66 7685–7687/7695–7698 – Power grip with a non-allergenic elastomer coating.
66 7685/7687 – Tool handle made of conductive plastic, **suitable for ESDs.**
66 7690–7694 – Power grip with easy-to-hold, easy-grip **Haptoprene** surface.
66 7690/7693 Size 2; 3 – With hexagon collar for wrench assistance.
66 7695–7698 – Handle with "Rainbow" colour coding for finding the correct drive size quickly.
Supplied with:
66 7696/7698 – With wall bracket.

Cross-head size			00	0	1	2	3
61F 66 7690	Garant	Screwdriver for Phillips, with 2-component Haptoprene handle	XXX	XXX	XXX	XXX	XXX
61F 66 7693	Garant	Screwdriver for Pozidriv, with 2-component Haptoprene handle	–	XXX	XXX	XXX	XXX
63E 66 7695	PB SWISS TOOLS	Screwdriver for Phillips, with 2-component SwissGrip handle	–	XXX	XXX	XXX	XXX
63E 66 7697	PB SWISS TOOLS	Screwdriver for Pozidriv, with 2-component SwissGrip handle	–	XXX	XXX	XXX	XXX
63E 66 7685	PB SWISS TOOLS	Screwdriver for Phillips, with 2-component SwissGrip handle **ESD**	–	XXX	XXX	XXX	–
63E 66 7687	PB SWISS TOOLS	Screwdriver for Pozidriv, with 2-component SwissGrip handle **ESD**	–	–	XXX	XXX	–
for screw ∅		mm	–	up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2
Blade length		mm	40	60	80	100	150
overall length		mm	100	140	175	205	270
Hexagon collar for wrench assistance (66 7690, 66 7693)		mm	–	–	–	10	13

Number of screwdrivers			3	4
61F 66 7691	Garant	Screwdriver set for Phillips, with 2-component Haptoprene handle	XXX	–
61F 66 7694	Garant	Screwdriver set for Pozidriv, with 2-component Haptoprene handle	XXX	–
63E 66 7696	PB SWISS TOOLS	Screwdriver set for Phillips, with 2-component SwissGrip handle	–	XXX
63E 66 7698	PB SWISS TOOLS	Screwdriver set for Pozidriv, with 2-component SwissGrip handle	–	XXX
Content: 1 each screwdriver No. 667690 (66 7691)			Size 1; 2; 3	—
1 each screwdriver No. 667693 (66 7694)			Size 1; 2; 3	—
1 each screwdriver No. 667695 (66 7696)			—	Size 0; 1; 2; 3
1 each screwdriver No. 667697 (66 7698)			—	Size 0; 1; 2; 3

with 2-component power handle and stub blade

Power grip with easy-to-hold, easy-grip **Haptoprene** surface.

Cross-head size			0	1	2	3
61F 66 7720	Garant	Screwdriver for Phillips, short, with 2-component Haptoprene handle	XXX	XXX	XXX	XXX
61F 66 7725	Garant	Screwdriver for Pozidriv, short, with 2-component Haptoprene handle	–	XXX	XXX	–
for screw ∅		mm	up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2
Blade length		mm	25	30	35	40
overall length		mm	75	80	90	95

66 7690

66 7695

66 7697

66 7685

66 7691_3

66 7696

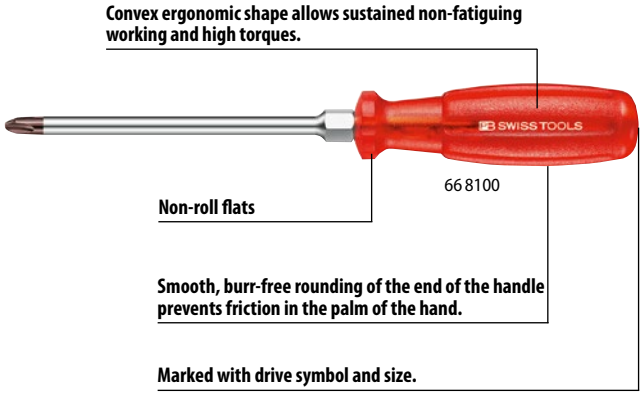
66 7720

66 7725

Screwdrivers for cross-head screws (Phillips, Pozidriv)

with „multicraft“ power grip

“multicraft” power grip of transparent, impact-resistant plastic (cadmium-free), particularly easy grip, even with oily hands. **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.



Cross-head size			0	1	2	3
63E 66 8100	PB SWISS TOOLS	Screwdriver for Phillips, with “multicraft” power grip	XXX	XXX	XXX	XXX
63E 66 8150	PB SWISS TOOLS	Screwdriver for Pozidriv, with “multicraft” power grip	XXX	XXX	XXX	XXX
for screw ∅	mm		up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2
Blade length	mm		60	80	100	150
overall length	mm		140	180	210	270
Hexagon collar for wrench assistance	mm		–	–	10	13

66 8150

Number of screwdrivers			3
63E 66 8110	PB SWISS TOOLS	Screwdriver set for Phillips, with “multicraft” power grip	XXX
63E 66 8160	PB SWISS TOOLS	Screwdriver set for Pozidriv, with “multicraft” power grip	XXX
Content: 1 each screwdriver No. 668100 (66 8110)			Size 1; 2; 3
1 each screwdriver No. 668150 (66 8160)			Size 1; 2; 3

66 8110_3

with cylindrical handle of impact resistant plastic

“Classic” power grip of transparent, impact-resistant plastic (cadmium-free). Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.

Size 0K–2K – Short version.

66 8000

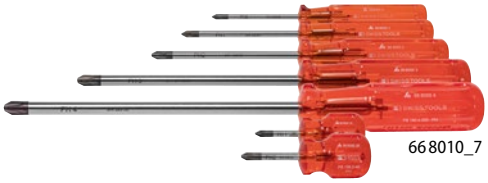
66 8200

66 8000_1K

66 8200_1K

Cross-head size			0	1	2	3	4	0K	1K	2K
63E 66 8000	PB SWISS TOOLS	Screwdriver for Phillips, with plastic handle	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
63E 66 8200	PB SWISS TOOLS	Screwdriver for Pozidriv, with plastic handle	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX
for screw ∅	mm		up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2	7.3 – 12.7	up to 2	2.1 – 3	3.1 – 5.2
Blade length	mm		60	80	100	150	200	30	30	40
overall length	mm		150	175	215	270	330	75	75	90

Number of screwdrivers			3	4	7
63E 66 8010	PB SWISS TOOLS	Screwdriver set for Phillips, with plastic handle	XXX	XXX	XXX
63E 66 8210	PB SWISS TOOLS	Screwdriver set for Pozidriv, with plastic handle	XXX	XXX	XXX
Content: 1 pc. each hexagon key L-wrench No. 668000			Size 1; 2; 3	Size 1; 2; 3; 4	Size 0; 1; 2; 3; 4; 1K; 2K


66 8010_7

with Kraftform handle, diamond-coated tips

Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm. **Blade** made of high hardness special steel with special toughness; **diamond-coated tips.** Nicromatt chrome-plated surface.

Very high wear resistance
and secure fit in the screw due to diamond coating.

Non-roll flats

Fast and ergonomic working due to the Kraftform handle.

High transfer of torque due to integral soft zones.

Marked with drive symbol and size on cap.

Cross-head size			0	1	2	3
63H 66 7700	Wera	Screwdriver for Phillips with Kraftform handle	XXX	XXX	XXX	XXX
63H 66 7800	Wera	Screwdriver for Pozidriv, with Kraftform handle	XXX	XXX	XXX	XXX
for screw ∅	mm		up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2
Blade length	mm		60	80	100	150
overall length	mm		141	178	205	262
Hexagon collar for wrench assistance	mm		–	8	10	13

Number of screwdrivers			3
63H 66 7710	Wera	Screwdriver set for Phillips with Kraftform handle	XXX
63H 66 7810	Wera	Screwdriver set for Pozidriv, with Kraftform handle	XXX
Content: 1 pc. each hexagon key L-wrench No. 667700			Size 1; 2; 3

66 7710

with cylindrical handle of impact resistant plastic – long blade

"Classic" power grip of transparent, impact-resistant plastic (cadmium-free). Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.

66 8050

Cross-head size / Blade length			1/130	1/200	2/150	2/250	2/300
63E 66 8050	PB SWISS TOOLS	Screwdriver for Phillips, long and with plastic handle	XXX	XXX	XXX	XXX	XXX
63E 66 8250	PB SWISS TOOLS	Screwdriver for Pozidriv, long and with plastic handle	XXX	–	XXX	–	XXX
Blade length	mm		130	200	150	250	300

with Kraftform handle – long blade

Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm. **Blade** of high-alloy special steel. Nicromatt chrome-plated surface, black tips or chemically nickel-coated Lasertip tips.

66 8040

Cross-head size / Blade length			1/200	1/300	2/200	2/300
63H 66 8040	Wera	Screwdriver for Phillips, long and with Kraftform handle	XXX	XXX	XXX	XXX
63H 66 8240	Wera	Screwdriver for Pozidriv, long and with Kraftform handle	XXX	XXX	XXX	XXX
Blade length	mm		200	300	200	300
Blade tip			Lasertip	black	Lasertip	black

with Kraftform handle and round steel blade

Kraftform handle made of impact resistant plastic **with integrated soft zones** facilitates torque transmission and thus protects hand and arm.

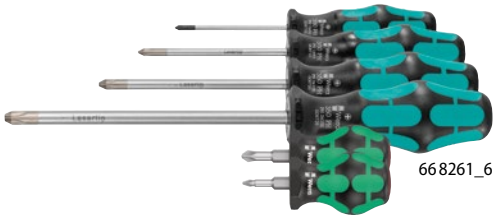
66 8260/8270 – **Wera Lasertip blade** made of high-alloy special steel with **micro-textured drive tip,** chemically nickel-plated**.** (Size 0; 1S; 2S without laser tip, with black drive tip).

66 8260_0

66 8270_1S

Cross-head size			0	1	2	3	1S	2S
63H 66 8260	Wera	Screwdriver for Phillips, with round steel blade	XXX	XXX	XXX	XXX	XXX	XXX
63H 66 8270	Wera	Screwdriver for Pozidriv, with round steel blade	XXX	XXX	XXX	XXX	XXX	XXX
for screw ∅	mm		up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2	2.1 – 3	3.1 – 5.2
Blade length	mm		60	80	100	150	25	25
overall length	mm		141	178	205	262	79	79
Blade tip			black	Lasertip	Lasertip	Lasertip	black	black

Number of screwdrivers			3	6
63H 66 8261	Wera	Screwdriver set for Phillips	XXX	XXX
63H 66 8271	Wera	Screwdriver set for Pozidriv	XXX	XXX
Supplied with: 1 each screwdriver No. 668260 (66 8261)			Size 1; 2; 3	Size 0; 1; 2; 3; 1S; 2S
1 each screwdriver No. 668270 (66 8271)			Size 1; 2; 3	Size 0; 1; 2; 3; 1S; 2S


66 8261_6

with Kraftform handle and stainless steel blade „Stainless“

S/STL

Kraftform handle made of impact resistant plastic **with integrated soft zones** facilitates torque transmission and thus protects hand and arm.
Wera Lasertip blade made of stainless steel with **micro-textured drive tip** (from size 1).

66 8280

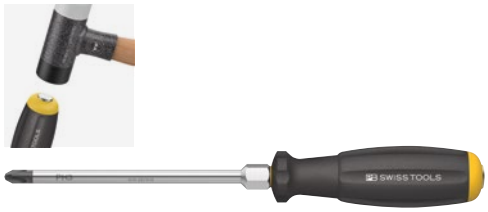
Cross-head size			0	1	2	3
63H 66 8280	Wera	“Stainless” screwdriver for Phillips,with stainless steel blade	XXX	XXX	XXX	XXX
63H 66 8290	Wera	“Stainless” screwdriver for Pozidriv, with stainless steel blade	XXX	XXX	XXX	XXX
for screw ∅	mm		up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2
Blade length	mm		60	80	100	150
overall length	mm		141	178	205	262

Number of screwdrivers			3
63H 66 8285	Wera	“Stainless” screwdriver set for Phillips, with stainless steel blade	XXX
63H 66 8295	Wera	“Stainless” screwdriver set for Posidriv, with stainless steel blade	XXX
Supplied with: 1 each screwdriver No. 668280 (66 8285)			Size 1; 2; 3
1 each screwdriver No. 668290 (66 8295)			Size 1; 2; 3

66 8285

with 2-component SwissGrip handle, through blade and impact head

SwissGrip-power grip with non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. Optimum shock absorption for the hand guiding the tool. Handle neck tapers including collar for a secure hold. Through blade with impact head of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated.
With hexagon collar for wrench assistance.



66 8320

Cross-head size			1	2	3
63E 66 8320	PB SWISS TOOLS	Screwdriver for Phillips, with 2-component SwissGrip handle **with impact head**	XXX	XXX	XXX
for screw ∅	mm		2.1 – 3	3.1 – 5.2	5.3 – 7.2
Blade length	mm		80	100	150
overall length	mm		180	210	270
Hexagon collar for wrench assistance	mm		8	10	13

Number of screwdrivers			3
63E 66 8325	PB SWISS TOOLS	Screwdriver set for Phillips, with 2-component Swiss-Grip handle **with impact head**	XXX
Supplied with: 1 each screwdriver No. 668320			Size 1; 2; 3

66 8325

with Kraftform handle, through hexagon blade, and impact cap

Kraftform handle made of high-impact plastic with **integral soft zones** (except size 4) and **impact cap. Hexagon blade** made of tough special steel **through to end of handle**, hexagon collar for wrench assistance. Nicromatt chrome-plated surface, black tips.

66 8300_3

Cross-head size			1	2	3	4
63H 66 8300	Wera	Screwdriver for Phillips **with impact cap**	XXX	XXX	XXX	XXX
63H 66 8305	Wera	Screwdriver for Pozidriv **with impact cap**	XXX	XXX	XXX	XXX
for screw ∅	mm		2.1 – 3	3.1 – 5.2	5.3 – 7.2	7.3 – 12.7
Blade length	mm		80	100	150	200
overall length	mm		178	205	262	317
Hexagon collar for wrench assistance	mm		8	10	13	16

Number of screwdrivers			3	4
63H 66 8310	Wera	Screwdriver set for Phillips **with impact cap**	XXX	XXX
63H 66 8315	Wera	Screwdriver set for Pozidriv **with impact cap**	XXX	XXX
Supplied with: 1 each screwdriver No. 668300 (66 8310)			Size 1; 2; 3	Size 1; 2; 3; 4
1 each screwdriver No. 668305 (66 8315)			Size 1; 2; 3	Size 1; 2; 3; 4

66 8310_4

with cylindrical handle of hardwood and round steel blade

Handle of sealed beechwood, with leather impact cap. Blade through to end of handle. Blade of chrome vanadium steel, through hardened, with hexagon collar for wrench assistance, bright nickel-plated.

66 8450

Cross-head size			1	2	3	4
62F 66 8450	HOLEX	Screwdriver for Phillips, with wooden handle	XXX	XXX	XXX	XXX
for screw ∅	mm		2.1 – 3	3.1 – 5.2	5.3 – 7.2	7.3 – 12.7
Blade length	mm		80	100	150	200
overall length	mm		177	205	269	334
Hexagon collar for wrench assistance	mm		8	10	13	17

66 8460_4

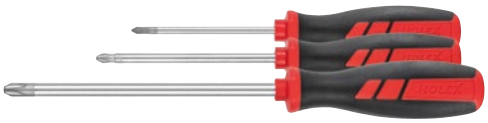
Number of screwdrivers			3	4
62F 66 8460	HOLEX	Screwdriver set for Phillips, with wooden handle	XXX	XXX
Supplied with: 1 each screwdriver No. 668450			Size 1; 2; 3	Size 1; 2; 3; 4

with multi-component power grip

Multi-component power handle with grip zone optimised for torque and comfort. Blade of chrome vanadium steel, surface chrome-plated. Chrom-Top tips for optimum rust protection.

66 8401

Cross-head size			0	1	2	3	4
62F 66 8401	HOLEX	Screwdriver for Phillips, with power grip	XXX	XXX	XXX	XXX	XXX
62F 66 8501	HOLEX	Screwdriver for Pozidriv, with power grip	XXX	XXX	XXX	XXX	–
for screw ∅	mm		up to 2	2.1 - 3	3.1 - 5.2	5.3 - 7.2	7.3 - 12.7
Blade length	mm		60	80	100	150	200
overall length	mm		147	187	207	270	320



66 8411_3

Number of screwdrivers			3	5
62F 66 8411	HOLEX	Screwdriver set for Phillips, with power grip	XXX	XXX
62F 66 8511	HOLEX	Screwdriver set for Pozidriv, with power grip	XXX	–
Supplied with: 1 pc. each screwdriver No. 668401 (66 8411)			Size 1; 2; 3	Size 0; 1; 2; 3; 4
1 pc. each screwdriver No. 668501 (66 8511)			Size 1; 2; 3	–

with multi-component power handle and stub blade

Multi-component power grip. Blade of chrome vanadium steel, surface chrome-plated. Chrom-Top tips for optimum rust protection.

66 8471

66 8476

Cross-head size			1	2
62F 66 8471	HOLEX	Screwdriver for Phillips, short	XXX	XXX
62F 66 8476	HOLEX	Screwdriver for Pozidriv, short	XXX	XXX
for screw ∅	mm		2.1 - 3	3.1 - 5.2
Blade length	mm		25	
overall length	mm		82	

Electrician's screwdriver for cross-head screws (Phillips, Pozidriv)

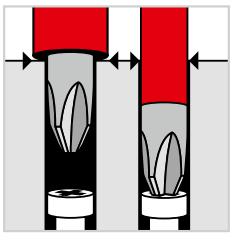
Handle and blade **fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.** Each of these screwdrivers is individually tested in a water bath for insulation breakdown under high voltage.

Application: For use at voltages up to 1000 V.

with Classic 2-component handle, fully insulated

Slim handle with a non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. Due to its special surface structure, grip is non-slip even in oily or wet hands
Blade of PB Swiss Tools special alloy combining maximum hardness and exceptional toughness.

66 8372/8382 – **Reduced blade Ø with integral protective insulation** for deep-lying screws of spring elements (blade Ø = insulation Ø near the tip of the blade).

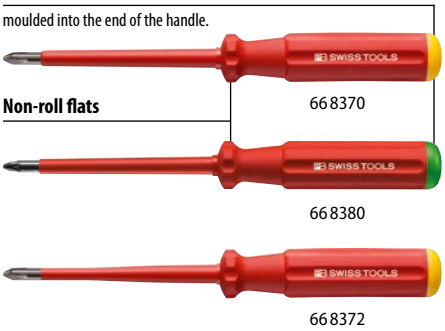


Cross-head size			1	2	3
63E 66 8370	PB SWISS TOOLS	Screwdriver for Phillips, Classic **fully insulated**	XXX	XXX	XXX
63E 66 8380		Screwdriver for Pozidriv, Classic **fully insulated**	XXX	XXX	XXX
63E 66 8372		Slim screwdriver for Phillips, Classic **fully insulated**	XXX	XXX	–
63E 66 8382		Slim screwdriver Pozidriv, Classic **fully insulated**	XXX	XXX	–
for screw Ø	mm		2.1 – 3	3.1 – 5.2	5.3 – 7.2
Blade length	mm		80	100	150
overall length	mm		175	205	270

Number of screwdrivers		3
63E 66 8371	Screwdriver set for Phillips, Classic **fully insulated**	XXX
63E 66 8381	Screwdriver set for Pozidriv, Classic **fully insulated**	XXX
Supplied with: 1 each screwdriver No. 668370 (66 8371)		Size 1; 2; 3
1 each screwdriver No. 668380 (66 8381)		Size 1; 2; 3

Identification
moulded into the end of the handle.

Non-roll flats

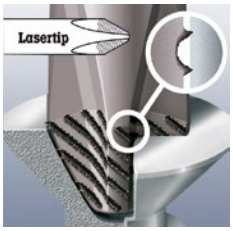


with Kraftform handle, fully insulated

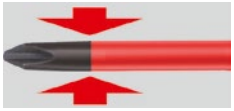
Kraftform handle made of impact resistant plastic **with integral soft zones** facilitates torque transmission and thus protects hand and arm.

66 8600/8700/8610/8710 – **Blade** of high-alloy special steel. Nicromatt chrome-plated surface, black tips or chemically nickel-coated Lasertip tips.

66 8620/8720 – Blade made of high-alloy special steel, zinc phosphated.
Reduced blade Ø with integral protective insulation for deep-lying screws of spring elements (blade Ø = insulation Ø near the tip of the blade).



Cross-head size			0	1	2	3	4
63H 66 8600	Wera	Screwdriver for Phillips with Kraftform handle **fully insulated**	XXX	XXX	XXX	XXX	XXX
63H 66 8700		Screwdriver for Pozidriv, with Kraftform handle **fully insulated**	XXX	XXX	XXX	XXX	XXX
63H 66 8620		Screwdriver for Phillips, reduced blade Ø, with Kraftform handle **fully insulated**	–	XXX	XXX	–	–
63H 66 8720		Screwdriver for Pozidriv, reduced blade Ø, with Kraftform handle **fully insulated**	–	XXX	XXX	–	–
for screw Ø	mm		up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2	7.3 – 12.7
Blade length	mm		80	80	100	150	200
overall length	mm		161	178	205	262	312
Blade tip (66 8600, 66 8700)			black	Lasertip	Lasertip	Lasertip	black



Insulation Ø matches the blade Ø near the tip of the blade.

Number of screwdrivers			3	4	5
63H 66 8610	Wera	Screwdriver set for Phillips with Kraftform handle **fully insulated**	XXX	XXX	XXX
63H 66 8710	Wera	Screwdriver set for Pozidriv, with Kraft-form handle **fully insulated**	XXX	XXX	XXX
Supplied with: 1 each screwdriver No. 668600 (66 8610)			Size 1; 2; 3	Size 1; 2; 3; 4	Size 0; 1; 2; 3; 4
1 each screwdriver No. 668700 (66 8710)			Size 1; 2; 3	Size 1; 2; 3; 4	Size 0; 1; 2; 3; 4

66 8610_3

HOLEX Electrician's screwdriver for cross-head screws (Phillips, Pozidriv)

Handle and blade **fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**
Multi-component power handle with grip zone optimised for torque and comfort. **Blade** of high-alloy tool steel.

Application: For use at voltages up to 1000 V.

with multi-component power grip, fully insulated

Cross-head size			0	1	2	3	4
62F 66 8631		Screwdriver for Phillips **fully insulated**	XXX	XXX	XXX	XXX	XXX
62F 66 8731		Screwdriver for Pozidriv screws **fully insulated**	XXX	XXX	XXX	XXX	–
for screw ∅	mm		up to 2	2.1 – 3	3.1 – 5.2	5.3 – 7.2	7.3 – 12.7
Blade length	mm		60	80	100	150	200
overall length	mm		147	187	207	270	320

66 8631

Number of screwdrivers			3	4	5
62F 66 8641		Screwdriver set for Phillips **fully insulated**	XXX	XXX	XXX
62F 66 8741		Screwdriver set for Pozidriv **fully insulated**	XXX	–	–
Supplied with: 1 each screwdriver No. 668631 (66 8641)			Size 1; 2; 3	Size 1; 2; 3; 4	Size 0; 1; 2; 3; 4
1 each screwdriver No. 668731 (66 8741)			Size 1; 2; 3	–	–

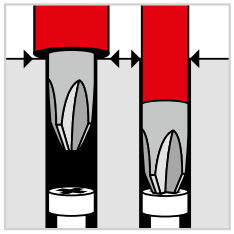
66 8641_3

PB SWISS TOOLS Electrician's screwdriver for PlusMinus screws

Handle and blade **fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.** Each of these screwdrivers is individually tested in a water bath for insulation breakdown under high voltage.
Slim handle with a non-allergenic elastomer coating and a core of particularly tough and impact-resistant polypropylene. Due to its special surface structure, the grip is non-slip even with oily or wet hands.
Blade of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness.

66 8392 – **Reduced blade ∅ with integral protective insulation** for deep-lying screws and spring elements (blade ∅ = insulation ∅ near the tip of the blade).

Application: For use at voltages up to 1000 V.
The screwdriver drive tip fits perfectly into the **PlusMinus screws (combination Pozidriv / slot-head)**, which are primarily used in electrical installation components.



66 8390

66 8392

Profile size			1	2
63E 66 8390		Screwdriver for PlusMinus screws, Classic **fully insulated**	XXX	XXX
63E 66 8392		Slim screwdriver for PlusMinus screws, Classic **fully insulated**	XXX	XXX
Profile Pozidriv – slot head			1 – 0.7×4.5	2 – 1.0×6
Blade length	mm		80	100
overall length	mm		175	205

Detail view:
Drive tip fits perfectly into the PlusMinus screw.

Electronics screwdrivers for cross-head screws (Phillips, Pozidriv)

Ergonomic multi-component handle with rotating cap.
66 8800/8850/9905/9910 – **Blade** of high-quality tool steel, surface matt chrome-plated, black tip.
66 8891/8895 – **Blade** of PB Swiss Tools special alloy combines maximum hardness with exceptional toughness. Surface nickel-plated and chrome-plated, black tip.
66 8895–9910 – Tool handle made of conductive plastic, **suitable for ESDs.**

66 8891_0

66 8895_0

66 8800_1

66 9905_0

66 8850_1

66 9910_0

Cross-head size			00	0	1
63E 66 8891	PB SWISS TOOLS	Electronics screwdriver for Phillips	XXX	XXX	XXX
63E 66 8895	PB SWISS TOOLS	Electronics screwdriver for Phillips **ESD**	XXX	XXX	XXX
63H 66 8800	Wera	Electronics screwdriver for Phillips **Kraftform Micro**	XXX	XXX	XXX
63H 66 9905	Wera	Electronics screwdriver for Phillips **ESD**	XXX	XXX	XXX
63H 66 8850	Wera	Electronics screwdriver for Pozidriv **Kraftform Micro**	–	XXX	XXX
63H 66 9910	Wera	Electronics screwdriver for Pozidriv **ESD**	–	XXX	–
for screw ∅ (66 9905, 66 9910)	mm		up to 2	up to 2	2.1 – 3
Blade length	mm		60	60	80
overall length (66 8891, 66 8895)	mm		153	153	173
overall length (66 8800, 66 9905, 66 8850, 66 9910)	mm		157	157	177

PB SWISS TOOLS Offset screwdrivers for cross-head screws (Phillips)

Two tips angled 90°. PB Swiss Tools special alloy, surface nickel-plated and chrome-plated.
Black tips. Knurled shank for a secure hold in wet or oily environments.
Screwdriver tips are offset at 45° to each other.
For screws with Phillips cross-head.

66 9400

Cross-head size			1	2	3
63E 66 9400	Offset screwdriver for Phillips		XXX	XXX	XXX
for screw ∅	mm		2.1 – 3	3.1 – 5.2	5.3 – 7.2
overall length	mm		100	125	150

ESD – four golden rules

1. Always assume that **all active devices are ESD sensitive**.
2. Handle electronic devices **only in electrostatic protected areas (EPA)** and only if they are **properly grounded**.
3. **Store and transport** ESD sensitive devices in ESD protected containers.
4. **Check** the ESD protection system regularly.

Follow the principle
"Where there is no charge, there can be no discharge".

Making as few movements as possible and using ESD safe equipment keeps the risk of static charge caused by personnel to a minimum.

More about the basics of electrostatic charges and discharge can be found under:

http://ho7.eu/esd1

Symbol for a component that requires ESD protection

Warning symbol for ESD sensitive devices

Wera Screwdrivers for TRI-WING® screws

Kraftform handle made of impact resistant plastic with integral soft zones for easier transmission of torque. **Blade** made of high alloy tool steel, nicromatt chrome-plated, black tips. Drive symbol and size on end of handle.

Suitable for: For all screws in the TRI-WING® system, which is mainly used in the household goods production, electrical and aviation industries.

66 9040

TRI-WING® profile		0	1	2	3
63H 66 9040	Screwdriver for TRI-WING®	XXX	XXX	XXX	XXX
Blade length	mm	80			
overall length	mm	161	161	178	178

Number of screwdrivers		4
63H 66 9050	Screwdriver set for TRI-WING®	XXX
Supplied with: 1 each screwdriver No. 669040		Size 0; 1; 2; 3

66 9050

PB SWISS TOOLS Precision screwdriver set

Precision handle made of easy-grip plastic with rotating centring head, clamping mechanism with union nut for fixing the bits at the desired length (telescopic blades). **Blades** of PB Swiss Tools special alloy combining maximum hardness with exceptional toughness. Very high precision tips. Surface nickel-plated and chrome-plated, black tips. Supplied in a plastic tool roll.

66 9610 – Tool handle made of conductive plastic, **suitable for ESDs.**

Telescopic blades

66 9600

66 9610

Number of pieces		7
63E 66 9600	Precision screwdriver set	XXX
63E 66 9610	Precision screwdriver set **ESD**	XXX
Content: Plastic telescopic handle		1 pc.
2 blades for Torx® No. 669607		TX6 / TX7; TX8 / TX9
2 blades for hex. socket No. 669606		1.5 / 2; 2.5 / 3
2 blades for slot-head / Phillips No. 669605		2×0.3 / 00; 2.5×0.4 / 0

PB SWISS TOOLS Interchangeable blade for telescopic handles and ESD torque screwdrivers

Suitable for: Precision screwdriver set No. 669600 and 669610, torque set No. 659912 50 and 659919.

Type		1	2	3
63E 66 9605	Blade for slot-head and Phillips screws	XXX	XXX	XXX
Blade width	mm	2	2.5	3.5
Cross-head size		00	0	1
Blade ∅	mm	3.5		
overall length	mm	120		

66 9605

Type		1	2
63E 66 9606	Blade for hexagon socket head screws	XXX	XXX
Hexagon	mm	1.5 / 2	2.5 / 3
Blade ∅	mm	3.5	
overall length	mm	120	

66 9606

Type		1	2
63E 66 9607	Blade for Torx® screws	XXX	XXX
Torx® profile		TX6 / TX7	TX8 / TX9
Blade ∅	mm	3.5	
overall length	mm	120	

66 9607

Type		1
63E 66 9608	Blade for Pozidriv screws	XXX
Cross-head size		PZ0 / PZ1
Blade ∅	mm	3.5
overall length	mm	120

66 9608

Garant Screwdriver set in a wallet

Companion for precision work, in a synthetic leather wallet.

66 9620

61F **66 9620**	Screwdriver set	XXX
Content:		
⊕ Screwdriver for Phillips No. 667690		Size 00, length 100 mm
⊖ Slot-head screwdriver No. 660030		Size 2, length 100 mm

HOLEX Watchmaker's screwdriver

End of handle with rotating hexagonal head allowing precision work.

66 9305 – With plastic handle.

66 9005–9205 – Corrosion-resistant aluminium handle, with fixed pressed-in blade.

Material: Bits made of special steel.

66 9005

Blade width b	mm	1	1,5	1,8	2,3	3,0	3,5
⊖ 62F **66 9005**	Watchmaker's screwdriver for slot head	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	80	84	100	110	112	112

66 9015

Cross-head size		0	1
⊕ 62F **66 9015**	Watchmaker's screwdriver for Phillips	XXX	XXX
overall length	mm	112	

66 9205

66 9305

Number of pieces		5	6	**Content:** 1 pc. each watchmaker's screwdriver, slot head
⊖ 62F **66 9205**	Watchmaker's screwdriver set, 6 pieces **with aluminium handle in a wooden case**	–	XXX	1 pc. each 1; 1.5; 1.8; 2.3; 3.0; 3.5 mm
⊖ 62F **66 9305**	Watchmaker's screwdriver set, 5 pieces **with plastic handle in a wooden case**	XXX	–	1 pc. each 1; 1.5; 1.8; 2.3; 3.0 mm

HOLEX Watchmaker's screwdriver with collet chuck and 4 bits

Ribbed brass handle, nickel-plated with collet chuck for bit retention. Rotating end of handle. Hollow handle for storage of bits.

Material: Bits made of chrome vanadium steel, brass handle, nickel-plated.

66 9500

⊖ 62F **66 9500**	Watchmaker's screwdriver for slot head **with 4 blades.**	XXX
overall length	mm	120
Content:		4 blades; 1.5; 2; 2.5; 3 mm

HOLEX Jeweller's screwdriver set in a plastic case

Short, slim, ribbed steel handle, chrome-plated, with fixed pressed-in bit.
The end of the handle has a rotating hexagonal head.
Handles more slim and shorter than for No. 669005 – 669205.
These screwdrivers are availably only as a set.

Material: Bits made of special steel.

66 9800

			Content:
62F 66 9700	Watchmaker's screwdriver set, 6 pieces **for slot-head screws**	XXX	1 pc. each 0.9; 1.2; 1.8; 2.3; 3.0; 3.5 mm
62F 66 9800	Watchmaker's screwdriver set, 6 pieces **For slot-head and Phillips**	XXX	1 pc. each for slot-head 1.4; 1.8; 2.3; 3.0 mm + Phillips size 0 + 1

Wera Electronics screwdrivers Kraftform Micro with halfmoon blades

Ergonomically designed multi-component handle with **rotating cap, quick-spinning zone** for efficient screwdriving and **power zone.** With **quick-change chuck** to take 4 mm half-moon bit blades (No. 669932 to 669936) and 4 mm HIOS bit blades. Blades made of high-quality tool steel.

66 9930 – Tool handle made of conductive plastic, **suitable for ESD components**.

Application:

66 9930 – For work on electronic components in areas where there is a static electricity hazard.

Size 21 – Specially suited to Japanese screw profiles.

66 9630_11

66 9930_21

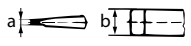
Number of pieces		11	20	21
63H 66 9630	Screwdriver set Micro-electronics in a textile wallet	XXX	–	–
63H 66 9930	Screwdriver set Micro-electronics in a textile wallet **ESD**	–	XXX	XXX
Content: Screwdriver holder		1 pc.	1 pc. No. 669931	1 piece
Slot-head blades No. 669932		1 each size 1.5; 2; 3	1 each size 1.5; 2; 3	1 each size 1.5; 2.5
Blades for Phillips No. 669933		1 each size 00; 0; 1	1 each size 00; 0; 1	1 each size 000; 00; 0
Hexagon blades No. 669934		1 each size 1.5; 2	1 each size 1.5; 2	–
Nut driver blade (66 9930)		–	–	1 pc. size 2.5
Blades for Torx® No. 669935		1 each size TX5; TX6	1 each size TX1; TX2; TX3; TX4; TX5; TX6	1 each size TX1; TX2; TX3; TX4; TX5
Blades for Torx Plus® No. 669936 (66 9930)		–	1 each size 1IP; 2IP; 3IP; 4IP	1 each size 1IP; 2IP; 3IP; 4IP
Blades for Torx Plus® IPR with hole (66 9930)		–	1 pc. size 1IPR	1 pc. size 1IPR
Microstix blades (66 9930)		–	–	1 each size m; 00; F; 0

Bit

Blade made of high quality tool steel.

Suitable for: Screwdriver holder No. 66 9931.

Note: See under 669933 – 669936 for further bits.



66 9932

66 9935

Blade width b	mm	1,5	2	3
63H 66 9932 Slot-head blade halfmoon, 4 mm		XXX	XXX	XXX
Cutter thickness	mm	0.23	0.4	0.5
Blade ∅	mm	1.5	2	3
Blade length	mm		20	
overall length	mm		44	

Torx® profile		TX1	TX2	TX3	TX4	TX5	TX6	TX7	TX8	TX10
63H 66 9935 Blade for Torx® halfmoon, 4 mm		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Torx® profile		TX1	TX2	TX3	TX4	TX5	TX6	TX7	TX8	TX10
Blade ∅	mm	1.5	1.5	1.7	1.8	3	3	2.3	3	3
Blade length	mm	20	20	20	20	30	30	33	20	20
overall length	mm	44	44	44	44	44	44	64	64	70

Koken Impact driver set in a sheet metal box

Solid handle with hexagon socket for holding interchangeable bits.
Reversible, for right-hand and left-hand threads. Bit holder (5/16 inch) removable, allowing sockets with 1/2 inch square drive to be used without adaptor.
For suitable spare bits see No. 675400 – 675470.

Application: The best tool for loosening tight screws with one hammer action or for tightening screws exceptionally well.

67 3000

Set contents		5
63R **67 3000**	Impact driver set in a sheet metal box	XXX
Content: Holder with bit adaptor similar to No. 676800		1 pc. size 2/16
Slot-head blades		9; 11 mm
Blades for Phillips		Size 2; 3

D 6.3

Wera Adapter for Impaktor bits (2-component system)

For absorbing extreme peak loads when used in IMPACT screwdrivers.
When used in combination with IMPAKTOR bits, the integral double torsion spring creates the first Tri-Torsion system in the world. It provides working lives up to 10 times longer than standard bits. Shank machine E 6.3 (1/4 inch), bit holder to DIN 3126 D 6.3 (1/4 inch).

Size 6,3 – Made of stainless steel with snap ring and magnet.
Size 6,3R – With snap ring and **ring magnet sleeve** – holds screws reliably.

67 4100_6.3R

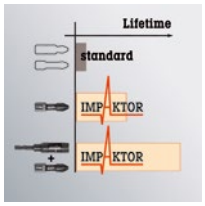
67 4100_6.3

Hexagon shank	mm	6,3	6,3R
63H **67 4100**	IMPAKTOR adapter for IMPAKTOR bits C 6.3	XXX	XXX
overall length	mm	75	

Wera Bit for IMPACT screwdrivers

Selected steel quality, hardening technique, production process, and special geometries lead to outstanding results with IMPACT screwdrivers. In connection with the diamond coating (significantly reduces cam-out forces) and the torsion zone, working lives up to 5 times **longer** than standard bits are achieved.

Application: Due to their rotational impact function, IMPACT screwdrivers generate a number of peak forces, which "normal bits" cannot withstand over the long term. IMPAKTOR bits are specially designed for use in impact screwdrivers and, depending on the drive, increase the working life of the bits to several times the life of conventional standard bits.



TAKE IT EASY TOOL FINDER

Bit 25 mm long, C 6.3

Cross-head size		2	3	
63H **67 4110**	IMPAKTOR bit for Phillips, 1/4 inch C 6.3	XXX	XXX	10
63H **67 4112**	IMPAKTOR bit for Pozidriv, 1/4 inch C 6.3	XXX	XXX	10
overall length	mm	25		

Hexagon	mm	4	5	6	
63H **67 4115**	IMPAKTOR bit for hexagon, 1/4 inch C 6.3	XXX	XXX	XXX	10
overall length	mm	25			

Torx® profile		TX20	TX25	TX30	TX40	
63H **67 4117**	IMPAKTOR bit for Torx®, 1/4 inch C 6.3	XXX	XXX	XXX	XXX	10
overall length	mm	25				

67 4110

67 4112

67 4115

Hex-Plus

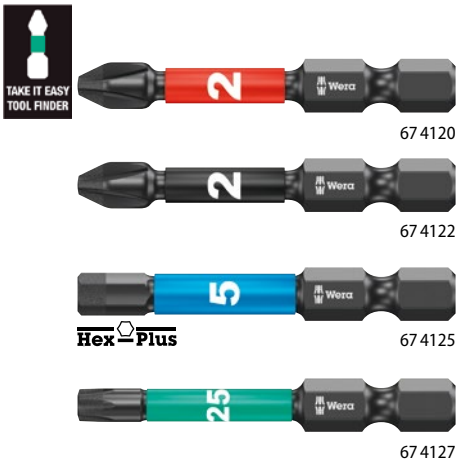
67 4117

Bit 50 mm long, E 6.3

			Cross-head size	2	3	
⊕	63H	67 4120	IMPAKTOR bit for Phillips, 1/4 inch E 6.3	XXX	XXX	5
⊕	63H	67 4122	IMPAKTOR bit for Pozidriv, 1/4 inch E 6.3	XXX	XXX	5
			overall length mm	50		

			Hexagon mm	4	5	6	
⬢	63H	67 4125	IMPAKTOR bit for hexagon, 1/4 inch E 6.3	XXX	XXX	XXX	5
			overall length mm	50			

			Torx® profile	TX20	TX25	TX30	TX40	
✱	63H	67 4127	IMPAKTOR bit for Torx®, 1/4 inch E 6.3	XXX	XXX	XXX	XXX	5
			overall length mm	50				



67 4120
67 4122
67 4125
67 4127

Bit set

⊕ ⬢	63H	67 4131	IMPAKTOR bits set for IMPACT screwdrivers, 10 pieces	XXX
			Content: IMPAKTOR bits, C 6.3, for Phillips	No. 674110 3 pcs. size 2; 1 pc. size 3
			IMPAKTOR bits, C 6.3, for internal Torx®	No. 674117 3 pcs. size TX25, 1 pc. each size TX30, TX40
			1 IMPAKTOR adapter	No. 674100 size 6.3R with ring magnet

67 4131

⊕ ⬢ ✱	63H	67 4136	IMPAKTOR bits set for IMPACT screwdrivers, 30 pieces	XXX
			Content: IMPAKTOR bits, C 6.3, for Phillips	No. 674110 2 pcs. size 1; 3 pcs. size 2; 2 pcs. size 3
			IMPAKTOR bits, C 6.3, for Pozidriv	No. 674112 2 pcs. size 1; 3 pcs. size 2; 2 pcs. size 3
			IMPAKTOR bits, C 6.3, for hex socket	No. 674115 1 pc. size 3; 4; 5; 6
			IMPAKTOR bits, C 6.3, for internal Torx®	No. 674117 1 pc. size TX10; TX15; 2 pcs. size TX20; 3 pcs. size TX25; 2 pcs. size TX30; TX40
			1 IMPAKTOR adapter	No. 674100 size 6.3R with ring magnet

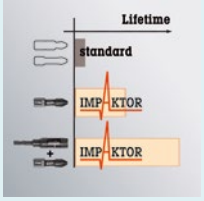
67 4136

⊕ ⊕ ✱	63H	67 4141	IMPAKTOR bits set for IMPACT screwdrivers, 6 pieces	XXX
			Content: IMPAKTOR bits, E 6.3, for Phillips	No. 674120 1 pc. size 2; 3
			IMPAKTOR bits, E 6.3, for Pozidriv	No. 674122 1 pc. size 2; 3
			IMPAKTOR bits, E 6.3, for internal Torx®	No. 674127 1 pc. size TX25; TX30

67 4141

Wera Impactor technology

Impactor technology ensures above-average tool life under extreme conditions.
Increased frictional resistance due to diamond particle coating on the bit tips prevents cam-out from the screw.
Especially suitable for use with commercially available impact drivers / wrenches.



wiha Set of TY® bits

The TY® bits are 29 mm long. The additional length of 4 mm compared to 25 mm bits provides a longer torsion zone, resulting in longer working life. Ideal for high-powered power drills and impact screwdrivers. Bits are stored in the BitBuddy® plastic holder, allowing easy one-handed change of the bit directly from the holder into the screwdriver.

Advantage: The coloured bits can be found quickly and easily, and thanks to the fluorescent coating can be found even **in the dark using UV light**.

Note: A suitable LED / UV torch can be found under No. 081518 UV-LED.

67 4161_8

67 4163_8

Number of pieces		8
63K 67 4161	TY® bits set, 8 pieces **29 mm C 6.3**	XXX
Content: Bits, C 6.3, for internal Torx®		1 pc. each size TX10; TX15; TX25; TX30; TX40 2 pcs. size TX20
Adapter		1 pc.

Number of pieces		8
63K 67 4163	TY® bits set, 8 pieces **29 mm C 6.3**	XXX
Content: Bits, C 6.3, for Phillips		1 pc. PH2
Bits, C 6.3, for Pozidriv		1 pc. each size PZ1; PZ2; PZ3
Bits, C 6.3, for internal Torx®		1 pc. each size TX15; TX20; TX25
Adapter		1 pc.

Screwdriver blade for power screwdrivers

Single piece, i.e. shank and tip of one piece. Shanks for direct fitting in electric screwdrivers.

Standard: **DIN ISO 1173**

Material: High-tensile special steel combining maximum hardness and special toughness.

Application: For Phillips cross-head screws DIN 3128.

67 4205

Cross-head size / overall length	mm	1	1/95	2	2/95	3	3/95	
63E 67 4205 PB SWISS TOOLS PrecisionBit for Phillips, shank E 6.3		XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm	50	95	50	95	50	95	

From size 3/89 with hexagonal blade through to the end of the handle.

Material: Chrome vanadium special alloy, high strength.

Application: For Phillips cross-head screws DIN 3128.

67 4200

Cross-head size / overall length	mm	1	1/89	1/152	2	2/89	2/152	3	3/89	3/152	
63H 67 4200 Wera Blade for Phillips, shank E 6,3		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm	50	89	152	50	89	152	50	89	152	

Material: High-tensile special steel combining maximum hardness and special toughness.

Application: For Pozidriv cross-head screws DIN 3128.

67 4225

Cross-head size / overall length	mm	1	1/95	2	2/95	3	3/95	
63E 67 4225 PB SWISS TOOLS PrecisionBit for Pozidriv, shank E 6.3		XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm	50	95	50	95	50	95	

From size 3/89 with hexagonal blade through to the end of the handle.

Material: Chrome vanadium special alloy, high strength.

Application: For Pozidriv cross-head screws DIN 3128.

67 4220

Cross-head size / overall length	mm	1	1/89	1/152	2	2/89	2/152	3	3/89	3/152	
63H 67 4220 Wera Blade for Pozidriv, shank E 6.3		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm	50	89	152	50	89	152	50	89	152	

67 4235

Material: High-tensile special steel combining maximum hardness and special toughness.
Application: For combination screws (combination of slot-head and Pozidriv profile).

Profile size / overall length		mm	1	1/95	2	2/95	
63E 67 4235	PB SWISS TOOLS	PrecisionBit for combination profile, shank E 6.3	XXX	XXX	XXX	XXX	10
overall length		mm	50	95	50	95	

67 4242

Material:
67 4240 – Chrome vanadium special alloy, high strength.
67 4242 – High-tensile special steel combining maximum hardness and special toughness.
Application: For hexagon socket head screws DIN 7426.

67 4240

Hexagon		mm	1,5	2	2,5	3	4	5	6	8	10	
63E 67 4242	PB SWISS TOOLS	PrecisionBit for hex, shank E 6.3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
63H 67 4240	Wera	Blade for hexagon, shank E 6.3 **Hex-plus profile**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	10
overall length		mm	50									

With ball point and MagicRing® retaining spring for reliable retention of the socket head screw.
Material: Chrome vanadium special alloy, high strength.
Application: For hexagon socket head screws DIN 7426.

67 4243

Hexagon		mm	3	4	5	6	
63K 67 4243	wiha	Blade for hexagon, shank E 6.3 **with ball point / MagicRing®**	XXX	XXX	XXX	XXX	5
overall length		mm	50				

With centre hole for socket head screws with a tamper-proof pin.
Material: Chrome vanadium special alloy, high strength.
Application: For hexagon socket head screws DIN 7426.

67 4244

Hexagon		mm	2	2,5	3	4	5	6	
63H 67 4244	Wera	Blade for hexagon, long, shank E 6.3 **Hex-Plus profile with bore**	XXX	XXX	XXX	XXX	XXX	XXX	5
overall length		mm	89						

From size 6/89 with hexagonal blade through to the end of the handle.
Material: Chrome vanadium special alloy, high strength.
Application: For hexagon socket head screws DIN 7426.

67 4247

Hexagon / overall length		mm	3/89	4/89	4/152	5/89	5/152	6/89	6/152	
63H 67 4247	Wera	Blade for hexagon, long, shank E 6.3 **Hex-plus profile**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length		mm	89	89	152	89	152	89	152	

Material: Chrome vanadium special alloy, high strength.
Application: For square socket screws.

67 4246

Square size			0	1	2	
63H 67 4246	Wera	Square blade "Robertson" shank E 6.3	XXX	XXX	XXX	10
overall length		mm	50			

67 4245 Size TX40 – With hexagonal blade through to the end of the handle.
Material:
67 4245 – Chrome vanadium special alloy, high strength.
67 4248 – High-tensile special steel combining maximum hardness and special toughness.
Application: For screws with Torx® profile.

67 4248

67 4245

Torx® profile			TX5	TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25	TX30	TX40	
63E 67 4248	PB SWISS TOOLS	PrecisionBit for Torx®, shank E 6.3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
63H 67 4245	Wera	Blade for Torx®, shank E 6.3	–	–	–	–	–	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm		50											

Material: High-tensile special steel combining maximum hardness and special toughness.
Application: For screws with Torx® profile.

67 4249

Torx® profile / overall length	mm		TX10/95	TX15/95	TX20/95	TX25/95	TX30/95	TX40/95	
63E 67 4249	PB SWISS TOOLS	PrecisionBit for Torx®, long, shank E 6.3	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm		95						

From size TX40 with hexagonal blade through to the end of the handle.
Material: Chrome vanadium special alloy, high strength.
Application: For screws with Torx® profile.

67 4250

Torx® profile / overall length	mm		TX6	TX8	TX10	TX10/89	TX10/152	TX15	TX15/89	TX15/152	TX20	TX20/89	
63H 67 4250	Wera	Blade for Torx®, long, shank E 6.3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm		70	70	70	89	152	70	89	152	70	89	

Torx® profile / overall length	mm		TX20/152	TX25	TX25/89	TX25/152	TX27	TX30	TX30/89	TX30/152	TX40	TX40/89	
63H 67 4250	Wera	Blade for Torx®, long, shank E 6.3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm		152	70	89	152	70	70	89	152	70	89	

The tapered Torx® "HF" profile reliably retains all Torx® screws. Colour coded with a gold surface coating.
Size TX40 with hexagonal blade through to the end of the handle.
Material: Chrome vanadium special alloy, high strength.
Application: Bit retainer function for optimum starting and tightening of Torx® screws.

67 4255

Torx® profile			TX8	TX10	TX15	TX20	TX25	TX27	TX30	TX40	
63H 67 4255	Wera	"HF" blade for Torx®, E 6.3 **with retainer function**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm		50								

Material: High-tensile special steel combining maximum hardness and special toughness.
Application: For all screws using the powerful Torx Plus® screw system. Torx Plus® screws are increasingly used for screwed connections on inserts and drive mechanisms.

67 4252

Torx Plus® profile			5IP	6IP	7IP	8IP	9IP	10IP	15IP	20IP	25IP	30IP	40IP	
63E 67 4252	PB SWISS TOOLS	PrecisionBit for Torx Plus®, shank E 6.3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm		50											

Material: Chrome vanadium special alloy, high strength.
Application: For screws with Torx Plus® IPR profile and security pin.

67 4256

Torx Plus® IPR profile			10IPR	15IPR	20IPR	25IPR	27IPR	30IPR	
63H 67 4256	Wera	Blade for Torx Plus® IPR, shank E 6.3 **with bore**	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length	mm		50						

Material: High-tensile special steel combining maximum hardness and special toughness.
Application: For slot-head screws DIN 3127.

67 4257

Blade width / overall length	mm		3/75	3,5	4	4/75	5,5	5/75	6,25	8	
63E 67 4257	PB SWISS TOOLS	PrecisionBit for slot-head, shank E 6.3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
Cutter thickness	mm		0.6	0.5	0.6	0.8	0.8	1	1	1.2	
overall length	mm		75	50	50	75	50	75	50	50	

Material: Chrome vanadium special alloy, high strength.
Application: For slot-head screws DIN 3127.

67 4260

Blade width / overall length		mm	3	3,5	4	4/89	5,5	5,5/89	6,5	8	8/89	
63H 67 4260	Wera	Blade for slot-head, shank E 6.3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
Cutter thickness		mm	0.5	0.6	0.8	0.8	1	1	1.2	1.2	1.2	
overall length		mm	50	50	50	89	50	89	50	50	89	

Socket for power screwdrivers

One piece, i.e. shank and tip are a single unit.
Shanks to DIN 3126 for direct fitting in power screwdrivers.
Standard: **DIN 3126**

Magnetic insert

67 4265

Material:
67 4265 – Of PB Swiss Tools special steel combining maximum hardness with exceptional toughness.
Application: For hexagon nuts and bolts DIN 3126.

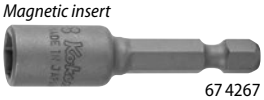
Magnetic insert

67 4275

Width across flats		mm	5,5	6	7	8	10	13
63E 67 4265	PB SWISS TOOLS	Socket wrench bit, shank E 6.3 **with magnet**	XXX	XXX	XXX	XXX	XXX	XXX
62F 67 4275	HOLEX		XXX	XXX	XXX	XXX	XXX	XXX
overall length (67 4265)		mm	60					
overall length (67 4275)		mm	50					

Material: Chrome molybdenum steel, surface burnished.

Magnetic insert


67 4267

Width across flats		mm	5,5	6	7	8	10	13
63R 67 4267	Kokon	IMPACT socket wrench bit, shank E 6.3 **with magnet**	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	50					

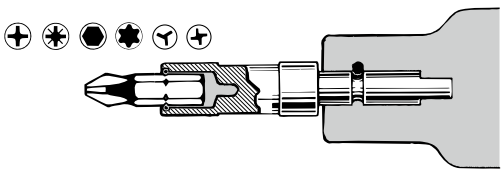
D 6.3

HOLEX Adapter for bits (two-part system)

67 5005 – Adapter to DIN 7427 B with snap ring for C 6.3 bits.
67 5015 – Adapter with magnet and snap ring **for C 6.3 and E 6.3 bits** (the magnet holds the screw).
67 5025 – Adapter with automatic **quick-change coupling** for C 6.3 bits.
The lock reliably retains the bits; the pulling sleeve is unlocked at the end of the shank.
Extra slim design for good access even to confined places.

SDS PLUS

67 5005


Two-piece, i.e. shank and bit are separate.
This means that in case of wear, only the relevant bit has to be replaced.

F 6.3

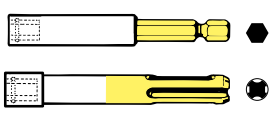
Magnetic insert

67 5015

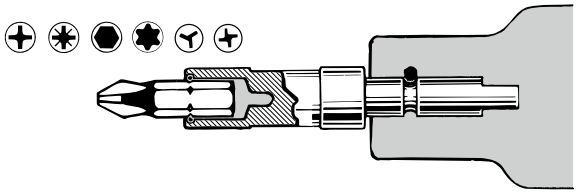
67 5025

Release collar

Hexagon shank	62F 67 5005 Shank with snap ring	62F 67 5015 Shank with magnet / snap ring	62F 67 5025 Shank with quick-change coupling and lock	overall length mm	Hexagon drive	Machine drive
6,3	–	XXX	XXX	75	D 6.3 (1/4 inch)	Bit holder E 6.3 (1/4 inch)
6,3/100	–	XXX	–	100	D 6.3 (1/4 inch)	Bit holder E 6.3 (1/4 inch)
6,3/150	–	XXX	–	150	D 6.3 (1/4 inch)	Bit holder E 6.3 (1/4 inch)
SDS	XXX	–	–	69	D 6.3 (1/4 inch)	SDS-Plus



Adapter for bits (two-part system)



Two-piece, i.e. shank and bit are separate. This means that in case of wear, only the relevant bit has to be replaced.

GARANT

Adaptor with automatic **quick-change coupling** and magnet **for C 6.3 and E 6.3 bits** (the magnet holds the screw).

67 5050_6,3

Hexagon shank	61F 67 5050 Garant Shank with magnet / quick-change coupling	overall length mm	Hexagon drive	Machine drive
6,3	XXX	50	D 6.3 (1/4 inch)	Bit holder E 6.3 (1/4 inch)

- *Holder for **C 6.3 and E 6.3 bits.***
- *The sleeve clicks into the open position. It locks automatically when a bit **is inserted.***
- *Even the smallest bits can be removed without problems, since the sleeve lifts the bit away from the magnet. **Quick change of bits, always one-handed.***

WERA

67 5000 – Adaptor to DIN 7427 B with snap ring.
67 5010 – Adaptor with magnet and snap ring for C 6.3 bits (the magnet holds the screw).
67 5020 – **"Rapidaptor"** adaptor with automatic **quick-release adaptor** and magnet for C 6.3 and E 6.3 bits (the magnet holds the screw).
Size 6,3S – Of stainless steel "Stainless", without magnet.
Size 6,3R – The floating, free-running ring magnet sleeve reliably holds even long and heavy screws (only for C 6.3 bits).
67 5030 – **"Rapidaptor" BiTorsion** adapter with automatic quick-change coupling and magnet for C 6.3 and E 6.3 bits. The integral precisely calculated torsion zone significantly reduces the load on the bits and therefore considerably increases their tool life. For use in combination with **BiTorsion** bits No. 675510 – 675550.

Note:	Rapidaptor free-running coupling shank available from our eShop (No. 675035 size 6.3F).

67 5000_6,3

67 5010_5,5

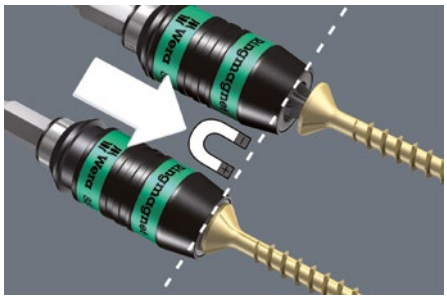
S/STL

67 5020_6.3S

67 5020

67 5020_6,3

67 5030



Application example 67 5020_6.3R

- *Holder for **C 6.3 and E 6.3 bits.***
- *The sleeve clicks into the open position. It locks automatically when a bit **is inserted.***
- *Even the smallest bits can be removed without problems, since the sleeve lifts the bit away from the magnet. **Quick change of bits, always one-handed.***
- *Strong ring magnet reliably holds even long and heavy screws.*

Hexagon shank	63H 67 5000 Shank with snap ring	63H 67 5010 Shank with magnet / snap ring	63H 67 5020 Shank with magnet / quick-change coupling	63H 67 5030 Shank with magnet / quick-change coupling BiTorsion	overall length 67 5000 67 5010 mm	overall length 67 5020 67 5030 mm	Hexagon drive	Machine drive	
5,5	–	XXX	–	–	72	–	D 6.3 (1/4 inch)	A 5.5 (5.5 mm)	
6,3	XXX	–	XXX	XXX	57	75	D 6.3 (1/4 inch)	Bit holder E 6.3 (1/4 inch)	
6,3S	–	–	XXX	–	–	50	D 6.3 (1/4 inch)	Bit holder E 6.3 (1/4 inch)	
6,3K	–	–	XXX	–	–	52	D 6.3 (1/4 inch)	Bit holder E 6.3 (1/4 inch)	
6,3R	–	–	XXX	–	–	57	D 6.3 (1/4 inch)	Bit holder E 6.3 (1/4 inch)	
11-1/4	XXX	–	–	–	65	–	D 6.3 (1/4 inch)	E 11.2 (7/16 inch)	
11-5/16	XXX	–	–	–	65	–	D 8 (5/16 inch)	Bit holder E 11.2 (7/16 inch)	
7-RUND	–	XXX	–	–	74	–	D 6.3 (1/4 inch)	Ø 7 mm (flat tang)	

1/4 inch bit

For use in manual drivers or machines with suitable hexagon holder or for use in adapters No. 675000 – 675050.

67 5350 – With centre hole for tamper-proof screws.

67 5552 – With retainer function.

Standard: DIN 3126 C 6.3 (1/4 inch).

Material:

67 5105–5270/5310–5395/5510–5570 – Chrome vanadium special alloy, **toughened.**

67 5281–5300 – High-tensile special steel combining maximum hardness and special toughness.

67 5490–5496 – Stainless steel.

For Phillips cross-head screws DIN 3128

Cross-head size / overall length			mm	0/25	1/25	2/25	2/50	3/25	4/32	
61F	67 5105	Garant	Bit for slot-head, 1/4 inch, with torsion zone	–	XXX	XXX	–	XXX	–	10
63E	67 5281	PB SWISS TOOLS	PrecisionBit for Phillips, 1/4 inch	XXX	XXX	XXX	–	XXX	–	10
63H	67 5310	Wera	Bit for Phillips, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	10
63H	67 5200	Wera	Bit for slot-head, 1/4 inch, with torsion zone	–	XXX	XXX	–	XXX	–	10
63H	67 5330	Wera	Bit for slot-head, 1/4 inch, with torsion zone **hard**	–	XXX	XXX	–	XXX	–	10
63H	67 5520	Wera	Bit for Phillips, 1/4 inch **BiTorsion**	–	XXX	XXX	–	XXX	–	10
63H	67 5490	Wera	Bit for Phillips, 1/4 inch **Stainless steel "Stainless"**	–	XXX	XXX	–	XXX	–	10
63H	67 5510	Wera	Bit for Phillips, 1/4 inch **BiTorsion diamond-coated**	–	XXX	XXX	–	XXX	–	10

S/STL

67 5105
67 5281
67 5310
67 5200
67 5330
67 5520
67 5490
67 5510

For Pozidriv cross-head screws DIN 3128

Cross-head size / overall length			mm	0/25	1/25	2/25	2/50	3/25	4/32	
61F	67 5115	Garant	Bit for Pozidriv, 1/4 inch, with torsion zone	–	XXX	XXX	–	XXX	–	10
63E	67 5285	PB SWISS TOOLS	PrecisionBit for Pozidriv, 1/4 inch	XXX	XXX	XXX	–	XXX	–	10
63H	67 5320	Wera	Bit for Pozidriv, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	10
63H	67 5220	Wera	Bit for Pozidriv, 1/4 inch, with torsion zone	–	XXX	XXX	–	XXX	–	10
63H	67 5380	Wera	Bit for Pozidriv, 1/4 inch, with torsion zone **hard**	–	XXX	XXX	–	XXX	–	10
63H	67 5540	Wera	Bit for Pozidriv, 1/4 inch **BiTorsion**	–	XXX	XXX	–	XXX	–	10
63H	67 5492	Wera	Bit for Pozidriv, 1/4 inch **Stainless steel "Stainless"**	–	XXX	XXX	–	XXX	–	10
63H	67 5530	Wera	Bit for Pozidriv, 1/4 inch **BiTorsion, diamond-coated**	–	XXX	XXX	–	XXX	–	10

S/STL

67 5115
67 5285
67 5320
67 5220
67 5380
67 5540
67 5492
67 5530

The Hoffmann Group 1/4 inch bits C 6.3

Garant		67 5105 67 5115 67 5155	With torsion zone, toughened. The torsion zone reduces the peaks of force when screw driving. Protects the screw profile and gives longer tool life (apart from size TX40).
		67 5125	Standard design, high strength.
PB SWISS TOOLS		67 5281 67 5285 67 5290 67 5295 67 5300	Strong elasticity and toughness combined with high hardness for a long tool life. High precision drive tips for perfect fit in the screw head and "Anti-cam-out". The nano-coating is both a colour code and an attractive anti-rust protection.
Wera		67 5200 67 5220	With torsion zone, toughened. The torsion zone absorbs the peaks of force when screw driving. Protects the screw profile and gives longer tool life.
		67 5240 up to 67 5270 67 5310 67 5320 67 5340 67 5350 67 5360 67 5370 67 5390 67 5395 67 5552 67 5565	Standard design, high strength.
		67 5330 67 5380	With torsion zone, hard. Ideal for light applications (e.g. screw driving into wood, plastic etc.).
		67 5490 up to 67 5496	With torsion zone for reduced peaks of force when screw driving. Stainless steel, toughened by vacuum ice hardening.
		67 5510 up to 67 5550 67 5570	BiTorsion design with reduced hardness in the torsion zone to absorb load peaks = longer tool life. Optimum effect when used with BiTorsion quick-change toolholder No. 67 5030.
wiha		675243	Standard bit with retainer function without any magnetic by MagicRing®

For hexagon socket head screws DIN 7426.

Hex-plus profile
Low surface pressure
Low notch stress
Longer working life for the screw

Hexagon			mm	1,5	2	2,5	3	4	5	6	8	
61F	67 5125	Garant	Bit for hexagon, 1/4 inch **Hex-plus profile**	–	XXX	XXX	XXX	XXX	XXX	XXX	–	10
63E	67 5290	PB SWISS TOOLS	PrecisionBit for hexagon, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
63H	67 5240	Wera	Bit for hexagon, 1/4 inch **Hex-plus profile**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
63H	67 5494	Wera	Bit for hexagon, 1/4 inch **Hex-Plus profile stainless steel "Stainless"**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	10
63K	67 5243	wiha	Bit for hexagon, 1/4 inch **with retaining ring**	–	–	–	XXX	XXX	XXX	XXX	XXX	10
63H	67 5270	Wera	Bit for hexagon, 1/4 inch **with ball point**	–	–	XXX	XXX	XXX	XXX	XXX	–	10
overall length (67 5125, 67 5240, 67 5494, 67 5243, 67 5270)			mm	25								
overall length (67 5290)			mm	25	25	25	25	25	25	25	33	

S/STL

67 5125

67 5290

67 5240

67 5494

67 5243

67 5270

For all screws of the TORQ-SET® screw system.

TORQ-SET® profile				6	8	10	1/4	
63H	67 5360	Wera	TORQ-SET® Mplus-Bit, 1/4 inch	XXX	XXX	XXX	XXX	10
overall length			mm	25	25	25	32	

67 5360_8

For all screws of the TRI-WING® screw system.

TRI-WING® profile				1	2	3	4	
63H	67 5370	Wera	TRI-WING® bit, 1/4 inch	XXX	XXX	XXX	XXX	10
overall length			mm	25				

67 5370

For screws of the Torx® screw system

Torx® profile				TX5	TX6	TX7	TX8	TX9	TX10	TX15	
61F	67 5155	Garant	Bit for Torx®, 1/4 inch, with torsion zone	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
63E	67 5295	PB SWISS TOOLS	PrecisionBit for Torx®, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
63H	67 5340	Wera	Bit for Torx®, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
63H	67 5550	Wera	Bit for Torx®, 1/4 inch **BiTorsion**	–	–	–	–	–	XXX	XXX	10
63H	67 5496	Wera	Bit for Torx®, 1/4 inch **Stainless steel "Stainless"**	–	–	–	XXX	XXX	XXX	XXX	10
63H	67 5552	Wera	"HF" bit for Torx®, 1/4 inch **with retainer function**	–	–	–	XXX	XXX	XXX	XXX	10
overall length			mm	25							

67 5155

67 5295

67 5340

67 5550

Torx® profile				TX20	TX25	TX27	TX30	TX40	TX45	
61F	67 5155	Garant	Bit for Torx®, 1/4 inch, with torsion zone	XXX	XXX	XXX	XXX	XXX	–	10
63E	67 5295	PB SWISS TOOLS	PrecisionBit for Torx®, 1/4 inch	XXX	XXX	XXX	XXX	XXX	–	10
63H	67 5340	Wera	Bit for Torx®, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	10
63H	67 5550	Wera	Bit for Torx®, 1/4 inch **BiTorsion**	XXX	XXX	–	XXX	XXX	–	10
63H	67 5496	Wera	Bit for Torx®, 1/4 inch **Stainless steel "Stainless"**	XXX	XXX	–	XXX	XXX	–	10
63H	67 5552	Wera	"HF" bit for Torx®, 1/4 inch **with retainer function**	XXX	XXX	XXX	XXX	XXX	–	10
overall length			mm	25	25	25	25	25	35	

S/STL

HOLDING FUNCTION

67 5496

67 5552

Torx® profile				TX10	TX15	TX20	TX25	TX27	TX30	TX40	
63H	67 5350	Wera	Bit for Torx®, 1/4 inch **with bore**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length			mm	25							

67 5350

For all screws of the powerful Torx Plus® screw system.

Torx Plus® profile				7IP	8IP	9IP	10IP	15IP	20IP	25IP	30IP	40IP	
63H	67 5390	Wera	Bit for Torx Plus®, 1/4 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
overall length			mm	25									

67 5390

For slot-head screws DIN 3127

Blade width			mm	3	4	5,5	6	6,5	8	8/1,6	
63E	67 5300	PB SWISS TOOLS	PrecisionBit for slot-head, 1/4 inch, 25 mm long	–	XXX	XXX	XXX	–	XXX	–	10
63H	67 5250	Wera	Bit for slot-head, 1/4 inch, 25 mm long	XXX	XXX	XXX	–	XXX	XXX	XXX	10
63H	67 5260	Wera	Bit for slot-head, 1/4 inch, 39 mm long	XXX	XXX	XXX	–	XXX	XXX	XXX	10
Cutter thickness (67 5300)			mm	–	0.6	0.8	1	–	1.2	–	
Cutter thickness (67 5250)			mm	0.5	0.5	0.8	–	1.2	1.2	1.6	
Cutter thickness (67 5260)			mm	0.5	0.8	1	–	1.2	1.2	1.6	
overall length (67 5300, 67 5250)			mm	25							
overall length (67 5260)			mm	39	39	39	–	39	39	39	

67 5300

67 5250

67 5260

For XZN screws

for screws			M4	M5	M6	M8	
63H	67 5565	Wera Tri-square bit, 1/4 inch	XXX	XXX	XXX	XXX	10
overall length		mm	25				

67 5565

For ASSY® screws

SIT profile			SIT10	SIT20	SIT25	SIT30	
63H	67 5570	Wera SIT bit, 1/4 inch **BiTorsion**	XXX	XXX	XXX	XXX	10
overall length		mm	25				

67 5570

For clamping screws (snake eyes)

Type			4	6	8	10	
63H	67 5395	Wera Clamp bit, 1/4 inch	XXX	XXX	XXX	XXX	10
overall length		mm	25				
Pin spacing		mm	1.52	2.41	2.79	3.3	

67 5395

67

HOLEX 1/4 inch bits, bulk pack 100 pieces

For use in manual drivers or machines with suitable hexagon holder or for use in adapter No. 675000 – 675050.

Standard: **DIN 3126** C 6.3 (1/4 inch)

Material: Chrome vanadium special alloy, **toughened.**

Application:

67 5575 – For Phillips cross-head screws DIN 3128.

67 5580 – For Pozidriv cross-head screws DIN 3128.

Cross-head size			1	2
62F	67 5575	Bits for Phillips, 1/4 inch, bulk pack 100 pieces	XXX	XXX
62F	67 5580	Bits for Pozidriv, 1/4 inch, bulk pack 100 pieces	XXX	XXX
overall length		mm	25	

67 5575

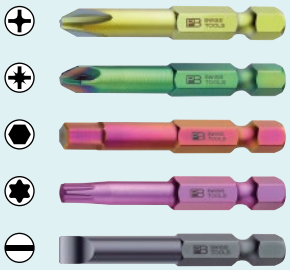
67 5580

Application: For screws with Torx® profile.

Torx® profile			TX10	TX15	TX20	TX25	TX30
62F	67 5585	Bits for Torx®, 1/4 inch, bulk pack 100 pieces	XXX	XXX	XXX	XXX	XXX
overall length		mm	25				

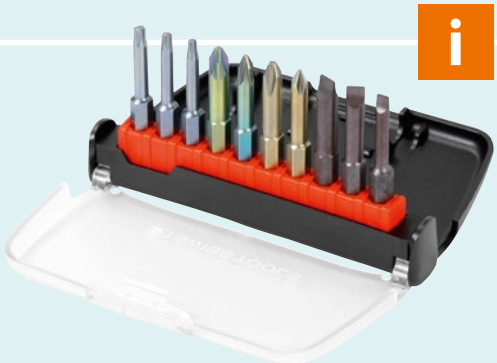
67 5585

PB SWISS TOOLS Precision Bits®



The advantages:

- Highest possible hardness combined with special toughness.
- No cam-out thanks to high precision bits.
- Nano-coating = attractive rust protection.
- **Colour coding** for the **drive profile**, allows bits to be picked out quickly, saving time.
- Sets in bit case (from No. 67 5610) with belt clip for quick access and one-handed use.



Wera 5/16 inch bit

For use in manual drivers or machines with suitable hexagon holder or for use in adapter No. 675000.

Standard: **DIN 3126** C 8 (5/16 inch)

Material: Chrome vanadium special alloy, toughened.

Application: For Phillips and Pozidriv cross-head screws DIN 3128.

	Cross-head size		1	2	3	4	
⊕	63H 67 5400	Bit for Phillips, 5/16 inch	XXX	XXX	XXX	XXX	10
⊕	63H 67 5420	Bit for Pozidriv, 5/16 inch	XXX	XXX	XXX	XXX	10
	overall length	mm	32				

67 5400

67 5420

Application: For hexagon socket head screws DIN 7426.

	Hexagon	mm	3	4	5	6	8	
⬢	63H 67 5440	Bit for hexagon, 5/16 inch **Hex-plus profile**	XXX	XXX	XXX	XXX	XXX	10
	overall length	mm	30					

67 5440

Hex Plus

Application: For slot-head screws DIN 3127.

	Blade width	mm	5,5	6,5	8	10	12	14	
⊖	63H 67 5460	Bit for slot-head, 5/16 inch	XXX	XXX	XXX	XXX	XXX	XXX	10
	Cutter thickness	mm	1	1.2	1.2	1.6	2	2.5	
	overall length	mm	41						

67 5460

Application: For screws with Torx® profile.

	Torx® profile		TX20	TX25	TX27	TX30	TX40	TX45	TX50	TX55	
✱	63H 67 5470	Bit for Torx®, 5/16 inch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
	overall length	mm	35								

67 5470

67

Bits assortment, small

	Type		KPS	TX
⊕ ⊖ ⊕	63H 67 5601	Wera Set of bits **7 pieces**	XXX	XXX
✱	**Content:** Bits, C 6.3, for internal Torx®		–	No. 675340 1 pc. each size TX10; TX15; TX20; TX25; TX30; TX40
	Bits, C 6.3, for Phillips		No. 675310 1 pc. each size 1/25; 2/25	–
	Bits, C 6.3, for Pozidriv		No. 675320 1 pc. each size 1/25; 2/25	–
	Bits, C 6.3, for slot-head		No. 675250 1 pc. each size 5.5; 6.5	–
	Adapter		1 pc.	

67 5601_KPS

	Type		TX
✱	63H 67 5606	Wera Set of bits **6 pieces**	XXX
	Content: Bits, E 6.3, for internal Torx®		No. 674255 1 pc. each size TX10; TX15; TX20; TX25; TX30; TX40

67 5606

HOLDING FUNCTION

	Type		KPS
⊕ ⊖ ⊕	63H 67 5651	Wera BiTorsion set of bits **7 pieces, diamond-coated**	XXX
	Content: Bits, C 6.3, for Phillips		No. 675510 1 pc. each size 1/25; 2/25
	Bits, C 6.3, for Pozidriv		No. 675530 1 pc. each size 1/25; 2/25
	Bits, C 6.3, for slot-head		No. 675560 1 pc. each size 5.5; 6.5
	"Rapidaptor" adaptor		1 pc. No. 675020 size 6.3K

67 5651

TAKE IT EASY TOOL FINDER

	Type		TX
✱	63H 67 5661	Wera BiTorsion set of bits **7 pieces, diamond-coated**	XXX
	Content: Bits, C 6.3, for internal Torx®		1 pc. each size TX10; TX15; TX20; TX25; TX30; TX40
	"Rapidaptor" adaptor		1 pc. No. 675020 size 6.3K

67 5661

TAKE IT EASY TOOL FINDER

Type		KPS	TX
63H **67 5671**	Wera Bits set **10 pieces, with torsion zone**	XXX	XXX
Content: Bits, C 6.3, for internal Torx®		–	1 pc. each size TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits, C 6.3, for Phillips		No. 675200 1 pc. each size 1/25; 2/25; 3/25	–
Bits, C 6.3, for Pozidriv		No. 675220 1 pc. each size 1/25; 2/25; 3/25	–
Bits, C 6.3, for slot-head		1 pc. each size Gr. 0.8×5.5; 1.0×5.5; 1.2×6.5	–
Quick-release adaptor		1 pc.	

67 5671 _TX

Type		KPS
63H **67 5701**	Wera Set of bits **10 pieces, with torsion zone**	XXX
Content: Bits, C 6.3, for Phillips		No. 675200 1 pc. each size 1/25; 2/25; 3/25
Bits, C 6.3, for Pozidriv		No. 675220 1 pc. each size 1/25; 2/25; 3/25
Bits, C 6.3, for slot-head		1 pc. each size 0.8×5.5; 1.0×5.5; 1.2×6.5
"Rapidaptor" adaptor		1 pc. No. 675020 size 6.3K

67 5701

63H **67 5771**	Wera Set of bits **10 pieces, BiTorsion**	XXX
Content: Bits, C 6.3, for Phillips		No. 675520 1 pc. each size 1/25; 2/25; 3/25
Bits, C 6.3, for Pozidriv		No. 675540 1 pc. each size 1/25; 2/25; 3/25
Bits, C 6.3, for slot-head		1 pc. each size 0.8×5.5; 1.0×5.5; 1.2×6.5
Adapter „Rapidaptor BiTorsion"		1 pc. No. 675030 size 6.3

67 5771

TAKE IT EASY TOOL FINDER

63H **67 5681**	Wera Set of bits **10 pieces, "Stainless" steel**	XXX
Content: Bits, C 6.3, for Phillips		No. 675490 1 pc. size 2/25
Bits, C 6.3, for Pozidriv		No. 675492 1 pc. size 1/25; 2 pcs. size 2/25
Bits, C 6.3, for internal Torx®		No. 675496 1 pc. each size TX10; TX15; TX20; TX25; TX30
Adapter "Rapidaptor Stainless"		1 pc. No. 675020 size 6.3S

67 5681

TAKE IT EASY TOOL FINDER

S/STL

63E **67 5610**	PB SWISS TOOLS PrecisionBits set **10 pieces**	XXX
Content: Bits, E 6.3, for Pozidriv		No. 674225 1 pc. each size 1; 2; 3
Bits, E 6.3, for internal Torx®		No. 674248 1 pc. each size TX10; TX15; TX30 2 pcs. each size TX20; TX25

67 5610

63E **67 5615**	PB SWISS TOOLS PrecisionBits set **10 pieces**	XXX
Content: Bits, E 6.3, for Phillips		No. 674205 1 pc. each size 1; 2; 3
Bits, E 6.3, for internal Torx®		No. 674248 1 pc. each size TX15; TX20; TX25
Bits, E 6.3, for hex socket		No. 674242 1 pc. each size 3; 4; 5; 6

67 5615

63E **67 5620**	PB SWISS TOOLS PrecisionBits set **10 pieces**	XXX
Content: Bits, E 6.3, for Phillips		No. 674205 1 pc. each size 1; 2
Bits, E 6.3, for Pozidriv		No. 674225 1 pc. each size 1; 2
Bits, E 6.3, for slot-head		No. 674257 1 pc. each size 4; 5.5; 6.25
Bits, E 6.3, for internal Torx®		No. 674248 1 pc. each size TX10; TX15; TX20

67 5620

Type		TX	IP
63E **67 5640**	PB SWISS TOOLS PrecisionBits set **10 pieces**	XXX	XXX
Content: Bits, E 6.3, for internal Torx®		No. 674248 1 pc. each size TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX30	–
Bits, E 6.3, for internal Torx Plus®		–	No. 674252 1 pc. each size IP5; IP6; IP7; IP8; IP9; IP10; IP15; IP20; IP25; IP30

67 5640

63E **67 5625** PB SWISS TOOLS PrecisionBits set **11 pieces** — XXX

Content:	
Bits, C 6.3, for Pozidriv	No. 675285 1 pc. each size 1/25; 2/25; 3/25
Bits, C 6.3, for internal Torx®	No. 675295 1 pc. each size TX10; TX15; TX30; 2 pcs. each size TX20; TX25
Adapter	1x

67 5625

63E **67 5630** PB SWISS TOOLS PrecisionBits set **11 pieces** — XXX

Content:	
Bits, C 6.3, for Phillips	No. 675281 1 pc. each size 1/25; 2/25
Bits, C 6.3, for slot-head	No. 675300 1 pc. each size 4; 5.5
Bits, C 6.3, for hex socket	No. 675290 1 pc. each size 2.5; 3; 4; 5; 6; 8
Adapter	1x

67 5630

63E **67 5635** PB SWISS TOOLS PrecisionBits set **11 pieces** — XXX

Content:	
Bits, C 6.3, for Phillips	No. 675281 1 pc. each size 1/25; 2/25
Bits, C 6.3, for Pozidriv	No. 675285 1 pc. each size 1/25; 2/25
Bits, C 6.3, for slot-head	No. 675300 1 pc. each size 4; 5.5
Bits, C 6.3, for internal Torx®	No. 675295 1 pc. each size TX10; TX15; TX20; TX25
Adapter	1x

67 5635

63H **67 5772** Wera BiTorsion set of bits **12 pieces** — XXX

Content:	
Bits, C 6.3, for Phillips	No. 675520 1 pc. each size 1/25; 2/25; 3/25
Bits, C 6.3, for Pozidriv	No. 675540 1 pc. each size 1/25; 2/25; 3/25
Bits, C 6.3, for internal Torx®	No. 675550 1 pc. each size TX10; TX15; TX20; TX25; TX30
"Rapidaptor" adaptor	1 pc. No. 675020 size 6.3K

67 5772

TAKE IT EASY TOOL FINDER

67

Bits assortment, medium

63H **67 5791** Wera Set of bits Universal **30 pieces** — XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675200 2 pcs. size 1/25; 3 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675380 2 pcs. size 1/25; 3 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3, for slot-head	1 pc. size 1.0×5.5
Bits, length 25 mm, C 6.3, for internal Torx®	Similar to No. 675550 1 pc. each size TX10; TX15; TX20; TX25; TX30; TX40
Bits, length 25 mm, C 6.3, for internal Torx® with pin	No. 675350 1 pc. each size TX10; TX15; TX20; TX25; TX30
Bits, length 25 mm, C 6.3, for hex socket	No. 675240 1 pc. each size 3; 4; 5; 6; 8
"Rapidaptor" adaptor	1 pc. No. 675020 size 6.3K

67 5791

Hex-Plus

63H **67 5793** Wera Set of bits Metal **30 pieces** — XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675310 3 pcs. size 1/25; 3 pcs. size 2/25; 2 pcs. size 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675320 3 pcs. size 1/25; 3 pcs. size 2/25; 3 pcs. size 3/25
Bits, length 25 mm, C 6.3, for slot-head	1 pc. each size 0.6×4.5; 1.0×5.5; 1.2×6.5
Bits, length 25 mm, C 6.3, for internal Torx®	No. 675340 1 pc. each size TX10; TX15; TX20; TX25; TX30; TX40
Bits, length 25 mm, C 6.3, for hex socket	No. 675240 1 pc. each size 4; 5; 6
Adapter	1 pc.

67 5793

Hex-Plus

63H **67 5796** Wera — Set of bits, "Stainless" steel **30 pieces** — XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675490 1 pc. size 1/25; 3 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675492 2 pcs. size 1/25; 3 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3, for internal Torx®	No. 675496 2 pcs. size TX10; 2 pcs. size TX15; 3 pcs. size TX20; 3 pcs. size TX25; 2 pcs. size TX30; 1 pc. size TX40
Bits, length 25 mm, C 6.3, for hex socket	No. 675494 1 pc. each size 2.5; 3; 4; 5; 5.5
Adapter "Rapidaptor Stainless"	1 pc. No. 675020 size 6.3S

67 5796

63H **67 5797** Wera — Set of bits BiTorsion **30 pieces, diamond-coated** — XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675510 2 pcs. size 1/25; 4 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675530 2 pcs. size 1/25; 4 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3, for slot-head	1 pc. each size 0.8x5.5; 1.0x5.5; 1.2x6.5
Bits, length 25 mm, C 6.3, for internal Torx®	Similar to No. 675550 2 pcs. size TX10; 2 pcs. size TX15; 3 pcs. size TX20; 3 pcs. size TX25; 1 pc. size TX30; 1 pc. TX40
"Rapidaptor" adaptor	1 pc. No. 675020 size 6.3K

67 5797

63H **67 5798** Wera — Set of bits BiTorsion **30 pieces** — XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675520 2 pcs. size 1/25; 5 pcs. size 2/25; 2 pcs. size 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675540 2 pcs. size 1/25; 6 pcs. size 2/25; 2 pcs. size 3/25
Bits, length 25 mm, C 6.3, for internal Torx®	No. 675550 1 pc. size TX10; 2 pcs. size TX15; 2 pcs. size TX20; 2 pcs. size TX25; 2 pcs. size TX30; 1 pc. size TX40
"Rapidaptor" adaptor	1 pc. No. 675020 size 6.3K

67 5798

62F **67 5591** HOLEX — Bits set **32 pieces** — XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	1 pc. each size 1; 2; 3
Bits, length 25 mm, C 6.3, for Pozidriv	2 pcs. each size 1; 2; 3
Bits, length 25 mm, C 6.3, for slot-head	1 pc. each size 4; 5; 6.5
Bits, length 25 mm, C 6.3, for internal Torx®	2 pcs. each size TX10; TX20; TX40 3 pcs. each size TX15; TX25; TX30
Bits, length 25 mm, C 6.3, for hex socket	1 pc. each size 4; 5; 6
adapter	1 pc. 1/4 inch square socket – 1/4 inch hex socket
Adapter	1 pc.

67 5591

Bits assortment, large

67 6040 – System box of virtually indestructible ABS plastic with integral hinges and snap fastener. The bits are widely spaced so that when the box is open they can be easily accessed and taken out.

61F **67 6040** Garant — Bits set **61 pieces** — XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675105 3 pcs. size 1/25; 6 pcs. size 2/25; 2 pcs. size 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675115 3 pcs. size 1/25; 6 pcs. size 2/25; 2 pcs. size 3/25
Bits, length 25 mm, C 6.3, for slot-head	1 pc. each size 0.5×4; 0.6×4.5; 1.0×5.5; 1.2×6.5
Bits, length 25 mm, C 6.3, for internal Torx®	No. 675155 1 pc. size TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits, length 25 mm, C 6.3, for internal Torx® with pin	1 each size TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits, length 25 mm, C 6.3, for hex socket	No. 675125 1 pc. size 2; 2.5; 3; 4; 5; 6
Bits, length 25 mm, C 6.3, for hex socket, with ball point	1 pc. each size 2.5; 3; 4; 5; 6
Bits, length 25 mm, C 6.3, for TRI-WING®	1 pc. each size 2; 3; 4; 5
Quick-release adaptor	1 pc. No. 675050 size 6.3

67 6040
Hex-Plus

Type		KPS
63H **67 5800**	Wera Bits set **61 pieces**	XXX
Content:		
Bits, length 25 mm, C 6.3, for Phillips		No. 675200 7 pcs. size 1/25; 15 pcs. size 2/25; 3 pcs. size 3/25
Bits, length 25 mm, C 6.3, for Pozidriv		No. 675220 7 pcs. size 1/25; 15 pcs. size 2/25; 3 pcs. size 3/25
Bits, length 25 mm, C 6.3, for slot-head		5 pcs. each size 1.0×5.5; 1.2×6.5
Quick-release adapter		1 pc.

67 5800

Type		M
63H **67 5900**	Wera Bits set **61 pieces**	XXX
Content:		
Bits C 6.3, length 25 mm, for Phillips		No. 675200 3 pcs. size 1/25; 6 pcs. size 2/25; 2 pcs. size 3/25
Bits C 6.3, length 25 mm, for Pozidriv		No. 675320 3 pcs. size 1/25; 6 pcs. size 2/25; 2 pcs. size 3/25
Bits C 6.3, length 25 mm, for slot-head		1 pc. each size 0.5×4.0; 0.6×4.5; 1.0×5.5; 1.2×6.5
Bits C 6.3, length 25 mm, for internal Torx®		1 pc. each size TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits C 6.3, length 25 mm, for internal Torx® with pin		No. 675350 1 pc. each size TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits C 6.3, length 25 mm, for hex socket		No. 675240 1 pc. each size 2; 2.5; 3; 4; 5; 6
Bits C 6.3, length 25 mm, for hex socket, with ball point		No. 675270 1 pc. each size 2.5; 3, 4; 5; 6
Bits C 6.3, length 25 mm, for TRI-WING®		No. 675370 1 pc. each size 2; 3; 4; 5
Quick-release adapter		1 pc.

67 5900

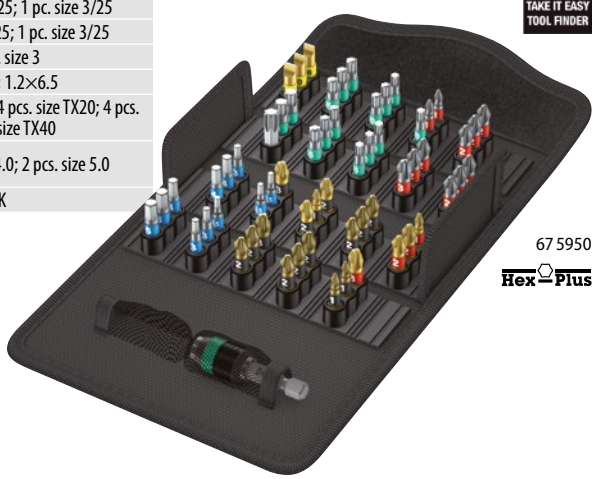
Hex-Plus

62F **67 5596**	HOLEX Bits set **50 pieces**	XXX
Content:		
Bits, length 25 mm, C 6.3, for Phillips		3 pcs. size 1; 4 pcs. size 2; 2 pcs. size 3
Bits, length 25 mm, C 6.3, for Pozidriv		3 pcs. size 1; 4 pcs. size 2; 2 pcs. size 3
Bits, length 25 mm, C 6.3, for slot-head		1 pc. each size 4; 4.5; 5.5; 6.5
Bits, length 25 mm, C 6.3, for internal Torx®		1 pc. each size TX5; TX6; TX7; TX8; TX9
Bits, length 25 mm, C 6.3, for internal Torx® with pin		1 each size TX10; TX15; TX20; TX25; TX27; TX30; TX40
Bits, length 25 mm, C 6.3, for hex socket		1 pc. each size 2.5; 3; 4; 5; 6
Bits, length 25 mm, C 6.3, for hex socket, with ball point		1 pc. each size 2.5; 3; 4; 5; 6
Bits, length 25 mm, C 6.3, for TRI-WING®		1 pc. each size 2; 3; 4; 5
Adaptor for bits		1 pc. 1/4 inch square socket – 1/4 inch bit holder
Quick-release adaptor		1 pc.

67 5596

63H **67 5950**	Wera BiTorsion set of bits **61 pieces**	XXX
Content:		
Bits, length 25 mm, C 6.3 for Phillips		No. 675510 1 pc. size 1/25; 2 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3 for Phillips		No. 675520 2 pcs. size 1/25; 8 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3 for Pozidriv		No. 675530 1 pc. size 1/25; 2 pcs. size 2/25; 1 pc. size 3/25
Bits, length 25 mm, C 6.3 for Pozidriv		2 pcs. size 1; 8 pcs. size 2; 1 pc. size 3
Bits, length 25 mm, C 6.3 for slot-head		1 pc. each size 0.8×5.5; 1.0×5.5; 1.2×6.5
Bits, length 25 mm, C 6.3 for internal Torx®		No. 675550 3 pcs. size TX10; 2 pcs. size TX15; 4 pcs. size TX20; 4 pcs. size TX25; 2 pcs. size TX30; 1 pc. size TX40
Bits, length 25 mm, C 6.3 for hex socket		3 pcs. size 2.5; 3 pcs. size 3.0; 3 pcs. size 4.0; 2 pcs. size 5.0
"Rapidaptor" adaptor		1 pc. No. 675020 size 6.3K

TAKE IT EASY TOOL FINDER



67 5950

Hex-Plus

62F 67 5599 HOLEX Bits set **108 pieces**	XXX
Content:	
Bits, length 25 mm, C 6.3, for Phillips	1 pcs. PH0; 3 pcs. PH1; 3 pcs. PH2; 1 pcs. PH3
Bits, length 25 mm, C 6.3, for Pozidriv	1 pcs. PZ0; 3 pcs. PZ1; 3 pcs. PZ2; 1 pcs. PZ3
Bits, length 25 mm, C 6.3, for slot-head	1 pc. each size 3; 4; 5.5; 6.5; 8
Bits, length 25 mm, C 6.3, for internal Torx®	1 pc. each size TX6; TX7; TX8; TX9; TX10; TX15; TX27; TX40 2 pcs. each size TX20; TX25; TX30
Bits, length 25 mm, C 6.3, for internal Torx® with pin	1 pc. each size TX10; TX15; TX27; TX30; TX40 2 pcs. each size TX20; TX25
Bits, length 25 mm, C 6.3, for internal Torx Plus®	1 pc. each size 10IP; 15IP; 30IP; 40IP 2 pcs. each size 20IP 25IP
Bits, length 25 mm, C 6.3, for hex socket	1 pc. each size 1.5; 2; 2.5; 3; 4; 5; 6; 7
Bits, length 25 mm, C 6.3, for hex socket with pin	1 pc. each size 2; 2.5; 3; 4; 5; 6
Bits, length 25 mm, C 6.3, for hex socket, with ball point	1 pc. each size 2; 2.5; 3; 4; 5; 6
Bits, length 25 mm, C 6.3 for multi-point socket	1 pc. each size 4; 5; 6; 8
Bits, length 25 mm, C 6.3, for TORQ-SET®	1 pc. each size 6; 8; 10
Bits, length 25 mm, C 6.3, for TRI-WING®	1 pc. each size 1; 2; 3; 4
Bits, length 25 mm, C 6.3, for clamp	1 pc. each size 4; 6; 8; 10
Bits, length 25 mm, C 6.3, for square socket drive	1 pc. each size 1; 2; 3; 4
Bits, length 50 mm, E 6.3, for Phillips	1 pc. each PH1; PH2
Bits, length 50 mm, E 6.3, for Pozidriv	1 pc. each PZ1; PZ2
Bits, length 50 mm, E 6.3, for internal Torx® with pin	1 pc. each size TX20; TX25
Bits, length 50 mm, E 6.3, for inner Torx®	1 pc. each size TX30; TX40
Bits, length 75 mm, E 6.3, for Phillips	1 pc. each PH1; PH2
Bits, length 75 mm, E 6.3, for Pozidriv	1 pc. each PZ1; PZ2
Bits, length 75 mm, E 6.3, for inner Torx®	1 pc. each size TX20; TX25
Adaptor for sockets	1 pc. 1/4 inch external hexagon – 1/4 inch external square
Adaptor for bits	1 pc. 1/4 inch square socket – 1/4 inch bit holder
Adapter	1 pc.

67 5599

Wera Set of bits with additional tool

Kraftform handle with quick–change holder for 1/4 inch bits with C 6.3 **and** E 6.3 shank.
Supplied in a sturdy textile tool roll with hook and loop fastener.

67

63H 67 5990 Bits set with drive tool and hexagon key L-wrenches **52 pieces**	XXX
Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675520 2 pcs. size 1/25; 4 pcs. size 2/25; 2 pcs. size 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	2 pcs. size 1; 4 pcs. size 2; 2 pcs. size 3
Bits, length 25 mm, C 6.3, for slot-head	1 pcs. each size 0.8×5.5; 1.0×5.5
Bits, length 25 mm, C 6.3, for internal Torx®	No. 675550 2 pcs. size TX10; 2 pcs. size TX15; 3 pcs. size TX20; 2 pcs. size TX25; 2 pcs. size TX30; 1 pc. size TX40
IMPACTOR bits, length 50 mm, E 6.3, for Phillips	No. 674120 2 pcs. size 2; 1 pc. size 3
IMPACTOR bits, length 50 mm, E 6.3, for Pozidriv	No. 674122 2 pcs. size 2; 1 pc. size 3
IMPACTOR bits, length 50 mm, E 6.3, for internal Torx®	No. 674127 1 pc. each size TX25; TX30; TX40
IMPACTOR bits, length 50 mm, E 6.3, for hex socket	No. 674125 1 pc. each size 4; 5; 6
L-wrench with ball point Hex-Plus, for hex socket	1 pc. each size 1.5; 2.0; 2.5; 3.0; 4.0; 5.0; 6.0; 8.0 mm
Screwdriver handle	1 pc.
"Rapidaptor" adaptor	1 pc. No. 675020 size 6.3K

TAKE IT EASY TOOL FINDER

67 5990

Hex Plus

Bits set with drive tool

Practical Kraftform Kompakt® set of bits and drive tool **for manual and machine drives.**
Kraftform handle with quick–change holder for 1/4 inch bits with C 6.3 **and** E 6.3 shank.
67 6090 – Kraftform holder with telescopic shank **retractable into handle** No. 676400.

63H 67 6060 Wera Bits set with drive tool **10 pieces**	XXX
Content:	
Bits, length 25 mm, C 6.3, for Phillips	1 pc. each no. 675200 size 1/25; 2/25
Bits, length 25 mm, C 6.3, for Pozidriv	1 pc. each no. 675220 size 1/25; 2/25
Bits, length 25 mm, C 6.3, for slot-head	1 pcs. each size 0.5×4; 1.0×5.5
Bits, length 25 mm, C 6.3, for internal Torx®	1 pc. each size TX10; TX15; TX20
Screwdriver handle	1 pc. with quick-change chuck C/E 6.3

67 6060

63H 67 6090 Wera Bits set with drive tool **13 pieces**	XXX
Content:	
Bits, length 25 mm, C 6.3, for Phillips	1 pc. each no. 675310 size 1/25; 2/25
Bits, length 25 mm, C 6.3, for Pozidriv	1 pc. each no. 675320 size 1/25; 2/25
Bits, length 25 mm, C 6.3, for slot-head	1 pc. each similar to No. 675250 size 0.6×4.5; 1.0×5.5
Bits, length 25 mm, C 6.3, for internal Torx® with pin	1 pc. each No. 675350 size TX10; TX15; TX20; TX25; TX30; TX40
Screwdriver handle	1 pc. No. 676400 with telescopic blade and quick-change chuck C/E 6.3

67 6090

Up to **four screw tightening speeds** within a handle, optionally by the press of a button or a planetary gearbox that can be **engaged/disengaged**. Switching off is recommended before fine adjustment and the final tightening or release of a screw with a high torque (up to 14 Nm). Kraftform handle with **Rapidaptor bit holder** for 1/4 inch bits with C 6.3 and E 6.3 shank.
Supplied in a sturdy textile tool roll with hook and loop fastener.

Advantage:
- Powerful final tightening and simple fine adjustment.
- Purely mechanical 4-fold**multiplication** (without battery) of the screw speed.

67 6205
Hex Plus

67 6205_Detail

Up to four times the screw tightening speed by means of the planetary gear that can be engaged/disengaged

Number of pieces		19
63H **67 6205**	Wera Bits set with turbo drive tool **19 pieces**	XXX
Content: Bits, length 89 mm, E 6.3, for Phillips		1 pc. each No. 674200 size 1/89; 2/89; 3/89
Bits, length 89 mm, E 6.3, for Pozidriv		1 pc. each No. 674220 size 1/89; 2/89; 3/89
Bits, length 89 mm, E 6.3, for slot-head		1 pc. size 0.8×4.0; 1.0×5.5; 1.2×6.5
Bits, length 89 mm, E 6.3, for inner Torx®		1 pc. each No. 674250 size TX10/89; TX15/89; TX20/89; TX25/89; TX30/89
Bits, length 89 mm, E 6.3, for hex socket		1 pc. each No. 674244 size 3; 4; 5; 6
Screwdriver handle		1 pc. No. 676390

67 6215 – With ergonomic 2-component T-handle with Rapidaptor bit holder.

67 6215
Hex Plus

Number of pieces		17
63H **67 6215**	Wera Bits set with drive tool **17 pieces**	XXX
Content: Bits, length 89 mm, E 6.3 for Phillips		1 pc. each No. 674200 size 2/89; 3/89
Bits, length 89 mm, E 6.3 for Pozidriv		1 pc. each No. 674220 size 2/89; 3/89
Bits, length 89 mm, E 6.3 for slot-head		1 pc. No. 674260 size 5.5/89
Bits, length 89 mm, E 6.3 for internal Torx®		1 pc. each No. 674250 size TX10; TX15; TX20; TX25; TX30; TX40
Bits, length 89 mm, E 6.3 for hex socket		1 pc. each No. 674247 size 3/89; 4/89; 5/89; 6/89; 8/89
Screwdriver handle		1 pc. No. 676656

67 6222
Hex Plus

63H **67 6222**	Wera Bits set with drive tool **17 pieces**	XXX
Content: Bits, length 89 mm, E 6.3, for Phillips		1 pc. each No. 674200 size 1/89; 2/89; 3/89
Bits, length 89 mm, E 6.3, for Pozidriv		1 pc. each No. 674220 size 1/89; 2/89; 3/89
Bits, length 89 mm, E 6.3, for slot-head		1 pc. No. 674260 size 5.5/89
Bits, length 89 mm, E 6.3, for internal Torx® with pin		1 pc. each similar to No. 674250 size TX10/89; TX15/89; TX20/89; TX25/89; TX30/89
Bits, length 89 mm, E 6.3, for hex socket		1 pc. each No. 674247 size 3/89; 4/89; 5/89; 6/89
Screwdriver handle		1 pc. No. 676410 with „Rapidaptor" quick-change chuck C/E 6.3

67 6225
Hex Plus

63H **67 6225**	Wera Bits set with drive tool **17 pieces, ESD**	XXX
Content: Bits, length 89 mm, E 6.3, for Phillips		1 pc. each No. 674200 size 1/89; 2/89; 3/89
Bits, length 89 mm, E 6.3, for Pozidriv		1 pc. each No. 674220 size 1/89; 2/89; 3/89
Bits, length 89 mm, E 6.3, for slot-head		1 pc. No. 674260 size 5.5/89
Bits, length 89 mm, E 6.3, for internal Torx® with pin		1 pc. each similar to No. 674250 size TX10/89; TX15/89; TX20/89; TX25/89; TX30/89
Bits, length 89 mm, E 6.3, for hex socket		1 pc. each No. 674247 size 3/89; 4/89; 5/89; 6/89
ESD screwdriver handle		1 pc. No. 676415 with „Rapidaptor" quick-change chuck C/E 6.3

67 6235 – With ergonomic 2-component handle, short.

67 6235
Hex Plus

Number of pieces		19
63H **67 6235**	Wera Bits set with drive tool	XXX
Content: Bits, **BiTorsion**, length 25 mm, E 6.3, for Phillips		1 pc. each no. 675520 size 1/25; 2/25
Bits, **BiTorsion**, length 25 mm, E 6.3, for Pozidriv		1 pc. each no. 675540 size 1/25; 2/25
Bits, **BiTorsion**, length 25 mm, E 6.3, for slot-head		1 pc. each size Gr. 0.8×5.5; 1.0×5.5; 1.2×6.5
Bits, **BiTorsion**, length 25 mm, E 6.3, for internal Torx®		1 pc. each No. 675550 size TX10; TX15; TX20; TX25; TX30
Bits, **BiTorsion**, length 25 mm, E 6.3, for hex socket		1 pc. each size 2; 2.5; 3; 4; 5; 5.5
Screwdriver handle		1 pc. No. 676405

63H **67 6130** Wera — Bits set with drive tool and sockets **26 pieces** — XXX

Content:	
Bits, length 50 mm, E 6.3, for Phillips	1 pc. each No. 674200 size 1; 2; 3
Bits, length 50 mm, E 6.3, for Pozidriv	1 pc. each No. 674220 size 1; 2
Bits, length 50 mm, E 6.3, for slot-head	1 pc. No. 674260 size 5.5
Bits, length 50 mm, E 6.3, for hex socket	1 pc. each No. 674240 size 3; 4; 5; 6
Bits, length 50 mm, E 6.3, for Torx®	1 pc. each No. 674245 size TX10; TX15; TX20; TX25; TX27; TX30
Hexagon socket set 1/4 inch	1 pc. each size 5.5; 6; 7; 8; 10; 12; 13 mm
adapter	1 pc. 1/4 inch square socket – 1/4 inch bit holder
„Zyklop Speed" precision ratchet, 1/4 inch	1 pc. No. 632390 with pivoting ratchet head
Extension 1/4 inch	1 pc. 150 mm with free-turning sleeve

67 6130

Hex Plus

63H **67 6140** Wera — Bits set with drive tool **33 pieces** — XXX

Content:	
Bits, length 89 mm, E 6.3, for Phillips	1 pc. each No. 674200 size 1/89; 2/89; 3/89
Bits, length 89 mm, E 6.3, for Pozidriv	1 pc. each No. 674220 size 1/89; 2/89; 3/89
Bits, length 89 mm, E 6.3, for slot-head	1 pc. size 6.5/89 (similar to No. 674260)
Bits, length 89 mm, E 6.3, for hex socket with pin	1 pc. each No. 674244 size 2; 2.5; 3; 4; 5; 6
Bits, length 89 mm, E 6.3, for internal Torx® with pin	1 pc. size TX8/89; TX10/89; TX15/89; TX20/89; TX25/89; TX27/89; TX30/89; TX 40/89 (similar to No. 674250)
Bits, length 89 mm, E 6.3, for clamp	1 pc. each size 4/89; 6/89; 8/89; 10/89
Bits, length 89 mm E 6.3, for TORQ-SET®	1 pc. size. 6/89; 8/89; 10/89 (ähnlich Nr. 675360)
Bits, length 89 mm, E 6.3, for TRI-WING®	1 pc. each size 1/89; 2/89; 3/89; 4/89 (similar to No. 675370)
Screwdriver handle	1 pc. No. 676410 with „Rapidaptor" quick-change chuck C/E 6.3

67 6140

Hex Plus

67

Type	M	S
63H **67 6100** Wera — Bits set with drive tool **32 pieces**	XXX	XXX
Content: Bits, length 25 mm, C 6.3, for Phillips	No. 675200 3 pcs. each size 1/25; 2/25; 3/25	–
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675220 3 pcs. each size 1/25; 2/25; 3/25	–
Bits, length 25 mm, C 6.3, for slot-head	1 pc. each size 0.6x4.5; 1.0x5.5; 1.2x6.5	–
Bits, length 25 mm, C 6.3, for hex socket	No. 675240 1 pc. each size 4; 5; 6	–
Bits, length 25 mm, C 6.3, for internal Torx® with pin	No. 675350 1 pc. each size TX10; TX15; TX20; TX25; TX30; TX40	No. 675350 1 pc. each size TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX30; TX40
Bits, length 25 mm, C 6.3, for hex socket with pin	–	1 pc. each size 2; 2.5; 3; 4; 5; 6 mm
Bits, length 25 mm, C 6.3, for square socket drive	–	1 pc. each size 0; 1; 2; 3
Bits, length 25 mm, C 6.3, for TORQ-SET®	–	No. 675360 1 pc. each size 6; 8; 10; 1/4
Bits, length 25 mm, C 6.3, for TRI-WING®	–	No. 675370 1 pc. each size 1; 2; 3
Bits, length 25 mm, C 6.3, for clamp	–	No. 675395 1 pc. each size 4; 6; 8; 10
Screwdriver handle	1 pc. No. 676410 with „Rapidaptor" quick-change chuck C/E 6.3	
„Rapidaptor" coupling shank	1 pc. No. 675020 size 6.3K	

67 6100 _S

67 6160 – System box of virtually indestructible ABS plastic with integral hinges and snap fastener. The bits are widely spaced so that when the box is open they can be easily accessed and taken out.

61F **67 6160** Garant — Bits set with drive tool **32 pieces** — XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675105 1 pc. each size 1/25; 2/25; 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675115 2 pcs. each size 1/25; 2/25; 3/25
Bits, length 25 mm, C 6.3, for slot-head	1 pc. size 4×0.5; 5.5×1; 6.5×1.2
Bits, length 25 mm, C 6.3, for hex socket	No. 675125 1 pc. size 2.5; 3; 4; 5; 6
Bits, length 25 mm, C 6.3, for internal Torx®	No. 675155 2 pcs. each size TX10; TX15; TX20; TX25; TX30; TX40
adapter	1 pc. 1/4 inch square socket – 1/4 inch bit holder
Quick-release adaptor	1 pc. No. 675050 size 6.3
Bit ratchet, 1/4 inch	1 pc. No. 676690

67 6160

Hex Plus

63H 67 6150 — Wera — Bits set with drive tool **31 pieces**

XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675200 2 pcs. 1/25; 3 pcs. 2/25; 1 pc. 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675380 1 pc. 1/25; 3 pcs. 2/25; 1 pc. 3/25
Bits, length 25 mm, C 6.3, for slot-head	1 pc. size 1.0x5.5
Bits, length 25 mm, C 6.3, for hex socket	1 pc. 675240 size 3; 4; 5; 6; 8
Bits, length 25 mm, C 6.3, for internal Torx®	1 pcs. size TX10; TX15; TX20; TX25; TX30; TX40
Bits, length 25 mm, C 6.3, for internal Torx® with pin	1 pc. 675350 size TX10; TX15; TX20; TX25; TX30
adapter	1 pc. 1/4 inch square socket – 1/4 inch bit holder
"Rapidaptor" adaptor	1 pc. No. 675020 size 6.3K
Bit ratchet, 1/4 inch	1 pc. No. 676645

67 6150
Hex Plus

63H 67 6171 — Wera — Bits set with drive tool and sockets **39 pieces**

XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	No. 675200 2 pcs. 1/25; 3 pcs. 2/25; 1 pc. 3/25
Bits, length 25 mm, C 6.3, for Pozidriv	No. 675380 1 pc. 1/25; 3 pcs. 2/25; 1 pc. 3/25
Bits, length 25 mm, C 6.3, for slot-head	1 pc. size 1.0×5.5
Bits, length 25 mm, C 6.3, for hex socket	1 pc. each 675240 size 3; 4; 5; 6; 8
Bits, length 25 mm, C 6.3, for internal Torx®	1 pc. each TX10; TX15; TX20; TX25; TX30; TX40
Bits, length 25 mm, C 6.3, for internal Torx® with pin	1 pc. each 675350 size TX10; TX15; TX20; TX25; TX30
Socket 1/4 inch, for external hexagon	1 pc. each size 5.5; 6; 7; 8; 10; 12; 13
adapter	1 pc. 1/4 inch square socket – 1/4 inch bit holder
"Rapidaptor" adaptor	1 pc. No. 675020 size 6.3K
Screwdriver holder	1 pc.
Bit ratchet, 1/4 inch	1 pc. No. 676645

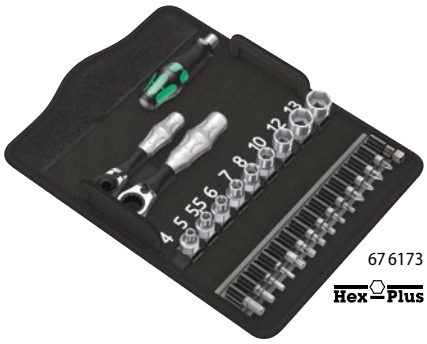
67 6171
Hex Plus

Number of pieces	27

63H 67 6173 — Wera — Bits set with drive tool and sockets **27 pieces**

XXX

Content:	
Bits, length 25 mm, C 6.3, for Phillips	1 pc. each no. 675310 size 1/25; 2/25
Bits, length 25 mm, C 6.3, for Pozidriv	1 pc. each no. 675320 size 1/25; 2/25
Bits, length 25 mm, C 6.3, for external hexagon	1 pc. each No. 675240 size 3; 4; 5; 6
Bits, length 25 mm, C 6.3, for Torx®	1 pc. each No. 675340 size TX10; TX15; TX20; TX25; TX30; TX40
Socket 1/4 inch, for external hexagon	1× each size 4; 5; 5.5; 6; 7; 8; 10; 12; 13
adapter	1 pc. 1/4 inch square socket – 1/4 inch bit holder
Screwdriver holder	1 pc.
Bit ratchet, 1/4 inch	1 pc. No. 676645
Ratchet, square, 1/4 inch	1 pc.


67 6173
Hex Plus

All popular small profile sizes with 4 mm bit holder included in the set. Bit ratchet with 5° working arc. ESD precision screwing handle for working on electronic devices in electrostatic sensitive areas.

63K 67 6175 — wiha — Bits set with drive tool and sockets **65 pieces, ESD**

XXX

Content:	
Bits, length 28 mm, 4 mm for Phillips	1 pc. each size 000; 00; 0; 1
Bits, length 28 mm, 4 mm for slot-head	1 pc. each size 0.8; 1.2; 1.5; 1.8; 2.0; 2.5; 3.0; 3.5; 4.0 mm
Bits, length 28 mm, 4 mm for hex socket	1 pc. each size 0.7; 0.9; 1.3; 1.5; 2.0; 2.5; 3.0; 4.0 mm
Bits, length 28 mm, 4 mm for hex socket	1 pc. each size 0.050; 1/16; 5/64; 3/32; 7/64; 1/8; 9/64; 5/32 inch
Bits, length 28 mm, 4 mm for internal Torx®	1 pc. each size TX3; TX4; TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20
Bits, length 28 mm, 4 mm for Pentalobe	1 pc. each size PL1; PL2; PL3; PL4; PL5; PL6
Socket for external hexagon	1 pc. each size 2.0; 2.5; 3.0; 3.5; 4.0; 4.5; 5.0; 5.5 mm
Socket for external hexagon	1 pc. each size 5/64; 3/32; 7/64; 1/8; 9/64; 5/32; 3/16; 7/32 inch
adapter	1 pc. 1/4 inch bit shank – 4 mm hex socket
Bit ratchet	1 pc., for bits C 6.3 and E 6.3; with thumbwheel
Extension 4 mm	1 pc. 100 mm
ESD precision screwdriving handle with 4 mm bit-holder	1 pc. 110 mm

67 6175

HSS | 118°

Wera HSS drill bit

1/4 inch hexagon shank to DIN 3126 C 6.3.

Advantage: Quick, uncomplicated changes between drill, countersink, and screw bits.

Application: Ideal for repair and assembly work in mobile situations.
General purpose use in metal, wood and plastic.
Special rivet hole sizes 3.1 and 5.1 mm.

67 6302

Drill ∅	mm	3	3,1	3,3	4	4,1	4,2	5	5,1	6	6,8	8	8,5	10
63H 67 6302 HSS jobber drill bit		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	16	18	18	20	20	20	26	26	26	30	32	33	38
overall length	mm	38	38	40	44	44	45	50	50	50	50	51	53	54
Shaft length	mm							14						

63H 67 6304 Drill bits set in a tool roll **19 pieces**	XXX
Content: Jobber drill bits	No. 676302 1 pc. each size 3; 4; 4.2; 5; 6; 8
Bits for Phillips	No. 675200 2 pcs. size 1/25; 3 pcs. size 2/25; 1 pc. size 3/25
Bits for internal TORX®	No. 675340 1 pc. each size TX10; TX15; TX20; TX25; TX30; TX40
"Rapidaptor" adaptor	1 pc. similar to No. 675020 size 6.3K (without magnet)

67 6304

67

HSS

Drill, tap, and countersink bit

1/4 inch hexagon shank to DIN 3126 C 6.3.

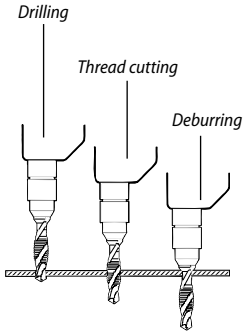
Advantage: Quick and uncomplicated changes between drill, countersink, and screw bits.

Application: Ideal for repair and assembly work in mobile situations.

67 6305

HSS stepped drill bits

9 drill steps **2 mm** increments, for use in materials up to 4 mm thickness. With edge breaker (sheet deburrer) at ∅ 10 for 1 mm sheet metals.



Drill step range	mm	4-20
63H 67 6305 Wera Stepped drill bit		XXX
overall length	mm	67
Shaft length	mm	20
Step height	mm	4

Combination tap bit

M | 60° | ISO 2 6H | 60° | ≤1×D

Application: **1 tool for 3 operations:**
drill tapping hole – tap thread – deburr / countersink.
For use in power drills with forward and reverse drive.

67 6306

for threads		M3	M4	M5	M6	M8	M10
63H 67 6306 Wera HSS combination tap bit		XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	36	39	41	41	51	59
Shaft length	mm			12			
Drill length a	mm	5	6	7	8	11	15
Twist drill ∅	mm	2.5	3.3	4.2	5	6.8	8.5
Pitch	mm	0.5	0.7	0.8	1	1.25	1.5

63H 67 6308 Wera Combination tap bits set in a sturdy box, 7 pieces	XXX
Content: Combination tap bits	No. 676306 1 pc. each size M3; M4; M5; M6; M8; M10
„Rapidaptor" coupling shank	1 pc. similar to No. 675020 size 6.3K (without magnet)

67 6308

Tap bit

67 6307

for threads			M3	M4	M5	M6	M8	M10
63H 67 6307	Wera	HSS tap bit	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	33	36	36	39	40	41
Shaft length		mm	14					
Pitch		mm	0.5	0.7	0.8	1	1.25	1.5

63H 67 6309	Wera	Tap bits set in a sturdy box, 7 pieces

	XXX
Content:	
Tap bits	No. 676307 1 pc. each size M3; M4; M5; M6; M8; M10
„Rapidaptor" coupling shank	1 pc. similar to No. 675020 size 6.3K (without magnet)

67 6309

HSS jobber drill bit, for wood

Application:

67 6315 – For drilling smooth and accurate blind holes in softwood, hardwood, and faced boards.

67 6315

Drill ∅		mm	3	4	5	6	8	10
66B 67 6315	FISCH	Jobber drill bit, for wood	XXX	XXX	XXX	XXX	XXX	XXX
Flute length		mm	30	35	45	55	70	70
overall length		mm	70	75	85	95	110	110

66B 67 6317	FISCH	Jobber drill bits set in a tool roll, for wood, 15 pieces

	XXX
Content:	
Wood jobber drill bits	No. 676315 1 pc. each size 3; 4; 5; 6; 8
Bits for Pozidriv	1 pc. each size 1/25; 2/25; 3/25
Bits for internal Torx®	1 pc. each size TX10; TX15; TX20; TX25; TX30; TX40
Quick-change adaptor	1 pc. similar to No. 675020 size 6.3K (with magnet)

67 6317

90° countersinking bit, three-flute

Application:

67 6310 – For use in power drills using adapter (No. 675000 – 675050) or in screwdriver holders (No. 676400 – 676770).

67 6310

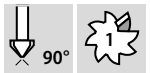
External ∅		mm	6,3	8,3	10,4	12,4	16,5	20,5
63H 67 6310	Wera	Countersinking bit, three-flute	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	31	31	34	35	40	41
Shaft length		mm	20					
for bores from		mm	1.5	2	2.5	2.8	3.2	3.5
for countersunk screw			M3	M4	M5	M6	M8	M10

63H 67 6312	Wera	Countersinking bits set in a sturdy box, 8 pieces

	XXX
Content:	
Countersinking bits, three-flute	No. 676310 1 pc. each size 6.3; 8.3; 10.4; 12.4; 16.5; 20.5
Screwdriver holder	1 pc. No. 676410
„Rapidaptor" coupling shank	1 pc. similar to No. 675020 size 6.3K (without magnet)

67 6312

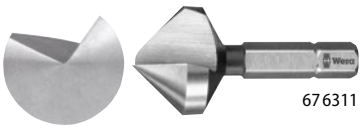
90° countersinking bit, single-flute



67 6311 – CBN ground, single-flute for chatter-free deburring and countersinking.

Application:

67 6311 – For use in power drills using adapter (No. 675000 – 675050) or in screwdriver holders (No. 676400 – 676770).


67 6311

External ∅		mm	6,3	8,3	10,4	12,4	16,5	20,5
63H 67 6311	Wera	Countersinking bit, single-flute	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	32	32	34	36	40	43
Shaft length		mm	21	21	21	21	22	22
for bores from		mm	1.5					
for countersunk screw			M3	M4	M5	M6	M8	M10

63H 67 6313	Wera	Countersinking bits set in a sturdy box, 8 pieces

	XXX
Content:	
Countersinking bits, single-flute	No. 676311 1 pc. each size 6.3; 8.3; 10.4; 12.4; 16.5; 20.5
Screwdriver holder	1 pc. No. 676410
„Rapidaptor" coupling shank	1 pc. similar to No. 675020 size 6.3K (without magnet)

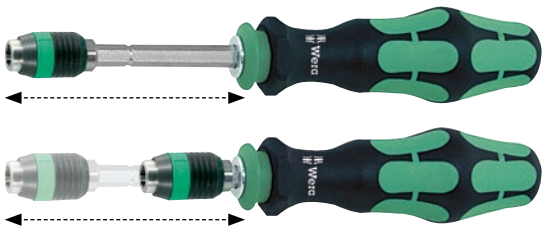
67 6313

D 6.3 F 6.3

Wera Screwdriver holder for 1/4 inch bits with telescopic blade

Kraftform handle with **retractable telescopic blade with"Rapidaptor" quick-change holder.** The shank is extended by simple actuation of the locking sleeve; the handle then becomes a fully-fledged screwdriver. By actuating the sleeve again the shank can be removed and used as a coupling shank for power screwdrivers.

Suitable for: 1/4 inch bits with **C 6.3 shank and E 6.3 shank.**



63H	**67 6400**	Kraftform handle, bit holder 1/4 inch with telescopic blade	XXX
	overall length	mm	135 – 180

D 6.3

Wera Screwdriver holder for 1/4 inch bits

Kraftform handle with holder for 1/4 inch bits.

67 6415 – Tool handle made of conductive plastic, **suitable for ESDs.**

67 6420 – Bit holder with snap ring.

67 6445 – **With flexible shank.** 67 6445 – with flexible shank. Bit holder with locking mechanism and strong permanent magnet.

67 6405/6440 – Bit holder with strong permanent magnet for holding the screw.

67 6410/6415 – With **"Rapidaptor" quick-change holder.**

67 6445

67 6405

F 6.3

67 6410

67 6415

67 6420 / 67 6440

Hexagon socket		mm	6,3
63H	**67 6405**	Kraftform screwdriver holder for 1/4 inch short bits, C 6.3 **with magnet**	XXX
63H	**67 6410**	Kraftform screwdriver holder for 1/4 inch bits C 6.3 and E 6.3 **with quick-change chuck**	XXX
63H	**67 6415**	Kraftform screwdriver holder for 1/4 inch bits C 6.3 and E 6.3 **with quick-change chuck, ESD**	XXX
63H	**67 6420**	Kraftform handle, bit holder for 1/4 inch bits C 6.3 **with snap ring**	XXX
63H	**67 6440**	Kraftform handle, bit holder for 1/4 inch bits C 6.3 **with magnet**	XXX
63H	**67 6445**	Kraftform screwdriver holder for 1/4 inch bits C 6.3 **with flexible shank**	XXX
	overall length (67 6405)	mm	64
	overall length (67 6410, 67 6415)	mm	119
	overall length (67 6420, 67 6440)	mm	232
	overall length (67 6445)	mm	275

D 6.3

Garant Screwdriver holder for 1/4 inch bits

67 6653_100

Power grip with non-allergenic, easy-grip **Haptoprene** surface and a core of particularly tough and impact-resistant polypropylene. The special surface structure allows transmission of high torques, even with wet or oily hands. Bit holder with strong permanent magnet.

Suitable for: 1/4 inch bits with C 6.3 shank.

67 6653_30

Blade length		mm	10	30	100
61F	**67 6653**	Screwdriver holder for 1/4 inch bits **with magnet**	XXX	XXX	XXX
	overall length	mm	65	135	205

67 6653_10

Garant T-handles for 1/4 inch bits

Ergonomically shaped T-handle with easy-grip **Haptoprene** surface and an impact-resistant plastic core.
The special surface structure allows transmission of high torques, even with wet or oily hands.
Bit holder with strong permanent magnet.

Suitable for: 1/4 inch bits with C 6.3 shank.

D 6.3

67 6654_30

67 6654_100

Blade length		mm	30	100
61F 67 6654	T-handle for 1/4 inch bits **with magnet**		XXX	XXX
overall length		mm	105	175

Wera T-handles for 1/4 inch bits

Ergonomic 2-component handle with finger grip hollows and pleasant feel for very high transmission of force and non-fatiguing work. With **"Rapidator" quick-change chuck.**

Suitable for: 1/4 inch bits with C 6.3 shank and E 6.3 shank.

D 6.3 F 6.3

67 6656

Hexagon socket		mm	6,3
63H 67 6656	Kraftform screwdriver holder for 1/4 inch bits C 6.3 and E 6.3 **with quick-change chuck**		XXX
overall length		mm	93.6

Garant Bit-holding driver with magazine with 1/4 inch bits

Power grip with non-allergenic, easy-grip **Haptoprene** surface and a core of particularly tough and impact-resistant polypropylene. The special surface structure allows transmission of high torques, even with wet or oily hands.
Bit holder with strong permanent magnet.

Suitable for: 1/4 inch bits with C 6.3 shank.

Content: 1 pc. each: for slot-head size 5.5; for Phillips size 1; 2; for Torx® size TX15; TX20; TX25.

D 6.3

67 6663

Blade length		mm	10
61F 67 6663	Bit-holding driver with magazine with 1/4 inch bits **with magnet**		XXX
overall length		mm	65

PB SWISS TOOLS "Twister" ratchet handle for 1/4 inch bits, reversible

"multicraft" ratchet handle with non-allergenic elastomer coating allows the required torque to be transmitted with no problems, even with wet or oily hands. For left-hand and right-hand driving (working arc 15°) plus integral central setting (ratchet locked). Bit holder with strong permanent magnet.

Suitable for: 1/4 inch bits with C 6.3 shank.

D 6.3

67 6655_30

67 6655_100

Blade length		mm	30	100
63E 67 6655	Ratchet handle "Twister" for 1/4 inch bits **with magnet**		XXX	XXX
overall length		mm	158	228

PB SWISS TOOLS Bit-holding driver with magazine with 1/4 inch bits

„Multicraft" handle and **sliding magazine with end locking** including 8 pcs. C 6.3 bits.
Bit holder with strong permanent magnet.

Suitable for: 1/4 inch bits with C 6.3 shank.

Content: 1 pc. each:
for slot-head No. 675300 size 4; 5.5; 6.
for Phillips No. 675281 size 1/25; 2/25.
for Torx® No. 675295 size TX10; TX15; TX20.

D 6.3

67 6662

67 6661

Blade length		mm	15	110
63E 67 6661	Bit-holding driver "Insider" with magazine with 1/4 inch bits **with magnet**		XXX	–
63E 67 6662	Bit-holding driver "Insider Long" with magazine with 1/4 inch bits **with magnet**		–	XXX
overall length		mm	120	215

D 6.3

“Insider Pro Ratchet” ratchet handle with bits storage and 1/4 inch bits, reversible

“multicraft” ratchet handle of glass-fibre-reinforced plastic, with fold-away bits magazine. For left-hand and right-hand driving (working arc 15°) plus integral central setting (ratchet locked). Bit holder for 1/4 inch bits C6.3, with strong permanent magnet. With 10 pcs. C 6.3 bits.

Suitable for: 1/4 inch bits with C 6.3 shank.

Content: 1 pc. each:
for slot-head, No. 675300 size 5.5; 6
for Phillips, No. 675281 size 2/25
for Pozidriv, No. 675285 size 2/25
for hex socket, No. 675290 size 3; 4
for internal Torx®, No. 675295 size TX10; TX15; TX20; TX25

			30	100
Blade length		mm		
63E 67 6665	“Insider Pro Ratchet” ratchet handle with 1/4 inch bits **with magnet**		XXX	XXX
overall length		mm	158	228

D 6.3

Bit-holding driver with magazine with 1/4 inch bits

Kraftform handle with integral bit magazine including 6 pieces C 6.3 bits and holder for 1/4 inch bits with strong permanent magnet.

67 6555 – **Telescopic blade is retractable** into the handle (100 mm). The telescopic blade can be removed and used as an adapter for a screwdriver.

Suitable for: 1/4 inch bits with C 6.3 shank.

Content: 1 pc. each:
for slot-head, size 5.5; 6.5
for Phillips, No. 675310 size 1/25; 2/25
for Pozidriv, No. 675320 size 1/25; 2/25

67 6555

67 6620

63H 67 6555	Bit-holding driver with 1/4 inch bits **telescopic shank and magnet**		XXX
63H 67 6620	Bit-holding driver with 1/4 inch bits **Snap ring and magnet**		XXX
overall length (67 6555)		mm	143 – 189
overall length (67 6620)		mm	210

Ratcheting bit holder, reversible

Reversible for left-hand / right-hand operation using lever.

67 6651 – Bit holder D 6.3 / F 6.3. With ejector and **QuickRelease** locking system.

67 6670 – Bit holder D 8.

67 6675 – Double ratcheting bit holder, cranked, one end with bit holder D 6.3, the other end with bit holder D 8.

67 6696 – 4° working angle. With 2-component handle and integrated suspension option.

67 6645/6650/6690/6696 – Bit holder D 6.3 / F 6.3.

Suitable for:

67 6670 – 5/16 inch bits with C 8 shank.

67 6675 – 1/4 inch bits with C 6.3 shank **and** 5/16 inch bits with C 8 shank.

67 6645/6650/6651/6690/6696 – 1/4 inch bits with C 6.3 shank **and** E 6.3 shank.

Supplied with:

67 6645 – Includes adapter with 1/4 inch square for sockets.

D 6.3 D 8

67 6675

D 6.3 F 6.3

67 6690

¼” D 6.3 F 6.3

Supplied with adapter with 1/4 inch square

67 6645

Type			1/4	5/16	Length mm	Width mm	Height mm	No. of teeth
61F 67 6675	Garant	Double ratchet bit holder for 1/4 inch bits C 6.3 and 5/16 inch bits C 8	XXX	–	128	21	17	17
61F 67 6690		Ratchet bit holder for 1/4 inch bits C 6.3 and E 6.3	XXX	–	100	18	12	60
63H 67 6645	Wera		XXX	–	88	17.5	12	60
63O 67 6696	HAZET		XXX	–	116	22	12	90
63A 67 6650			XXX	–	117	22	10	80
63A 67 6651	STAHLWILLE	Ratchet bit holder for 1/4 inch bits C 6.3 and E 6.3, with ejector **QuickRelease**	XXX	–	117	22.6	16	80
63R 67 6670	Koken	Ratchet bit holder for 5/16 inch bits C 8	–	XXX	128	25	14	20

D 6.3 F 6.3

67 6696

D 6.3 F 6.3

67 6650

D 6.3 F 6.3

QuickRelease 67 6651

D 8

67 6670

D 6.3 F 6.3

Wera Single-handed magazine ratchet with 1/4 inch bits, reversible

Kraftform handle with integral soft zones. With ratchet function via reversing ring for right-hand and left-hand tightening, and for fixed operation. Integral magazine for 6 bits.

Suitable for: 1/4 inch bits C 6.3 and E 6.3.

Content: 1 piece each:
for Phillips No. 675310 size 1/25; 2/25
for Pozidriv No. 675320 size 1/25; 2/25
for Torx® No. 675340 size TX20; TX25
for Phillips No. 674200 size 1/89; 2/89
for Pozidriv No. 674220 size 1/89; 2/89
for Torx® No. 674250 size TX20/89; TX25/89

Locking

For right and left-hand tightening

63H 67 6770	Single-handed magazine ratchet with 1/4 inch bits in a textile belt holder	XXX
overall length mm		150

Bit adapter

Application: For connecting screwdriver bits to drive attachments or screwdrivers with a 1/4, 3/8 or 1/2 inch square drive.

67 6800 – With retaining spring; for hand-held tools.
67 6830 – With **locking system,** prevents accidentally releasing or losing the bits.
67 6850 – With snap ring; for electric screwdrivers.
67 6880 – For power screwdrivers.
67 6900 – With quick-change coupling; for electric screwdrivers.
67 6930 – With **BiTorsion** quick-change adaptor for longer working life of bits under heavy operating conditions; for electric screwdrivers.
Holder for bits with C 6.3 and E 6.3 shank.
67 6945 – Spring retaining ring and ball; for hand-operated tools.
67 6870/6880 – With spring ring and quick-change coupling. Adapter can be pivoted 45° to get to hard-to-reach places.

67 6900_4/4

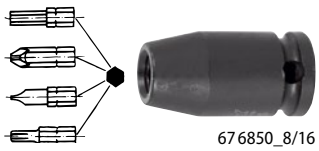
67 6930_4/4

67 6945_8/16

Type			4/4	8/4	8/16	2/4	2/16
63H 67 6900	Wera	Bit adapter with quick-change coupling for power screwdrivers	XXX	XXX	XXX	XXX	XXX
63H 67 6930	Wera	Bit adapter BiTorsion for power screwdrivers	XXX	XXX	–	–	–
63R 67 6945	Koken	Adapter	–	XXX	XXX	XXX	XXX
62F 67 6800		Adapter	XXX	–	–	–	–
62F 67 6830		Adapter **with locking system**	XXX	XXX	–	–	XXX
62F 67 6850	HOLEX	Bit adapter for power screwdrivers	–	–	XXX	–	XXX
62F 67 6870		Adapter with quick-change coupling **Can be rotated 45°**	XXX	–	–	–	–
62F 67 6880		Bit adapter with quick-change coupling for power screwdrivers **Can be rotated 45°**	XXX	–	–	–	–
Square drive		inch	1/4	3/8	3/8	1/2	1/2
overall length (67 6900)		mm	30	43	50	50	50
overall length (67 6930)		mm	77	82	–	–	–
overall length (67 6945, 67 6870)		mm	40	30	38	38	38
overall length (67 6800, 67 6850)		mm	25	–	37	–	40
overall length (67 6830)		mm	23	27	–	–	36
overall length (67 6880)		mm	47	–	–	–	–
Hexagon drive			C 6.3 (1/4 inch)	C 6.3 (1/4 inch)	C 8 (5/16 inch)	C 6.3 (1/4 inch)	C 8 (5/16 inch)

67 6830_2/16

67 6800_4/4



67 6850_8/16

67 6870_4/4

67 6880_4/4

HOLEX Adapter with 1/4 inch C 6.3 hexagon shank

Application: Converter for fitting 1/4 inch square sockets (DIN 3120 D 6.3) to drive attachments with 1/4 inch C 6.3 hexagon bit holders.

67 6950

Type		4/4
62F 67 6950	Adapter with 1/4 inch C 6.3 hexagon shank	XXX
overall length mm		25
Hexagon drive		C 6.3 (1/4 inch)
Square drive		A 6.3 (1/4 inch)

8G 20G

Garant

Tool set

Application: Modular box of virtually indestructible ABS plastic with integral hinges and 2 snap fasteners. All tools are held securely for easy access in a specially moulded **PUR foam insert.**

Note: **Supplied assembled.**
The range offers in addition space for 4 pieces of small parts storage bins No. 951251 2×3/1 or 2 pieces of small parts storage bins No. 951251 2×6/1 (not included in the scope of supply).

68 0156

Number of tools		20
61H **68 0156**	Universal tool set **20 pieces**	XXX
Length	mm	510
Width	mm	294
Height	mm	61
Supplied with: Locking tape measure with viewing window		1 pc. No. 462201 size 2.5
Hexagon key L-wrench set with ball point		1 pc. No. 627132 size 9 (9 pieces)
Slot-head screwdriver		1 pc. each No. 660030 size 2.5; 4; 5.5
Screwdriver for Phillips		1 pc. each No. 667690 size 1; 2
Combination pliers		1 pc. No. 700940 size 160
Engineer's hammer		1 pc. No. 750110 size 200
General purpose scissors		1 pc. No. 769240 size 175
Pliers wrench		1 pc. No. 813501 size 180
General-purpose knife with snap-off blades		1 pc. No. 845020

68

IP 67

wiha

Electrician's competence toolbox XL, 80 pieces

The tool case set XXL III electric is available from our eShop (No. 68 0530 100).

Application: Comprehensive electrician's tool kit in a high-impact case of polypropylene with a carrying strap.

Note: **Supplied loose.**

68 0520

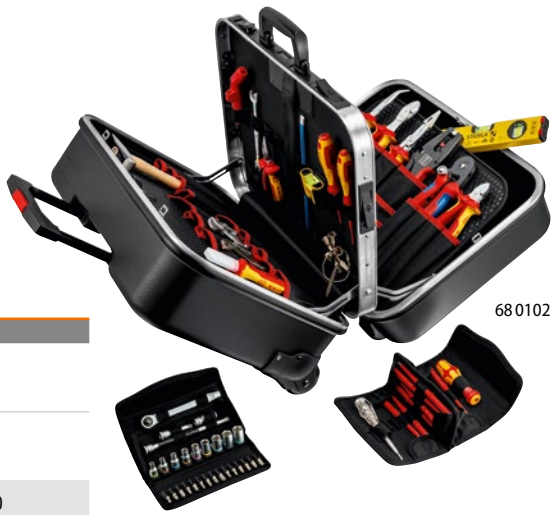
63K **68 0520**	Electrician's competence toolbox XL **80 pieces**	XXX
Length	mm	510
Width	mm	419
Height	mm	215
Supplied with: VDE nut spinner screwdriver		1 pc. each size 5.5; 7; 8; 10 mm
VDE slot-head screwdriver		1 pc. each size 3.5; 4; 5.5; 6.5
VDE screwdriver PH		1 pc. each size 1; 2
VDE screwdriver PZ		1 pc. each size 1; 2
VDE PlusMinus PH slot-head screwdriver		1 pc. each size 1; 2
VDE PlusMinus PZ slot-head screwdriver		1 pc. each size 1; 2
Voltage tester up to 250 V		1 pc. size 3
VDE bit magazine holder LiftUp mixed, slot-head; PH; PZ		7-piece
VDE TriCut installation pliers		1 pc.
VDE BiCut high performance side cutter		1 pc.
VDE combination pliers		1 pc. size 180 mm
VDE side cutters		1 pc. size 180 mm
VDE snipe nose pliers, straight		1 pc. size 200 mm
VDE snipe nose pliers, angled		1 pc. size 200 mm
VDE water pump pliers		1 pc. size 250 mm
Voltage detector, 230 – 1000 V AC		1 pc.
Automatic wire stripping tool		1 pc. each size 0.2 – 6.0 mm^2
Crimping tool for terminal sleeves		1 pc. each size 0.14 – 14 mm^2
Cable stripping knife		1 pc. size 4 – 28 mm
Precision diagonal side cutters		1 pc. size 125 mm
Bit set mixed, slot-head; PH; PZ; for Torx®		1 pc., 31-piece
Hexagon ball point key L-wrench set		9 pieces (size 1.5 – 10 mm)
Screwdriver, slot-head		1 pc. size 12
Control panel key		1 pc.
Plastic folding rule		1 pc.
Spirit level, ABS plastic		1 pc. size 200 mm

KNIPEX Elektro tool selection, 63 pieces.

Comprehensive electrician's tool kit in high-quality tool case. With mobility unit and telescopic handle.

68 0102 – Case made from ABS with all-round aluminium frame, opening both sides.
68 0104 – Case made from polypropylene for the toughest operating conditions: Resistant to dust, watertight, and temperature resistant.

Note:	Supplied completely mounted in a tool case.



68 0102

Number of tools		63
73F 68 0102	"BIG Twin Move Elektro" tool selection **63 pieces**	XXX
73F 68 0104	Tool selection „Robust 45 Move" Electro **63 pieces**	XXX
Content: Electrician's spirit level		1 pc. No. 467415 size 430
Pocket spirit level electric		1 pc. No. 467484 size 70
"JOKER" double-ended ring spanner		1 pc. size 10×13 mm
Multi-function key TwinKey®		1 pc. No. 623550
Socket set 1/4 inch, 28 pieces		1 pc. No. 630295 size S
Posidriv screwdriver, insulated to VDE		1 pc. size 1
Slot-head screwdriver, insulated to VDE		1 pc. size 3.5 mm
Kraftform Kompakt VDE set, 16-piece		1 pc. similar to No. 667260
Pointed combination pliers, chrome-plated, insulated to VDE		1 pc. No. 701655 size 145
Water pump pliers Cobra® chemically blacked		1 pc. No. 705800 size 180
Snipe nose pliers, angled, insulated to VDE		1 pc. No. 713700 size 200
Heavy-duty side cutter, chrome-plated, insulated to VDE		1 pc. No. 723500 size 200
Side cutters,chrome-plated, insulated to VDE		1 pc. No. 725300 size 160
ErgoStrip® universal stripping tool		1 pc. No. 728091 size 8-13
Wire stripper, up to 10 mm^2		1 pc. No. 728630 size 10
Installation pliers, insulated to VDE		1 pc. No. 728787 size 200
Crimping tool for terminal sleeves up to 16 mm^2		1 pc.
Electrician's chisel		1 pc. No. 743000 size 250
Engineer's hammer		1 each size 300 g
Pliers wrench		1 pc. No. 813700 size 180
Fixed blade cable knife, insulated to VDE		1 pc. No. 844410
Tool case (68 0102)		1 pc. No. 692615 size 1
Tool case (68 0104)		1 pc. „Robust 45 Move"

68 0104

Wera Maintenance tool kit, 35 pieces

Compact tool kit with the most important tools for maintenance work indoors and outdoors.

Note:	Supplied completely mounted in a textile wallet.

68 0370

63H 68 0370	Maintenance tool set, **35 pieces**	XXX
Content: Kraftform handle, insulated to VDE		1 pc. No. 667411 size 1
Slot-head screwdriver blades, insulated to VDE		1 pc. each size 0.4; 0.6; 0.8; 1.0 mm
Screwdriver blades for Phillips, insulated to VDE		1 pc. each size 1; 2
Pozidriv screwdriver blades, insulated to VDE		1 pc. each size 1; 2
Screwdriver blades for Torx®, insulated to VDE		1 pc. each size TX10; TX15; TX20; TX25
Pozidriv BITS C6.3		1 pc. each No. 675320 size 1/25; 2/25
Hexagon BITS C 6.3		1 pc. each No. 675240 size 3; 4; 5; 6
BITS for Torx® C 6.3		1 pc. No. 675340 size TX25
1/4 inch bit holder with magnet		1 pc.
1/4 inch hexagon socket set		1 pc. each size 5.5; 6; 7; 8; 10; 11; 12; 13 mm
1/4 inch extension		1 pc. size 75 mm
1/4 inch coupling shank		1 pc.
1/4 inch "Zyklop Speed" precision ratchet		1 pc. No. 632390
Screw holder		1 pc. No. 666425 size 2
Voltage tester		1 pc. No. 665030 size 3
Double ended ring spanner "Joker"		1 pc. size 10x13 mm

Tool selection in an L-BOXX®

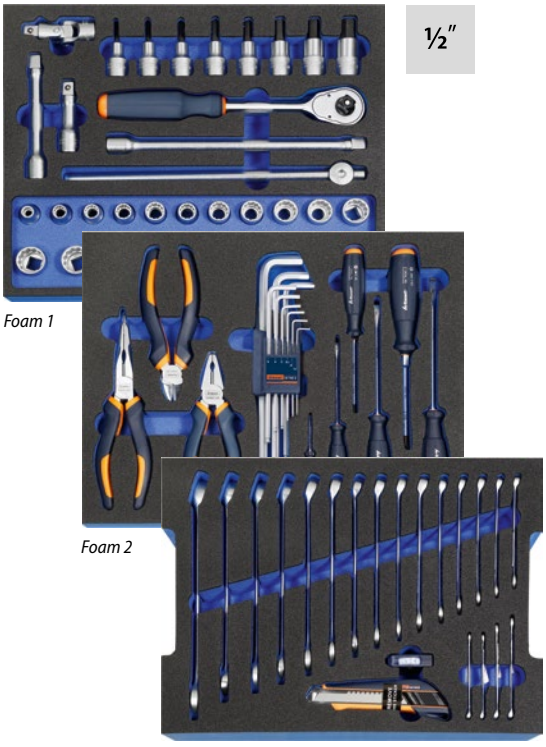
IP X4

Modular plastic L-BOXX® case of shock and impact-resistant ABS plastic, fully splash-proof. The sturdy click-on mechanism allows the case to be quickly and easily attached and detached, and also the transport together of several modular plastic cases up to 40 kg. Lid can be loaded to 100 kg, loading capacity up to 25 kg.

Note: Supplied assembled.
68 5520 – The suitable roller trolley for transporting up to 5 items of the L-BOXX® size 102 is available under No. 693370 size 5.

68 5500

Number of pieces		70
66H 68 5500 Garant	Universal tool set XXL **70 pieces**	XXX
Weight	kg	11
Supplied with: Bi-hexagon sockets		1 pc. each No. 642129 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34
Hexagon screwdriver bits		1 pc. each No. 643229 size 4; 5; 6; 7; 8; 10; 12; 14
T-handle		1 pc. No. 641329 size 295
Extension		1 pc. each No. 641029 size 75; 130; 255
Universal joint		1 pc. No. 641629 size 1/2
Ratchet		1 pc. No. 640025 size 1/2
Locking tape measure		1 pc. No. 462201 size 2.5
Combination spanner		1 pc. each No. 613600 size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24
Combination pliers		1 pc. No. 700940 size 160
Snipe nose pliers		1 pc. No. 713040 size 200
Diagonal side cutter		1 pc. No. 724840 size 160
Slot-head screwdriver		1 pc. each No. 660030 size 2; 3.5; 5.5; 6.5
Screwdriver for Phillips		1 pc. each No. 667690 size 1; 2
Hexagon key L-wrench set with ball point		1 pc. No. 627132 size 9
Cutters		1 pc. No. 845020
Lid inlay		1 pc. No. 693352
Stored in		L-BOXX® No. 693330 size 238



Foam 1

Foam 2

Foam 3

68 5520

Number of pieces		22
66H 68 5520 Garant	Universal tool set L **22 pieces**	XXX
Weight	kg	3.8
Supplied with: Locking tape measure		1 pc. No. 462201 size 2.5
Double open-ended spanner		1 pc. each No. 610600 size 8×9; 10×11; 12×13; 14×15; 17×19
Hexagon key L-wrench set with ball point		1 pc. No. 627132 size 9
Slot-head screwdriver		1 pc. each No. 660030 size 2; 3.5; 5.5; 6.5
Screwdriver for Phillips		1 pc. each No. 667690 size 1; 2
Combination pliers		1 pc. No. 700940 size 160
Lid inlay		1 pc. No. 693352
Stored in		L-BOXX® No. 693330 size 102

Modular plastic L-BOXX® case of shock and impact-resistant ABS plastic, fully splash-proof. The sturdy click-on mechanism allows the case to be quickly and easily attached and detached, and also the transport together of several modular plastic cases up to 40 kg. Lid can be loaded to 100 kg, loading capacity up to 25 kg.

Note: Supplied assembled. The suitable roller trolley for transporting up to 5 items of the L-BOXX® size 102 is available under No. 693370 size 5.

68 5550

Number of pieces		32
66H 68 5550	Garant Socket set 1/2 inch **32 pieces**	XXX
Weight	kg	6.6
Supplied with: Bi-hexagon sockets		1 pc. each No. 642129 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34
Hexagon screwdriver bits		1 pc. each No. 643229 size 4; 5; 6; 7; 8; 10; 12; 14
T-handle		1 pc. No. 641329 size 295
Extension		1 pc. each No. 641029 size 75; 130; 255
Universal joint		1 pc. No. 641629 size 1/2
Ratchet		1 pc. No. 640025 size 1/2
Lid inlay		1 pc. No. 693352
Storage in		L-BOXX® No. 693330 size 102

68 5600

Number of pieces		9
66H 68 5600	Measuring tool set **9 pieces**	XXX
Weight	kg	3.6
Supplied with: Steel scale		1 pc. No. 461805 size 300
Vernier calliper		1 pc. No. 410100 size 150
Locking tape measure		1 pc. No. 462201 size 2.5
Carbide scriber, straight		1 pc. No. 458800
Voltage tester		1 pc. No. 473010
Laser distance meter		1 pc. No. 465540 size 60
Try square, Gen. 2		1 pc. No. 452600 size 150×100
Spirit level		1 pc. No. 467010 size 250
Plastic folding rule		1 pc. No. 466200 size 2
Lid inlay		1 pc. No. 693352
Stored in		L-BOXX® No. 693330 size 102

68 5610

Number of pieces		8
66H 68 5610	Garant Circlip pliers set **8 pieces**	XXX
Weight	kg	3.6
Supplied with: Precision circlip pliers for internal circlips in bores		1 pc. each No. 719770 size J0, J1, J2; J3
Precision circlip pliers for external circlips on shafts		1 pc. each No. 719870 size A0, A1, A2; A3
Lid inlay		1 pc. No. 693352
Stored in		L-BOXX® No. 693330 size 102

Tool selection in a tool case

Note: **Supplied completely mounted in a tool case.**

68 0380

66H 68 0380	Electronics tool kit, 21 pieces **in zip fastener case**	XXX
Supplied with: **Stahlwille®** small open-ended spanner set (7 pieces)		1 pc. No. 612400 size 7 (4 - 8 mm)
PB Swiss Tools fine screwdriver set including telescopic handle		1 pc. each No. 669610 size 7 (TX 6 - TX 9 / slot-head 2.0×0.3 - 2.5×0.4 mm / PH 00 - 0 / hexagon 1.5 - 3 mm)
GARANT electronics side cutter		1 pc. No. 726180 size 125
GARANT electronics side cutter, pointed		1 pc. No. 726255 size 125
GARANT electronics snipe-nosed pliers		1 pc. No. 727170 size 140
Tweezers needle pointed		1 pc. No. 727520 size AM
Tweezers flat tips		1 pc. No. 727550 size AM
Assembly forceps		1 pc. No. 727950 size 200
Micro shears		1 pc. No. 763170 size 130
Storage in		Zip fastener case

6H 68 0130	Garant Tool set, 21 pieces **in zip fastener case**	XXX
Supplied with: Tape measure		1 pc. No. 462201 size 2.5
Double open ended spanner		1 pc. each No. 610600 size 8×9; 10×11; 12×13; 14×15; 17×19
Hexagon key L-wrench set with ball point and retainer ball in a plastic clip		1 pc. No. 627132 size 9 (1.5 – 10 mm)
Slot-head screwdriver		1 pc. each No. 660030 size 3.5; 5.5; 6.5
Screwdriver for Phillips		1 pc. each No. 667690 size 1; 2
Combination pliers		1 pc. No. 700940 size 160
Storage in zip fastener case		1 pc. No. 691536

68 0130

Number of pieces	21

6GH 68 0135	HOLEX Tool set, 21 pieces **in zip fastener case**	XXX
Supplied with: Tape measure		1 pc. No. 462014 size 3
Double open ended spanners		1 pc. each No. 610950 size 8×9; 10×11; 12×13; 14×15; 17×19
Hexagon key L-wrench set with ball point, in a plastic clip		1 pc. No. 627225 size 9
Pozidriv screwdriver		1 pc. each No. 660701 size 3.5; 4; 5.5
Screwdriver for Phillips		1 pc. each No. 668401 size 1; 2
Combination pliers		1 pc. No. 701515 size 160
Storage in zip fastener case		1 pc. No. 691536

68 0135

6H 68 0200	Standard tool kit, 18 pieces **in a synthetic leather tool folder**	XXX
Supplied with: **STABILA®** wooden folding rule		1 pc. No. 466000 size 2
DICK multi-purpose hand file with handle		1 pc. No. 515000 size 200
PUK® universal hacksaw		1 pc. No. 581240
Slot-head screwdriver		1 pc. each No. 660701 size 3.5; 5.5; 8
Voltage tester up to 250 V		1 pc. No. 665050 size 3
Screwdriver for Phillips		1 pc. No. 668401 size 2
KNIPEX® combination pliers		1 pc. No. 701600 size 160
Water pump pliers, jaws hardened		1 pc. No. 706101 size 250
KNIPEX® pincers		1 pc. No. 706610 size 180
KNIPEX® snipe nose pliers with side cutter		1 pc. No. 713100 size 140
Engineer's hammer with hickory handle		1 pc. No. 750125 size 300
General purpose scissors		1 pc. No. 769100 size 180
Adjustable spanners		1 pc. No. 814001 size 200
Bradawl		1 pc. No. 831600 size 80
Tajima general-purpose knife with snap-off blades		1 pc. No. 845000
Spatula		1 pc. No. 087650 size 40
Tool folder		1 pc. No. 691530

68 0200

6GH 68 0540	Tool set, 29 pieces, tools insulated to VDE **in a tool case**	XXX
Supplied with: Single open ended spanner		1 pc. each No. 613330 size 10; 13; 16; 17; 18; 19
wiha socket with handle		1 pc. each No. 622500 size 5.5; 6; 7; 8; 9; 10
Electrician's slot-head screwdriver		1 pc. each No. 663301 size 2.5; 3; 3.5; 4; 5.5; 6.5
PB Swiss Tools voltage tester up to 250 V		1 pc. No. 665020 size 2.5
BENNING voltage tester "Analog"		1 pc. No. 473105 size ANALOG
Screw-in fuse carrier key, fully insulated up to 1000 V to EN 60900		1 pc. No. 665800
Electrician's screwdriver for Phillips		1 pc. each No. 668631 size 1; 2
KNIPEX® combination pliers, insulated to VDE		1 pc. No. 701700 size 180
KNIPEX® snipe nose pliers with side cutter		1 pc. No. 713300 size 200
KNIPEX® side cutter, insulated to VDE		1 pc. No. 725300 size 160
KNIPEX® wire strippers, insulated to VDE		1 pc. No. 728750 size 160
KNIPEX® cable cutters		1 pc. No. 730350 size 165
KNIPEX® fixed blade cable knife		1 pc. No. 844410

68 0540

Tool selection for trainees

Note: **Supplied loose.**

Number of tools		43
66H **68 0264**	Trainee mechanical fitter's tool kit, 43 pieces for industrial mechanics **with folding box**	XXX
66H **68 0265**	Trainee mechanical fitter's tool kit, 43 pieces for industrial mechanics **without folding box**	XXX
Supplied with: Magnetic holder		3 pc. No. 085915 size 20
GARANT calipers		1 pc. No. 410100 size 150
Try squares		1 pc. No. 452600 size 100×70
Precision spring dividers		1 pc. No. 457000 size 150
Scriber, straight		1 pc. No. 458500
Steel rule		1 pc. No. 461805 size 300
GARANT locking tape measure		1 pc. No. 462210 size 2
Hand file, bastard cut		1 pc. each No. 510100 size 150; 250
DICK hand file, cut 3 (smooth)		1 pc. each No. 510300 size 150; 250
DICK three-square file, cut 1 (bastard)		1 pc. No. 511100 size 250
DICK three-square file, cut 3 (smooth)		1 pc. No. 511300 size 200
DICK square file, cut 1 (bastard)		1 pc. No. 512100 size 250
DICK square file, cut 3 (smooth)		1 pc. No. 512300 size 150
DICK round file, cut 1 (bastard)		1 pc. No. 514100 size 250
DICK round file, cut 3 (smooth)		1 pc. No. 514300 size 200
Hardwood file handles		5 pcs. No. 519400 size 100 and 5 pcs. size 120
File brush		1 pc. No. 576000 size 115×40
GARANT slot-head screwdriver		1 pc. No. 660030 size 5.5
PB Swiss Tools flat chisel		1 pc. No. 740900 size 150
PB Swiss Tools taper pin punch		1 pc. each No. 745300 size 3; 6
PB Swiss Tools centre punch		1 pc. No. 748900 size 120
GARANT engineer's hammer		1 pc. No. 750110 size 500
RENNSTEIG three-edge hollow scraper		1 pc. No. 836010 size 200
RENNSTEIG flat scraper		1 pc. No. 837020 size 250
GARANT vice jaws (pair)		1 pc. No. 967711 size 125
Bench hand brush		1 pc. No. 087553 size 280
uvex® comfort safety glasses, clear		1 pc. No. 096504 size CLEAR
Ear defenders		1 pc. No. 097795 size STEEL
Leather work gloves (pair)		1 pc. No. 094055 size 10
Folding box (68 0264)		1 pc. No. 693450 size 42

68 0264

66H **68 0440**	Trainee electronics fitter's tool kit, 25 pieces **with tool case**	XXX
66H **68 0445**	Trainee electronics fitter's tool kit, 25 pieces **without tool case**	XXX
Supplied with: **GARANT** calipers		1 pc. No. 410100 size 150
STABILA® wooden folding rule		1 pc. No. 465950 size 2
DICK half-round file		1 pc. No. 513300 size 250
Hardwood file handle		1 pc. No. 519400 size 120
PUK® universal hacksaw		1 pc. No. 581220 size 150
Wera slot-head screwdriver, insulated to VDE		1 pc. each No. 663100 size 2.5; 3.5; 4; 5.5; 6.5; 8
Wera screwdriver for Phillips, insulated to VDE		1 pc. each No. 668600 size 1; 2
KNIPEX® combination pliers, insulated to VDE		1 pc. No. 701700 size 160
KNIPEX® water pump pliers, insulated to VDE		1 pc. No. 705740 size 250
KNIPEX® flat-nose pliers, insulated to VDE		1 pc. No. 710300 size 160
KNIPEX® round-nose pliers, insulated to VDE		1 pc. No. 710700 size 160
KNIPEX® snipe nose pliers, insulated to VDE		1 pc. each No. 713300 size 160; 200
GARANT electronics side cutter		1 pc. No. 726210 size 125
JOKARI® automatic wire strippers		1 pc. No. 728622 size 6
JOKARI® sheath and wire stripper for all common coaxial cables		1 pc. No. 729806 size RG58/59
GARANT engineer's hammer with hickory handle		1 pc. No. 750110 size 300
Plastic hammer		1 pc. No. 754200 size 32
Cable knife with wooden handle, folding		1 pc. No. 844500 size 1
PARAT® tool case (68 0440)		1 pc. No. 690200

68 0440

Tool selection for mechanical and assembly work

Note:	Supplied loose.

66H 68 0252	Mechanic's tool set, 97 pieces **with tool case**	XXX
66H 68 0255	Mechanic's tool set, 97 pieces **without case**	XXX
Supplied with: **GARANT** calipers		1 pc. No. 410100 size 150
GARANT tape measure		1 pc. No. 462210 size 2
DICK three square file H2 with handle		1 pc. No. 511200 size 200
DICK half-round file H2 with handle		1 pc. No. 513200 size 200
DICK round file H2 with handle		1 pc. No. 514200 size 200
Precision key files in a plastic wallet		1 pc. No. 518930 (6-piece)
File brush		1 pc. No. 576000 size 115×40
PUK® universal hacksaw		1 pc. No. 581220 size 150
Open-ended spanners 6 – 22 mm with clip		1 pc. No. 610960 size 8 (6×7 – 19×22 mm) with 1 pc. No. 611500 size 8
Torx® key L-wrench set		1 pc. No. 624870 size 11 (TX6 – TX40)
Hexagon key L-wrench set with a plastic clip		1 pc. No. 626072 size 9 (1.5 - 10 mm)
Socket set 1/4 inch		1 pc. No. 630368 (29 pieces)
Slot-head screwdriver		1 pc. No. 660711 size 5 (3.5 - 8 mm)
Screwdriver for Phillips		1 pc. each No. 668401 size 1; 2
KNIPEX® combination pliers		1 pc. No. 701500 size 160
Water pump pliers		1 pc. No. 706151 size 250
KNIPEX® snipe nose pliers with side cutter		1 pc. No. 713150 size 160
Tweezers needle pointed		1 pc. No. 727520 size N
KNIPEX® side cutter		1 pc. No. 724900 size 160
PB Swiss Tools flat chisel		1 pc. No. 741000 size 150
RENNSTEIG pin punch set with guide sleeve		1 pc. No. 747200 size 6 (2 - 8 mm)
PB Swiss Tools centre punch		1 pc. No. 749200 size 90
GARANT engineer's hammer with hickory handle		1 pc. each No. 750110 size 100; 300
Ideal sheet metal shears with compound action		1 pc. No. 766042 size 260
PB Swiss Tools bradawl		1 pc. No. 831600 size 80
NOGA precision engineer's scraper		1 pc. No. 836400 size 120
Plastic bottle oiler		1 pc. No. 083529 size 80
Multi-purpose shears		1 pc. No. 763100 size 140
PARAT® tool case (68 0252)		1 pc. No. 691450

68 0252

66H 68 0300	Assembly tool set, 59 pieces **with sheet metal toolbox**	XXX
66H 68 0302	Assembly tool set, 59 pieces **with tool case**	XXX
66H 68 0305	Assembly tool set, 59 pieces **without container**	XXX
Supplied with: **STABILA®** wooden folding rule		1 pc. No. 466000 size 2
Wire brush		1 pc. No. 575000 size 3
DICK workshop files set, 2nd cut with handle, assorted, in a tool roll		1 pc. No. 517200 size 200 (5-piece)
PUK® universal hacksaw		1 pc. No. 581220 size 150
GARANT open-ended spanners set 6 – 34 mm with clip		1 pc. No. 610610 size 12 (6×7 – 30×34 mm) with 1 pc. No. 611500 size 12
Hexagon key L-wrench set with a plastic clip		1 pc. No. 626072 size 8 (2 - 10 mm)
PB Swiss Tools slot-head screwdriver set		1 pc. No. 660910 size 5 (3.5 - 8 mm)
PB Swiss Tools offset screwdriver for slot-head		1 pc. No. 664800 size 6.5
PB Swiss Tools voltage tester up to 250 V		1 pc. No. 665020 size 3.5
PB Swiss Tools screwdriver for Phillips		1 pc. each No. 668100 size 1; 2
KNIPEX® combination pliers		1 pc. No. 701500 size 180
KNIPEX® water pump pliers		1 pc. No. 704900 size 250
KNIPEX® pincers		1 pc. No. 706610 size 210
Universal grip wrench		1 pc. No. 708205 size 250
KNIPEX® snipe nose pliers with side cutter		1 pc. No. 713150 size 160
Internal circlip pliers, straight		1 pc. No. 719805 size J2
External circlip pliers, straight		1 pc. No. 719905 size A2
KNIPEX® side cutter		1 pc. No. 724900 size 160
RENNSTEIG cold chisel		1 pc. No. 740500 size 175
RENNSTEIG taper pin punch set and centre punch		1 pc. No. 745600 size 6 (2 - 6 mm; 120 mm)
Engineer's hammer with hickory handle		1 pc. No. 750110 size 300
Plastic hammer		1 pc. No. 754500 size 32
PB Swiss Tools reamer		1 pc. No. 831700 size 110
Fixed blade cable knife		1 pc. No. 844300 size 175
Plastic bottle oiler		1 pc. No. 083532 size 125
Insulating tape, black		1 pc. No. 083654 size BLACK
Marker pen, blue		1 pc. No. 085154 size B
Sheet steel toolbox (68 0300)		1× No. 693455 size 5/530
Tool case (68 0302)		1 pc. No. 690200

68 0302

66H **68 0275**	Assembly tool kit, 90 pieces **with GARANT tool case**	XXX
66H **68 0280**	Assembly tool kit, 90 pieces **without tool case**	XXX
Supplied with: **WIHA** plastic folding rule 2 m		1 pc. No. 466200 size 2
DICK high-performance flat file with handle		1 pc. No. 515000 size 200
GARANT mini bow saw		1 pc. No. 581195
GARANT combination spanner set		1 pc. No. 613610 size 9 (5.5 - 19 mm)
PB Swiss Tools L-wrench set for Torx®		1 pc. No. 624810 size 8 (TX6 - TX25)
GARANT hexagon key L-wrench set with ball point and retention function, in a plastic clip		1 pc. No. 627132 size 9 (1.5 - 10 mm)
GARANT socket set 1/4 inch		1 pc. No. 630299 size 6 (39 pieces)
GARANT slot-head screwdriver set		1 pc. No. 660031 size 6 (3.5 - 10 mm)
GARANT screwdriver for Phillips		1 pc. each No. 667690 size 1; 2
GARANT combination pliers		1 pc. No. 700940 size 180
KNIPEX® water pump pliers		1 pc. No. 705800 size 250
GARANT snipe nose pliers, angled		1 pc. No. 713440 size 200
KNIPEX® internal circlip pliers, straight		1 pc. No. 719790 size J2
KNIPEX® external circlip pliers, straight		1 pc. No. 719890 size A2
GARANT side cutters		1 pc. No. 724840 size 160
PB Swiss Tools chisel taper pin punch set		1 pc. No. 745100 (6-piece)
Engineer's hammer with 3-component handle		1 pc. No. 750450 size 300
Combined engineer's hammer and soft hammer		1 pc. No. 754880 size 30
GARANT tool case (68 0275)		1 pc. No. 692790

68 0275

66H **68 0350**	Assembly tool set, 110 pieces **with sheet metal toolbox**	XXX
66H **68 0352**	Assembly tool set, 110 pieces **with X-ABS toolbox**	XXX
66H **68 0355**	Assembly tool set, 110 pieces **without container**	XXX
Supplied with: Dividers		1 pc. No. 457600 size 200
Scriber, double-ended		1 pc. No. 458400
STABILA® wooden folding rule		1 pc. No. 466000 size 2
DICK workshop files set, 2nd cut with handle, assorted, in a tool roll		1 pc. No. 517200 size 200 (5-piece)
Precision key files in a plastic wallet		1 pc. No. 518930 (6-piece)
Wire brush, 3-row		1 pc. No. 575000 size 3
Hacksaw frame with blade		1 pc. No. 580700 size 300
GARANT mini bow saw		1 pc. No. 581195
GARANT open-ended spanner 6 – 34 mm with clip		1 pc. No. 610610 size 12 (6×7 – 30×34 mm) with 1 pc. No. 611500 size 12
GARANT double-ended ring spanner, 6 – 22 mm		1 pc. No. 615610 size 8 (6×7 - 19×22 mm)
Hexagon key L-wrench set in a plastic clip		1 pc. No. 626072 size 9 (1.5 - 10 mm)
Torx® key L-wrench		1 pc. No. 624870 size 11 (TX6 – TX40)
Socket set 1/2 inch		1 pc. No. 637718 size 6 (16 pieces)
GARANT slot-head screwdriver set		1 pc. No. 660031 size 5 (3.5 - 8 mm)
PB Swiss Tools slot-head screwdriver, short		1 pc. No. 664100 size 6.5
PB Swiss Tools offset screwdriver for slot-head		1 pc. No. 664800 size 6.5
PB Swiss Tools voltage tester up to 250 V		1 pc. No. 665020 size 3.5
PB Swiss Tools screwdriver for Phillips		1 pc. each No. 667690 size 1; 2
Combination pliers		1 pc. No. 703000 size 180
Water pump pliers		1 pc. No. 706151 size 250
KNIPEX® pincers		1 pc. No. 706610 size 210
Universal grip wrench		1 pc. No. 708205 size 250
Snipe nose pliers with side cutter		1 pc. No. 713200 size 160
Internal circlip pliers, straight		1 pc. No. 719805 size J2
External circlip pliers, straight		1 pc. No. 719905 size A2
Diagonal side cutter		1 pc. No. 725250 size 160
RENNSTEIG cold chisel		1 pc. No. 740500 size 175
RENNSTEIG cold cross-cut chisel		1 pc. No. 740600 size 150
RENNSTEIG taper pin punch set and centre punch		1 pc. No. 745600 size 6 (2 - 6 mm; 120 mm)
Engineer's hammer with 3-component handle		1 pc. each No. 750450 size 300; 500
Plastic hammer		1 pc. No. 754500 size 32
Ideal sheet metal shears with compound action		1 pc. No. 766042 size 260
Electrician's scissors		1 pc. No. 769005 size 130
PB Swiss Tools reamer		1 pc. No. 831700 size 110
Fixed blade cable knife		1 pc. No. 844300 size 175
Plastic bottle oiler		1 pc. No. 083532 size 125
Torch, LED light		1 pc. No. 081437 size BLACK
Insulating tape, black		1 pc. No. 083654 size BLACK
Marker pen, blue		1 pc. No. 085154 size B
Sheet metal toolbox (68 0350)		1× No. 693455 size 5/530
PARAT® X-ABS tool case (68 0352)		1 pc. No. 692671

68 0350

68 0352

Tool selection for electronics and electrical work

Note:	Supplied loose.

66H 68 0400	Electronics tool kit, 118 pieces **with aluminium tool case**	XXX
66H 68 0405	Electronics tool kit, 118 pieces **without case**	XXX
Content:		
GARANT calipers		1 pc. No. 410100 size 150
Stahlwille® combination spanner		1 pc. each No. 613500 size 3.2; 4; 5; 5.5; 7; 8; 10; 11; 13
Hexagon key L-wrenches		1 pc. each No. 626038 size 0.7; 0.9 1 pc. each No. 626037; 1.3; 1.5; 2; 2.5; 3; 4; 5 1 pc. each No. 626039; 1/16; 3/32; 1/8; 3/16
Wallet for hexagon key L-wrenches		1 pc. No. 626250 size 8
GARANT socket set 1/4 inch		1 pc. No. 630325 size SD (41 pieces)
PB Swiss Tools electrician's slot-head screwdriver		1 pc. each No. 663000 size 2; 2.5; 3.5; 4; 5.5
PB Swiss Tools slot-head screwdriver, short		1 pc. each No. 664100 size 5.5; 8
PB Swiss Tools offset screwdriver for slot-head		1 pc. each No. 664800 size 4; 5.5
PB Swiss Tools offset screwdriver for Phillips		1 pc. each No. 669400 size 1; 2
PB Swiss Tools screwdriver for Phillips		1 pc. each No. 668000 size 0; 1; 2; 1K; 2K
Inspection mirror		1 pc. No. 081620 size 23
Wera electronics slot-head screwdriver		1 pc. each No. 669900 size 2.5; 3; 4
Wera electronics screwdriver for Phillips		1 pc. each No. 669905 size 0; 1
Wera Pozidriv electronics screwdriver		1 pc. No. 669910 size 0
KNIPEX® water pump pliers Cobra®		1 pc. No. 705800 size 125
pair anti-magnetic tweezers, pointed		1 pc. No. 727520 size AM
pair anti-magnetic tweezers, shouldered / flat tips		1 pc. No. 727580 size AM
pair anti-magnetic reverse action tweezers, angled / flat tips		1 pc. No. 727700 size AM
pair anti-magnetic extraction tweezers for micro packages		1 pc. No. 727840 size AM
pair anti-magnetic tweezers, fully insulated, pointed		1 pc. No. 727920 size AM
Assembly forceps		1 pc. No. 727950 size 200
GARANT electronics side cutter		1 pc. No. 726210 size 125
GARANT electronics snipe-nosed pliers		1 pc. No. 727170 size 140
GARANT electronics flat-nose pliers		1 pc. No. 727165 size 140
GARANT vanadium side cutters		1 pc. No. 723040 size 160
GARANT automatic wire strippers		1 pc. No. 728613 size 6
Varnish stripping tweezers		1 pc. No. 728770 size 120
Cable cutter, small		1 pc. No. 730100 size 160
Parallel pin punch with sleeve		1 pc. No. 748201 size 9 (0.9 - 5.9 mm)
Engineer's hammer with hickory handle		1 pc. No. 750100 size 100
Tajima general-purpose knife with snap-off blades		1 pc. No. 844900
Adjustable spanners		1 pc. No. 813961 size 150
Insulating tape, black		1 pc. No. 083654 BLACK
Torch, LED light		1 pc. No. 081437 BLACK
PARAT® aluminium tool case (68 0400)		1 pc. No. 692000

66H 68 0450	Electrician's tool kit, 36 pieces **with leather case**	XXX
66H 68 0455	Electrician's tool kit, 36 pieces **without case**	XXX
Content:		
STABILA® wooden folding rule		1 pc. No. 466000 size 2
STABILA® light metal spirit level		1 pc. No. 467030 size 400
PUK® universal hacksaw		1 pc. No. 581220
Wera slot-head screwdriver, insulated to VDE		1 pc. each No. 663100 size 3.5; 4; 5.5; 6.5; 8
PB Swiss Tools voltage tester up to 250 V		1 pc. No. 665020 size 2.5
Screw-in fuse carrier key to EN 60900, fully insulated up to 1000 V		1 pc. No. 665800 from 2 - 63 A
Wera screwdriver for Phillips, insulated to VDE		1 pc. each No. 668600 size 1; 2
KNIPEX® combination pliers, insulated to VDE		1 pc. No. 701700 size 160
KNIPEX® water pump pliers, insulated to VDE		1 pc. No. 705740 size 250
KNIPEX® snipe nose pliers, insulated to VDE, with side cutter		1 pc. No. 713300 size 160
KNIPEX® side cutter, insulated to VDE		1 pc. No. 725300 size 160
KNIPEX® wire strippers, insulated to VDE		1 pc. No. 728750 size 160
JOKARI® cable stripping knife		1 pc. No. 728010 size 8 – 28
RENNSTEIG stone chisel, flat		1 pc. No. 742500 size 250
RENNSTEIG stone chisel, pointed		1 St. Nr. 742600 Gr. 250
RENNSTEIG electrician's chisel, flat		1 pc. No. 743000 size 250
GARANT engineer's hammer with hickory handle		1 pc. No. 750110 size 500
Club hammer with handle		1 pc. No. 751005 size 1
Milwaukee® carbide concrete drill set in a plastic case		1 pc. No. 786080 size 5 (∅ 4 –10 mm)
PB Swiss Tools reamer		1 pc. No. 831700 size 110
RUNPOTEC® cable insertion strip made from nylon		1 pc. No. 814862 size 10
Fixed blade cable knife		1 pc. No. 844300
Spatula		1 pc. No. 087650 size 50
Rubber mixing bowl		1 pc. No. 087680 size 125
Water application brush		1 pc. No. 087005 size 20
Insulating tape, black		1 pc. No. 083654 size BLACK
Torch, LED light		1 pc. No. 081437 size BLACK
PARAT® leather case (68 0450)		1 pc. No. 691200

66H **68 0502**	Electrician's tool kit, 82 pieces **with tool case**	XXX
66H **68 0505**	Electrician's tool kit, 82 pieces **without case**	XXX
Content: HSS drill set, in a case		1 pc. No. 115000 size 1 – 10
STABILA® wooden folding rule		1 pc. No. 466000 size 2
Chalk snap line container with coloured chalk		1 each No. 467590 size 1; No. 467595 size R
STABILA® light metal spirit level		1 pc. No. 467030 size 400
DICK hand file, cut 1 (bastard) with handle		1 pc. No. 510100 size 150
DICK half-round file, 2nd cut with handle		1 pc. No. 513200 size 150
DICK round file, 2nd cut with handle		1 pc. No. 514200 size 150
Wire brush		1 pc. No. 575000 size 3
PUK® universal hacksaw		1 pc. No. 581220
Socket set 1/4 inch		1 pc. No. 630168 size 6 (17 pieces)
Wera slot-head screwdriver, insulated to VDE		1 pc. each No. 663100 size 3.5; 4; 5.5; 6.5; 8
PB Swiss Tools voltage tester up to 250 V		1 pc. No. 665020 size 2.5
BENNING voltage tester "Analog"		1 pc. No. 473105 size Analog
Wallet for them		1 pc. No. 473336 size B
Screw-in fuse carrier key to EN 60900, fully insulated up to 1000 V		1 pc. No. 665800 from 2 - 63 A
Wera screwdriver for Phillips, insulated to VDE		1 pc. each No. 668600 size 1; 2
KNIPEX® combination pliers, insulated to VDE		1 pc. No. 701700 size 160
KNIPEX® water pump pliers, insulated to VDE		1 pc. No. 705740 size 250
KNIPEX® snipe nose pliers with side cutter, insulated to VDE		1 pc. No. 713300 size 160
KNIPEX® side cutter, insulated to VDE		1 pc. No. 725300 size 160
Wire strippers, insulated to VDE		1 pc. No. 728750 size 160
JOKARI® cable stripping knife		1 pc. No. 728010 size 8 – 28
RENNSTEIG stone chisel, flat		1 pc. No. 742500 size 250
RENNSTEIG stone chisel, pointed		1 pc. No. 742600 size 250
RENNSTEIG electrician's chisel, flat		1 pc. No. 743000 size 250
GARANT engineer's hammer with hickory handle		1 pc. No. 750110 size 500
Club hammer with handle		1 pc. No. 751005 size 1
Ideal sheet metal shears with compound action		1 pc. No. 766000 size 260
Telephone shears		1 pc. No. 769005 size 130
Milwaukee® carbide masonry drill in a plastic case		1 pc. No. 786080 size 5 (∅ 4 –10 mm)
Mortise chisel		1 pc. No. 794800 size 16
RUNPOTEC® cable insertion strip made from nylon		1 pc. No. 814862 size 10
Square reamer		1 pc. No. 831700 size 110
Fixed blade cable knife		1 pc. No. 844300
Insulating tape, black		1 pc. No. 083654 size BLACK
Torch, LED light		1 pc. No. 081437 size BLACK
Spatula		1 pc. No. 087650 size 50
Rubber mixing bowl		1 pc. No. 087680 size 125
Water application brush		1 pc. No. 087005 size 20
PARAT® tool case (68 0502)		1 pc. No. 690200

Safety first– Use of insulated tools

The best possible safety when working on electrical equipment is obtained by de-energising the equipment before starting work.
Only trained electricians working in conformity with the applicable safe working standards (in Germany for instance VDE 0105, internationally for instance EN 50110 or IEC 60364) may work on live equipment.
In such cases, the tools used must be those specially designed and tested for such work in compliance with DIN EN 60 900.

In addition to the statutory provisions, please also comply with the following safety instructions:

- This is how to transport your tools that you are going to use for working on live equipment, to make sure you avoid damage to the insulation.
- Every time you are going to use the tool, check that the insulation is undamaged; defective tools must be disposed of.
- Wear protective workwear and protective equipment (such as electrician's gloves) – especially if you are going to working in restricted spaces
- Always use the right size of tool for the job.
  That prevents the tool slipping on the workpiece which risks unwanted contact with uninsulated parts.
- Before starting work, check that the power is switched off and secured against being switched on again.
- You can find further VDE articles in areas 4; 6; 7 and 8.
- In Volume 3 you will find VDE tool organiser systems and in Volume 4 VDE protective equipment.

Basic equipment tool selection

Application: Popular assortments for keeping in roller cabinets, workbenches, drawer cabinets etc.

66H **68 0560**	Tool set A / 95 pieces – basic set	XXX
Content: **Tajima** pocket tape measure		1 pc. No. 462300 size 5
DICK half-round file, 2nd cut		1 pc. No. 513200 size 200
Hardwood file handle		1 pc. No. 519400 size 100
Precision key file set in metal case		1 pc. No. 518950 (6-piece)
Steel wire hand brush		1 pc. No. 575000 size 4
Stahlwille® double open-ended spanner set		1 pc. each No. 611000 size 10 (6×7 - 27×30 mm)
Stahlwille® double-ended ring spanner set		1 pc. each No. 615500 size 10 (6×7 - 27×30 mm)
Hexagon key L-wrench set		1 pc. each No. 626072 size 8 (2 - 10mm)
Stahlwille® socket set, 1/2 inch, including drive accessories		1 pc. No. 637916 size 6 (28-piece)
Wera slot-head screwdriver set		1 pc. No. 660110 size 6 (3.5 - 10 mm)
PB Swiss Tools voltage tester 110 – 250 V		1 pc. No. 665020 size 2.5
PB Swiss Tools slot-head screwdriver short		1 pc. No. 664100 size 6.5
Wera slot-head screwdriver for Phillips		1 pc. No. 668260 size 2S
Wera screwdriver set for Phillips		1 pc. No. 667710 (3-piece)
KNIPEX® heavy duty combination pliers chrome-plated		1 pc. No. 700400 size 180
KNIPEX® water pump pliers		1 pc. No. 705900 size 250
KNIPEX® side cutter chrome-plated		1 pc. No. 724860 size 160
RENNSTEIG cold chisel		1 pc. No. 740500 size 175
RENNSTEIG taper pin punch set and centre punch		1 pc. No. 745600 size 6 (2 - 6 mm; 120mm)
GARANT engineer's hammer		1 pc. No. 750110 size 500
Wera plastic mallet with polyurethane inserts		1 pc. No. 754200 size 32
PB Swiss Tools bradawl with plastic handle		1 pc. No. 831600 size 110
RENNSTEIG three-edge hollow scraper with wooden handle		1 pc. No. 836010 size 150
RENNSTEIG flat scraper with wooden handle		1 pc. No. 837020 size 200
Tajima universal knife, 18 mm blade		1 pc. No. 845030 size 2K
Plastic oiler with brass tube		1 pc. No. 083529 size 80
Telescopic magnetic retriever		1 pc. No. 081650
Torch, LED light		1 pc. No. 081437 BLACK

68 0560

66H **68 0570**	Tool set V / 100 pieces – basic set	XXX
Content: **Tajima** pocket tape measure		1 pc. No. 462300 size 5
DICK half-round file 200 mm, cut		1 pc. No. 513200 size 200
Hardwood file handle		1 pc. No. 519400 size 100
Precision key file set in metal case		1 pc. No. 518950 (6-piece)
Steel wire hand brush		1 pc. No. 575000 size 4
GARANT open-ended spanner set		1 pc. No. 610610 size 10 (6×7 - 27×30 mm)
GARANT double-ended ring spanner set		1 pc. No. 615610 size 10 (6×7 - 27×30 mm)
Hexagon key L-wrench set		1 pc. No. 626072 size 8 (2 - 10 mm)
Socket set, 1/2 inch, including drive accessories		1 pc. No. 638018 size 12 (33-piece)
Slot-head screwdriver set		1 pc. No. 660711 size 5 (3.5 - 8 mm)
PB Swiss Tools voltage tester 110 – 250 V		1 pc. No. 665020 size 2.5
PB Swiss Tools slot-head screwdriver short		1 pc. No. 664100 size 6.5
PB Swiss Tools screwdriver for Phillips		1 pc. No. 668000 size 2K
Screwdriver set for Phillips		1 pc. No. 668411 size 3 (1-3)
GARANT heavy duty combination pliers chrome-plated		1 pc. No. 700340 size 180
KNIPEX® grooved water pump pliers		1 pc. No. 705000 size 250
GARANT side cutters chrome-plated		1 pc. No. 724840 size 160
RENNSTEIG cold chisel		1 pc. No. 740500 size 175
RENNSTEIG taper pin punch set and centre punch		1 pc. No. 745600 size 6 (2 - 6 mm; 120mm)
Engineer's hammer		1 pc. No. 750125 size 500
Wera plastic mallet with polyurethane inserts		1 pc. No. 754200 size 32
PB Swiss Tools bradawl 200 mm long with plastic handle		1 pc. No. 831600 size 110
RENNSTEIG three-edge hollow scraper with wooden handle		1 pc. No. 836010 size 150
RENNSTEIG flat scraper with wooden handle		1 pc. No. 837020 size 200
Tajima universal knife, 18 mm blade		1 pc. No. 845030 size 2K
Plastic oiler with brass tube		1 pc. No. 083529 size 80
Telescopic magnetic retriever		1 pc. No. 081650 size 160 – 670
Torch, LED light		1 pc. No. 081437 BLACK

68 0570

40 kg | 100% | 20G 16G | 8G 20G | 10G 8G | ½″

GRID LINE

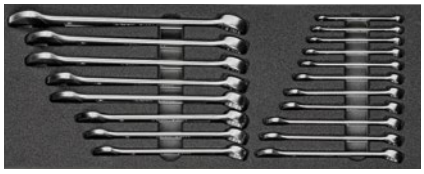
Garant

Roller cabinet with general-purpose tool selection

Compact roller cabinet in the new GridLine range with 7 drawers, of which 4 can carry the high-quality professional tools supplied. The contents of the other 3 drawers can be individually selected. The general-purpose tool selection fits precisely in two-tone PE rigid foam inlays, in which each tool has its own defined place in the roller cabinet.
The drawers of the roller cabinet are unlocked using a central catch integrated in the handle.
Each 75 mm drawer is supplied with 1 slotted partition No. 951510 size 75, each 125 mm drawer is supplied with 1 slotted partition No. 951510 size 125. If desired, the worktop can be exchanged for another worktop (such as a bamboo worktop).

Note: **Supplied loose.**
Other tool organiser systems for roller cabinets can be found from No. 952048. The equipped roller cabinet 689000 size 1 can be dispatched only to destinations within the EU.

8G 20G

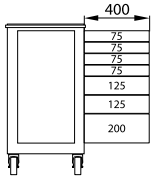


½″

20G 16G

Large area. Practical.
Scratch-resistant and non-slip X-ABS worktop which does not damage surfaces.

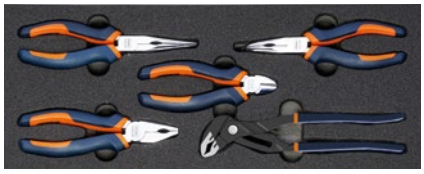
Systematic. Divisible.
With 7 drawers, offers room for a large number of tools.

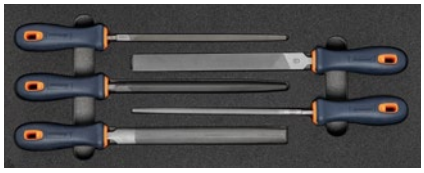


Visual. Powerful.
Two-tone powder-coated, silver combined with RAL 7016 anthracite.

Mobile. Stable.
2 fixed wheels and 2 castors with brakes for reliable smooth running and stability.

68 9000





Type		1
61H **68 9000**	Roller cabinet incl. general-purpose tool selection, **174 pieces for 4 drawers**	–
Height	mm	1000
Width	mm	800
Depth	mm	500
Drawer usable width	mm	500
Drawer usable depth	mm	400
Drawer usable width in G		20
Drawer usable depth in G		16
Supplied with: Roller cabinet		1 pc. No. 914540 size 7
Combination spanner set, 19 pieces		1 pc. No. 952428 size 19
Screwdriver set, 13 pieces, for slot-head and Phillips screws		1 pc. No. 953431 size 13
Socket set 1/2 inch, 30 pieces		1 pc. No. 953747 size 30
Hammer set, 3 pieces		1 each No. 750110 size 300; 500 1 pc. No. 752520 size 40G
Pliers set, 5 pieces		1 pc. No. 954201 size 5
File set, 5 pieces		1 pc. No. 517411 size 200
Hexagon key L-wrench set for Torx® and hexagon, 22 pieces		1 pc. No. 953141 size 22
Chisel, taper pin punch, and pin punch set, 10 pieces		1 pc. No. 954652 size 10
Workshop accessories set, 63 pieces		1 pc. No. 676040 1 pc. No. 845020 1 pc. No. 763030 size 205
Measurement tool set, 4 pieces		1 pc. No. 410100 size 150 1 pc. No. 461900 size 3 1 pc. No. 466200 size 2 1 pc. No. 081505 size 125

10G 8G

PARAT Leather tool case drop-down front panel – with centre partition

Front panel opens with two strong zips. A wide compartment for larger tools. Front panel, side panels, and base are extra **reinforced.**

Base shell of galvanized steel. Centre partition can be swung forwards and backwards, or completely removed. With an internal pocket for drawings.

63X 69 0200	Leather tool case with centre partition	XXX
Internal dimension length	mm	400
Internal dimension width	mm	140
Internal dimension height	mm	280
Weight	kg	3

69 0200

Base shell of galvanized steel. Centre partition fixed, 180 mm high.

63X 69 0300	Leather tool case with centre partition	XXX
Internal dimension length	mm	415
Internal dimension width	mm	165
Internal dimension height	mm	275
Weight	kg	3.5

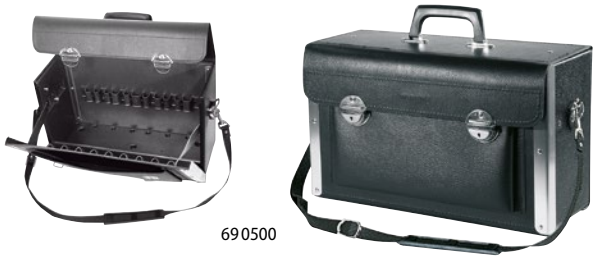
69 0300

69

PARAT Leather tool case drop-down

Base shell and side panels of double skin, oil-resistant plastic. Front panel drops down partially.

63X 69 0500	Leather tool case drop-down	XXX
Internal dimension length	mm	420
Internal dimension width	mm	160
Internal dimension height	mm	250
Weight	kg	2.6



69 0500

PARAT Tool case, extra long version

Bag made of industrial leather, edges reinforced with plastic angles. Base protected with pad feet. Front and back panels with 20 fixed tool loops and 8 stitched shaft pockets for tools. Retaining loops for a spirit level (600 mm) in the cover. 2 slide catches and a tightening strap.

63X 69 0700	Tool case, extra long version	XXX
Internal dimension length	mm	635
Internal dimension width	mm	185
Internal dimension height	mm	270
Weight	kg	2.5

69 0700

Electrician's case

Leather bag, edges reinforced with aluminium angles. Base protected with studs. Internal flap cover with transparent pocket.

69 0820 – With new PARALOCK® magnetic lock

63X 69 0800	PARAT Electrician's case, leather		XXX
Internal dimension length		mm	220
Internal dimension width		mm	140
Internal dimension height		mm	250
Weight		kg	1.3

63X 69 0820	PARAT Electrician's case, leather **with magnetic catch**		XXX
Internal dimension length		mm	230
Internal dimension width		mm	140
Internal dimension height		mm	300
Weight		kg	1.5

69 0800

69 0820

Bag made of hard-wearing water-resistant nylon fabric. Patented storage system **with 2 removable unbreakable tool boards** and 2 container boxes for small parts.

64A 69 0850	Electrician's case **of nylon fabric**		XXX
Internal dimension length		mm	300
Internal dimension width		mm	120
Internal dimension height		mm	320
Weight		kg	1.3

2 container boxes.

69 0850

PARAT Electrician's case with front pockets

With 2 front pockets and shoulder strap (No. 690440).

63X 69 1200	Electrician's case		XXX
Internal dimension length		mm	390
Internal dimension width		mm	120
Internal dimension height		mm	280
Weight		kg	2.1

63X 69 1210	Electrician's case		XXX
Internal dimension length		mm	400
Internal dimension width		mm	160
Internal dimension height		mm	300
Weight		kg	2.6

69 1200 / 69 1210
Carrying strap with shoulder protection.

69 1200

ABS

PARAT Tool case made of leather / ABS plastic

Base and side walls made of unbreakable ABS material (without seams, thus eliminating wear at seams). Flap made of leather. Without internal divisions.

63X 69 1300	Tool case small		XXX
Internal dimension length		mm	360
Internal dimension width		mm	110
Internal dimension height		mm	170
Weight		kg	0.6

63X 69 1310	Tool case		XXX
Internal dimension length		mm	390
Internal dimension width		mm	170
Internal dimension height		mm	230
Weight		kg	1.4

69 1310

PARAT Tool case made of leather / plastic with centre partition

ABS

Side parts made of wear-resistant ABS plastic(no seam wear), front wall and flap made of **extra strong** grained leather.

63X	**69 1450**	Tool case drop down front and rear, with centre divider	XXX
Internal dimension length		mm	420
Internal dimension width		mm	185
Internal dimension height		mm	315
Weight		kg	3.1

Easy to see contents due to drop down front and back panels.

69 1450

HDPE

Side panels of wear-resistant HDPE plastic (no wear at the seams), front and back panels reinforced with aluminium angle section.

63X	**69 1460**	Tool case drop down front and rear, with centre divider	XXX
Internal dimension length		mm	460
Internal dimension width		mm	210
Internal dimension height		mm	340
Weight		kg	4.5

69 1460

69

Tool belts

Practical tool belt with shaft pockets and wide pockets for holding a wide variety of tools. Belt and pockets of water-resistant nylon fabric.

- 69 1500 – Empty tool belt for individual arrangement.
- 69 1502 – Large storage compartment and loops for tools and tape holder. 280×220×70 mm.
- 69 1504 – With securing compartment, measuring-tape and tape holder. 310×220×25 mm.
- 69 1506 – Holster for cordless screwdriver. 340×150 mm.
- 69 1508 – Large compartment for storing screws and nails. 160×140×60 mm.
- 69 1510 – Tool belt with pockets, measuring-tape and hammer holder.

Suitable for:

69 1502–1508 – Tool belt No. 691500.

69 1500

69 1506

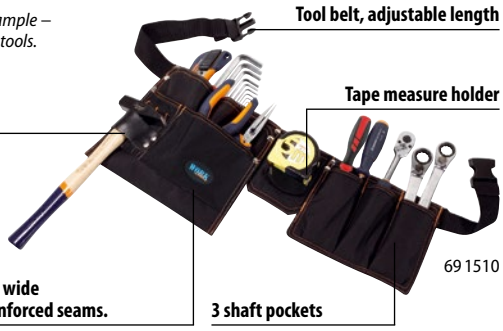
69 1502

69 1504

69 1508

64A	**69 1500**	Tool belt, without tools	XXX
Strap length		mm	920 – 1350
64A	**69 1502**	Electrician's case	XXX
64A	**69 1504**	Pocket with clip compartment	XXX
64A	**69 1506**	Holster	XXX
64A	**69 1508**	Nail bag	XXX
64A	**69 1510**	Tool belt	XXX
Strap length		mm	920 – 1350
Weight		kg	0.3

Configuration example – Supplied without tools.



69 1510

Tool case

Made of black synthetic leather.
With zip fastening on 3 sides.
Case opens out flat.
With 20 tape loops for carrying tools.

69 1535

62G 69 1535	Tool case with zip fastening		XXX
Internal dimension length		mm	250
Internal dimension width		mm	40
Internal dimension height		mm	210

Made of black synthetic leather.
With zip fastening on 3 sides and removable centre partition.
Case opens out flat.
With 16 shaft pockets and 25 tape loops for carrying tools.

69 1538

62G 69 1538	Tool case with zip fastening and centre partition		XXX
Internal dimension length		mm	380
Internal dimension width		mm	70
Internal dimension height		mm	280

PARAT PARACURV tool case

Tool caddy of innovative CURV® high-tech material and ABS. CURV® is an extremely tough and light plastic fabric with the performance characteristics of fibre-reinforced composite materials.
PARALOCK tool case with a magnetic catch for easy operation, and shoulder strap. Transparent securing pocket in the cover. Front, back and centre boards with 17 shaft pockets.

Application: Extremely sturdy and impact resistant tool cases with very low weight, ideal for use in all maintenance, customer service and installation work.

69 1630

Type			1
63X 69 1630	PARACURV tool case with shaft pockets		XXX
Internal dimension length		mm	230
Internal dimension width		mm	140
Internal dimension height		mm	300
Weight		kg	1

Tool kits

Practical tool assortments in lots of variations can be found in product group 68.

PARAT Service case with notebook pocket, with wheels

- 1 front pocket.
- 2 front pocket.
- 2 combination locks.

Internal fitments:
1 notebook pocket, padded, with hook and loop fastener.
3 pockets for DIN A4, with hook and loop fastener.
1 large pocket for files, catalogues, documents.
1 business card pocket, with hook and loop fastener.
3 penholder slots.

63X 69 1700	Service case, with wheels, with notebook pocket		XXX
External dimension length		mm	530
External dimension width		mm	240
External dimension height		mm	400
Internal dimension length		mm	430
Internal dimension width		mm	180
Internal dimension height		mm	335
Weight		kg	5.5

PARAT Multi-purpose case with drawers

With pull-out drawers made of unbreakable polyethylene, resistant against oil, acid, and petrol; can be divided individually using trays and dividers. When case is closed, even the smallest parts cannot intermingle. Front wall, side walls, and base are extra reinforced, edges are reinforced with aluminium trim.

69 1720 – **Internal fitments:** With 5 inserts (4 drawers, 1 carrying tray). The space between the inserts and the back wall (approx. 90 mm) can be used to hold additional tools. Tool clips are fitted on the back wall.

69 1730 – As No. 691720, but **with set of wheels** and telescopic pull handle.

Supplied with: **Case, including dividing material:** 4 centre dividers No. 691760
4 trays No. 691750
8 small dividers No. 691770
(sufficient to sub-divide 1 drawer).

Optional extras: Dividers No. 691750 – 691770 and dividers set No. 691780.

Tool gripper:
Tools can be stored at random. Tools are gripped firmly.

69 1720 / 69 1730

69 1720

69 1730

63X 69 1720	Multi-purpose case with 4 drawers		XXX
63X 69 1730	Multi-purpose case with 4 drawers **and wheels and push handle**		XXX
Internal dimension length		mm	410
Internal dimension width		mm	220
Internal dimension height		mm	310
Weight (69 1720)		kg	4.9
Weight (69 1730)		kg	5.7

Dividers

Made of unbreakable polyethylene, resistant against oil, acid, and petrol.

Application:

69 1750 – 4 trays fit into each drawer.
69 1760 – Centre divider insert No. 691750.
69 1770 – Small divider for further subdividing tray No. 691750.

69 1760

69 1750

69 1770

63X 69 1750	1 tray		XXX
63X 69 1760	1 centre divider		XXX
63X 69 1770	1 small divider		XXX
Length (69 1760)		mm	110
Length (69 1770)		mm	43
Height (69 1760, 69 1770)		mm	36
Internal dimension length (69 1750)		mm	110
Internal dimension width (69 1750)		mm	90
Internal dimension height (69 1750)		mm	36

Set of dividers

Supplied with: 4 trays No. 691750, 4 centre dividers No. 691760,
8 small dividers No. 691770 (sufficient for 1 drawer).

63X 69 1780	Set of dividers	XXX

69 1780

Garant Textile tool bag

Material: Of tough nylon.

Generous-sized main compartment for documents up to DIN A4. 7 shaft pockets, 20 rubber straps and 2 net pockets with elastic closure. Front pocket with mobile phone pocket and business card pocket, pen loops and key holder. Top cover with zip fastener pocket closed with a hook and loop fastening and buckles. Separate padded laptop compartment for laptops up to 15 inch. Splash–proof base with water edge. With elastic outer pocket. Adjustable shoulder strap with removable shoulder pad. With padded carrying handle.

Application example

Application example with laptop

69 2200

69 2200	Textile tool shoulder bag		XXX
External dimension length		mm	420
External dimension width		mm	150
External dimension height		mm	320
Weight		kg	1.1

Large main compartment with 2 internal pockets and one tool board with 32 shaft pockets. 2 separate padded compartments for laptops up to 15 inch and tablets. Front pocket with mobile phone pocket and business card pocket, pen loops, key holder and 2 storage compartments. Small front pocket with zip fastener. With compression straps at the side to reduce the volume so that the weight can be carried as close to the body as possible and to allow additional equipment to be attached to the outside. Anatomically shaped shoulder strap and padded carrying handle. With ergonomic body-contact back system and breast strap for perfect load distribution and optimally balanced secure seating. Splash–proof base with water edge and 4 stand feet. With elastic outer pocket and a reflector on the front pocket.

Application example

Application example with laptop

69 2220

69 2220	Textile tool rucksack		XXX
External dimension length		mm	350
External dimension width		mm	220
External dimension height		mm	470
Weight		kg	2.3

Large main compartment with 13 shaft pockets, with elastic closure. 2 short and one long external pocket (with zip fastener and reflector) and 3 additional elastic external pockets. Stow-away cover with additional opening for use of the comfortable aluminium carrying handle. Splash–proof base with water-resistant edge and 6 stand feet. Adjustable shoulder strap with removable shoulder pad.

Application example

69 2240

69 2240	Textile installer bag		XXX
External dimension length		mm	470
External dimension width		mm	300
External dimension height		mm	300
Weight		kg	2.5

NEW

HOLEX Textile tool bags

High-quality textile tool bags as a companion for your day-to-day tasks.
With reflector strips for good visibility.

Material: Made from sturdy polyester fabric.

69 2255

With shaped and stitched shaft pockets of varying sizes and cover flap for rolling up. The adjustable restraining strap and the plastic snap fastener for one-handed closure and opening ensure the tools are held securely.

Length×width	mm	280×320	390×320	500×320	680×320	790×320
62G 69 2255	Textile tool roll with snap fastener	XXX	XXX	XXX	XXX	XXX
Number of tool pockets		5	9	12	15	20

With carrying handle and snap fastener. Bag is fully fold-away for convenient tool withdrawal. With 13 shaft pockets and 2 elastic straps for holding tools, in addition a business card pocket. The bag is also suitable for documents in A4 format.

Application example

69 2257

Type		1
62G 69 2257	Textile tool case with snap fastener	XXX
External dimension length	mm	350
External dimension width	mm	50
External dimension height	mm	255
Weight	kg	0.7

With 2 removable break-resistant tool boards with 12 shaft pockets and 2 external pockets. Additionally 1 set box for small parts.
The adjustable non-slip shoulder strap with padding ensures pleasant wearing comfort. With hook and loop fastener and feet.

Application example

69 2260

Type		1
62G 69 2260	Textile electrician's case	XXX
External dimension length	mm	230
External dimension width	mm	110
External dimension height	mm	320
Weight	kg	0.7

Includes 2 tool boards and 1 set box.

With the generous interior and handy outside pockets, there is plenty of storage space and good sorting of the tools. With carrying handles, zip fastener and a splash-proof sturdy base with feet.
External: 6 external pockets for quick tool storage and access.

- Size 1 – Internal: Large main compartment with 5 internal pockets and 11 shaft pockets.
- Size 2 – Internal: Large main compartment with 5 internal pockets and 18 shaft pockets.
- Size 2 – The adjustable non-slip shoulder strap with padding ensures pleasant carrying comfort.

69 2262_1

Type		1	2
62G 69 2262	Textile tool bag	XXX	XXX
External dimension length	mm	320	510
External dimension width	mm	210	200
External dimension height	mm	240	270
Weight	kg	0.5	1.2

69 2262_2

The shoulder bag is divided into 2 large main compartments separated from each other, 1 of which is for tools and 1 for documents, writing material and a laptop. The adjustable non-slip shoulder strap with padding ensures pleasant wearing comfort. With carrying handle, zip fastener and feet.
Internal: with 19 shaft pockets and 1 document pocket. The shoulder bag also has a padded compartment for laptops up to 17 inches.
External: 1 front pocket with zip fastener and 2 with hook and loop fastener (1× front and 1× back).

Application example

69 2265

Type		1
62G 69 2265	Textile tool shoulder bag	XXX
External dimension length	mm	400
External dimension width	mm	120
External dimension height	mm	325
Weight	kg	1.1

Convenient backpack for carrying and storing tools. The adjustable, padded, non-slip shoulder straps combine with a waist strap and back padding for comfortable carrying. With carrying handle, zip fastener and feet.
Internal: With 1 removable tool board. Total of 2 document pockets, 16 shaft pockets and 5 hook and loop fasteners.
External: 1 small front pouch with zip and 2 with hook and loop fasteners. Additionally 2 side shaft pockets.

Application example

69 2267

Type		1
62G 69 2267	Textile tool rucksack	XXX
External dimension length	mm	320
External dimension width	mm	175
External dimension height	mm	415
Weight	kg	2.3

The backpack trolley can be easily pulled and carried on the back, both via the telescopic handle and the integrated wheels. The wheels can be covered with a protective cover, which prevents any dirt coming loose during carrying. The adjustable non-slip and stow-away shoulder straps with padding ensure pleasant wearing comfort. With carrying handle, zip fastener and feet.
Internal: The backpack trolley has 2 removable tool boards which can be configured on both sides with 16 shaft pockets, 16 elastic straps and a padded compartment with that can be closed with a hook and loop fastener for a laptop up to 15 inches. There is also a large zip fastener compartment inside, which provides further storage space.
External: 2 front pockets with zip fasteners. Additionally 2 side shaft pockets.

Application example

69 2270

Type		1
62G 69 2270	Textile tool backpack trolley, mobile	XXX
External dimension length		360
External dimension width		215
External dimension height		480
Weight	kg	4.25

Material properties of tool cases X-ABS

X-ABS

- Composite plastic (2 components).
- Good scratch resistance.
- Break-proof (suitable for air travel).
- Resistant to oils, greases, hydrocarbons and fuels.
- Immensely robust (e.g. on baggage conveyors).

- Highly impact resistant.
- High distortion resistance.
- Non-slip and does not damage surfaces (rubberised effect).
- Maintains all its materials characteristics in the temperature range – 45 °C to + 85 °C.

X-ABS | 30 kg

Garant Service tool case of X-ABS

X-ABS is extremely impact resistant, tough and thus **suitable for air travel.** The surface is scratch-resistant, **non-slip (rubberised effect)** and **does not damage surfaces.** Anodised double aluminium frame with integral toggle cylinder locks and glass fibre reinforced positioning hinges for case lid positioning.

Application: Optimal case for customer service and service engineers due to the shell material, which does not damage surfaces, and high strength with low weight.

69 2790

Internally fitted with stitched shaft pockets:
1 dividable base shell, including tool board with 6 shaft pockets as cover,
1 tool board with 14 shaft pockets and document compartment on the front and back.

GIG			
69 2790	Service tool case of X-ABS with shaft pockets		XXX
Internal dimension length		mm	460
Internal dimension width		mm	310
Internal dimension height		mm	210
Weight		kg	3.6

69 2705 – **Internally fitted with tool clips:**
1 base shell with sub-divisions including tool board with 1 tool holder as a cover (similar to No. 692750).
1 tool board with 2 tool holders (No. 692720).
1 board for documents, fixed to the cover.

69 2706 – **Internally fitted with stitched shaft pockets:**
1 base shell with sub-divisions including tool board with 16 shaft pockets as a cover (similar to No. 692717).
1 tool board with 26 shaft pockets on front and back (similar to No. 692711).
1 board for documents, fixed to the cover.

69 2705

69 2706

Extremely flat 4-fold telescopic extension handle with push button operation.

69 2705
69 2706

Plain bearing wheels Ø 60 mm.

GIG			
69 2705	Service tool case of X-ABS **wheeled with tool clips**		XXX
69 2706	Service tool case of X-ABS **wheeled with shaft pockets**		XXX
Internal dimension length		mm	460
Internal dimension width		mm	360
Internal dimension height		mm	190
Weight		kg	6.6

Garant Protective mat

High quality anti-slip mat coated with washable nylon fabric and all-round binding strip.

Application: For protecting delicate surfaces (e.g. during service and maintenance) or as a versatile underlay for everyday use.

69 2800

GIG			
69 2800	Protective mat		XXX
Width		mm	890
Depth		mm	500

Service tool case of polycarbonate

PC

- The integrated combination lock securely protects the case against unauthorised opening.
- Wide variety of storage options.
- Detachable wheels and push handle developed for tool cases for the first time.

- Stable and extremely shock-proof product made from injection-moulded polycarbonate – especially highly stressed areas can thus be provided with more material.
- The aluminium frame and the plastic corner guards provide a high level of stability at particularly stressed areas.
- The advantages of polycarbonate lie in its high impact toughness, strength, stiffness and hardness over a wide range of temperatures.

Garant Service tool case of polycarbonate

PC | 35 kg

The polycarbonate case shells are produced by injection moulding. The advantages of polycarbonate lie in its high impact toughness, strength, stiffness and hardness over a wide range of temperatures. Aluminium frame with plastic impact corners, integral combination lock and case lid positioning.

69 2815 – With wheels and push handle, 4-stage telescopic extension and ball bearing wheels.

69 2835 – **Internal fitments for internal height 185 mm:**
1 base tray including cover board with 12 double elastic straps. 2 transverse dividers, 6 partitions and 10 inserted boxes in the base shell. 1 tool board with 9 textile shaft pockets and tool holder on the front and back. 1 tool board with 6 textile shaft pockets and tool holder on the front and back.
With **removable wheels and push handle**, 4-stage telescopic extension and ball bearing wheels. Foldable wheels and push handle with 3 additional storage compartments.

69 2810/2815 – **Internal fitments for internal height 150 mm:**
1 base tray including cover board with 12 double elastic straps. 2 transverse dividers, 6 partitions and 10 inserted boxes in the base shell. 1 tool board with 9 textile shaft pockets and tool holders on the front and back.

More information and a product video at: www.ho7.eu/koffer

69 2810

69 2815

61G 69 2810	Service tool case with base shell and tool boards	XXX
61G 69 2815	Service tool case with base shell and tool boards **mobile**	XXX
Internal dimension length	mm	435
Internal dimension width	mm	275
Internal dimension height	mm	150
Weight (69 2810)	kg	4.6
Weight (69 2815)	kg	6.7

61G 69 2835	Service tool case with base shell and tool boards **with removable wheels and push handle**	XXX
Internal dimension length	mm	435
Internal dimension width	mm	275
Internal dimension height	mm	185
Weight	kg	8.3

69 2835

Accessories for service tool cases

Wheels and push handle with 4-stage telescopic extension and ball-bearing wheels. The wheels and push handle can be folded away and contain 3 integral storage compartments. Can be retrofitted or exchanged for case No.692835.

Note: See 692845– 692860 for tool boards and other accessories.

61G 69 2840	Wheels and push handle with 3 integral storage compartments	XXX
Compartment length	mm	275
Compartment width	mm	1×95; 2×130
Compartment height	mm	45
Weight	kg	2.1

69 2840

Application example

ABS

Tool case

Hard-wearing version of ABS material in black with all-round aluminium frame and metal hinges. The case comes with a sturdy and ergonomic carrying handle. 2 stickers for individual identification are supplied for the labelling field. The tool boards consist of dirt-repellent PP twin-wall sheets.

69 2600

15 kg

With 2 integral metal rocker locks and 1 three-digit combination lock.
Internal equipment:
a total of 41 insertion points:
1 base tray (secured with a push stud) with 4 longitudinal dividers (2× short and 2× long).
1 tool board with 12 insertion pockets and 1 flat pocket as a cover for the base tray.
1 tool board with a total of 20 insertion pockets on the front and back face.
1 tool board with 7 elastic straps and 1 securing pocket in the cover.

69 2600

Type		1
64D 69 2600	"Basic" tool case	XXX
Internal dimension length	mm	440
Internal dimension width	mm	350
Internal dimension height	mm	180
Weight	kg	5.1

20 kg

With 2 integral metal rocker locks and 1 three-digit combination lock.
With a telescopic handle recessed into the base, and two free-running skater rollers on the outer edges for comfortable transport.
Internal equipment:
a total of 54 insertion points:
1 base tray (secured with a push stud) with 4 longitudinal dividers (2× short and 2× long).
1 tool board with 13 insertion pockets and 1 flat pocket as a cover for the base tray.
1 tool board with a total of 21 insertion pockets on the front and back face.
1 tool board with 10 insertion pockets and 1 elastic strap on the front face and 1 securing pocket with 7 elastic straps on the back face.

69 2613

Type		1
64D 69 2613	"BIG Basic Move" tool case	XXX
Internal dimension length	mm	480
Internal dimension width	mm	350
Internal dimension height	mm	200
Weight	kg	6.8

30 kg

With a telescopic handle recessed into the base, and two free-running skater rollers on the outer edges for comfortable transport.
Free standing in all opening positions, thanks to stepped cover struts on each side with hinge mechanisms; the angle can be freely selected. Can be opened from one side or both sides. Base and cover can be opened independently of each other, and each has 2 metal rocker switches for fixing the position. In addition the base can be secured by 1 three-digit combination switch.
Internal equipment:
a total of 95 insertion points:
Cover:
1 tool board with 12 insertion pockets and 1 flat pocket on the front face and 10 elastic straps on the back face.
1 tool board with 7 elastic straps and 1 clamping pocket in the cover.
Centre part with 37 elastic straps.
Base:
1 base tray (secured with a push stud) with 3 longitudinal dividers (3× long)
1 tool board with 12 insertion pockets and 1 flat pocket as a cover for the base tray.
Centre part with 15 elastic straps and 13 insertion pockets.

69 2615

Type		1
64D 69 2615	"BIG Twin Move" tool case	XXX
Internal dimension length	mm	490
Internal dimension width	mm	370
Internal dimension height	mm	210
Weight	kg	8.6

X-ABS | 30 kg

PARAT „Classic“ customer service tool case, of X-ABS

X-ABS is extremely impact resistant, tough and thus **suitable for air travel.** The surface is scratch-resistant, **non-slip (rubberised effect)** and **does not damage surfaces.** Double aluminium frame with **integral toggle cylinder locks**, positioning hinges with stop, and base studs.
TSA locks: When travelling to the USA these locks can be opened for searching and relocked by the US “Transportation Security Administration” (TSA) using a master key. Forcible opening of the case (irreparably damaging the locks) for searching can thus be avoided.

Note:	Case available with other type of lock on request.

69 2500

69 2520

Internal fitments:
1 tool board with 25 shaft pockets and 1 securing pocket 400 mm,1 tool board with 10 shaft pockets, 1 cover board with 15 shaft pockets and 1 securing pocket 400 mm and 1 document pocket with 2 business card pockets and 2 penholder slots.

69 2500 – 1 base shell with cover board with sub-divisions, height 58 mm.
69 2520/2540 – 1 base shell with cover board with sub-divisions, height 88 mm.

63X 69 2500	X-ABS tool case with base shell, 2 tool boards and **TSA locks**		XXX
Internal dimension length		mm	460
Internal dimension width		mm	190
Internal dimension height		mm	310
Volume		l	27
Weight		kg	5.1

63X 69 2520	X-ABS tool case with base shell, 2 tool boards and **TSA locks**		XXX
63X 69 2540	X-ABS tool case with base shell, 2 tool boards and **TSA locks, wheels**		XXX
Internal dimension length		mm	470
Internal dimension width		mm	210
Internal dimension height		mm	360
Volume (69 2520)		l	36
Volume (69 2540)		l	35
Weight (69 2520)		kg	5.4
Weight (69 2540)		kg	6.8

69 2540

“Classic” with tool holders

69 2641 – **Internal fitments:**
1 base shell with sub-divisions including tool board with 1 tool holder as a cover (No. 692750), 1 tool board with 2 tool holders (No. 692720), 1 tool board with 1 tool holder (No. 692730), 1 board for documents, fixed to the cover.

69 2631/2671 – **Internal fitments:**
1 base shell with sub-divisions including tool board with 1 tool holder as a cover (No. 692750), 1 tool board with 2 tool holders (No. 692720), 1 board for documents, fixed to the cover.

Tool gripper
Tools can be stored at random.
Tools are gripped firmly.

Type			1
63X 69 2631	X-ABS tool case with base shell, 2 tool boards and **TSA locks**		XXX
63X 69 2641	X-ABS tool case with base shell, 3 tool boards and **TSA locks**		XXX
Internal dimension length		mm	460
Internal dimension width		mm	190
Internal dimension height		mm	310
Weight (69 2631)		kg	4.6
Weight (69 2641)		kg	5

69 2631

Type			1
63X 69 2671	X-ABS extra high tool case with base shell, 2 tool boards and **TSA locks**		XXX
Internal dimension length		mm	470
Internal dimension width		mm	210
Internal dimension height		mm	360
Weight		kg	5.7

69 2671

X-ABS 20 kg

PARAT „Silver“ customer service tool case of ABS plastic

Integral locks in the frame, metal hinges and studs on the base. Permitted as hand luggage on planes.

69 2101 – **Internal fitments:**
1 tool board with 26 shaft pockets (No. 692711),
1 tool board with 16 shaft pockets (No. 692712),
1 tool board with 10 shaft pockets (No. 692714),
1 tool board with clips and rubber strap (No. 692715).

69 2301 – **Internal fitments:**
1 dividable base shell, including tool board with 16 shaft pockets as cover,
1 tool board with 26 shaft pockets (No. 692711).

69 2101

69 2301

Type		1
63X 69 2101	ABS tool case with 4 tool boards	XXX
63X 69 2301	ABS tool case with base shell and tool boards	XXX
Internal dimension length	mm	460
Internal dimension width	mm	310
Internal dimension height	mm	170
Weight	kg	3.8

69

ALU 20 kg

PARAT Customer service tool case type „Alu“

Integral locks in the frame, metal hinges and studs on the base. Permitted as hand luggage on planes.
Internal fitments:
1 base shell with subdivisions including tool board with 16 shaft pockets as a cover (No. 692717), 1 tool board with 26 shaft pockets (No. 692711), 1 tool board with 13 shaft pockets (No. 692713).

69 2000

63X 69 2000	Aluminium tool case with base shell and tool boards	XXX
Internal dimension length	mm	460
Internal dimension width	mm	310
Internal dimension height	mm	170
Weight	kg	5.2

X-ABS

PARAT „LAPTOOL“ model service engineer case of X-ABS plastic

The LAPTOOL combines a tool case and business case in one. It has space for 39 tools and also a laptop (up to 17 inches) in a separate padded compartment. Integral locks in the frame, and metal hinges.

With laptop compartment

Type		1
63X 69 1970	X-ABS service tool case **mobile**	XXX
Internal dimension length	mm	435
Internal dimension width	mm	210
Internal dimension height	mm	315
Weight	kg	6.4

PP | 25 kg

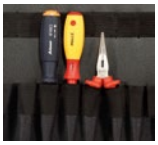
Service tool case of polypropylene

The case shells are resistant to shocks, high temperatures, and acids. They are held together by a sturdy aluminium frame with integral flap locks and strong self-positioning hinges. With rubberised carrying handle.

Internal fittings:
1 tool board with 24 shaft pockets, 12 rubber straps and 1 pocket for small parts on the front and back.
1 sub-dividable base tray including tool board with 6 pockets and 9 rubber straps as cover.

69 2902 – With pull handle and wheels.

Note:	A combination lock as an alternative can be found under No. 692926 size 2.



Shaft pockets with elastic collar for optimal retention of the tools.

69 2901

Extendable telescopic handle with push–button extension/ retraction

69 2902

62G			
69 2901	Service tool case		XXX
Internal dimension length		mm	465
Internal dimension width		mm	352
Internal dimension height		mm	215
Weight		kg	5

62G			
69 2902	Service tool case **wheeled**		XXX
Internal dimension length		mm	465
Internal dimension width		mm	352
Internal dimension height		mm	215
Weight		kg	6

HDPE

Service tool case of HDPE with wheels and pull handle

TSA locks: When travelling to the USA these locks can be opened for searching and relocked by the US "Transportation Security Administration" (TSA) using a master key. Forcible opening of the case (irreparably damaging the locks) for searching can thus be avoided.

69 2905 – Integral TSA locks (No. 692915) and feet, metal hinges, carrying handle, 2 ball bearing mounted wheels (∅ 100 mm).

Internal fittings with stitched shaft pockets:
1 dividable base tray, including tool board with 18 shaft pockets as cover.
2 small parts bins in the base tray (No. 692909).
1 tool board with 26 shaft pockets,
13 rubber straps and 1 pocket for small parts on the front and back.
2 document pockets, fixed to the cover.

69 2927 – Extremely tough and impact-resistant HDPE case trays with aluminium frames, reinforced edges and 2 TSA locks (No. 692918).

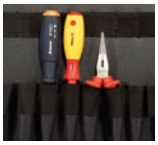
Internal fittings with stitched shaft pockets:
1 base tray, including tool board with 18 shaft pockets as cover (No. 692908 size 2).
1 dimpled foam inlay in the base tray.
1 tool board with 24 shaft pockets,
12 rubber straps and 1 pocket for small parts on the front and back (No. 692908 size 1).
1 document pocket and 2 small parts containers in the cover.

Size H – Horizontal alignment of the case. 2 ball bearing mounted wheels (∅ 100 mm). Case with handle.

Size V – Vertical alignment of the case.
2 ball bearing mounted, **extra large wheels** (∅ 120 mm), for even more comfortable handling. Case with handle. With **gas pressure springs** to hold the cover in position.

Application: Tool case **for frequent fliers.**

TSA locks, recommended for travelling to the USA.



Shaft pockets with elastic collar for optimal retention of the tools.

Double-wall design

Extendable telescopic handle with push–button extension/ retraction.

69 2905

69 2927_H

Extendable telescopic handle with push-button operation.

69 2927_V

Extendable telescopic handle with push–button extension/ retraction.

64A				
69 2905	Service tool case of HDPE **wheeled**			XXX
Internal dimension length		mm		453
Internal dimension width		mm		345
Internal dimension height		mm		185
Weight		kg		7.5

Type			H	V
64A **69 2927**	"Rock Turtle" service tool case of HDPE **wheeled**		XXX	XXX
Internal dimension length		mm	470	
Internal dimension width		mm	390	
Internal dimension height		mm	320	340
Weight		kg	8.5	

ABS | 35 kg

Service tool case with die-cast aluminium frame

ABS case shells are impact resistant, tough, and thus **suitable for air travel.** Powder-coated **die-cast aluminium frame** with 3D aluminium bands, integral toggle cylinder locks, and **gas pressure springs** for case lid positioning.

69 3020 – **Internal fitments:**
1 base shell with 5 small part bins including tool board with tool clips as a cover (No. 693083), 1 tool board with 45 elastic straps on the front and rear (No. 693087), 1 tool board with 23 elastic straps and 1 securing pocket on the front and rear (No. 693089).

69 3060 – **Internal fitments:**
1 base shell with 5 small part bins including tool board with tool clips as a cover (No. 693083), 1 tool board with tools clips on the front and rear (No. 693088), 1 tool board with 23 elastic straps and 1 securing pocket on the front and rear (No. 693089).

Note: TSA lock for mounting yourself available on request.

69 3020

Extendable telescopic handle with push-button operation.

69 3060

Ball-bearing sprung wheels, Ø 82 mm

Type		XL
64C 69 3020	Service tool case with base shell and tool boards	XXX
Internal dimension length	mm	470
Internal dimension width	mm	350
Internal dimension height	mm	200
Weight	kg	6.5

Type		XLT
64C 69 3060	Service tool case with base shell and tool boards **wheeled**	XXX
Internal dimension length	mm	470
Internal dimension width	mm	350
Internal dimension height	mm	200
Weight	kg	8.4

69

Tool case ALL.IN.ONE

PP | 50 kg

69 3150 – **Internal fittings:**
1 removable work tray
1 drawer 30 mm, empty, No. 693177
2 drawers 60 mm, empty, No. 693182
1 drawer 95 mm with 5 small part bins in various sizes.

69 3155 – **Internal fittings:**
1 removable work tray
1 drawer 30 mm with dimpled foam inlay, No. 693179
1 drawer 60 mm with adjustable dividers (23 compartments for small parts)
1 drawer 60 mm with dimpled foam inlay, No. 693184
1 drawer 95 mm with 5 small part bins in various sizes.

69 3150/3155 – Sturdy tool case of polypropylene with wheels and handle (4 sturdy wheels and telescopic handle) and 2 handles at the side. Cover and front flap removable. Can be locked centrally via a cylinder lock, also each flap can be locked separately with a padlock. Cover compartment with removable work tray, front compartment fitted with 4 drawers with extension limit.

Optional extras:

69 3150/3155 – Mobility set with 4 wheels (360° pivoting) No. 693160. Tool board for mounting in the upper cover No. 693170 / 693175 (only 1 board can be fitted).

Note:

69 3150/3155 – For individual configuration with a variety of drawers. Tailor-made rigid foam inlays can be created using the eForm configurator. Spare lock incl 2 keys available under No. 693161 and individual spare drawers available under No. 693177 – 693189.

69 3155

64A 69 3150	Service tool case ALL.IN.ONE, wheeled, with 4 drawers, empty	XXX
64A 69 3155	Service tool case ALL.IN.ONE, wheeled, with 4 drawers **with drawer dividers**	XXX
External dimension length	mm	581
External dimension width	mm	381
External dimension height	mm	455
Weight	kg	13.2

64A 69 3160	Set of castors (4 pieces) for ALL.IN.ONE tool case	XXX
64A 69 3170	Tool board with 9 shaft pockets for tool case ALL.IN.ONE	XXX
64A 69 3175	Tool board with 30 elastic pockets for tool case ALL.IN.ONE	XXX

69 3160

69 3170

69 3175

Water-tight tool case „Explorer“

Extremely sturdy tool case of impact resistant plastic, filled with pre-shaped chequer foam. Lockable with padlock No. 085830 – 085875. Thick walls throughout for high stability. Pressure-tight and resistant to chemicals. Temperature-resistant from –33 °C to 90 °C.

Application: For protection, packaging, and transport of delicate parts and devices.

Note: Many other case sizes, fittings variants, and accessories available on request.

Handy pull handle and wheels (size 5326, 5833, and 7630).

Type		3818	4209	4216	4820	5326	5822	5833	7630
64A 69 2930	Water-tight case “Explorer”	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
External dimension length	mm	410	457	457	520	627	650	670	860
External dimension width	mm	340	366	366	435	475	510	510	560
External dimension height	mm	205	118	183	230	292	245	372	355
Internal dimension length	mm	380	420	420	480	538	580	580	765
Internal dimension width	mm	270	300	300	370	405	440	440	485
Internal dimension height	mm	180	95	160	205	250	220	330	305
Volume	l	18.4	12	20	35.5	53	56.1	84.2	113.1
Number of catches		2	2	2	2	4	4	4	7
Number of side handles		–	–	–	–	2	2	2	2
Number of wheels		–	–	–	–	2	–	2	2
maximum loading	kg	12.4	15	22	24.7	37.2	36.7	62	81.8
Weight	kg	3.6	2.6	3.2	5.4	11.3	8.4	12.7	16.4

Plastic tool box

Made of polypropylene - light, robust, and impact resistant. Large comfortable carrying handle with locking function and 2 quick-acting plastic catches. Lockable using padlock with shackle ∅ 5 mm (No. 085830 – 085875 all in size 30).
With removable carrying tray and small parts holder over spacious main compartment.

Type		440	475	585
63X 69 3200	Plastic toolbox	XXX	XXX	XXX
External dimension length	mm	440	475	585
External dimension width	mm	230	257	290
External dimension height	mm	235	255	280
Usable length	mm	415	450	545
Usable width	mm	200	215	240
Insert height	mm	50	55	50
Number of catches			2	
Weight	kg	1.8	2.2	3

Tool case „COMPACT“ of polypropylene

Made of polypropylene - light, robust, and impact resistant. Resistant to most acids and bases. Lockable using padlock with shackle ∅ 5 mm (No. 085830 – 085875 all in size 30). With removable carrying tray from size 20 (size 15 without carrying tray).

Volume	l	15	20	27	47	62
64B 69 3310	Tool case “COMPACT” of polypropylene	XXX	XXX	XXX	XXX	XXX
External dimension length	mm	426	474	474	540	621
External dimension width	mm	215	239	239	296	311
External dimension height	mm	170	190	248	292	322
Number of side handles		–	–	–	2	2
Number of small components drawers		–	–	2	2	4
Number of variable inserts		–	6	6	7	10
Weight	kg	1.5	1.9	2.6	4.6	7.1
Volume	l	15	20	27	47	62

Folding box of polypropylene

Stackable plastic box of polypropylene. 2 folding boxes of size 19 fit onto 1 folding box of size 42. Volume reduction by folding the box up equals 64%.

69 3450_19

69 3450_42

Volume	l	19	42
61G 69 3450	Folding box of polypropylene	XXX	XXX
External dimension length	mm	400	600
External dimension width	mm	300	400
External dimension height	mm	220	
Height folded up	mm	89	80
Internal dimension length	mm	356	558
Internal dimension width	mm	257	358
Internal dimension height	mm	217	205
maximum load capacity	kg	15	40
Weight	kg	2	2.3

PP

Tool carrying box

Plastic container of polypropylene, with aluminium carrying handle.

69 3400	Tool box	XXX
External dimension length	mm	420
External dimension width	mm	250
External dimension height	mm	210
Tray height	mm	120
Weight	kg	0.5

Modular plastic case L-BOXX®

ABS | IP X4 | L-BOXX

Of shock and impact-resistant ABS plastic, fully splash-proof. The sturdy click-on mechanism allows the case to be quickly and easily attached and detached, and also the transport together of several modular plastic cases up to 40 kg. The ergonomically-shaped handles and additional grip recesses make for great convenience when carrying.
Lid can be loaded to 100 kg, loading capacity up to 25 kg.

69 3335 Size 102 – Modular plastic cases L-BOXX® No. 693330 size 102
including small components insert with lid inlay No. 693350.
Size 136 – Modular plastic case L-BOXX® No. 693330 size 136
including lid inlay No. 693355 and modular foam inlay No. 693352.
69 3337 – L-BOXX® modular plastic cases No. 693330 size 102
including 2 L-BOXX® mini small parts cases, small parts insert and lid inlay No. 693348.

Note:
Size 102 – The suitable roller trolley for transporting up to 5 items of the L-BOXX® size 102 is available under No. 693370 size 5.

Individual foam inlays via the eForm configurator!

69 3330

69 3335_102

69 3335_136

Type		102	136	238
69 3330	Modular plastic case L-BOXX®, empty	XXX	XXX	XXX
69 3335	Modular plastic case L-BOXX® with inserts	XXX	XXX	–
69 3337	L-BOXX® plastic modular case with 2 small parts cases and inserts	XXX	–	–
External dimension length	mm		442	
External dimension width	mm		357	
External dimension height	mm	117	151	253
Internal dimension length	mm	375	375	378
Internal dimension width	mm	313	311	306
Internal dimension height	mm	71	107	209
Weight (69 3330)	kg	2.1	2.2	2.8

IP X4 | L-BOXX

Small parts case L-BOXX® Mini for storage of all types of small parts. The sturdy click-on mechanism allows the case to be quickly and easily attached and detached, and also the transport together of several small parts cases. With handy carrying handle and 7 removable dividers for individual adjustment as required.
Made of foodstuffs-compatible plastic. Load capacity up to 1.5 kg.

Suitable for: Modular plastic case No. 693330 size 102.

69 3337

69 3340	Small parts case L-BOXX® Mini	XXX
External dimension length	mm	260
External dimension width	mm	155
External dimension height	mm	65
Weight	kg	0.4

69 3340

L-BOXX

Open plastic toolbox LT-BOXX® with carrying handle that swings wide open for easy loading and unloading. Compatible with the modular plastic toolbox No. LT-BOXX® No. 693330. Load capacity up to 25 kg.

Type		170
69 3345	Plastic toolbox LT-BOXX®	XXX
External dimension length	mm	442
External dimension width	mm	362
External dimension height	mm	185
Internal dimension length	mm	378
Internal dimension width	mm	311
Internal dimension height	mm	164
Weight	kg	2.26

69 3345

Accessories

69 3348 – 2 small parts cases L-BOXX® Mini and small components inlay with 8 pockets.
69 3350 – Small components insert with 24 compartments.
69 3352 – The lid inlay of hard foam fits flush and prevents the contents falling out.
69 3360 – Tool board with 6 shaft pockets for attachment to the lid (instead of the lid inlay).
69 3362 – Document board for documents up to size DIN A4 for attachment inside the cover (instead of the cover inlay).
69 3365 – Mobile unit (646×492×184 mm) with 4 castors (2 with brakes) to take the case 693330 / 693335 / 693337 / 693345. Load capacity up to 100 kg.
69 3367 – The suspended insert hooks into the BOXXes using two adhesive adapters, providing a second, removable level.

Suitable for:

69 3355 – Modular plastic case L-BOXX® No. 693330 size 136.
69 3367 – Plastic carrying case L-BOXX® no. 693330 size 238.
69 3348/3350 – Modular plastic case L-BOXX® No. 693330 size 102.

69 3348

69 3350

69 3352

69 3355

69 3360

69 3362

61G 69 3348	2 mini small parts cases L-BOXX® Mini with small components insert including lid inlay	XXX
61G 69 3350	Small components insert including lid inlay	XXX
61G 69 3352	Lid inlay individual	XXX
61G 69 3355	Modular foam inlay	XXX
61G 69 3360	Tool board	XXX
61G 69 3362	Document board	XXX
61G 69 3365	Mobility unit	XXX

Application example

69 3365

Type	238
61G 69 3367 Suspended insert	XXX

69 3367

100%

Garant

"L-Trolley" tool trolley

The suitable roller trolley for transporting up to 5 items of the L-BOXX® size 102 (not supplied: see catalogue, commodity group 69). The stable sheet metal housing of the tool trolley is fitted with perforated side panels for quick retrieval of accessories. With 4 castors, 2 of them with parking brakes. With integrated central locking system for drawers. Tamper-proof anti-tilt device (only one drawer can be opened at a time). Two handles of 2-component Haptoprene® on the top of the roller trolley. Shelf of sheet metal. Plastic protectors to protect the upper corners of the trolley and reduce the risk of collision that would damage delicate surfaces. Simple attachment of L-BOXX®es by a click system, secured at the back by brackets to prevent slippage.

Suitable for: For L-BOXX®es see No. 693330, 693335 and 693337, size 102 in each case.
Colour: Two-tone **powder-coated**, silver combined with RAL 7016 anthracite.

Note: Please note the maximum load capacities of the individual pull-out shelves listed in the operating instructions.

69 3370

Cover for the L-BOXX® fully swing-back.

Application example

Number of pull-out shelves		5
61G 69 3370	"L-Trolley" tool trolley, with 5 pull-out shelves	XXX
Height	mm	1085
Width	mm	570
Depth	mm	440
Weight	kg	38

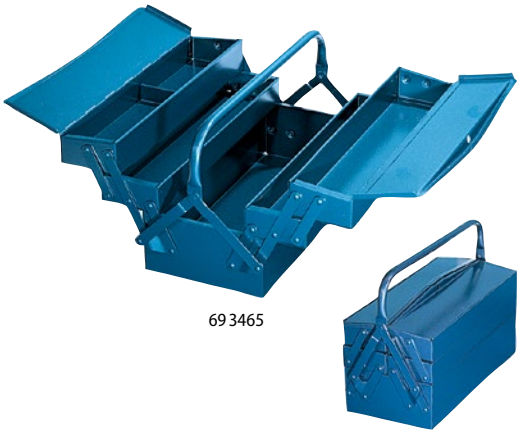
Sheet steel toolbox

Lockable with padlock (No. 085830 ff). upper parts attached with continuous hinge strip.
Especially strong construction, in part of **0.9 mm sheet steel.**
Colour: The box is orange and the handle anthracite grey powder-coated.

Type		5/530
66K 69 3455	Sheet steel toolbox "Extra"	XXX
External dimension length	mm	530
External dimension width	mm	200
External dimension height	mm	200
Version		5 pieces
Weight	kg	6.3

Sheet steel toolbox

Lockable with padlock (No. 085830 ff). upper parts attached with continuous hinge strip.
69 3460 – Made of 0.6 mm sheet steel.
69 3465 – **Especially strong construction,** in part of **0.9 mm sheet steel.**
Colour: Tool box paint finish blue, powder-coated all round.



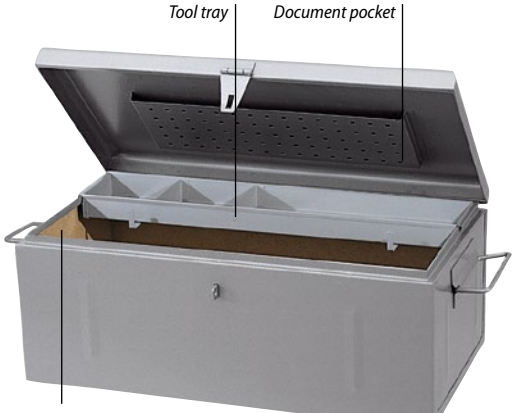
69 3465

Type		3/430	5/430	5/530	5/600
66K 69 3460	Sheet steel toolbox "Standard"	XXX	XXX	XXX	–
66K 69 3465	Sheet steel toolbox "Extra"	–	XXX	XXX	XXX
External dimension length	mm	430	430	530	600
External dimension width	mm	200			
External dimension height	mm	150	200	200	200
Version		3-part	5-part	5-part	5-part
Weight (69 3460)	kg	3.3	4.3	5.3	–
Weight (69 3465)	kg	–	5.3	6.3	6.6

69

Sheet steel tool chest

69 3470 – 1 mm thick sheet metal with embossed strengthening. 2 carrying handles and lid stay. Lockable with padlock (No. 085830 ff).
Colour: RAL 7001 silver grey, **powder-coated.**



Inner lining of hardboards. 69 3470

Type		690	830	910
66K 69 3470	Sheet steel tool chest	XXX	XXX	XXX
66K 69 3475	Spare tool tray	XXX	XXX	XXX
External dimension length (69 3470)	mm	690	830	910
External dimension width (69 3470)	mm	360	440	530
External dimension height (69 3470)	mm	310	340	430
Usable length	mm	660	790	870
Usable width	mm	170		
Insert height	mm	50		
Weight (69 3470)	kg	16	21	27

Polypropylene tool chest with transport rollers

PP

Extremely hard-wearing tool chest made of polypropylene. Water-resistant, shock-resistant and corrosion-resistant. 2 laterally foldable handles for 2-person transport and for transport on the integrated rollers. Can be locked with a padlock. Stackable and just 6.3 kg for 89 litres of volume. The case can be supplemented by up to 2 tool inserts No. 693486 SET.

69 3476

Type		807
64A 69 3476	Polypropylene tool chest **with transport rollers**	XXX
External dimension length	mm	807
External dimension width	mm	470
External dimension height	mm	345
Weight	kg	6.3
Volume	l	89

1 tool tray with metal clips and 1 elastic strap to secure the tools in the tool chest. Tool tray with one removable divider.
Suitable for: Polypropylene tool chest No. 693476.

69 3486

Type		SET
64A 69 3486	Tool tray **with elastic strap and metal clips**	XXX

Small parts case “Boxxser”

Double-wall casing of PP and cover of polycarbonate ensure **high load capacity** and rigidity.
Convenient locking mechanism for single-hand operation, **carrying handle with safety lock.**
Matching profiles in the cover and base keep the exchangeable inserts and their contents in place during transport.
Supplied with: 3 different coloured labels for identification.

Number of inserts		15
64B **69 3520**	Small parts case “Boxxser”	XXX
External dimension length	mm	298
External dimension width	mm	284
External dimension height	mm	55
Fitted with: Number of inserts L×W×H		8 pcs. 55×39×47 mm; 1 pc. 109×39×47 mm; 1 pc. 163×39×47 mm; 4 pcs. 79×55×47 mm; 1 pc. 109×79×47 mm

69 3530_15

Number of inserts		14
64B **69 3530**	Small parts case “Boxxser”	XXX
External dimension length	mm	354
External dimension width	mm	323
External dimension height	mm	55
Fitted with: Number of inserts L×W×H		6 pcs. 55×39×47 mm; 2 pcs. 218×39×47 mm; 3 pcs. 79×55×47 mm; 2 pcs. 109×79×47 mm; 1 pc. 157×109×47 mm

69 3520_14

Number of inserts		25	45
64B **69 3540**	Small parts case “Boxxser”	XXX	XXX
External dimension length	mm	421	
External dimension width	mm	361	
External dimension height	mm	55	
Fitted with: Number of inserts L×W×H		25 pcs. 79×55×47 mm	40 pcs. 55×39×47 mm; 5 pcs. 79×55×47 mm

69 3540_25

69 3540_45

Number of inserts		14	20
64B **69 3550**	Small parts case “Boxxser”	XXX	XXX
External dimension length	mm	421	
External dimension width	mm	361	
External dimension height	mm	78	
Fitted with: Number of inserts L×W×H		6 pcs. 79×55×69 mm; 2 pcs. 157×55×69 mm; 1 pc. 235×55×69 mm; 4 pcs. 109×79×69 mm; 1 pc. 218×79×69 mm	15 pcs. 79×55×69 mm; 5 pcs. 109×79×69 mm

69 3550_14

69 3550_20

Number of inserts		18	20
64B **69 3560**	Small parts case “Boxxser”	XXX	XXX
External dimension length	mm	465	
External dimension width	mm	401	
External dimension height	mm	78	
Fitted with: Number of inserts L×W×H		8 pcs. 79×55×69 mm; 2 pcs. 157×55×69 mm; 2 pcs. 235×55×69 mm; 5 pcs. 109×79×69 mm; 1 pc. 218×79×69 mm	14 pc. 79×55×69 mm; 1 pc. 157×55×69 mm; 2 pcs. 235×55×69 mm; 1 pc. 109×79×69 mm; 2 pcs. 157×109×69 mm

69 3560_18

69 3560_20

Carrier box with small parts cases

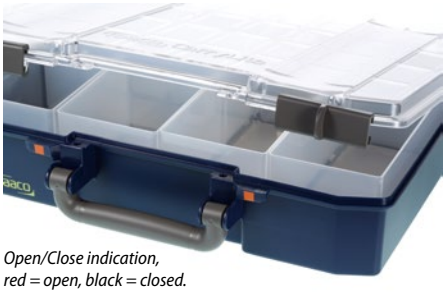
Mobile carrier box of polypropylene, steel blue.
Fitted with 4 small parts cases No. 693520 size 15 with 15 inserts.
Mouldings on the sides hold the small parts cases securely in place in the carrier box.

Number of small parts cases		4
64B **69 3580**	Carrying box with “Boxxser” small parts cases	XXX
External dimension length	mm	347
External dimension width	mm	305
External dimension height	mm	342
Fitted with: Small parts cases (each 298×284×55 mm)		4 pcs. each 15 inserts

69 3580

raaco Parts cases "CarryLite"

Case body of PP and cover of polycarbonate. Strong multi-point hinges ensure stability, and 2 slide catches lock the transparent cover. Profiles in the cover keep the exchangeable inserts and their contents in place during transport.



Open/Close indication, red = open, black = closed.

Number of inserts		10	16
64B 69 3610	Parts cases "CarryLite"	XXX	XXX
External dimension length	mm	337	
External dimension width	mm	278	
External dimension height	mm	57	
Fitted with: Number of inserts L×W×H		1 pc. 55×39×47 mm 2 pcs. 109×39×47 mm 1 pc. 163×39×47 mm 1 pc. 218×39×47 mm 2 pcs. 79×55×47 mm 1 pc. 157×55×47 mm 1 pc. 109×79×47 mm 1 pc. 218×79×47 mm	8 pcs. 55×39×47 mm 4 pcs. 79×55×47 mm 2 pcs. 157×55×47 mm 2 pcs. 109×79×47 mm

69 3610_10

69 3610_16

Number of inserts		25/1	25/2
64B 69 3620	Parts cases "CarryLite"	XXX	XXX
External dimension length	mm	413	
External dimension width	mm	330	
External dimension height	mm	57	
Fitted with: Number of inserts L×W×H		25 pcs. 79×55×47 mm	10 pcs. 55×39×47 mm 10 pcs. 79×55×47 mm 5 pcs. 109×79×47 mm

69 3620_25/1

69 3620_25/2

Number of inserts		9	12
64B 69 3630	Parts cases "CarryLite"	XXX	XXX
External dimension length	mm	337	
External dimension width	mm	278	
External dimension height	mm	79	
Fitted with: Number of inserts L×W×H		4 pcs. 79×55×69 mm 1 pc. 157×55×69 mm 2 pcs. 109×79×69 mm 2 pcs. 163×79×69 mm	8 pcs. 79×55×69 mm 4 pcs. 109×79×69 mm

69 3630_9

69 3630_12

Number of inserts		15
64B 69 3640	Parts cases "CarryLite"	XXX
External dimension length	mm	413
External dimension width	mm	330
External dimension height	mm	79
Fitted with: Number of inserts L×W×H		5 pcs. 79×55×69 mm 10 pcs. 109×79×69 mm

69 3640_15

raaco „CarryMore" carrier frame

CarryMore is a handy storage and transport solution for 2 CarryLite cases with a size of 278×337 mm each. A built-in connector mechanism lets you combine multiple CarryMore frames into a stack. Arrester wheels prevent the CarryLites from slipping out and an additional fastening provides extra safety. Each case features an ergonomic handle to make carrying it comfortable.

Suitable for:

Size 55 – No. 693610 size 10; size 16.

Size 80 – No. 693630 size 9; size 12.

Note: For comfortable handling of multiple, connected CarryMore frames, our shop offers a matching CarryMore trolley (no. 693652 size 1).

CarryMore trolley available from our eShop (No. 693652).

Application example

69 3650_55

69 3650_80

		55	80
64B 69 3650	"CarryMore" carrier frame, empty	XXX	XXX
External dimension length	mm	386	
External dimension width	mm	263	
External dimension height	mm	195	241
Weight	kg	1.8	2

CarryLite inlays can be created individually using our eForm configurator

Now you can easily plan individual inlays for the CarryLite case, intuitively, clearly and entirely according to your wishes using our eForm configurator.
This ensures that your tools are kept ready to hand at all times.

raaco Small parts case

Strong hinges and sliding locks prevent the transparent lid springing open.
U-profiles in the lid prevent small parts getting mixed between divisions.

69 3480 – Body and lid of polypropylene. With fixed divisions.
69 3485 – Body and lid of polycarbonate. With removable dividers.

69 3480_15

69 3480_18

69 3480_32

Number of compartments		18	15	32
64B 69 3480	"Assorter" parts cases	XXX	XXX	XXX
External dimension length	mm	240	338	338
External dimension width	mm	195	260	260
External dimension height	mm	43	57	57
Fitted with: Number of compartments length×width		18 pcs. 55×39 mm	8 pcs. 55×39 mm; 3 pcs. 79×55 mm; 2 pcs. 118×55 mm; 1 pc. 235×55 mm; 1 pc. 165×79 mm	32 pcs. 55×39 mm

Number of compartments		9
64B 69 3485	"CarryLite" parts cases	XXX
External dimension length	mm	413
External dimension width	mm	330
External dimension height	mm	147

69 3485_9

raaco Carrier box with small parts cases

Mobile carrier box of polypropylene, black. Fitted with 4 small parts cases (similar to No. 693520 / 693530 - 2 pieces with 15 compartments, 2 pieces with 17 compartments).
Mouldings on the sides hold the small parts cases securely in place in the carrier box.

69 3490

Number of small parts cases		4
64B 69 3490	Carrier box with "Assorter" small parts cases	XXX
External dimension length	mm	375
External dimension width	mm	265
External dimension height	mm	310
Fitted with: Small parts cases (each 338×261×57 mm)		2 pcs. each 15 compartments; 2 pcs. each 17 compartments

raaco **For drawer units** see No. 96 3251 – 96 3259

7 Innovations – Gripping, cutting, and striking tools

We use this symbol to tag new items in our range of catalogue products

NEW

Page **726**
Front-grip pliers

Page **728**
Heavy-duty diagonal side cutter with welded securing eye

Page **762**
Cable stripping tool

Pages **772 /773**
Crimping tool for terminal sleeves

Page **775**
Crimping set assortment with terminal sleeves

Page **824**
Cordless pop rivet tool

Page **828**
Carbide-tipped multi-purpose drill, 1/4 inch (E 6.3)

Page **828**
GARANT carbide-tipped multi-purpose drill

Page **828**
GARANT carbide-tipped multi-purpose drill set

Page **825**
Cordless riveters with CAS system

Page **833**
GARANT adapter SDS-MAX to SDS-PLUS

Gripping, cutting, and striking tools

The whole tooling catalogue for these brands is available from the Hoffmann Group – just ask us!

7

Garant, KNIPEX, FACOM, HAZET, HOLEX

Sets of pliers, combination pliers, water pump pliers, grip wrenches, mesh cutting pincers

70 716 – 732

Garant, KNIPEX, BAHCO, FACOM, HOLEX

Mechanic's and snipe nose pliers, circlip pliers

71 733 – 743

Garant, LINDSTRÖM, Weidmüller, KNIPEX, HOLEX

Side cutters, electronics pliers, wire stripping tools, crimping tools, tweezers

72 744 – 781

Garant, KNIPEX, VBW, BAUDAT, HOLEX

Bolt cutters, cable cutters

73 782 – 789

PB SWISS TOOLS, FACOM, RENNSTEIG, HALDER, HOLEX

Chisels, pin punches and taper pin punches, centre punches

74 790 – 796

Garant, PB SWISS TOOLS, m-b, HALDER, HOLEX

Hammers, axes, hatchets, non-sparking tools, wrecking bars

75 797 – 811

Garant, Erdi, martor, LÖWE, intercable, HOLEX

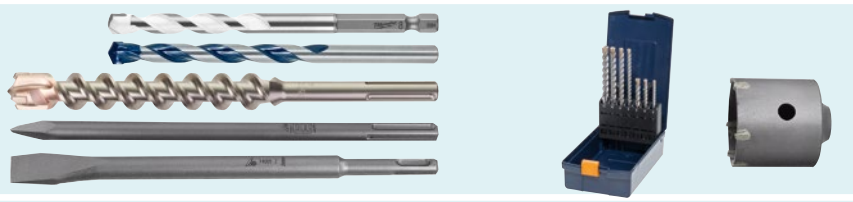
Snips and heavy-duty shears, paper scissors, fabric scissors, hand-operated shears

76 812 – 821

GESIPA, Milwaukee, HOLEX

Pop rivet pliers, pop riveters and pop rivet nut setting tools

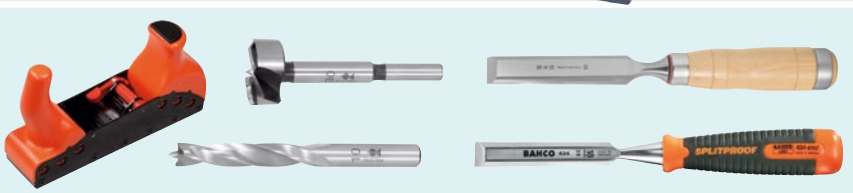
77 822 – 826



Garant, BOSCH, alpen, Milwaukee, HOLEX

Masonry drills, hole saws, drill heads SDS-plus chisels, SDS-max chisels

78 827 – 836



FISCH, BAHCO, Milwaukee

Woodworking tools

79 837 – 839

Pictograms

Use of circlip pliers			For internal rings / holes			For external rings / shafts
Shank version, masonry drills and chisels	SDS PLUS	SDS MAX	Cylindrical	E 6.3		1/4 inch hexagon shank to DIN 3126 E 6.3
Material	Carbide	Carbide	S/STL	Non-rusting stainless steel		
Use of masonry drills and chisels		For use in machines with impact mechanism		Rotary use only. Not suitable for hammer drills	max. 200 min^{-1}	Maximum speed 200 rpm
Standard	DIN 8039	Satisfies DIN 8039	ISO 5468	Satisfies DIN 5468		
Insulation		Fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201				
ESD		Identification of **tools compatible with ESD**, which avoid the build-up / discharge of static charges (**ESD** **E**lectro **S**tatic **D**ischarge). For the handles of these tools, DIN EN 61340-5-1 specifies a discharge resistance between 10^4 – 10^{11} Ohm.				
Cutting chamfer on electronics side cutters		**No bevel**	kW	Increasing upward pressure	The individual cutting operations are differentiated by the upper and lower pressure distribution. The finer the bevel on the jaw the less burr on the cut surfaces. Side cutters with no bevel give a virtually burr-free surface (ideal for soldered joints).	
		Very fine bevel	SFW			
		Fine bevel	FW			
		Bevel	W			

Colour coding system for the application range of side cutters:

Material	Strength	N/mm²	Example
Copper, plastics	soft	up to 250	Copper wire, plastics
Steel, bronze	medium hard	500 – 1000	Nails, wire nails
Steel	hard	1400 – 2200	Wire cables, spring wire
Steel	piano wire	from 2200	hardened spring wire

Conversion table AWG into conductor cross section (mm²) or conductor Ø (Ø mm without insulation)

AWG	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
mm²	0.0324	0.04	0.0516	0.0646	0.08	0.102	0.128	0.163	0.205	0.259	0.325	0.412	0.519	0.653	0.823	1.04	1.31
Ø mm	0.2	0.23	0.26	0.29	0.32	0.36	0.4	0.46	0.5	0.57	0.64	0.72	0.81	0.91	1.02	1.15	1.3

AWG	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	1/0	2/0
mm²	1.65	2.08	2.63	3.31	4.15	5.27	6.62	8.35	10.6	13.3	16.8	21.2	26.7	33.6	42.4	53.4	67.5
Ø mm	1.4	1.6	1.8	2.1	2.3	2.6	2.9	3.3	3.7	4.1	4.6	5.2	5.8	6.5	7.3	8.2	9.3

HOLEX Snipe-nose pliers set, 3 pieces, long version

Robust pliers of chrome vanadium steel, nickel-plated. Double plastic coating on the handles for good grip, inner faces of jaws serrated.

Application: Gripping and assembling recessed or inaccessible parts.

Number of pliers		3
72A 70 0115	Snipe-nose pliers set, long version **3 pieces**	XXX
Supplied with: 1 snipe nose pliers, straight		280 mm
1 snipe-nose pliers 45° angled		280 mm
1 mechanic's pliers (extractor pliers for spark plugs)		280 mm

Garant Pliers set 4 pieces

Jaws chrome-plated, handles with ergonomically optimised multi-component covering, with non-slip **Haptoprene®** surface. High cutting and gripping performance.
Water pump pliers, manganese phosphated, polished jaws, plastic coated handles.

Number of pliers		4
71A **70 0001**	Pliers set, with grips **4 pieces**	XXX
Supplied with: 1 combination pliers No. 700940		Size 180
1 water pump pliers No. 706001		Size 250
1 snipe-nose pliers angled No. 713040		Size 200
1 side cutter No. 724840		Size 160

HOLEX Pliers set 4 pieces

Chrome vanadium steel, bright finish head and joint. Handles with multi-component covering.

Number of pliers		4
72A **70 0108**	Pliers set, with grips **4 pieces**	XXX
Supplied with: 1 combination pliers No. 702995		Size 180
1 water pump pliers No. 706145		Size 250
1 snipe-nose pliers angled No. 713595		Size 200
1 side cutter No. 725245		Size 160

HOLEX Pliers set 4 pieces

Chrome vanadium steel, bright finish head and joint. Plastic coated handles.

Number of pliers		4
72A **70 0110**	Pliers set **4 pieces**	XXX
Supplied with: 1 combination pliers No. 703000		Size 180
1 water pump pliers similar to No. 706151		Size 250
1 snipe-nose pliers angled No. 713600		Size 200
1 side cutter No. 725250		Size 160

KNIPEX® Cobra® water pump pliers set

Box joint (= double guidance). Designed to prevent fingers being trapped. **Push-button fine step adjustment**. Concave profile serrated jaws, self-clamping.
Pliers chemically blacked, polished head, plastic coated handles.

Standard: **DIN ISO 8976**
Material: Chrome vanadium electro-steel, drop forged.

Note: For KNIPEX® pliers wrench set see No. 813730 and mixed set, see No. 813735.

_5

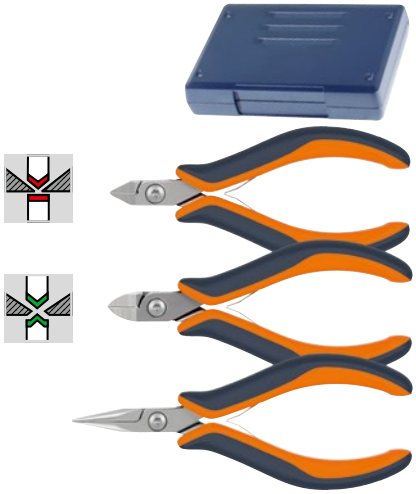
_3

Number of pliers		3	5
73F **70 0050**	Set of water pump pliers	XXX	XXX
Supplied with: 1 each water pump pliers No. 705800		Size 180; 250; 300;	Size 125; 150; 180; 250; 300
Storage in		–	Textile roll-up case

Garant Precision electronics pliers set 3 pieces

Precision machined with slim shape. Cutter induction hardened (62–64 HRC), jaws with smooth gripping faces. Non-reflecting surface, matt shot-blasted with inlaid joint and countersunk screw. Double interchangeable spring for easy operation. **2-component** grips made of conductive plastic. **Suitable for ESDs.** Cutting edges precision ground.

Material: CNC-machined special tool steel for extremely accurate tolerances.



Number of pliers		3
71A 70 0157	Precision electronics pliers set **3 pieces**	XXX
Supplied with: 1 electronics side cutter No. 726250 (pointed head)		Size 125
1 electronics side cutter No. 726210 (normal head)		Size 125
1 electronics snipe-nose pliers No. 727170		Size 140
Stored in		ABS plastic box

Garant Electronics pliers set 4 pieces

Precision stamped, both pliers parts are accurately assembled due to carefully machined holes and ground surfaces. The cutter jaws are offset for a slight shearing action. With opening spring for ease of operation. **2-component** grips made of conductive plastic. **Suitable for ESD work.**

Material: Made of carbon steel (C70), precision stamped and heat-treated with non-reflective phosphate.

Number of pliers		4
71A 70 0161	Electronics pliers set **4 pieces**	XXX
Supplied with: 1 electronics side cutter No. 726682 (slim head – 9.5 mm)		Size 130
1 electronics angle cutter No. 726702 (normal head – 13.5 mm)		size 135
1 electronics flat nose pliers No. 727142		size 145
1 electronics snipe-nose pliers No. 727162		Size 155

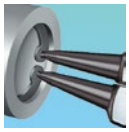
Circlip pliers set

Forged grip and joint, precision made tips of special steel, special precision profile, pressed into the body. Pliers black, head ground, plastic coated handles.

Advantage: Pressed-in tips are highly durable even during continuous operation. Up to 10 times the working life of turned tips.

Pressed-in precision tips.

For external circlips on shafts.



For internal circlips in bores.

Straight jaws

Standard: **DIN 5256 C** – for internal circlips.

Supplied with: 1 each circlip pliers No. 719770 size J1; J2; J3; J4.

Number of pliers			4
71A 70 0132	Garant	Precision circlip pliers set, 4 pieces **for internal circlips**	XXX
for internal circlip ∅		mm	12 – 25; 19 – 60; 40 – 100; 85 – 140
Tip ∅		mm	1.25; 1.8; 2.25; 3.2;
maximum overall length		mm	140; 180; 225; 320

Joint with **integral opening spring.**

Standard: **DIN 5254 A** – for external circlips.

Supplied with: 1 each circlip pliers No. 719870 size A0; A1; A2; A3.

70 0132

Number of pliers			4
71A 70 0142	Garant	Precision circlip pliers set, 4 pieces **for external circlips**	XXX
for external circlip ∅		mm	3 – 10; 10 – 25; 19 – 60; 40 – 100
Tip ∅		mm	0.9; 1.25; 1.8; 2.25
maximum overall length		mm	140; 140; 185; 230;

Offset jaws

Standard: **DIN 5256 D** – for internal circlips.
Supplied with: 1 each circlip pliers No. 719770 size J11; J21; J31; J41.

Number of pliers			4
71A **70 0137**	Garant	Precision circlip pliers set, 4 pieces **for internal circlips**	XXX
for internal circlip ∅		mm	12 – 25; 19 – 60; 40 – 100; 85 – 140
Tip ∅		mm	1.25; 1.8; 2.25; 3.2;
maximum overall length		mm	130; 170; 210; 305

Joint with **integral opening spring.**
Standard: **DIN 5254 B** – for external circlips.
Supplied with: 1 each circlip pliers No. 719870 size A01; A11; A21; A31.

Number of pliers			4
71A **70 0147**	Garant	Precision circlip pliers set, 4 pieces **for external circlips**	XXX
for external circlip ∅		mm	3 – 10; 10 – 25; 19 – 60; 40 – 100
Tip ∅		mm	0,9; 1,25; 1,8; 2,25
maximum overall length		mm	130; 130; 175; 220

70 0147

Straight and angled jaws

Joint for external ring pliers with **integral opening spring.**
Standard: **DIN 5256 C and D** – for internal circlips.
DIN 5254 A and B – for external circlips.
Supplied with:
Size 8 – 1 each circlip pliers No. 719790 size J1; J2; J11; J21.
1 each circlip pliers No. 719890 size A1; A2; A11; A21.
Size 4 – 1 each retaining ring pliers No. 719790 size J1 and J2.
1 each retaining ring pliers No. 719890 size A1 and A2.

Number of pliers			4	8
73F **70 0155**	KNIPEX	Precision circlip pliers set **for internal and external circlips**	XXX	XXX
for internal circlip ∅		mm	12 – 25; 19 – 60	
for external circlip ∅		mm	10 – 25; 19 – 60	
Tip ∅ for internal circlip pliers		mm	1.25; 1.8	
Tip ∅ for external circlip pliers		mm	1.25; 1.8	
maximum overall length of internal circlip pliers		mm	140; 180	130; 140; 170; 180;
maximum overall length of external circlip pliers		mm	140; 185	130; 140; 175; 185;
Storage in			Textile roll-up case	Plastic case

Pressed-in precision tips.

700155_4

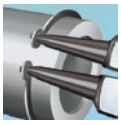
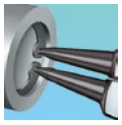
700155_8

FACOM Circlip pliers set for internal and external circlips, 20 pieces

Forged grip and joint, interchangeable tips (clamping screw). Pliers chrome-plated, plastic coated handles. With **opening spring** and steplessly adjustable **opening stop.**
Standard: **DIN 5256 C and D** – for internal circlips.
DIN 5254 A and B – for external circlips.
Supplied with: 1 each circlip pliers for internal and external circlips with 9 pairs of interchangeable tips (3× pairs each straight, 45° angled and 90° angled).

73R **70 0170**	Circlip pliers set, 20 pieces **for internal and external circlips**	XXX
for internal circlip ∅	mm	8 – 12; 12 – 25; 19 – 63
for external circlip ∅	mm	3 – 10; 10 – 25; 19 – 63
Tip ∅ for internal circlip pliers	mm	0.9; 1.3; 1.8
Tip ∅ for external circlip pliers	mm	0.9; 1.3; 1.8
maximum overall length of internal circlip pliers	mm	180
maximum overall length of external circlip pliers	mm	180
Storage in		Plastic case

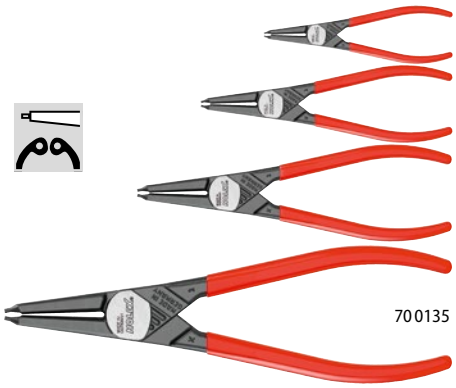
HOLEX 4-piece set of circlip pliers

Drop forged from a single piece of steel, plastic coated handles.

Standard: **DIN 5256 C** – straight jaws, for internal circlips.
Supplied with: 1 each circlip pliers No. 719805 size J1; J2; J3; J4.

Number of pliers			4
72A 70 0135	4-piece set of circlip pliers **for internal circlips**		XXX
for internal circlip ∅		mm	12 – 25; 19 – 60; 40 – 100; 85 – 140
Tip ∅		mm	1,3; 1,8; 2,3; 3,2
maximum overall length		mm	135; 180; 225; 320



Standard: **DIN 5254 A** – straight jaws, for external circlips.
Supplied with: 1 each circlip pliers No. 719905 size A0; A1; A2; A3.

Number of pliers			4
72A 70 0145	4-piece set of circlip pliers **for external circlips**		XXX
for external circlip ∅		mm	3 – 10; 10 – 25; 19 – 60; 40 – 100
Tip ∅		mm	0.9; 1.3; 1.8; 2.3;
maximum overall length		mm	135; 135; 180; 225

Pliers set 4 pieces, VDE insulated

Chrome-plated pliers; handles with ergonomically optimised multi-component covering with non-slip Haptoprene surface. **Insulated according to DIN EN 60900 / VDE 0682-201** for working at voltages up to 1000 V.

Number of pliers			4
71B 70 0180	Garant	Pliers set, 4 pieces **VDE insulated**	XXX
Supplied with:			
1 combination pliers No. 701710			Size 180
1 snipe-nose pliers straight No. 713310			Size 200
1 side cutter No. 725310			Size 160
1 wire stripper No. 728755			Size 160

Bright finish head and joint, handles with multi-component covering. **Insulated to DIN EN 60900 / VDE 0682-201** for working at voltages up to 1000 V.

Number of pliers			4
72A 70 0121	HOLEX	Pliers set, 4 pieces **VDE insulated**	XXX
Supplied with:			
1 combination pliers No. 701852			Size 180
1 snipe-nose pliers straight No. 713351			Size 200
1 side cutter No. 725351			Size 160
1 wire stripper No. 728761			Size 160

70

Heavy-duty Combination Pliers

Considerable cutting performance with little effort. Serrated jaws. Cutting edges additionally induction hardened (approx. 63 HRC); also suitable for piano wire.

- 70 0340 – Jaws chrome-plated, handles with ergonomically optimised multi-component coverings with non-slip **Haptoprene** surface.
- 70 0400 – Jaws chrome-plated, handles with multi-component covering.
- 70 0440 – Jaws chemically blacked, polished head, plastic coated handles.
- 70 0445 – Jaws bright finished, handles with multi-component covering.
- 70 0450 – Jaws bright finished, plastic coated handles.

Standard: **DIN ISO 5746**.
Material: Special tool steel, drop-forged, and oil-hardened.

overall length			mm	180	200	225
71B 70 0340	Garant	Heavy-duty combination pliers, chrome-plated, with two-component grips		XXX	XXX	–
73F 70 0400	KNIPEX	Heavy-duty combi pliers, chrome-plated, with grips		XXX	XXX	XXX
73F 70 0440	KNIPEX	Heavy-duty combi pliers, polished		XXX	XXX	XXX
72B 70 0445	HOLEX	Heavy-duty combination pliers, bright finish, with two-part grips		XXX	XXX	–
72B 70 0450	HOLEX	Heavy duty combi pliers, bright finish		XXX	XXX	–
Cutting capacity hard wire up to ∅			mm	2.5	2.8	3
Cutting capacity piano wire up to ∅			mm	2	2.2	2.5

Heavy-duty combination pliers VDE insulated

Considerable cutting performance with little effort. Serrated jaws. Cutting edges additionally induction hardened (approx. 63 HRC); suitable even for piano wire. Insulated to **DIN EN 60900 / VDE 0682-201.**

70 1900 – Jaws chrome-plated, handles with multi-component covering.
70 1910 – Jaws chrome-plated, handles with ergonomically optimised multi-component coverings with non-slip **Haptoprene** surface.

Standard: **DIN ISO 5746**.
Material: Special tool steel, drop-forged, and oil-hardened.

70 1910

70 1900

overall length			mm	180	200	225
71B 70 1910	Garant	Heavy duty combination pliers, chrome-plated **VDE insulated**		XXX	XXX	–
73F 70 1900	KNIPEX			XXX	XXX	XXX
Cutting capacity hard wire up to ∅			mm	2.5	2.8	3
Cutting capacity piano wire up to ∅			mm	2	2.2	2.5

Heavy-duty combination pliers ERGO™

Chrome vanadium steel, chrome-plated head and joint. Slim, rounded jaws; serrated inside. Heavy-duty grips with **opening spring that can be engaged / disengaged.** Cutting edges additionally induction hardened (approx. 64 HRC); also suitable for piano wire.

Standard: **DIN ISO 5746**.

overall length		mm	160	180
73O 70 1640	Heavy-duty combination pliers ERGO™		XXX	XXX
Cutting capacity hard wire up to ∅		mm	2	2.5
Cutting capacity piano wire up to ∅		mm	1.8	2

Heavy-duty combination pliers offset, VDE insulated

Considerable cutting performance with little effort. Serrated jaws. Cutting edges additionally induction hardened (approx. 64 HRC), also suitable for piano wire. Insulated to **DIN EN 60900 / VDE 0682-201.** Offset design for improved ergonomics and a clear view of the working area.

Standard: **DIN ISO 5743**
Material: Special tool steel, drop-forged, and oil-hardened.

overall length		mm	190
76B 70 1950	Heavy duty combination pliers, offset **VDE insulated**		XXX
Cutting capacity hard wire up to ∅		mm	2.5
Cutting capacity piano wire up to ∅		mm	2

Combination pliers, tool steel

Serrated jaws. Cutting edges additionally induction hardened (approx. 60 HRC).

70 0940 – Pliers chrome-plated, handles with ergonomically optimised coverings with non-slip **Haptoprene** surface.
70 1500 – Jaws chemically blacked, polished head, plastic coated handles.
70 1515 – Jaws bright finished, handles with multi-component covering.
70 1520 – Jaws bright finished, plastic coated handles.
70 1600 – Jaws chrome-plated, handles with multi-component covering.

Standard: **DIN ISO 5746**.
Material: Special tool steel.

70 0940

70 1600

70 1500

70 1515

70 1520

overall length			mm	110	140	160	180	200	250
71B 70 0940	Garant	Combination pliers, chrome-plated, with 2-component grips		–	–	XXX	XXX	XXX	–
73F 70 1600	KNIPEX	Combination pliers, chrome-plated, with grips		XXX	XXX	XXX	XXX	XXX	–
73F 70 1500	KNIPEX	Combination pliers, polished		–	XXX	XXX	XXX	XXX	XXX
72B 70 1515	HOLEX	Combination pliers, bright finish, with two-part grips		–	–	XXX	XXX	XXX	–
72B 70 1520	HOLEX	Combination pliers, bright finish		–	–	XXX	XXX	XXX	–
Cutting capacity hard wire up to ∅			mm	1.6	1.8	2	2.2	2.5	2.5
Cutting capability medium hard wire up to ∅			mm	2.5	2.8	3.1	3.4	3.8	3.8

Snipe-nose combination pliers

Gripping faces with special three-point contour for secure gripping of flat parts. Fast cutting thanks to high ratio compound action. Milled slot in the gripping area enables small workpieces such as nails, pins and bolts to be held and pulled. Handy for working in inaccessible locations. Slim head profile with tapered jaws.

70 1655 – Insulated to **DIN EN 60900 / VDE 0682-201.**

Standard: **DIN ISO 5746.**

Material: Special tool steel.

overall length		mm	145
73F	**70 1650**	Snipe-nose combination pliers chrome-plated, with grips	XXX
73F	**70 1655**	Snipe-nose combination pliers, chrome-plated **VDE insulated**	XXX
Cutting capacity hard wire up to ∅		mm	2
Cutting capability medium hard wire up to ∅		mm	3

Vanadium combination pliers

Serrated jaws. Cutting edges additionally induction hardened (approx. 64 HRC); suitable even for piano wire.

70 2995 – Jaws bright finished, handles with multi-component covering.

70 3000 – Jaws bright finished, plastic coated handles.

Standard: **DIN ISO 5746**

Material: Chrome vanadium steel, drop forged.

Overall length		mm	160	180	200
72B	**70 2995**	Vanadium combination pliers, bright finished, with two-part grips	XXX	XXX	XXX
72B	**70 3000**	Vanadium combination pliers, bright finished	XXX	XXX	XXX
Cutting capacity hard wire up to ∅		mm	2	2.2	2.5
Cutting capacity piano wire up to ∅		mm	1.5	1.8	2

Combination pliers with return spring

Chrome vanadium steel, chrome-plated head and joint, with heavy-duty grips. Serrated jaws. **Plastic opening spring for reduced operator fatigue.** Cutting edges additionally induction hardened (approx. 64 HRC), also suitable for piano wire.

Standard: **DIN ISO 5746**.

Overall length		mm	180
73R	**70 1661**	Combination pliers, chrome-plated	XXX
Cutting capacity piano wire up to ∅		mm	2

Tool steel combination pliers, VDE insulated

Special tool steel; serrated jaws. **Insulated to DIN EN 60900 / VDE 0682-201** for working at voltages up to 1000 V. Cutting edges additionally induction hardened (approx. 60 HRC).

70 1700 – Jaws chrome-plated, handles with multi-component covering.

70 1735 – Jaws chrome-plated, plastic coated handles, **dip insulated.**

Standard: **DIN ISO 5746**.

Dip insulated *= maximum protection against electric shock and against slipping.*

overall length		mm	160	180	200
73F	**70 1735**	Combination pliers, chrome-plated **VDE dip insulated**	–	XXX	XXX
73F	**70 1700**	Combination pliers, chrome-plated **VDE insulated**	XXX	XXX	XXX
Cutting capacity hard wire up to ∅		mm	2	2.2	2.5
Cutting capability medium hard wire up to ∅		mm	3.1	3.4	3.8

Combination pliers, VDE insulated

Chrome vanadium steel. Serrated jaws. Cutting edges additionally induction hardened (approx. 64 HRC); suitable even for piano wire. **Insulated to DIN EN 60900 / VDE 0682-201.**

70 1710 – Pliers chrome-plated, handles with ergonomically optimised multi-component coverings with non-slip **Haptoprene** surface.

70 1800 – Pliers chrome-plated, handles with multi-component covering.

70 1852 – Pliers bright finished, handles with multi-component covering.

Standard: **DIN ISO 5746**

70 1710

70 1800

70 1852

overall length		mm	160	180	190	200
71B **70 1710**	Garant	Vanadium steel combination pliers, chrome-plated **VDE insulated**	XXX	XXX	–	XXX
73F **70 1800**	KNIPEX		XXX	–	XXX	–
72B **70 1852**	HOLEX	Vanadium combination pliers **VDE insulated**	XXX	XXX	–	XXX
Cutting capacity hard wire up to ∅		mm	2	2.2	2.5	2.5
Cutting capacity piano wire up to ∅		mm	1.5	1.8	2	2

Pipe grip pliers of plastic, fully insulated

Jaws of glass fibre-reinforced plastic, handles with a soft plastic zone for a secure grip. Fully insulated, reduces the risk of a short circuit. **For working at voltages up to 1000 V to DIN EN 60900.**

Application: For fitting and disconnecting meters.

70 2400

overall length		mm	180
73F **70 2400**	Pipe grip pliers of plastic **fully insulated to VDE**		XXX

Water pump pliers with box joint

Box joint designed to prevent fingers being trapped. **Push-button fine step adjustment**. Concave profile serrated jaws, self-clamping. Surface manganese phosphated, polished teeth. Ergonomically shaped handles with non-slip plastic coating.

Standard: **DIN ISO 8976**

Material: Chrome vanadium steel, drop forged.

GERMAN DESIGN AWARD SPECIAL 2021

70 6001_180

70 6001_250

overall length		mm	180	250
71B **70 6001**	Water pump pliers with stepped fine adjustment, black		XXX	XXX
Hexagon across flats		mm	36	46
Jaw capacity for pipes		inch	1.1/2	2
Number of fine adjustment steps			19	25

Water pump pliers with quick lever action

With quick lever actuation. No need to grasp for adjustment, can be used one-handed. Jaw serration additionally induction hardened for long working life. Teeth set opposite to the direction of rotation, for a better grip. Precise spacing due to laser-cut adjustment teeth. Handles dip coated.

Standard: **DIN ISO 8976**

Material: Chrome vanadium steel, drop forged.

70 6340

Overall length		mm	260
76B **70 6340**	Water pump pliers with quick lever action		XXX
Hexagon across flats		mm	50
Jaw capacity for pipes		inch	2

Cobra® water pump pliers with fine adjustment at intervals

Box joint (= double guidance). Designed to prevent fingers being trapped. Concave profile serrated jaws, self-clamping.

Size 100 – Single-handed fine adjustment by sliding, no push button required. Handles ridged on the outside.
70 5850 – Plastic coated handles.
Additional quick adjustment at the workpiece without pressing the button.
70 5900 – Pliers chrome-plated, plastic coated handles.
70 5950 – Jaws chrome-plated, handles with multi-component covering.
70 5800/5850 – Jaws chemically blackened, head bright polished.
Size 125–560 – With **push-button fine step adjustment**.
70 5800 Size 125–560 – Plastic coated handles.

Standard: **DIN ISO 8976**
Material: Chrome vanadium electro-steel, drop forged.

70 5800_100

70 5800_125

70 5800_250

70 5800_400

Self-tightening on pipes and nuts: no slipping on the workpiece; the entire operating force is available for turning the workpiece; there is no need to apply high force to close the handles, so little effort is required.

70 5950_250

With additional quick adjustment

70 5850_250

Cobra® QuickSet 70 5850
1 *Press the button – the pliers open fully.*
2 *Apply the top jaw – simply push the pliers closed.*
3 *The joint pin locks into position when force is applied.*

overall length		mm	100	125	150	180	250	300	400	560
73F **70 5800**	Water pump pliers Cobra® chemically blacked		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
73F **70 5850**	Water pump pliers Cobra® QuickSet chemically blacked **with quick adjustment**		–	–	–	–	XXX	XXX	–	–
73F **70 5900**	Water pump pliers Cobra® chrome-plated		–	–	–	XXX	XXX	XXX	–	–
73F **70 5950**	Water pump pliers Cobra® chrome-plated with coated handles		–	–	–	–	XXX	XXX	–	–
Hexagon across flats		mm	28	27	30	36	46	60	95	120
Jaw capacity for pipes		inch	1	1	1.1/4	1.1/2	2	2.3/4	3.1/2	4.1/2
Number of fine adjustment steps (70 5800, 70 5900, 70 5950)			11	13	11	18	25	30	27	20
Number of fine adjustment steps (70 5850)			–	–	–	–	25	25	–	–

Cobra® water pump pliers, extra slim head

Special, extra slim head shape for use in tight spaces. **Box joint** (= double guidance). Designed to prevent fingers being trapped. Fine step adjustment by means of a spring-loaded push button. Concave profile serrated jaws, self-clamping. Jaws chemically blacked, polished head, plastic coated handles.

Standard: **DIN ISO 8976**
Material: Chrome vanadium electro-steel, drop forged.

70 6250

overall length		mm	250
73F **70 6250**	Cobra® water pump pliers with fine adjustment at intervals **extra slim head**		XXX
Hexagon across flats		mm	34
Jaw capacity for pipes		inch	1.1/4
Number of fine adjustment steps			19

SmartGrip® water pump pliers

Jaws chemically blacked, polished head, plastic coated handles. **Box joint** (= double guidance). Designed to prevent fingers being trapped. **Stepped fine adjustment** and fully automatic adjustment to the component by closing the handles. Self-clamping on the component.

Standard: **DIN ISO 8976**

Material: Chrome vanadium steel, drop forged.

Automatic self-adjustment

overall length		mm	250
73F 70 5400	SmartGrip® water pump pliers, self-adjusting		XXX
Hexagon across flats		mm	36
Jaw capacity for pipes		inch	1.1/4

Grooved water pump pliers

The clamping pressure acts only on the **grooved sliding joint** which has multiple adjustment positions; hence no slipping and no wear on the screw. Designed to prevent fingers being trapped. Self-tightening on pipes and nuts. With notched serrated gripping jaws, induction hardened.

70 4900 – Jaws chemically blacked, polished head, plastic coated handles.
70 5000 – Pliers chrome-plated, plastic coated handles.
70 5200 – Jaws chrome-plated, handles with multi-component covering.

Standard: **DIN ISO 8976**

Material: Chrome vanadium steel, drop forged.

70 4900_250

70 5000_250

70 5200

overall length		mm	250
73F 70 4900	Grooved water pump pliers, chemically blacked		XXX
73F 70 5000	Grooved water pump pliers, chrome-plated		XXX
73F 70 5200	Grooved water pump pliers, chrome-plated, with grips		XXX
Hexagon across flats		mm	36
Jaw capacity for pipes		inch	1.5/16

Water pump pliers, jaws hardened

Box joint (= double guidance). Designed to prevent fingers being trapped. Induction hardened. Notched serrated jaws, self-clamping on pipes and nuts. Multi-position stepped adjustment.

70 5700 – Jaws chrome-plated, handles with multi-component covering.
70 6101 – Red powder-coated, polished jaws and joint.
70 6145 – Pliers chemically blacked. Polished head. Handles with multi-component covering.
70 5500/6151 – Jaws chemically blacked, polished head, plastic coated handles.

Standard: **DIN ISO 8976**

Material: Chrome vanadium steel, drop forged.

70 5500

70 5700

70 6101

70 6151

70 6145

overall length			mm	175	250	300	400
73F 70 5500	KNIPEX	Alligator® water pump pliers, chemically blacked		XXX	XXX	XXX	XXX
73F 70 5700	KNIPEX	Alligator® water pump pliers,chrome-plated with coated handles		XXX	XXX	XXX	–
72B 70 6101		Water pump pliers powder-coated		XXX	XXX	XXX	–
72B 70 6151	HOLEX	Water pump pliers with plastic coating		–	XXX	XXX	–
72B 70 6145		Water pump pliers chemically blacked, with coated grips		–	XXX	XXX	–
Hexagon across flats (70 5500, 70 5700)			mm	36	46	60	95
Hexagon across flats (70 6101, 70 6151, 70 6145)			mm	30	36	48	–
Jaw capacity for pipes (70 5500, 70 5700)			inch	1.1/2	2	2.3/4	3.1/2
Jaw capacity for pipes (70 6101, 70 6151, 70 6145)			inch	1.1/4	1.1/2	2	–

Water pump pliers

Box joint (= double guidance). Hollow profile serrated gripping jaws, 5-step adjustment, chrome-plated.

Standard: **DIN ISO 8976**

Material: Chrome vanadium steel, drop forged.

70 6500

overall length		mm	250
76B 70 6500	Water pump pliers with step adjustment		XXX
Hexagon across flats		mm	50
Number of fine adjustment steps			5

Water pump pliers, insulated to VDE

Standard: **DIN ISO 8976**

Box joint (= double guidance). Designed to prevent fingers being trapped. Induction hardened. Notched serrated jaws, self-clamping on pipes and nuts. Multi-position stepped adjustment.
Insulated to DIN EN 60900 / VDE 0682-201.

70 5730 – Jaws chrome plated, handles dip insulated.
70 5740 – Pliers chrome-plated, handles insulated with multi-component covering.
70 5746 – Pliers chemically blacked, head bright polished, handles insulated with multi-component covering.

Material: Chrome vanadium steel, drop forged.

overall length		mm	250
73F 70 5730	KNIPEX	Alligator® water pump pliers **VDE dip insulated**	XXX
73F 70 5740	KNIPEX	Alligator® water pump pliers **VDE grips**	XXX
72B 70 5746	HOLEX	Water pump pliers **VDE grips**	XXX
Hexagon across flats (70 5730, 70 5740)		mm	46
Hexagon across flats (70 5746)		mm	36
Jaw capacity for pipes (70 5730, 70 5740)		inch	2
Jaw capacity for pipes (70 5746)		inch	1.1/2

Pliers chrome-plated, handles insulated with multi-component covering. Push-button **fine step adjustment.** Fully automatic adjustment when pushed directly on to the workpiece.

overall length		mm	250
73F 70 5750	KNIPEX	Cobra® water pump pliers with fine adjustment at intervals **VDE grips**	XXX
Hexagon across flats		mm	46
Jaw capacity for pipes		inch	2
Number of fine adjustment steps			24

70

Front grip pliers, extra slim head

Special, extra slim head shape for use in tight spaces. **Box joint** (= double guidance). Designed to prevent fingers being trapped. Fine adjustment at intervals by means of a spring-loaded pushbutton, can be adjusted in 5 steps to precisely adapt the width. Front gripper and side gripper function. Jaws chemically greyed, polished head, teeth additionally induction hardened (approx. 61 HRC).

70 5991 – Plastic coated handles.
70 5992 – Handles with multi-component coverings.

Material: Chrome vanadium electro-steel, drop forged.

Application: Reliable frontal gripping of even flat workpieces due to three-point system. Gripping, tightening and releasing of even hardened screw heads as well as worn bolts and screws.

New type of front gripping function, including for worn bolts and screws.

The push-button allows the width to be adjusted in five steps directly on the workpiece and it then engages securely – no accidental adjustments!

overall length		mm	200
73F 70 5991	Front grip pliers **chemically blacked**		XXX
73F 70 5992	Front grip pliers **chemically blacked, with grips**		XXX
Jaw length		mm	27
Jaw width		mm	11
Hexagon across flats		mm	22
Jaw capacity for pipes		inch	7/8

Heavy-duty pincers

Sturdy model, wear resistant. Jaws chemically blackened, head bright polished.

Standard: **DIN ISO 9243**

Material: Special tool steel, drop-forged, and oil-hardened.

70 6610

70 6615

overall length		mm	160	180	210	225	250
73F 70 6610	KNIPEX	Heavy-duty pincers	XXX	XXX	XXX	XXX	XXX
72B 70 6615	HOLEX		XXX	XXX	XXX	–	–
Cutting capability medium hard wire up to ∅		mm	1.8	2	2.2	2.2	2.2

Mesh cutting pincers (pincers for wire mesh or steel fixers' nippers)

With special slim head and long handles. High strength precision ground cutting edges.

70 6665 – Induction hardened cutting edges, approx. 64 HRC. Plastic coated handles.

Standard:

70 6670–6675 – **DIN ISO 9242**

Material: Special tool steel, drop-forged, and oil-hardened.

Application:

70 6665 – Slim and narrow design for twisting difficult-to-access binding wires

70 6670/6671 – With special high leverage for interlacing mild steel mesh. Cuts soft wire up to 4.5 mm ∅. Reduced stress on sinews and muscles due to heavy damping of the cutting impact.

70 6670

70 6671

70 6665

70 6675

overall length			mm	200	220	250	280	300
73F 70 6670	KNIPEX	Mesh cutting pincers, galvanised		–	–	XXX	–	XXX
73F 70 6671		Powerful mesh-cutting pincers, chemically blacked		–	–	–	–	XXX
73D 70 6665	wiha	Powerful mesh-cutting pincers, black burnished		–	–	–	–	XXX
72B 70 6675	HOLEX	Mesh cutting pincers chemically blacked		XXX	XXX	XXX	XXX	XXX
Cutting capability medium hard wire up to ∅ (70 6670, 70 6671, 70 6665)			mm	–	–	3.3	–	3.8
Cutting capability medium hard wire up to ∅ (70 6675)			mm	2.5	2.5	2.5	2.8	2.8

Gas pliers (conical seat pliers)

Thin head with profiled serrated gripping jaws. Jaws chemically blacked, polished head, plastic coated handles.

Standard: **DIN ISO 5743**

Material: Special tool steel, drop-forged, and oil-hardened.

70 6800

overall length		mm	200
73F 70 6800	Gas pliers		XXX
Head thickness		mm	3.5
Jaw length		mm	45
suitable for pipe ∅ up to		mm	30

Wire twisting pliers

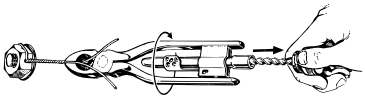
Body drop-forged. Inner face of jaws serrated. Induction hardened cutting edges. **Front of teeth chamfered to 40°.**

Material: Special steel, burnished or painted finish, bright finished head.

Application: For twisting locking wires (see diagram); by moving along any length can be worked. For wire ∅ up to approx. 1.6 mm. For right-handed and left-handed action, with automatic return.

70 7910

70 7920



overall length		mm	230	280	290
73A 70 7910	STAHLWILLE	Wire twisting pliers	XXX	XXX	–
72B 70 7920	HOLEX		XXX	–	XXX

Pliers with welded securing eye

Pliers with a securing eye for fitting a safety harness.
Securing eye, welded to the grip, dynamic load capacity up to 3 m drop height.
70 6010/6025/6030/6031/6040/6051/6070 – **Insulated up to 1000 Volts to DIN EN 60900 / VDE 0682-201.**

Material: Chrome vanadium electro-steel, drop forged.
Application: For use in building construction, underground construction, building maintenance, on industrial structural work, roofing work, in exhibition stand construction, etc.

Note: Other versions and sizes available on request.

Pliers wrench with attachment eye can be found under No. 81 2010 size 180 and 250

Overall length		mm	180
73F 70 6010	Combination pliers, chrome-plated **Insulated to VDE, with securing eye**		XXX
Cutting capacity hard wire up to ∅		mm	2.2

70 6010

Overall length		mm	250
73F 70 6020	Water pump pliers Cobra® chemically blacked **with securing eye**		XXX
73F 70 6025	Water pump pliers Cobra® chemically blacked **Insulated to VDE, with securing eye**		XXX
Hexagon across flats		mm	46
Jaw capacity for pipes		inch	2
Number of fine adjustment steps			25

70 6020

70 6025

Overall length		mm	200
73F 70 6030	Snipe-nose pliers, straight **Insulated to VDE, with securing eye**		XXX
Jaw length		mm	70

70 6030

overall length		mm	200
73F 70 6031	Snipe-nose pliers, angled **Insulated to VDE, with securing eye**		XXX
Jaw length		mm	73

70 6031

Overall length		mm	160
73F 70 6040	Diagonal side cutter **Insulated to VDE, with securing eye**		XXX
73F 70 6045	Diagonal cutter **with securing eye**		XXX
Cutting capacity soft wire up to ∅		mm	4
Cutting capacity hard wire up to ∅		mm	2

70 6040

70 6045

overall length		mm	200
73F 70 6051	Diagonal side cutter, chrome-plated **Insulated to VDE, with securing eye**		XXX
Cutting capacity soft wire up to ∅		mm	4.2
Cutting capacity hard wire up to ∅		mm	3
Cutting capacity piano wire up to ∅		mm	2.5

NEW

70 6051

overall length		mm	200
73F 70 6070	Installation pliers with opening spring **Insulated to VDE, with securing eye**		XXX
Cutting capacity		mm²	5×2.5
Cutting capacity up to ∅		mm	15

70 6070

overall length		mm	200
73F 70 6080	Compact bolt cutter CoBolt® **with securing eye**		XXX
for soft steel wire up to ∅		mm	6
for medium-hard steel wire up to ∅		mm	5.2
for piano wire up to ∅		mm	3.6

70 6080

Securing of tools

Products to secure tools can be found in Vol. 4 from 09 8230

09 8240_6,8

09 8250_1

09 8245_T2T

HOLEX Universal grip wrench

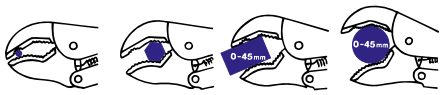
Serrated jaws and sturdy spring steel body. Span and clamping pressure adjustable with a knurled screw. Fully nickel-plated.

70 8005 – Jaw shape oval.
70 8105 – Jaw shape double Vee.
70 8205 – Jaw shape upper straight, lower Vee.

Material: Jaws of chrome vanadium steel, drop forged.
Application: For clamping profiled and flat materials. Clamping force up to 10,000 N.
Spare part:
Size 300 – Spare spring No. 708301 size 12.
Size 250 – Spare spring No. 708301 size 10.
Size 175 – Spare spring No. 708301 size 7.

70 8005

70 8105



70 8205

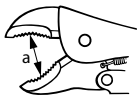
overall length		mm	115	140	175	185	225	250	300
72B 70 8005	Universal grip wrench, jaw shape oval		XXX	XXX	–	XXX	XXX	–	XXX
72B 70 8105	Universal grip wrench, jaw shape double Vee		–	–	–	–	–	XXX	–
72B 70 8205	Universal grip wrench, jaw shape Vee		–	–	XXX	–	–	XXX	XXX
Jaw length (70 8005, 70 8105)		mm	16	23	–	32	38	35	47
Jaw length (70 8205)		mm	–	–	30	–	–	35	45
Jaw capacity (70 8005, 70 8105)		mm	25	28	–	35	40	40	60
Jaw capacity (70 8205)		mm	–	–	30	–	–	40	55

Garant Automatic grip wrench, self-adjusting

Automatically sets the appropriate clamping range for the jaws, allowing easy one-hand working. Setting the clamping force once ensures consistent clamping pressure over the entire clamping range.

Size 190 – Long, narrow jaw shape with serrated gripping faces.
Size 160; 230 – Oval jaw shape with serrated gripping faces.

Application: For quick and efficient gripping of profiled and flat materials. Clamping force up to 10,000 N.
Spare part: Spare springs No. 708301 sizes 5CJ and 8.5CJ.



70 8251_160

70 8251_190

70 8251_230

overall length		mm	160	190	230
71B 70 8251	Automatic grip wrench, self-adjusting		XXX	XXX	XXX
Jaw length		mm	24	53	30
Jaw capacity		mm	32	44	44

FACOM Universal grip wrench with single-handed locking and unlocking

With one-hand locking and unlocking. Push button for controlled and smooth release. Upper jaw with a milled groove for gripping tubes and small diameters.

Application: For quick and secure gripping of profiled and flat materials. Clamping force adjustable up to 10,000 N.

70 8355

overall length		mm	250
73R 70 8355	Universal grip wrench		XXX
Jaw length		mm	45
Jaw capacity		mm	60

HOLEX Angled grip wrench

Long slim jaws, angled 70°. Serrated on the inside; at the rear of the jaws a non-serrated area for clamping hoses. The special head shape ensures that in the clamped condition the handles do not obstruct the working area.

Material: Jaws of high-quality steel, hardened and tempered.
Application: For clamping and gripping in restricted and inaccessible places, where it is essential that the handles do not obstruct the working area.
Spare part: Spare spring No. 708301 size 7.

70 8381

overall length		mm	185
72B 70 8381	Angled grip wrench		XXX
Head height		mm	120
Jaw length (serrated area)		mm	60
Jaw capacity		mm	60

HOLEX Long nose grip wrench

Long slim jaws, serrated on the inside. Adjustable clamping pressure, pliers fully nickel-plated.

Material: Jaws of high-quality steel, hardened and tempered.

Application: For holding small and very small components (jaws approx. 4 mm thick at tip).

Spare part: Spare springs No. 708301 sizes 4, 5, and 7.

70 8401

overall length	mm	135	175	220
72B **70 8401**	Long nose grip wrench	XXX	XXX	XXX
Jaw length	mm	40	45	65

HOLEX Grip wrench PLUS with pivoted lower jaw

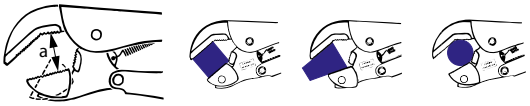
Serrated jaws and sturdy spring steel body. Lower jaw with movable clamping face. **Parallel and prismatic clamping is available over the entire clamping range.** Fully nickel-plated.

Material: Chrome vanadium steel gripping jaws, drop forged.

Application: Equally suitable for holding flat, profiled and round materials, clamping force up to 10,000 N.

Spare part: Spare spring No. 708301 size 10.

70 8701



overall length	mm	250
72B **70 8701**	Grip wrench PLUS with pivoted lower jaw	XXX
Jaw length	mm	45
Jaw capacity for round and rectangular material	mm	45

FACOM Grip wrench with adjustable jaws

Easy and safe to use. Trouble-free and quick opening by the **release lever** on the lower handle. With large clamping range and clamping depth, 5-step quick adjustment and additional fine adjustment. Lower jaw deeply cranked for clamping U–shaped and angle profiles, pipes etc. Serrated gripping jaws and special stable spring steel body. Fully nickel-plated.

Material: Chrome molybdenum vanadium steel jaws; drop forged.

Application: For secure gripping of profiled, flat, and tubular materials. Clamping force adjustable up to 10,000 N.

70 8901_230

70 8901_250

70 8901_275

overall length	mm	230	250	275
73R **70 8901**	Grip wrench PLUS with adjustable lower jaw	XXX	XXX	XXX
Jaw length	mm	40	60	80
Jaw capacity round materials	mm	80	110	135
Jaw capacity angled materials	mm	40	50	70

with pivoted lower jaw

70 8903_250

overall length	mm	250
73R **70 8903**	Grip wrench with pivoted lower jaw	XXX
Jaw length	mm	60
Jaw capacity round materials	mm	110
Jaw capacity angled materials	mm	50

HOLEX Locking C clamps with C jaws

Narrow jaws with high C shape; wide clearance. Sturdy spring steel body. Nickel-plated handles and clamping jaws.

70 9101 – With movable jaws to protect the component.

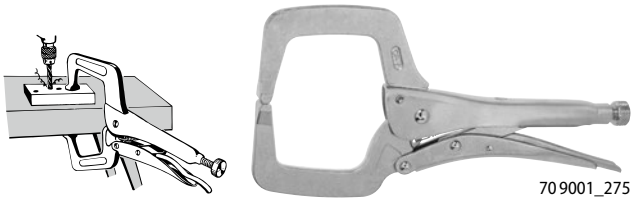
Material:

Size 150 – Jaws of high-quality steel, hardened and tempered.

Size 275 – Chrome vanadium steel clamping jaws, drop forged.

Application: Particularly suitable for clamping profiled material with high flanges or bulky components.

Spare part: Spare springs No. 708301 sizes 5 and 10.



70 9001_275

70 9101

overall length		mm	150	275
72B 70 9001	Locking C clamp		XXX	XXX
72B 70 9101	Locking C clamp with movable jaws		–	XXX
Jaw capacity (70 9001)		mm	50	90
Jaw capacity (70 9101)		mm	–	75

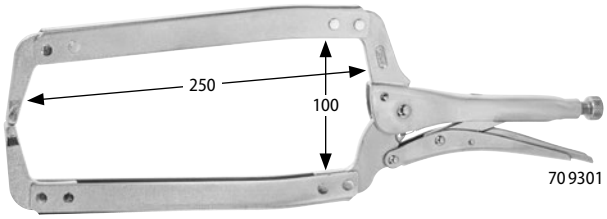
HOLEX Locking clamp with C jaws

Deep long-reach clamp for exceptionally wide components. Body with adjustable screw, clamp, and release lever. Nickel-plated handles and frame.

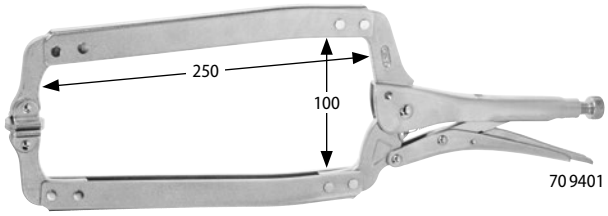
70 9401 – With movable jaws to protect the component.

Application: Particularly suitable for clamping profiled shapes when drilling, welding or screw-fixing; large reach.

Spare part: Spare spring No. 708301 size 10.



70 9301



70 9401

overall length		mm	455
72B 70 9301	Locking C clamp		XXX
72B 70 9401	Locking C clamp with movable jaws		XXX
Jaw capacity		mm	220
Throat		mm	250

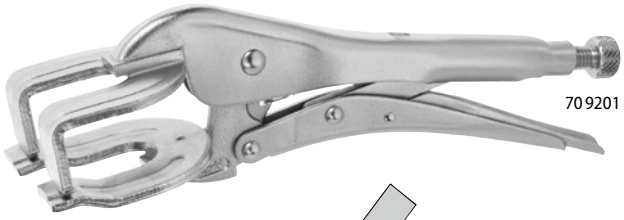
HOLEX Welder's clamp

U-shaped clamping jaws; upper jaw angled 90°. Sturdy spring steel body. Fully nickel-plated.

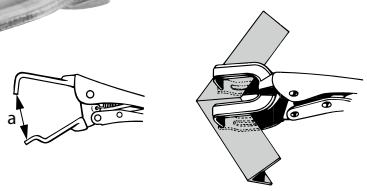
Material: Chrome vanadium steel clamping jaws.

Application: For clamping profiled or flat materials etc. when welding.

Spare part: Spare spring No. 708301 size 10.



70 9201



overall length		mm	275
72B 70 9201	Welder's clamp		XXX
Jaw capacity a		mm	55

HOLEX Pipe welder's clamp

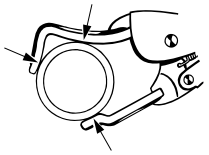
U-shaped clamping jaws, the upper jaws have Vee profile to give secure three-point contact when clamping pipes. Sturdy spring steel body. Fully nickel-plated.

Material: Chrome vanadium steel clamping jaws.

Application: For centralised clamping of pipes and rods when welding.

Spare part: Spare spring No. 708301 size 10.

70 9501



Secure three-point contact

overall length		mm	280
72B 70 9501	Pipe welder's clamp		XXX
Jaw capacity for pipes		mm	10 – 90
Jaw capacity for pipes		inch	2/5 - 3,1/2

HOLEX Chain clamp

70 9901 – With chain to grip a wide variety of components. Clamps all shapes around which the chain can be wrapped. Adjustable clamping pressure.

Application:

70 9901 – For holding and clamping a variety of shapes. The clamping force can be adjusted, so it can also be used as a ratchet on round components.

70 9901

overall length without chain		mm	225
72B 70 9901	Chain clamp		XXX
Chain length		mm	505
Capacity without extension chain		mm	150

70 9911

overall length		mm	505
72B 70 9911	Extension chain		XXX
Chain length		mm	505

HOLEX Sheet metal clamp

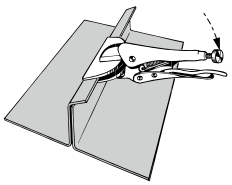
Particularly wide and flat clamping jaws. Sturdy spring steel body. Fully nickel-plated.

Material: Chrome vanadium steel clamping jaws.

Application: Particularly suitable for holding, bending, and flanging sheet metal.

Spare part: Spare spring No. 708301 size 7.

70 9701



overall length		mm	180
72B 70 9701	Sheet metal clamp		XXX
Jaw width		mm	80
Jaw capacity		mm	45

70

Erdi Tinsmith's pliers

Strong, finely serrated jaws. Inlaid joint and sturdy handles. Drop-forged and hardened. Head bright finished. Plastic coated handles.

Material: Chrome vanadium steel.

70 9930

70 9935

76B 70 9930	Tinsmith's flat nose pliers		XXX
76B 70 9935	Tinsmith's round nose pliers		XXX
Jaw length		mm	50
overall length (70 9930)		mm	240
overall length (70 9935)		mm	260

Erdi Seaming pliers

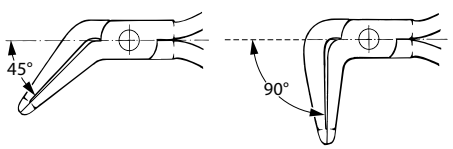
Exceptionally robust design with sturdy jaws. Inlaid joint. Drop-forged; hardened and painted.

Size 22 – Plastic coated handles.

Material: Special steel.

70 9940_22

70 9940_60



Jaw width		mm	22	60
76B 70 9940	Seaming pliers straight		XXX	XXX
76B 70 9945	Seaming pliers 45° offset		XXX	XXX
76B 70 9950	Seaming pliers 90° offset		–	XXX
Jaw length (70 9940)		mm	30	60
Jaw length (70 9945, 70 9950)		mm	28	50
overall length		mm	180	270

Flat-nose pliers

With short strong jaws (flat). Serrated inside jaws.

71 0100 – Jaws chemically blacked, polished head, plastic coated handles.
71 0300 – Pliers chrome-plated, handles with multi-component covering, **insulation up to 1000 Volts to DIN EN 60900 / VDE 0682-201.**
71 0400 – Jaws chrome-plated, handles with multi-component covering.

Standard: **DIN ISO 5745**
Material: Special tool steel, drop-forged, and oil-hardened.

71 0100

71 0300

overall length		mm	125	140	160	180
73F 71 0100	Flat nose pliers, polished		XXX	XXX	XXX	XXX
73F 71 0300	Flat nose pliers chrome-plated **VDE insulated**		–	–	XXX	–
73F 71 0400	Flat nose pliers chrome-plated with grips		–	XXX	XXX	–
Jaw length		mm	27	28	30	35

71 0400

Round-nose pliers

With short strong jaws (round). Smooth jaws.

71 0500 – Jaws chemically blacked, polished head, plastic coated handles.
71 0700 – Pliers chrome-plated, handles with multi-component covering, **insulation up to 1000 Volts to DIN EN 60900 / VDE 0682-201.**
71 0800 – Jaws chrome-plated, handles with multi-component covering.

Standard: **DIN ISO 5745**
Material: Special tool steel, drop-forged, and oil-hardened.

71 0500

71 0700

overall length		mm	125	140	160
73F 71 0500	Round nose pliers polished		XXX	XXX	XXX
73F 71 0700	Round nose pliers chrome-plated **VDE insulated**		–	–	XXX
73F 71 0800	Round nose pliers chrome-plated with grips		–	XXX	XXX
Jaw length		mm	27	28	30

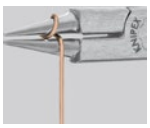
71 0800

Jeweller's pliers

With tapered tips, rounded jaws, and induction hardened raised side cutting edges. Pliers chrome-plated, plastic coated handles.

Standard: **DIN ISO 5743**
Material: Special tool steel, drop-forged, and oil-hardened.
Application: Specially for forming fine wire hooks, eyes etc.

71 0900



For forming particularly fine wire hooks, eyes etc.

overall length		mm	130
73F 71 0900	Jeweller's pliers chrome-plated		XXX
Jaw length		mm	32

Long Nose Pliers

With long, slim jaws and flush fitting joint.

Standard: **DIN ISO 5745**

Material: Chrome vanadium steel, drop-forged and oil-hardened.

71 1180

Flat jaws, serrated inside

71 1000 – Pliers chrome-plated, plastic coated handles.
71 1095 – Jaws bright finished, handles with multi-component covering.
71 1100 – Jaws bright finished, plastic coated handles.
71 1180 – Jaws chrome-plated, handles with ergonomically optimised multi-component coverings with non-slip **Haptoprene** surface.
71 1200 – Jaws chrome-plated, handles with multi-component covering.
71 1300 – Pliers chrome-plated, handles with multi-component covering, **insulation up to 1000 Volts to DIN EN 60900 / VDE 0682-201.**

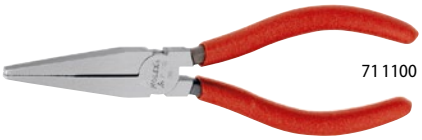
71 1200

71 1300

71 1000

overall length			mm	140	160	190
71B 71 1180	Garant	Long flat nosed pliers, chrome-plated, with grips		–	XXX	–
73F 71 1200				XXX	XXX	XXX
73F 71 1300	KNIPEX	Long flat nosed pliers, chrome-plated **VDE insulated**		–	XXX	–
73F 71 1000		Long flat nosed pliers, chrome-plated		XXX	XXX	–
72B 71 1095	HOLEX	Long flat nosed pliers, bright finished, with coated grips		–	XXX	–
72B 71 1100		Long flat nosed pliers, bright finished		–	XXX	–
Jaw length			mm	42	47	50

71 1095


71 1100

Snipe nose jaws, serrated inside

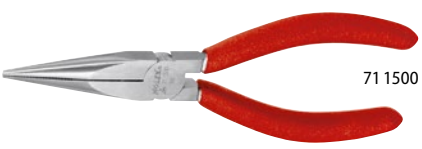
71 1400 – Pliers chrome-plated, plastic coated handles.
71 1495 – Jaws bright finished, handles with multi-component covering.
71 1500 – Jaws bright finished, plastic coated handles.
71 1600 – Jaws chrome-plated, handles with multi-component covering.

71 1600

71 1400

overall length			mm	140	160	190
73F 71 1600	KNIPEX	Long snipe nose pliers, chrome-plated, with grips		XXX	XXX	XXX
73F 71 1400		Long snipe nose pliers, chrome-plated		XXX	–	–
72B 71 1495	HOLEX	Long snipe nose pliers, bright finished, with coated grips		–	XXX	–
72B 71 1500		Long snipe nose pliers, bright finished		–	XXX	–
Jaw length			mm	42	50	50

71 1495


71 1500

Snipe nose jaws, smooth inside

71 1800 – Pliers chrome-plated, plastic coated handles.
71 1895 – Jaws bright finished, handles with multi-component covering.
71 1900 – Jaws bright finished, plastic coated handles.
71 1980 – Jaws chrome-plated, handles with ergonomically optimised multi-component covering, with non-slip **Haptoprene** surface.
71 2000 – Jaws chrome-plated, handles with multi-component covering.

71 1980

71 2000

71 1800

71 1895

71 1900

overall length			mm	140	160
71B 71 1980	Garant	Long round nosed pliers, chrome-plated, with grips		–	XXX
73F 71 2000	KNIPEX			XXX	XXX
73F 71 1800	KNIPEX	Long round nosed pliers, chrome-plated		–	XXX
72B 71 1895	HOLEX	Long round nose pliers, bright finished, with coated grips		–	XXX
72B 71 1900	HOLEX	Long round nosed pliers, bright finished		–	XXX
Jaw length			mm	37.5	41

Snipe nose pliers, without side cutter (telephone pliers)

With long, slim jaws tapering snipe-nosed. Flush fitting joint with no play. Serrated inside jaws.
71 2200 – Jaws chrome-plated, handles with multi-component covering.
71 2250 – Jaws chemically blacked, polished head, plastic coated handles.
Standard: **DIN ISO 5745**
Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

71 2200

71 2250

overall length		mm	160
73F 71 2200	Snipe nose pliers, chrome-plated, with grips		XXX
73F 71 2250	Snipe nose pliers, polished		XXX
Jaw length		mm	54

Snipe nose pliers with side cutter

Very long snipe nose jaws. Cutting edges induction hardened (approx. 61 HRC), suitable for cutting hard and soft wire. Serrated inside jaws.
Standard: **DIN ISO 5745**
Material: Chrome vanadium steel, drop-forged and oil-hardened.

71 3040

Snipe nose pliers with straight jaws

71 3040 – Jaws chrome-plated, handles with ergonomically optimised multi-component coverings with non-slip **Haptoprene** surface.
71 3100 – Jaws chrome-plated. Twist-tolerant flexible precision tips.
Size 125 – Plastic coated handles.
71 3150 – Jaws chemically blackened, head bright polished. Plastic coated handles. Twist-tolerant flexible precision tips.
71 3195 – Jaws bright finished, handles with multi-component covering.
71 3200 – Jaws bright finished, plastic coated handles.
71 3100 Size 140–200 – Handles with multi-component coverings.

71 3100

71 3150

71 3195

71 3200

overall length			mm	125	140	160	200
71B 71 3040	Garant	Snipe nose pliers, straight, chrome-plated, with grips		–	–	XXX	XXX
73F 71 3100	KNIPEX			XXX	XXX	XXX	XXX
73F 71 3150	KNIPEX	Snipe nose pliers, straight, polished		XXX	XXX	XXX	XXX
72B 71 3195	HOLEX	Snipe-nose pliers, straight, bright finished, with grips		–	–	XXX	XXX
72B 71 3200	HOLEX	Snipe nose pliers, straight, bright finished		–	–	XXX	XXX
Jaw length			mm	27	42	50	73

Snipe nose pliers with angled jaws (approx. 40 – 45°)

71 3440 – Jaws chrome-plated, handles with ergonomically optimised multi-component coverings with non-slip **Haptoprene** surface.
71 3500 – Pliers chrome-plated, handles with multi-component covering. Twist-tolerant flexible precision tips.
71 3550 – Jaws chemically blackened, head bright polished. Plastic coated handles. Twist-tolerant flexible precision tips.
71 3595 – Jaws bright finished, handles with multi-component covering.
71 3600 – Jaws bright finished, plastic coated handles.

71 3440

71 3500

71 3550

overall length			mm	160	200
71B 71 3440	Garant	Snipe nose pliers, angled, chrome-plated, with grips		XXX	XXX
73F 71 3500	KNIPEX			XXX	XXX
73F 71 3550		Snipe nose pliers, angled, polished		XXX	XXX
72B 71 3595	HOLEX	Snipe nose pliers, angled, bright finished, with grips		XXX	XXX
72B 71 3600		Snipe nose pliers, angled, bright finished		XXX	XXX
Jaw length			mm	50	73

71 3595

71 3600

Snipe nose pliers, with side cutter, insulated to VDE

Very long snipe nose jaws. Cutting edges induction hardened (approx. 61 HRC), suitable for cutting hard and soft wire. Serrated inside jaws. **Plastic-coated handles to DIN EN 60900 / VDE 0682-201 for working at voltages up to 1000 V.**

Standard: **DIN ISO 5745**
Material: Chrome vanadium steel, drop-forged and oil-hardened.

71 3310

71 3335

71 3300

Snipe nose pliers with straight jaws

71 3300 – Jaws chrome-plated, handles with multi-component covering.
71 3310 – Jaws chrome-plated, handles with ergonomically optimised multi-component coverings with non-slip **Haptoprene** surface.
71 3335 – Jaws chrome-plated, plastic coated handles, **dip insulated.**
71 3351 – Jaws bright finished, handles with multi-component covering.

71 3351

71 3710

overall length			mm	160	200
71B 71 3310	Garant	Snipe nose pliers, straight **VDE insulated**		XXX	XXX
73F 71 3335	KNIPEX	Snipe nose pliers, straight **dip insulated to VDE**		–	XXX
73F 71 3300		Snipe nose pliers, straight **VDE insulated**		XXX	XXX
72B 71 3351	HOLEX			XXX	XXX
Jaw length			mm	50	73

Snipe nose pliers with angled jaws (approx. 40 – 45°)

71 3700 – Jaws chrome-plated, handles with multi-component covering.
71 3710 – Jaws chrome-plated, handles with ergonomically optimised multi-component coverings with non-slip **Haptoprene** surface.
71 3735 – Jaws chrome-plated, plastic coated handles, **dip insulated.**
71 3751 – Jaws bright finished, handles with multi-component covering.

71 3735

71 3700

overall length			mm	160	200
71B 71 3710	Garant	Snipe nose pliers, angled **VDE insulated**		XXX	XXX
73F 71 3735	KNIPEX	Snipe nose pliers, angled **dip insulated to VDE**		–	XXX
73F 71 3700		Snipe nose pliers, angled **VDE insulated**		XXX	XXX
72B 71 3751	HOLEX			XXX	XXX
Jaw length			mm	50	73

71 3751

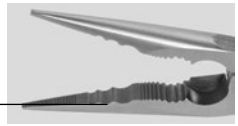
Snipe nose pliers, cranked, with cutter – insulated to VDE

Cutting edges induction hardened (approx. 64 HRC); suitable even for piano wire. Long snipe nose jaws with "WAVE profile" for gripping delicate parts such as cables or threaded rods. Inner face of jaws serrated near the tip. Handles with thick-walled grips **insulated to DIN EN 60900 / VDE 0682-201 for working at voltages up to 1000 V.**

Material: Special tool steel, jaws bright finished. Handles with multi-component coverings.

Application: Ideal for electrical installation work - offset design for improved ergonomics and a clear view of the working area.

WAVE profile



overall length		mm	220
76B 71 3380	Snipe nose pliers, offset **VDE insulated**		XXX
Jaw length		mm	65

Snipe nose pliers of plastic, fully insulated

Jaws of glass fibre-reinforced plastic. Handles with a soft plastic zone for a secure grip. Very long snipe nose jaws. **Fully insulated, reduces the risk of a short circuit.**
For working at voltages up to 1000 V to DIN EN 60900 / VDE 0682-201.

overall length		mm	220
73F 71 3370	Snipe-nose pliers, straight **fully insulated to VDE**		XXX
Jaw length		mm	75

Assembly pliers, long version

With milled grooves with small surface, for securely gripping, retaining and guiding small copper pipes, bolts and cables, and other round parts. Jaws chemically blacked, polished head, plastic coated handles.

Standard: DIN ISO 5743

Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

Application: Slim, very long design, suitable for gripping, adjustment and assembly work where access is difficult.

71 3770

71 3780

Overall length		mm	280
73F 71 3770	Assembly pliers, long version, straight		XXX
73F 71 3780	Assembly pliers, long version, 45° angled		XXX
Jaw length (71 3770)		mm	76.5
Jaw length (71 3780)		mm	70

Snipe nose pliers, with side cutter and return spring

Chrome-plated jaws and joint, with heavy-duty grips. Plastic opening spring for reduced operator fatigue. Serrated jaws with pipe grip. Induction hardened cutting edges, suitable for hard and soft wire.

Standard: DIN ISO 5745

Advantage: Compatible with the Facom SLS (Safety Lock System) safety harness, for securing tools when working at great heights and for protection against falling tools.

71 3261

71 3661

Overall length		mm	200
73R 71 3261	Snipe nose pliers, straight, chrome-plated		XXX
73R 71 3661	Snipe nose pliers, angled, chrome-plated		XXX
Jaw length (71 3261)		mm	75
Jaw length (71 3661)		mm	69

ERGO™ snipe nose pliers, with side cutter and return spring

Chrome vanadium steel, chrome-plated head and joint. Exceptionally slim, serrated snipe nose jaws. Heavy-duty grips with **opening spring that can be engaged / disengaged.** Induction hardened cutting edges (approx. 59 HRC); suitable for hard and soft wire.

Standard: DIN ISO 5745

overall length		mm	140	160	200
730 71 3940	ERGO™ snipe nose pliers, straight, chrome-plated		XXX	XXX	XXX
Jaw length		mm	39	49	72

Needle nose pliers

With particularly long and slim snipe nose jaws. Tapering to 3 mm wide and 1 mm high at the tip. Smooth jaws. Jaws chemically blacked, polished head, plastic coated handles.

71 5000 – Straight form.
71 5100 – With 45° angled jaws.

Standard: **DIN ISO 5743**
Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

71 5000

71 5100

overall length			mm	160
73F	71 5000	Needle nose pliers straight		XXX
73F	71 5100	Needle nose pliers angled 45°		XXX
Jaw length			mm	55

Weaver's nippers (duckbill profile)

With **long, wide,** and thin tapering jaws, smooth inner surfaces. Pliers chrome-plated, plastic coated handles.

Standard: **DIN ISO 5743**
Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

71 5200

overall length			mm	160
73F	71 5200	Weaver's nippers, chrome-plated		XXX
Jaw length			mm	55

Mechanic's pliers (extractor pliers for pulling off spark plug connectors)

45° angled jaws, specially for gripping spark plug connectors and other round parts. Jaws chrome-plated, handles with multi-component covering.

Standard: **DIN ISO 5745**
Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

71 5350

overall length			mm	200
73F	71 5350	Spark plug connector removal pliers, chrome-plated		XXX
Jaw length			mm	73

71

Assembly pliers

With long slim jaws and particularly long slim handles. Jaws chemically blacked, polished head, plastic coated handles.

71 5420 – With flat jaws, serrated gripping surfaces.
71 5425 – With snipe nose, serrated gripping surfaces.

Standard: **DIN ISO 5743**
Material: Special tool steel, drop-forged, and oil-hardened.

71 5420

71 5425

overall length			mm	200
73F	71 5420	Assembly pliers flat		XXX
73F	71 5425	Assembly pliers snipe-nosed		XXX
Jaw length (71 5420)			mm	33
Jaw length (71 5425)			mm	34

Precision engineer's pliers

With short and slender jaws, smooth inside. Pliers chrome-plated, plastic coated handles.

Standard: **DIN ISO 9655**
Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

71 5500

71 5800

71 6100

71 6400

overall length			mm	125
73F	71 5500	Precision pliers chrome-plated **wide flat-nosed**		XXX
Jaw length			mm	27
overall length			mm	125
73F	71 5800	Precision pliers chrome-plated **flat pointed**		XXX
Jaw length			mm	27
overall length			mm	125
73F	71 6100	Precision pliers chrome-plated **flat-round**		XXX
Jaw length			mm	27
overall length			mm	125
73F	71 6400	Precision pliers chrome-plated **round nosed**		XXX
Jaw length			mm	27

KNIPEX Mechanic's pliers

Strong, long serrated jaws. Jaws chrome-plated, handles with multi-component covering.

Standard: **DIN ISO 5745**

Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

overall length		mm	200
73F	**71 6600**	Mechanic's pliers chrome-plated **snipe-nose, straight**	XXX
Jaw length		mm	73

overall length		mm	200
73F	**71 6700**	Mechanic's pliers chrome-plated **snipe-nosed pliers, angled 40°**	XXX
Jaw length		mm	73

overall length		mm	200
73F	**71 6800**	Mechanic's pliers chrome-plated **snipe-nosed, offset**	XXX
Jaw length		mm	73

overall length		mm	190
73F	**71 6900**	Mechanic's pliers chrome-plated **wide flat-nosed, straight**	XXX
Jaw length		mm	50

Garant Adjusting pliers

Extra flat and slender jaws, inside smooth. Pliers chrome-plated, plastic coated handles.

Standard: **DIN 5235**

Material: Chrome vanadium steel, drop-forged and oil-hardened.

Overall length		mm	140
71B	**71 7005**	Adjusting pliers form A **flat-pointed, straight**	XXX
Jaw length		mm	33

Overall length		mm	140
71B	**71 7205**	Adjusting pliers form B **wide flat-nosed, straight**	XXX
Jaw length		mm	33

Overall length		mm	140
71B	**71 7405**	Adjusting pliers form C **45° angled, wide flat-nosed**	XXX
Jaw length		mm	33

Overall length		mm	140
71B	**71 7605**	Adjusting pliers form E **90° angled, wide flat-nosed**	XXX
Jaw length		mm	33

LINDSTRÖM Tweezers from No. 72 7502

Circlip pliers for internal circlips in bores

With inserted precision tips.

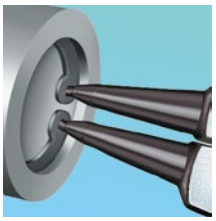
71 9770 – Pliers, blacked. Ground head. Plastic coated handles.
71 9795 – Handles of steel plate with locking mechanism.
71 9805 – Forged from a single piece. Pliers chemically blacked. Plastic coated handles.
71 9770–9792 – Forged grip and joint. Precision made tips of special steel, special precision profile and pressed into the body.
71 9790/9792 – Pliers, chemically blacked. Plastic coated handles.

Standard: **DIN 5256 C and D** – for internal circlips.

Advantage:

71 9770–9795 – Pressed-in tips are highly durable even during continuous operation. Up to 10 times the working life of turned tips.

Application: For fitting and removing circlips.



71 9770_J0-J4

71 9790_J0-J4

71 9792_J1-J2

Form C – straight jaws

71 9792 – With adjustable limit stop.

Type		J0	J1	J2	J3	J4
71B 71 9770	Garant Precision circlip pliers	XXX	XXX	XXX	XXX	XXX
73F 71 9790	Garant Precision circlip pliers	XXX	XXX	XXX	XXX	XXX
73F 71 9792	KNIPEX Precision circlip pliers **with over-expansion guard**	–	XXX	XXX	–	–
72B 71 9805	HOLEX Circlip pliers	XXX	XXX	XXX	XXX	XXX
overall length (71 9770, 71 9790, 71 9792) mm		140	140	180	225	320
overall length (71 9805) mm		135	135	180	225	320
for internal circlips ∅ mm		8 – 13	12 – 25	19 – 60	40 – 100	85 – 140
Tip ∅ (71 9770, 71 9790, 71 9792) mm		0.9	1.25	1.8	2.25	3.2
Tip ∅ (71 9805) mm		0.9	1.3	1.8	2.3	3.2

Pressed-in precision tips.

71 9805_J0-J4

Type		J5	J6
73F 71 9795	KNIPEX Circlip pliers	XXX	XXX
overall length mm		570	580
for internal circlips ∅ mm		122 – 300	252 – 400
Tip ∅ mm		3.5	4.5

71 9795_J5-J6

Form D – 90° angled jaws.

Pressed-in precision tips.

71 9770_J01-41

71 9790_J01-J41

71 9805_J01-J41

Type		J01	J11	J21	J31	J41
71B 71 9770	Garant Precision circlip pliers	XXX	XXX	XXX	XXX	XXX
73F 71 9790	KNIPEX Precision circlip pliers	XXX	XXX	XXX	XXX	XXX
72B 71 9805	HOLEX Circlip pliers	XXX	XXX	XXX	XXX	XXX
overall length (71 9770, 71 9790) mm		130	130	165	210	305
overall length (71 9805) mm		135	135	180	225	320
for internal circlips ∅ mm		8 – 13	12 – 25	19 – 60	40 – 100	85 – 140
Tip ∅ (71 9770, 71 9790) mm		0.9	1.25	1.8	2.25	3.2
Tip ∅ (71 9805) mm		0.9	1.3	1.8	2.3	3.2

Type		J51
73F 71 9795	KNIPEX Circlip pliers	XXX
overall length mm		590
for internal circlips ∅ mm		122 – 300
Tip ∅ mm		3.5

71 9795_J51

Circlip pliers for external circlips on shafts

71 9870 – Pliers, blacked. Ground head. Plastic coated handles. Joint with **integral opening spring.**
71 9892 – With adjustable limit stop.
71 9895 – Handles of steel plate with locking mechanism.
71 9905 – Forged from a single piece. Pliers chemically blacked. Plastic coated handles.
71 9870–9892 – Forged grip and joint. Precision made tips of special steel, special precision profile and pressed into the body.
71 9890/9892 – Pliers, chemically blacked. Plastic coated handles. Joint with **integral opening spring.**

Standard: **DIN 5254 A and B** – for external circlips.

Advantage:
71 9870–9895 – Pressed-in tips are highly durable even during continuous operation. Up to 10 times the working life of turned tips.

Application: For fitting and removing circlips.

Pressed-in precision tips.

71 9870_A0–A4

71 9890_A0–A4

71 9892_A0–A2

71 9905_A0–A4

Form A – straight jaws

Type			A0	A1	A2	A3	A4
71B 71 9870	Garant	Precision circlip pliers	XXX	XXX	XXX	XXX	XXX
73F 71 9890	KNIPEX		XXX	XXX	XXX	XXX	XXX
73F 71 9892	KNIPEX	Precision circlip pliers **with over-expansion guard**	XXX	XXX	XXX	–	–
72B 71 9905	HOLEX	Circlip pliers	XXX	XXX	XXX	XXX	XXX
overall length (71 9870, 71 9890, 71 9892)		mm	140	140	180	225	320
overall length (71 9905)		mm	135	135	180	225	320
for external circlips ∅		mm	3 – 10	10 – 25	19 – 60	40 – 100	85 – 140
Tip ∅		mm	0.9	1.3	1.8	2.3	3.2

Type			A5	A6
73F 71 9895	KNIPEX	Circlip pliers	XXX	XXX
overall length		mm	560	570
for external circlips ∅		mm	122 – 300	252 – 400
Tip ∅		mm	3.5	4.5

71 9895_A5–A6

Form B – 90° angled jaws

Pressed-in precision tips.

71 9870_A01–A41

71 9890_A01–A41

71 9892_A01–A21

71 9905_A01–A41

Type			A01	A11	A21	A31	A41
71B 71 9870	Garant	Precision circlip pliers	XXX	XXX	XXX	XXX	XXX
73F 71 9890	KNIPEX		XXX	XXX	XXX	XXX	XXX
73F 71 9892	KNIPEX	Precision circlip pliers **with over-expansion guard**	XXX	XXX	XXX	–	–
72B 71 9905	HOLEX	Circlip pliers	XXX	XXX	XXX	XXX	XXX
overall length (71 9870, 71 9890, 71 9892)		mm	130	130	165	210	305
overall length (71 9905)		mm	135	135	180	225	320
for external circlips ∅		mm	3 – 10	10 – 25	19 – 60	40 – 100	85 – 140
Tip ∅		mm	0.9	1.3	1.8	2.3	3.2

Type			A51
73F 71 9895	KNIPEX	Circlip pliers	XXX
overall length		mm	570
for external circlips ∅		mm	122 – 300
Tip ∅		mm	3.5

71 9895_A51

HOLEX Circlip pliers with 45° angled tips

Forged from a single piece. Bolt cutter chemically blackened, plastic coated handles.

Standard:
Size J0–J4 – Similar to **DIN 5256.**
Size A0–A4 – Similar to **DIN 5254.**

Material: Chrome vanadium steel, drop-forged and oil-hardened.

Application: For fitting and removing circlips.

71 9845_J2

71 9845_A2

Type			J0	J1	J2	J3	J4
72B 71 9845	Circlip pliers **45° angled**		XXX	XXX	XXX	XXX	XXX
overall length		mm	135	135	180	225	320
for internal circlips ∅		mm	8 – 13	12 – 25	19 – 60	40 – 100	85 – 140
Tip ∅		mm	0.9	1.3	1.8	2.3	3.2

Type			A0	A1	A2	A3	A4
72B 71 9845	Circlip pliers **45° angled**		XXX	XXX	XXX	XXX	XXX
overall length		mm	135	135	180	225	320
for external circlips ∅		mm	3 – 10	10 – 25	19 – 60	40 – 100	85 – 140
Tip ∅		mm	0.9	1.3	1.8	2.3	3.2

KNIPEX Assembly pliers for gripper rings (rings for shafts without grooves)

Jaws chemically blacked, polished head, plastic coated handles. Straight tips; flanged, i.e. to fit the holes in the gripper rings. With opening spring; size G0 with adjustment screw.

Standard: **DIN ISO 5743**

Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

Application: For **gripper rings** (rings for shafts without groove).

Gripper rings for shafts without groove

Type			G0	G1	G2	G3	G4
73F 71 9950	Assembly pliers for gripper rings		XXX	XXX	XXX	XXX	XXX
overall length		mm	140	140	140	140	180
Tip ∅		mm	0.9	1.3	1.3	1.3	1.8
for shaft ∅		mm	1.5 – 4	4 – 7	5 – 13	14 – 18	20 – 30

Assembly pliers for snap rings

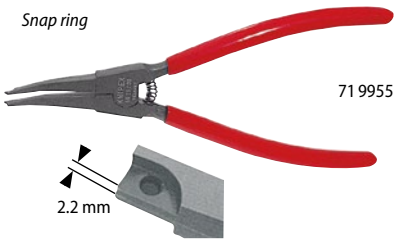
Specially shaped tips for assembly using snap rings without holes. With opening spring.
71 9955 – Pliers burnished, plastic coated handles. Jaws 30° angled.
71 9960 – Pliers chrome-plated, jaws straight.

Standard:
71 9955 – **DIN ISO 5743**

Material:
71 9955 – Chrome-vanadium electro-steel, forged and oil-hardened.
71 9960 – Chrome vanadium steel.

Application: For snap rings and retaining rings without holes.

Snap ring


71 9955

71 9960

overall length		mm	200
73F 71 9955	KNIPEX Assembly pliers for snap rings		XXX
Gap minimal		mm	2.2
for shaft ∅		mm	from 12

overall length		mm	170
72B 71 9960	HOLEX Assembly pliers for snap rings		XXX
Gap minimal		mm	3.6
for shaft ∅		mm	8 – 40

There's more in it for you!

The entire tooling catalogues for the following brands are available from the Hoffmann Group – just ask for them!

Hose clip pliers for hose clips with lugs

Sturdy model with slim head and long handles. Chemically blacked, polished head, PVC coated handles.

Material: Special tool steel, drop-forged, and oil-hardened.

Application: For fitting 1-lug or 2-lug hose clips on axle sleeves, coolant pipes and fuel pipes, compressed air systems, compressors. The special arrangement of the jaws allows the clips to be pressed either at the end or at the side, depending on the accessibility of the working area.

Pressing at the side face.

Pressing at the end face

71 9984

71 9985

overall length		mm	220
73F 71 9984	KNIPEX	Hose clip pliers	XXX
72B 71 9985	HOLEX		XXX

Flat spring clamping ring pliers

Based on the drop-forged Cobra® water pump pliers with push-button fine step adjustment. With special jaws to hold self-clamping hose clips; **jaws can be turned through 360°.** Pliers chemically blacked.

71 9967 – With lock and one-hand release. Permits easy and secure working on the tensioned hose clip.

Advantage: Improved leverage means less force needs to be applied. Jaw opening up to 80 mm.

Application: For secure gripping of self-clamping hose clips, standard, low-profile and wire clips together with flat spring clamping rings.

71 9965

Release lever

71 9967

overall length		mm	180	250
73F 71 9965	Flat spring clamping ring pliers		XXX	XXX
73F 71 9967	Spring strip clip pliers with lock		–	XXX
Nominal size		mm	50	70
max. clamping travel		mm	30	40

Hose clip pliers for self-clamping hose clips

With special jaws to hold self-clamping hose clips; **jaws can be turned through 360°.** Steel handles, nickel-plated.

Application: For fixing self-clamping hose clips, e.g. on to heater hoses in automobiles, water hoses, washing machine hoses etc.

overall length		mm	210
72B 71 9970	Hose clip pliers		XXX
Opening width		mm	60

Hose clip pliers for Clic hose clips

Based on the drop-forged Cobra® water pump pliers with push-button fine step adjustment. With special gripper jaws for secure actuation of the hose clip in any position; **jaws can be rotated.** Pliers chemically blacked.

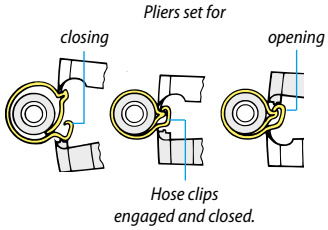
Advantage: Improved leverage means less force needs to be applied.

Application: The toothed gripper jaws permit secure opening and closing of Clic hose clips and gentle release of hoses.

overall length		mm	180	250
73F 71 9975	Hose clip pliers		XXX	XXX

Hose clip pliers for Clic hose clips

Made of sheet metal. With special jaws for Clic hose clips. Suitable for closing and opening; for all sizes.



overall length		mm	180
72B 71 9980	Hose clip pliers		XXX

Heavy-duty end cutters

Sturdy head with short joint. Cutting edges induction hardened (approx. 64 HRC). Jaws chemically blacked, polished head, plastic coated handles. High cutting capacity due to optimum leverage.

Standard: **DIN ISO 5748**

Material:

72 1100 – Chrome-vanadium high-performance steel, forged, multi-stage oil-hardened.

72 1150 – Chrome-vanadium heat treatable steel, oil-hardened.

72 1100

72 1150

overall length		mm	160
73F 72 1100	KNIPEX	End cutter, polished	XXX
72B 72 1150	HOLEX	End cutter, bright finish	XXX
Cutting capacity soft wire up to ∅		mm	4.5
Cutting capacity hard wire up to ∅		mm	2.5
Cutting capacity piano wire up to ∅		mm	2

Mechanic's end cutter, slim shape

Slim shape with induction hardened cutting edges. Inlaid joint. Pliers chrome-plated, plastic coated handles.

Standard: **DIN ISO 5748**

Material: Chrome-vanadium high-performance steel, forged and multi-stage oil-hardened.

overall length		mm	130
73F 72 1500	Mechanic's end cutter chrome-plated		XXX
Cutting capacity soft wire up to ∅		mm	0.4 – 2
Cutting capacity hard wire up to ∅		mm	1
Cutting capacity piano wire up to ∅		mm	0.8

Heavy-duty end cutter

Strong head, laid-on joint. Jaws chemically blacked, polished head, plastic coated handles. Cutting edges induction hardened (approx. 61 HRC).

Standard:

Size 160–200 – **DIN ISO 5748**

Material: Special quality tool steel, forged and multi-stage oil-hardened.

overall length		mm	160	180	200	280
73F 72 1900	Heavy-duty end cutter		XXX	XXX	XXX	XXX
Cutting capacity soft wire up to ∅		mm	4	4	4	4.5
Cutting capacity hard wire up to ∅		mm	2.3	2.5	2.8	3.2

Bolt cropper

Induction hardened cutting edges (approx. 64 HRC), extreme leverage so less force needs to be applied.

72 2000 – Jaws chemically blacked, polished head, plastic coated handles.

72 2010 – Pliers chemically blacked, head bright polished, handles with multi-component covering.

Standard: **DIN ISO 5743**

Material: Vanadium electro-steel, forged and multi-stage oil-hardened.

72 2000

72 2010

overall length		mm	200
73F 72 2000	Bolt cropper		XXX
73F 72 2010	Bolt cropper with coated grips		XXX
Cutting capacity soft wire up to ∅		mm	1 – 6
Cutting capacity hard wire up to ∅		mm	3.5
Cutting capacity piano wire up to ∅		mm	3

VBW Bolt cropper CombiCUT®

72 2400 – Strong end cutting jaws, induction hardened, side-offset cutting edges. No need to adjust the jaw. Forged stops prevent unintentional overtravel. Painted tubular handles with ergonomic plastic grips.

Material: Special tool steel, drop-forged.

Application: For flush trimming projecting wires.

Note: Spare jaws available only for models 2004 and later.

overall length		mm	370
73K 72 2400	CombiCUT® bolt cropper		XXX
73K 72 2450	Spare CombiCUT® jaws with bolts and retaining rings		XXX
Cutting capacity soft wire up to ∅		mm	7
Cutting capacity hard wire up to ∅		mm	4

Heavy-duty diagonal side cutters

Heavy-duty head with additionally induction hardened cutting edges (approx. 64 HRC). Laid-on joint. High cutting performance due to optimum leverage.

72 3040 – Jaws chrome-plated, handles with ergonomically optimised multi-component covering, with non-slip **Haptoprene®** surface.
72 3100 – Jaws chrome-plated, handles with multi-component covering.
72 3150 – Jaws chemically blacked, polished head, plastic coated handles.
72 3395 – Jaws bright finished, handles with multi-component covering.
72 3400 – Jaws bright finished, plastic coated handles.

Standard: **DIN ISO 5749**
Material: Chrome vanadium steel, drop-forged and oil-hardened.
Application: For all types of wire (long working life even with hard wire). Heavy duty for the most demanding applications.

72 3040

72 3100

72 3150

72 3395

72 3400

overall length		mm	140	160	180	200	250
71B 72 3040	Garant	Heavy-duty side cutter, chrome-plated, with grips	–	XXX	XXX	XXX	–
73F 72 3100	KNIPEX		XXX	XXX	XXX	XXX	XXX
73F 72 3150	KNIPEX	Heavy-duty side cutter, polished	XXX	XXX	XXX	XXX	XXX
72B 72 3395	HOLEX	Heavy-duty side cutter, bright finish, with grips	–	XXX	XXX	XXX	–
72B 72 3400	HOLEX	Heavy-duty side cutter, bright finish	–	XXX	XXX	XXX	–
Cutting capacity soft wire up to ∅		mm	3.1	3.4	3.8	4.2	4.6
Cutting capacity hard wire up to ∅		mm	2	2.5	2.7	3	3.5
Cutting capacity piano wire up to ∅		mm	1.5	2	2.2	2.5	3

KNIPEX Heavy-duty side cutters with selectable opening spring

Heavy-duty head with additionally induction hardened cutting edges (approx. 64 HRC). Laid-on joint. **With return spring that can be engaged / disengaged.**
Pliers chemically blacked, head bright polished, handles with multi-component covering. High cutting performance due to optimum leverage.

Standard: **DIN ISO 5749**
Material: Chrome vanadium steel, drop-forged and oil-hardened.

72 5230

Spring deactivated.

Activating the spring.

overall length		mm	160	180
73F 72 5230	Heavy-duty side cutter, polished, with return spring		XXX	XXX
Cutting capacity soft wire up to ∅		mm	3.4	3.8
Cutting capacity hard wire up to ∅		mm	2.5	2.7
Cutting capacity piano wire up to ∅		mm	2	2.2

KNIPEX High-performance heavy-duty side cutter TwinForce® (patented)

Heavy-duty head, induction hardened cutting edges (approx. 64 HRC), laid-on joint with eccentric double-joint design.

72 3170 – Jaws chemically blacked, polished head, plastic coated handles.
72 3180 – Pliers chemically blacked, head bright polished, handles with multi-component covering.

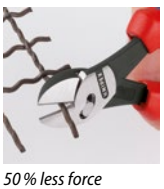
Standard: **DIN ISO 5749**
Material: Chrome vanadium steel, drop-forged and oil-hardened.
Advantage: **Superior heavy-duty side cutter requiring 50 % less applied force** than conventional heavy-duty side cutters of the same size. Set-back jaws reduce the force required.

72 3170

72 3180

overall length		mm	180
73F 72 3170	High-performance heavy-duty side cutter TwinForce®, polished		XXX
73F 72 3180	High-performance heavy-duty side cutter TwinForce®, polished, with grips		XXX
Cutting capacity soft wire up to ∅		mm	5.5
Cutting capacity hard wire up to ∅		mm	3.2
Cutting capacity piano wire up to ∅		mm	3

Patented double joint.


50 % less force required.

The reset cutter.

Heavy-duty side cutters – insulated to VDE

Heavy-duty head, induction hardened cutting edges (approx. 64 HRC), laid-on joint with no play. **Plastic-coated handles to DIN EN 60900 / VDE 0682-201 for working at voltages up to 1000 V**

- 72 3500 – Jaws chrome-plated, handles with multi-component covering.
- 72 3510 – Jaws chrome-plated, handles with ergonomically optimised multi-component covering, with non-slip **Haptoprene®** surface.
- 72 3535 – Jaws chrome-plated, plastic coated handles, **dip insulated.**
- 72 3551 – Jaws bright finished, handles with multi-component covering.

Standard: **DIN ISO 5749**

Material: Chrome vanadium steel, drop-forged and oil-hardened

72 3510

72 3535

overall length			mm	160	180	200	250
71B 72 3510	Garant	Diagonal side cutter, chrome-plated **VDE insulated**		XXX	XXX	XXX	–
73F 72 3535	KNIPEX	Diagonal side cutter, chrome-plated **VDE dip insulated**		–	–	XXX	XXX
73F 72 3500	KNIPEX	Diagonal side cutter, chrome-plated **VDE insulated**		XXX	XXX	XXX	XXX
72B 72 3551	HOLEX	Heavy-duty diagonal side cutter **VDE insulated**		XXX	XXX	XXX	–
Cutting capacity soft wire up to ∅			mm	3.4	3.8	4.2	4.6
Cutting capacity hard wire up to ∅			mm	2.5	2.7	3	3.5
Cutting capacity piano wire up to ∅			mm	2	2.2	2.5	3

72 3500

72 3551

Diagonal side cutters

Slim shape with induction hardened cutting edges (approx. 62 HRC).

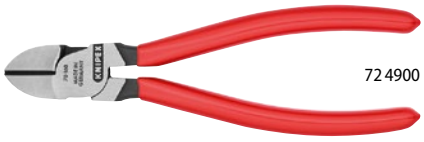
- 72 4840 – Jaws chrome-plated, handles with ergonomically optimised multi-component covering, with non-slip **Haptoprene®** surface.
- 72 4860 – Jaws chrome-plated, handles with multi-component covering.
- 72 4900 – Jaws chemically blacked, polished head, plastic coated handles.
- 72 5245 – Jaws bright finished, handles with multi-component covering.
- 72 5250 – Jaws bright finished, plastic coated handles.

Standard: **DIN ISO 5749**

Material: Chrome vanadium steel, drop-forged and oil-hardened.

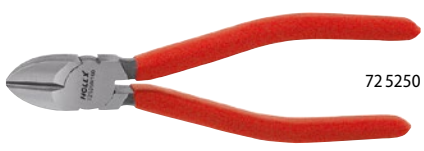
72 4840

72 4860


72 4900

overall length			mm	110	125	140	160	180
71B 72 4840	Garant	Diagonal side cutter chrome-plated, with grips		–	–	XXX	XXX	–
73F 72 4860	KNIPEX			–	XXX	XXX	XXX	XXX
73F 72 4900	KNIPEX	Diagonal side cutter polished		XXX	XXX	XXX	XXX	XXX
72B 72 5245	HOLEX	Side cutter, bright finish, with grips		–	–	XXX	XXX	–
72B 72 5250	HOLEX	Diagonal side cutter, bright finish		–	–	XXX	XXX	–
Cutting capacity soft wire up to ∅ (72 4840, 72 5245, 72 5250)			mm	–	–	2.8	2.8	–
Cutting capacity soft wire up to ∅ (72 4860, 72 4900)			mm	2	3	4	4	4
Cutting capacity hard wire up to ∅			mm	1.2	1.5	1.8	2	2.5

72 5245


72 5250

Mechanic's side cutters slim shape

With slim head and induction hardened cutting edges. Cutter edge hardness approx. 63 HRC. Flush fitting joint with no play.

72 4000 – Pliers chrome-plated, plastic coated handles.
72 4200 – Jaws chrome-plated, handles with multi-component covering.
Size 110 – With opening spring.
72 4205 – Jaws polished, handles with multi-component coating. With opening spring.

Standard: **DIN ISO 5749**
Material: Special tool steel, drop-forged, and oil-hardened.

72 4000

72 4200

72 4205

overall length			mm	110	125
73F 72 4000	Mechanic's side cutter, chrome-plated			–	XXX
73F 72 4200	Mechanic's side cutter chrome-plated with grips			XXX	XXX
73F 72 4205	Mechanic's side cutter, polished, with grips	KW		–	XXX
Cutting capacity soft wire up to ∅			mm	3	2.5
Cutting capacity hard wire up to ∅			mm	1.2	1
Cutting capacity piano wire up to ∅			mm	–	0.6

X-Cut® compact side cutter with box joint

With slim head with induction hardened cutting edges (approx. 64 HRC). **Box joint** for maximum stability. Jaws chrome-plated, handles with multi-component covering.

72 4310 – **Insulated to DIN EN 60900 / VDE 0682-201 for working at voltages up to 1000 V.**

Standard: **DIN ISO 5749**
Material: Special tool steel, drop-forged, and oil-hardened.

72 4300

72 4310

overall length			mm	160
73F 72 4300	X-Cut® compact side cutter, chrome-plated with grips			XXX
73F 72 4310	X-Cut® compact side cutter, chrome-plated with grips **VDE insulated**			XXX
Cutting capacity soft wire up to ∅			mm	4.8
Cutting capacity hard wire up to ∅			mm	2.7
Cutting capacity piano wire up to ∅			mm	2.2

Diagonal side cutters – insulated to VDE

Slim shape with induction hardened cutting edges (approx. 62 HRC). **Plastic-coated handles to DIN EN 60900 / VDE 0682-201 for working at voltages up to 1000 V.**

72 5300 – Jaws chrome-plated, handles with multi-component covering.
72 5310 – Jaws chrome-plated, handles with ergonomically optimised multi-component covering, with non-slip **Haptoprene®** surface.
72 5335 – Jaws chrome-plated, plastic coated handles, **dip insulated.**
72 5351 – Jaws bright finished, handles with multi-component covering.

Standard: **DIN ISO 5749**
Material: Special tool steel, drop-forged and oil-hardened.

72 5310

***Dip insulated for** maximum protection against electric shock and slipping.*

72 5335

72 5300

72 5351

overall length			mm	125	140	160	180
71B 72 5310	Garant	Diagonal side cutter, chrome-plated **VDE insulated**		–	XXX	XXX	–
73F 72 5335	KNIPEX	Diagonal side cutter, chrome-plated **VDE dip insulated**		–	–	XXX	XXX
73F 72 5300	KNIPEX	Diagonal side cutter, chrome-plated **VDE insulated**		XXX	XXX	XXX	XXX
72B 72 5351	HOLEX	Diagonal side cutter **VDE insulated**		–	XXX	XXX	XXX
Cutting capacity soft wire up to ∅			mm	3	4	4	4
Cutting capacity hard wire up to ∅			mm	1.5	1.8	2	2.5

BAHCO Side cutter ERGO™ with opening spring

Jaws chrome-plated. **Progressively ground cutting edges** additionally induction hardened (approx. 62 HRC). With strong chamfered cutting edges near to the joint for hard material and a finer chamfer on the tips for optimum cutting of soft material. Heavy-duty grips with **opening spring that can be engaged / disengaged.**

Standard: **DIN ISO 5749**

Material: Chrome vanadium steel, drop-forged and oil-hardened.

72 5240

overall length		mm	125	160
73O 72 5240	Side cutter ERGO™, chrome-plated		XXX	XXX
Cutting capacity piano wire up to ∅		mm	1.6	2

FACOM Side cutters with opening spring

Jaws chrome-plated with thick-walled grips. **Plastic opening spring for reduced operator fatigue.** Cutting edges additionally induction hardened (approx. 62 HRC).

Standard: **DIN ISO 5749**

Material: Chrome vanadium steel, drop-forged and oil-hardened.

72 5265

Overall length		mm	160	180
73R 72 5265	Diagonal side cutter, chrome-plated		XXX	XXX
Cutting capacity hard wire up to ∅		mm	2	2.2
Cutting capacity piano wire up to ∅		mm	1.8	2

Precision diagonal side cutters

Slim head, cutting edges induction hardened and precision ground, fine chamfered.

72 5391 – Plastic -coated handles, with opening spring.

72 5390/5392 – Handles with plastic grips and opening spring.

Material: Chrome vanadium steel, drop-forged and oil-hardened.

72 5390_110

72 5390_130

72 5391_125

72 5392_110

overall length			mm	110	125	130
71B 72 5390	Garant	Precision diagonal side cutter, standard jaws	SFW	XXX	–	XXX
73D 72 5391	wiha		SFW	–	XXX	–
71B 72 5392	Garant	Precision diagonal side cutter, pointed jaws	SFW	XXX	–	–
Cutting capacity soft wire up to ∅			mm	0.3 – 1.2	0.3 – 2	0.4 – 1.5
Cutting capacity medium hard wire up to ∅			mm	0.3 – 0.8	0.3 – 0.8	0.4 – 1

STAHLWILLE Mechanical angle cutters

Slim head and particularly long handles. Induction hardened cutting edges, laid-on joint. Pliers chrome-plated, plastic coated handles.

Material: Special tool steel, drop-forged, and oil-hardened.

72 5420

overall length		mm	185
73A 72 5420	Mechanical angle cutters		XXX
Cutting capacity soft wire up to ∅		mm	2
Cutting capacity medium hard wire up to ∅		mm	1.8
Cutting capacity hard wire up to ∅		mm	1.5

Side cutters for plastics

Cutting edges without bevel to give a flush cut with no burr. Head and joint polished, plastic coated handles, opening spring.

72 5500 – 15° angled head. Adjustable stop screw reduces cutter edge wear.
72 5550 – 45° angled head.
72 5570 – 85° angled head.

72 5490/5505/5590 – 15° angled head.

Standard:
72 5570 – **DIN ISO 5743**

Material:
72 5490/5500/5550/5590 – Chrome vanadium steel, drop-forged and oil-hardened.
72 5505/5570 – Vanadium electro-steel, forged and oil-hardened.

Application: For flush cutting of plastic sprues on mouldings **(not for metal).**

72 5490

Adjustable stop screw.

72 5500

72 5550

72 5505

72 5570

72 5590

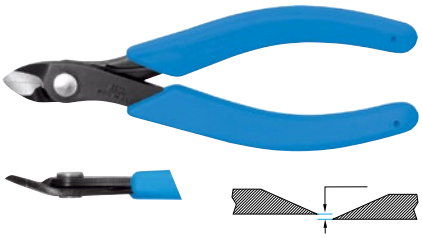
overall length			mm	130	150	160	190
71B 72 5490	Garant	Side cutter for plastics, 15° angled	kW	XXX	XXX	–	XXX
71B 72 5500	Garant		kW	XXX	–	XXX	XXX
71B 72 5550	Garant	Side cutter for plastics, 45° angled	kW	–	XXX	–	–
73F 72 5505	KNIPEX	Side cutter for plastics, 15° angled	kW	–	–	XXX	–
73F 72 5570	KNIPEX	Side cutter for plastics, 85° angled	kW	–	–	XXX	–
72B 72 5590	HOLEX	Side cutter for plastics, 15° angled	kW	XXX	–	XXX	–

XURON CORP. Side cutters for plastics

Cutting edges without bevel to give a flush cut with almost no burr. Cutters offset for a slightly **shearing action.** Handles with non-slip rubber grips and return spring. 20° angled head.

Material: Special tool steel, burnished.

Application: For flush cutting plastic sprues on mouldings and cable ties **(not for metal).**


0.1 – 0.25 mm offset

overall length			mm	130	150
76B 72 5700		Side cutter for plastics, 20° angled	kW	XXX	XXX

KNIPEX Centre cutter for heavy-duty applications

With particularly robust head and induction hardened cutting edges. Cutter edge hardness approx. 64 HRC. Jaws chemically blacked, polished head, plastic coated handles.

Standard: **DIN ISO 5743**

Material: Chrome-vanadium high-performance steel, forged and multi-stage oil-hardened.

Advantage: The force required is less than for side cutters with equal length handles.

overall length		mm	250
73F 72 5800	Centre cutter		XXX
Cutting capacity soft wire up to ∅		mm	5
Cutting capacity hard wire up to ∅		mm	3.8
Cutting capacity piano wire up to ∅		mm	3.5

LINDSTRÖM RX Precision electronics side cutters

Slim style with precision ground induction hardened jaw edges (63 – 65 HRC). Black surface to reduce reflections. Adjustable precision screw joint for minimal friction and optimum axial alignment of the cutters. **Suitable for ESDs,** with ergonomic **2-component** grips.
The patented opening spring reduces the resistance when closing the cutter. Thus the force is concentrated on the cut.

Material: High-performance ball-bearing steel, drop forged, burnished.

overall length		mm	140	150
73M 72 6000	Electronics side cutter, oval head	FW	XXX	XXX
Head width		mm	13	16
Cutter length		mm	12.5	16
Cutting capacity copper wire up to ∅		mm	0.3 – 1.6	0.4 – 2

ergo®

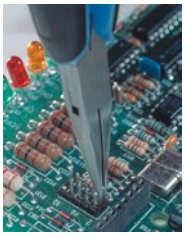
overall length		mm	135
73M 72 6020	Electronics side cutter, small oval head	FW	XXX
Head width		mm	10.5
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.2 – 1.25

overall length		mm	135
73M 72 6040	Electronics side cutter, small head	kW	XXX
Head width		mm	10.5
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.1 – 1

overall length		mm	135
73M 72 6060	Electronics side cutter, hollowed jaws, pointed head	kW	XXX
Head width		mm	10.5
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.1 – 0.8

72

LINDSTRÖM RX Precision electronics grip pliers



Slim shape with narrow jaws. Jaws with rounded outer edges. Precision box joint with extra long slides for maximum stability with minimum friction. Mirror-polished head and joint. **Suitable for ESDs,**with ergonomic **2-component** grips. The patented opening spring reduces the resistance when closing the pliers, therefore the force applied to the component can be accurately gauged.

Material: High-performance ball-bearing steel, drop forged.

Flat nose, smooth internal jaws.

overall length		mm	150
73M 72 6120	Electronics flat-nose pliers		XXX
Head width		mm	9
Jaw length		mm	20

ergo®

Snipe nose, smooth internal jaws.

overall length		mm	150
73M 72 6140	Electronics snipe-nosed pliers		XXX
Head width		mm	9.6
Jaw length		mm	20

Long snipe nose, serrated internal jaws.

overall length		mm	150
73M 72 6160	Electronics snipe-nosed pliers, serrated jaws		XXX
Head width		mm	9
Jaw length		mm	32

Electronics side cutter mirror-polished

Mirror polished, therefore no faults in the circuit due to peeling chrome plate. Sturdy box joint with zero play. Low-friction double spring for smooth and gentle opening.

72 6429 – Plastic coated handles.

72 6430–6434 – Handles with multi-component coating.

Material: Ball-bearing steel, cutting edges induction hardened.

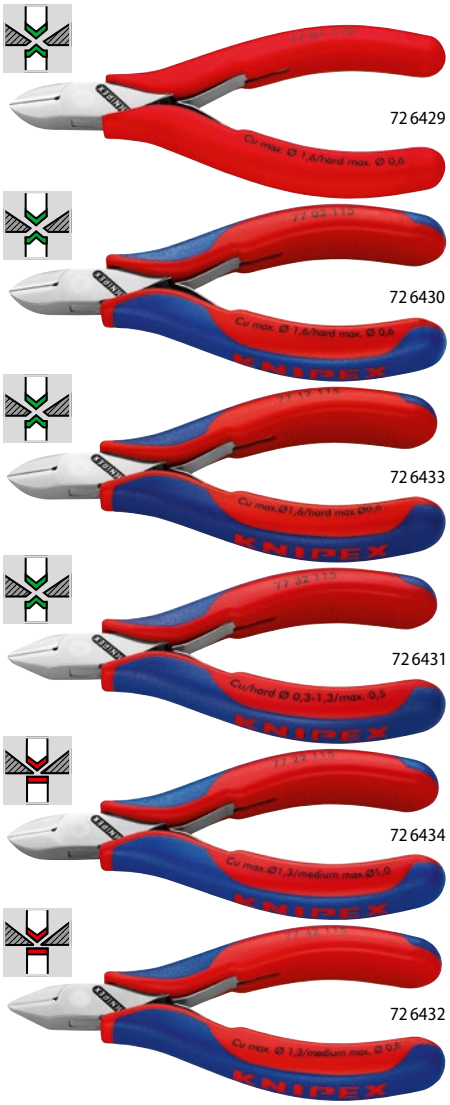
Application: For making precision cuts, e.g. in electronics and precision mechanisms.

Overall length		mm	115
73F 72 6429	Electronics side cutter, mirror-polished, round head	FW	XXX
73F 72 6430	Electronics side cutter, mirror-polished, round head	FW	XXX
73F 72 6433	Electronics side cutter, mirror-polished, round head **with wire holder**	FW	XXX
Head width		mm	11
Cutter length		mm	14
Cutting capacity hard wire up to ∅		mm	0.3 – 0.6
Cutting capacity copper wire up to ∅		mm	0.3 – 1.6
Cutting capacity medium hard wire up to ∅		mm	0.3 – 1.2

overall length		mm	115
73F 72 6431	Electronics side cutter, mirror-polished, pointed head	FW	XXX
Head width		mm	11
Cutter length		mm	14
Cutting capacity hard wire up to ∅		mm	0.3 – 0.5
Cutting capacity copper wire up to ∅		mm	0.3 – 1.3
Cutting capacity medium hard wire up to ∅		mm	0.3 – 1

Overall length		mm	115
73F 72 6434	Electronics side cutter, mirror-polished, round head	kW	XXX
Head width		mm	11
Cutter length		mm	14
Cutting capacity copper wire up to ∅		mm	0.3 – 1.3
Cutting capacity medium hard wire up to ∅		mm	0.3 – 1

overall length		mm	115
73F 72 6432	Electronics side cutter, mirror-polished, pointed head	KW	XXX
Head width		mm	11
Cutter length		mm	14
Cutting capacity copper wire up to ∅		mm	0.3 – 1.3
Cutting capacity medium hard wire up to ∅		mm	0.3 – 0.8



72

Electronics side cutter mirror-polished

Mirror polished, therefore no faults in the circuit due to peeling chrome plate. Sturdy box joint with zero play. Low-friction double spring for smooth and gentle opening. Multi-component grips, black/grey, electrically conductive. **Suitable for ESDs.**

Material: Ball-bearing steel, cutting edges induction hardened.

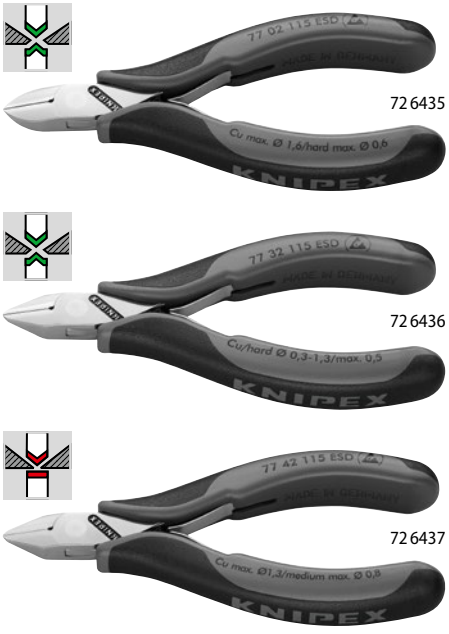
Application: For making precision cuts, e.g. in electronics and precision mechanisms.

Other versions available on request

overall length		mm	115
73F 72 6435	Electronics side cutter, mirror-polished, round head	FW	XXX
Head width		mm	11
Cutter length		mm	14
Cutting capacity hard wire up to ∅		mm	0.3 – 0.6
Cutting capacity copper wire up to ∅		mm	0.3 – 1.6
Cutting capacity medium hard wire up to ∅		mm	0.3 – 1.2

overall length		mm	115
73F 72 6436	Electronics side cutter, mirror-polished, pointed head	FW	XXX
Head width		mm	11
Cutter length		mm	14
Cutting capacity hard wire up to ∅		mm	0.3 – 0.5
Cutting capacity copper wire up to ∅		mm	0.3 – 1.3
Cutting capacity medium hard wire up to ∅		mm	0.3 – 1

overall length		mm	115
73F 72 6437	Electronics side cutter, mirror-polished, pointed head	KW	XXX
Head width		mm	11
Cutter length		mm	14
Cutting capacity copper wire up to ∅		mm	0.3 – 1.3
Cutting capacity medium hard wire up to ∅		mm	0.3 – 0.8



Garant Precision electronics side cutters, oval jaws

Precision machined with slim shape. Cutting edges induction hardened (62 - 64 HRC). Non-reflecting surface, matt shot-blasted with inlaid joint and countersunk screw. Double interchangeable springs for easy operation. **2-component** conductive grips. **Suitable for ESDs.** Cutting edges precision ground.

Material: CNC-machined special tool steel for extremely accurate tolerances.

Overall length			mm	125
71B 72 6170	Electronics side cutter, small head shape	FW		XXX
71B 72 6180		kW		XXX
Head width			mm	10
Cutter length			mm	10
Cutting capacity copper wire up to ∅ (72 6170)			mm	0.2 – 1.2
Cutting capacity copper wire up to ∅ (72 6180)			mm	0.1 – 1

Overall length			mm	125
71B 72 6210	Electronics side cutter, standard head shape	FW		XXX
71B 72 6215		SFW		XXX
Head width			mm	12
Cutter length			mm	11.5
Cutting capacity copper wire up to ∅			mm	0.2 – 1.6

LINDSTRÖM Precision electronics side cutters, oval jaws

Slim style with precision ground induction hardened jaw edges (63 – 65 HRC). Black surface to reduce reflections. Yellow plastic grips of conductive material with return spring. **Suitable for ESDs.** Adjustable precision screw joint for minimal friction and optimum axial alignment of the cutters.

Material: High performance steel alloy, drop forged, burnished.

overall length			mm	108	110	113	125
73M 72 6240	Electronics side cutter, oval head	FW		XXX	XXX	XXX	XXX
73M 72 6260		SFW		XXX	XXX	XXX	XXX
73M 72 6280		kW		XXX	XXX	XXX	XXX
Head width			mm	8	10	12.5	16
Cutter length			mm	8	10	12.5	16
Cutting capacity copper wire up to ∅ (72 6240)			mm	0.2 – 1	0.2 – 1.25	0.3 – 1.6	0.4 – 2
Cutting capacity copper wire up to ∅ (72 6260)			mm	0.1 – 1	0.1 – 1.25	0.2 – 1.6	0.3 – 2
Cutting capacity copper wire up to ∅ (72 6280)			mm	0.1 – 0.8	0.1 – 1	0.2 – 1.25	0.3 – 1.6

KNIPEX Electronics side cutters, especially for hard wire

Pointed shape with strong cutting chamfer, especially for hard wires. Adjustable screw joint. Jaws burnished, handles with plastic coating.

Standard: **DIN ISO 9654**

Material: Special tool steel, drop-forged, and oil-hardened.

overall length			mm	125H
73F 72 6440	Electronics side cutter, pointed head	W		XXX
73F 72 6460	Electronics side cutter, pointed head **with wire holder**	W		XXX
Head width			mm	10.5
Cutter length			mm	14
Cutting capacity medium-hard steel wire			mm	0.2 – 1
Cutting capacity hard steel wire			mm	0.2 – 0.6

Garant

Precision electronics side cutter with pointed jaws

Precision machined with slim shape. Cutting edges induction hardened (62 - 64 HRC). Non-reflecting surface, matt shot-blasted with inlaid joint and countersunk screw. Double interchangeable springs for easy operation. **2-component** conductive grips. **Suitable for ESDs.** Cutting edges precision ground.

Material: CNC-machined special tool steel for extremely accurate tolerances.

Overall length		mm	125
71B 72 6250	Electronics side cutter, pointed head	kW	XXX
Head width		mm	10
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.1 – 1

72 6250

Pointed hollowed jaws

Overall length		mm	125
71B 72 6255	Electronics side cutter, pointed head, hollowed jaws	kW	XXX
Head width		mm	10
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.1 – 1

72 6255

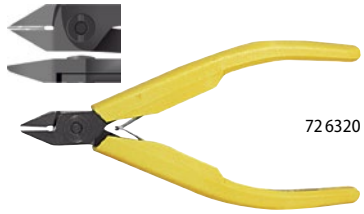
LINDSTRÖM

Precision electronics side cutter with pointed jaws

Slim shape with precision ground induction hardened cutting edges (63 – 65 HRC). Black surface to reduce reflections. Yellow plastic grips made of conductive material with opening spring. **Suitable for ESDs.** Adjustable precision screw joint for minimal friction and optimum axial alignment of the cutters.

Material: High performance steel alloy, drop forged, burnished.

overall length		mm	110
73M 72 6320	Electronics side cutter, pointed head, hollowed jaws	FW	XXX
Head width		mm	10
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.2 – 1.25



72 6320

overall length		mm	110
73M 72 6340	Electronics side cutter, pointed head	SFW	XXX
Head width		mm	10
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.1 – 1.25

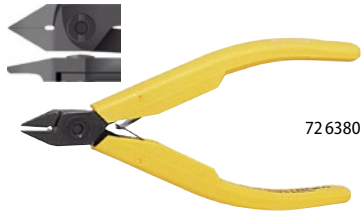
72 6340

overall length		mm	110
73M 72 6360	Electronics side cutter, pointed head	kW	XXX
Head width		mm	10
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.1 – 1

72 6360

Pointed hollowed jaws

overall length		mm	110
73M 72 6380	Electronics side cutter, pointed head, hollowed jaws	FW	XXX
Head width		mm	10
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.2 – 1



72 6380

overall length		mm	110
73M 72 6420	Electronics side cutter, pointed head, hollowed jaws	kW	XXX
Head width		mm	10
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.1 – 0.8

72 6420

Super Knips® electronics side cutters

Slim head with precision ground cutting edges, with fine cutting chamfer. Handles with multi-component covering, with opening spring.

Standard: **DIN ISO 9654**

72 6653 – Plastic-coated handles to DIN EN 609000 / VDE 0682-201 **insulated for working at voltages up to 1000 V.**

Material:

72 6610 – Special tool steel, burnished.

72 6480–6595/6653 – Made of stainless steel (INOX).

overall length		mm	125	140
73F 72 6480	Electronics side cutter Super Knips®	kW	XXX	XXX
73F 72 6653	Electronics side cutter Super Knips® **VDE insulated**	KW	XXX	–
73F 72 6590	Electronics side cutter Super Knips® **with wire holder**	kW	XXX	–
73F 72 6595	Electronics side cutter Super Knips® **60° angled**	kW	XXX	–
Head width		mm	13.5	15.7
Cutter length (72 6480, 72 6653, 72 6590)		mm	9	12.3
Cutter length (72 6595)		mm	5.5	–
Cutting capacity copper wire up to ∅ (72 6480, 72 6653, 72 6590)		mm	0.2 – 1.6	0.2 – 2.1
Cutting capacity copper wire up to ∅ (72 6595)		mm	0.2 – 1	–
Cutting capacity medium-hard steel wire (72 6480, 72 6653, 72 6590)		mm	0.2 – 1	0.2 – 1.2
Cutting capacity medium-hard steel wire (72 6595)		mm	0.2 – 0.6	–

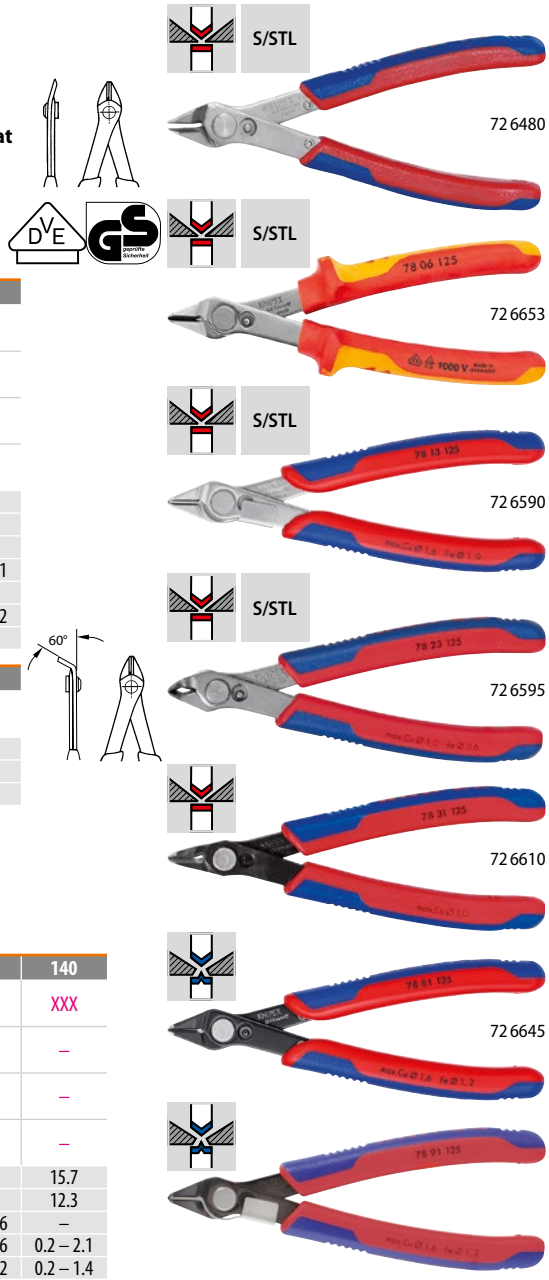
overall length		mm	125
73F 72 6610	Electronics side cutter Super Knips®, slender head	kW	XXX
Head width		mm	12.5
Cutter length		mm	9
Cutting capacity copper wire up to ∅		mm	0.2 – 1

Material: Special tool steel, burnished.

Application:

72 6620 – Suitable even for cutting glass fibre cable (fibre optic cable).

overall length		mm	125	125H	140
73F 72 6620	Electronics side cutter Super Knips®	kW	XXX	–	XXX
73F 72 6640	Electronics side cutter Super Knips® **with wire holder**	kW	XXX	–	–
73F 72 6645	Electronics side cutter Super Knips®	SFW	–	XXX	–
73F 72 6650	Electronics side cutter Super Knips® **with wire holder**	SFW	–	XXX	–
Head width		mm	13.5	13.5	15.7
Cutter length		mm	9	9	12.3
Cutting capacity hard wire up to ∅		mm	–	0.2 – 0.6	–
Cutting capacity copper wire up to ∅		mm	0.2 – 1.6	0.2 – 1.6	0.2 – 2.1
Cutting capacity medium-hard steel wire		mm	0.2 – 1.2	0.2 – 1.2	0.2 – 1.4



Super Knips® electronics side cutters

Slim head with precision ground cutter, without chamfer. Handles with multi-component covering, with opening spring. **Suitable for ESDs.**

Material:

72 6655/6656 – Made of stainless steel (INOX).

72 6660/6661 – Special tool steel, burnished.

Application:

72 6660 – Suitable even for cutting glass fibre cable (fibre optic cable).

overall length		mm	125	140
73F 72 6655	Electronics side cutter Super Knips®, conductive grips	kW	XXX	XXX
73F 72 6656	Super Knips® electronics side cutter, conductive grips **with wire holder**	kW	XXX	–
73F 72 6660	Electronics side cutter Super Knips®, conductive grips	kW	XXX	XXX
73F 72 6661	Super Knips® electronics side cutter, conductive grips **with wire holder**	kW	XXX	–
Head width		mm	13.5	15.7
Cutter length		mm	9	12.3
Cutting capacity copper wire up to ∅		mm	0.2 – 1.6	0.2 – 2.1
Cutting capacity medium-hard steel wire (72 6655, 72 6656)		mm	0.2 – 1	0.2 – 1.2
Cutting capacity medium-hard steel wire (72 6660, 72 6661)		mm	0.2 – 1.2	0.2 – 1.4

Garant Electronics side cutters

Professional diagonal side cutter with slightly shearing cut. Both cutter parts are very accurately put together using carefully machined holes and polished surfaces to ensure a precise cut. With opening spring and ergonomically designed handles for secure and comfortable use. **2-component grips** of dissipative material. **Suitable for ESD work.**

Material: Made of carbon steel (C70), precision stamped and heat-treated, non-reflective phosphate.

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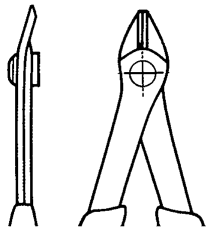

overall length		mm	130
71B 72 6682	Electronics side cutter slim design	kW	XXX
Head width		mm	9.5
Cutter length		mm	8
Cutting capacity copper wire up to ∅		mm	0.8

72 6682

overall length		mm	135
71B 72 6702	Electronics side cutter clean cut, stronger jaws	kW	XXX
Head width		mm	13.5
Cutter length		mm	8
Cutting capacity copper wire up to ∅		mm	1.3

72 6702

overall length		mm	135
71B 72 6722	Electronics side cutter for ferrous materials	FW	XXX
Head width		mm	13.5
Cutter length		mm	8
Cutting capacity copper wire up to ∅		mm	2

72 6722

overall length		mm	135
71B 72 6742	Electronics side cutter for ferrous materials	kW	XXX
Head width		mm	13.5
Cutter length		mm	8
Cutting capacity copper wire up to ∅		mm	2

72 6742

overall length		mm	135
71B 72 6762	Electronics side cutter especially for hard wire	kW	XXX
Head width		mm	13
Cutter length		mm	12
Cutting capacity hard wire up to ∅		mm	0.4
Cutting capacity copper wire up to ∅		mm	1.3

72 6762

Garant Precision electronics oblique cutters

Precision machined with slim shape. Cutting edges induction hardened (62 - 64 HRC). Non-reflecting surface, matt shot-blasted with inlaid joint and countersunk screw. Double interchangeable springs for easy operation. **2-component grips** of dissipative material. **Suitable for ESD work.**

Material: CNC-machined special tool steel for extremely accurate tolerances.

72 6670

overall length		mm	125
71B 72 6670	Electronics oblique cutter	SFW	XXX
Head width		mm	10
Cutter length		mm	10
Cutting capacity copper wire up to ∅		mm	0.2 – 1.5

LINDSTRÖM Precision electronics oblique end cutters and end cutters

Slim style with precision ground induction hardened jaw edges (63 – 65 HRC). Black surface to reduce reflections. Yellow plastic grips of conductive material with return spring. **Suitable for ESDs.** Adjustable precision screw joint for minimal friction and optimum axial alignment of the cutters.

Material: High performance steel alloy, drop forged, burnished.

overall length		mm	118
73M 72 6880	Electronics oblique end cutter with long hollowed jaws	SFW	XXX
Head length		mm	18
Head width		mm	10
Cutting capacity copper wire up to ∅		mm	0.2 – 0.8

72 6880

LINDSTRÖM Precision electronics oblique end cutters „Supreme“

With precision ground inductive hardened cutting edges (63–65 HRC). White plastic grips of conductive material with return spring. **Suitable for ESDs.** Specially made box joint with particularly long contact faces, undesired movements in the joint are minimised, which ensures extremely precise axial alignment of the jaws.

Material: Special ball bearing steel, drop-forged.

72 6910

overall length		mm	108
73M 72 6910	Electronics oblique end cutter	FW	XXX
73M 72 6912		SFW	XXX
Head length		mm	8
Head width		mm	10.5
Cutter length		mm	15
Cutting capacity copper wire up to ∅		mm	0.35 – 1.25

72 6912

Garant Electronics end cutters and IC cutters

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Professional diagonal side cutters with slightly shearing cut. Both cutter parts are very accurately put together using carefully machined holes and polished surfaces to ensure a precise cut. With opening spring and ergonomically designed handles for secure and comfortable use. **2-component grips** of dissipative material. **Suitable for ESD work.**

Material: Made of carbon steel (C70), precision stamped and heat-treated, non-reflective phosphate.

72 6922

overall length		mm	130
71B 72 6922	Electronics end cutter	SFW	XXX
Head length		mm	10
Head width		mm	10
Cutting capacity copper wire up to ∅		mm	0.6

72 6942

overall length		mm	130
71B 72 6942	Electronics IC cutter	SFW	XXX
Head length		mm	18
Head width		mm	14
Cutting capacity copper wire up to ∅		mm	1.3

KNIPEX Electronic end cutter mirror-polished, 27° angled

Mirror polished, therefore no faults in the circuit due to peeling chrome plate. Sturdy box joint with zero play. Low-friction double spring for smooth and gentle opening. Multi-component grips, blue/red.

Standard: **DIN ISO 9654**

Material: Ball-bearing steel, cutting edges induction hardened.

Application: For making precision cuts, e.g. in electronics and precision mechanisms.

72 6960

overall length		mm	115
73F 72 6960	Electronic end cutter, mirror-polished, 27° angled	FW	XXX
73F 72 6962		kW	XXX
Head width		mm	10.5
Cutter length		mm	12
Cutting capacity copper wire up to ∅ (72 6960)		mm	1.5
Cutting capacity copper wire up to ∅ (72 6962)		mm	1.3

72 6962

Electronics grip pliers mirror-polished

Mirror polished, therefore no faults in the circuit due to peeling chrome plate. Precision box joint. Low-friction double spring for smooth and gentle opening. Gripping faces ground smooth. Edges carefully deburred.

72 7189 – Plastic coated handles.
72 7190–7192 – Handles with multi-component coating.

Standard: DIN ISO 9655
Material: Ball-bearing steel, oil quenched.
Application: For precision assembly work, e.g. in electronics and precision mechanisms.

Further versions available on request.

72 7189

72 7190

72 7191

72 7192_115

72 7192_145

Overall length		mm	115	
73F 72 7189	Electronics flat-nosed pliers		XXX	
73F 72 7190			XXX	
Head width		mm	9.5	
Jaw length		mm	22.5	

overall length		mm	115	
73F 72 7191	Electronics snipe-nosed pliers		XXX	
Head width		mm	9.5	
Jaw length		mm	22.5	

overall length		mm	115	145
73F 72 7192	Electronics snipe-nosed pliers, angled 45°		XXX	XXX
Head width		mm	9.5	12
Jaw length		mm	22.5	35

Electronics grip pliers mirror-polished

Mirror polished, therefore no faults in the circuit due to peeling chrome plate. Precision box joint. Low-friction double spring for smooth and gentle opening. Multi-component grips, black/grey, electrically conductive. **Suitable for ESDs.** Gripping faces ground smooth. Edges carefully deburred.

Standard: DIN ISO 9655
Material: Ball-bearing steel, oil quenched.
Application: For precision assembly work, e.g. in electronics and precision mechanisms.

Further versions available on request.

72 7195

72 7196

72 7197

overall length		mm	115	
73F 72 7195	Electronics flat-nose pliers		XXX	
Head width		mm	9.5	
Jaw length		mm	22.5	

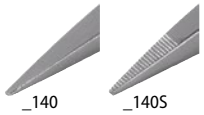
overall length		mm	115	
73F 72 7196	Electronics snipe-nosed pliers		XXX	
Head width		mm	9.5	
Jaw length		mm	22.5	

overall length		mm	115	
73F 72 7197	Electronics snipe-nosed pliers, angled 45°		XXX	
Head width		mm	9.5	
Jaw length		mm	22.5	

Garant Precision electronics gripping pliers

Precision machined with slim shape. Surface matt shot-blasted with inlaid joint and countersunk screw. Double spring for easy operation. **2–component** conductive grips, **suitable for ESDs**.

Material: Special tool steel, CNC-machined for extremely accurate tolerances.



Size 140 – Jaws with **smooth gripping faces.**
Size 140S – Jaws with **serrated gripping faces.**

			mm	140	140S
71B	72 7165	Electronics flat-nosed pliers		XXX	XXX
		Head width	mm	10	
		Jaw length	mm	30	

Long narrow jaws.
Size 140 – Jaws with **smooth gripping faces.**
Size 140S – Jaws with **serrated gripping faces.**

			mm	140	140S
71B	72 7170	Electronics snipe-nosed pliers		XXX	XXX
		Head width	mm	10	
		Jaw length	mm	30	

Long rounded jaws with fine tips.

			mm	135
71B	72 7175	Electronics round-nose pliers		XXX
		Head width	mm	10
		Jaw length	mm	20

Garant Electronics gripping pliers

The jaws of the cutter are accurately put together using carefully machined holes and polished surfaces. With opening spring and ergonomically designed handles for secure and comfortable use. **2–component** conductive grips, **suitable for ESDs**.

Material: Made of carbon steel (C70), precision stamped and heat-treated, non-reflective phosphate.

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Flat-nose, serrated internal jaws.

			mm	145
71B	72 7142	Electronics flat-nose pliers		XXX
		Head width	mm	13
		Jaw length	mm	20

Snipe-nose, serrated internal jaws.

			mm	155
71B	72 7162	Electronics snipe-nose pliers with long jaws		XXX
		Head width	mm	13
		Jaw length	mm	32

Needle-nose, serrated internal jaws.

			mm	150
71B	72 7182	Electronics needle-nose pliers 48° angled		XXX
		Head width	mm	13
		Jaw length	mm	35

LINDSTRÖM Precision tweezers set

INOX

A practical assortment for everyday applications, in a high quality, sturdy nylon case.

Material: Precision tweezers made of stainless non-magnetic acid-resistant steel.

			Content: 1 each precision tweezers
73M 72 7502	Precision tweezers set, 2 pieces	XXX	Form SS (long, slim, fine tips); Form AA (fine, sturdy tips)
Packaging		Nylon case	

			Content: 1 each precision tweezers
73M 72 7505	Precision tweezers set, 5 pieces	XXX	Form 00 (flat, strong tips); Form 1 (sturdy, fine tips); Form 3c (very sharp tips); Form 5 (very fine tips); Form 7 (fine, sickle-shaped tips)
Packaging		Nylon case	

HOLEX Tweezers set

A practical assortment for everyday applications.

72 7504_3AMB

72 7504_5

Number of tweezers		3N	3AMB	5
76B 72 7504	Tweezers set	XXX	XXX	XXX
Packaging		Plastic box	Plastic box	plastic toolroll
Content: 1 each tweezers		727520_N 727550_N 727600_N	727520_AMB 727550_AMB 727600_AMB	727520_AMB 727550_AM 727610_AM 727630_AMB 727660_AM

LINDSTRÖM Carbon fibre tweezers

Made of stainless non-magnetic acid-resistant steel. Carbon fibre tips, conductive non-magnetic acid-resistant and heat-resistant up to 270 °C.

72 7506

72 7507

72 7508

			Length mm
73M 72 7506	Carbon fibre tweezers, fine, curved tips	XXX	130
73M 72 7507	Carbon fibre tweezers, flat, strong tips	XXX	130
73M 72 7508	Carbon fibre tweezers, very fine tips	XXX	130

HOLEX Tweezers for SMD

72 7630 – Additionally with black epoxy resin coating (protection against nickel allergy, anti-glare), **suitable for ESDs.**

72 7670 – Milled-out section at the tip for very small components and wires.

72 7630

72 7640

72 7650

72 7660

72 7670

Material		AMB	AM
76B 72 7630	Tweezers, shouldered / sickle shaped pointed, 120 mm, Form 7	XXX	–
76B 72 7640	Tweezers shouldered / sickle shaped pointed, short angled, 120 mm, Form 7b	–	XXX
76B 72 7650	Tweezers shouldered / pointed bevelled gripping surface, 115 mm	–	XXX
76B 72 7660	Tweezers with short, angled gripping surface, 120 mm	–	XXX
76B 72 7670	Tweezers milled cut-out section at tip, 120 mm	–	XXX

S/STL

HOLEX Assembly tweezers for electronic components

72 7840 – Made of non-magnetic, stainless steel.

72 7800–7830 – Made of non-magnetic stainless steel, epoxy resin coating, **suitable for ESDs.**

72 7800

72 7810

72 7820

72 7840

Material		AMB	AM	Length mm	Width mm
76B 72 7800	Assembly tweezers for 0.8 - 2.0 mm ∅	XXX	–	120	3
76B 72 7810	Assembly tweezers for 1.5 - 3.0 mm ∅	XXX	–	120	5
76B 72 7820	Assembly tweezers for 3.5 - 7.0 mm ∅	XXX	–	120	5
76B 72 7830	Assembly tweezers for 6.5 - 10.0 mm ∅	XXX	–	120	5
76B 72 7840	Extraction tweezers for micropackages 8 - 14 pins	–	XXX	150	6

HOLEX Reverse action tweezers

Precision tweezers made of non-magnetic steel, self-clamping with finger pads.

72 7690

72 7700

Material		AM
76B 72 7690	Cross-lock tweezers rounded / straight tips, 160 mm	XXX
76B 72 7700	Cross-lock tweezers rounded / angled tips, 160 mm	XXX

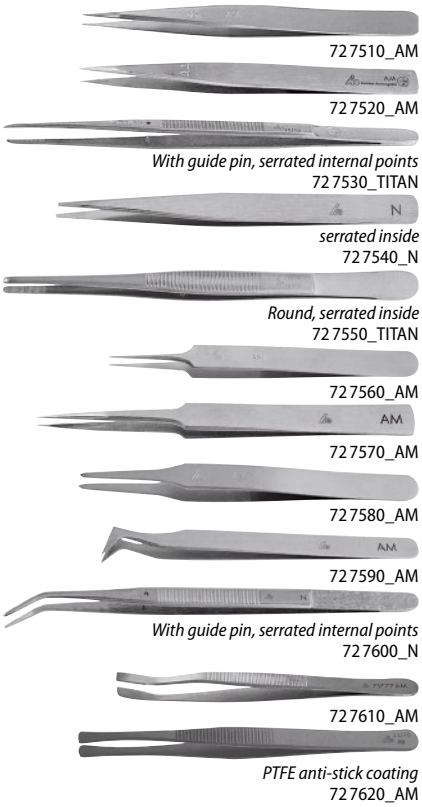
Tweezers

Size AM – Made of non-magnetic, stainless steel.
Size AMB – Additionally with black epoxy resin coating (protection against nickel allergy, anti-glare), **suitable for ESDs.**
Size TITAN – Pure titanium, **stainless**, acid-resistant, non-magnetic, highly resilient, highly wear resistant, heat resistant to approx. 800 °C.
Size N – Of special steel, nickel-plated (No. 727520 / 7560 painted black).
Size INOX – Made of stainless steel.
72 7530–7550/7600 – Inside serrated.

Version N, INOX, AM, TITAN

Version AMB

		S/STL				
Material		N	INOX	AM	AMB	TITAN
76B 72 7510	Tweezers pointed, 115 mm Form 3c	–	–	XXX	XXX	XXX
76B 72 7520	Tweezers pointed, 125 mm Form AA	XXX	XXX	XXX	XXX	–
76B 72 7530	Tweezers narrow tips, 155 mm Form 22	XXX	–	XXX	–	XXX
76B 72 7540	Tweezers, rounded tips 1 mm wide, 125 mm	XXX	–	–	–	–
76B 72 7550	Tweezers, rounded tips 3 mm wide, 145 mm, form 40	XXX	–	XXX	XXX	XXX
76B 72 7560	Tweezers shouldered pointed, 110 mm, Form 5	XXX	–	XXX	XXX	–
76B 72 7570	Tweezers shouldered pointed, 135 mm, Form GG	–	–	XXX	XXX	–
76B 72 7580	Tweezers shouldered, flat tips 2.5 mm wide 120 mm, Form 2a	–	–	XXX	XXX	–
76B 72 7590	Tweezers, shouldered, needle pointed, angled, 115 mm, form G	–	–	XXX	–	–
76B 72 7600	Tweezers with narrow tips angled, 150 mm, Form 22b	XXX	–	–	XXX	–
76B 72 7610	Tweezers with 4.5 mm wide flat tips, angled, 120 mm, form 38a	–	–	XXX	–	–
76B 72 7620	Tweezers, broad tips 6.5 mm wide, 120 mm, form 35a	–	–	XXX	–	–



72 7510_AM
72 7520_AM
With guide pin, serrated internal points
72 7530_TITAN
serrated inside
72 7540_N
Round, serrated inside
72 7550_TITAN
72 7560_AM
72 7570_AM
72 7580_AM
72 7590_AM
With guide pin, serrated internal points
72 7600_N
72 7610_AM
PTFE anti-stick coating
72 7620_AM

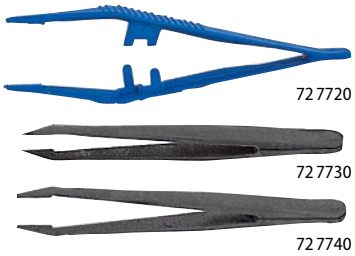
Cutting tweezers

Precision tweezers made of special steel, nickel-plated.
Application: For snipping off very fine copper wire.

76B 72 7710	Cutting tweezers 100 mm		XXX
Cutter length		mm	8

Non-metallic tweezers

			Length mm	Version
76B 72 7720	Nylon tweezers, rounded tips	XXX	115	–
76B 72 7730	Carbon tweezers, pointed tips	XXX	110	antistatic, conductive
76B 72 7740	Carbon tweezers, wide tips	XXX	110	antistatic, conductive

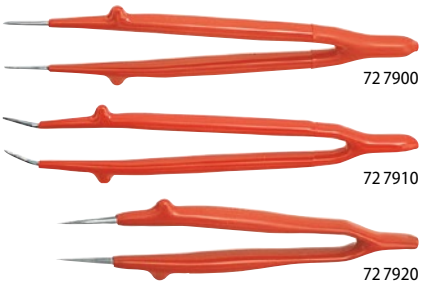


72 7720
72 7730
72 7740

Fully insulated tweezers

Made of steel with fine tips, anti-slip double insulated handles.
Size N – Made of special steel, nickel-plated.
Size AM – Made of non-magnetic, stainless steel.

Material		N	AM	Length mm	Version
76B 72 7900	Tweezers straight, insulated	XXX	–	155	with fine tips
76B 72 7910	Tweezers angled 35°, insulated	XXX	–	155	with fine tips
76B 72 7920	Tweezers Form AA straight, insulated	XXX	XXX	130	pointed



72 7900
72 7910
72 7920

S/STL

Assembly forceps with ratchet clamp

With particularly long slim jaws with angled or bent ends. Handles with scissor grip and ratchet for automatic clamping. Gripping faces serrated.

72 7950 – Jaw tips offset 90°, grip faces with cross Vees.

72 7960 – Jaws offset approx. 25°.

Material: Stainless steel.

Application: These forceps can be used for automatic clamping of small components and wires, so that both hands are free, e. g. when soldering.

Assembly forceps

72 7950_200

72 7960_200

overall length		mm	200 / 240
72B 72 7950	Assembly forceps with ratchet clamp		XXX / XXX
Jaw length		mm	50 / 75
overall length		mm	200 / 240
72B 72 7960	Assembly forceps with ratchet clamp, 25° angled		XXX / XXX
Jaw length		mm	50

Pick set, 5 pieces, in a wallet

"multicraft" power grip of transparent, impact-resistant plastic (cadmium-free), particularly easy grip, even with oily hands. **Blade** of chrome vanadium special alloy combining maximum hardness and exceptional toughness. Precision curved and ground tips.

Application: Ideal for fitting and for removing O rings and seals that are difficult to access, e.g. on engines, gearboxes, brakes, air conditioners, etc. For cleaning threaded holes and seal seats. Particularly suitable for locating cracks in metal and for much more.

Note: Individual Pick Tools are available under No. 727991.

Number of tools		5
73B 72 7990	Pick set, 5 pieces, in a wallet	XXX

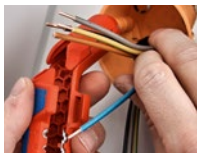
ErgoStrip® universal stripping tool

Multi-component pistol handle design for comfortable grip and secure handling.

72 8095 – Version for left-handed users

Material: Glass-fibre-reinforced plastic

Application: For quick and precise sheath stripping of all conventional round cable and moisture-proof cables (NYM cables) of Ø 8 - 13 mm, data cables (CAT 5 to CAT 7), twisted pair cables (UTP / STP) and coaxial cables from Ø 4.8 - 7.5 mm and for stripping insulation from conductor cross-sections 0.2; 0.3; 0.8; 1.5; 2.5 and 4.0 mm².



Wire stripping

Wire stripping range / markings 4–24 mm

Cable stripping in installation boxes

Stripping a coaxial cable

for cable Ø		mm	8-13
73F 72 8091	ErgoStrip® universal stripping tool		XXX
73F 72 8095	ErgoStrip® universal stripping tool for left-handed use		XXX
overall length		mm	135

Cable stripping tool

Rotating knife for circular, longitudinal, and helical cutting. Adjustable depth of cut. The Vee-shape cable holder adjusts automatically to the required cable Ø. Retaining clip with integral cutter for breaking out the part of the insulation that has been cut. The cable sheath is cut by twisting and pulling the cutter.

72 8040 – Supplied with 1 spare blade in the handle.

Advantage: **Insulation can be stripped** from the cable **at any desired place**. Very sturdy design.

72 8040

72 8043

for cable Ø		mm	6-25 / 25-35
73H 72 8040	Weidmüller Cable stripping tool		XXX / XXX
76C 72 8043	HOLEX Cable stripping tool		XXX / –
Manufacturer's type designation (72 8040)			AM25 / AM35
overall length (72 8040)		mm	157 / 174
overall length (72 8043)		mm	150 / –

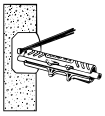
JOKARI original Cable stripping tool

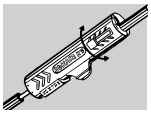
Hollow plastic handle with fixed, integral blades. Simple to strip "into the box". **Knife with TiN-coated blade** for longer working life.

72 8050 – With blades for a circular cut.
72 8055 – With blades for a circular cut, long version.
72 8075 – With blades for a circular cut and wire stripping blades.
72 8065/8070 – With blades for circular cut, longitudinal cut, wire strippers and retractable blade.

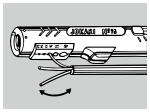
72 8050

72 8055


„Stripping in the outlet"


Cable stripping (circular cut)

Cable stripping (longitudinal cut)


Stripping the insulation

for cable ∅			mm	8-13	5,5-15	4,5-10
76C 72 8050	Cable stripping tool	TiN		XXX	–	–
76C 72 8055	Cable stripping tool, long	TiN		XXX	–	–
76C 72 8065	Cable stripping tool with wire strippers and blade	TiN		XXX	–	–
76C 72 8070	Cable stripping tool with wire strippers for data and control cables	TiN		–	XXX	–
76C 72 8075	Cable stripping tool with wire stripping blades for CAT/twisted-pair cables	TiN		–	–	XXX
overall length (72 8050, 72 8065, 72 8070, 72 8075)			mm		124	
overall length (72 8055)			mm	176	–	–

72 8065

72 8070

72 8075

JOKARI original Cable stripping tool with locators

Sheath stripper with **force and height limiter**. Different colours offer the facility to reserve set locators for selected recurrent types of cable. Length stop can be positioned for left-handed and right-handed users.

Application: Stripping the sheath from all conventional round cables ∅ 8 - 15 mm and stripping insulation from individual conductors 1.5 and 2.5 mm².

Supplied with:
- **UNI-PLUS** cable stripping tool No. 728082 size 8-15.
- **Locator box** No. 728083 with 4 pcs. locators and 1 pc. hexagon L-wrench 1.5 AF.

Note: The cable stripping tool No. 728082 size 8-15 and the locator box No. 728083 can also be ordered separately.

Adjust the grub screw of the locator in order to define the blade distance.

Locator box in the handle

for cable ∅			mm	8-15
76C 72 8081	Cable stripping tool with locators	TiN		XXX
overall length			mm	130

intercable Cable stripping tool

Size ABI1 – Universal external sheath cutter with spring quick-release clamping system for removing all plastic insulation layers from **cable ∅ 4.5 mm to 29 mm.** Suitable for soft and hard insulation types of cables. Special grinding of the blade for clean removal of the outer sheath. **Suitable for circular, longitudinal and helical cutting.** Cutting depth adjustable in increments from 0.1 mm - 3 mm using rotary knob (clockwise direction).
The special sliding characteristics of the contact surface ensure resistance-free work on the cable.

Size AV6220 – Cable stripping tool for stripping all the layers of plastic insulating external sheath **from cables of ∅ 25 mm.** Cutting on a **ratchet principle** without application of large forces. Suitable for cutting circumferentially and longitudinally. Cutting depth adjustable from 0 – 5 mm. With exchangeable blade

Advantage: **Insulation can be stripped from the cable at any desired place.**

_ABI1

_AV6220

Type			ABI1	AV6220
76C 72 8085	Cable stripping tool		XXX	XXX
overall length		mm	140	160

_ABI1

_AV6220

Weidmüller Cable stripping tool

Particularly small and handy body, ideal for use in narrow and cramped locations such as in cable ducts. The sprung plastic claws adjust automatically to the required cable ∅. **Twist knife for circular and longitudinal cut,** adjustable depth of cut. The cable sheath is cut by twisting and pulling the cutter.

Advantage: Outstandingly suitable for sequential wire stripping at any point along the cable.

for cable ∅		mm	6-17
73H 72 8045	Cable stripping tool		XXX
Manufacturer's type designation			AM16
Length		mm	41
Width		mm	58
Height		mm	53

JOKARI original Cable stripping tool

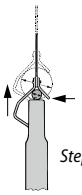
Twist knife for circular and longitudinal cut; adjustable depth of cut. The Vee-shape cable holder adjusts automatically to the required cable ∅. The cable sheath is cut by twisting and pulling the cutter. Supplied with 1 spare blade in the handle. **Knife with TiN-coated blade** for longer working life.

Advantage: Insulation can be stripped from the cable at any desired location.

72 8000_8-28

72 8010

72 8020



72 8030

Steplessly adjustable to cable ∅.

for cable ∅			mm	4-16	8-28
76C 72 8000	Cable stripping knife with straight blade	TiN		XXX	XXX
76C 72 8010	Cable stripping knife with hooked blade	TiN		–	XXX
76C 72 8020	Cable stripping knife with notched blade "Secura"	TiN		–	XXX
76C 72 8030	Cable stripping knife	TiN		–	XXX
overall length (72 8000, 72 8010, 72 8020)			mm	132	170
overall length (72 8030)			mm	–	132

Suitable for: Cable strippers No. 72 8000 – 72 8030.

76C 72 8002	Spare blades for No. 728000 – 728030	XXX

72 8002

New type of protection mechanism for the hooked blade is mounted in the handle end ensures **safe handling** and **reliably protects against cutting injuries.** The penetration depth of the hooked blade is adjustable in four steps. With **exchangeable clip** for cable ∅ 8 - 28 mm, other clip sizes available as options. Viewing window on the exchangeable clip for an **optimum cutting characteristic** (size 8 - 28 and size 4 - 16).

72 8035

for cable ∅			mm	8-28
76C 72 8035	Safety cable stripping knife	TiN		XXX
overall length			mm	167

Suitable for: Cable stripping knife no. 728035

72 8036_4-16

72 8036_50-70

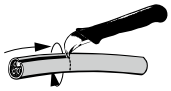
	4-16	8-28	27-35	35-50	50-70
76C 72 8036 Exchangeable clip	XXX	XXX	XXX	XXX	XXX

KNIPEX Cable stripping knife - VDE insulated

Multi-component handle with ergonomic shape. Blade protected by a transparent cap. Insulated up to 1000 Volts to **DIN EN 60900 / VDE 0682-201.**

72 8100 – Sickle-shaped hooked blade with slide plate at the tip. The back of the blade is insulated.
72 8110 – Narrow sickle-shaped hooked blade, suitable for sector cables.
72 8120 – Short sturdy hooked blade, suitable for round cables.

72 8100



72 8110

72 8120

73F 72 8100	Cable stripping knife VDE insulated, with slide plate		XXX
73F 72 8110	Cable stripping knife VDE insulated, narrow blade		XXX
73F 72 8120	Cable stripping knife VDE insulated, hooked blade		XXX
overall length (72 8100)		mm	180
overall length (72 8110)		mm	190
overall length (72 8120)		mm	170

Precision wire stripper

Wire stripping range adjustable in the steps 0.25; 0.30; 0.40; 0.50; 0.60 and 0.80 mm Ø. With integral wire cutter.

72 8540

for wire ∅	mm	025-08
76C 72 8540	JOKARI Precision wire stripper with wire cutter	XXX
for conductor cross section AWG		30-20

The sensing system automatically adjusts the blades and pressure to the respective cross-section. This ensures the wire stripping is performed without causing damage. With adjustable and scalable length end stop over a working range of 5 to 45 mm. Suitable for right and left hand rotation.

Application: For fine stranded conductors and wires, PVC, PTFE/Teflon, Kynar insulations amongst others. Particularly for cable stripping when the conductor cross section changes frequently.

72 8501

for wire ∅	mm	016-08
72B 72 8501	HOLEX Precision wire stripper, steplessly adjustable	XXX
for conductor cross section AWG		34-20

Wire stripper for fibre optic cable

Jaws burnished, handles with multi-component coating.

Material: Special quality chrome-vanadium electro-steel, oil-quenched.

Application: For removal of primary and secondary coatings from glass fibre cables.

Primary coating

Secondary coating

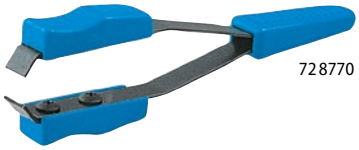
72 8768

Overall length	mm	130
73F 72 8768	Wire stripper for fibre optic cable	XXX

Varnish stripping tweezers

Made of spring steel with plastic jaws and exchangeable blades.

Application: For removing varnish insulation from copper wires.


72 8770

overall length	mm	120
76C 72 8770	Varnish stripping tweezers with 0.6 mm blades	XXX

for wires	mm	0,5	0,6	0,8	1
76C 72 8771	Spare blades – Pair	XXX	XXX	XXX	XXX

72 8771

Automatic wire stripping tool – self-adjusting

Very sturdy, lightweight body made of glass fibre-reinforced plastic. The blades adjust automatically to the various cable diameters. The insulation is cut and removed in one operation. With length stop and wire cutter.

Spare part: Spare blade available under No. 728710 size 6/N.

72 8613

for conductor cross-section	mm²	6
71B 72 8613 Garant Wire stripping tool		XXX
overall length	mm	200
for conductor cross-section	mm²	0.08 – 6

72 8630

72 8631 – Half-round metal restraint jaws with a comb profile, precision cut thanks to parabolic profile wire stripping knife. Fine adjustment permits exact setting of the knives in response to cater for special materials or temperature conditions.

Advantage: Robust clamping jaws of steel with cutting edge.

Spare part: Spare blade available under No. 728714 and length stop available under No. 728715.

for conductor cross-section	mm²	10
73F 72 8630 KNIPEX MultiStrip 10 wire stripping tool		XXX
overall length	mm	195
for conductor cross-section	mm²	0.03 – 10

72 8631

Half-round clamping jaws and parabolic profile wire stripping knife.

for conductor cross-section	mm²	16
73F 72 8631 KNIPEX PreciStrip 16 wire stripping tool		XXX
overall length	mm	195
for conductor cross-section	mm²	0.08 – 16

72 8645_1

Upper **handle piece can be taken off,** allowing variable handle sizes for large and small hands (from size 6UL). **Can also be partly removed.**

Size 6UL; 10UL – stripax® Ultimate for hard insulation.

Spare part: Spare blade available under No. 728710.

for conductor cross-section	mm²	1	6UL	10UL
73H 72 8645 Weidmüller Wire stripping tool STRIPAX®		XXX	XXX	XXX
overall length	mm	135	190	190
for conductor cross-section	mm²	0.08 – 1	0.25 – 6	2.5 – 10

72 8645_6UL

for conductor cross-section	mm²	10	16
73H 72 8645 Weidmüller Wire stripping tool STRIPAX®		XXX	XXX
overall length	mm	190	
for conductor cross-section	mm²	0.08 – 10	6 – 16

72 8645_16

High-tensile tool steel with plastic grips.

Advantage: No limit of the length to be stripped, i.e. **insulation can be stripped from the middle of the cable.**

72 8720

for conductor cross-section	mm²	6
72B 72 8720 HOLEX Wire stripping tool		XXX
overall length	mm	225
for conductor cross-section	mm²	0.13 – 6

JOKARI original Automatic wire stripping tool

Size 6PRO – With multi-component grip.
Size 6; 6PRO – With length stop and wire cutter.

for conductor cross-section	mm²	6	6PRO
76C 72 8622	Wire stripping tool, economy version	XXX	XXX
Manufacturer's type designation		Super 4 plus	Super 4 Pro
overall length	mm	165	163
for conductor cross-section	mm²	0.2 – 6	
for conductor cross section AWG		24-10	

Size 6 – With length stop and wire cutter.
With multi-component grip.
Spare part: Spare blades available under No. 728712.

for conductor cross-section	mm²	6	16
76C 72 8625	Wire stripping tool	XXX	XXX
Manufacturer's type designation		SECURA 2K	6-16²
overall length	mm	200	166
for conductor cross-section	mm²	0.2 – 6	6 – 16
for conductor cross section AWG		24-10	10-5

Application: For all commonly-used **sensor and actuator wires** with PUR or PVC external sheath, 3-core to 8-core cable, screened or unscreened (e.g. 3×0.34 mm² unscreened up to 8×0.25 mm² screened).

for max. cable ∅	mm	4,4	7
76C 72 8627	Wire stripping tool	XXX	XXX
Manufacturer's type designation		Sensor Mini	Sensor special
overall length	mm	166	
for round cable ∅	mm	3.2 – 4.4	4.4 – 7

72

Automatic wire stripping tool – for specific cable ∅

Jaws burnished, handles with multi-component coating.

Advantage: Can be used irrespective of the toughness and dimension of the insulation material. No crushing or deformation of the cable ends. Smooth mechanical movement. Replaceable blade.

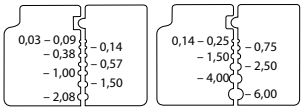
Application: For high quality, damage-free stripping of all electrical single-core and multi-core cables of 0.03 – 6 mm²; particularly for insulation which is difficult to cut (e.g. Teflon®).

Size 0,03-2,08 – With cable guide and length end-stop.
72 8705 – For AS interface cables (blade cut-out for external sleeve and both individual cores).

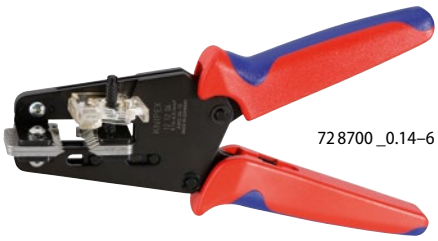
With cable guide and length end-stop.

Cleanly cuts the insulation all the way round.

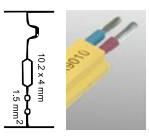
The precise blade profiles allow shape-fit cable stripping.



for conductor cross-section	mm²	0,03-2,08	0,14-6
73F 72 8700	KNIPEX Automatic wire stripping tool	XXX	XXX
overall length	mm	195	



Type		AS
73T 72 8705	RENNSTEIG Automatic wire stripping tool	XXX
overall length	mm	195



HOLEX Wire stripping tool – Self-adjusting

With spring-mounted cutting edges which adjust automatically to the cross-section of the wire. Special tool steel, nickel-plated, with plastic grips.

Application: For round cables with PVC insulation. Particularly for cable stripping when the conductor cross section changes frequently.

72 8731

Overall length		mm	160
76C 72 8731	Wire stripping tool, self-adjusting		XXX
for conductor cross-section		mm²	0.5 – 5

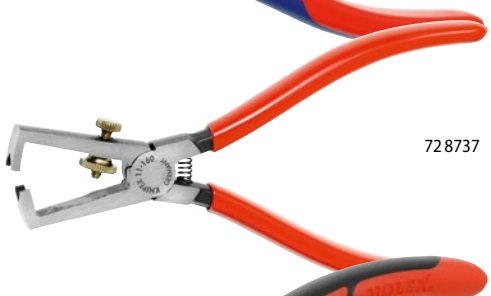
Wire Stripper

Offset jaws with V-shaped cutting edges (up to max. 5 mm external ∅). Laid-in joint with "no-play" action and opening spring. With adjustable screw for cross section adjustment.

Material: Special tool steel, drop-forged and oil-hardened.

72 8735

72 8735 – Jaws chrome-plated, handles with multi-component covering.
72 8737 – Pliers polished, plastic coated handles.
72 8739 – Jaws bright finished, handles with multi-component covering.
72 8740 – Jaws bright finished, plastic coated handles.



72 8737

72 8739

72 8740

overall length			mm	160
73F 72 8735	KNIPEX	Wire stripping tool, chrome-plated		XXX
73F 72 8737	KNIPEX	Wire stripping tool, polished		XXX
72B 72 8739	HOLEX	Wire stripping tool		XXX
72B 72 8740	HOLEX	Wire stripping tool		XXX

Wire strippers - insulated to VDE

Handles with multi-component covering, **insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**

72 8761 – Jaws bright finished.
72 8755/8750 – Jaws chrome-plated.

72 8755

72 8750

72 8761

overall length			mm	160
71B 72 8755	Garant	Wire stripping tool chrome-plated **VDE insulated**		XXX
73F 72 8750	KNIPEX			XXX
72B 72 8761	HOLEX	Wire stripping tool **VDE insulated**		XXX

Wire stripping tool with cable cutter

Handles with multi-component covering, **insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**
With steps in the jaw for visual orientation assistance for stripping constant lengths (11 mm and 16 mm). Up to a maximum of 5 mm outside ∅.
Jaws chrome-plated.

Material: Special tool steel, drop-forged and oil-hardened.

72 8763

Overall length		mm	180
73F 72 8763	"StriX" wire stripping tool with cable cutter **VDE insulated**		XXX
Cutting capacity		mm²	10
Cutting capacity up to ∅		mm	15

Electronics wire stripping tool

Jaws bright finished, handles with multi-component covering and opening spring. With adjustable screw for cross section adjustment to the desired wire or flex cable ∅. With extended point for precise cutting of fine wires even in constricted areas.

Application: For cutting and stripping single-core, multi-core, and fine multi-strand cables up to ∅ 1.0 mm.

72 8765

overall length		mm	140
73F 72 8765	Electronics wire stripping tool		XXX
Wire stripping for conductor ∅		mm	0.03 – 1

Electrician's wiring pliers

72 8784 – Jaws chemically blacked, polished head, plastic coated handles.
72 8785 – Jaws chrome-plated, handles with multi-component covering.

Material: Special tool steel, drop-forged, and oil-hardened.

Application: For gripping, cutting, and stripping as well as crimping terminal sleeves.

- *Gripping and bending.*
- *Cutting.*
- *Crimping terminal sleeves.*
- *Stripping 0.5 – 0.75 / 1.5 / 2.5 mm².*

72 8784

overall length		mm	160
73F 72 8784	Electrician's wiring pliers polished		XXX
73F 72 8785	Electrician's wiring pliers chrome-plated, with grips		XXX
cuts wire up to ∅		mm	2.5
Wire stripping for conductor ∅		mm²	0.5 - 0.75 / 1.5 / 2.5

72 8785

There's more in it for you!

The entire tooling catalogues for the following brands are available from the Hoffmann Group – just ask for them!

Wire stripping side cutter – VDE insulated

Induction hardened precision cutting edges (approx. 60 HRC) for soft wire. Precision stripping knife for single-core (solid) conductors 1.5 and 2.5 mm². Handles with thick-walled grips **insulated to DIN EN 60900 / VDE 0682-201 for working at voltages up to 1000 V.**

Material: Special tool steel, jaws chrome-plated, handles with multi-component covering.

Application: Ideal for electrical installation work.

72 8780

overall length		mm	160
73F 72 8780	Wire stripping side cutter **VDE insulated**		XXX
Cutting capacity soft wire up to ∅		mm	2.5

Installation pliers – VDE insulated

Multi-function pliers for electrical installation work, with screwed joint for precise, play-free action.

- For gripping flat and round material.
- Bending wires and copper conductors.
- Deburring and widening flush-mounted boxes.
- Cutting copper cables up to ∅ 15 mm (5×2.5 mm²).
- Stripping copper wires 0.75 up to 1.5 mm² and 2.5 mm².
- Crimping terminal sleeves 0.5 to 2.5 mm².

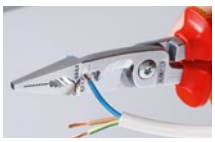
Handles with grips **insulated to DIN EN 60900 / VDE 0682-201 for working at voltages up to 1000 V.**

72 8788 – With opening spring.

Material: Special tool steel, jaws chrome-plated, handles with multi-component covering.

72 8787

72 8788



overall length		mm	200
73F 72 8787	Installation pliers **VDE insulated**		XXX
73F 72 8788	Installation pliers with opening spring **VDE insulated**		XXX
Cutting capacity		mm²	5×2.5
Cutting capacity up to ∅		mm	15

Tethered tools

Knipex pliers with welded tether attachment point from No. 706010.

- Very stable tether attachment point, welded to the grip.
- Load capacity up to 400 N.

Suitable even for VDE-insulated tools.

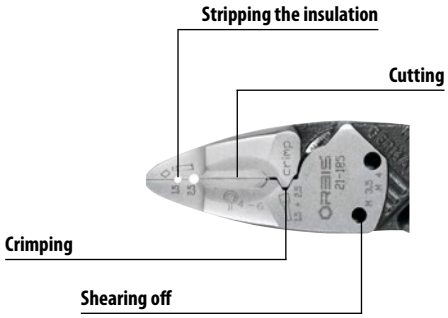
ORBIS Multi-function heavy-duty side cutter – VDE insulated

Induction hardened precision cutting edges (approx. 64 HRC) for piano wire. Precision stripping knife for single-core (solid) conductors 1.5 and 2.5 mm². Precise crimping profile for 1.5 and 2.5 mm² terminal sleeves. Shearing cutter for cutting M3.5 and M4 brass and copper screws to length with a flat cut. Bending device for forming solid copper wires ∅ 4, 5, and 6 mm into eyes. Handles with thick-walled grips **insulated to DIN EN 60900 / VDE 0682-201 for working at voltages up to 1000 V.** High cutting and crimping power due to optimum leverage.

Material: Special tool steel, jaws bright finished, handles with multi-component covering.

Application: Ideal for electrical installation work - offset design for improved ergonomics and a clear view of the working area.

72 8790



overall length		mm	180
76B 72 8790	Multi-function heavy-duty side cutter **VDE insulated**		XXX
Cutting capacity piano wire ∅		mm	2

Crimping tool for terminal sleeves – with non-compound action

Body drop forged. Jaws chemically blackened, head bright polished. Notched jaws for crimping terminals to DIN 46228.

Size 6 – Connector insertion from the front.

72 9405 – Handles with multi-component covering.
Insulation up to 1000 Volts to DIN EN 60900 / VDE 0682-201.

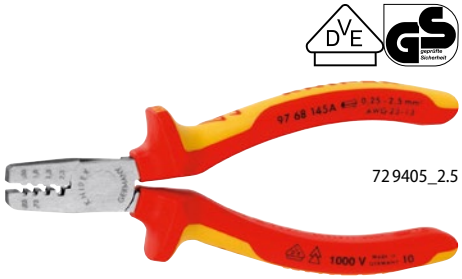
72 9400/9402 – Plastic coated handles.

72 9400_2,5

72 9402_6

72 9402_16

Jaw shapes



72 9405_2.5

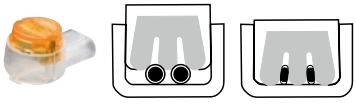
for conductor cross-section			mm²	2,5	6	16
73T 72 9400	RENNSTEIG	Crimping tool for terminal sleeves		XXX	–	–
73F 72 9402	KNIPEX			–	XXX	XXX
73F 72 9405	KNIPEX	Crimping tool for terminal sleeves **VDE insulated**		XXX	–	XXX
overall length (72 9400, 72 9402)			mm	150	180	180
overall length (72 9405)			mm	145	–	180
for conductor cross-section			mm²	0.25 – 2.5	0.5 – 6	0.25 – 16

KNIPEX Crimping tool for Scotchlok™ - connectors, with cut-off jaws

Body drop-forged. Jaws chemically blackened, head bright polished. With opening spring. Plastic coated handles.

Application: For crimping plastic-insulated remote control cable cores or signal cable cores by the U-contact principle in Scotchlok™ individual connectors. No wire stripping, the U-elements make the contact.

72 9390


No wire stripping, the U-elements make the contact.

for wire ∅		mm	0,4-1,1
73F 72 9390	Crimping pliers for Scotchlok™ connectors		XXX
overall length		mm	155

Crimping tool for terminal sleeves – with compound action

Steel body with compound action. Defined crimping force accurately ensured by integral stop function.

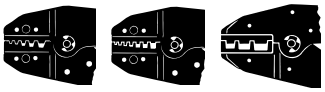
GARANT: Easy to use, the jaws cover the entire crimping range, terminal sleeves are inserted from the front. **Parallel jaw movement ensures equal crimping over the whole terminal sleeve length.** Ergonomically designed handles with anti-slip protection. Crimp profile to DIN 46228.

72 9411_16

for conductor cross-section		mm²	6	10	16
71B 72 9411	Garant Crimping tool for terminal sleeves		XXX	XXX	XXX
overall length		mm	210	225	225
for conductor cross-section		mm²	0.25 – 6	0.5 – 10	10 – 16

Economy version. Terminal sleeve insertion from the side.

Jaw shape



72 9420_16

for conductor cross-section		mm²	6	16	35
72B 72 9420	HOLEX Crimping tool for terminal sleeves		XXX	XXX	XXX
overall length		mm	205	220	205
for conductor cross-section		mm²	0.5 – 6	0.5 – 16	16; 25; 35

Terminal sleeve insertion from the side. Crimping pressure calibrated by manufacturer.

Jaw shape

72 9425_6

for conductor cross-section		mm²	6
73F 72 9425	KNIPEX Crimping tool for terminal sleeves		XXX
overall length		mm	220
for conductor cross-section		mm²	0.25 – 6

Parallel crimping (except size PZ16 and PZ50).
Size 6ROTO – With **swivel** jaws.
Size 6ROTO-L – With **swivel and stop function** jaws (at 0° and 90°).

72 9440_6ROTO

Jaw shape

72 9440_6ROTO-L

Type			6ROTO	6ROTO-L
73H 72 9440	Weidmüller Crimping tool for terminal sleeves		XXX	XXX
overall length		mm	200	
for conductor cross-section		mm²	0.14 – 6	

72 9440_PZ4

Jaw shape

72 9440 _PZ16

Type			PZ4	PZ16	PZ50
73H 72 9440	Weidmüller Crimping tool for terminal sleeves		XXX	XXX	XXX
overall length		mm	200	200	260
for conductor cross-section		mm²	0.5 – 4	6 – 16	25 – 50

72 9440_PZ50

Crimping tool for square crimping

Accurate **parallel crimping** with synchronously actuated crimping jaws. DIN-compatible **square crimping** = optimum contact areas.

for conductor cross-section		mm²	10	16
71B 72 9471	Garant	Crimping tool for terminal sleeves	XXX	XXX
overall length		mm	190	
for conductor cross-section		mm²	0.08 – 10	2.5 – 16

72 9471_10

Self-adjusting crimping tool, crimping head freely rotatable through 360° with 8 indent positions. Crimping of twin terminal sleeves up to 2×6 mm² is possible.

for conductor cross-section		mm²	16
73F 72 9446	KNIPEX	Twistor® 16 crimping tool for terminal sleeves	XXX
overall length		mm	200
for conductor cross-section		mm²	0.14 – 16

72 9446

72 9450

72 9451

72 9450 – Pliers burnished, jaws galvanised.
72 9451 – Pliers chrome-plated, jaws burnished.

for conductor cross-section			mm²	10	16
73T 72 9450	RENNSTEIG	Crimping tool for terminal sleeves		–	XXX
73T 72 9451	RENNSTEIG	Crimping tool for terminal sleeves		–	XXX
72B 72 9456	HOLEX	Crimping tool for terminal sleeves		XXX	–
overall length			mm	190	180
for conductor cross-section			mm²	0.08 – 10	0.08 – 16

72 9456

Size 10 – Side insertion facility for terminal sleeves up to 2.5 mm².
Size 16 – Also for twin-core terminal sleeves up to 2×10 mm² and up to 6.6 mm ∅.

for conductor cross-section		mm²	10	16
73T 72 9460	RENNSTEIG	Crimping tool for terminal sleeves	XXX	XXX
overall length		mm	190	
for conductor cross-section		mm²	0.08 – 10	0.08 – 16

72 9460_16

Type			PZ3
73H 72 9441	Weidmüller	Crimping tool for terminal sleeves	XXX
overall length		mm	200
for conductor cross-section		mm²	0.5 – 6

72 9441

Type			PZ10SQR
73H 72 9455	Weidmüller	Crimping tool for terminal sleeves	XXX
overall length		mm	195
for conductor cross-section		mm²	0.14 – 10

72 9455

Crimping tool for hexagonal crimping

Accurate **parallel crimping** with synchronously actuated crimping jaws.
DIN-compatible **hexagonal crimping** = space saving. Crimp profile to DIN 46228.
With swivel positioner for small cross-sections up to 4 mm², for reliable processing.

for conductor cross-section		mm²	16
71B 72 9463	Garant	Crimping tool for terminal sleeves	XXX
overall length		mm	213
for conductor cross-section		mm²	0.08 – 16

72 9463

72 9465 – Pliers burnished, jaws galvanised.
72 9466 – Pliers chrome-plated, jaws burnished.

72 9465

for conductor cross-section		mm²	10	16
73T 72 9465	RENNSTEIG	Crimping tool for terminal sleeves	XXX	–
73T 72 9466	RENNSTEIG	Crimping tool for terminal sleeves	XXX	–
72B 72 9467	HOLEX	Crimping tool for terminal sleeves	–	XXX
overall length		mm	180	190
for conductor cross-section		mm²	0.08 – 10	0.08 – 6; 10 – 16

72 9466

NEW

72 9467

Type			PZ10HEX
73H 72 9468	Weidmüller	Crimping tool for terminal sleeves	XXX
overall length		mm	195
for conductor cross-section		mm²	0.14 – 10

72 9468

Weidmüller Wire stripping and crimping tool stripax® plus

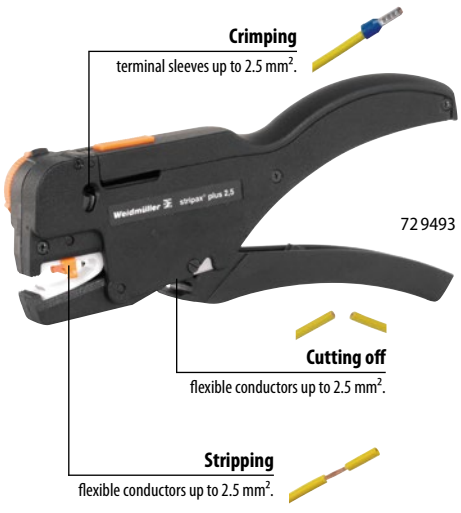
Very sturdy, lightweight body made of glass fibre-reinforced plastic. The blades adjust automatically to the various cable diameters. The insulation is cut and removed in one operation. With length stop and wire cutter. Installed crimping station with magazine for terminal sleeves (on strips, incorporated in the handle).

Advantage: **Cutting** and **stripping** the cable as well as **crimping** of terminal sleeves **with only one tool,** no need for laborious tool changes.

Application: Wiring and installation work in small series production (e.g. control cabinet building).

Optional extras: Terminal sleeve sets, 500 pieces each (10 strips with 50 pieces each) No. 729497 in sizes 0.5; 0.75; 1.0; 1.5; 2.5.

Note: Only terminal sleeves strips No. 729497 from Weidmüller may be used. Feeding terminal sleeves from rollers can lead to defective work.



72 9493

73H 72 9493	stripax® plus wire stripping and crimping tool		XXX
overall length		mm	210
for conductor cross-section		mm²	0.5 – 2.5

Crimping set stripax® plus

Supplied with:
- Wire stripping and crimping tool No. 729493.
- 500 pieces each terminal sleeves (10 strips with 50 pieces each) No. 729497 in cross-sections 0.5; 0.75; 1.0; 1.5; 2.5 mm².
- Plastic box with foam inlay.

72 9491

73H 72 9491	stripax® plus crimping set	XXX

Garant Modular crimping pliers for interchangeable heads

Basic tool

With quick-change mounting (no tools required).

- Sturdy steel body with compound action.
- Integral positive stop function.
- **Linear stroke** gives very precise results.

72 9611

Overall length	mm	150
71B 72 9611	Crimping tool	XXX

Interchangeable heads, can be certified

With **insulation stop for positive positioning of the terminal.**

Suitable for: Basic tool No. 729611.

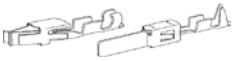
Size 1,5 – Universal heads: up to 1.5 mm²; blade terminals and sleeves: F2.8; Tyco Junior Power Timer: Timer and TAB; Tyco AMP: MCP 1,2; RK 2,5; UNML; III+ and M-series; Kostal: MLK 1.2, RK 2.5.

Size 2,5 – Blade terminals and sleeves: F2.8, F4.8, F6.3 and F9.5; GHW flat terminals: AFK and AFS; Tyco Junior Power Timer: Timer; Tyco AMP: MCP 1.2; RK 2.5; UNML; E95; MT 3 and ELO; Kostal: LKS 1.5 and SLK 2.8 contacts.

Size D – Tyco Junior Power Timer: D-Sub and HD 20.

Application: For use with electronic connectors.

Blade terminals and sleeves



GHW flat terminals

Tyco Junior Power Timer

Kostal

_1,5

_2,5

_D

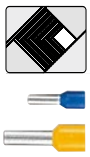
Type		1,5	2,5	D
71B 72 9624	Interchangeable crimping head	XXX	XXX	XXX
for conductor cross-section	mm²	0.1 – 1.5	0.5 – 2.5	0.08 – 0.56

Accurate **parallel crimping** with 4 synchronously actuated crimping jaws.
Rectangular DIN standard crimping = optimum contact.

Suitable for: GARANT basic tool No. 729611.

Application: For attaching terminals to wires.

Note: Other interchangeable heads available on request.



_16

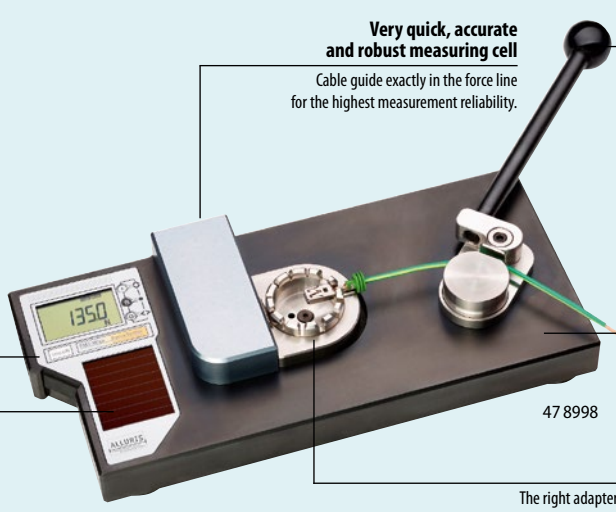
Type		10	16
71B 72 9626	Interchangeable crimping head	XXX	XXX
for conductor cross-section	mm²	0.08 – 10	2.5 – 16

72

ALLURIS Manual pull-tester FMT-W30

can be found under No. 47 8998.

- Manual pull-out force measurement instrument with manual lever for determining the tensile strength of all non-soldered (crimped) cable connections.
- Space-saving, non-slip and sturdy bench-top device with hardened non-scratch base plate.
- Cordless, so always ready for use.
- Interchangeable mounting adapter with 12 different slot widths cover all popular sizes of cable.



Very quick, accurate and robust measuring cell
Cable guide exactly in the force line for the highest measurement reliability.

Robust mechanism

Hardened scratch-resistant base plate

Easy to use, with high reproducibility thanks to automated procedures

Energy independence thanks to solar cells
ready for use at all times, without battery or mains cable thanks to intelligent energy management

47 8998

Change-over adapter
The right adapter for every cable connection. Easy and quick change.

Crimping set

Comprehensive set for crimping **insulated** terminal sleeves. Robust powerful PreciForce® crimping tool with compound action for cross sections from **0.25 – 6.0 mm²**.

Supplied with: Crimping tool No. 729425 size 6 and 1200 terminal sleeves in popular sizes in a sturdy plastic box (TANOS MINI-systainer®) with 2 stackable plastic inserts.

Type			1
73F 72 9472	KNIPEX	Crimping set, terminal sleeves **supplied with a PreciForce® crimping tool**	XXX

72 9472

Comprehensive set for crimping the most popular **insulated** terminal sleeves. Self-adjusting Twistor16 crimping tool with rotatable crimping head and 8 indent positions for cross-sections from **0.14 to 16 mm² (square crimping)**.

Supplied with: Crimping tool No. 729446 size 16 and 1190 pieces of popular terminals (0.50 – 16 mm²) in a sturdy plastic box (TANOS MINI-systainer®) with 2 stackable plastic inserts.

Type			1
73F 72 9469	KNIPEX	Crimping set, terminal sleeves **supplied with a Twistor16 crimping tool**	XXX

72 9469

Comprehensive set for crimping the most popular **insulated** terminal sleeves. Robust powerful crimping tool with compound action for cross sections from **0.08 – 16 mm² (square crimping).**

Supplied with: Crimping tool No. 729450 size 16 and 1250 pieces of popular terminal sleeves in a sturdy plastic box (TANOS MINI-systainer®) with 2 stackable plastic inserts.

73F 72 9473	KNIPEX	Crimping set, terminal sleeves **including crimping tool**	XXX

72 9473

Comprehensive set for crimping the most popular **insulated** terminal sleeves. Robust powerful crimping tool with compound action for cross sections from **0.08–16 mm² (square crimping),** wire strippers for conductor cross-sections from **0.03 – 10 mm².**

Supplied with: Crimping tool similar to No. 729460 Size 16, wire strippers No. 728630 Size 10 and 1250 pieces of popular terminal sleeves in a sturdy plastic box (TANOS MINI-systainer®) with 2 stackable plastic inserts.

Type			1
73F 72 9474	KNIPEX	Crimping set, terminal sleeves **with crimping tool and wire strippers**	XXX

72 9474

Comprehensive set for crimping the most popular **insulated** cable lugs, plugs, and connectors. Robust powerful crimping tool with compound action for cross sections from **0.5 – 6 mm².**

Supplied with: Crimping tool No. 729722 size 6IS and 300 pieces of popular cable lugs, plugs, and connectors in a sturdy plastic box (TANOS MINI-systainer®) with 2 stackable plastic inserts.

73F 72 9723	KNIPEX	Crimping set, cable lugs, plugs and connectors **including crimping tool**	XXX

72 9723

72 9475

Comprehensive set for crimping the most popular **insulated** terminal sleeves. Robust powerful crimping tool with compound action for cross sections from **0.5 – 16 mm².**

Supplied with: Crimping tool No. 729420 size 16 and 2700 pieces of popular terminal sleeves in a sturdy metal box with compartment divisions.

72B 72 9475	HOLEX	Crimping set for terminal sleeves **including crimping tool**	XXX

72 9477

Set of the most popular **insulated** terminal sleeves.

Supplied with: Popular terminal sleeves for cross-sections from 0.5 – 16 mm² in a storage box with compartment divisions (without crimping tool).

Number of pieces			970	2700
72B 72 9477	HOLEX	Terminal sleeves set without crimping tool	XXX	XXX
Storage in			Plastic case	Metal box

72 9725

Comprehensive set for crimping the most popular **insulated** cable lugs, plugs, and connectors. Robust powerful crimping tool with compound action for cross sections from **0.5 – 6 mm².**

Supplied with: Crimping tool No. 729720 size 6IS and 500 pieces of popular cable lugs, plugs, and connectors in a sturdy metal box with compartment divisions.

72B 72 9725	HOLEX	Crimping set cable lugs, plugs and connectors **including crimping tool**	XXX

72 9727

Set of the most popular **insulated** cable lugs, plugs, and connectors.

Supplied with: Popular cable lugs, plugs, and connectors for cross-sections from 0.5 – 6 mm² in a storage box with compartment divisions (without crimping tool).

Number of pieces			265	500
72B 72 9727	HOLEX	Cable lugs, plugs, and connectors set, without crimping tool	XXX	XXX
Storage in			Plastic case	Metal box

72

KNIPEX Crimping tool MultiCrimp® with interchangeable magazine

Crimping tool with quick-change system for mobile assembly work. The separate, round magazine contains 3 or 5 crimping heads for the most common crimping applications. Jaws burnished, handles with multi-component coating.

- Quick-change of the crimping head no tools required.
- One tool for the most common crimping applications.
- Crimping results comparable with fixed-head tools.

Supplied with: Crimping tool with round magazine including 3 or 5 crimping heads.

72 9650_3

72 9650_5

Number of interchangeable heads			3	5
73F 72 9650		Crimping tool MultiCrimp® with interchangeable magazine	XXX	XXX
overall length	mm		250	
for terminal sleeves	mm²		0.25 – 6.0	0.25 – 6.0 and 10; 16; 25
for insulated cable lugs and connectors	mm²		0.5 – 6	
for uninsulated blade terminals	mm²		0.5 – 6	
for uninsulated cable lugs and connectors	mm²		–	0.5 – 10
for uninsulated push-fit connectors	mm²		–	0.5 – 10

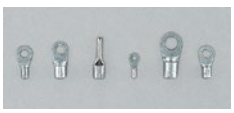
Crimping tool for cable lugs, connectors, and spade lugs

Crimping tool with compound action

72 9709 – **GARANT:** Made of high-tensile special steel. **Ergonomically optimised soft anti-slip handles.** Optimum crimping due to special profile geometry.
72 9715 – Precision profiles, high leverage.
Size 6ISG – Further development of the 6IS with double crimp action.
72 9720 – Economy version. F48/63 including holder for blade terminals.
72 9722 – Made of special steel. Precision profiles, very high leverage - particularly useful for crimping large cross sections.
72 9709/9715/9720/9722 – Steel body with compound action. Defined crimping force accurately ensured by integral stop function.

Application:
72 9712 – For quick insertion, no tools required, in the upper jaw of the crimping tool No. 729709 (No. 729710 to K47). For stripping single-core and multi-core cables from 0.5 – 6.0 mm², including a cut-off function.

Size IS = Insulated cable lugs, plugs, connectors.



Size NIS = Non-insulated cable lugs, plugs, connectors.

Size F = Non-insulated tab connectors.

Application example: No. 729709 fitted with No. 729712 (not included).

72 9712

		Jaw shape		
Type		6IS	10NIS	F28/95
71B 72 9709	Garant Crimping tool	XXX	XXX	XXX
overall length	mm	225		
for conductor cross-section	mm²	0.5 – 6	0.1 – 10	0.5 – 6
for blade terminals		–	–	F2.8 / F6.3 / F9.5

71B 72 9712	Garant Stripping and cutting insert	XXX
for conductor cross-section	mm²	0.5 – 6

		Jaw shape		
Type		6IS	6ISG	6NIS
73H 72 9715	Weidmüller Crimping tool	XXX	XXX	XXX
overall length	mm	250	250	200
Manufacturer's type designation		CTI6	CTI6G	HTN21
for conductor cross-section	mm²	0.5 – 6		

		Jaw shape			
Type		6IS	10NIS	F48	F63
73F 72 9722	KNIPEX Crimping tool	XXX	XXX	XXX	XXX
overall length	mm	220			
for conductor cross-section	mm²	0.5 – 6	0.5 – 10	0.1 – 2.5	0.5 – 6
for blade terminals		–	–	F2.8 / F4.8	F4.8 / F6.3

F48/63 with holder for blade terminals.

		Jaw shape			
Type		6IS	10NIS	F28/48	F48/63
72B 72 9720	HOLEX Crimping tool	XXX	XXX	XXX	XXX
overall length	mm	230			
for conductor cross-section	mm²	0.5 – 6	1.5 – 10	0.25 – 2.5	0.5 – 6
for blade terminals		–	–	F2.8 / F4.8	F4.8 / F6.3

Crimping tool with non-compound action

Flat steel body with formed jaws for a variety of compression tasks (see table). Threaded cutter for bolts M2.6 – M5. Wire stripper 0.75 – 6 mm². Pliers painted black, handles with plastic covers. For stripping, cutting, compressing etc., primarily for repair work.

		Jaw shape			
Type		6IS	6NIS	6F	6IS/F
72B 72 9700	HOLEX Crimping tool	XXX	XXX	XXX	XXX
overall length	mm	220	220	230	230
for conductor cross-section	mm²	1.5 – 6	1.5 – 6	1.5 – 2.5	1.5 – 6 (IS) 1.5 + 2.5 (F)

Four-pin crimp tool for industry and aerospace

Industrial version

Use the check pin supplied to check the basic setting. Reliable crimping due to positive barrier and synchronised advance of the crimping pins.

72 9540 – Crimp mandrel advance can be adjusted in steps of 0.01 mm.
Size 6,0/K – With standard contact mounting for Harting, HTS, Ilme and comparable contacts.
72 9550 – Crimp mandrel advance can be adjusted in steps of 0.01 mm and read digitally. With recalibration function. Electronic wear monitoring. Different setting functions can be called up.
Size 2,5 – With standard contact mounting for Coninvers and comparable contacts.

Application: For turned pin and socket contacts
Supplied with: Four-pin crimp tool in a case.

72 9540_6,0

72 9550_6.0/K

Type		6,0	6,0/K
73F 72 9540	Four-pin crimp tool MicroCrimp, 2-component grips	XXX	XXX
for conductor cross-section mm²		0.14 – 6	
overall length mm		250	230

Type		2,5	6,0/K
73F 72 9550	Four-pin crimp tool DigiCrimp, 2-component grips	XXX	XXX
for conductor cross-section mm²		0.08 – 2.5	0.14 – 6
overall length mm		195	250

Aerospace version

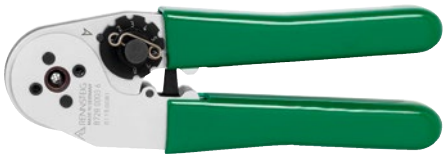
Reliable crimping due to positive barrier and synchronised advance of the crimping pins.

72 9520 – Crimp mandrel advance can be selected according to MIL within a range of 8 positions. Individual contact making and multi-pin contact making available. MIL positioning can be performed without problems. **Optimised opening aperture, ergonomic design and reduced manual force requirement**. Selector position can be read from both sides of the crimp tool.
72 9530 – Crimp mandrel advance can be adjusted in steps of 0.01 mm and read digitally (setting in mm and inch). Use the check pin supplied to check the basic setting. With recalibration function. Electronic wear monitoring with warning function. Setting function can be called up. Can be used with Rennsteig and MIL positioners.

Application: For turned pin and socket contacts with crimp geometry similar to MIL.
Supplied with:
72 9530 – Four-pin crimp tool in a case.
72 9520/9525 – Four-pin crimp tool in system packaging.

Note:
72 9520/9525 – The selection of the crimp tool and contact mounting depend on the respective application. There are various contact mountings, depending on the insertion system. These are available on request.

72 9520_0,56



72 9520_1,3

72 9520_3,3

72 9525_3,3

72 9530_6,0

Example illustrations of the available contact mountings.

Type		0,56	1,3	3,3
70N 72 9520	Four-pin crimp tool SelectorCrimp, with grips	XXX	XXX	XXX
70N 72 9525	Four-pin crimp tool SelectorCrimp, 2-component grips	–	–	XXX
for conductor cross-section mm²		0.03 – 0.56	0.08 – 1.3	0.14 – 3.3
overall length mm		175	175	230

Type		0,5	2,5	6,0
73T 72 9530	Four-pin crimp tool DigiCrimp, 2-component grips	XXX	XXX	XXX
for conductor cross-section mm²		0.03 – 0.5	0.08 – 2.5	0.14 – 6
overall length mm		175	175	230

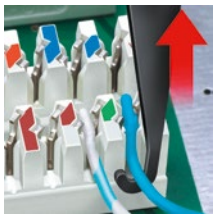
Application tool for LSA-Plus and compatibles

Tool for installation of terminal blocks, sockets and fields. Pushing in and cutting off in a single operation.

Material: Body of impact-resistant plastic.

Application: For UTP and STP cables with conductor ∅ 0.4 to 0.8 mm and integral draw hook together with a release blade.

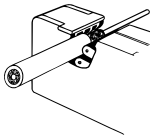
72 9790

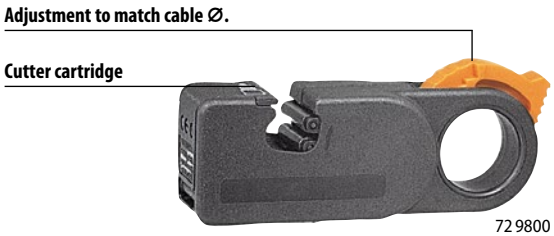


for wire ∅		mm	0,4-0,8
73F 72 9790	Application tool **for LSA-Plus and compatibles**		XXX
overall length		mm	175

Sheath and wire stripping tools for coaxial cables

Application: Tools for removing the outer insulation, braid, and PE foam insulation from coaxial cables.

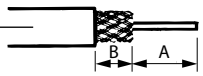




72 9800

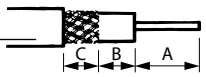
Basic tool made of plastic with replaceable cutter cartridges set at the most common cutter spacings (see table: B, C). **For 2 or 3 stage stripping of coaxial cables in a single operation.** Quick adjustment to the cable ∅. Adjustable cutting depth.

Two-step



Dimension A according to information from the connector manufacturer

Three-step



73H 72 9800	Basic tool without cartridge			XXX
overall length		mm		100

Size KOMBI – Knife spacing adjustable to cater for stripping of 1-layer to 3-layer insulation. Particularly useful for special sizes.

Colour			KOMBI	GELB	GRUEN
73H 72 9801	Cutter cartridge		XXX	XXX	XXX
Stripping dimension B		mm	3.2 – 17	12	5.1
Stripping dimension C		mm	3.2 – 17	–	7.1

_KOMBI

_GELB

_GRUEN

Sheath and wire stripping tools for coaxial cables

72 9806 – Both insulation stripping actions at 1 end.
Additionally with 11 mm socket of high-rigidity fibreglass-reinforced plastic for tightening F-plugs (HEX 11).

72 9807 – One stripping head at each end.

Application: Tools for removing the outer insulation, braid, and PE foam insulation from coaxial cables. Quick and easy stripping of all common coaxial cables, e.g. RG 58, RG 59, TV aerial cables 4.8 – 7.5 mm ∅, and PVC round cable 3×0.75 mm². **Blades TiN coated.**

72 9806

72 9807

for coaxial cable types			RG58/59
76C 72 9806	Round coaxial cable stripping tool	TiN	XXX
76C 72 9807		TiN	XXX

Crimping tool for coaxial connectors

Steel body with compound action. Plastic coated handles. Defined crimping force accurately ensured by integral stop function. For crimping BNC and TNC connectors.

72 9821 – **GARANT:** Made of high-tensile special steel. High-stress parts especially hardened and tempered. Surface burnished. Ergonomically designed handles with anti-slip protection.

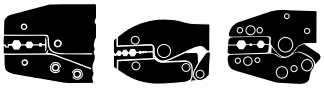
72 9825 – Made of chrome vanadium special steel, oil-hardened. Handles with multi-component coverings.

72 9830 – Economy version.

72 9821

72 9825

Jaw shape

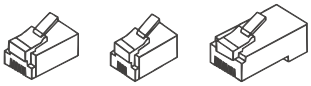


72 9830

for coaxial cable types			RG58/71	RG316	RG58/62
71B	72 9821	Garant	XXX	–	–
73F	72 9825	KNIPEX	–	XXX	–
72B	72 9830	HOLEX	–	–	XXX
suitable for cable type RG		Crimping tool for coaxial connectors	58; 59; 62; 71	58; 174; 188; 316	58; 59; 62
overall length		mm	225	220	202

HOLEX Crimping tool for RJ connectors (telephone connectors/Western plugs)

Steel body with compound action. 2-component plastic grips. Defined crimping force accurately ensured by integral stop function. For crimping 4 – 8 pin telephone plugs (Western plugs); front of the crimp for 6-pin and 8-pin plugs, rear for 4-pin plugs. With built-in device for cutting and stripping (restricted capability) 4, 6, and 8-core cables.



Type			4-8P
72B	72 9845	Crimping tool for telephone plugs	XXX
overall length		mm	205
suitable for plug type RJ			11; 12; 45

KlauKe® Notch pliers for crimp and tube crimping lugs

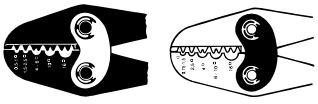
Compound action, **positive stop function** guarantees reliable crimping and uniform pressure. Handles of sheet steel with PVC coating.

Application:

Size 16QU – For uninsulated crimp cable lugs to DIN 46234

Size 16R – For uninsulated tube type cable lugs and connectors (standard design)

Jaw shape



Type			16QU	16R
76C	72 9880	Notch pliers	XXX	XXX
overall length		mm	325	
for conductor cross-section		mm²	0.5 – 16	0.75 – 16

Large crimping pliers for non-insulated tube crimping lugs

Sturdy head with compound action and integral rotatable form wheels. Tubular handles with plastic grips. Cross-section assignment visible on the form wheels.

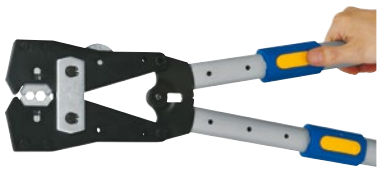
72 9905 – Form wheel adjustment by one-hand operation.
Guarantees reliable cross-section assignment by synchronised form wheel adjustment.
With ergonomic 2-component handle and slip protection on both sides.

Size K06SYNCRO – Extendable lever arms.

72 9970 – With innovative i-crimping, suitable for multi-core compacted and fine stranded cables.
I-crimping allows values far in excess of normal requirements to be achieved.

Application: For non-insulated **tube type cable lugs** and **pipe connectors** (standard design).

Note: Not suitable for DIN compression cable lugs or for French CNF cable lugs.
Crimping tools for DIN and French CNF cable lugs available on request.

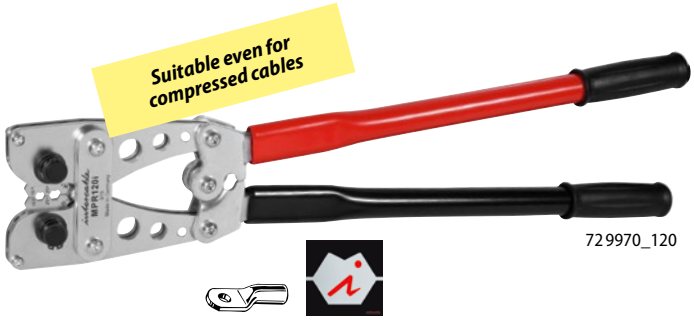


_K06SYNCRO –
Optimum force matching by adjustable telescopic handle.

Hexagonal compression

72 9905_K06SYNCRO

Type		K05SYNCRO	K06SYNCRO
76C 72 9905 KLAUKE® Large compression pliers		XXX	XXX
for conductor cross-section	mm²	6 – 50	6 – 120
Weight	kg	1.2	2.6
overall length	mm	390	600 – 750



72 9970_120

Type		50	120
76C 72 9970 intercable Large compression pliers		XXX	XXX
for conductor cross-section	mm²	6 – 50	10 – 120
Weight	kg	1.5	3.7
overall length	mm	380	535

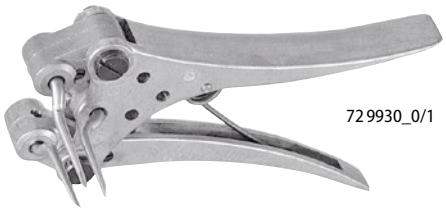
HellermannTyton Sleeve pliers (three-pin pliers)

72 9930 – Light metal body with 3 cranked (sizes 8/10 straight) interchangeable steel pins.
Opening width can be adjusted using the locking screw.

Application:

72 9930 – For spreading rubber and PVC sleeves.

Note: When using spare pins, ensure they are the correct type.



72 9930_0/1

Type		0/1	1K/3	4/5	8/10
76C 72 9930 Sleeve pliers		XXX	XXX	XXX	XXX
Usable pin length	mm	30	30	55	65
overall length	mm	130	130	150	150
Overall pin length	mm	50	50	80	80
for cable outer ∅	mm	2 – 3.5	4 – 9	13 – 20	23 – 28
for sleeve internal ∅	mm	1.25 – 1.75	2.5 – 5	7.5 – 10	12 – 17

72 9931_1K/3

72 9931_4/5

72 9931_8/10

Type		0/1	1K/3	4/5	8/10
76C 72 9931 Set of spare pins **3 pieces**		XXX	XXX	XXX	XXX

Automatic cable tie gun

Advantage:

Size EVO7; EVO9 – Ergonomic cable tie gun with cutter impact reduction, particularly easy on the wrists during operation.

Application: Pre-set tightening and flush cut-off of cable ties in a single operation. Adjustable tensile force. The cable ties are cut cleanly with no sharp edges. The cut strip is retained within the gun.

72 9960 – **For stainless steel cable ties.**

72 9940/9950 – For plastic cable ties.

Optional extras:

72 9940 – Spare blade No. 729941.

72 9950 – Spare blade No. 729951.

72 9960 – Cable tie No. 083710.
Spare blade No. 729961.

72 9940/9950 – Cable ties No. 083700 / 083705.

72 9940_EVO7

72 9940_EVO9

Type		EVO7	EVO9
76C 72 9940	HellermannTyton Automatic cable tie gun	XXX	XXX
for cable ties up to width	mm	4.8	13.5
for cable ties up to thickness	mm	1.5	2
Weight	g	275	360

72 9950

72B 72 9950 HOLEX Automatic cable tie gun		XXX
for cable ties up to width	mm	4.8
for cable ties up to thickness	mm	1.3
Weight	g	335

72 9960

Type		MK9SST
76C 72 9960	HellermannTyton Automatic cable tie gun **for stainless steel cable ties**	XXX
for cable ties up to width	mm	16
for cable ties up to thickness	mm	0.5
Weight	g	600

72

Cable cutter

Application: For cutting copper and aluminium cables.

Head with sickle-shaped blades. Scissors burnished, plastic coated handles.

73 0090 – Cuts smoothly and cleanly without crushing.

Size 200 – Double blade gives particularly high cutting range.

73 0095 – Less force required: separate cores or wires are cut through successively by the stepped blades. Cuts through solid copper and aluminium cables up to 5 × 4 mm.

Material: **Special tool steell**, drop-forged.

73 0090_165

73 0090_200

overall length	mm	165	200
73F 73 0090 KNIPEX Small cable cutter		XXX	XXX
Cutting capacity	mm²	50	70
Cutting capacity up to ∅	mm	15	20

Initial cut:
even for large cable diameters the handle spread remains ergonomically comfortable.

Final cut:
use the cutter profile near the joint when more force is needed.

73 0095

*The graduations hold the cores in a suitable position: the **cut is up to 40% easier** than for standard cable cutters of the same length.*

overall length	mm	160
73F 73 0095 KNIPEX Small cable cutter		XXX
Cutting capacity	mm²	50
Cutting capacity up to ∅	mm	15

Stainless steel cable cutters

Head with sickle-shaped blades. Handles with plastic grips. Cuts smoothly and cleanly without crushing. Light stainless steel model.

73 0100_160

overall length		mm	160
72B 73 0100	HOLEX	Small cable cutter	XXX
Cutting capacity		mm²	10
Cutting capacity up to ∅		mm	12

Cable cutters insulated to VDE

Handles with **insulation up to 1000 Volts to DIN EN 60900 / VDE 0682-201**.

73 0250 – Head with sickle-shaped blades. Handles with plastic grips. Cuts smoothly and cleanly without crushing.

73 0350 Size 200 – Double blade gives particularly high cutting range.

73 0355 – Polished head with sickle-shaped blades. Cuts without crushing. Less force required: separate cores or wires are cut through successively by the stepped blades. Cuts through solid copper and aluminium cables up to 5 × 4 mm².

73 0360 – Double blade gives particularly high cutting range. Handles **dip insulated.**

73 0350/0360 – Head with sickle-shaped blades. Handles with plastic grips. Cuts smoothly and cleanly without crushing.

73 0350/0355 – Handles with multi-component coverings.

Material: **Special tool steel,** drop-forged.

1) Initial cutting

2) Finish cutting

73 0350_165

73 0350_200

overall length		mm	165	200
73F 73 0350	KNIPEX	Small cable cutter with 2-component grips **VDE insulated**	XXX	XXX
73F 73 0360	KNIPEX	Small cable cutter with dip insulated handles **VDE insulated**	–	XXX
Cutting capacity		mm²	50	70
Cutting capacity up to ∅		mm	15	20

73 0360_200

73 0355_160

overall length		mm	160
73F 73 0355	KNIPEX	Small cable cutter with 2-component grips **VDE insulated**	XXX
Cutting capacity		mm²	50
Cutting capacity up to ∅		mm	15

*The graduations hold the cores in a suitable position: the **cut is up to 40% easier** than for standard cable cutters of the same length.*

73 0250_225

overall length		mm	185	225	245
73H 73 0250	Weidmüller	Cable cutter, with 2-component grips **VDE insulated**	XXX	XXX	XXX
Cutting capacity		mm²	16	35	95
Cutting capacity up to ∅		mm	8	12	22
Manufacturer's designation			KT8	KT12	KT22

73 0250_245

Cable cutters, large

Head with sickle-shaped blades, tubular steel handles with plastic grips.

73 0400 – Head burnished, handles with multi-component coating.

73 0450 – Head polished, handles **dip insulated up to 1000 Volts to DIN EN 60900 / VDE 0682-201.**

73 0400

73 0450

overall length			mm	500
73F 73 0400	KNIPEX	Large cable cutter		XXX
73F 73 0450	KNIPEX	Large cable cutter **VDE insulated**		XXX
for multi-core cable ∅			mm	27
for single-core cable			mm²	150

Cable cutter with compound action

73 0500 Size 930 – Detachable handles.

73 0600 – Head polished, handles **dip insulated up to 1000 Volts to DIN EN 60900 / VDE 0682-201.**

73 0500/0600 – Head with sickle-shaped blades and compound action in cutter head, tubular steel handles with plastic grips.

Suitable for:

73 0510 – For cable cutter No. 730500.

73 0610 – For cable cutter No. 730600.

Application: For cutting copper and aluminium cables.

73 0500 _570

73 0500_930

73 0600

overall length			mm	570	580	930
76C 73 0500	KLAUKE	Cable cutter with compound action		XXX	–	XXX
73F 73 0600	KNIPEX	Cable cutter with compound action **VDE insulated**		–	XXX	–
76C 73 0510	KLAUKE	Spare head for cable cutters		XXX	–	XXX
73F 73 0610	KNIPEX			–	XXX	–
for multi-core cable ∅			mm	26	27	38
for single-core cable			mm²	100	150	500

73 0510 / 73 0610

Ribbon cable cutter

Interchangeable cutting pad for right-angled cutting, interchangeable standard blade (No. 844710 and 844715, size 10 in each case). Tool chrome plated, handles with plastic coating.

Application: Non-crushing cutting of ribbon cables up to 55 mm wide and 10 mm thick.

73 0900

For replacement blades see No. 844710 and 844715, size 10 in each case.

overall length			mm	215
76C 73 0900	LÖWE	Ribbon cable cutter		XXX
maximum cable width			mm	55

Cable cutter with compound action

Cutter head with sickle shaped blade and compound action (one handed operation). Double blades ensure square cut.

73 1071 – **GARANT** blades and important functional parts are additionally hardened and tempered.

73 1150 – **Insulation up to 1000 Volts to DIN EN 60900 / VDE 0682-201.**

Material: Special steel blade, coated sheet metal handles.

Application: For clean cutting of aluminium and copper cables (even flex cables). Not for use on steel wire, hard aluminium alloys, hard drawn copper conductors.

Note: On single-core cables the cutting force is around 30 % less.

73 1071_54

73 1090_45

73 1100_52

73 1150_60

for cable ∅		mm	32	45	52	54	60
71B 73 1071	Garant	Cable cutter with compound action	XXX	–	–	XXX	–
73H 73 1090	Weidmüller		–	XXX	–	–	–
73F 73 1100	KNIPEX		XXX	–	XXX	–	XXX
73F 73 1150	KNIPEX	Cable cutter with compound action **VDE insulated**	XXX	–	XXX	–	XXX
Cutting capacity multi-core cable up to		mm²	240	400	380	480	600
overall length		mm	250	290	280	310	320

73

Ratchet cable cutter for steel-armoured cables (SWA cables)

Precision ground jaws and induction hardened blades.

73 1260 – **Insulation up to 1000 Volts to DIN EN 60900 / VDE 0682-201.**

Material: Special quality tool steel, drop-forged, oil-quenched.

Application: For cutting steel-armoured cables (SWA cables) using one and two hands. Ideal for use in restricted spaces.

Optional extras: Spare moving blade No. 731251.

Note: Not suitable for cutting ACSR cables and wire cables.

73 1250

SWA cables

73 1260

overall length		mm	315
73F 73 1250	Ratchet cable cutter for steel-armoured cables (SWA cables)		XXX
73F 73 1260	Ratchet cable cutter for steel-armoured cables (SWA cables) **VDE insulated**		XXX
Cutting capacity		mm²	380
Cutting capacity up to ∅		mm	45

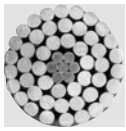
Ratchet cable cutter for cables with steel core (ACSR cables)

Precision ground jaws and induction hardened blades. Two-start gear drive for easy cutting. Very high leverage, therefore only low force required.

Material: Special quality tool steel, drop-forged, oil-quenched.

Application: For cutting cables with steel cores (ACSR cables) in one-handed and two-handed operation. Ideal for use in restricted spaces.

Optional extras: Spare blade No. 731272.



ACSR cables

Overall length		mm	340
73F 73 1270	Ratchet cable cutter for cables with steel core (ACSR cables)		XXX
Cutting capacity		mm²	240
Cutting capacity up to ∅		mm	32

73 1270

Ratchet cable cutter with telescopic handles

Effortless cutting due to optimum leverage and telescopic handles. The tool can be opened in any cutting position. Arm length extendable to multiple positions.

Size 630 – Adjustment range 600 to 810 mm.

Size 680 – Adjustment range 650 to 860 mm.

Material: Special quality tool steel, drop-forged, oil-quenched.

Application: For clean cutting of copper and aluminium cables. Suitable for cables with rubber or plastic sheathing and with steel strip armouring.

Note: Not for steel wire and wire rope.

73 1230_630

73 1230_680

Overall length		mm	630	680
73F 73 1230	Ratchet cable cutter with telescopic handles		XXX	XXX
for multi-core cable ∅		mm	60	100
for single-core cable copper/aluminium		mm²	740 / 800	960 / 1085

Ratchet cable cutter with compound action

Cutter head with sickle-shaped blade and compound action. Double blades ensure square cut. Shears can be unlocked, i. e. opened, in any cutting position.

Material: Special steel blades.

Size 300 – Handles of sheet metal with plastic grips.

Size 430; 630 – Handles of stainless steel tubing with plastic grips.

Advantage:

73 1220 – Compact design and low weight in relation to the cutting performance.

Application:

73 1050 – For clean cutting of copper and aluminium cables. Ideal for use in confined spaces in control cabinets and cable ducts.

73 1220 – For clean cutting of copper and aluminium cables. Also suitable for cables with steel strip armouring.

73 1050

73 1220_630

overall length		mm	300
76C 73 1050	Ratchet cable cutter		XXX
for multi-core cable ∅		mm	32
for single-core cable copper/aluminium		mm²	250 / 320

overall length		mm	430	630
76C 73 1220	Ratchet cable cutter		XXX	XXX
for multi-core cable ∅		mm	55	92
for single-core cable copper/aluminium		mm²	450 / 500	850 / 1000

73 1220_430

Wire rope cutter

Sturdy design, drop-forged from solid steel. With screw joint and opening spring. Cutter edge hardness 64 HRC. Handles with light PVC coating.

73 1550 – With integral opening spring and locking lever. Two integral compression profiles for Bowden cable end caps and wire rope end bushes.

73 1560 – with multi-component grips.

Material: Chrome vanadium special steel, oil-hardened.

Application: For cutting wire ropes, multi-core cables etc.

73 1500

73 1550

73 1560

overall length		mm	190
71B 73 1500	Garant	Wire rope cutter	XXX
for wire ropes/round mild steel bar ∅		mm	8
for wire ropes (maximum 1600 N/mm²) ∅		mm	5
for round steel bar (maximum 1200 N/mm²) ∅		mm	4

overall length		mm	190
73F 73 1550	KNIPEX	Wire rope cutter	XXX
for piano wire ∅		mm	2.5
for wire ropes (maximum 1600 N/mm²) ∅		mm	5
for round steel bar (maximum 1200 N/mm²) ∅		mm	4

Overall length		mm	160
73F 73 1560	KNIPEX	Wire rope cutter with grips	XXX
for wire ropes/round mild steel bar ∅		mm	6
for wire ropes (maximum 1960 N/mm²) ∅		mm	4

BAUDAT Wire rope and cable cutters

Sickle-shaped jaws for safe and precise cutting. PTFE-coated blades with specially hardened edges.

Material: Jaws made of hardened chrome vanadium steel. Handles of stainless steel tubing with plastic grips.

Advantage: Maximum stability at low weight.

Application: For cutting wire rope and round steel bar as well as copper and aluminium cables.

73 1720_350

73 1720_500

overall length		mm	350	500	720
76C 73 1720	Wire rope and cable cutter		XXX	XXX	XXX
for wire ropes/round mild steel bar ∅		mm	8	11	16
for wire ropes up to 1800 N/mm² up to ∅		mm	6	10	14
for cables up to		mm²	20	60	100

KNIPEX Compact bolt cutter CoBolt®

Special compound action allows excellent cutting performance with relatively low applied force. Cutting edges induction hardened (approx. 64 HRC).

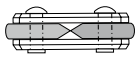
Material: Chrome vanadium electro-steel, drop-forged and oil-hardened.

73 1750 – Bolt cutter chemically blackened, plastic coated handles.

73 1752 – Jaws chemically blackened, plastic coated handles, blades with recess.

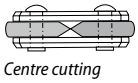
73 1755 – Bolt cutter chemically blackened, plastic coated handles. **Head 20° offset for flush cutting.**

73 1750_160



Centre cutting

73 1750_200



Centre cutting

73 1752_250

Side cutting

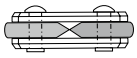
73 1755

overall length		mm	160	200	250
73F 73 1750	CoBolt® compact bolt cutter		XXX	XXX	–
73F 73 1752	Compact bolt cutter CoBolt® with blade recess		XXX	XXX	XXX
73F 73 1755	CoBolt® compact bolt cutter with 20° angled head		–	XXX	–
for soft steel wire up to ∅		mm	5.3	6	–
for medium-hard steel wire up to ∅		mm	4.4	5.2	6
for piano wire up to ∅		mm	3	3.6	4.2

with multi-component grips

73 1740 – Jaws chemically blackened, handles with multi-component covering.

73 1745 – Jaws chemically blackened, handles with multi-component covering. **With opening spring** and integral lock.

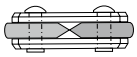


Centre cutting

73 1740

overall length		mm	200
73F	73 1740	Compact bolt cutter CoBolt® with grips	XXX
73F	73 1745	Compact bolt cutter CoBolt® with grips and opening spring	XXX
for soft steel wire up to ∅		mm	6
for medium-hard steel wire up to ∅		mm	5.2
for piano wire up to ∅		mm	3.6

No. 73 1745– with opening spring



Centre cutting

73 1745

VBW Small bolt cutters

High precision cutter head requiring up to 25 % less applied force. Small, especially handy model with ergonomically optimised plastic grips.

Material: Blades made of chrome vanadium special steel, precision hardened.

73 1900

Centre cutting

overall length		mm	390
73L	73 1900	Small bolt cutter	XXX
for single bars up to 19 HRC and 800 N/mm²		mm	7
for single bars up to 40 HRC and 1200 N/mm²		mm	5
for single bars up to 48 HRC and 1600 N/mm²		mm	4

VBW Bolt cutter UNIBOLT®

73 3500 – Cutter head with compound action and universal jaws. Eccentric screws allow precise and easy adjustment of the blades. Drop forged, centre stop with extra-large shock-absorbing zone; painted tubular handles.

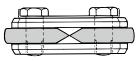
Material:

73 3500 – Special tool steel jaws, blades induction hardened.

Application:

73 3500 – For cutting normal and high-tensile steels up to 48 HRC (about 1600 N/mm² tensile strength).

73 3500_910



Centre cutting

73 4110

overall length		mm	460	610	760	910	1070
73L	73 3500	UNIBOLT® bolt cutter	XXX	XXX	XXX	XXX	XXX
73L	73 4110	Spare jaws complete with screws	XXX	XXX	XXX	XXX	XXX
for round steel bar up to 19 HRC and 800 N/mm² up to ∅		mm	8	9	11	13	16
for round steel bar up to 40 HRC and 1200 N/mm² up to ∅		mm	6	8	9	11	11
for round steel bar up to 48 HRC and 1600 N/mm² up to ∅		mm	5	7	8	9	10

KNIPEX Bolt cutters

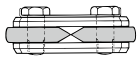
73 3300 – Cutter head with compound action and universal jaws. Eccentric screws allow precise and easy adjustment of the blades. Forged centre stop with protective pads; powder-coated tubular handles with multi-component grips.

Material: Head of chrome-vanadium high performance steel, cutting edges additionally induction hardened (approx. 62 HRC).

Application:

73 3300 – For cutting normal and high-tensile steels up to 48 HRC (about 1600 N/mm² tensile strength).

73 3300_910



Centre cutting

73 3350

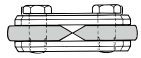
overall length		mm	460	610	760	910
73F	73 3300	Bolt cutter	XXX	XXX	XXX	XXX
73F	73 3350	Spare jaws complete with screws	XXX	XXX	XXX	XXX
for round steel bar up to 19 HRC and 800 N/mm² up to ∅		mm	8	9	11	13
for round steel bar up to 40 HRC and 1200 N/mm² up to ∅		mm	6	8	9	10
for round steel bar up to 48 HRC and 1600 N/mm² up to ∅		mm	5	7	8	9

HOLEX Bolt cutters

73 2000 – Cutter head with compound action and adjusting screw. Sturdy, painted tubular handles with rubber grips.

Material:

73 2000 – Chrome alloy steel blade, blades additionally induction hardened.



Centre cutting

73 2000

overall length		mm	350	450	600	750	900
72B	73 2000	Bolt cutter	XXX	XXX	XXX	XXX	XXX
72B	73 2040	Spare jaws complete with screws	XXX	XXX	XXX	XXX	XXX
for round steel bar up to 19 HRC and 800 N/mm² up to ∅		mm	6	7	9	12	15
for single bars up to 40 HRC and 1200 N/mm²		mm	5	6	7	8	9

73 2040

VBW Bolt cutters with angled blades

73 3000 – Cutter head with **offset** blades and compound action. Eccentric screws allow precise and easy adjustment of the blades. Drop forged, centre stop with extra-large shock-absorbing zone; painted tubular handles with multi-component grips.

Material:

73 3000 – Special tool steel jaws, blades induction hardened.

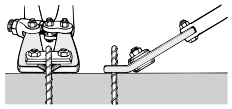
Application:

73 3000 – **For flush cutting** of reinforcing steel etc. up to a strength of 48 HRC (about 1600 N/mm² tensile strength).

73 3000

overall length		mm	610
73L	73 3000	Bolt cutter with angled blades	XXX
73L	73 3110	Spare jaws complete with screws	XXX
for round steel bar up to 19 HRC and 800 N/mm² up to ∅		mm	9
for round steel bar up to 40 HRC and 1200 N/mm² up to ∅		mm	8
for round steel bar up to 48 HRC and 1600 N/mm² up to ∅		mm	7

73 3110

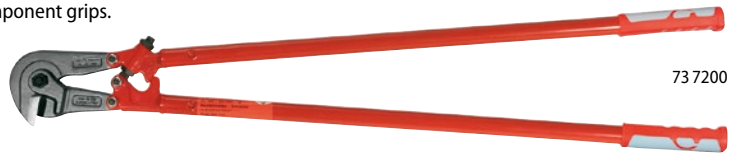


VBW Mesh cutters

73 7200 – Powerful special cutter head with compound action for cutting mesh. Drop forged middle section with adjusting screw for precise adjustment of jaws, forged centre stop, painted tubular handles with multi-component grips.

Material:

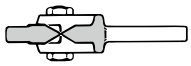
73 7200 – Special tool steel cutter head, blades induction hardened.



73 7200

overall length		mm	950
73L	73 7200	Mesh cutter	XXX
73L	73 7210	Spare jaws complete with screws	XXX
for single bars up to 19 HRC and 800 N/mm²		mm	11
for single bars up to 40 HRC and 1200 N/mm²		mm	9
for single bars up to 48 HRC and 1600 N/mm²		mm	6
for double bars up to 40 HRC and 1200 N/mm²		mm	2×8

Type			950
73L	73 7220	Spare screw set, with nuts **3 pieces**	XXX
73L	73 7230	Spare adjusting screw with bolt	XXX



Centre cutting

73 7210

73 7220

73 7230

VBW Steel grid and plate cutters

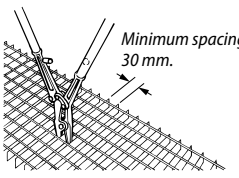
73 8000 – Compound action cutter head, drop forged middle section, centre stop with extra-large shock-absorbing zone; painted tubular handles with multi-component grips.

Material: Jaws of drop forged high-alloy steel, annealed and the blades induction hardened.

Application: Cutting flat bars in steel grid from 30×30 mm mesh pitch.

73 8000

overall length		mm	840
73L	73 8000	Steel grid and plate cutter	XXX
73L	73 8010	Spare jaws complete with screws	XXX
for flat steel strip up to 20 HRC		mm	40×4



73 8010

STAHLWILLE Ribbed chisels for metal and stone

Strong double T-profile shank, uniformly through hardened over entire length.
Can be repeatedly reground without re-hardening.

Material: Tough special chisel steel, chrome-plated surface.

Advantage: The chisel will not jam when working in concrete, since the loose concrete spoil flows along the grooves in the chisel.

overall length		mm	150	200	250	300
73A 74 0100	Ribbed flat chisel		XXX	XXX	XXX	XXX
Blade width		mm	20	26	30	35

74 0100

Flat and cross-cut chisels for metal

Made of flat-oval steel, hardened and tempered. Blade uniformly through hardened;
can be repeatedly reground without re-hardening.
Head specially annealed to prevent splintering.

74 0900 – **Special quality,** i.e. highest possible tip hardness (approx. 59 HRC) with exceptional toughness.

Standard:

74 0500 – **DIN 6453.**
74 0600 – **DIN 6451**.
74 0500/0600 – **Safety tested to DIN 7255.**

Material:

74 0900 – Chrome vanadium special alloy, surface red, powder-coated.
74 0500/0600 – Chrome vanadium air hardened steel, painted surface.

74 0500

overall length		mm	100	125	150	175	200	250	300
73U 74 0500	RENNSTEIG	Flat cold chisel	XXX	XXX	XXX	XXX	XXX	XXX	XXX
73B 74 0900	SWISS TOOLS	Flat cold chisel	–	XXX	XXX	XXX	XXX	XXX	XXX
73U 74 0600	RENNSTEIG	Cross-cut cold chisel	–	XXX	XXX	XXX	XXX	XXX	XXX
Blade width (74 0500)		mm	15	18	18	21	24	25	26
Blade width (74 0900)		mm	–	18	22	25	28	28	28
Blade width (74 0600)		mm	–	5	6	7	8	9	9

74 0900

74 0600

SWISS TOOLS Cold chisels for metal

Fully hardened and tempered. Blade uniformly through hardened; can be repeatedly reground without re-hardening.
Head specially annealed to prevent splintering.
Special quality, i.e. highest possible tip hardness (approx. 59 HRC) with exceptional toughness.
Material: Chrome vanadium special alloy. Surface chrome-plated.

overall length		mm	120	130	150	165	180
73B 74 1000	Flat cold chisel special quality		XXX	XXX	XXX	XXX	XXX
73B 74 1100	Cross-cut cold chisel special quality		XXX	XXX	XXX	XXX	–
Blade width (74 1000)		mm	10	12	14	18	22
Blade width (74 1100)		mm	4	5	6	7	–

74 1000

74 1100

RENNSTEIG Slitting chisels for metal and stone

With flat blade. Blade uniformly through hardened; can be repeatedly reground without re-hardening.
Head specially annealed to prevent splintering.
Standard: **Safety tested to DIN 7255.**
Material: Chrome vanadium air hardened steel, painted surface.

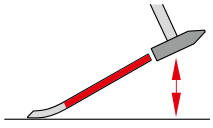
overall length		mm	240	250
73U 74 1200	Slitting chisel		–	XXX
73U 74 1400	Slitting chisel		XXX	–
Blade width		mm	26	50

74 1200

74 1400

SWISS TOOLS Slot chisel with curved shank

Extra slim and curved shank (26×7 mm) allowing **more room for the fingers** and thus safer working.
With additional lateral cutting edge specially for cutting slots. Fully hardened and tempered.
Blade uniformly through hardened; can be reground repeatedly without re-hardening.
Head specially annealed to prevent splintering.
Special quality, i.e. highest possible tip hardness (approx. 59 HRC) with exceptional toughness.
Material: Chrome vanadium special alloy, surface red, powder-coated.



overall length		mm	235
73B 74 1450	Slot chisel with curved shank		XXX
Length lateral blade		mm	30
Blade width		mm	26

74 1450

RENNSTEIG Grooving chisel for metalworking

Octagonal shank, through hardened blade, can be repeatedly reground without re-hardening. **Head specially annealed** to prevent splintering.

Standard: **Safety tested to DIN 7255.**

Material: Chrome vanadium air hardened steel, painted surface.

Cutter thickness		mm	3	4	5
73U 74 1500	Grooving chisel		XXX	XXX	XXX
overall length		mm		150	

RENNSTEIG Stone chisels

Made of octagonal steel bar, hardened and tempered. Blade uniformly through hardened; can be repeatedly reground without re-hardening. **Head specially annealed** to prevent splintering.

Standard: **Safety tested to DIN 7255.**

74 2500 – **DIN 7254 (flat)**

74 2600 – **DIN 7256 (pointed)**

Material:

Size 200–500 – Chrome vanadium air hardened steel, gold dip painted.

Size 600; 1000 – Chrome vanadium air hardened steel, red dip painted.

74 2500

74 2600

overall length		mm	200	250	300	400	500	600	1000
73U 74 2500	Stone chisel **flat**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
73U 74 2600	Stone chisel **taper**		XXX	XXX	XXX	XXX	XXX	–	–
Blade width (74 2500)		mm	23	23	26	28	30	30	34
Shank ∅		mm	16	16	16	18	20	20	22

Universal chisel hand protector sleeve

Made of plastic (Lupolene).

Suitable for: Chisel with flat-oval shank, item No. 740500; 740600; 740900; 741200; 743300 from length 200 and 743000 size 300 mm.

Advantage: Protects the hands from injury.

Note: Not suitable for items No. 741400; 741450; 742500; 742600 and 743000 size 200 or 743000 size 250.

			overall length mm
76D 74 2810	Universal chisel hand protector sleeve	XXX	120

PB SWISS TOOLS Electrician's flat chisel with handle

Made of octagonal section steel, with hand protection. Fully hardened and tempered. Can be repeatedly reground without re-hardening. Special quality, i.e. highest possible tip hardness (approx. 59 HRC) combined with exceptional toughness.

Material: Chrome vanadium special alloy. Surface chrome-plated.

74 3010

overall length / shank ∅		mm	250/8	250/10
73B 74 3010	Electrician's chisel		XXX	XXX
Blade width		mm	10	12
Shank ∅		mm	8	10

RENNSTEIG Electrician's chisels

Made of octagonal steel bar (slim design), hardened and tempered. Blade uniformly through hardened; can be repeatedly reground without re-hardening. **Head specially annealed** to prevent splintering.

Standard: **Safety tested to DIN 7255.**

Material: Chrome vanadium air hardened steel, painted surface.

overall length		mm	200	250	300
73U 74 3000	Electrician's chisel		XXX	XXX	XXX
Blade width		mm	10	12	14
Shank ∅		mm	8	10	12

RENNSTEIG Tile chisels

Made of octagonal steel bar (slim design), hardened and tempered. Blade uniformly through hardened; can be repeatedly reground without re-hardening.

Standard: **Safety tested to DIN 7255.**

Material: Chrome vanadium air hardened steel, painted surface.

overall length		mm	100
73U 74 3100	Tile chisel **flat**		XXX
73U 74 3110	Tile chisel **taper**		XXX
Blade width (74 3100)		mm	10
Shank ∅		mm	8

74 3100

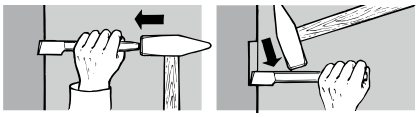
74 3110

RENNSTEIG Wall grooving chisels

Strong, flat-oval shank with wedge-shaped blade.
Blade bright finished, completely through hardened, can be reground many times.

Standard: **Safety tested to DIN 7255.**

Material: Chrome vanadium air hardened steel, painted surface.



overall length		mm	250
73U 74 3300	Wall grooving chisel		XXX
Blade width		mm	33
Shank cross section		mm	23×13

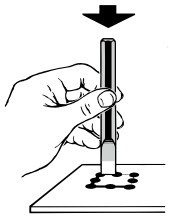
RENNSTEIG Mortise chisels

Made of octagonal steel bar, hardened and tempered. Blade uniformly through hardened; can be repeatedly reground without re-hardening. **Head specially annealed** to prevent splintering.

Standard: **Safety tested to DIN 7255.**

Material: Chrome vanadium air hardened steel, painted surface.

Application: For chiselling between drill holes.



Blade		mm	10×2	10×3
73U 74 3400	Mortise chisel		XXX	XXX
Shaft length		mm	125	

RENNSTEIG Rivet snap setter and closer

Octagonal shank, bright finished head. **Head specially annealed** to prevent splintering.

Standard: **Safety tested to DIN 7255.**

74 4600/4610 – **DIN 6434.**

74 4700/4710 – **DIN 6435.**

Material: Chrome vanadium air hardened steel, painted surface.

74 4600

74 4700

for rivet shank ∅		mm	2	3	4	5	6
73U 74 4600	Rivet snap setter		XXX	XXX	XXX	XXX	XXX
73U 74 4700	Rivet snap closer		XXX	XXX	XXX	XXX	XXX
Head ∅ (74 4700)		mm	3.5	5.2	7	8.8	10.5
Shank thickness (maximum)		mm	10	10	12	14	16
overall length		mm	100	100	100	110	110
Hole size (74 4600)		mm	2.5	3.5	4.5	6	7

74 4610

74 4710

Number of tools		5
73U 74 4610	Rivet snap setter set in a plastic clip	XXX
Content: 1 each rivet snap setter No. 744600		Size 2; 3; 4; 5; 6

Number of tools		5
73U 74 4710	Rivet snap closer set in a plastic clip	XXX
Content: 1 each rivet closer 744700		Size 2; 3; 4; 5; 6

Chisel and taper pin punch set

Flat and cross-cut chisels for metal, and taper pin punches and centre punches with octagonal shanks, through hardened; chisels can be reground many times. **Head specially annealed** to prevent splintering.

74 5100 – **Special quality** = Highest possible point hardness – approx. 59 HRC – with exceptional toughness.

Standard:

74 5200 – **Safety tested to DIN 7255.**

Material:

74 5100 – Extra chrome vanadium steel, chrome-plated.

74 5200 – Chrome vanadium steel, painted surface.

74 5100_6

74 5100_11

74 5200

Number of tools			6	11
73B 74 5100	PB SWISS TOOLS	Chisel and taper pin punch set in a plastic holder **special quality**	XXX	XXX
Content: Centre punch			1 pc. 120×12 mm	1 pc. each size 100×8; 120×10 mm
Taper pin punch			1 pc. each ∅ 4; 5 mm	1 pc. each ∅ 2; 4; 5 mm
Flat cold chisel			1 pc. each 165; 180 mm	1 pc. each 130; 165; 180 mm
Cross-cut cold chisel			1 pc. 165 mm	1 pc. each 130; 165 mm
Scriber, double-ended			—	1 pc.

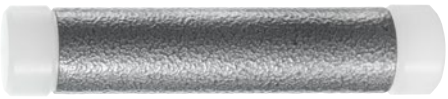
Number of tools			6
73U 74 5200	RENNSTEIG	Chisel and taper pin punch set in a plastic holder	XXX
Content: Flat cold chisel			1 pc. each 125; 150 mm
Cross-cut cold chisel			1 pc. 125 mm
Taper pin punch			1 pc. each size 120×2; 150×3 mm
Centre punch			1 pc. 120×4 mm

HALDER Nylon punch and nylon drift rod

Steel central piece with exchangeable nylon faces.
Size 20; 30 – With steel shot, which achieves a dead-blow effect.

Note: Spare nylon inserts are available under No. 754910.

74 5250



74 5250_30

Head ∅	mm	10	12	15	20	30	40	50
76D 74 5250 Nylon punch and nylon drift rod, dead-blow		XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	168	170	175	150	155	160	165

FACOM Taper pin punches with handle

Round steel with cylindrical shaft, through hardened. "Impact damping" safety handle for increased comfort and precision. **Head specially annealed** to prevent splintering.

74 5800

Tip ∅	mm	2	3	4	5	6	8
73R 74 5800 Taper pin punch with handle		XXX	XXX	XXX	XXX	XXX	XXX
Shank ∅	mm	10	10	10	10	10	12
overall length	mm	185					

Taper pin punches

Octagonal shank with conical shaft, through hardened. **Head specially annealed** to prevent splintering.

Highest possible tip hardness – approx. 59 HRC – with exceptional toughness.
Material: Special quality of extra chrome vanadium steel, chrome-plated.

74 5300

Tip ∅	mm	2	3	4	5	6	8	10
73B 74 5300 PB SWISS TOOLS Taper pin punches, special quality **chrome-plated**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shank ∅	mm	10	10	10	10	10	14	16
overall length	mm	120	120	120	120	120	200	200

Heavy–duty type to DIN 6458 D. **Head annealed.**
Material: Standard quality of chrome vanadium steel, shank painted.

74 5500

Tip ∅	mm	2	3	4	5	6	7	8	10	12
73U 74 5500 RENNSTEIG Taper pin punch **heavy version**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Shank ∅	mm	12	12	12	12	12	12	12	12	16
overall length	mm	120	120	120	120	120	120	120	150	175

Material:
74 5310 – Special quality of extra chrome vanadium steel, chrome-plated.
74 5600/5700 – Standard quality of chrome vanadium steel, shank painted.

74 5310

74 5600

74 5700

Number of tools		6
73B 74 5310 PB SWISS TOOLS Taper pin punch set, special quality **in a plastic holder**		XXX
73U 74 5600 RENNSTEIG Taper pin punch set **in a plastic holder**		XXX
73U 74 5700 RENNSTEIG Taper pin punch set **in a metal case**		XXX
Content: 1 each taper pin punch No. 745300 (74 5310)		Size 2; 3; 4; 5; 6
1 each taper pin punch No. 745500 (74 5600, 74 5700)		Size 2; 3; 4; 5; 6
1 centre punch No. 748900 (74 5310)		Size 120/10
1 centre punch No. 749000 (74 5600, 74 5700)		Size 120/12

PB SWISS TOOLS Pin punches with handle

Sturdy octagonal shank with cylindrical shaft. Uniformly through hardened over the entire length.
Head specially annealed to prevent splintering. Actual ∅ 0.05 - 0.5 mm less than nominal ∅, prevents the pin punch jamming in the hole.

Material: Special quality extra chrome vanadium steel (i.e. the highest possible peak hardness - approx. 59 HRC - combined with special toughness), chrome-plated.
Hand grip with a non-allergenic elastomer coating.

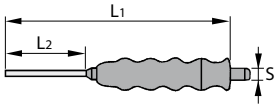
Tip ∅	mm	2	3	4	5	6	8
73B 74 6940 Pin punch with handle		XXX	XXX	XXX	XXX	XXX	XXX
Pin length	mm	47	52	67	72	82	88
overall length	mm	140	145	175	180	205	210

Number of pin punches		6
73B 74 6950	Pin punch set with handle in an ABS plastic box	XXX
Content: 1 each pin punch No. 746940		Size 2; 3; 4; 5; 6; 8

FACOM Pin punch with handle

Round steel with cylindrical shaft, through hardened.
"Impact damping" safety handle for increased comfort and precision.
Head specially annealed to prevent splintering.

74 7100



Tip ∅	mm	3	4	5	6	8	10	12	14	16
73R 74 7100 Pin punch with handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length L_1	mm	150	190	200	210	216	230	280	290	310
Mandrel length L_2	mm	45	60	70	80	86	100	130	140	160
Shank ∅ S	mm	8	10	10	12	12	14	16	18	18

Cut drawing

74 7110_5

Number of pin punches		4	5
73R 74 7110	Pin punch set with handle	XXX	XXX
Content: 1 each pin punch No. 747100		Size 10; 12; 14; 16	Size 3; 4; 5; 6; 8 in a plastic box

HOLEX Pin punches with guide sleeve

Material: Chrome vanadium steel.
Slim design with knurled guide sleeve and hardened arbor.
Sizes 0.9 – 3.9 with loose guide sleeve – **sizes 4.9 + 5.9 with fixed shank.**

74 8000

Tip ∅	mm	0,9	1,4	1,8	2,4	2,8	3,4	3,9	4,9	5,9
72C 74 8000 Pin punch with guide sleeve		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Pin length	mm	15	17	20	21	24	27	30	34	35
overall length	mm	70	81	84	92	95	97	100	102	103

74 8201

74 8205

Number of pin punches		9
72C 74 8201	Pin punch set with guide sleeve **in plastic wallet**	XXX
72C 74 8205	Pin punch set with guide sleeve **in a metal case**	XXX
Content: 1 each pin punch with guide sleeve No. 748000		Size 0.9; 1.4; 1.8; 2.4; 2.8; 3.4; 3.9; 4.9; 5.9

Pin punches, sturdy design

Sturdy octagonal shank with cylindrical shaft. Uniformly through hardened over the entire length. **Head specially annealed** to prevent splintering. Actual ∅ 0.05 - 0.5 mm less than nominal ∅, prevents the pin punch jamming in the hole.

74 6900

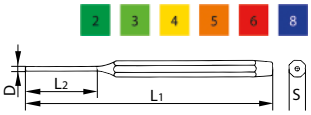
74 6920

Special quality, i.e. highest possible tip hardness – approx. 59 HRC – with exceptional toughness.

Material:

74 6900 – Special quality of extra chrome vanadium steel, chrome-plated.

74 6920 – Special quality, of extra chrome vanadium steel, chrome-plated and powder-coated.



Point ∅ D		mm	2	3	4	5	6	8	10	12	14	16
73B 74 6900	PB SWISS TOOLS	Pin punch, special quality **chrome-plated**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
73B 74 6920	PB SWISS TOOLS	Pin punch, special quality **powder-coated**	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–
overall length L_1		mm	150	150	150	150	150	150	200	220	240	260
Mandrel length L_2		mm	40	40	40	40	40	45	70	90	110	130
Shank ∅ S		mm	10	10	10	10	10	10	14	14	16	18

Standard: **DIN 6450.**
Safety tested to DIN 7255.

Material: Standard quality of chrome vanadium air hardening steel, painted.

74 7000

Point ∅ D		mm	2	3	4	5	6	8	10	12	14
73U 74 7000	RENNSTEIG	Pin punch, standard quality, painted	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length L_1		mm	150								
Mandrel length L_2		mm	30	40	50	50	50	50	50	50	50
Shank ∅ S		mm	10	10	10	10	10	12	12	14	16

74 6910/6930 – **Special quality**, i.e. highest possible tip hardness – approx. 59 HRC – with exceptional toughness.

Standard:

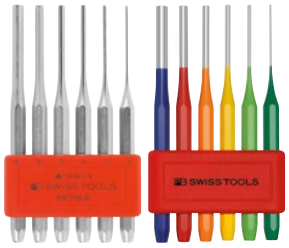
74 7200/7300 – **Safety tested to DIN 7255.**

Material:

74 6910 – Special quality of extra chrome vanadium steel, chrome-plated.

74 6930 – Special quality, of extra chrome vanadium steel, chrome-plated and **powder-coated**.

74 7200/7300 – Standard quality of chrome vanadium air hardening steel, painted.


74 6910

74 6930

Number of pin punches			6
73B 74 6910	PB SWISS TOOLS	Pin punch set in a plastic clip, special quality **chrome-plated**	XXX
73B 74 6930	PB SWISS TOOLS	Pin punch set in a plastic clip, special quality **powder-coated**	XXX
73U 74 7200	RENNSTEIG	Pin punch set in a plastic clip, standard quality	XXX
73U 74 7300	RENNSTEIG	Pin punch set in a metal case, standard quality	XXX
Content: 1 each pin punch			2; 3; 4; 5; 6; 8 mm

747200

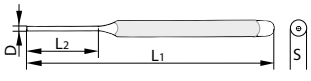
74 7300

PB SWISS TOOLS Mechanic's pin punch, slim shape, special quality

Round steel, exceptionally slim and handy. With knurled shank. Through hardened, **head specially annealed** to prevent splintering. Highest possible tip hardness (approx. 59 HRC) with exceptional toughness. Actual ∅ 0.05 - 0.5 mm less than nominal ∅, prevents the pin punch jamming in the hole.

Material: Extra chrome vanadium steel, surface chrome-plated.

74 7500



Point ∅ D		mm	1	2	3	4	5	6	7	8	9
73B 74 7500	Mechanic's pin punches		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length L_1		mm	100	105	110	115	120	125	130	135	140
Mandrel length L_2		mm	15	20	25	30	35	40	40	45	45
Shank ∅ S		mm	6	6	7	8	8	10	10	11	12

Number of pin punches		11
73B 74 7700	Mechanic's pin punch set in a plastic stand	XXX
Content: 1 pc. each pin punch No. 747500		Size 1; 2; 3; 4; 5; 6; 7; 8; 9
1 pc. centre punch No. 749200		Size 90 and 100

Centre punches

Strong octagonal shank, bright finished point. Uniformly through hardened over the entire length. **Head specially annealed** to prevent splintering.

Special quality, i.e. highest possible tip hardness – approx. 59 HRC – with exceptional toughness.
Material: Chrome vanadium steel, chrome-plated.
74 9300 – With brazed-on **carbide tip.**

overall length		mm	100	120/10	120/12	140
73B **74 8900**		Centre punch, special quality, chrome-plated	XXX	XXX	XXX	XXX
73B **74 9300**	PB SWISS TOOLS	Centre punch, special quality, chrome-plated **Carbide tip**	XXX	XXX	XXX	–
Shank ∅		mm	8	10	12	14

74 8900

Carbide tip 74 9300

Standard: **DIN 7250**
Safety tested to DIN 7255.
Material: Chrome vanadium air hardening steel, painted. **Head annealed.**

overall length		mm	100	120/10	120/12	150
73U **74 9000**	RENNSTEIG	Centre punch, standard quality DIN 7250	XXX	XXX	XXX	XXX
Shank ∅		mm	8	10	12	16

74 9000

PB SWISS TOOLS Mechanic's centre punch

Made of round steel; knurled shank. Through hardened, **head specially annealed** to prevent splintering. **Special quality,** i.e. highest possible tip hardness – approx. 59 HRC – with exceptional toughness.
Material: Chrome vanadium steel, chrome-plated.

overall length		mm	90	100
73B **74 9200**		Mechanic's centre punch	XXX	XXX
Shank ∅		mm	8	

Automatic centre punch

74 9350/9400 – Sturdy knurled shank with hardened, replaceable point and ergonomic end piece for high user comfort. The impact can be set as required by turning the end piece.
Material: Special tool steel.

overall length		mm	95	125	130
73U **74 9350**	RENNSTEIG	Automatic centre punch with pin	XXX	XXX	XXX
Shank ∅		mm	11	14	17
minimum impact force		N	20	60	180
maximum impact force		N	50	130	250

74 9350

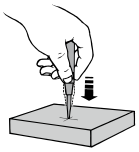
∅×Length		mm	3,5×35	4×46	6×54
73U **74 9360**	RENNSTEIG	Spare centre punch pin	XXX	XXX	XXX
Suitable for: Automatic centre punch No. 749350			Size 95	Size 125	Size 130

74 9360

overall length		mm	110	130	160
72C **74 9400**	HOLEX	Automatic centre punch with pin	XXX	XXX	XXX
Shank ∅		mm	10	13	16
minimum impact force		N	47	57	88
maximum impact force		N	78	127	176

74 9400

∅×Length		mm	3,5×40	4×45	6×50
72C **74 9410**	HOLEX	Spare centre punch pin	XXX	XXX	XXX
Suitable for: Automatic centre punch No. 749400			Size 110	Size 130	Size 160


Impact individually adjustable.

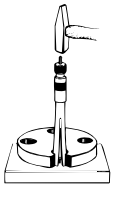
74 9410

RENNSTEIG Adjustable centre punch

Consists of centre punch pin, guide sleeve, and split centring sleeve. Centre punch pin can be reground.
Application: Centre punching of component or template.

for hole ∅		mm	6-8	8-11	11-16
73U **74 9800**		Centre punch	XXX	XXX	XXX
overall length		mm	95	105	115

73U **74 9810**	Centre punch set 6 – 16 mm	XXX
Supplied with: 1 pc. each centre punch No. 749800		Size 6-8; 8-11; 11-16



Example:
4 flange holes are to be transferred to a baseplate.
1. Insert adjustable centre punches.
2. Widen until centring lobes touch the sides of the holes.
3. Strike the pin with a hammer.

Engineer's hammer

Hammer head drop-forged and ground to size. Carefully hardened and tempered. Head painted, face and peen bright finished.

Standard: Hammer head to **DIN 1041.**

Material: Special tool steel.

With **hickory handle** ergonomic shape, varnished.

75 0100 – From size 200 with steel handle protection sleeve.

75 0110 – With nylon handle protection sleeve. Size 200 – 1000 additionally with forged-on handle protection collar.

75 0115 – **SecuTec® safety hammer** with handle protection sleeve of steel with collar and secured **with PICARD wedge screw** (the pull-off values of the hammer head are many times greater than the DIN pull-off values).

Spare part:

75 0100 – Spare handle available under No. 751220.

75 0110 – Spare handle available under No. 751650 and for size 100 available under No. 751700 size 200.

75 0115 – Spare handle available under No. 751680.

Sectional drawing, PICARD wedge screw

75 0110

75 0115

75 0100

75 0125

Weight without handle			g	50	100	200	300	400	500	600	800	1000	1500	2000
71D 75 0110	Garant	Engineer's hammer with **handle protection collar**		–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
76D 75 0115	PICARD	Engineer's hammer SecuTec® with **Handle protection sleeve**		–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
73V 75 0100	m•b	Engineer's hammer with **Handle protection sleeve**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
72D 75 0125	HOLEX	Engineer's hammer		–	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Handle length			mm	250	260	280	300	310	320	330	350	360	380	400

75 0300 – With steel handle and non-slip rubber grip. With forged-on handle protection sleeve.

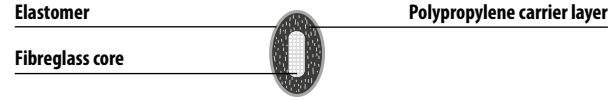
75 0450 – With unbreakable **3-component handle** (aluminium core, polyamide and rubber components), forged on handle protection collar and additional handle protection sleeve. Unbreakable, ergonomic, non-slip, **vibration-free, protects the wrist.**

75 0500 – With unbreakable **"Ultratec"** glass fibre handle.

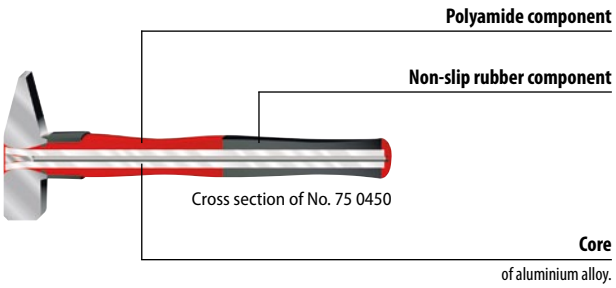
75 0530 – With virtually unbreakable glass fibre handle.

75 0300

75 0500



„Ultratec" handle cross section



Cross section of No. 75 0450

75 0450

75 0530

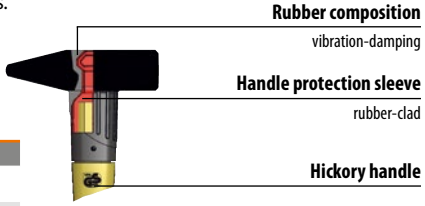
Weight without handle			g	200	300	500	800	1000	1500	2000
73V 75 0300	m•b	Engineer's hammer with steel tube handle		–	XXX	XXX	–	–	–	–
73V 75 0500	m•b	Engineer's hammer with "Ultratec" handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX
76D 75 0450	OSCA	Engineer's hammer with 3-component handle		–	XXX	XXX	–	XXX	XXX	XXX
72D 75 0530	HOLEX			XXX	XXX	XXX	XXX	XXX	–	–
Handle length (75 0300)			mm	–	260	275	–	–	–	–
Handle length (75 0500)			mm	258	285	315	320	325	360	365
Handle length (75 0450, 75 0530)			mm	280	300	320	350	360	360	400

HALDER MaxxCraft engineer's hammer

Due to the unique bonding, hammer head and handle sleeve form an inseparable vibration-absorbing unit. Handle protection sleeve with rubber grip. With **hickory handle** ergonomic shape, varnished.
Hammer head drop-forged and ground to size. Carefully hardened and tempered. Head painted, face and peen bright finished.

Standard: Hammer head to **DIN 1041.**
Material: Special tool steel.
Advantage: Perceptible **dead-blow absorption**, thus the full impact force is directed on to the component, allowing non-fatiguing work.
Higher impact force and lower vibration load on the hand than with conventional DIN hammers.
Spare part: Spare handle available under No. 750555.

75 0550

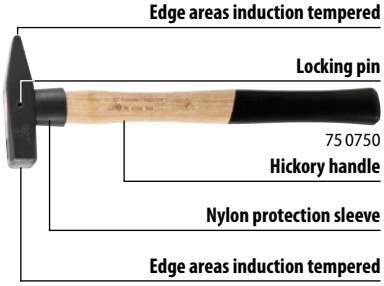


Weight without handle		g	300	500	800	1000
73W 75 0550	MaxxCraft engineer's hammer		XXX	XXX	XXX	XXX
Handle length		mm	300	320	350	360

OSCA Safety hammer

Hammer head drop-forged and ground to size. Carefully hardened and tempered. Head painted, face and peen bright finished.
Safety features: Edges of peen and face are induction hardened to prevent splintering, nylon handle protection sleeve and head retaining pin. With **hickory handle** ergonomic shape, varnished.

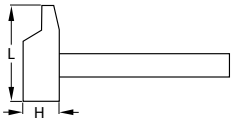
Standard: Hammer head to **DIN 1041.**
Material: Special tool steel.



Weight without handle		g	300	500	800
76D 75 0750	Safety hammer		XXX	XXX	XXX
Handle length		mm	300	320	350

m·b PEDDINGHAUS Engineer's hammer (French style)

Drop-forged, hardened and tempered. Head painted, face and peen bright finished.
75 0650 – With **hickory handle.**
75 0660 – With unbreakable **"Ultratec"** glass fibre handle.
Material: Special tool steel.



75 0650
75 0660

Weight without handle		g	200	300	500	800	1000	1500	2000
73V 75 0650	Engineer's hammer, French style **with hickory handle**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
73V 75 0660	Engineer's hammer, French style **with "Ultratec" handle**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Head length L		mm	75	85	98	109	117	137	142
Face height H		mm	25	28	32	40	42	50	55
Handle length		mm	260	300	320	360	360	360	400

OSCA Joiner's hammer

Forged hammer head, hardened and tempered. Surface painted black, working face bright finished. With ash wood handle.

Standard: **DIN 5109**
Material: Special tool steel.

75 0700

Rectangular head		mm	22	25	28
76D 75 0700	Joiner's hammer		XXX	XXX	XXX
Weight without handle		g	230	320	450
Handle length		mm	300	300	320

Sledge hammer

Forged hammer head, hardened, tempered, and ground on all faces. Surface painted black, working faces bright finished.
75 0810 – With **hickory handle.**
75 0900 – With unbreakable **"Ultratec"** glass fibre handle.

Standard: **DIN 1042**
Material: Special tool steel.

75 0810

Weight without handle		kg	3	4	5	6	8	10
72D 75 0810	HOLEX Sledgehammer **with hickory handle**		XXX	XXX	XXX	XXX	XXX	XXX
Handle length		mm	600	700	800	800	900	900

Weight without handle		kg	3	4	5
73V 75 0900	m·b PEDDINGHAUS Sledgehammer **with "Ultratec" handle**		XXX	XXX	XXX
Handle length		mm		900	

„Ultratec" glass fibre handle.

75 0900

Club hammers (sledgehammers)

Drop-forged hammer head. Faces hardened and tempered. Head painted black, faces bright finished.

75 1005 – Club hammer with shaped **hickory handle.**

75 1010 – Club hammer with forged-on handle protection collar and additional nylon protection sleeve, with shaped **hickory handle.**

75 1015 – SecuTec® safety club hammer with handle protection sleeve of steel with collar, and with Picard wedge screw.

75 1020 – Sledgehammer with unbreakable **3-component handle** (aluminium core, polyamide and rubber components), forged-on handle protection collar and additional sleeve to protect the handle. Unbreakable, ergonomic, non-slip, **vibration-free, protects the wrist.**

75 1030 – Sledgehammer with shaped **hickory handle.**

75 1150 – Club hammer with unbreakable **"Ultratec"** glass fibre handle.

Standard:

75 1005–1055 – **DIN 6475**

Material: Special tool steel.

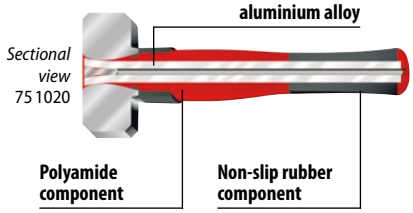
75 1010

75 1005

75 1015

75 1015

75 1020



75 1150

75 1055

Weight without handle		kg	1	1,25	1,5	2
71D 75 1010	Garant	Club hammer with handle protection collar	XXX	XXX	XXX	XXX
73V 75 1005	m•b	Club hammer	XXX	XXX	XXX	XXX
76D 75 1015	PICARD	SecuTec® club hammer with handle protection sleeve	XXX	XXX	XXX	XXX
76D 75 1020	OSCA	Club hammer with 3-component handle	XXX	XXX	XXX	XXX
73V 75 1150	m•b	Club hammer with "Ultratec" handle	XXX	XXX	XXX	XXX
72D 75 1055	HOLEX	Club hammer, standard quality	XXX	XXX	XXX	XXX
Handle length (75 1010, 75 1005)		mm	260	260	280	300
Handle length (75 1015)		mm	260	270	280	300
Handle length (75 1020, 75 1055)		mm	260	260	280	280
Handle length (75 1150)		mm	255	255	260	265

75 1030

Weight without handle		kg	3	4	5	6	8
73V 75 1030	m•b	Sledgehammer	XXX	XXX	XXX	XXX	XXX
Handle length		mm	600	700	800	800	900

m•b Engineer's hammer (English style)

Drop-forged, hardened and tempered. With round face and ball head. With **hickory handle.**

Material: Special tool steel.

75 1180

Weight without handle		lb	1/4	1/2	3/4	1	1.1/8	1.1/2	2
73V 75 1180	Engineer's hammer		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Handle length		mm	270	290	320	350	340	370	400
Weight without handle		g	100	225	340	450	500	675	900

Copper hammer (club hammer)

Hammer head of copper bar material, edges broken.

75 1210 – With unbreakable **3-component handle** (aluminium core, polyamide and rubber components), and additional handle protection sleeve.

75 1200/1215 – With **hickory handle.**

Advantage:

75 1210 – Ergonomic, non-slip, **vibration-free, protects the wrist.**

Spare part:

75 1200 – Spare handle available under No. 751205.

75 1200
75 1210
75 1215

Weight without handle		g	250	500	750	1000	1500	2000	3000	5000
76D 75 1200	OSCA	Copper hammer **with hickory handle**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
76D 75 1210		Copper hammer **with 3-component handle**	–	XXX	XXX	XXX	XXX	XXX	–	–
72D 75 1215	HOLEX	Copper hammer **with hickory handle**	XXX	XXX	XXX	XXX	XXX	XXX	–	–
Handle length (75 1200)		mm	280	310	320	320	360	380	600	800
Handle length (75 1210)		mm	–	300	320	320	360	360	–	–
Handle length (75 1215)		mm	280	300	300	360	360	380	–	–

Axe and hatchet with ash handle

Drop-forged. Hardened and ground cutting edge. Shaped ash wood handle.

Material: Special tool steel.

Spare part: Spare handle available under No. 752150.

		Weight without handle g	600	800	1000	1250	1600
73V	75 1110	Hatchet	XXX	XXX	XXX	–	–
73V	75 1120	Axe	–	–	–	XXX	XXX
		Handle length mm	360	380	400	700	800

75 1110

75 1120

Mason's hammer "Berlin style" with tubular steel handle

Drop-forged hammer head, hardened, and tempered; head painted. With ground face, chisel edge and nail puller. Steel tube handle securely pressed in, unbreakable with non-slip rubber grip.

Material: Special tool steel.

		Weight without handle g	600
73V	75 1300	Mason's hammer	XXX
		Handle length mm	240

75 1300

„American type" carpenter's claw hammer with square aluminium tubular handle

Drop-forged hammer head, hardened and tempered. With ground face and well-formed claw. Good protection against accidents due to aluminium rectangular section handle securely pressed into the head, and non-slip rubber handle.

Material: Special tool steel.

		Weight without handle g	567
76D	75 1330	Carpenter's claw hammer	XXX
		Handle length mm	325

75 1330

Carpenter's roofing hammer with tubular steel handle

Drop-forged hammer head, hardened and tempered. Chequered face, well-formed claw and nail groove. Unbreakable securely fitted tubular steel handle and user-friendly rubber grip reduces the risk of accidents.

75 1350 – Polished head, with **magnetic nail holder**.
75 1400 – Head painted.
75 1500 – Head clear powder-coated, with **magnetic nail-holder.**

Material: Special tool steel.

Advantage:

75 1350 – Low weight, therefore very lightweight and easy to hold, with high stability.

		Weight without handle g	530	600
71D	75 1350	Garant Carpenter's roofing hammer with magnetic nail holder	XXX	–
73V	75 1500	Carpenter's roofing hammer with magnetic nail holder	–	XXX
73V	75 1400	Carpenter's roofing hammer	–	XXX
		Handle length mm	275	280

Magnetic nail holder
75 1350

Magnetic nail holder
75 1500

75 1400

Solid steel carpenter's roofing hammer

Solid steel carpenter's roofing hammer with leather grip of real core leather. Chequered face, precision claw, and nail groove with magnetic nail holder.

Material: Special tool steel.

		Weight without handle g	700
76D	75 1550	Solid steel carpenter's roofing hammer with magnetic nail holder	XXX
		Handle length mm	280

Magnetic nail holder
75 1550
Leather grip of real core leather

Electric welder's chipping hammer

Forged hammer head, hardened and tempered. Handle and head painted; with cutting edge, chipping point, and tubular steel handle.

Material: Special tool steel.

		Weight g	500
73V	75 1600	Electric welder's chipping hammer	XXX
		Handle length mm	300

75 1600

Soft-faced hammer with exchangeable nylon inserts

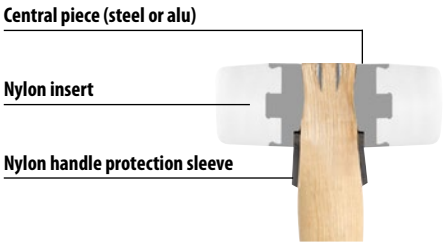
Sturdy metal central piece with handle of hickory, with nylon handle protection sleeve and ring wedge.
The nylon inserts are impact resistant and wear-resistant, and are attached to the central piece by a double action system.

75 4120 – Central piece of steel.
75 4160 – Central piece of aluminium, black anodised.

Advantage:
75 4160 – Aluminium central piece = significant weight reduction.
This permits precisely gauged working and also protects the wrist.

Application: For straightening or aligning components on machine tables or for application of light impacts in assembly work.

Spare part: Spare nylon insert available under No. 754180 and spare handle available under No. 751650.



Hammer head ∅		mm	22	27	32	40	50
71D 75 4120	Garant	Soft-faced hammer with nylon inserts **and steel central part**	XXX	XXX	XXX	XXX	XXX
Head length with inserts		mm	73	81	87	105	117
Handle length		mm	280	300	300	320	320
Weight		kg	0.188	0.269	0.357	0.578	0.89

Hammer head ∅		mm	22	27	32	40	50
71D 75 4160	Garant	Soft-faced hammer with nylon inserts **and aluminium central part**	XXX	XXX	XXX	XXX	XXX
Head length with inserts		mm	73	81	87	105	117
Handle length		mm	280	300	300	320	320
Weight		kg	0.147	0.2	0.237	0.354	0.48

With virtually unbreakable 3-component handle (aluminium core, polyamide and rubber components), forged-on handle protection collar and additional handle protection sleeve.
Sturdy metal central piece.

Advantage: Unbreakable, ergonomic, non-slip, **vibration-free, protects the wrist.**

Spare part: Spare nylon insert available under No. 754180.

Hammer head ∅		mm	27	32	40	50
76D 75 4170	OSCA	Soft-faced hammer with 3-component handle, nylon inserts **and steel central part**	XXX	XXX	XXX	XXX
Head length with inserts		mm	81	87	105	117
Handle length		mm	300	300	320	320
Weight		kg	0.358	0.454	0.738	0.98

Suitable for: Soft-faced hammer No. 754120 / 754160 / 754170.

Hammer head ∅		mm	22	27	32	40	50
71D 75 4180	Garant	Spare nylon insert, piece **white**	XXX	XXX	XXX	XXX	XXX

75 4180

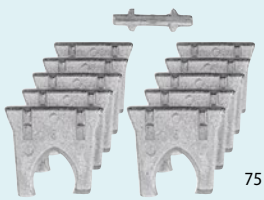
Handles and other accessories

You can find the following products, for example, in our eShop and in our spare-parts list:

Ring wedges

75 2010

Hammer wedges


75 2100

Soft-faced hammer housing

75 3310

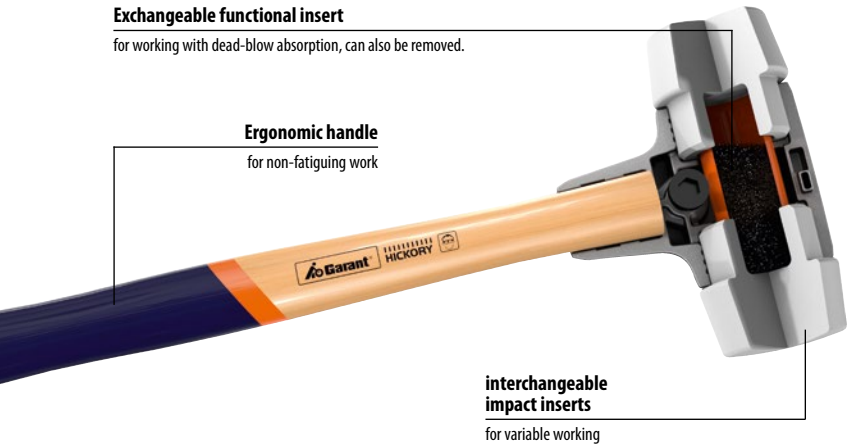
Hammer handles

Garant Soft hammer with dead-blow absorption and exchangeable inserts

Soft-faced hammer with dead-blow absorption and removable functional inserts to allow use as a normal soft-faced hammer. Sturdy two-piece precision cast housing of high-quality heat treatable steel. Inserts can be combined and exchanged. With handle of American hickory wood, varnished.

Application: For straightening or aligning components on machine tables or for application of light impacts in assembly work.

Spare part: Spare handle available under No. 752530 and spare inserts under No. 752540– 752560.



Housing ∅ / material			mm	30G	40G	50G	60G	80G
71D 75 2500	Soft-faced hammer with rubber inserts	**black**		XXX	XXX	XXX	XXX	XXX
71D 75 2510	Soft-faced hammer with plastic inserts	**red**		XXX	XXX	XXX	XXX	–
71D 75 2520	Soft-faced hammer with nylon inserts	**natural**		XXX	XXX	XXX	XXX	XXX
Head length with inserts			mm	92	116	138	149	175
Striking face ∅ of the inserts			mm	30	40	50	60	80
Handle length			mm	260	275	310	335	400
Overall length			mm	300	330	380	410	500
Weight without inserts			g	228	418	785	940	1895

Spare striking insert

Suitable for: Soft-faced hammer with dead-blow absorption No. 752500 / 752510 / 752520.

Application:

75 2540 – **Rubber insert** (polyurethane, black): Shock-absorbing and wear-resistant. Shore hardness 50D

75 2550 – **Plastic insert** (cellulose acetate, red): of transparent impact-resistant red plastic. Shore hardness approx. 75D.

75 2560 – **Nylon insert** (polyamide 6, natural): Highly wear-resistant, does not splinter. For very high impact force. Shore hardness approx. 80-85D.

75 2550

75 2540

for soft-faced hammer			30	40	50	60	80
71D 75 2540	Rubber insert, soft	**black**	XXX	XXX	XXX	XXX	XXX
71D 75 2550	Plastic insert, medium hard	**red**	XXX	XXX	XXX	XXX	–
71D 75 2560	Nylon insert, hard		XXX	XXX	XXX	XXX	XXX

75 2560

There's more in it for you!

The entire tooling catalogues for the following brands are available from the Hoffmann Group – just ask for them!

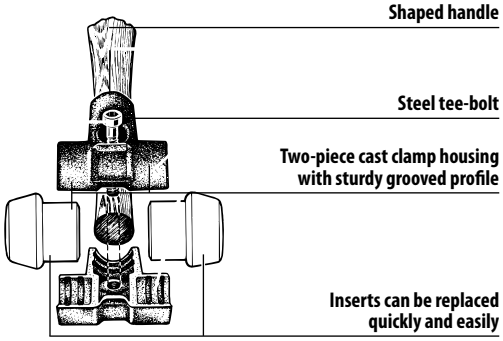
HALDER SIMPLEX soft-faced hammer with exchangeable inserts

Sturdy, two-piece clamp housing with two exchangeable striking inserts. Suitable inserts are available for various types of work.
All insert types can also be combined with each other.
Soft-faced hammers and driving mallets: Aluminium or annealed cast iron housing; wooden handle.
Size 100G; 125G – **Sledgehammers:** Annealed cast iron housing; American hickory wood handle.

Application: Size **A** = **Aluminium housing:** For light work, e.g. positioning.
Size **G** = **Annealed cast iron housing:** For heavy, powerful blows, e.g. driving machine parts into position etc.

Spare part: Spare handle available under No. 753400 and soft-faced hammer housing under No. 753310.

Note: Size codes **A** = Aluminium housing; **G** = Annealed cast iron housing.



75 2800

75 2900

75 3100

Body ∅ / Material		mm	30G	40A	40G	50A	50G	60G	80G	100G	125G
73W 75 2800	SIMPLEX soft-faced hammer with composite rubber inserts	black	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–
73W 75 2900	SIMPLEX soft-faced hammer with plastic inserts	red	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
73W 75 3100	SIMPLEX soft-faced hammer with super-plastic inserts	white	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
73W 75 3200	SIMPLEX soft-faced hammer with soft metal inserts	silver	–	–	XXX	–	XXX	XXX	XXX	–	–
73W 75 3300	SIMPLEX soft-faced hammer without inserts, with handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–
Head length with inserts		mm	90	110	110	135	135	145	165	200	215
Striking face ∅ of the inserts		mm	30	40	40	50	50	60	80	100	125
Handle length		mm	260	280	280	310	310	340	400	900	900
Overall length		mm	300	330	330	365	365	405	490	1000	1050
Weight (75 2800)		kg	0.345	0.405	0.66	0.74	1.15	1.55	2.87	–	–
Weight (75 2900)		kg	0.345	0.39	0.635	0.72	1.12	1.52	–	–	–
Weight (75 3100)		kg	0.32	0.36	0.61	0.675	1.04	1.44	2.66	5.2	7.7
Weight (75 3200)		kg	–	–	0.75	–	1.38	1.95	3.86	–	–

Spare striking insert

Application:

75 3450 – **Soft TPE plastic insert,** does not leave colour streaks.
For laying tiles and parquet flooring, and installing windows and doors.

75 3500 – **Composite rubber insert** reinforced with textile fibres, hardness approx. 93 Shore; oil-resistant and non-ageing, for gentle positioning.

75 3600 – **Plastic insert:** Fairly hard, of transparent impact resistant red plastic.

75 3700 – **Super plastic insert:** Extremely impact resistant, unbreakable striking face with low wear. Will not break away. For gentle blows; particularly for blows to edges.

75 4000 – **Soft metal insert:** Of special alloy light metal with added copper.
Does not damage the workpiece despite maximum impact effectiveness.

75 3450

75 3500

75 3600

75 3700

75 4000

for Hammer head ∅			mm	30	40	50	60	80	100	125
73W 75 3450	SIMPLEX soft-faced hammer, soft plastic TPE insert	blue		XXX	XXX	XXX	XXX	–	–	–
73W 75 3500	SIMPLEX soft-faced hammer, rubber composition insert	black		XXX	XXX	XXX	XXX	XXX	–	–
73W 75 3600	SIMPLEX soft-faced hammer, plastic insert	red		XXX	XXX	XXX	XXX	–	–	–
73W 75 3700	SIMPLEX soft-faced hammer, super-plastic insert	white		XXX	XXX	XXX	XXX	XXX	XXX	XXX
73W 75 4000	SIMPLEX soft-faced hammer, soft metal insert	silver		–	XXX	XXX	XXX	XXX	–	–

75

Spare striking insert

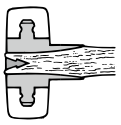
Article number	Type of use		Colour	Characteristics	Area of application	Hardness
75 3450	TPE-Soft		blue	soft / free of abrasion	For very sensitive materials, tiles / slab laying, setting natural stone, furniture making, dry assembly, window making / door making, cabinet making	●○○○○
75 3500	Rubber composition		black	medium hard / damping / neutral smell / low-wear	Servicing / repair work, fence construction, scaffolding, tent construction, prefabricated house construction, carpentry, gardening / landscaping, masonry / installation of staircases	●●○○○
On request	TPE-Mid		grey	medium hard / free of abrasion	For delicate materials, dry assembly, furniture making, tile laying / slab laying, window making / door making, setting natural stones	●●○○○
75 3700	Superplastic		white	medium hard / very tough wear-resistant	Assembly of sharp-edged components, scaffolding, tent making, sheet metal work, house building, cabinet making, carpentry, gardening / landscaping, stone setting, fence making	●●●○○
75 3600	Plastic		red	hard / resistant to oil and grease	Installation / repair / maintenance work, sheet metal work, house building, carpentry, scaffolding, tent making	●●●●○
On request	Nylon		white	hard / very wear resistant no splintering (even at sub-zero temperatures) resistant to oils and greases / low-noise for very high impact forces	Joining of workpieces, assembly of sharp-edged components, casing assembly, mould making, system building, workshop building, fabrication, exhibition stand assembly, heet metal work, repair work, maintenance work	●●●●○
75 4000	Soft metal		silver	hard / heat-sensitive	For high impact force, alignment work, mould making, ystem building, installation / repair / maintenance work; replaces conventional lead hammers	●●●●●

Wera Plastic hammer with exchangeable inserts

75 4200 – With abrasion resistant, non-splitting **polyurethane** inserts (rust brown).
75 4500 – With impact resistant **Cellidor** inserts (yellow).
75 4200/4500 – Sturdy die-cast zinc central piece with handle protection sleeve and impact resistant inserts. With cambered hammer handle.

Application:
75 4200/4500 – For straightening or aligning components on machine tables or for application of light impacts in assembly work.

Spare part:
75 4200 – For spare polyurethane insert see No. 754300; for spare handle see No. 754400.
75 4500 – For spare Cellidor insert see No. 754600; for spare handle see No. 754400.



Double conical arrangement of the handle holder creates an indestructible bond between the handle and the mallet head. With handle protection sleeve.

With virtually unbreakable polyurethane inserts.

Hammer head ∅		mm	22	27	32	40	50
73C 75 4200	Plastic hammer with polyurethane inserts		XXX	XXX	XXX	XXX	XXX
73C 75 4300	Spare insert polyurethane		XXX	XXX	XXX	XXX	XXX
Head length with inserts (75 4200)		mm	75	90	95	110	115
Handle length (75 4200)		mm	250	265	280	320	340
Weight (75 4200)		kg	0.193	0.276	0.374	0.656	0.905

75 4200

75 4300

Hammer head ∅		mm	22	27	32	40	50
73C 75 4500	Plastic hammer with Cellidor inserts		XXX	XXX	XXX	XXX	XXX
73C 75 4600	Spare insert Cellidor		XXX	XXX	XXX	XXX	XXX
Head length with inserts (75 4500)		mm	75	90	95	110	115
Handle length (75 4500)		mm	250	265	280	320	340
Weight (75 4500)		kg	0.193	0.276	0.374	0.656	0.905

75 4500

75 4600

Dead-blow hammer with exchangeable inserts

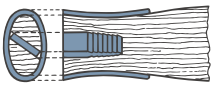
Strong steel central piece (T-piece) with spigot and collar for holding the inserts. Inserts of wear-resistant nylon (medium hard). **Dead-blow** due to additional weights in the hammer body. Upon impact, the weights are thrown downwards and inhibit rebounding.

75 4800 – With virtually unbreakable handle of SUPERGLASS glass fibre and black plastic grip.
75 4700/4750 – With handle of American hickory wood.

Application: For straightening or aligning components on machine tables or for application of light impacts in assembly work.

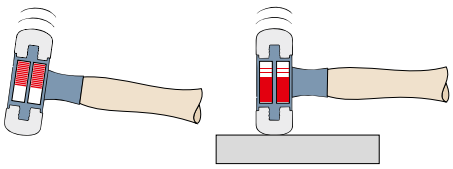
Spare part: For spare inserts see No. 754720 and 754730.
75 4700/4750 – See No. 754840 for spare blade.

75 4750



Secure handle attachment in the conically shaped steel tube.

75 4700
With hickory handle.



During the swing, the weights move upwards. Upon impact, the weights are thrown downwards and inhibit rebounding.

75 4800
With virtually unbreakable SUPERGLAS handle.

Hammer head ∅		mm	22	27	32	35	40	50	60
71D 75 4750	Garant Dead-blow hammer with nylon inserts **Hickory handle**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
73B 75 4700	PB SWISS TOOLS Dead-blow hammer with nylon inserts **Hickory handle**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
73B 75 4800	PB SWISS TOOLS Dead-blow hammer with nylon inserts **Superglas handle**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Head length with inserts		mm	75	90	100	105	110	110	120
Handle length		mm	250	265	285	295	315	335	360
Overall length		mm	270	290	320	330	355	385	420
Weight (75 4750, 75 4700)		kg	0.167	0.274	0.391	0.466	0.695	1.05	1.47
Weight (75 4800)		kg	0.239	0.33	0.499	0.597	0.755	1.14	1.59

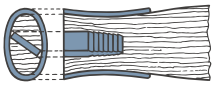
Strong steel central piece (T-piece) with collet and collar for holding the inserts. Inserts made of copper. **Dead-blow** due to additional weights in the hammer body. Upon impact, the weights are thrown downwards and inhibit rebounding.

75 4810 – With handle of American hickory wood.
75 4820 – With virtually unbreakable handle of SUPERGLAS glass fibre and black plastic grip.

Application: For flush, precise blows and impacts for assembly work.

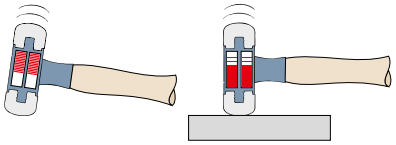
Spare part: For spare inserts see No. 754760.
75 4810 – See No. 754840 for spare blade.

75 4810
With hickory handle.



Secure handle attachment in the conically shaped steel tube.

75 4820
With virtually unbreakable SUPERGLAS handle.



During the swing, the weights move upwards. Upon impact, the weights are thrown downwards and inhibit rebounding.

Hammer head ∅		mm	24	32	40
73B 75 4810	PB SWISS TOOLS	Dead-blow hammer with copper inserts **Hickory handle**	XXX	XXX	XXX
73B 75 4820		Dead-blow hammer with copper inserts **Superglas handle**	XXX	XXX	XXX
Head length with inserts		mm	81	106	121
Handle length		mm	265	295	335
Overall length		mm	290	325	380
Weight (75 4810)		kg	0.34	0.75	1.34
Weight (75 4820)		kg	0.41	0.85	1.38

Spare insert

Suitable for:

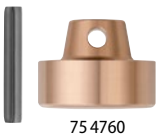
75 4760 – Dead-blow hammer No. 754810 / 754820.
75 4720/4730 – Dead-blow hammer No. 754700 / 754750 / 754800.

75 4720

Hammer head ∅		mm	22	27	32	35	40	50	60
73B 75 4720	Spare insert, nylon **flat**		XXX	XXX	XXX	XXX	XXX	XXX	XXX
73B 75 4730	Spare insert, nylon **convex**		XXX	XXX	XXX	XXX	XXX	XXX	XXX

75 4730

Hammer head ∅		mm	24	32	40
73B 75 4760	PB SWISS TOOLS	Spare copper insert **flat**	XXX	XXX	XXX



75 4760

Handles and other accessories

You can find the following products, for example, in our eShop and in our spare-parts list:

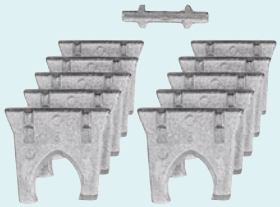
Ring wedges

75 2010

Soft-faced hammer housing

75 3310

Hammer wedges

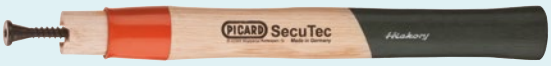


75 2100

Hammer handles

75 2530

75 1800



75 1680

75 4840

75 3400

HALDER Combination hammer „Ferroplex“

Combined **engineer's hammer and soft hammer.** Head of highly tempered steel with an exchangeable set of inserts of wear-resistant nylon. Steel tube handle with oil-resistant rubber grip.

Spare part: Nylon insert No. 754910 size 30.

Hammer head ∅		mm	30
73W 75 4880	Combination hammer		XXX
L_1		mm	104
Overall length		mm	290
Weight		kg	0.6

75 4880

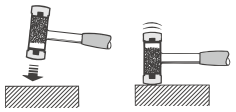
HALDER “Supercraft” nylon dead-blow hammer with exchangeable inserts

Sturdy steel T-piece with exchangeable top quality wear-resistant nylon faces. **Dead-blow** effect achieved by steel ball filling in hammer head.

75 4900 – Steel tube handle with oil-resistant rubber grip.
75 5000 – Unbreakable **“Ultratec”** glass fibre handle.
75 5100 – Handle of premium quality hickory wood.

Application: For straightening or aligning components on machine tables or for application of light impacts in assembly work.

Spare part: For spare nylon face see No. 754910.
75 5100 – See No. 755140 for spare blade.



During the swing, the loose filling moves upwards.

Upon impact, the steel ball weights are thrown downwards and inhibit rebounding.

Hammer head ∅		mm	25	30	35	40	50	60	70
73W 75 4900	Dead-blow hammer with steel tube handle		–	–	XXX	XXX	XXX	XXX	–
73W 75 5000	Dead-blow hammer with fibre glass handle		–	–	–	XXX	XXX	XXX	–
73W 75 5100	Dead-blow hammer with hickory handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Head length with inserts		mm	105	110	110	115	120	145	150
Overall length (75 4900)		mm	–	–	295	300	310	325	–
Overall length (75 5000)		mm	–	–	–	370	380	390	–
Overall length (75 5100)		mm	305	330	335	360	370	370	370
Weight (75 4900)		kg	–	–	0.69	0.805	1.15	1.75	–
Weight (75 5000)		kg	–	–	–	0.79	1.04	1.625	–
Weight (75 5100)		kg	0.25	0.46	0.56	0.715	0.99	1.7	2.215

75 4900

75 5000

75 5100

HALDER Dead-blow soft-faced hammer „Secural“ with polyurethane inserts

Sturdy single-piece steel housing (patented). **Dead-blow effect** achieved by loose steel ball filling. Inserts of colour-fast wear-resistant polyurethane (medium hard). Ideal for sheet-metal work and for selective blows on corners and edges.

Hammer head dimensions		mm	30×40
73W 75 5210	Dead-blow soft-faced hammer with polyurethane inserts		XXX
Head length with inserts		mm	117
Overall length		mm	300
Weight		kg	0.68

75 5210

HALDER “Supercraft” dead-blow sledge hammer with exchangeable inserts

Sturdy steel T-piece with exchangeable top quality wear-resistant nylon faces. **Dead-blow** effect achieved by steel ball filling in hammer head. With handle of premium quality hickory wood.

Spare part: For spare nylon insert see No. 754910; for spare hickory handle see No. 755140.

75 5400

Hammer head ∅ (mm) / Weight (kg)			80/4	100/7
73W 75 5400	Dead-blow sledge hammer		XXX	XXX
Head length with inserts		mm	200	210
Striking face ∅ of the inserts		mm	80	100
Handle length		mm	800	900
Overall length		mm	880	1000
Weight		kg	4.41	7

HALDER Spare nylon insert for dead-blow hammer

Suitable for: Dead-blow hammer No. 754880, 754900, 755000, 755100 and 755400 and also nylon drift rod No. 745250.

75 4910

Hammer head ∅			mm	10	12	15	20	25	30	35	40	50	60	70	80	100
76D 75 4910	Spare insert, nylon	**white**		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Dead-blow soft-faced hammer, plastic coated

Hammer body of steel, dead-blow due to steel ball filling. Hammer fully sheathed in plastic. Temperature-resistant from –20 °C to 90 °C.

75 5260

Hammer head ∅	mm	30	35	45	50	60
72D 75 5260	Dead-blow soft-faced hammer, plastic coated	XXX	XXX	XXX	XXX	XXX
Head length L_1	mm	80	90	90	100	115
Overall length	mm	280	290	305	325	380
Weight	kg	0.4	0.45	0.68	0.9	1.36

Adhesive fixing hammer

Sturdy angled plastic handle. Hammer head filled with **permanently elastic** compound for **material and surface protecting** impacts. Ideal for instance for fitting decorative strips and fittings.

Size 3 – Handle can be turned 90°.

Size 4 – White impact face for abrasion-free working without formation of streaks. Handle can be turned 90°.

Type		2	3	4
73E 75 5455	Adhesive fixing hammer	XXX	XXX	XXX
Impact body length	mm	70	140	140
Impact body width	mm		70	
Overall length	mm	260	280	280
Weight	g	770	1300	1300
Colour		black	black	white

Rubber composition hammer

Made of tough rubber (90 Shore), non-rebound; with powerful impact. Worn faces can be reworked by turning on a lathe. With ash wood handle.

Size B400 – With one convex and one flat face.

75 5550 – White rubber face for working without formation of streaks.

Standard: **DIN 5128**

Spare part: Spare handle available under No. 755600.

75 5500_A400

75 5500_B400

75 5550_A400

Type		A100	A200	A400	A600	A900	B400
72D 75 5500	Black rubber hammer	XXX	XXX	XXX	XXX	XXX	XXX
72D 75 5550	White rubber hammer	–	XXX	XXX	XXX	XXX	–
Head length L_1	mm	80	90	115	130	140	115
Head ∅	mm	40	54	64	74	90	64
Handle length	mm	260	320	340	380	380	340
Weight	g	150	300	500	750	1150	500

Wooden hammer with metal casing

Hammer head of hornbeam, with slightly convex faces. A metal band around the hammer head prevents splitting. With ash wood handle.

Standard: **DIN 7462 B**

75 6000_90

Head ∅	mm	50	60	70	80	90
76D 75 6000	Wooden hammer	XXX	XXX	XXX	XXX	XXX
Head length L_1	mm	100	120	140	160	180
Handle length	mm	280	300	320	350	380
Weight	g	220	370	560	810	1100

Light metal hammer

Cylindrical hammer body of annealed aluminium bar. With hickory handle.

Application: For sheet metal forming, beating out and assembly work.

75 6500

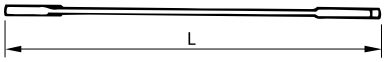
Weight	g	250	500	750	1000	1500
76D 75 6500	Light metal hammer	XXX	XXX	XXX	XXX	XXX
Head length L_1	mm	80	100	100	130	140
Head ∅	mm	40	50	60	60	70
Handle length	mm	300	320	350	360	380

Non-sparking tools

Special Ampco alloy, corrosion-resistant and anti-magnetic.

Double open ended spanners, non-sparking

Standard: **DIN 895**
Material: Aluminium bronze.



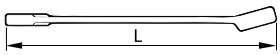
75 9710

Width across flats	mm	6×7	8×9	10×11	10×13	12×13	14×15	16×17	17×19
76E 75 9710	Double open ended spanner, non-sparking	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	95	110	125	135	145	155	170	185

Width across flats	mm	18×19	20×22	21×23	22×24	24×27	30×32	34×36	41×46
76E 75 9710	Double open ended spanner, non-sparking	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	185	200	220	220	240	285	310	375

Combination spanners, non-sparking

Standard: **DIN 3113**
Material: Aluminium bronze.



75 9715

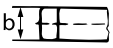
Width across flats	mm	8	10	11	12	13	14	15	16	17
76E 75 9715	Combination spanner, non-sparking	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	150	175	175	205	205	205	225	225	270

Width across flats	mm	18	19	21	22	24	27	30	32	36
76E 75 9715	Combination spanner, non-sparking	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
L	mm	270	270	295	295	325	355	390	430	475

Screwdrivers, non-sparking

Material: Copper-beryllium.

75 9720



Blade width b	mm	3	4	5	6	8	10
76E 75 9720	Slot-head screwdriver, non-sparking	XXX	XXX	XXX	XXX	XXX	XXX
Blade length	mm	60	70	100	150	150	200
overall length	mm	150	160	190	250	260	320

Engineer's hammer, non-sparking

Standard: **DIN 1041**
Material: Aluminium bronze.

75 9730

Weight without handle	g	200	300	500	1000
76E 75 9730	Engineer's hammer, non-sparking	XXX	XXX	XXX	XXX
Handle length	mm	280	300	320	360

Water pump pliers / adjustable spanners, non-sparking

Size 250 – With grips.
Size 300 – Without grips.

Standard: **ISO 8976**
Material: Copper-beryllium.

75 9737

overall length	mm	250	300
76E 75 9737	Water pump pliers, non-sparking	XXX	XXX
Hexagon across flats	mm	40	50
Jaw capacity for pipes	inch	1.1/2	2.1/8

Material: Aluminium bronze.

75 9738

overall length	mm	200	250	300	380
76E 75 9738	Adjustable spanner, non-sparking	XXX	XXX	XXX	XXX
maximum width across flats	mm	25	30	36	44

Other non-sparking tools on request

AMPCO SAFETY TOOLS®

Pry bar

Exceptional toughness and high hardness due to PB SWISS TOOLS special alloy. One end pointed. **For very heavy duties.**

75 9790

73B 75 9790	Pry bar with heel		XXX
Hexagon shank		mm	18
Length		mm	500

Pry bar

Made of nickel-plated special steel; one side pointed.

75 9800

75 9810

76D 75 9800	Pry bar with heel		XXX
76D 75 9810	Pry bar with rolling head		XXX
Thickness (75 9800)		mm	14×14
Thickness (75 9810)		mm	∅ 14
Length		mm	390

Angle bar (flange fitting bar)

Of round special tool steel, hardened, 90° angle, conical working tips annealed, painted.

75 9815

Shank ∅	mm	14	16	20
76D 75 9815 Angle bar		XXX	XXX	XXX
Arm length long end	mm	400	450	500
Arm length short end	mm	120	130	150
Length of conical section	mm	70	80	90
Tip ∅	mm	6	6	7
Weight	kg	0.5	0.8	1.5

Punch

Of special tool steel, hardened, impact head annealed, octagonal shank varnished.

75 9817

Shank ∅	mm	20
76D 75 9817 Punch		XXX
Tip ∅	mm	5
overall length	mm	500
Length of conical section	mm	170
Weight	g	1035

Tyre lever

Drop-forged, precision formed blades.

Material: Chrome vanadium steel, nickel-plated.

75 9821

75 9825

75 9835

overall length			mm	300	380	530	600	650
73E 75 9821	HAZET	Tyre lever cranked		–	–	–	XXX	–
72D 75 9825	HOLEX	Tyre lever		XXX	XXX	XXX	–	XXX
72D 75 9835	HOLEX	Tyre lever cranked		–	XXX	XXX	–	XXX

Wrecking bar (claw foot)

Made of forged spring steel, through hardened, ground to an extra slim shape, bright polished, wide ends. With precision nail puller.

Material: Special alloy spring steel, blue paint finish.

75 9840

overall length		mm	500	700
76D 75 9840	Wrecking bar (claw foot)		XXX	XXX
Hexagon shank		mm	15	18
Weight		kg	0.9	1.8

"Power BAR" wrecking bar

Forged with extremely robust, oval shank, and optimised application angle. Wide face and curved claw with nail puller. Hardened and painted black, ends bright polished.

75 9846

overall length		mm	350	600	900
76D 75 9846	„Power Bar" wrecking bar		XXX	XXX	XXX
Shank dimension (oval)		mm	22.5×12	30×16	30×16
Weight		kg	0.7	2.1	3.2

Wrecking bar

Wrecking bar with strong curved claw and slightly offset chisel blade, hardened and painted. Of oval steel profile.

75 9855

75 9856

overall length		mm	500	600	800
76D 75 9855	RENNSTEIG Wrecking bar		XXX	XXX	XXX
72D 75 9856	HOLEX Wrecking bar		XXX	XXX	XXX
Shank dimension (oval)		mm	20×12	23×13	23×13
Weight (75 9855)		kg	1	1.4	1.9
Weight (75 9856)		kg	1.3	1.6	2.1

Pry bar

Made of special steel, with angled blade and straight point.

75 9860

overall length		mm	1250	1500
76D 75 9860	Pry bar with blade and point		XXX	XXX
Shank ∅		mm	30	
Weight		kg	6.5	8

Hand snips, Berlin type

Drop-forged. Bright finished head and open handles, painted or dipped.

76 0100 – Made of **stainless steel,** blades induction hardened (HRC 60), also for stainless steel V2A sheet metal up to 1.0 mm.

76 0201 – Made of **tool steel**, blades induction hardened (HRC 58 – 60), also for stainless steel V2A sheet metal up to 1.0 mm.

Standard: Similar to **DIN 6438**

Application: For straight cutting.

76 0100

76 0201

overall length				mm	250	300
73X 76 0100	Erdi	Hand snips **Stainless steel (INOX)**	**right-hand**		XXX	XXX
72D 76 0201	HOLEX	Hand snips **Tool steel**	**right-hand**		XXX	–
Length cutter				mm	60	79

Tin snips, Pelican type

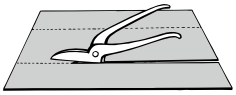
Drop-forged. Bright finished head and open handles, painted or dipped.

76 0500 – Made of **stainless steel,** blades induction hardened (HRC 60), also for stainless steel V2A sheet metal.

76 0550 – With **HSS blades (HRC 65).** Specially long blade service life (for all sheet metal; stainless steel sheet metal and hard sheet metal up to 1.0 mm).

76 0601 – Made of **tool steel**, blades induction hardened (HRC 58 – 60), also for stainless steel V2A sheet metal.

Application: Especially for long and continuous cutting.



76 0500

76 0550

76 0601

overall length				mm	300	350
73X 76 0500	Erdi	Tin snips **Stainless steel (INOX)**	**right-hand**		XXX	XXX
73X 76 0550	Erdi	Tin snips **with HSS blades**	**right-hand**		XXX	XXX
72D 76 0601	HOLEX	Tin snips **Tool steel**	**right-hand**		XXX	–
Length cutter				mm	62	65

76

Hole snips

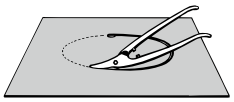
Drop-forged. Bright finished head, slim, tapered and open handles, painted or dipped.

76 1201 – Made of **tool steel**, blades induction hardened (HRC 58 – 60), also for stainless steel V2A sheet metal.

76 1000/1100 – Made of **stainless steel,** blades induction hardened (HRC 60), also for stainless steel V2A sheet metal.

76 1050/1150 – With **HSS blades (HRC 65).** Specially long blade service life (for all sheet metal; stainless steel sheet metal and hard sheet metal up to 1.0 mm).

Application: For curved cutting and short straight cutting.



76 1050

76 1201

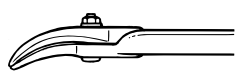
76 1100

overall length				mm	230	250	275	300
73X 76 1000	Erdi	Hole snips **Stainless steel (INOX)**	**right-hand**		–	XXX	XXX	XXX
73X 76 1050	Erdi	Hole snips **with HSS blades**	**right-hand**		–	–	–	XXX
72D 76 1201	HOLEX	Hole snips **Tool steel**	**right-hand**		XXX	–	–	–
73X 76 1100	Erdi	Hole snips **Stainless steel (INOX)**	**left-hand**		–	XXX	XXX	XXX
73X 76 1150	Erdi	Hole snips **with HSS blades**	**left-hand**		–	–	–	XXX
Length cutter				mm	45	42	42	47

Erdi Curved blade tin snips

Drop-forged. Bright finished head, bent and open painted handles. Made of **stainless steel**, blades induction hardened (HRC 60), also for stainless steel V2A sheet metal.

Application: For circular and curved cutting.



76 1600

overall length			mm	275
73X 76 1500	Curved blade tin snips	**right-hand**		XXX
73X 76 1600		**left-hand**		XXX
Length cutter			mm	40

Erdi Ideal snips

Drop-forged. Bright finished head and open, painted handles.

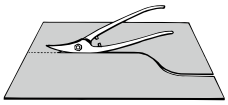
76 2000/2100 – Made of **stainless steel,** blades induction hardened (HRC 60), also for stainless steel V2A sheet metal.

76 2050/2150 – With **HSS blades (HRC 65).** Specially long blade service life (for all sheet metal; stainless steel sheet metal and hard sheet metal up to 1.0 mm).

Application: For continuous straight and shaped cutting.

76 2000

76 2150



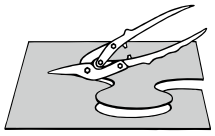
overall length			mm	260	280
73X 76 2000	Ideal snips **Stainless steel (INOX)**		**right-hand**	XXX	XXX
73X 76 2050	Ideal snips **with HSS blades**		**right-hand**	–	XXX
73X 76 2100	Ideal snips **Stainless steel (INOX)**		**left-hand**	XXX	XXX
73X 76 2150	Ideal snips **with HSS blades**		**left-hand**	–	XXX
Length cutter			mm	30	34

Patterns snips with compound action

Micro-serrated. Snip jaws made of **stainless steel** (HRC 58 – 60), handles of sheet steel, nickel plated. 2-component handle with non-slip insert of soft material, easy on the hand.

Cutting capacity: Metal sheets up to 1.8 mm, stainless steel sheets up to 1.2 mm.

Application: For continuous straight and shaped cutting.



76 7010

76 7043

overall length			mm	260
73X 76 7000	Erdi	Patterns snips with 2-component handles	**right-hand**	XXX
73X 76 7010			**left-hand**	XXX
72D 76 7042	HOLEX		**right-hand**	XXX
72D 76 7043			**left-hand**	XXX
Length cutter			mm	40

overall length			mm	240
73X 76 7020	Erdi	Patterns snips with 2-component handle	**right-hand**	XXX
73X 76 7025			**left-hand**	XXX
73X 76 7030			**straight**	XXX
Length cutter			mm	40

76 7025

Supplied with: Patterns snips 767020 size 240, 767025 size 240 and 767030 size 240 in a textile wallet.

76 7035

73X 76 7035	Erdi	Patterns snips set **3 pieces**	XXX

Erdi Small ideal snips with compound action

Drop-forged head; blades induction hardened. Double compound action with integral return spring. Handles of sheet metal, nickel-plated. 2-component handle with non-slip insert of soft material, easy on the hand.

Cutting power: Sheet metal up to 1.2 mm, stainless steel sheet up to 1.0 mm.

76 4000 – Snip jaws of stainless steel (HRC 60), serrated cutters.

76 4050/4060 – Snip jaws of high quality steel-S (HRC 60 – 62), **25 % less force required.**

Application: For continuous straight and shaped cutting.

76 4050/4060 – For very tight radii and places where access is difficult.

76 4000

Small, versatile, powerful

76 4050

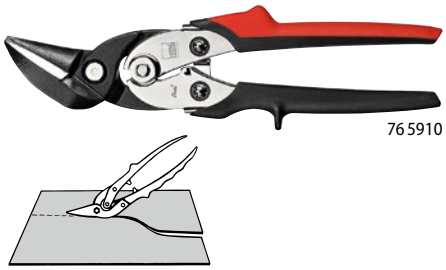
overall length			mm	230
73X 76 4000	Ideal snips with 2-component handles **small**		**right-hand**	XXX
Length cutter			mm	27

overall length			mm	180
73X 76 4050	Ideal snips with 2-component handles **very small**		**right-hand**	XXX
73X 76 4060			**left-hand**	XXX
Length cutter			mm	20

Ideal sheet metal shears with compound action

Drop-forged head, blades induction hardened. Adjustable pivot pins, double leverage with integrated return spring.
Application: For continuous straight and shaped cutting.

Snip jaws made of **stainless steel** (HRC 60 – 62) with optimised, non-serrated blade geometry for high manoeuvrability and easy cutting using up to **25 % less force,** ideal for cutting decorative sheets. Handles of sheet metal, nickel-plated. 2-component handle with non-slip insert of soft material, easy on the hand.
Cutting capacity: Sheet metal up to 1.8 mm, stainless steel up to 1.2 mm.



76 5910

overall length			mm	260
73X 76 5900	Erdi	Ideal snips with 2-component handles	right-hand	XXX
73X 76 5910			left-hand	XXX
Length cutter			mm	33

Ultra-fine serrated. Snip jaws made of **stainless steel** (HRC 58 – 60), handles of steel plate, nickel plated. 2-component handle with non-slip insert of soft material, easy on the hand.
Cutting capacity: Sheet metal up to 1.8 mm, stainless steel up to 1.2mm.

76 6010

overall length			mm	260
73X 76 6000	Erdi	Ideal snips with 2-component handles	right-hand	XXX
73X 76 6010			left-hand	XXX
72D 76 6042	HOLEX		right-hand	XXX
72D 76 6043			left-hand	XXX
Length cutter			mm	33

76 6043

Ultra-fine serrated. Snip jaws made of high quality **stainless steel S** (HRC 60 – 62), forged solid steel non-slip handles.
Cutting capacity: Metal sheets up to 2.0 mm, stainless steel sheets up to 1.5 mm.

- Improved sheet metal clearance due to optimised cutting chamfer.
- Reduced opening angle of the handles and blade extension back to the pivot means less effort is required during cutting.

overall length			mm	240
73X 76 6100	Erdi	Ideal snips	right-hand	XXX
73X 76 6200			left-hand	XXX
Length cutter			mm	24

76 6200

Snip jaws with **HSS blades** (HRC 65). Particularly long blade service life. Handles of sheet steel, nickel-plated. 2-component handle with non-slip insert of soft material, easy on the hand.
Cutting capacity: Metal sheets up to 1.8 mm, stainless steel sheets up to 1.2 mm.

overall length			mm	260
73X 76 6350	Erdi	Ideal snips with **HSS blades**	right-hand	XXX
73X 76 6360			left-hand	XXX
Length cutter			mm	33

76 6360

There's more in it for you!

The entire tooling catalogues for the following brands are available from the Hoffmann Group – just ask for them!

Erdi Ideal snips with double compound action

Shears head in stainless steel (min. HRC 61). Compact shears head with partly recessed head screws. 2-component handle with non-slip insert of soft material, easy on the hand. Reduced handle opening angle for optimised handling whilst maintaining the cutting length. Central locking bar for simple operation without changing grip (for right-hand and left-hand operation). **Cutting power:** Metal sheets up to 1.8 mm, stainless steel sheets up to 1.2 mm.

Advantage: Extremely robust fabric with sintered steel inlay for easy and wear-resistant cutting. Minimal applied force thanks to small opening width of the handle and double leverage.

76 7055

overall length		mm	230
73X 76 7050	Ideal snips with 2-component handle	right-hand	XXX
73X 76 7055		left-hand	XXX
Length cutter		mm	30

Small opening width whilst maintaining the cutter length.

Erdi Universal continuous cutting snips

Blades of quenched and tempered high quality steel; offset to allow continuous cutting. Sturdy frame of glass fibre reinforced plastic with soft material insert, easy on the hand. Adjustable pivot pins, integral return spring and closure catch.

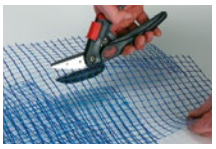
Cutting capacity: Aluminium / copper sheet metal up to 0.7 mm, standard sheet metal up to 0.6 mm.

Advantage: The offset jaws ensure the correct clearance between the hand and the material to be cut.

Application: Cuts materials up to medium thickness and hardness. For long and straight continuous cuts, and for large radius cuts.

76 7710

overall length		mm	235
73X 76 7710	Universal continuous cutting snips		XXX
Length cutter		mm	50



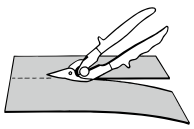
Erdi Continuous tin snips with compound action

Similar to Ideal snips. Snip jaws made of **stainless steel** (HRC 60), handles of steel plate, nickel plated. 2-component handle with non-slip insert of soft material, easy on the hand.

Cutting capacity: Sheet metal up to 1.8 mm, stainless steel sheet up to 1.2 mm.

Application: For continuous straight cutting.

76 7600



overall length		mm	260
73X 76 7500	Continuous cutting snips	right-hand	XXX
73X 76 7600		left-hand	XXX
Length cutter		mm	32

Snip jaws made of **high quality steel** (HRC 60), offset for optimum hand freedom. Extra long, laterally offset blades for long, straight cutting. Handles of sheet steel, nickel-plated.

Cutting capacity: Aluminium / copper sheets up to 1.2 mm, standard metal sheets up to 1.0 mm, stainless steel (V2A) sheets metal up to 0.8 mm.

Advantage: The offset jaws ensure the correct clearance between the hand and the material to be cut.

Application: Particularly suitable for continuous long cuts and large radii in sheet metal, wire mesh, plastic screens, floor coverings, insulation materials, leather etc.

76 7700

overall length		mm	280
73X 76 7700	Universal snips		XXX
Length cutter		mm	64

Erdi Strap cutter

Flat lower section for easy insertion under tightly tensioned straps.

76 2800 – Simple action; anti-slip open handles.

76 2850 – Safety strap cutter with compound action. Cutter head of annealed precision casting, blades induction hardened. A **polymer restraint mechanism prevents the strap springing up** during cutting. With anti-slip 2-component handles. For hardened steel packaging straps **up to maximum 32×1 mm.**

76 2800

76 2850

overall length		mm	260
73X 76 2800	Strap cutter		XXX
Length cutter		mm	30

overall length		mm	260
73X 76 2850	Safety strap cutter		XXX
Length cutter		mm	38

A polymer restraint mechanism

prevents the strap springing up

Multi-purpose shears (general purpose shears)

Made of stainless steel, with return spring.

76 3030 – Straight shape, lower blade serrated.

76 3040 – Angled shape, lower blade serrated.

76 3050 – Straight jaws, plastic handles with soft inlay. **With wire cutting and stripping function for Ø 1 + 1.5 mm.**

76 3100 – Straight jaws, plastic coated handles.

76 3150 – Offset jaws, plastic coated handles.

76 3030/3040 – High-quality general purpose shears, with ergonomic 2-component handles and soft inlay. With sturdy wire-cutting capability up to 2.5 mm Ø. Various **handle openings can be set,** so those with small hands will find these most suitable.

Application: Widely applicable. Ideal for thin sheet metal, plastics, leather, cardboard, paper, cord, fabrics etc.

Small opening angle.

Large opening angle.

76 3030

76 3040

76 3050

overall length			mm	140	190	205
71D 76 3030	Garant	Multi-purpose shears with 2-component handles **straight, with adjustable handle opening**		–	–	XXX
71D 76 3040	Garant	Multi-purpose shears with 2-component handles **angled, with adjustable handle opening**		–	–	XXX
73X 76 3050	Erdi	Multi-purpose shears with 2-component handles **straight**		–	XXX	–
72D 76 3100	HOLEX	Multi-purpose shears **straight**		XXX	XXX	–
72D 76 3150	HOLEX	Multi-purpose shears **angled**		–	XXX	–
Length cutter			mm	30	40	50

76 3100

76 3150

Electrician's and general-purpose scissors (phone wiring scissors)

Short, sturdy design. One serrated blade, one smooth blade.

76 8810 – Snip jaws made of stainless steel, plastic grips.

76 8860 – Snip jaws made of special stainless steel. 2-component handle with soft components in the outer gripping area. For cutting and stripping copper and aluminium cables up to 35 mm². Crimping terminal sleeves (0.5 – 4 mm²). With adjustable screwed joint.

76 8802–8850/9005 – Lower blade has a **wire cutter notch.**

76 9005 – Nickel-plated.

76 8800/8802 – Snip jaws made of stainless steel. Sturdy 2-component grip, non-slip and ergonomic due to soft inserts in grip area.

76 8850/8855 – Shears head of non-rusting stainless steel, **extremely long-life blades with TiN coating.** Precise cutting results thanks to the sturdy screwed joint. Very handy and pleasant 2-component handles, strong action with easy-grip **Haptoprene®** surface.

Application: Cuts thin wires, cable, insulation sleeving, rubber, leather etc.

Supplied with:

76 8860 – Plastic transport protection.

76 8850

76 8860

76 8802

76 8810

76 9005

overall length				mm	130	140	150
71D 76 8850	Garant	Electrician's scissors **with 2-component grip and wire cutter**	TiN		–	XXX	–
71D 76 8855	Garant	Electrician's scissors **with 2-component grip**	TiN		–	XXX	–
76F 76 8860	intercable	Electrician's scissors **with 2-component grip and wire cutter**			–	–	XXX
72D 76 8800	HOLEX	Electrician's scissors **with 2-component grip**			–	XXX	–
72D 76 8802	HOLEX	Electrician's scissors **with 2-component grip and wire cutter**			–	XXX	–
72D 76 8810	HOLEX	Electrician's scissors **with wire-cutter**			–	XXX	–
72D 76 9005	HOLEX	Electrician's scissors nickel-plated **with wire-cutter**			XXX	–	–

Precision shears

Made of quenched and tempered steel. Comfortable plastic handles with opening spring.
Application: For clean, precise cutting of a very wide range of materials and fibres.
Cuts soft metal up to 0.12 mm thickness.

76 3170

overall length		mm	130
76F 76 3170	Precision shears		XXX
Length cutter		mm	14.5

Kevlar® shears

Made of quenched and tempered steel. Comfortable plastic handles with opening spring.
Micro-pattern blades (57 – 59 HRC) prevent the fibres being pushed forward on cutting.
Application: Especially for cutting Kevlar® fibres (e. g. as strain relief in fibre optic cables).

76 3180

overall length		mm	150
76F 76 3180	Kevlar® shears		XXX
Length cutter		mm	21.5

Kevlar® scissors

Of hardened high-tensile carbon steel. Large gripper loops in the plastic handles for easy working.
Precision-ground micro-serrated cutting edges ensure a clean cut and prevent the fibres slipping.
76 3182 – With 2-component handle and concealed screws.
Application: Especially for cutting Kevlar® fibres.

76 3182_140

76 3183_160

76 3185_160

overall length		mm	140	160
71D 76 3182	Garant	Kevlar® scissors	XXX	–
73F 76 3183	KNIPEX		–	XXX
72D 76 3185	HOLEX		–	XXX
Length cutter		mm	40	

Fabric scissors

Fabric shears with micro toothing and ergonomic 2-component handles. Blades of stainless steel.
Application: Glass fibre, aramides, and many more

_200

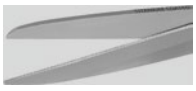
_250

overall length		mm	200	250
76F 76 9540	Fabric scissors		XXX	XXX
Length blade		mm	85	120

Garant General-purpose scissors with serrated lower blade and 2-component handles

Sturdy and handy universal heavy-duty scissors with ergonomic 2-component handles.
Titanium coating on the blades (of non-rusting stainless steel) ensures very good cutting characteristics and long working life.
Application: Paper, card, leather, rubber, film, plastic, fabric, and much more.

The serrated lower blade prevents the material to be cut from slipping.



_175

_235

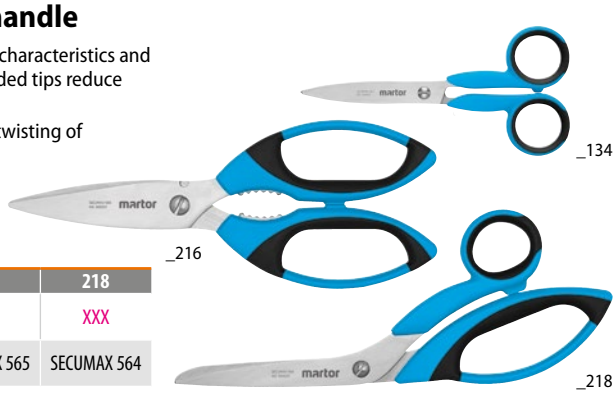
overall length		mm	135	175	210	235
71D 76 9240	Heavy-duty scissors with titanium coating		XXX	XXX	XXX	XXX

martor SECUMAX safety scissors with 2-component handle

Ergonomic 2-component handle. Blades of non-rusting stainless steel for very good cutting characteristics and long working life. The special profile of the blades protects against cutting injuries and rounded tips reduce the risk of puncture wounds.

Size 216 – With rotation notch especially for wires and cables, and with claws for untwisting of catches.

Application: Paper, cardboard, textiles, film, plastic strapping, and much more



overall length		mm	134	216	218
76F 76 9245	SECUMAX safety scissors		XXX	XXX	XXX
Manufacturer's type designation			SECUMAX 363	SECUMAX 565	SECUMAX 564

HOLEX General-purpose scissors with stainless steel blades, plastic handles

Ergonomic soft-grip handles of plastic. Blades of non-rusting stainless steel (52 - 54 HRC).

Application: Paper, cardboard, fabric, leather, rubber, cord, and much more.

overall length		mm	200	225	250
72D 76 9250	Heavy-duty stainless steel scissors		XXX	XXX	XXX

HOLEX General-purpose scissors with smooth blades (heavy-duty version)

Exceptionally strong tapered design with sturdy scissor blades. Smooth blades, strong handles with large finger holes. Strong adjustable screwed joint. Handles painted.

76 9510 – Scissor blades and joint bright finished.

76 9515 – Left-handed shears. Scissor blades and joint, nickel plated.

Application: Paper, cardboard, plastic sheeting, leather, and much more.

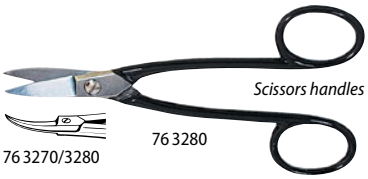
overall length		mm	200	250	300
72D 76 9510	Bright finished heavy-duty scissors		XXX	XXX	XXX
72D 76 9515	Nickel-plated work scissors **for left-handed users**		XXX	–	–

76

HOLEX Jeweller's snips

Slim shape:
drop-forged from special tool steel and specially hardened. Bright finished head, painted handles.

Application: Handy universal snips for cutting thin sheet metal.



overall length		mm	180
72D 76 3250	Jeweller's snips **straight, with open handles**		XXX
72D 76 3260	Jeweller's snips **straight, with scissor handles**		XXX
72D 76 3270	Jeweller's snips **curved, with open handles**		XXX
72D 76 3280	Jeweller's snips **curved, with scissor handles**		XXX
Length cutter		mm	35

HOLEX Weaver's scissors

Scissors with a handy but still robust design, surface nickel-plated.

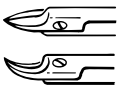
Application: For cutting paper, fabric, threads, cords, etc.

overall length			mm	100
72D 76 8405	Weaver's scissors			XXX

HOLEX Jeweller's snips

With short toothed blades; surface nickel-plated.

Application: Small cutters for precise trimming of very thin sheet metal and foil.



overall length			mm	110
72D 76 8505	Jeweller's snips	**straight**		XXX
72D 76 8605		**curved**		XXX

HOLEX Paper and fabric scissors

Strong but elegant cutter blades. Made of stainless steel.
Application: Paper, thin cardboard, thin leather, plastic sheeting, and much more.

overall length		mm	150	180
72D 76 9100	Paper and fabric scissors		XXX	XXX

HOLEX Long paper scissors (wallpapering scissors)

Strong, very long, and slim blades; fully nickel-plated. Made of stainless steel.
Application: Paper, fabric, thin material, and much more.

overall length		mm	200	250	300
72D 76 9200	Long paper scissors		XXX	XXX	XXX

HOLEX Demountable work scissors with serrated lower blade

Exceptionally strong tapered blades; serrated lower blade. Strong grips with large finger holes. With special joint; the scissors can be dismantled. Surface chrome-plated.
Application: Paper, cardboard, leather, linoleum, plastic, foil, and much more.

overall length		mm	210
72D 76 9305	Heavy-duty scissors chrome-plated		XXX

Hose shears

76 9940 – Shears body of die-cast magnesium with ergonomic rubberised handles. The blade has a PTFE anti-stick coating, which gives it outstanding anti-friction properties.
76 9960 – Handles with plastic coating and slip protection. Sturdy zinc die-cast pad for the hose.
76 9980 – Shears body of die-cast zinc. Cutter with PTFE anti-friction coating.
76 9940/9960/9980 – Sturdy hose shears for clean cutting. Broad Vee pad for hoses or plastic pipes. Exchangeable, specially hardened blades. The shears are **spring loaded** when opening and can be locked.
Application: Clean cutting **without crushing** due to the Vee-shaped cutter. Ideal for cutting hoses and also for some plastic pipes.

Note:
76 9940/9960/9980 – For plastic pipe shears see No. 819670; 819680; 819700.

76 9940

76 9960

71D 76 9940	Garant	Hose shears	XXX
71D 76 9945	Garant	Spare blade	XXX
76F 76 9960	LÖWE	Hose shears	XXX
76F 76 9965	LÖWE	Spare blade	XXX
for ∅ to (76 9940, 76 9960)		mm	28

76 9965

Application example 76 9960

for ∅ to			14	22
72D 76 9980	HOLEX	Hose shears	XXX	XXX
72D 76 9985	HOLEX	Spare blade	XXX	XXX

76 9980

General purpose shears

Body of sheet metal, blade of special steel, **(PTFE non-stick coating),** blade pad (anvil) of light metal. Slightly dragging cut; handles coated with non-slip plastic; shears mirror-finish chrome-plated.

Application: For cutting rubber, leather, plastic, and wood sections up to approx. 15 mm cross section.

Note: See No. 769815 (spare parts list) for spare blades.

_200

overall length		mm	175	200	245
76F 76 9805	General purpose shears		XXX	XXX	XXX
Length cutter		mm	25	42	75

General-purpose shears with trapezoidal blade

Body of sheet metal, blade pad (anvil) of light metal. Slightly dragging cut; handles coated with non-slip plastic, shears mirror-finish chrome-plated, including 1 trapezoidal blade.

Advantage: Quicker and also much more cost-effective changing of the **trapezoidal blade.**

Application: For cutting rubber, leather, plastic, and wood sections up to approx. 10 mm cross section.

Note: For replacement blades see No. 844710, 844715, 844730 and 844745, size 10 in each case.

overall length		mm	210
76F 76 9820	General-purpose shears with trapezoidal blade		XXX
Length cutter		mm	60

76

Mitre shears

Body of sheet metal, blade of high quality special steel **(PTFE anti-stick coated),** blade pad of light metal with 2× 45° stops and markings for 15°, 60° and 90°. Handles coated with plastic. Shears mirror-finish chrome-plated.

Application: For cutting mitred strips and sections in plastic, rubber or wood.

Note: See No. 769905 (spare parts list) for spare blades.

overall length		mm	210
76F 76 9900	Mitre shears		XXX
Length blade		mm	60

Cable channel shears

Shears body of sheet metal, blade of high quality special steel **(PTFE anti-stick coated),** sturdy and lightweight blade pad of hard plastic. Handles coated with plastic. Shears mirror-finish chrome-plated.

Application: For cutting strips and sections of hard plastic, such as cable channels and wiring channels.

Note: See No. 769925 (spare parts list) for spare blades.

overall length		mm	245
76F 76 9920	Cable channel shears		XXX
for rectangular profiles up to		mm	40×40
for U profiles up to		mm	75×10
Length blade		mm	87

Profile shears

Body of sheet metal, blade of high-quality special steel, **(PTFE anti-stick coated),** blade pad of light metal. Handles coated with plastic. Shears mirror-finish chrome-plated.

Application: For cutting rectangular plastic profiles and plastic tubes or hoses.

Note: See No. 769952 (spare parts list) for spare blades.

76 9950_175

76 9950_220

overall length		mm	175	220
76F	76 9950	Profile shears	XXX	XXX
for rectangular profiles up to		mm	15×15	25×45
Length blade		mm	34	60
for ∅ to		mm	15	32

Guillotine-type trimmer

Virtually unbreakable blade **(PTFE non-stick coating)** of high-quality special steel for long cuts. Sturdy lightweight design, can also be used as a table-mounted tool, including security locking. Blade pad with stops for 45° or 90° cuts.

Application: Easy cutting of strips and profiles of plastic, rubber, wood or composite materials.

Note: See No. 769957 (spare parts list) for spare blades.

76 9955

overall length		mm	580
76F	76 9955	Guillotine-type trimmer	XXX
Upper blade length		mm	130

Hand-operated shears

76 9930 Size 4BR/8 – With geared action. Cuts sheet metals, flat steel bar, round, and square steel bar. The sheet metal blades are also capable of notching or cutting angle section and T-section steel, at right angles or diagonally. Only 2 - 3 movements of the lever are necessary for this.

76 9936 – With compound action, cuts sheet metals and round steel bar.

76 9930/9936 – Sturdy shears body of quenched and tempered steel. Moving blade guides free of play (with low friction losses), blades of special tool steel, specially hardened and ground. Lever arm with counterweight spring for protection in the event of accidents, all pivot pins adjustable, all models with steplessly adjustable clamping arm.

76 9930 Size 1BR/4–1BR/6 – With compound action. Cuts sheet metals and round steel bar.

Colour:

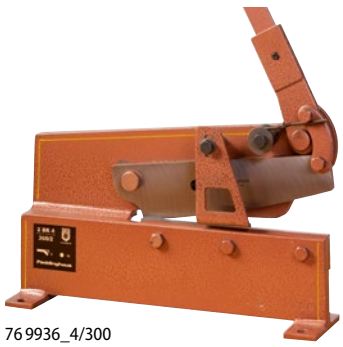
76 9930/9936 – Red-brown.

Note:
- The following specifications are required for subsequent orders of spare blades: Make, model, and, if known, the machine number or accurate scale drawing.
- Please note: The indicated cutting performance is a maximum. If sustained use at the maximum cutting performance is required, we recommend the next larger model.
- Cutting performance specifications refer to materials of 450 N/mm² tensile strength.

76 9936 – For spare upper blade No. 769938 and spare lower blade No. 769939 see the spare parts list.

76 9930_1BR/5

76 9930_4BR/8


76 9936_4/300

Model			1BR/4	1BR/5	1BR/6	4BR/8
76L	76 9930	Hand-operated shears	XXX	XXX	XXX	XXX
76L	76 9932	Spare blade for sheet metal (upper blade)	XXX	XXX	XXX	XXX
76L	76 9934	Spare blade for sheet metal (lower blade)	XXX	XXX	XXX	XXX
Cutting capacity sheet thickness		mm	up to 4	up to 5	up to 6	up to 8
Cutting capacity round steel bar ∅		mm	up to 10	up to 11	up to 13	up to 20
Cutting capacity square steel bar		mm	–	–	–	up to 18
Upper blade length (76 9930)		mm	149	173	211	186
Lower blade length (76 9930)		mm	120	150	180	175
Weight (76 9930)		kg	10.5	12	19	47

Model			4/300
76L	76 9936	Long-bladed hand-operated shears	XXX
Cutting capacity sheet thickness		mm	up to 4
Cutting capacity round steel bar ∅		mm	up to 13
Upper blade length		mm	355
Lower blade length		mm	300
Weight		kg	30

GESIPA® Hand pop riveter „NTX“ for pop rivets

First-class hand pop riveter of high-quality die-cast aluminium, handles of forged CrV steel.
Pleasant to work with thanks to the reduced force requirement and damping when snapping off.

Supplied with: Nozzles 10/18, 10/24, 10/32.

74B 77 0205	“NTX” hand pop riveter		XXX
overall length		mm	260
for pop rivets aluminium, copper		mm	2.4 – 5
for pop rivets steel, stainless steel		mm	2.4 – 5
Tool stroke		mm	8
Weight		g	575

Hand pop riveter set for pop rivets „Nietbox NTX“

Supplied with: “NTX” hand pop riveter No. 770205 including nozzle 10/24 (in the working position) and 10/18, 10/32 (in the capture box) with 1 assembly spanner.
approx. 940 pop rivets of 12 different sizes:
approx. 430 pcs. alu/steel Ø 3 mm in 5 different lengths,
approx. 350 pcs. alu/steel Ø 4 mm in 5 different lengths,
approx. 90 pcs. copper/steel Ø 3 mm and
approx. 70 pcs. steel/steel Ø 4 mm.
In a sturdy metal box.

77 0210

74A 77 0210	GESIPA® Pop riveter set “Rivet box NTX”		XXX
overall length (hand pop riveter)		mm	260
for pop rivets aluminium, copper		mm	2.4 – 5
for blind rivets stainless steel		mm	2.4 – 4
Weight (hand pop riveter)		g	575

HOLEX Hand pop riveter for pop riveting

Size HN35 – Reasonably priced universal pop riveter.
Size BZ44F – Sturdy model with complex lever mechanism.
Size S – Sturdy model with complex lever mechanism and swivel head (rotates through 360°).
1 pair spare jaws.

Application: For processing pop rivets (in all materials).
Spare part: Clamping jaws No. 770230, nozzle No. 770240.

77 0200_HN35

77 0200_BZ44F

77 0200_S

Type		HN35	BZ44F	S
72E 77 0200	Hand pop riveter	XXX	XXX	XXX
overall length	mm	265	255	280
for pop rivets aluminium, copper	mm		3 – 5	
for blind rivets steel	mm		3 – 4	
Weight	g	500	500	700

Supplied with: Comprising a high-quality hand pop riveter with lever action and an assortment of approx. 200 aluminium blind rivets, in a strong plastic case.

72E 77 0201	Pop riveter set	XXX
Content: Hand pop riveter No. 770200		Size BZ44F
50 each aluminium pop rivets D×L		2.4×5.5 / 3.2×6.3 4.0×6.3 / 4.8×6.0 mm

GESIPA® Large lever riveter for pop rivets

Die-cast aluminium body with tubular handles.
Supplied with: Nozzle No. 770640 size 29 - 45.
Spare part: Spare jaws No. 770630, spare nozzle No. 770640.

77 0600

Type		HN2
74B 77 0600	Lever riveter	XXX
overall length	mm	570
for pop rivets in all materials up to	mm	3 – 6.4
Weight	kg	1.85

GESIPA® Hand pop riveter FLIPPER® for pop riveting

Robust, sturdy pop riveter **with rivet pin capture box.** One-handed operation, approx. 30 % less force required. Feed mechanism retains the rivet pin after it has been snapped off - pushing the lever forwards releases the rivet pin.

Application: For processing pop rivets (in all materials).

Supplied with: Nozzle 10/24 (in working position) and 10/18, 10/29 (in capture box) with 1 assembly spanner on the capture box.

74A 77 0280	Hand pop riveter FLIPPER®		XXX
overall length		mm	212
for pop rivets aluminium, copper		mm	3 – 5
for pop rivets steel, stainless steel		mm	3 – 4
Weight		g	750

Supplied with: Comprising a Flipper® high quality hand pop riveter with and assortment of 250 PolyGrip aluminium/steel pop rivets, in strong plastic case.

74A 77 0285	Hand pop riveter set FLIPPER® box	XXX
Content: Hand pop riveter No. 770280		1 pc.
PolyGrip aluminium/steel pop rivets 3.2×8 mm		100 pcs.
PolyGrip aluminium/steel pop rivets 4.0×10 mm		100 pcs.
PolyGrip aluminium/steel pop rivets 4.8×10 mm		50 pcs.

GESIPA® Hand pop riveter set for pop rivet nuts

Hand pop riveter of high-quality die-cast aluminium, handles of forged CrV steel. Quick-change system for threaded spigots, no tools required.

Supplied with: "GBM 10" hand pop riveter for joining thicknesses from 0.25 to 3 mm. Supplied with a threaded spigot and nozzles M4, M5 and M6, pop rivet nuts in 4 sizes:
approx. 50 pcs. aluminium M4×6×11.0 mm
approx. 50 pcs. aluminium M5×7×11.5 mm
approx. 50 pcs. aluminium M5×7×13.5 mm
approx. 40 pcs. aluminium M6×9×15.5 mm.
In a sturdy plastic box.

74A 77 0290	Pop rivet box	XXX
for pop rivet nuts alu		M4 – M6
for pop rivet nuts steel, brass and stainless steel		M4 – M5

HOLEX Universal hand pop riveter with swivel head

Sturdy riveter body with complex lever mechanism. Riveting head swivels 360°.

Application: For processing pop rivets (in all materials). Not suitable for M6 steel pop rivets (only for aluminium).

Spare part: Threaded spigot No. 770301, clamping jaws No. 770305.

For pop rivets

For rivet nuts

For rivet screws

72E 77 0310	Universal hand pop riveter with swivel head		XXX
Nozzle for pop rivets		mm	2.4; 3; 4; 5
Threaded spigot nozzle for rivet nuts			M3; M4; M5; M6
Insert for rivet screws			M4; M5; M6

HOLEX Universal lever riveter

Sturdy riveter body with extendable, automatically locating lever arms (low force required), 2-component handles, and container for rivet spigots.

Application: For processing pop rivets (in all materials).

Spare part: Threaded spigot No. 770401, clamping jaws No. 770405, rivet pin capture box No. 770402.

77 0410

For pop rivets

For rivet nuts

For rivet screws

72E 77 0410	Universal lever riveter		XXX
Nozzle for pop rivets		mm	3; 4; 5; 6.4
Threaded spigot nozzle for rivet nuts			M4; M5; M6; M8; M10
Insert for rivet screws			M4; M5; M6; M8

Electro-mechanical pop rivet tool

Cordless tool for flexible use.

Advantage:
- LED illumination of the working area.
- Integral belt clip.

M12BPRT

Supplied with: Supplied with Li-ion battery No. 073814 MB12 and charger in a plastic case, nozzles 2.4, 3.2, 4.0, 4.8 mm.

Note: See No. 073814, 073815, 073829, 073839 and 073840 for suitable spare batteries and chargers. A version without battery and without charger can be found under No. 770450 M12BPRT-0.

77 0450

Type			M12BPRT
03L 77 0450	Cordless pop rivet tool **M12BPRT**		XXX
Tool stroke		mm	20.32
for pop rivets in all materials up to		mm	4.8
Setting force		N	9000
Battery capacity		Ah	2
Battery voltage		V	12
Weight including rechargeable battery		kg	2.1

M18ONEFPRT

Supplied with:

Size M18ONEFPRT – Supplied with 2 pcs. Li-ion battery No. 073827 size MB18 and charger in a plastic case, nozzles 4.8, 6.0, 6.4 and 7.0 mm.

Note:

Size M18ONEFPRT – See No. 073816, 073827, 073839 and 073840 for suitable batteries and chargers. A version without battery and without charger can be found under No. 770460 size ONEFPRT-0.Size Gr. ONEFPRT-0.

77 0460

Type			M18ONEFPRT
03L 77 0460	Cordless pop rivet tool **M18ONEFPRT-202X**		XXX
Tool stroke		mm	30
for pop rivets in all materials up to		mm	6.4
Setting force		N	20000
Battery capacity		Ah	2
Battery voltage		V	18
Weight including rechargeable battery		kg	2.5

Electro-mechanical pop rivet tool

Cordless tool for flexible use.

Advantage: High operating speed combined with equally high performance; high reliability due to electronic control.

AccuBird®

Supplied with: Includes Li-ion battery No. 770527 and charger No. 770528 size 1 in a plastic case. Nozzles 17 / 24; 17 / 27; 17 / 29 and 17 / 32.

77 0500

74A 77 0500	Cordless pop rivet tool **AccuBird®**		XXX
Tool stroke		mm	20
for pop rivets in all materials up to		mm	5
Setting force		N	10000
Battery capacity		Ah	2
Battery voltage		V	14.4
Weight including rechargeable battery		kg	2

AccuBird® Pro

Supplied with: Includes Li-ion push-in battery No. 770524 and charger No. 770528 size CAS **in L-BOXX.** Nozzles 17 / 20; 17 / 24; 17 / 27; 17 / 29; 17 / 32; 17 / 36 and 17 / 40.

77 0504

Type		CAS
74A 77 0504	Cordless pop rivet tool **AccuBird® Pro**	XXX
Tool stroke	mm	25
for pop rivets in all materials up to	mm	6
Setting force	N	13000
Battery capacity	Ah	2
Battery voltage	V	18
Weight including rechargeable battery	kg	2.1

GESIPA® Electro-mechanical setting tool for pop rivet nuts

Cordless tool for blind rivet nuts up to M10 aluminium, up to M8 steel and up to M6 stainless steel.

Advantage: Very powerful, large number of rivet nuts per battery charge. Easy and reliable twisting on of blind rivet nuts. Electronic control of the setting stroke used. Quick-change system for threaded spigots.

77 0520

For rivet nuts

FireBird®

Supplied with: 1 each threaded spigot and nozzle M4, M5 and M6, 1 hexagon L-wrench, 2× double open-ended spanners size 24×27, Li-ion battery No. 770527, and battery charger No. 770528 size 1 in a plastic case.

74A 77 0520	Cordless pop rivet nut setting tool **FireBird®**	XXX
Setting force	N	13000
Battery capacity	Ah	2
Battery voltage	V	14.4
Weight including rechargeable battery	kg	2.1

FireBird® Pro

Supplied with: 1 each threaded spigot and nozzle M4, M5 and M6, 1 hexagon L-wrench, 1× double open-ended spanner size 24×27, Li-ion push-in battery No. 770524 and charger No. 770528 size CAS **in L-BOXX.**

77 0530

For rivet nuts

Type		CAS
74A 77 0530	Cordless pop rivet nut setting tool **FireBird® Pro**	XXX
Setting force	N	15000
Battery capacity	Ah	2
Battery voltage	V	18
Weight including rechargeable battery	kg	2.4

GESIPA® Battery and charger

Suitable for:

77 0524 – All products from the Cordless Alliance System (CAS) platform in the respective voltage class.

77 0527_2,0

77 0524_2,0

Capacitance	Ah	2,0	4,0
74A 77 0524	Li-ion quick-change battery	–	–
74A 77 0527		–	–
Battery voltage (77 0524)	V	18.0	
Battery voltage (77 0527)	V	14.4	
Suitable for: Pop rivet tool/pop rivet nut setting tool (77 0524)		No. 770504 Size CAS; No. 770530 Size CAS	
Pop rivet tool/pop rivet nut setting tool (77 0527)		No. 770500; 770505; 770520	

Suitable for:

Size CAS – All products from the Cordless Alliance System (CAS) platform in the respective voltage class.

77 0528_1

77 0528_CAS

Type		1	CAS
74A 77 0528	Battery charger	XXX	XXX
Charging time per battery	min	50 – 100	–
Input voltage	V	230	
Output voltage	V	14.4	12 – 36
Weight	kg	0.6	–
Suitable for: Li-ion quick-change battery		No. 770527	No. 770524

GESIPA® Pneumatic-hydraulic pop rivet tool TAURUS®

Operating pressure 5 – 7 bar. Removable rivet pin capture box.

Advantage: The **gripping jaw system** ensures very long tool life and a non-slip grip on the rivet spigot. Low compressed air consumption due to two-phase operation: for setting **and** for lifting away the broken-off tail. Very quick operating cycle.

Supplied with: Assembly spanners 12 / 14 AF and 14 / 17 AF. 1 bottle hydraulic oil 100 ml and 1 oil refill container.

Size 1 – Including nozzles 17/18, 17/20, 17/22.

Size 2 – Including nozzles 17/24, 17/27, 17/29, 17/32.

Size 3 – Inluding nozzles 17/ 36, 17/ 40, 17/ 45.

For pop rivets

Type		1	2	3
74A 77 0512	Pneumatic-hydraulic pop rivet tool **TAURUS®**	XXX	XXX	XXX
Tool stroke	mm	15	18	25
Setting force at 5 bar	N	4200	9000	14000
Air consumption per rivet	l	1	2.3	4.8
Hose connection	mm		6	
Hose connection	inch		1/4	
maximum mandrel ∅	mm	2.5	3.2	4.5
for pop rivets in all materials up to	mm	3.2	5	6.4
for pop rivets steel / aluminium up to	mm	4	6	6.4
Weight	kg	1.3	1.6	1.9

FAR Pneumatic-hydraulic pop rivet tool

Operating pressure 6 – 7 bar. Removable rivet pin capture box. Powerful and reliable pop riveter.
Quick and reliable securing of pop rivets due to the powerful gripping system (grips the rivet pin without slipping).
Variably adjustable suction to dispose the snapped rivet pins into the capture box.

Supplied with:

Size RAC211 – Nozzles (suitable for steel, stainless steel, aluminium, copper): 2.4; 2.4-3.4 and 4 mm. Nozzle (suitable for aluminium): 4.8 mm. 1 bottle hydraulic oil 50 ml.

Size RAC182 – Nozzles (suitable for steel, stainless steel, aluminium, copper): 2.4; 2.4-3.4 and 4.8 mm. Nozzle (suitable for aluminium): 6 mm. 1 bottle hydraulic oil 50 ml.

77 0513_RAC211

For pop rivets

Type		RAC211	RAC182
72E 77 0513	Pneumatic-hydraulic pop rivet tool	XXX	XXX
Tool stroke	mm	16	20.5
Setting force at 6 bar	N	6600	10500
Air consumption per rivet	l	3.4	5.1
Hose connection	mm	8	
maximum mandrel ∅	mm	2.5	3.5
for pop rivets in all materials up to	mm	4	4.8
for pop rivets aluminium up to	mm	4.8	6
Weight	kg	1.4	1.7

GESIPA® Pneumatic-hydraulic setting tool FireFox® for pop rivet nuts

Operating pressure 5 – 7 bar. Automatic nut spinning procedure as soon as the pop rivet nut is gently pressed on to the threaded pin. Extremely productive operation due to quick spinning and lightning-fast setting process.

Size 2 – Combines in **one single** tool the capability of inserting pop rivet nuts to a set force or a set stroke.

Supplied with: Two assembly wrenches 24 / 27 AF, 1 hexagon bit driver 4 AF, 1 bottle of hydraulic oil 100 ml, 1 oil refill container.

Size 1 – Nozzle and threaded mandrel M3, M4, M5, M6.

Size 2 – Nozzle and threaded mandrel M4, M5, M6, M8.

Note: Spare nozzles are available under No. 770516.

Single button operation *with automatic return and spinning back.*

Manual unspinning head *for defective or incorrect pop rivets.*

Type		1	2
74A 77 0515	Pneumatic-hydraulic pop rivet nut setting tool **FireFox®**	XXX	XXX
Adjustable setting stroke, max.	mm	–	10
Stroke	mm	7.5	–
Setting force selectable, max. at 5 bar	N	12000	22000
Air consumption per setting operation (depending on the thread)	l	max. 2	2 – 4
Hose connection	mm	6	
Hose connection	inch	1/4	
for pop rivet nuts in all materials		M3 – M6	M3 – M10
for pop rivet nuts steel/alu		M3 – M6	M3 – M12
Weight	kg	1.96	2.4

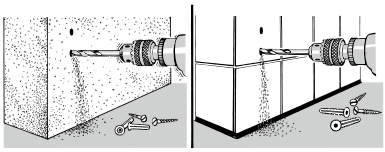
Carbide | DIN 8039 | ISO 5468

Carbide masonry drills

Drill tipped with hard and tough carbide inserts and brazed at high temperature.
Asymmetrical flute profile for good transport of drill dust.
Hammer and rotary bits with strong carbide cutter tip.

Application: Primarily for **drilling fastening holes with hammer drills** in concrete, masonry, natural and synthetic stone. Also for rotary drilling in hard and soft wood, plastics, acrylic and ceramic. Also suitable for drilling hardened steel due to corrected cutting edge.

78 6000



Hammer drilling in concrete. *Drilling in tiles.*

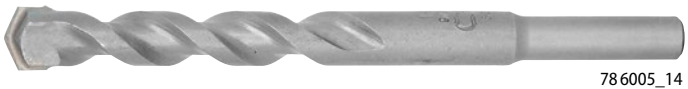
Size 14–20 – With recessed shank.

Drill ∅	mm	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8
76G 78 6000 Milwaukee Carbide masonry drill		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	30	40	40	50	50	50	60	60	60	60	80
overall length	mm	60	70	75	85	85	85	100	100	100	100	120
Shank ∅	mm	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8

Drill ∅	mm	8,5	9	9,5	10	11	12	13	14	16	18	20
76G 78 6000 Milwaukee Carbide masonry drill		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	80	80	80	80	85	85	90	90	95	100	100
overall length	mm	120	120	120	120	150	150	150	150	160	160	160
Shank ∅	mm	8.5	9	9.5	10	11	12	13	10	10	10	12.5

78 6005_5

Size 12–16 – With recessed shank.



78 6005_14

Drill ∅	mm	3	3,5	4	4,5	5	5,5	6	6,5	7
76K 78 6005 BOSCH "CYL-3" carbide masonry drill		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	40	40	40	40	50	50	60	60	60
overall length	mm	70	70	75	75	85	85	100	100	100
Shank ∅	mm	3	3.5	4	4.5	5	5.5	6	6.5	7

Drill ∅	mm	8	9	10	11	12	14	16
76K 78 6005 BOSCH "CYL-3" carbide masonry drill		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	80	80	80	90	90	90	100
overall length	mm	120	120	120	150	150	150	160
Shank ∅	mm	8	9	10	11	10	10	12.3

Carbide masonry drill set

Number of drills		5	8
76G 78 6080 Milwaukee Carbide masonry drill set		XXX	XXX
Content: Drill No. 786000		1 pc. each size 4; 5; 6; 8; 10	1 pc. each size 3; 4; 5; 6; 7; 8; 9; 10

78 6080

Carbide | max. 200 min^{-1}

Fine stoneware / tiles drilling set

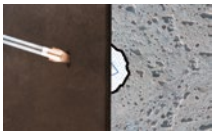
78 7035

2 pieces. A drill with a **diamond-ground carbide tip** with a patented centring tip for highly accurate start positioning and exact holes without break-outs. With 10 mm shank. A carbide drill for use in standard drill chucks. With 1/4 inch (E 6.3) hexagon shank.

Application: For **very hard stoneware tiles** up to Mohs / scratch hardness class 9 and for glass and porcelain.

Note: Not suitable for hammer drills. Maximum spindle speed 200 rpm. No cooling required.

1. Drill a hole in the tile



2. Drill a fastening hole into the masonry

Drill ∅	mm	5	6	8	10
76G 78 7035 Fine stoneware drill /tiles drill		XXX	XXX	XXX	XXX
overall length	mm	105	115	120	120

Carbide

The cutting edges must always be sharp. Sharpen blunt drills using a silicon carbide grinding wheel (e.g. No. 596100 - 596610_SC 80).

Garant

Carbide-tipped multi-purpose drills

Multi-purpose drill with **especially sharp carbide insert** for precise holes in different materials. Large-volume helical flute for **quick removal of dust and chips.** Shank of annealed special steel.

Application: For drilling various materials, including in a single operation:

- Bricks, porous concrete, lightweight materials, plastics.
- Tiles, ceramics, marble, glass.
- Metal and material combinations in a single operation, such as when fitting windows or when reinforcing concrete.

Note:

- **Caution: only for rotary use (without hammer action!)**
- **Faster drilling and more holes per battery charge than with hammer drill bits.**

78 7070

Drill ∅ mm	3	4	5	6	8	10	12
71C 78 7070 Carbide-tipped multi-purpose drills	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length mm	40	50	50	60	80	80	90
overall length mm	70	85	85	100	120	120	150

Carbide-tipped multi-purpose drill set

Number of drills	7
71C 78 7078 Carbide-tipped multi-purpose drill set	XXX
Content: 1 each drill No. 787070	Size. (∅) 4; 5; 6; 6; 8; 8; 10

Carbide

The cutting edges must always be sharp. Sharpen blunt drills using a silicon carbide grinding wheel (e.g. No. 596100 - 596610_SC 80).

Milwaukee

Carbide-tipped multi-purpose drills

Carbide tip **with ground point and multi-purpose cutter angle. The centrally ground chisel edge** ensures accurate spot drilling also on hard surfaces. Shank of annealed special steel.

Application: For drilling various materials, in a single operation:

- Bricks, porous concrete, lightweight materials, plastics.
- Tiles, ceramics, marble, glass
- Reinforcing bars in concrete.

Note:

- **Caution: only for rotary use (without hammer action!)**
- **Faster drilling and more holes per battery charge than with hammer drill bits.**

78 7001

E 6.3

78 7060

SDS PLUS

Drill ∅ mm	3	4	5	6	8	10	12
76G 78 7001 Carbide-tipped multi-purpose drill, 1/4 inch (E 6.3)	XXX	XXX	XXX	XXX	XXX	XXX	XXX
76G 78 7060 Carbide-tipped multi-purpose drill **long with SDS-plus shank socket**	–	–	–	XXX	XXX	XXX	XXX
Flute length (78 7001) mm	45	45	50	50	60	60	90
Flute length (78 7060) mm	–	–	–	100	150	200	200
overall length (78 7001) mm	90	90	100	100	120	120	150
overall length (78 7060) mm	–	–	–	160	210	260	260

Carbide-tipped multi-purpose drill set

E 6.3

78 7011

Drill ∅ mm	8
76G 78 7011 Carbide-tipped multi-purpose drill set, 1/4 inch (E 6.3)	XXX
Content: 1 each drill No. 787001	Size (∅) 4; 5; 5; 6; 6; 8; 10; 12

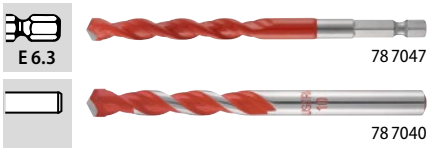
Carbide

Carbide-tipped multi-purpose drills

The carbide insert is diamond ground all round, giving **extra-sharp, super-hard cutting edges.**
Patented 4-step profile for quick removal of chips and swarf.

Application: Precise **drilling** in tiles, masonry and concrete, metal, wood, and plastics.

Note: **Caution - only for rotary use (without hammer action!)**



78 7047

78 7040

78 7045

78 7047 – Carbide-tipped multi-purpose drill bit, 1/4 inch **(E 6.3).**

Drill ∅	mm	4	5	6	8	10	12
76G 78 7040	Carbide-tipped multi-purpose drill	XXX	XXX	XXX	XXX	XXX	XXX
76G 78 7045	Carbide-tipped multi-purpose drill **long**	–	–	XXX	XXX	XXX	XXX
76G 78 7047	Carbide-tipped multi-purpose drill bit, 1/4 inch (E 6.3)	XXX	XXX	XXX	XXX	XXX	–
Flute length (78 7040, 78 7047)	mm	39	39	54	80	80	90
Flute length (78 7045)	mm	–	–	300	300	300	300
overall length (78 7040)	mm	75	85	100	120	120	150
overall length (78 7045)	mm	–	–	400	400	400	400
overall length (78 7047)	mm	100	100	100	120	120	–

Carbide-tipped multi-purpose drill set

78 7057 – Carbide-tipped multi-purpose drill bit, 1/4 inch **(E 6.3).**

Drill ∅	mm	4-10	6-12
76G 78 7050	Carbide-tipped multi-purpose drill set	XXX	–
76G 78 7055	Carbide-tipped multi-purpose drill set **long**	–	XXX
76G 78 7057	Carbide-tipped multi-purpose drill bit set, 1/4 inch (E 6.3)	XXX	–
Content: 1 each drill		Size (∅) 4; 5; 6; 8; 10 mm	Size (∅) 6; 8; 10; 12 mm

78 7050

78 7057

Universal hole saw

Carbide teeth for a longer working life, even when drilling into dense materials. Wide and deep flutes for easy removal of the drilled core. Aggressive tooth geometry for up to 10x quicker drill progression in comparison to bi-metal hole saws. Ideal for use in the electronics area and installation area.

Application: For drilling larger holes and breaking throughs in various materials: masonry, lightweight materials, plastics, and wood. Unsuitable for use in hard materials such as concrete, granite, natural stone and hard tiles with a hardness greater than 30 N/mm².

Spare part:

78 8042 – Centre drills are available under No. 788051 and special adapters with centre drill are available under No. 788052.

Note: **Use only with rotary drive (no impact).**

Carbide

78 8041

Hole ∅	mm	30	35	44	51	57	65	68	76	82	102
76G 78 8041	Universal hole saw without centre drill	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Number of cutting edges Z		2	2	2	3	3	3	3	3	3	3
maximum cutting depth	mm	60									
For use on		Sanitation and heating pipes, halogen lamps			Switch boxes, cavity wall boxes and distribution boxes, recessed lighting						Air extraction pipes and domestic waste pipes

Number of pieces		10
76G 78 8042	Universal hole saw set	XXX
Content: Universal hole saws No. 788041		1 pc. each size 35; 44; 51; 57; 68; 76
Centre drills No. 788051		2 pcs. size 115
Adapter with centre drill No. 788052		1 pc. size 115-6KT
Diamond file		1 pc.
Hexagon L-wrench		1 pc.
Presented in		Plastic case

78 8042

Carbide masonry hole saw

Carbide

Hole saw tipped with **diamond ground carbide cutter tips.**
With M16 internal thread for shank No. 788022.

Application: For drilling larger holes and break-throughs with **hammer or hammer drills** in concrete, masonry, natural stone etc.

78 8000

Hole ∅		mm	35	50	68	82	90
76G 78 8000	Carbide masonry hole saw without centre drill		XXX	XXX	XXX	XXX	XXX
Overall length		mm	58	58	50	50	50

SDS-plus shank

With M16 thread and mounting hole for centre drill.

Supplied with: Drill drift.

Note: Centre drill No. 788070 size 120

78 8022

overall length		mm	105
76G 78 8022	Mounting shank for masonry hole saws		XXX
Type of shank			SDS-Plus

Centre drills

Carbide drill for masonry etc., for special adapters No. 788022.
Drill with plain shank.

78 8070

Length		mm	120
76G 78 8070	Centre drill		XXX
Shank ∅		mm	7.4

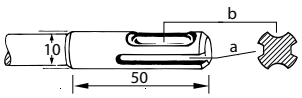
Carbide

Carbide-tipped hammer drill – 2 cutting edges with SDS-plus shank

The 3 special Power Breaker projecting teeth of the M2 generate micro-cracks in the material being drilled, these promote quicker advance by the drill and faster removal of material. The high quality carbide tip with particularly strong brazed joint guarantees long tool life, even in reinforced concrete.
The reinforced core flutes (KVS) are vibration-damping, so the impact energy is transmitted directly to the drilling tip.

Application: For drilling concrete, natural stone, and masonry.

Note: When using extra long drills (> 500 mm), first drill a pilot hole with a shorter drill of the same diameter (prevents bending and breakage).



≤ ∅ 16

Power Breaker

≥ ∅ 18

∅×overall length mm	76G 78 9000 Carbide-tipped hammer drill SDS-plus	Flute length mm
4×110	XXX	50
5×110	XXX	50
5×160	XXX	100
6×110	XXX	50
6×160	XXX	100
6×260	XXX	200
6×310	XXX	250
6,5×210	XXX	150
7×160	XXX	100
8×110	XXX	50
8×160	XXX	100
8×210	XXX	150
8×260	XXX	200
8×310	XXX	250
8×460	XXX	400
9×210	XXX	150
10×110	XXX	50

∅×overall length mm	76G 78 9000 Carbide-tipped hammer drill SDS-plus	Flute length mm
10×160	XXX	100
10×210	XXX	150
10×260	XXX	200
10×310	XXX	250
10×450	XXX	400
12×160	XXX	100
12×210	XXX	150
12×260	XXX	200
12×450	XXX	400
12×600	XXX	550
13×160	XXX	100
14×160	XXX	100
14×260	XXX	200
14×450	XXX	400
14×600	XXX	550
15×160	XXX	100
15×260	XXX	200

∅×overall length mm	76G 78 9000 Carbide-tipped hammer drill SDS-plus	Flute length mm
16×210	XXX	150
16×310	XXX	250
16×450	XXX	400
16×600	XXX	550
18×200	XXX	150
18×450	XXX	400
20×200	XXX	150
20×300	XXX	250
20×450	XXX	400
22×250	XXX	200
22×450	XXX	400
24×250	XXX	200
24×450	XXX	400
25×250	XXX	200
25×450	XXX	400
26×450	XXX	400

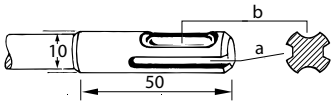
_6 x265

_16 x265

Active centring tip for active drilling in concrete. The high quality carbide tip with particularly strong brazed joint guarantees long tool life, even in reinforced concrete.

Application: For drilling concrete, natural stone, and masonry.

Note: When using extra long drills (> 500 mm), first drill a pilot hole with a shorter drill of the same diameter (prevents bending and breakage).



∅×overall length mm	76K 78 9005 BOSCH Carbide-tipped hammer drill "5" SDS-plus	Flute length mm
4×115	XXX	50
5×115	XXX	50
5×165	XXX	100
6×115	XXX	50
6×165	XXX	100
6×265	XXX	200
7×165	XXX	100
8×115	XXX	50
8×165	XXX	100
8×215	XXX	150
8×265	XXX	200
9×215	XXX	150
10×115	XXX	50
10×165	XXX	100
10×215	XXX	150

∅×overall length mm	76K 78 9005 BOSCH Carbide-tipped hammer drill "5" SDS-plus	Flute length mm
10×265	XXX	200
10×360	XXX	300
10×465	XXX	400
12×165	XXX	100
12×215	XXX	150
12×265	XXX	200
12×465	XXX	400
12×615	XXX	550
13×165	XXX	100
14×165	XXX	100
14×265	XXX	200
14×465	XXX	400
14×615	XXX	550
15×165	XXX	100
15×265	XXX	200

∅×overall length mm	76K 78 9005 BOSCH Carbide-tipped hammer drill "5" SDS-plus	Flute length mm
16×265	XXX	200
16×315	XXX	250
16×465	XXX	400
16×615	XXX	550
18×200	XXX	150
18×450	XXX	400
20×200	XXX	150
20×300	XXX	250
20×450	XXX	400
22×250	XXX	200
22×450	XXX	400
24×250	XXX	200
25×250	XXX	200
25×450	XXX	400

Carbide-tipped hammer drill set in metal case

78 9020_5-14

Drill ∅ mm		5-12	5-14
76G 78 9020	Carbide-tipped hammer drill set	XXX	XXX
Content: Hammer drill No. 789000		1 pc. each size 5; 6; 8, length 110 mm; size 6; 8; 10; 12 length 160 mm	1 pc. each size 5; 6; 6, length 110 mm; size 6; 6; 8; 8; 10; 12; 14, length 160 mm

(Cordless) hammer drills can be found from No. 07 5510

Sturdy SDS-plus hammer drill
with pneumatic impact mechanism

Carbide | SDS PLUS

Garant

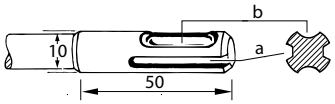
Carbide-tipped hammer drill – 2 cutting edges with SDS-plus shank

The distinctive and aggressive centre point permits active centring and optimum guidance during the drilling operation. Innovative head design with short straight lands for significantly faster drilling coupled with significantly improved stability, even in reinforced concrete. Vibration-optimised helical profile with reinforced core. The core diameter and the helix pitch of the drill are precisely matched to each other and ensure efficient transmission of force from the hammer drill to the carbide tip.

Advantage:
- **Short helical lands** and **concave rake faces** (scooping effect) ensure smooth evacuation of the drilling dust.
- **Wear marks:** for evaluation whether the tool is still suitable for drilling holes suitable for insertion of plugs.
- Additional **specially shaped core cutting edges:** efficient fragmentation of concrete.

Application: For drilling concrete, natural stone, and masonry - with very high drilling comfort.

Note: When using extra long drills (> 500 mm), first drill a pilot hole with a shorter drill of the same diameter (prevents bending and breakage).



2-cutter carbide head made from a single piece

_8x160

_16x210

∅×overall length mm	71C 78 9010 Carbide-tipped hammer drill SDS-plus	Flute length mm
4×110	XXX	50
5×110	XXX	50
5×160	XXX	100
6×110	XXX	50
6×160	XXX	100
6×260	XXX	200
6×310	XXX	250
6,5×210	XXX	150
7×160	XXX	100
8×110	XXX	50
8×160	XXX	100
8×210	XXX	150
8×260	XXX	200
8×310	XXX	250
8×460	XXX	400
9×210	XXX	150
10×110	XXX	50
10×160	XXX	100

∅×overall length mm	71C 78 9010 Carbide-tipped hammer drill SDS-plus	Flute length mm
10×210	XXX	150
10×260	XXX	200
10×310	XXX	250
10×350	XXX	290
10×450	XXX	390
12×160	XXX	110
12×210	XXX	160
12×260	XXX	210
12×450	XXX	400
12×600	XXX	550
13×160	XXX	110
14×160	XXX	110
14×260	XXX	210
14×450	XXX	400
14×600	XXX	550
15×160	XXX	110
15×260	XXX	210
16×210	XXX	160

∅×overall length mm	71C 78 9010 Carbide-tipped hammer drill SDS-plus	Flute length mm
16×260	XXX	210
16×310	XXX	260
16×450	XXX	400
16×600	XXX	550
18×200	XXX	150
18×450	XXX	400
20×200	XXX	150
20×300	XXX	250
20×450	XXX	400
22×250	XXX	200
22×450	XXX	400
24×250	XXX	200
24×450	XXX	400
25×250	XXX	200
25×450	XXX	400
26×450	XXX	400

Carbide-tipped hammer drill set

Drill ∅ mm	5-12
71C 78 9015 Carbide-tipped hammer drill set	XXX
Content: Hammer drill No. 789010	1 pc. each size 5; 6; 8, length 110 mm size 6; 8; 10; 12 length 160 mm
Storage in	Plastic case

Carbide | SDS PLUS

Garant Carbide-tipped hammer drill – 4 cutting edges with SDS-plus shank

Drill head with square cross-section. **4×90° geometry** with specially developed **equal height tips** and stable shoulders ensure precisely dimensioned holes for professional setting of anchors and secure plug attachment. 4-flute drilling heads for smooth drilling with low vibration and optimum guidance in the drilled hole. **Radially** shaped **reinforcement protection**: prevents jamming when hitting reinforcements and increases the working life.

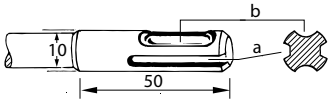
Advantage:
- **Short spiral starts** ensure a **smooth evacuation** of the drill dust.
- **Wear marks:** for evaluation whether the tool is still suitable for drilling holes suitable for insertion of plugs.
- 4×4 design permits a **precise radial run-out** and **minimise wear and loss of frictional grip.**

Application: For drilling concrete, natural stone, and masonry – with very high drilling comfort.

Size 5×110–28×450 – Sturdy **single-piece** carbide head with 4 cutters, inserted as a solid item in the core of the drill. Significantly reduced risk of breakage.
Size 30×450; 32×450 – **3-piece** sturdy carbide head with reinforced centre point. Sturdy auxiliary cutting edges support the advance and thus permit sustained high performance and constant precision.

Carbide head with 4 cutters, inserted as a solid item (drilling head up to size 28×450).

Carbide head with 3 cutters with auxiliary cutting edges (drilling head from size 30×450).



78 9040_8×160

78 9040_14×210

∅×overall length	mm	5×110	6×110	6×160	8×110	8×160	8×210	10×160	10×210	12×160	12×210	14×210	15×260
71C 78 9040	Carbide-tipped hammer drill SDS-plus	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	50	50	100	50	100	150	100	150	110	160	160	210

∅×overall length	mm	16×260	16×450	18×250	20×250	20×450	24×250	24×450	25×450	28×450	30×450	32×450
71C 78 9040	Carbide-tipped hammer drill SDS-plus	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	210	400	200	200	400	200	400	400	400	400	400

Carbide-tipped hammer drill set

78 9045

Drill ∅	mm	5-12
71C 78 9045	Carbide-tipped hammer drill set	XXX
Content: Hammer drill No. 789040		1 pc. each size 5; 6; 8 length 110 mm; size 6; 8; 10; 12 length 160 mm
Presented in		Plastic case

SDS MAX | SDS PLUS

Garant Adapter SDS-MAX to SDS-PLUS

Quick-change toolholder with click function for easy changing of the tool.

Application: For machines with SDS MAX holder for mounting drills with SDS PLUS shank, so that smaller drill ∅ can be used in heavy hammer drills.

NEW

78 9049

Type		1
71C 78 9049	Adapter SDS-MAX to SDS-PLUS	XXX
overall length		224
Drive		SDS-MAX
Drive profile		SDS-PLUS

Carbide | SDS PLUS

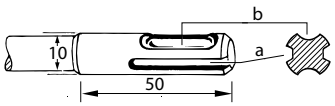
Carbide-tipped hammer drill – 4 cutting edges with SDS-plus shank

Drill head with square cross-section. Increased drilling speed due to 4-cutter head. Double the service life compared to 2 cutters. Large-volume 4-flute design. TARGET TIP TECHNOLOGY - tip angled more acutely:
more precision when drilling, no slipping along the surface, more aggressive in rebar and greater drilling speed.
PGM certified – verified precise and wall-plug-capable drill holes, both for chemical and for physical anchors.

Size 5×110–10×210 – 4-edged, welded-on carbide head.

Size 12×160–32×450 – 4-edged, slotted, robust and **one-part soldered-on** carbide insert. New head design in combination with acute-angle tip permits optimum feed when encountering rebar.

Application: For drilling concrete, natural stone, and masonry – with very high drilling comfort. Very smooth action, perfect for truly circular holes. 4-flute design for quick clearance of waste material, low vibration, and high stability. Less tiring for the operator and less load on the machine.



MX4™

78 9050_8×160

Welded-on carbide head (up to ∅ 10 mm)

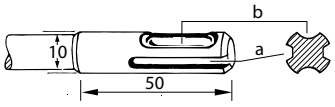
78 9050_24×250

∅×overall length	mm	5×110	6×110	6×160	8×160	8×210	9×160	10×160	10×210	12×160	12×210	14×210
76G 78 9050	Carbide-tipped hammer drill "MX4" SDS-plus	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	50	50	100	100	150	100	100	150	100	150	150

∅×overall length	mm	15×260	16×260	16×450	18×250	20×250	20×450	24×250	25×450	28×450	30×450	32×450
76G 78 9050	Carbide-tipped hammer drill "MX4" SDS-plus	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	200	200	400	200	200	400	200	400	400	400	400

4-cutter solid carbide head. Shaped cutters for high drilling performance, long working life and low wear. No digging in when drilling in reinforced concrete.

Application: For drilling concrete, natural stone, and masonry – with very high drilling comfort. Very smooth action, perfect for truly circular holes. **2+2 flute** design for quick clearance of waste material, low vibration, and high stability. Less tiring for the operator and less load on the machine.



4-cutter carbide insert, welded

78 9057 _12×215

78 9057 _15×265

∅×overall length	mm	5×110	6×115	6×165	8×165	8×215	10×165	10×215	12×165	12×215	14×215
76K 78 9057	BOSCH Carbide-tipped hammer drill "7X" SDS-plus	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	50	50	100	100	150	100	150	100	150	150

∅×overall length	mm	15×265	16×265	16×465	18×250	20×250	20×450	24×450	25×450	28×450	30×450
76K 78 9057	BOSCH Carbide-tipped hammer drill "7X" SDS-plus	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Flute length	mm	200	200	400	200	200	400	400	400	400	400

Carbide-tipped hammer drill set

NEW

78 9061_5-12

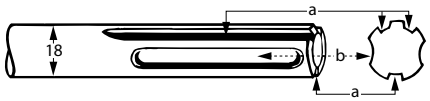
Drill ∅	mm	5-10	5-12
76G 78 9060	Carbide-tipped hammer drill set "MX4"	XXX	–
76G 78 9061		–	XXX
Packaging		plastic box	Plastic case
Content: Hammer drill No. 789050		1 pc. each size 5; 6 length 110 mm; size 6; 8; 10 length 160 mm	1 pc. each size 5; 6 length 110 mm; size 6; 8; 8; 10; 12 length 160 mm

Carbide | SDS MAX

Carbide-tipped hammer drills with SDS-max shank

Special carbide insert geometry for longer tool lives.
TARGET TIP TECHNOLOGY – more severely angled tip: More precise drilling, no slipping on the surface, aggressive drilling in concrete steel and faster drilling speed.
PGM-certified – approves precise drilled holes suitable for plugs, both for chemical and mechanical anchors. Large flute channels for quick evacuation of waste material, resulting in less friction.
Drill head with square cross section from ∅ 16 mm.
Application: For drilling concrete, natural stone, and masonry.

Note: When using long drills > 500 mm, first drill a pilot hole at least 150 mm deep with a shorter drill (preferably of the same ∅).



Single-piece carbide head (up to ∅ 32 mm)

78 9200_12x340

Three-piece carbide head (from ∅ 35 mm)

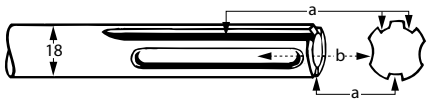
78 9200_35x570

∅×overall length	76G 78 9200 Milwaukee Carbide-tipped hammer drill, SDS-max	Flute length
mm		mm
12×340	XXX	200
12×540	XXX	400
14×340	XXX	200
14×540	XXX	400
15×340	XXX	200
15×540	XXX	400
16×340	XXX	200
16×540	XXX	400
18×340	XXX	200
18×540	XXX	400
20×320	XXX	200
20×520	XXX	400

∅×overall length	76G 78 9200 Milwaukee Carbide-tipped hammer drill, SDS-max	Flute length
mm		mm
20×920	(XXX)	800
22×320	XXX	200
22×520	XXX	400
24×320	XXX	200
24×520	XXX	400
25×320	(XXX)	200
25×520	(XXX)	400
25×920	(XXX)	800
28×370	(XXX)	250
28×570	(XXX)	450
30×370	(XXX)	250
30×570	(XXX)	450

∅×overall length	76G 78 9200 Milwaukee Carbide-tipped hammer drill, SDS-max	Flute length
mm		mm
32×370	(XXX)	250
32×570	(XXX)	450
32×920	(XXX)	800
35×570	(XXX)	450
38×570	(XXX)	450
40×370	(XXX)	250
40×570	(XXX)	450
40×920	(XXX)	800
45×570	(XXX)	450
52×570	(XXX)	450

Note:
Size 12×340–32×920 – New generation SDS-max-8X with welded solid carbide head.
Size 35×520–52×520 – Generation SDS-max-7 with embedded carbide cutters, soldered.



78 9204

4-cutter carbide insert, welded.

78 9204_12×340 – 32×920

Embedded cutters, soldered.

78 9204_35×520 – 52×520

∅×overall length	76K 78 9204 BOSCH Carbide-tipped hammer drill, SDS-max	Flute length
mm		mm
12×340	XXX	200
12×540	XXX	400
14×340	XXX	200
14×540	XXX	400
16×340	XXX	200
16×540	XXX	400
18×340	XXX	200
18×540	XXX	400
20×320	XXX	200
20×520	XXX	400
20×920	(XXX)	800

∅×overall length	76K 78 9204 BOSCH Carbide-tipped hammer drill, SDS-max	Flute length
mm		mm
22×320	XXX	200
22×520	XXX	400
24×320	XXX	200
24×520	XXX	400
25×320	(XXX)	200
25×520	(XXX)	400
25×720	(XXX)	600
25×920	(XXX)	800
28×320	(XXX)	200
28×520	(XXX)	400
30×320	(XXX)	200

∅×overall length	76K 78 9204 BOSCH Carbide-tipped hammer drill, SDS-max	Flute length
mm		mm
30×520	(XXX)	400
32×320	(XXX)	200
32×520	(XXX)	400
32×920	(XXX)	800
35×520	(XXX)	400
38×520	(XXX)	400
40×520	(XXX)	400
40×720	(XXX)	600
40×920	(XXX)	800
45×520	(XXX)	400
52×520	(XXX)	400

Chisels with SDS-plus or SDS-max shank

Wear resistant, bead blasted surface.
Material: Special tool steel.
Application: For concrete, masonry, and natural stone.

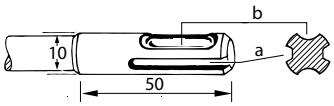
with SDS-plus shank

SDS PLUS

78 9530/9540 – High-quality fully annealed SDS-max steel for a long working life. The design and cutter geometry create a high removal rate.

Application:

78 9530/9551 – Ideal for removing tiles.
78 9540/9560 – Ideal for removing plaster.



Type			3
71C 78 9530	Garant	Tile chisel SDS-plus - 250 mm	XXX
71C 78 9540	Garant	Plaster chisel SDS-plus - 170 mm	XXX
76G 78 9551	Milwaukee	Tile chisel SDS-plus - 250 mm	XXX
76G 78 9560	Milwaukee	Plaster chisel SDS-plus - 165 mm	XXX
Blade width (78 9530)		mm	40
Blade width (78 9540)		mm	80
Blade width (78 9551)		mm	50
Blade width (78 9560)		mm	75

78 9530

78 9540

78 9551

78 9560

Type			1	2	3	5
72F 78 9500	HOLEX	Chisel SDS-plus – 250 mm	XXX	XXX	XXX	XXX
Blade width		mm	–	20	40	22

78 9500 _1

78 9500 _2

78 9500_3

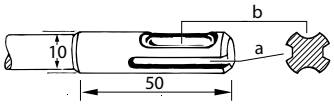
78 9500_5

SDS PLUS

Supplied with:

78 9590 – 1 bolster chisel, blade width 30 mm
1 cold chisel, blade width 20 mm
1 pointed chisel

78 9591 – 1 spade chisel, blade width 40 mm
1 flat chisel, blade width 20 mm
1 pointed chisel



73U 78 9590	RENNSTEIG	Chisel set SDS-plus – 140 mm **3 pieces**	XXX

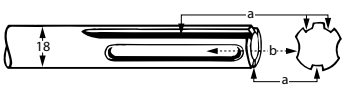
Number of tools			3
73U 78 9591	RENNSTEIG	Chisel set SDS-plus – 250 mm **3 pieces**	XXX

78 9590

78 9591

with SDS-max shank

SDS MAX



Type			1	2	3	5	7
72F 78 9650	HOLEX	Chisel SDS-max – 400 mm	XXX	XXX	XXX	XXX	XXX
Blade width		mm	–	20	50	60	75

78 9650_1

78 9650_2

78 9650_3

78 9650_5

78 9650_7

Plane with replaceable blades

79 3750 – Plane body of metal with strong plastic handles. Distortion-free sole built up of individual metal strips. Quick blade change due to storage of replaceable blades and spare blades in the handle.
Plane with 4 spare blades.

Advantage:

79 3750 –
- 3in1 plane, can be used as a smoothing, finishing, and roughing plane.
- No need to remove the plane blade and sharpen it.
- **Stepless fine adjustment** of the shaving thickness.
- Non-wearing metal sole.

79 3750

Blade width		mm	48
76H 79 3750	Plane with replaceable blades		XXX
76H 79 3755	Spare blades set **10 pieces**		XXX

79 3755

Carpenter's mallet

Made of beech wood, quality varnished finish. Handle glued and wedged.

Weight		g	950
76H 79 3800	Carpenter's mallet		XXX
Head length		mm	140
Impact head surface		mm	80×100

ergo® mortise chisel

Ergonomic, shock-resistant, and non-slip 2-component plastic handle.
Precision-ground, hardened, and tempered blade. With protective collar.

Blade width		mm	6	10	12	16	18	20	25	32
73P 79 4775	ergo® mortise chisel		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Blade length		mm	140							

ergo® mortise chisel set

Number of chisels			3
73P 79 4780	ergo® mortise chisel set, 3 pieces		XXX
Supplied with: 1 each mortise chisel No. 794775			Size 12; 18; 25

Short chisel set

Short form with ergonomically shaped handle; forged; ground bright finish. Each chisel is tested for hardness and edge holding properties. Supplied in a wooden case.

Material: Top quality special steel with wooden handle.

Number of chisels			5
76H 79 4790	Wooden-handled 5-piece short chisel set in a wooden case		XXX
overall length of the short chisel		mm	210
Content: 1 each short chisel with blade width			12; 16; 20; 26; 30 mm

Mortise chisel (bevelled edge)

Long style with wide chamfer; forged; ground bright finish. Each chisel is tested for hardness and edge holding properties.

Material: Top quality special steel with wooden handle.

79 4800

Blade width		mm	4	6	8	10	12	14	16	18	20	22	25	28	30
76H 79 4800	Mortise chisel with wooden handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	210	215	220	235	235	250	250	260	260	260	275	275	275

79 4850

Number of chisels		5	7	9	11
76H 79 4850	Mortise chisel set with wooden handle	XXX	XXX	XXX	XXX
Supplied with: 1 each mortise chisel No. 794800		Size 8; 12; 16; 20; 25	Size 6; 8; 10; 12; 16; 20; 25	Size 6; 8; 10; 12; 14; 16; 20; 25; 30	Size 6; 8; 10; 12; 14; 16; 18; 20; 22; 25; 30

Heavy mortise chisel (carpenter's chisel)

Half-length form; extra strong forged, ground bright finish; hornbeam handle with steel ferrule and leather washer.

Material: Top quality special steel with wooden handle.

79 4900

Blade width		mm	22	24	26	28	30	32	40
76H 79 4900	Heavy mortise chisel		XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	313	313	313	315	315	315	315

79

Carbide router bit set

With carbide inserts; two cutting edges, end / peripheral cutting, 8 mm shank.

Application: For routing grooves and profiles in hardwood, coated panels, plastic etc.

Supplied with:
- 1 chamfer router 45°
- 2 corner rounding router bits r6 + r9
- 3 rounding-over router bits r6 + r6.35 + r9.5
- 1 cornice router bit
- 3 router bits 8 + 12+ 16 mm
- 1 deburring router bit 14.3 mm
- 1 keyway router bit 11 mm/60°
- in a wooden case

79 5720

Number of milling cutters		12
76H 79 5720	Carbide router bit set	XXX

Auger drill (Lewis bit)

With threaded point and pre–cut blades. Hexagonal shank (12 mm), suitable for 13 mm drill chuck.

Application: For drilling deep holes (e.g. beams, rafters).

79 5510

Drill ∅		mm	10	12	14	16	18	20
76H 79 5510	Auger bit 235 mm long		XXX	XXX	XXX	XXX	XXX	XXX
76H 79 5610	Auger bit 460 mm long		XXX	XXX	XXX	XXX	XXX	XXX

Forstner machine bit and carbide auger bits

Two-edged with cylindrical shank.

79 5150/5160 – Special steel; used for normal drilling in wood, to some extent also in hardwood. The sharp undercut blade ensures tear-free blind holes and at the same time reduces the risk of overheating.

79 5250/5260 – With **carbide inserts;** edges stay sharp for long tool life. For drilling in hardwood, plastics, coated panels etc.

Standard: **DIN 7483 G**

Application: For drilling tear-free and accurate blind holes and through holes.

79 5150

Carbide

79 5250

Drill ∅		mm	12	14	15	16	18	20	22	25	26	30	32	35	40	50	68
76H 79 5150	Forstner bit		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
76H 79 5250	Carbide Forstner bit		–	–	XXX	–	–	XXX	XXX	XXX	–	XXX	–	XXX	XXX	–	–
overall length		mm	90														
Shank dimension (79 5150)		mm	6×30	8×30	8×30	8×30	8×30	8×30	8×30	8×30	8×30	8×30	10×30	10×30	10×30	10×30	10×30
Shank dimension (79 5250)		mm	–	–	10×30	–	–	10×30	10×30	10×30	–	10×30	–	10×30	10×30	–	–

Number of drills		5	6
76H 79 5160	Forstner bit set in a wooden case	XXX	XXX
76H 79 5260	Carbide Forstner bit set in a wooden case	XXX	–
Content: Drill No. 795150 (79 5160)		1 each size 15; 20; 25; 30; 35	1 each size 20; 25; 30; 35; 40; 50
Drill No. 795250 (79 5260)		1 each size 15; 20; 25; 30; 35	–

79 5160_5

Suitable for: Forstner drill No. 795150 size 14 - 68 and carbide plastic drill No. 795250.

for shank ∅		mm	8	10
76H 79 5270	Extension for drill		XXX	XXX
overall length		mm	330	

79 5270

Jobber drills for wood (dowel drills)

Ground precision design with 2 cutting edges, 2 leading-edge cutters, and centring point.

79 5305/5315 – HSS jobber drill for wood, with high hardness. Special leading-edge cutters for clean hole walls, double flutes for perfect circularity.

79 5305

79 5300

Drill ∅		mm	3	4	5	6	8	10	12
76H 79 5305	FISCH Jobber drill for wood		XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	70	75	85	95	117	133	151

Drill ∅		mm	3	4	5	6	8	10	12
76H 79 5300	Milwaukee Jobber drill for wood		XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length		mm	60	75	85	97	117	133	151

Number of drills		5
76H 79 5315	FISCH Jobber drill set for wood	XXX
76H 79 5310	Milwaukee Jobber drill set for wood	XXX
Content: Drill No. 795305 (79 5315)		1 each size 4; 5; 6; 8; 10
Drill No. 795300 (79 5310)		1 each size 4; 5; 6; 8; 10

79 5315

79 5310

8 New products – Hand and assembly tools

NEW

We use this symbol to tag new items in our range of catalogue products

Page **845**
Pliers wrench size 100

Page **845**
Mini set, 2 pieces

Page **845**
Pliers wrench set, 5 pieces

Page **846**
Joker 6004 pliers wrench, size XS, M, XL

Page **846**
Joker 6004 pliers wrench set, 4 pieces

Page **848**
Pipe cleaner POWER SPIN+ with AUTOFEED®

Page **850**
Multi-function camera RC2

Page **850**
Pressure test pump

Page **852**
Compact pipe cutter

Page **854**
Plastic pipe shears

Page **855**
Plastic pipe cutters

Page **889**
Holex general-purpose knife with zinc die-cast handle 9 and 18 mm

Page **889**
General-purpose knife with magnesium handle

Page **903**
Multi-function/laser holder "STE-LH"

Hand and assembly tools

The whole tooling catalogue of these brands is available from the Hoffmann Group – just ask us for it!

Pipe wrenches, pliers wrenches, adjustable spanners, cable pulling rods, pipe cutters, installation tools — 81 — 842–855

Pipe threading tool, swaging tool, pipe bender, angle bender — 82 — 856 – 859

Punch pliers, wad punches, sheet metal punches, scrapers, deburring tools — 83 — 860 – 874

Safety knives, cable knives, universal knives, precision knives, spare blades, pocket tools — 84 — 875 – 895

Screw clamps, lever clamps, grip and universal clamps, welder's angle clamps, hand vices, pipe vices — 86 — 896 – 907

Note:
Vices can be found in the "Workstations and Storage" catalogue - Group 96

Vices

Bearing extractors and separators, ball bearing insertion and fitting kits, nut splitters, heating device — 88 — 908 – 917

Pipe wrench

Swedish design, with broad 90° offset jaw. Fully forged with captive adjustment nut.

Material: Special tool steel; quenched and tempered, jaws induction hardened.

81 0100_1.1/2

Handle with reinforcing ribs (up to size 2).

Pipe ∅		inch	1	1.1/2	2	3	4
83E 81 0100	VBW	Pipe wrench	XXX	XXX	XXX	XXX	XXX
82A 81 0200	HOLEX	Pipe wrench (lighter version)	XXX	XXX	XXX	–	–
overall length		mm	300	410	560	685	815
Jaw capacity		mm	42	59	75.5	106	129

81 0200

Corner pipe wrench

Swedish design, with slim 45° offset jaw. Fully forged with captive adjustment nut.

Material: Chrome vanadium steel; quenched and tempered, jaws induction hardened.

81 0300

Pipe ∅		inch	1/2	1	1.1/2	2	3
83E 81 0300	VBW	Corner pipe wrench	XXX	XXX	XXX	XXX	XXX
82A 81 0400	HOLEX	Corner pipe wrench (light version)	–	XXX	XXX	XXX	–
overall length		mm	240	315	425	560	705
Jaw capacity		mm	29	45	59	76	102

81 0400

Corner pipe wrench with S-form jaws

Swedish design, slim, specially formed jaws, self-tightening, offset 45°. Fully forged with captive adjustment nut.

81 0500 – **HOLEX** with **S-form jaws** for 3-point pipe support. Handles with **non-slip** plastic coating.

81 0600 – **HOLEX** with **S-form jaws** for 3-point pipe support. (economy version).

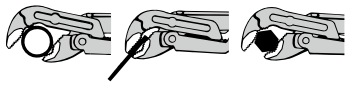
81 0700 – **VBW** for 3 and 4 point pipe grip. Hexagon nuts and flat components can be gripped securely without deformation. Handles with **non-slip** plastic coating.

81 0740 – **VBW** with **S–form jaws** for 3–point pipe support.

81 0745 – **KNIPEX** with S–form jaws for 3–point pipe support.

Material: Chrome vanadium steel; quenched and tempered, jaws induction hardened. Handles painted, jaws bright.

81 0700



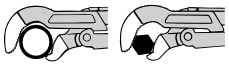
Jaw design 81 0700

81 0740

81 0745

81 0500

81 0600



Jaw shape 81 0500 / 81 0600 / 81 0740 / 81 0745.

Pipe ∅		inch	1/2	1	1.1/2	2	3
83E 81 0700	VBW	Corner pipe wrench	XXX	XXX	XXX	XXX	XXX
overall length		mm	240	315	425	560	700
Jaw capacity		mm	39	55	75	100	120

Pipe ∅		inches	1/2	1	1.1/2	2	3
83E 81 0740	VBW	Corner pipe wrench with S-form jaws	–	XXX	XXX	XXX	XXX
86A 81 0745	KNIPEX		–	XXX	XXX	XXX	–
82A 81 0500	HOLEX		–	XXX	XXX	XXX	XXX
82A 81 0600	HOLEX		XXX	XXX	XXX	XXX	XXX
overall length (81 0740)		mm	–	320	440	560	675
overall length (81 0745)		mm	–	320	425	540	–
overall length (81 0500, 81 0600)		mm	240	320	420	560	630
Jaw capacity (81 0740)		mm	–	49	68	85	120
Jaw capacity (81 0745)		mm	–	42	60	70	–
Jaw capacity (81 0500, 81 0600)		mm	35	45	63	80	110

RENNSTEIG Corner pipe wrench with S-form jaws and quick adjustment

Swedish design, with slim 45° offset jaw. Forged throughout. Extremely easy to use, with patented **time-saving quick adjustment** and integral trap protection to avoid pinching fingers. S-form jaws for three-point pipe grip. Handles with **non-slip plastic coating.**

Standard: **DIN 5234**

Material: Chrome vanadium steel; quenched and tempered; jaws induction hardened. Handles painted, jaws bright.

81 0750

Easy quick adjustment of the jaw aperture at the press of a button.

Pipe ∅		inch	1	1.1/2	2
86A 81 0750	Corner pipe wrench with quick adjustment		XXX	XXX	XXX
overall length		mm	325	425	560
Jaw capacity		mm	42	60	70

HOLEX Pipe wrench for one-handed operation

The spring-mounted floating jaw is adjustable by a knurled screw, quick pre-setting to the appropriate pipe ∅ by means of scale on the side faces.

81 0850 – Handle of pearlitic **malleable cast iron,** red paint finish.

81 0860 – Handle of **aluminium,** grey paint finish. Around 40 % saving in weight compared to cast handles.

Application: Applicable like a ratchet due to spring-mounted floating jaw. The jaws tighten themselves firmly on to the pipe when closing and free themselves automatically when the handle is released (one-hand operation).

81 0850

81 0860

Pipe ∅		inch	1.1/2	2	2.1/2	3	5
82A 81 0850	Pipe wrench for one-handed operation, with cast iron handle		XXX	XXX	XXX	XXX	XXX
82A 81 0860	Pipe wrench for one-handed operation, with aluminium handle		XXX	XXX	XXX	XXX	XXX
overall length		mm	240	350	450	600	900
Jaw capacity		mm	49	61	77	90	141

RIDGID Peddinghaus Pipe wrench with ratchet operation for one-handed operation

Direct and quick positioning using the spring-loaded hook jaw. Handle of sturdy malleable cast iron, red paint finish. Sharp and cleanly finished gripper jaws.

Advantage:
- **Genuine one-handed operation**
- Smooth ratchet action
- Quick and secure grip

Application: When tightening, the jaws press tightly on the pipe, and then release automatically when the handle is lifted.

Quick adjustment. *Ratchet operation.* *Easy removal.*

Pipe ∅		inch	1.1/2	2
83R 81 0870	Pipe wrench with movable jaw, for one-handed operation		XXX	XXX
overall length		mm	250	350
Jaw capacity		mm	48	60

HOLEX Basin wrench

Forged shank with swivelling handle and swing steel claw for clockwise and anticlockwise operation. Wrench painted. Range 24 – 32 mm.

Material: Chrome vanadium steel.

			overall length mm
82A 81 2100	Basin wrench	XXX	235

VBW Fittings wrench

With rapid ratchet adjustment and clamping lever. Leverage delivers large clamping force. Gear rack and support lever hardened, smooth jaws, head bright.

Material: Chrome-manganese steel.

Application: For screwing fittings.

Smooth jaws 81 3000

overall length		mm	260
83E	81 3000	Rapid clamping fittings wrench	XXX
Jaw length		mm	40
Jaw capacity		mm	75

KNIPEX Pipe grip pliers (connector and siphon wrench)

81 3051 – With serrated gripping jaws.

81 3053 – With interchangeable 2-component plastic jaws.

81 3051/3053 – 25-step adjustable box joint. Quick step adjustment by means of a spring-loaded push button. Plastic coated handles.

Material:

81 3051 – Chrome vanadium electro-steel, drop forged. Surface chemically blacked.

81 3053 – Chrome vanadium electro-steel, drop forged. Surface chrome-plated.

Application:

81 3051 – For pipes, round nuts etc.

81 3053 – For threaded connectors and couplings and chrome-plated or polished components (fittings).

81 3051

81 3053

81 3060

overall length		mm	250
73F	81 3051	Pipe grip pliers with serrated gripping jaws	XXX
73F	81 3053	Pipe grip pliers with plastic jaws	XXX
73F	81 3060	2-component spare plastic jaws, 2 pairs	XXX
Jaw capacity (81 3051)		mm	80
Jaw capacity (81 3053)		mm	75

HOLEX Light chain pipe wrench

Profiled handle with toothed face and strong steel chain.

Material: Chrome vanadium steel.

Spare part: Spare chain see No. 709910.

Pipe ∅		inch	3/8-4
82A	81 1100	Light chain pipe wrench	XXX
Chain length		mm	410
Handle length		mm	300

HOLEX Chain pipe wrench

81 1200 – With double-sided toothed jaws. Strong steel chain and solid lever handle. Body and jaws drop-forged.

Material:

81 1200 – Special tool steel; handle painted.

81 1200

Type			1/2-212	1-6
82A	81 1200	Chain pipe wrench	XXX	XXX
82A	81 1220	Spare chain with endpiece	XXX	XXX
Chain length		mm	420	765
Handle length (81 1200)		mm	685	1120
Pipe ∅ (81 1200)		inch	1/2 – 2.1/2	1 – 6

FACOM Automatically tensioning belt wrenches (oil filter wrenches)

Handy shank with stainless steel belt. Moveable metal pressure piece with serrations for ratchet action.

Advantage: Working in very tight spaces. Quick and controlled tightening of the belt using the stop lever.

Application: For tightening / releasing round components (e.g. oil filters).

Quick release / slackening

Band width / Band length		mm	11/350	11/480
83H	81 1550	Automatic tensioning belt wrench	XXX	XXX
Clamping capacity ∅		mm	66 – 105	106 – 145
Weight		kg	0.29	0.34

HOLEX Belt wrench (strap wrench) with fabric belt

81 1400/1500 – Profiled shank; strong, wear-resistant, non-slip fabric belt, exchangeable.
Application: For gripping round parts, especially those with larger ∅.
81 1400 – Particularly for components with chrome-plated, polished surfaces (fittings).

81 1400

81 1500_600

81 1500_820

Band width / Band length		mm	20/600	25/820	27/930
82A 81 1400	Strap wrench		–	–	XXX
82A 81 1410	Spare strap for strap wrench		–	–	XXX
82A 81 1500	Belt wrench		XXX	XXX	–
82A 81 1510	Spare woven strap for belt wrench		XXX	XXX	–
overall length of the shank (81 1400, 81 1500)		mm	225	280	300
Clamping capacity ∅ (81 1400)		inch	–	–	1 – 8
Clamping capacity ∅ (81 1400, 81 1500)		mm	160	220	230

Pliers wrench

Parallel guided, **smooth** jaws; chrome-plated version.
81 3501 – User-friendly working due to ergonomically shaped handles with non-slip plastic coating, reducing the risk of slipping. Pliers wrench, chrome-plated.
Size 100 – Pliers wrench, chrome-plated, handles embossed rough surface. **Single-handed fine adjustment by sliding, no push button required.**
81 3702 – Pliers wrench, chemically blacked, plastic coated handles.
81 3720 – Pliers wrench, chrome plated, multi-component handles.
81 3722 – Pliers wrench, chemically blacked, multi-component handles.
81 3501/3702/3720/3722/81 3700 Size 125; 150; 180; 250; 300; 400 – **Ratchet adjustment** at the push of a button and clamping lever for high contact pressure at the jaws. The travel between the gripping faces is large enough to permit **release and grip on a ratchet basis.**
Size 180; 250 – **Laser engraved scale** (front face **metric** and rear face **imperial**), allows the width across flats to be pre-set.
81 3700 Size 125; 150; 180; 250; 300; 400 – Pliers wrench, chrome plated, plastic coated handles.
Application: Grips screws, nuts, chrome-plated fittings etc. **without damaging them.**

Note:
81 3700–3722 – Soft jaws available under no. 813725.

81 3501_250

NEW
81 3700_100

81 3700_250

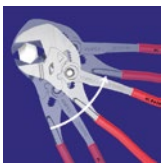
81 3702_250

81 3720_250

81 3722_250

overall length			mm	100	125	150	180	250	300	400
81A 81 3501	Garant			–	–	–	XXX	XXX	–	–
83D 81 3700		Pliers wrench		XXX	XXX	XXX	XXX	XXX	XXX	XXX
83D 81 3702	KNIPEX			–	–	–	XXX	XXX	XXX	–
83D 81 3720		Pliers wrench with 2-component grips		–	–	XXX	XXX	XXX	–	–
83D 81 3722				–	–	–	XXX	XXX	–	–
Jaw length (81 3501)			mm	–	–	–	23	30	–	–
Jaw length (81 3700, 81 3702, 81 3720, 81 3722)			mm	13	16	20	22	30	32	41
Jaw capacity			mm	0 – 21	0 – 23	0 – 27	0 – 40	0 – 52	0 – 68	0 – 85

Quick adjustment by pressing a button.


Works on the ratchet principle.

Pliers wrench (No. 81 3720) with attachment eye can be found in the eShop under 81 2010 in size 180 and 250.

Number of pliers			2	5
83D 81 3730	KNIPEX	Pliers wrench set, **5 pieces**	–	XXX
83D 81 3735		Mini set, **2 pieces**	XXX	–
Supplied with: 1 each pliers wrench			No. 813700 size 150	No. 813700 size 125; 150; 180; 250; 300
1 each water pump pliers Cobra® (81 3735)			No. 705800 size 125	–
Presented in			Belt tool bag	Tool roll

NEW
81 3730

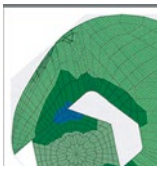
NEW
81 3735

Pliers wrench, VDE insulated

- Handles **fully insulated up to 1000 V to DIN EN 60900 / VDE 0682-201.**
- With scale for correct setting away from the workpiece.
- Parallel guided, smooth jaws; chrome-plated version.
- Ratchet adjustment at the push of a button and clamping lever for high contact pressure at the jaws.
- The travel between the gripping faces is large enough to permit release and grip on a ratchet basis.
- Pliers wrench, chrome-plated.
- Handles with multi-component covering.

Application: For use at voltages up to 1000 V.

81 3851



Face gripped without play.

Laser-marked scale for pre-setting.

Works on the ratchet principle.

Overall length		mm	250
83D 81 3851	Pliers wrench **VDE insulated**		XXX
Jaw length		mm	30
Jaw capacity		mm	0 – 52

Pliers wrench

- **Parallel** guided, **smooth** jaws; burnished version.
- Plastic coated handles.
- **New adjustment by simple pushing together, without snap fasteners,** improves accessibility in restricted working areas.
- Suitable also **for left-handed users** since operation does not require access to a snap fastener at one side.
- The ratchet function of the jaws permits quick screw tightening by simply slipping the tool over the screw head.
- Self-locking from 17 AF.

81 3770

Works on the ratchet principle.

Quick-change adjustment by sliding, no push button required.

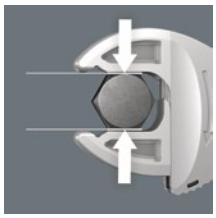
overall length		mm	250
73D 81 3770	Pliers wrench		XXX
Jaw length		mm	25
Jaw capacity		mm	42

Pliers wrench Joker 6004, self-adjusting

- **Parallel** guided, **smooth** jaws.
- New stepless **self-adjustment** by easy seating on hex-head bolts and hexagon nuts.
- Quick and secure screw fastening without removing the socket insert, due to the mechanical **ratchet function**.
- Lever mechanism when gripping avoids slippage and damage.
- Particularly small **backswing angle** of only 30° due to the Vee profiles in the head across the corners.

Material: Chrome molybdenum steel, matt chrome-plated.

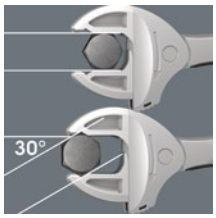
Automatic and stepless self-adjustment.



Parallel smooth jaws protect bolt heads.

81 3740_L

Ratchet mechanism for quick working.



Backswing angle of only 30° due to the Vee profiles across the corners.

			NEW XS	S	NEW M	L	NEW XL	XXL
Type								
63F 81 3740	Joker 6004 pliers wrench, self-adjusting		XXX	XXX	XXX	XXX	XXX	XXX
Jaw capacity		mm	7 – 10	10 – 13	13 – 16	16 – 19	19 – 24	24 – 32
Jaw capacity		inch	1/4 – 3/8	7/16 – 1/2	1/2 – 5/8	5/8 – 3/4	3/4 – 15/16	15/16 – 1.1/4
overall length		mm	117	154	188	224	256	322

Number of pieces	4
63F 81 3745 Pliers wrench set Joker 6004, self-adjusting	XXX
Supplied with: 1 each pliers wrench No. 813740	Size XS; S; M; L
Presented in	Textile folding wallet

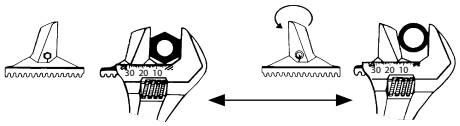
81 3745_4

Adjustable spanners with scale

Adjustable spanners, centre adjustment

With ergonomic handle of thermoplastic elastomer. Jaw angle 15°. Drop-forged, hardened and chromium plated. By **reversing the rack jaw** the adjustable spanner **becomes a pipe wrench.** The serrated jaw is induction hardened and guarantees a secure grip.

Standard: **ISO 6787; ASME B107.8M-2003**



Setting as an adjustable spanner. *Setting as a pipe wrench.*

81 3930

overall length			mm	205	255
83F 81 3930	BAHCO	Adjustable spanner with reversible jaw		XXX	XXX
maximum width across flats			mm	28	33
overall length			inch	8	10

81 3961

Slim design with double-T-profile shank (chromium plated). Jaw angle 22°. Drop-forged and hardened. With **scale** on the jaw.

81 3961 – With non-slip grip.
81 4002 – Adjustable spanner, phosphated.
81 3961/4001 – Adjustable spanner, chrome-plated.

81 4001

81 4002

overall length			mm	100	150	200	250	300	375	450
82A 81 3961	HOLEX	Adjustable spanner with coated handle		XXX	XXX	XXX	XXX	XXX	XXX	XXX
82A 81 4001	HOLEX	Adjustable spanner		XXX	XXX	XXX	XXX	XXX	XXX	XXX
82A 81 4002	HOLEX	Adjustable spanner		–	XXX	XXX	XXX	XXX	–	–
maximum width across flats			mm	13	19	24	30	34	44	55
overall length			inch	4	6	8	10	12	15	18

Adjustable spanners, centrally adjustable, with quick-adjustment system

Ergonomic shape, chrome-plated. Jaw angle 22.5°. Quick time-saving adjustment mechanism. With metric and imperial **scales** on the jaws.

Standard: **ISO 6787, DIN 3117, ASME B107.100**

81 3920

Quick adjustment by unlocking the movable jaw.

overall length			mm	110	150	200	255	300	375	450
83H 81 3920	FACOM	Adjustable spanner with quick adjustment		XXX	XXX	XXX	XXX	XXX	XXX	XXX
maximum width across flats			mm	17	23	33	38	41	50	63
overall length			inch	4	6	8	10	12	15	18

Ratchet adjustable spanner

Ergonomic non-slip grips.

Advantage: The moveable jaw and head allow **ratchet working** in a tight working arc, saving time and effort. The locking lever locks the head to disable the ratchet; the tool can be used as a normal adjustable spanner with a fixed head. **Extremely large jaw capacity.**

Locking lever

81 3970

overall length			mm	200
82A 81 3970	HOLEX	Ratchet adjustable spanner		XXX
maximum width across flats			mm	29
overall length			inch	8

KNIPEX Raptor® nut wrench

Jaws chemically greyed, polished head, plastic coated handles. Box joint, **ratchet adjustment** at the press of a button, protection against trapping fingers. Self-clamping in the range 17 – 32 mm, the specific jaw opening is large enough to permit **release and grip on a ratchet basis.**

Standard: **DIN ISO 5743**

Application: Quick tightening and releasing of metric and imperial hexagon nuts, even when painted over and with rounded corners. Ideal for lock nuts.

81 3600

Ideal as "2nd wrench" when tightening lock nuts.

Rapid adjustment by pressing a button.

overall length		mm	250
83D 81 3600	Raptor® nut wrench		XXX
Jaw capacity		inch	3/8 – 1.1/4
Jaw capacity		mm	10 – 32

Stillson wrench „Europäer"

Adjustable spanner with double-sided jaw. One side with straight, smooth jaw, other side with prismatic jaw for holding and clamping round or polygonal workpieces. The locking mechanism for fixing the set jaw width prevents inadvertent adjustment. Metric and inch measuring scale. Caps improve grip for metallic objects.

81 3980

Overall length		mm	150	175	250
83U 81 3980	Stillson wrench "Europäer"		XXX	XXX	XXX
maximum width across flats		mm	30	50	70

½"

HEYCO Universal radiator valve key

For screwing in and unscrewing radiator valve nipples and return connectors. Stepped design, suitable for nipples 3/8 inch, 1/2 inch, 3/4 inch, and 1 inch, for nipples with **hexagon sockets** and nipples **with cams**. Square drive 1/2 inch.

81 4808

Type			1/2
86A 81 4808	Universal radiator valve key **Set with reversible ratchet**		XXX
86A 81 4818	Universal radiator valve key **without ratchet driver**		XXX
Ratchet length (81 4808)		mm	290
overall length (81 4818)		mm	90

81

RIDGID POWER SPIN+ pipe cleaner with AUTOFEED®

The RIDGID Power Spin is the perfect tool for cleaning blocked waste pipes.

Application: For waste pipes from ∅ 12.6 – 40 mm. Screwing in and unscrewing the coil using the hand crank or with a drilling machine with variable speed (not included). This allows the speed to be increased to up to 500 rpm for additional force.

81 4841

Type			1
86A 81 4841	POWER SPIN pipe cleaner		XXX
Shaft length		m	7.6
Shaft ∅		mm	6.3

ROLLER Suction and pressure cleaning tool

Professional suction / pressure cleaning tool with high-volume tube. Adjustable handle at the front for high application forces. Long and short sleeves for a variety of applications.

Application: For quick and easy unblocking of pipes.

Short sleeve

Long sleeve

81 4845

Type			1
86A 81 4845	Suction / pressure cleaning tool		XXX
Length suction / pressure tube		mm	370
Pipe ∅		mm	71

Cable pulling rod

Plastic cable pulling rod

4 mm thick plastic cable pulling rod, particularly pliable, very abrasion-proof, and electrically non-conductive. The material is non-buckling, holds its form and slides well.

81 4862 – Pulling rod of nylon. One end with a crimped-on helical shaft and steel head; the other end with an eye.

81 4865 – Pulling rod of perlon. One end with a **flexible starting head (RUNPOGLIDER)** and pulling eye; the other end screwed with a pulling eye.

81 4862

81 4865

Band length			m	10	15	20	30
86A 81 4862	RUNPOTEC	Nylon cable pulling rod		XXX	XXX	XXX	XXX
86A 81 4865	RUNPOTEC	Perlon cable pulling rod Runpo 1		XXX	XXX	XXX	XXX
Tensile strength (81 4862)			kN	1.1			
Tensile strength (81 4865)			kN	1.7			

Fibreglass cable pulling rod with box

3 mm thick fibreglass rod **accepts pushing force** up to 5 kN yet is **highly flexible** (down to a radius of 55 mm); ideal for pulling cables into complicated runs where conduit is already laid or where there are many bends in the conduit.

81 4868 – Adhesive-bonded ferrule at each end with a thread for optional attachment of flexible guide tips, pulling grips or pulling eyes.

81 4870 – Adhesive-bonded ferrule at each end with an M5 thread for optional attachment of spring guide tips, pulling grips or pulling eyes.

Supplied with:

81 4868 – Accessories securely stored in a plastic box:
1 **flexible starting head (Runpoglide)** with twist compensation and stainless steel pulling eye.
1 spring guide tip ∅ 10 mm, 2 pulling eyes,
1 pulling grip for cable ∅ 6 - 9 mm, 5 starting/end joints,
3 coupling joints, 1 special adhesive 3 g, 1 pull-in aid.

81 4870 – Accessories securely stored in a plastic box:
2 spring guide tips ∅ 7 and ∅ 10 mm, 5 pulling eyes,
1 pulling grip for cable ∅ 6 - 9 mm, 5 starting/end joints,
3 coupling joints, 1 special adhesive 3 g, 1 power disc.

81 4868

81 4870

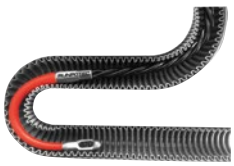
Band length			m	20	30	50
86A 81 4868	RUNPOTEC	PowerRex fibreglass cable pulling rod in a plastic box		XXX	XXX	XXX
86A 81 4870	KATIMEX	Kati® Blitz compact fibreglass cable pulling rod in a plastic box		XXX	XXX	XXX
Tensile strength (81 4868)			kN	1.2		
Tensile strength (81 4870)			kN	1		

Plastic cable pulling rod – twisted – in a plastic box

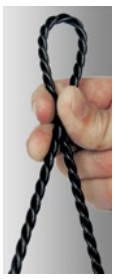
5.3 mm thick cable pulling rod of polyester, triple twisted. Each with a crimped-on reinforced **flexible starting head (RUNPOGLIDE)** with twist compensation and stainless steel pulling eye. Extremely flexible strip down to only 20 mm bending radius.

Advantage: Virtually unbreakable even at the tightest radii.

Application: For pipe diameters 16 – 40 mm.



81 4872_20



Band length			m	20	30
86A 81 4872	RUNPOTEC	RUNPO 5 cable pulling rod, twisted, in a plastic box		XXX	XXX
Tensile strength			kN	2.7	

Basalt rod set in a textile bag

Flexible basalt rods each 1 m length with stainless steel thread at each end.
The lengths can be determined individually by screwing the rods together.

Application: Ideal for working outside a pipe, such as in suspended ceilings or on studded walls.

Supplied with: 10 basalt rods 1 m long (5×Ø 7.5 mm (red / hard), 3×Ø 5.5 mm (black / medium hard), 2×Ø 4.5 mm (yellow / soft), 1 flexible guide tip, 1 extra powerful magnet, 1 ball chain, 1 ring head with ring, 1 arrestor hook, 1 threaded adapter, 1 stainless steel special slide hook, 1 LED lamp, 1 textile bag.

81 4877

Number of rods		10
86A 81 4877	RUNPOTEC Basalt rod set Runposticks, 19 pieces	XXX

RUNPOTEC Multi-function camera RC2

Multi-function camera for visual inspection of places that are difficult to access.
Compatible with all RUNPOTEC products with RTG Ø 6 mm, such as PowerRex (No. 814868), Runposticks (No. 814877), Runpo1 (No. 814865) and fibreglass rod (No. 814882).

- 3.5 inch TFT LCD colour display; focussing distance 30 mm – 80 mm.
- Camera head with 345000 pixels (640×480); image angle 64°.
- 6 pcs. LED incorporated in the camera head.
- Protection class IP 67 (camera head and cable).
- 230V or battery operation.

Application: Ideal for empty conduits (from internal Ø 14 mm), suspended ceilings, ducts and underfloor channels, maintenance and plant inspections.

Supplied with: 1 Runpocam RC2 with **cable (30 m)** incl. reel in carrying case, 1 each of 2-port USB charging plug 230 V and 12 V (car), 1 USB cable 3 m, 1 cordless LED high-performance lamp 320 lumens incl. charger cable, 1 micro-memory card 8 GB, 1 Runpoglider with front thread, 1 system slide, 1 magnetic fishing set, 1 connection thread set RTG Ø 6 mm, 1 fishing hook, 1 flexible attachment 12 cm, 1 thread attachment RC2.

81 4878

Probe length	m	30
86A 81 4878 Multi-function camera RC2		XXX
Image aperture angle	degrees	64
Display size	inch	3.5
Camera resolution	px	640×480

RUNPOTEC Universal cable drum reel and dispenser

The compact X-BOARD – XB500 is a professional general-purpose cable drum for rolling up cables and unrolling them. It permits trouble-free and efficient working, without any risk of cable entanglement. The X-BOARD – XB500 has a working load of up to 800 kg and is suitable for virtually any type of cable drum.

Advantage: It has 12 rubber-coated feet, which ensure a secure non-slip stand.
Optimum for protection of surfaces on finished floor coverings.

Application: For all types of cables and conduits
(cored cables, cable rings, cable drums, empty conduits, cords and cord drums).
Especially suitable for damaged cable drums.

Note: Basalt rods No. 814877 can optionally be used as centring aids.

81 4879

The height-adjustable cover is perfectly designed to secure loose cables, cable rings or conduits in the X-BOARD XB500, thus preventing cables unwinding in an uncontrolled fashion.

Diameter	mm	500
86A 81 4879 Universal cable drum reel and dispenser **X-BOARD**		XXX

RIDGID Pressure test pump

The pressure test pump model 1450 enables installations which must be free of leakages to be tested accordingly.
The pump enables testing of systems with up to 50 bar (725 PSI) pressure.

Application: Particularly suitable for use in heating installations, compressed-air systems, cooling systems, oil installations, sprinkler systems and other hydraulic pipework with a small diameter.

81 4891

Type		1
86A 81 4891 Pressure test pump 1450		XXX
maximum pressure	bar	50
Delivery per stroke	cm^3	37.7
Hose connection thread		1/2 inch NPT
Hose length	m	1.83
Container volume	l	13.6
maximum temperature	°C	50
Weight	kg	6.4

ROLLER Stainless steel deburrers

Body of anodised aluminium, deburring cone of hardened special steel.

Size 54E – Including external hexagon drive at each end – permits power deburring (up to 300 rpm).

Application: Professional inner and outer deburring of **stainless steel, steel, copper, plastic and aluminium pipes.**

Size 54E with hexagon

For internal ∅

For external ∅

for pipe ∅ up to		mm	35	54	54E
86A 81 4920	Stainless steel inner / outer deburrer		XXX	XXX	XXX
for pipe ∅		mm	8 – 35	10 – 54	10 – 54

NOGA Pipe deburrers

One side for internal deburring, the other side for external deburring. Plastic coating, cutter with 3 edges. For pipes of 4 – 42 mm ∅. For manual use.

Note: Particularly suitable **for copper pipes. Not for plastic pipes.**

			Length mm	∅ mm
86A 81 9550	Inner / outer pipe deburrer	XXX	50	50

Pipe cutter for steel pipes

Pipe cutter with 1 cutter wheel and 2 guide rollers

Body of stainless steel drop-forged; wear-resistant spindle with plastic handle. **Cutter wheel** for steel pipes of stainless steel, accurately hardened for long tool life. **Guide rollers** of special steel; chromium-plated.

Application: For clean and right-angled cutting off of pipes.
The external burr is rolled over automatically when cutting. The cut pipe end is immediately ready for thread cutting.

81 5000

81 5030

for pipes up to		inch	1.1/4	2	4
83A 81 5000	STAHLWILLE Pipe cutter with 1 cutter wheel **for steel pipes**		XXX	XXX	–
82A 81 5030	HOLEX Pipe cutter with 1 cutter wheel **for steel pipes**		XXX	XXX	XXX
for pipe outer ∅		inch	1/8 – 1.1/4	1/8 – 2	2 – 4

Pipe cutter with 3 cutter wheels

Body of stainless steel drop-forged; wear-resistant spindle with plastic handle. **Cutter wheel** for steel pipes of stainless steel, accurately hardened for long tool life. **Guide rollers** of special steel; chromium-plated.

Application: For clean and right-angled cutting off of pipes.
This pipe cutter permits work on pipes that have already been laid. A movement range of 120° is sufficient due to ratchet type operation.

81 5100

for pipes up to		inch	1.1/4	2
83A 81 5100	STAHLWILLE Pipe cutter with 3 cutter wheels **for steel pipes**		XXX	XXX
for pipe outer ∅		inch	1/8 – 1.1/4	1/8 – 2

Spare cutter wheels

Suitable for:

81 5200 – For pipe cutters No. 815000 (and 815100 up to Catalogue 46).
81 5230 – For pipe cutters No. 815030
81 5250 – For pipe cutters No. 815100 from Catalogue 47.

Pipe cutter		inch	1.1/4	2	4
83A 81 5200	STAHLWILLE Spare cutter wheel **for steel pipes**		XXX	XXX	–
82A 81 5230	HOLEX Spare cutter wheel **for steel pipes**		XXX	XXX	XXX
Cutter wheel ∅		mm	25	32	41
Cutter wheel width		mm	14	19	23
Cutter wheel bore		mm	7.5	9	9.7

83A 81 5250	STAHLWILLE Spare cutter wheel **for steel pipes**		XXX
Cutter wheel ∅		mm	41
Cutter wheel width		mm	19
Cutter wheel bore		mm	9

81 5200

Garant Pipe cutter Universal

Extremely sturdy design for very heavy duties. Clean and reliable cut thanks to 4 guide rollers in a row.

81 8100 – Die-cast magnesium body. With spare cutter wheel No. 818110.

81 8150 – Die-cast aluminium body. Quick adjustment spindle with ratchet and spring retraction. With spare cutter wheel No. 818110.

Advantage: Long working lives due to **TiN coated** cutter wheel. Saves effort and time due to:

- Ergonomic handle
- Lightweight design
- **Needle** bearings on the guide rollers and cutter wheel
- Detachable manual deburrer with **TiN-coated** S20 blade.

Application: Multi-functional use for cutting stainless steel, aluminium, brass, and copper pipes.

81 8100

81 8150

81C	**81 8100**	Small pipe cutter universal	XXX
	for pipe outer ∅	mm	3 – 35
81C	**81 8150**	Pipe cutter universal	XXX
	for pipe outer ∅	mm	6 – 76

Suitable for: Pipe cutters No. 818100 and No. 818150.

81C	**81 8110**	Spare cutter wheel	TiN XXX
	Cutter wheel ∅	mm	19
	Cutter wheel width	mm	6.2
	Cutter wheel bore	mm	4.85

81 8110

STAHLWILLE Compact pipe cutter

Body of die-cast magnesium, with a spare wheel in the twist head. Twist head made of die-cast zinc. Cutter wheel can be changed without using tools. For optimally holding the pipe during cutting with 4 guide rollers.

Application: For cutting aluminium, copper and thin-walled steel pipes.

81 8505

	for ∅ to	mm	35
83A	**81 8505**	Compact pipe cutter	XXX
	for pipe outer ∅	mm	3 – 35

	Type		1
83A	**81 8605**	Spare cutter wheel	XXX
	Cutter wheel ∅	mm	19
	Cutter wheel width	mm	5
	Cutter wheel bore	mm	5

81 8605

KNIPEX TubiX® pipe cutter with quick adjustment

Lightweight and long-lasting metal housing of magnesium, with needle bearing guide rollers and cutter wheel. Manual deburrer can be retracted into the body. Supplied with spare cutter wheel.

Advantage: Automatic stop and clamping on to the pipe by **QuickLock one-hand quick adjustment**.

- Quick and precise positioning of the cutter wheel on different pipe diameters.

Application: General purpose for cutting **copper**, **aluminium**, **and thin-walled stainless steel pipes** (up to 2 mm wall thickness).

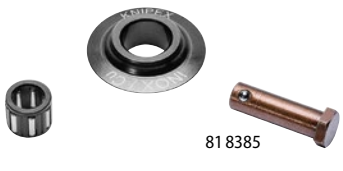
Quick adjustment

81 8380

	for ∅ to	mm	35
86A	**81 8380**	TubiX® pipe cutter with quick adjustment	XXX
	for pipe outer ∅	mm	6 – 35

Supplied with: Spare cutter wheel with needle bearing and quick-change pivot pin.

	Type		1
86A	**81 8385**	Spare cutter wheel	XXX
	Cutter wheel ∅	mm	20
	Cutter wheel width	mm	6.2
	Cutter wheel bore	mm	7.8



81 8385

HOLEX Small pipe cutter Universal

Metal body, enclosed spindle and telescopic guide. 2 guide rollers with recess (allows cutting close to flange). Easy-to-use metal handle. With spare cutter wheel No. 819100.

Application: General purpose for cutting **copper, aluminium,** and **thin-walled stainless steel pipes.**

Spare part: Spare pin No. 818020 for cutter wheel, spare cutter wheel No. 819100.

81 8050

82A	**81 8050**	Small pipe cutter	XXX
	for pipe outer ∅	mm	3 – 35

Die-cast magnesium body, enclosed spindle and precision telescopic guide. **4 guide rollers** (secure support even for large ∅) with recess. Ergonomic **handle with spare cutter wheel** No. 819100. Manual deburrer **retractable into the body.**

Application: General purpose for cutting **copper, aluminium,** and **thin-walled stainless steel pipes.**

Spare part: Spare pin No. 818020 for cutter wheel No. 819100.
See No. 838510 size S10 for blades for the manual deburrer.

81 8305

82A	**81 8305**	Small pipe cutter with 4 guide rollers	XXX
	for pipe outer ∅	mm	3 – 35

Suitable for: Pipe cutters No. 818050, 818305, 819320 and 819350.

81 9100

82A	**81 9100**	Spare cutter wheel	XXX
	Cutter wheel ∅	mm	20
	Cutter wheel width	mm	5
	Cutter wheel bore	mm	5

HOLEX Miniature pipe cutter Universal

Particularly short and handy shape with 2 guide rollers; body of special die-cast alloy.

Application: Particularly suitable for cutting small pipes where **access is difficult.** For **copper, aluminium**, and **thin-walled stainless steel pipes.**

Spare part: Spare pin No. 818020 for cutter wheel, spare cutter wheel No. 819100.

81 9320

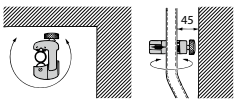
82A	**81 9320**	Miniature pipe cutter	XXX
	for pipe outer ∅	mm	3 – 16

81 9350

82A	**81 9350**	Miniature pipe cutter	XXX
	for pipe outer ∅	mm	3 – 30

Suitable for: Pipe cutters No. 818050, 818305, 819320 and 819350.

81 9100



82A	**81 9100**	Spare cutter wheel	XXX
	Cutter wheel ∅	mm	20
	Cutter wheel width	mm	5
	Cutter wheel bore	mm	5

Garant Plastic pipe cutter

Body of die-cast aluminium with 3 guide rollers, of which 1 roller is adjustable (1 position for pipes up to 110 mm and another for pipes 110 –127 mm) for optimum matching to the pipe ∅. **Quick adjustment spindle** with ratchet and spring retraction. Ergonomic handle. Cutter wheel with PTFE anti-friction coating for easier working, especially on thick-walled plastic pipes. Detachable manual deburrer with **TiN-coated** S20 blade.

Application: For cutting off PE, PP, VPE, PB, and PVDF pipes. **With a different cutter wheel also suitable for copper, aluminium, and thin-walled stainless steel pipes.** (Available as an option)

81 8160

81C	**81 8160**	Plastic pipe cutter	XXX
	for pipe outer ∅	mm	50 – 127

81C	**81 8170**	Spare cutter wheel **for plastic and composite pipes**	XXX
81C	**81 8175**	Spare cutter wheel **for copper / aluminium / stainless steel pipes**	XXX
	Cutter wheel ∅ (81 8170)	mm	51
	Cutter wheel ∅ (81 8175)	mm	25
	Cutter wheel width	mm	11
	Cutter wheel bore	mm	8

81 8175

81 8170

HOLEX Plastic pipe cutter

81 9625 – Die-cast aluminium base body with 4 guide rollers and groove. **Quick adjustment spindle** with ratchet and spring retraction. Ergonomic handle with spare cutter wheel.

Application:

81 9625 – For cutting off PE, PP, VPE, PB, and PVDF pipes.With a different cutter wheel also suitable for copper, aluminium, and thin-walled stainless steel pipes. (Available as an option)

Spare part:

81 9625 – For spare pins see No. 819630 and spare cutter wheel No. 819613; 819620.

82A 81 9625	Plastic pipe cutter		XXX
for pipe outer ∅		mm	6 – 76

82A 81 9613	Spare cutter wheel **for plastic and composite pipes**		XXX
82A 81 9620	Spare cutter wheel **for copper / aluminium / stainless steel pipes**		XXX
Cutter wheel ∅ (81 9613)		mm	30
Cutter wheel ∅ (81 9620)		mm	19
Cutter wheel width		mm	6.25
Cutter wheel bore		mm	4.85

81 9625

81 9613

81 9620

Garant Corrugated pipe cutter

Shears body of die-cast magnesium, with 2 cutting systems for transverse cutting and longitudinal cutting. Pipe guide system for perfect positioning of the pipe during cutting. Pipe support for better guidance of the pipe during longitudinal cutting. Concealed blades avoid injuries to the user and damage to the cutting edge. Blade for 4 times use.

Spare part: See No. 819757 for spare blades.

81 9751

for ∅ to		mm	45
81C 81 9751	Corrugated pipe cutter		XXX

Plastic pipe shears

81 9670 – Shears body of ergonomic **magnesium die-casting with rubberised handles**. Positive cutter advance because rack and cutter are combined in one unit. The blade has a PTFE anti-stick coating, which gives it outstanding anti-friction properties. Quick-change system for changing blades - no tools required.

Size 63 – Additionally **with a switchable pipe stop** for pipes ≤ 50 mm ∅.

81 9681 – Handle with ergonomic recesses at 1/2 inch intervals for quick measurement of pipes. Ratchet mechanism and Teflon-coated (for size 63) X-CEL® blade for faster cutting with optimum pressure distribution on all plastic materials.

81 9670/9700 – Shears for easy cutting of plastic pipes. Broad pipe support for square cuts. Exchangeable, specially hardened blades.

81 9700 Size 42; 63 – Blade supported on both sides, with ratchet advance.

Application:

81 9670/9681/9700 – For cutting off PE, PP, VPE, PB, and PVDF pipes. (Limited capability where pipe walls are very thin). Particularly suitable as preparation for socket welding. Plastic pipe cutter for easy cutting.

Note:
81 9670/9681/9700 – For hose shears see No. 769940, 769960 and 769980.

81 9670_42

Switchable pipe stop.
81 9670_63

81 9681_42

81 9681_63

81 9700_26

81 9700_42

81 9700_63

for ∅ to			mm	26	42	63
81C 81 9670	Garant	Plastic pipe shears		–	XXX	XXX
81C 81 9675		Spare blades		–	XXX	XXX
86A 81 9681	RIDGID Peddinghaus	Plastic pipe shears		–	XXX	XXX
86A 81 9686		Spare blades		–	XXX	XXX
82A 81 9700	HOLEX	Plastic pipe shears		XXX	XXX	XXX
82A 81 9710		Spare blades		XXX	XXX	XXX

Plastic pipe shears with straight blades

81 9750 – Shears body of die-cast magnesium with 4 needle-bearing guide rollers and ergonomic rubberised handles. Automatic blade retraction. Integral cutter for protective corrugated pipe allows protective corrugated pipes (18-35 mm) to be cut without damaging the pipe within. With 4 three-edged blades. All blades have a PTFE anti-stick coating.

81 9770 – Ergonomic handle design and universal covering for right-angled positioning. Automatic opening by spring mechanism. Suitable for all generally-used pipes and hoses from 4 to 20 mm ∅ for liquids and pneumatic systems, including multi-layer pipes and hoses.

Spare part:

81 9750 – See under No. 819755 for replacement blades, and under No. 819756 for spare blades for corrugated pipe cutters.

81 9770 – See under No. 819775 for spare blades.

81 9750

81 9770

for ∅ to		mm	20	26
81C 81 9750	Garant	Plastic pipe shears **with integral corrugated pipe cutter**	–	XXX
86A 81 9770	RENNSTEIG	Plastic pipe shears **PerfectCut**	XXX	–

Plastic Pipe Cutter

Pipe cutter of sturdy reinforced plastic, blade block of die-cast zinc. Particularly easy to use, for cutting off pipes without burrs or swarf. Safe, correct cutting of drip sleeves during final installation – virtually flush with the wall (approx. 2 – 3 mm from the wall). Rotating blade block for cutting plastic pipes (central blade) and cutting drip sleeves and sealing sleeves (outer blade). Locking mechanism for safe transportation.

Application: Cuts objects including high-temperature waste water pipes, empty electrical conduits and non-reinforced plastic pipes with a wall thickness of up to 2.4 mm in next to no time.

81 9780

for ∅ to		mm	50
86A 81 9780	Plastic pipe cutter with 3 blades		XXX
for pipe outer ∅		mm	20 – 50

Stainless steel pipe cutter

81 9470/9475 – Sturdy design for the heaviest duties and precise cutting using 6 or 12 guide rollers. Extremely quick and low-force operation due to **ball-bearing guide rollers and cutting wheel.** With spare cutter wheel.

Application:

81 9470/9475 – Specially for cutting stainless steel, and galvanised carbon steel pipes (up to 3 mm wall thickness), but also aluminium and copper pipes.

***Quick-change** cutting wheel using locking mechanism*

81 9470

83R 81 9470	Pipe cutter stainless steel (VA) / copper		XXX
for pipe outer ∅		mm	6 – 35
83R 81 9475	Pipe cutter stainless steel (VA) / copper		XXX
for pipe outer ∅		mm	6 – 65
83R 81 9480	Spare cutter wheels set, 2 pieces		XXX
Cutter wheel ∅		mm	22
Cutter wheel width		mm	8
Cutter wheel bore		mm	8

Pipe cutter for stainless steel / copper

81 9450/9500 – Robust design for high loadings and sturdy spindle guidance; 2 or 4 guide rollers and precise cutter wheel / guide roller bearings ensure accurate operation and a square cut.

Application:

81 9450/9500 – For cutting stainless steel and copper pipes up to max. 4 mm wall thickness.

81 9450

81 9500

81 9520

84A 81 9450	Pipe cutter stainless steel (VA) / copper		XXX
for pipe outer ∅		mm	6 – 42
84A 81 9500	Pipe cutter stainless steel (VA) / copper		XXX
for pipe outer ∅		mm	6 – 64
84A 81 9520	Spare cutter wheel		XXX
Cutter wheel ∅		mm	20
Cutter wheel width		mm	5
Cutter wheel bore		mm	5

RIDGID Peddinghaus Ratchet pipe cutter AUTOFEED®

2 – in – 1 mini pipe cutter, with **ratchet action.** Lightweight ergonomic ratchet handle of die-cast aluminium. The small pipe cutter incorporated can also be used without the ratchet handle.

Application: Extremely easy to use with the ratchet handle fitted, especially where access is difficult. For cutting copper, aluminium, and brass pipes.

81 9370

Very small pipe cutter incorporated in the ratchet handle

83R	81 9370	Ratchet pipe cutter	XXX
for pipe outer ∅		mm	6 – 28

83R	81 9375	Spare cutter wheel	XXX
Cutter wheel ∅		mm	19
Cutter wheel width		mm	3
Cutter wheel bore		mm	4.8

81 9375

ROLLER One-hand pipe bender set

Robust bending drive of cast aluminium with mechanical rack advance (quick advance and quick withdraw), a universal slide carrier, and bending formers of glass fibre-reinforced polyamide. Bending angles of up to 180° achievable.

Application: For bending soft uncased copper pipes, sheathed steel pipes for the Mapress Carbon Steel push-fitting system, precision mild steel pipes to DIN2391 - 2394, plain or sheathed and connecting pipes for the push-fitting system.

82 1200

84C	82 1200	One-hand pipe bender set in a sheet steel case	XXX
Content: Bending drive			1 pc.
Universal slide			1 pc.
1 each bending segment for pipe external ∅			Size 12; 15; 18; 22 mm
Bending radius (centre of pipe)			Size 36; 55; 72; 86 mm

HOLEX One-hand pipe bending pliers with bending segments

Pipe bending pliers with rack mechanism and non-slip rubber handles. Forming segments are fastened by slipping on. An individual bending former is required for each pipe ∅ and the counter plate is adjusted to the required ∅, no tools required.

Application: For **copper pipes, composite pipes** with or without sheathing, from 10 to 22 mm.

82 1160

Type			1
82A	82 1160	One-hand pipe bending pliers with 7 bending segments	XXX
Supplied with: 1 each forming segment			Size 10; 12; 14; 16; 18; 20; 22
Pipe bending pliers			1 pc.
Plastic case L×W×H			390×318×114 mm

Hydraulic pipe bender

Sturdy hydraulic pipe bender with closed-loop hydraulic system and return spring for better piston control.
Cast iron slide blocks and bending formers, high-performance piston with 450 bar working pressure.
High-quality piston seals prevent leakage and extend the working life.
Slide blocks feature bending angle indicator. Safe bending of pipes with closed-loop system.
Special lever design prevents overloading. Supplied in a lockable wooden case.

Application: For bending galvanised and black steel pipes and also gas pipes (3/8 inch – 2 inch).
Bending angles up to 90°, pipes up to maximum 5.5 mm wall thickness (2 inch pipe).
User-friendly operation thanks to a long piston stroke for each pump stroke.
General-purpose use in machine tool and plant installation,
working on pipework systems, fitting work etc.

82 1150

Type		3/8-1.1/4	3/8-2
83R 82 1150	RIDGID Peddinghaus Hydraulic pipe bender	XXX	XXX
Bending radius (centre of pipe)	mm	45; 50; 65; 100; 130	45; 50; 65; 100; 130; 150; 200
Content: 1 each bending segment No. 821155		Size 3/8; 1/2; 3/4; 1; 1.1/4	Size 3/8; 1/2; 3/4; 1; 1.1/4; 1.1/2; 2
Slide block No. 821156		2 pcs.	
hydraulic pipe bender		1 pc.	
Support wheels		3 pcs.	

For soft copper pipes to EN 1057 up to 22 mm (including those with thermal insulation),
and for precision mild steel pipes to EN 10305-3 (DIN 2394) up to 18×1.5 mm.
With hydraulic drive for a low applied force. Bending angles up to 90°.

Supplied with: Hydraulic bending tool, 7 forming segments, 3 reaction pieces, plastic box.

82 1250

63M 82 1250 GEDORE Manual pipe bender set hydraulic		XXX
Weight	kg	6.2
for pipe outer ∅	mm	10; 12; 14; 15; 18; 20; 22

ROTHENBERGER Pipe bender

82 3000 – The device consists of only 2 components (bending former and bending lever), which are easily screwed together.
A slide shoe facilitates bending and prevents pipe deformation.

Application:

82 3000 – For cold bending of **hard** and soft copper pipe, soft steel pipe, thin-walled stainless steel pipe, plain or clad.
Bending angles up to 180°. Up to 1 mm wall thickness.

82 3000

for pipe outer ∅	mm	8	10	12	15	16	18	22
86B 82 3000 Pipe bender (bending segment and bending lever)		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Bending radius (centre of pipe)	mm	22	32	38	45	64	64	81

for pipe outer ∅	mm	12-22
86B 82 3010 Pipe bender set		–
Plastic carrying case length	mm	620
Plastic carrying case width	mm	350
Plastic carrying case height	mm	140
Supplied with: 4 bending segments		Size 12; 15; 18; 22
Bending lever		2 pcs.
Bending spray		1 pc.

82 3010

Copper pipe bending pliers

For bending angles up to 180° with smallest possible radius and no deformation of the pipe.
Forming segment with graduations.

82 1300 – Strong design, forged from steel; cadmium plated.
82 1310 – Lightweight design for non-fatiguing work. Non-slip handle.

Application: For bending soft copper pipes. Reverse curves can be bent in all directions, without transitions or shoulders, because the pliers can also be set in the middle of the pipe.

82 1300

for pipe outer ∅	mm	6	8	10	12	14	15	16
86B 82 1300 virax Copper pipe bending pliers		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Bending radius (centre of pipe)	mm	11	14	23	30	42	42	54

82 1310

for pipe outer ∅	mm	6	8	10	12	14	15	16
82A 82 1310 HOLEX Copper pipe bending pliers		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Bending radius (centre of pipe)	mm	18	24	30	36	47	54	58

ROLLER Pipe bender „Arcus“

Bending formers and slide blocks are of **glass fibre-reinforced nylon,**
i. e. very tough but at the same time lightweight. T
he bending formers can be exchanged to deal with various pipe ∅.
The pipe bender can be fixed in a vice or held in the hand.

Application: For bending both soft and hard copper pipes, thermally insulated copper pipes, steel pipes as well as aluminium and stainless steel pipes in sizes 10 – 22 mm outside diameter (12 -18 mm for stainless steel pipes).
Bending angles up to 180°. (Max. wall thickness of pipes 1.5 mm, soft copper up to 3 mm, stainless steel up to 1.5 mm.)

Supplied with: Bending drive of hardened steel, plug-in bolts, 4 bending formers, 4 slide blocks, and special bending spray, all in a sheet metal carrying case.

82 2010

for pipe outer ∅	mm	12-22
84C 82 2010	Pipe bender “Arcus” with bending segments, in a carrying case	–
Content: Pipe bender		1 pc.
1 each bending segment for pipe external ∅		12; 15; 18; 22 mm
1 each slide block for pipe external ∅		12; 15; 18; 22 mm

ROLLER “Central” ratchet pipe-threading tool

Quick cutting head change due to easy insertion into the ratchet head with quick-release lock.
Cutting heads with long pipe guide and exactly set threading dies.
The dies are particularly wear-resistant and easy to exchange. Ratchet reversible for right- and left-hand threads. The threading dies can be reversed for thread cutting right up to a wall (for short pipe ends that are already in place). Not suitable for stainless steel pipes.

Suitable for: BSPT pipe thread to DIN 2999 **taper 1:16.**

Application: A handy and light die stock for use on building sites.
The small head ∅ permits working in confined places.

Note: The following items are also available as individual parts on request:
- Ratchet arm No. 820600
- Sheet metal case No. 820620
- Complete cutting heads with jaws No. 820650 and spare jaws No. 820670.

When ordering please state the desired size.

Individual view of ratchet arm.

820300_1/2-114

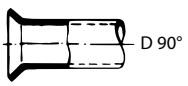
Type		1/2-114	3/8-114	1/2-2	3/8-2
84B 82 0300	Pipe-threading tool “Central” complete with sheet metal case	XXX	XXX	XXX	XXX
Content: Associated cutting heads, 1 pc. each (for Whitworth pipe threads)		1/2; 3/4; 1; 1.1/4 inch;	3/8; 1/2; 3/4; 1; 1.1/4 inch	1/2; 3/4; 1; 1.1/4; 1.1/2; 2 inch	3/8; 1/2; 3/4; 1; 1.1/4; 1.1/2; 2 inch
Ratchet arm		1 pc.	1 pc.	2 pcs.	2 pcs.

ROTHENBERGER Pipe swaging machine

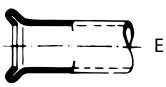
Cast steel base with 2 clamping blocks, 5 flare inserts (4.75 – 10 mm) and 1 pressure plate 90°.
The machine can be clamped in any normal vice.
Clamping blocks for pipe ∅ 4.75; 5; 6; 8; 9 and 10 mm. One face flat for 180° flares; one face countersunk for 90° flares.
Flare inserts for pipe ∅ 4.75-5; 6; 8; 9 and 10 mm for flare shapes F and E. **Pressure plate 90°** for flare shapes D and E.

Suitable for: Flares D-E-F to DIN 74234.

Application: For standard double flares (DIN 74234) on brake lines and coolant lines etc., for hydraulics and pneumatics.
For seamless drawn steel pipes, as well as double-walled rolled pipes (Bundy pipes).

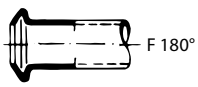


Flare D 90°, clamping block face countersunk, pressure plate 90°.

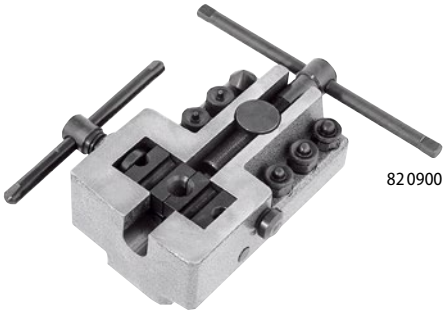


Flare E, clamping block face countersunk, pressure plate 90°

Flare F, clamping block side countersunk, flare insert.



Flare F 180°, clamping block face straight, flare insert.

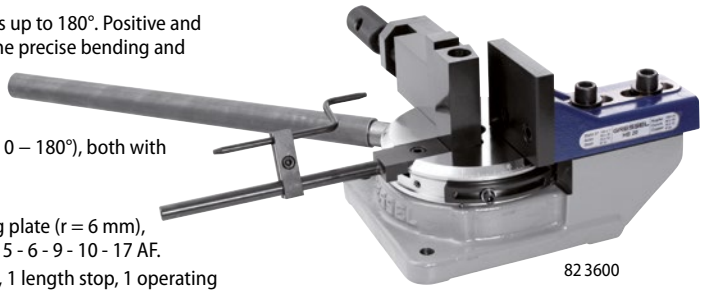


82 0900

86B 82 0900	Pipe swaging machine complete	XXX

GRESSEL Precision angle bender

Easy to operate, powerful bending machine for precise bending of various profiles up to 180°. Positive and secure clamping of the profiles. Good repetition accuracy of the bend thanks to the precise bending and clamping jig. Integral **angle and length stops for quick working** with exact bending results. Smooth operation even with solid profiles due to a **needle-bearing turntable** (size 60 and 100).



82 3600

Application: Precise and user-friendly hot and cold bending (bending angle 0 – 180°), both with angular bending edges and also with various bending radii.

Supplied with:

Size 35 – 1 bending plate, sharp-edged, 90° No. 823601 size 0, 1 bending plate (r = 6 mm), 180°, 1 angle stop, 1 length stop, 1 operating handle, 1 wrench 5 - 6 - 9 - 10 - 17 AF.

Size 60 – 1 bending plate (r = 2 mm), 90° No. 823602 size 2, 1 angle stop, 1 length stop, 1 operating handle, 1 cover pin, 1 wrench 5 - 6 - 8 - 10 AF.

Size 100 – 1 bending plate (r = 2 mm), 90° No. 823603 size 2, 1 angle stop, 1 length stop, 1 operating handle.

Note: Further bending plates can be found under No. 823601 – 823604.

Precise setting and bending, using the vernier angle scale.

Clamping and bending machine for tight radii and exact bending.

maximum component height	mm	35	60	100
86K 82 3600 Precision angle bender complete with accessories		XXX	XXX	XXX
Width	mm	280	335	465
Depth	mm	150	200	240
Height	mm	92	145	205
maximum bending capacity for flat material (cold)	mm	35×4 / 9×9	60×6 / 13×13	100×7 / 18×18
maximum bending capacity for flat material (hot)	mm	36×6 / 11×11	60×10 / 20×20	100×10 / 22×22
maximum bending capacity for round material (cold) ∅	mm	10	15	18
Weight	kg	9.3	22.4	43.9
Suitable for:		Vice	Vice / workbench	Workbench

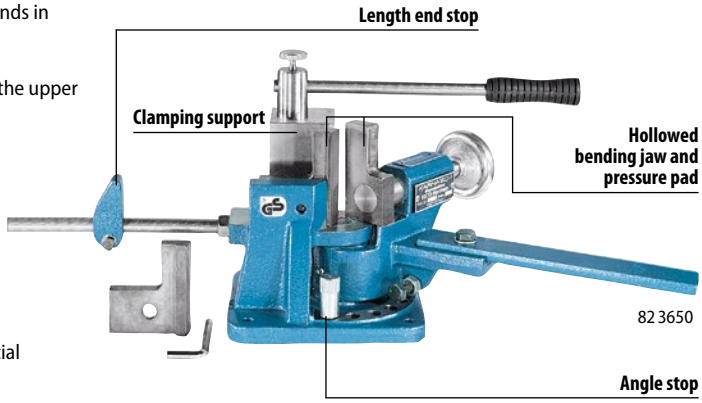
KARNASCH Angle bender

Equipment of unbreakable spheroidal graphite iron with eccentric quick clamping for cold bending and hot bending flat, round and rectangular steel bar to high accuracy - for continuous use to professional standards. Suitable for **bending and cranking to particularly tight radii**.

Application: For accurate hot and cold bending (bending angles 0 –120°) of flat, round and square material. For producing sharp bends or rounded bends in various radii. Length stop and angle stop for ease of setting.

Maximum bending performance:

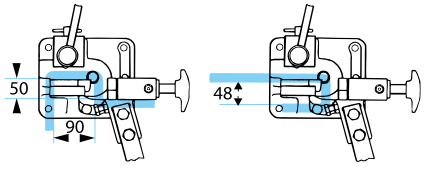
- **(reduced)** with bending plates No. 823652 / 823653 within the upper hollowed area of the jaw:
  – Steel flat, hot, up to 50×6 mm or 20×15 mm;
  – Steel flat, cold, up to 50×4 mm or 20×10 mm;
  – Round and square steel bar, cold, up to 16 mm.
- **(normal)** with bending plates No. 823652 / 823653 within the lower non-hollowed area of jaw:
  – Steel flat, hot, up to 100×12 mm or 60×20 mm;
  – Steel flat, cold, up to 100×6 mm or 50×12 mm;
  – Round and square steel bar, hot, up to 30 mm;
  – Round and square steel bar, cold, up to 18 mm.
- **(maximum)** with bending plates No. 823654 / 823655 (special accessory):
  – Steel angle section, hot, (straight) up to 100×12 mm;
  – Steel angle section, cold, (straight) up to 60×8 mm;
  – Copper strip up to 100×12 mm;
  – Stainless steel up to 50×8 mm.



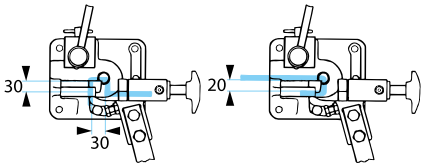
82 3650

Supplied with: Angle bender including:
1 clamping box with eccentric clamping,
1 bending plate sharp-edged (for material up to 2 mm) No. 823652,
1 normal bending plate (r = 4 mm) No. 823653, 1 pressure pad
1 length stop 440 mm,
1 angle stop.

Note: Further bending plates can be found under No. 823651 – 823657.



Tightest bending capability at full bending performance.



Very tight bending capability at reduced bending power, i.e. when bending in the upper hollowed part of bending jaw and pressure pad.

for bending height up to	mm	100
86K 82 3650 Angle bender complete with standard accessories		XXX
Width	mm	210
Depth	mm	175
Height	mm	260
Weight including accessories	kg	24

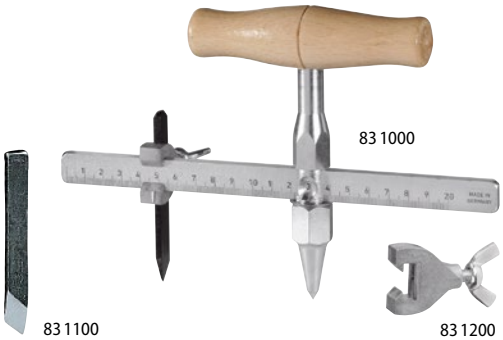
Disc cutters

Polished Vee beam with graduations. Knife adjustable. With 2 knifes also suitable for cutting rings.

Application: For producing gaskets of rubber, leather, plastic etc.

Spare part: Spare knife No. 831100, knife holder No. 831200.

Type			200	400	600	800
86C 83 1000	Disc cutter with 1 blade		XXX	XXX	XXX	XXX
Cutting range ∅		mm	28 – 200	28 – 400	28 – 600	28 – 800
86C 83 1100	Spare blade		XXX			
86C 83 1200	Blade holder (without blade)		XXX			



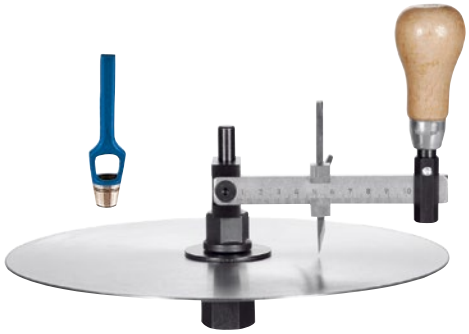
Gasket cutters

Device for clamping in vice. Vee beam with mm graduations. Knife and handle adjustable on Vee beam. Table surface chrome-plated.

Function: Make hole in gasket material (∅ 18 mm), clamp on to table surface, then cut gasket. Supplied with steel wad punch ∅ 18 mm.

Spare part: Spare knife No. 831100, knife holder No. 831200.

Type			200	400
86C 83 1400	Gasket cutter		XXX	XXX
Cutting range ∅		mm	26 – 200	26 – 400



HOLEX Revolving punch pliers

Strong pressed steel shanks with rotating wheel and lock. With 6 different hollow punches (∅ 2.0; 2.5; 3.0; 3.5; 4.0 and 4.5 mm).

83 1550 – 70% less force required due to efficient leverage. Ergonomically shaped plastic grips.

Note: For soft materials such as leather use an underlay to avoid damage when a lot of pressure is applied.

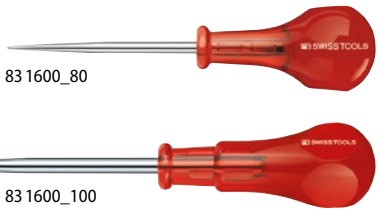
			overall length mm
86C 83 1505	Revolving punch pliers	XXX	220
86C 83 1550	Compound action revolving punch pliers	XXX	250

PB SWISS TOOLS Piercing awls

With shock-proof plastic handle and round chrome-plated blade.

Material: Chrome vanadium steel.

Blade length		mm	80	110
83B 83 1600	Piercing awl with plastic handle		XXX	XXX
Blade ∅		mm	5	7
overall length		mm	155	200

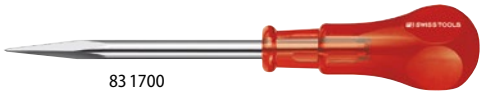


PB SWISS TOOLS Square reamers

With shock-proof plastic handle and square chrome-plated blade.

Material: Chrome vanadium steel.

Blade length		mm	110
83B 83 1700	Square reamer with plastic handle		XXX
Blade ∅		mm	8
overall length		mm	200



RENNSTEIG Steel wad punches

Strong, **forged** design, special tough varnish; taper section (cutting part) bright metal. Slight internal taper for releasing the cut pieces.

Application: For punching or manufacturing gaskets and gasket rings of rubber, leather, felt, plastic, cork, fabric or similar materials.

Note: Use an underlay of wood, leather etc. when punching to avoid damage.

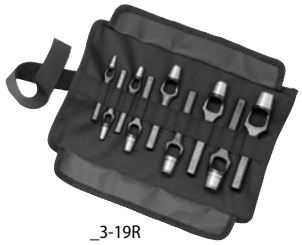
_26

for hole ∅	mm	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
86C 83 2001	Steel wad punch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

for hole ∅	mm	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
86C 83 2001	Steel wad punch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

for hole ∅	mm	34	35	36	38	40	42	44	45	46	48	50	55	60	65	70
86C 83 2001	Steel wad punch	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Type		3-19R	2-20R	2-30
86C 83 2011	Steel wad punch set	XXX	XXX	XXX
Packaging		Tool roll		
Supplied with: 1 each steel wad punch ∅ No. 832001		9 pcs. size 3-19 (2 mm increment)	19 pcs. size 2-20 (1 mm increment)	15 pcs. size 2-30 (2 mm increment)


_3-19R

BOEHM Wad punch set in a case

2-component holder (up to size 3-20) with pistol handle with exchangeable precision ground punch cutters. For the production of gaskets two punch cutters of different ∅ are inserted together in the holder.

Application: For punching or manufacturing discs / rings in one operation. For rubber, leather, felt, plastic, cork, fabric or similar materials.

Note:
- Use an underlay of wood, leather etc. when punching to avoid damage.
- The following combinations are **not** possible: 20 (inner) with 22 (outer); 30 (inner) with 32 (outer); 40 (inner) with 42 (outer); 50 (inner) with 52 (outer).

_3-20

_3-30

_2-50

Punched diameter range	mm	3-20	3-30	2-50	2-60
86C 83 2100	Wad punch set complete in a case	XXX	XXX	XXX	XXX
Supplied with: 1 each punch cutter ∅ No. 832110		10 pcs. size 3; 4; 6; 8; 10; 12; 14; 16; 18; 20	15 pcs. size 3; 4; 6; 8; 10; 12; 14; 16; 18; 20; 22; 24; 26; 28; 30	29 pcs. size 2-50	34 pcs. size 2-60
Available combinations of punches inner : outer (mm)		3–10 inner with 12–20 outer	3–10 inner with 12–30 outer 12–20 inner with 22–30 outer	2–10 inner with 12–50 outer 12–20 inner with 22–50 outer 22–30 inner with 32–50 outer 32–40 inner with 42–50 outer	2–10 inner with 12–60 outer 12–20 inner with 22–60 outer 22–30 inner with 32–60 outer 32–40 inner with 42–60 outer 42–50 inner with 52–60 outer
Container length×width×height (mm)		Plastic 140×100×40	Plastic 275×205×50	Plastic 265×200×50	Sheet metal approx. 380×315×55
Centring point No. 832140		—	1 pc.	1 pc.	1 pc.
1 each circle cutter ∅		—	55–330 mm	—	55-420 mm

Spare wad punch cutter

for hole ∅	mm	2	3	4	5	6	7	8	9	10
86C 83 2110	Spare wad punch cutter	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

for hole ∅	mm	12	14	16	18	20	22	24	26	28
86C 83 2110	Spare wad punch cutter	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

for hole ∅	mm	30	32	34	36	38	40	42	44	46
86C 83 2110	Spare wad punch cutter	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

for hole ∅	mm	48	50	52	54	56	58	60
86C 83 2110	Spare wad punch cutter	XXX	XXX	XXX	XXX	XXX	XXX	XXX

83 2110

Sheet metal punches

Consisting of matrix, punch, and draw bolt.

83 4000 – **Without** ball thrust bearing.

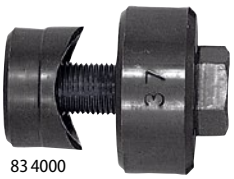
83 4100 – **With** ball thrust bearing = for easier operation using a wrench.
Friction between punch and screw is reduced, so less force is required.

83 4160 – **With** ball thrust bearing and **split punch,** which cuts the waste material into 3 pieces.
The cut pieces easily fall out of the matrix.

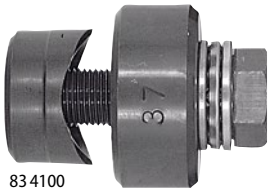
Material: Special tool steel, burnished.

Application: For punching holes into diverse materials such as sheet steel, sheet stainless steel, sheet aluminium, sheet copper etc. Particularly useful where access is difficult (e.g. large sheet metal plates, control cabinets, fuse boxes, junction boxes, dashboards, sink basins, bodywork etc.). Not suitable for pipework.
It is imperative to grease the pressure screw and matrix before use.
Operation:
a) using a **wrench**
b) using **manual hydraulics** No. 834655 size 1.
c) using a **manual hydraulic drive** No. 834700.
From 50 mm ∅ upwards the use of the manual hydraulic drive is recommended.

Note:
- When using hydraulic tools, use draw bolt No. 834070 (optional accessory) instead of the pressure screw.
- Size 32 and 35 for holes in stainless steel sinks, to attach 1/2 inch sink fitments.



83 4000



83 4100

83 4160

Punch ∅ (hole ∅)		mm	12,5	15,2	16,5	18,6	20	20,5	22	22,5	25,5
86C 83 4000	Round sheet metal punch without ball thrust bearing		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
86C 83 4100	Round sheet metal punch with ball thrust bearing		–	–	XXX	XXX	XXX	XXX	XXX	XXX	XXX
86C 83 4160	Gap sheet metal punch with ball thrust bearing		XXX	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX
for metric threads to DIN EN 60423			M12×1,5	–	M16×1.5	–	–	M20×1.5	–	–	M25×1.5
for conduit threads to DIN 40430			PG7	PG9	–	PG11	–	PG13	–	PG16	–
Draw screw			M6×30	M8×1×35	M10×1×45						
hole ∅ to be pre-drilled		mm	7	9	11	11	11	11	11	11	11
Draw screw size		mm	Hex socket size 5	13	17	17	17	17	17	17	17
for material thickness (sheet metal St 37)		mm	1.5	1.5	1.75	1.75	1.75	1.75	1.75	1.75	1.75
for stainless sheet steel depending on tensile strength up to		mm	1	1	1.25	1.25	1.25	1.25	1.25	1.25	1.25

Punch ∅ (hole ∅)		mm	28,3	30	32	32,5	35	37	40,5	45
86C 83 4000	Round sheet metal punch without ball thrust bearing		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
86C 83 4100	Round sheet metal punch with ball thrust bearing		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
86C 83 4160	Gap sheet metal punch with ball thrust bearing		XXX	XXX	XXX	XXX	XXX	XXX	XXX	–
for metric threads to DIN EN 60423			–	–	–	M32×1.5	–	–	M40×1.5	–
for conduit threads to DIN 40430			PG21	–	–	–	–	PG29	–	–
Draw screw			M10×1×55			M16×1.5×55			M16×1.5×70	
hole ∅ to be pre-drilled		mm	11	11	11	17	17	17	17	17
Draw screw size		mm	17	17	17	24	24	24	24	24
for material thickness (sheet metal St 37)		mm	1.75	1.75	1.75	2.5	2.5	2.5	2.5	2.5
for stainless sheet steel depending on tensile strength up to		mm	1.25	1.25	1.25	1.75	1.75	1.75	1.75	1.75

Punch ∅ (hole ∅)		mm	47	50,5	54	60	63,5	70	75	80
86C 83 4000	Round sheet metal punch without ball thrust bearing		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
86C 83 4100	Round sheet metal punch with ball thrust bearing		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
86C 83 4160	Gap sheet metal punch with ball thrust bearing		–	XXX	–	–	XXX	–	–	–
for metric threads to DIN EN 60423			–	M50×1.5	–	–	M63×1.5	–	–	–
for conduit threads to DIN 40430 (83 4000, 83 4100)			PG36	–	PG42	PG48	–	–	–	–
Draw screw			M20×1.5×70		M20×1.5×80			M20×1.5×90		
hole ∅ to be pre-drilled		mm	21							
Draw screw size		mm	30							
for material thickness (sheet metal St 37)		mm	3							
for stainless sheet steel depending on tensile strength up to		mm	2							

Spare draw bolts

Metric thread

Suitable for: Round sheet metal punches No. 834000, 834100 and 834160.

83 4040

83 4060

Thread ∅ / Length		mm	6/30	8/35	10/45	10/55	16/55	16/70	20/70	20/80	20/90
86C 83 4040	Spare draw bolt for round sheet metal punches		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
86C 83 4060	Spare ball bearing draw bolt for round sheet metal punches		–	–	–	XXX	XXX	XXX	XXX	XXX	XXX
Screw dimensions			M6×30	M8×1×35	M10×1×45	M10×1×55	M16×1.5×55	M16×1.5×70	M20×1.5×70	M20×1.5×80	M20×1.5×90
Width across flats		mm	Hex socket size 5	13	17	17	24	24	30	30	30
suitable for round sheet metal hole punches ∅		mm	12.5	15.2	16.5 – 25.5	28.3 – 32	32.5 – 38	40.5 – 45	47 – 50.5	54 – 63.5	70 – 80

Round sheet metal punch set to DIN EN 60423

for metric Ø

Supplied with: 1 each matrix punch and matrix (like round sheet metal punch No. 834000) for hole Ø 12.5 (M12×1.5); 16.5 (M16×1.5); 20.5 (M20×1.5); 25.5 (M25×1.5); 32.5 (M32×1.5); 40.5 (M40×1.5); 50.5 (M50×1.5); 63.5 (M63×1.5).
1 draw bolt (No. 834040 size 16/70).
4 ball thrust bearing draw bolts (No. 834060 size 10/55; 16/70; 20/90 and No. 834040 size 6/30 with ball thrust bearing).
1 step drill similar to No. 118320 (= Ø 7 - 21 mm).
1 sheet metal case size 335×230×55 mm.

86C 83 4550	Round sheet metal punch set "Metric" Ø 12.5 – 63.5 mm in a sheet metal case	XXX

83 4550

„UNF" for metric Ø

Matrix punches and pressure screws with UNF fine thread. With ball thrust bearing draw bolts to reduce the friction. Compatible with all the main manufacturers of sheet metal punches with UNF threads.

Supplied with: 1 each punch and matrix for hole Ø 16.2 (for M16); 20.4 (for M20 and PG13); 22.5 (for M22 and PG16); 25.4 (for M25); 32.5 (for M32); 40.5 (for M40); 50.5 (for M50); 63.5 (for M63).
Ø 16.2 – 25.4 with 3/8 inch UNF thread and Ø 32.5 – 63.5 with 3/4 inch UNF thread.
2 ball bearing draw bolts **3/8 inch – UNF,** 40 mm.
1 ball bearing draw bolt **3/4 inch – UNF,** 52 mm.
1 ball bearing draw bolt **3/4 inch – UNF,** 65 mm.
1 HSS stepped drill (Ø 6 – 21 mm).
1 robust plastic case, size 340×280×90 mm.

Type		1
86C 83 4555	HOLEX Round sheet metal punch set "UNF" Ø 16.2 – 63.5 mm in a sheet metal case	XXX

Three edged sheet metal punch

83 4555

Manual hydraulic device

Manual hydraulic with pressure rating up to approx. 600 bar, **with multiple movement cylinder** (can be rotated and swivelled through 360°), with 3/4–16 UNF thread suitable for draw bolts No. 834070. Aluminium pivot head and cylinder combination, very light in weight.
Punching power: For round sheet metal punches and swarf punches up to Ø 82 / thickness 3 mm / St 37 or larger for thinner and weaker materials. **Case L×W×H: 495×385×140 mm.**

Application: For powering sheet metal punches.

Note: When ordering the hydraulic drive, please order the **draw bolts No. 834070 necessary** for the round sheet metal punches!

83 4655

Can be rotated and pivoted 360°.

Type		1
86C 83 4655	HOLEX Manual hydraulic drive with pivoting cylinder in a sheet metal case	XXX

Gap sheet metal punch set

Supplied with: 1 manual hydraulic unit No. 834655.
1 each gap sheet metal punch (similar to No. 834160 but without ball thrust bearings) Ø 16.2 (M16); 20.4 (PG13 / M20); 22.5 (PG16 / M22); 25.4 (M25); 32.5 (M32); 40.4 (M40).
1 each draw bolt 3/4 inch – UNF / M10×1 or 3/4 inch – UNF / M16×1.5 with spacer washer.
1 plastic case, size 495×385×140 mm.

Type		1
86C 83 4855	HOLEX Gap punch set with manual hydraulics	XXX

83 4855

Draw bolts for round sheet metal punches

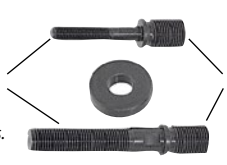
Connection thread 3/4 -16 UNF for hydraulic drives.

Suitable for: Hydraulic devices from No. 834655.

Note: For connection threads for punches see No. 834000 – 834160.

Type		1	2	3	4
86C 83 4070	Draw bolts with disc for round sheet metal punches	XXX	XXX	XXX	XXX
Thread Ø for punch mounting		M8×1	M10×1	M16×1.5	M20×1.5
overall length	mm	88	88	113	120
suitable for round sheet metal hole punches Ø	mm	15.2	16.5–32	32.5 – 45	47 – 80

Thread
M 8×1
M 10×1
M 16×1.5
M 20×1.5
for round holes.



Thread ¾ – 16 UNF for hydraulic drives.

RENNSTEIG Bearing scraper with wooden handle

Three-edged blade of chrome vanadium steel; varnished wooden handle.

83 6620

Blade length		mm	200
86D 83 6620	Bearing scraper, three-edged		XXX
Blade width		mm	16
overall length		mm	320

83 6620

RENNSTEIG Three-edge hollow scraper with wooden handle

Three-square hollow section blade made of chrome vanadium steel, varnished wooden handle.

Standard: **DIN 8350 C**

83 6010

Blade length		mm	100	125	150	200	250	300
86D 83 6010	Three-edge hollow scraper		XXX	XXX	XXX	XXX	XXX	XXX
Blade width		mm	14	14	14	16	16	16
overall length		mm	200	225	250	320	370	420

83 6010

Precision engineer's scraper

Slim three-square hollow section blade.

83 6200 – Chrome vanadium steel, plastic handle, plastic coated blade.
83 6220 – Chrome vanadium steel, plastic handle, plastic coated blade, with protective cap.
83 6320 – Chrome vanadium steel, wooden handle.

83 6200

86D 83 6200	HEYCO Precision engineer's scraper with plastic handle		XXX
86D 83 6220	RENNSTEIG		XXX
Blade length (83 6200)		mm	80
Blade length (83 6220)		mm	25
Blade width		mm	8
overall length (83 6200)		mm	175
overall length (83 6220)		mm	150

83 6200

83 6220

86D 83 6320	RENNSTEIG Precision engineer's scraper with wooden handle		XXX
Blade length		mm	85
Blade width		mm	7
overall length		mm	175

83 6320

NOGA Precision scraper with exchangeable blade

83 6400 – Light alloy holder (120 mm long) with collet chuck and interchangeable detachable three-square hollow section blade of **special tool steel** or **carbide.** Blade can be taken out and reground along its entire length.

Note:
83 6400 – See also scraper blades No. 839677; 839678.

83 6400

83G 83 6400	Precision scraper with exchangeable blade **Tool steel**		XXX
83G 83 6410	Spare blade straight (80×4.2 mm) **Tool steel**		XXX
83G 83 6420	Spare blade straight (50×3.2 mm) **Carbide**		XXX
83G 83 6425	Spare blade straight (75×3.2 mm) **HSS**		XXX
Blade length (83 6400, 83 6410)		mm	80
Blade length (83 6420)		mm	50
Blade length (83 6425)		mm	75
Blade width (83 6400)		mm	4.2
overall length (83 6400)		mm	120

83 6410

83 6420

83 6425

Universal scraper with exchangeable blade

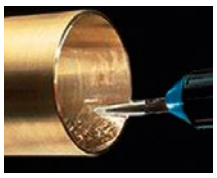
83 6440 – Blade holder of plastic with spare blade compartment.
83 6441 – Blade holder of aluminium.
83 6440/6441 – Robust holder with exchangeable detachable three-edge hollow section blade of **special tool steel.** Blade can be taken out and reground along its entire length.

83 6440

83 6441

83 6445

		120
83G 83 6440	Universal scraper with exchangeable blade **Tool steel**	XXX
83G 83 6441		XXX
83G 83 6445	Spare blade straight (120×7.4 mm) **Tool steel**	XXX



Universal toolholder

Universal toolholder with 3-jaw chuck. Sturdy hardened clamping jaws (58 HRC), comfortable to use, transmits high torques via the aluminium handle with non-slip plastic covering.

Advantage: 3-jaw chuck accepts various geometries (such as hexagonal tools / round tools).

Application: Quick and secure clamping of a wide variety of tools such as countersinks, scrapers, key files etc.

83G 83 6435	Universal toolholder with 3-jaw chuck		XXX
Clamping range ∅		mm	0.5 – 8
Weight		g	165

Universal scraper with exchangeable carbide blade

83 7650 – Ergonomic 2–component handle with exchangeable **carbide blade.**
Size 25 – Blade with three sharp faces, including plastic case with belt clip.
Size 50 – Faces sharp on both sides.

83 7650_50

83 7650_25

83 7710

Blade width		mm	25	50
86D 83 7650	Universal scraper **with carbide blade**		XXX	XXX
overall length		mm	200	250

Blade width		mm	25	50
86D 83 7710	Spare carbide blade		XXX	XXX

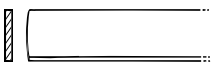
Flat scraper with wooden handle

Blade of C125 tool steel; varnished wooden handle.

Standard: **DIN 8350 A**

83 7020

Blade length		mm	150	200	250	300
86D 83 7020	Flat scraper		XXX	XXX	XXX	XXX
Blade width		mm	20	20	25	25
overall length		mm	250	320	370	420

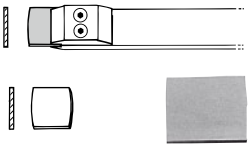


Flat scraper with exchangeable carbide insert and plastic handle

Strong flat steel bar with clamping mechanism and **exchangeable four-edged carbide scraper insert.** The carbide insert is ground ready for use, has 4 cutting edges and can be indexed.

Note:	Scraper inserts No. 837600 also fit electric hand scrapers.

Blade width		mm	20	25	30
86D 83 7520	Flat scraper with **Carbide insert**		XXX	XXX	XXX
86D 83 7600	Spare carbide scraper insert		XXX	XXX	XXX
Size of carbide insert		mm	20×25×2	25×25×2	30×25×2
overall length (83 7520)		mm	420	450	450



martor Scraper SCRAPEX

SCRAPEX ARGENTAX

Ergonomic scraper with rounded end to the handle, **for right-hand and left-hand users.** Easy-change blade, no tools required (replacement blades No. 837745 / 837746).
Secure transport and storage, thanks to push-on protective cap.
Application: For removing residues, e.g. of labels, from smooth surfaces.

Application example

84D	**83 7740**	SCRAPEX ARGENTAX scraper with 1 blade	XXX
	Blade width	mm	39
	overall length	mm	165

83 7740

SCRAPEX CLEANY

Ergonomic scraper with rounded end to the handle, **for right-hand and left-hand users.** Easy-change blade, no tools required (replacement blades No. 837745 / 837746).
Secure transport and storage, thanks to the retractable blade.
Application: For removing residues, e.g. of labels, from smooth surfaces.

Easy blade change

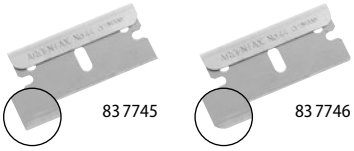
84D	**83 7741**	SCRAPEX CLEANY scraper with 1 blade	XXX
	Blade width	mm	39
	overall length	mm	106

83 7741

SCRAPEX ARGENTAX / CLEANY replacement blades

83 7746 – With **rounded** corners, to avoid damaging the working surface due to the blade digging in.
Suitable for: Scraper No. 837740 / 837741.

84D	**83 7745**	Pack of spare blades, **10 pieces**	XXX
84D	**83 7746**		XXX

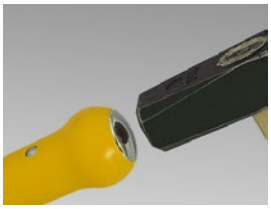


83 7745 83 7746

TAJIMA Universal scraper with exchangeable snap-off blades

Handy lightweight universal scraper of cast aluminium with steel impact cap at the end of the handle. Non-slip ergonomic plastic handle for safe and non-fatiguing working. Scraper blade corresponds to a commercially-available 18 mm snap-off blade (No. 845010 10) for sizes 1 - 3 and 22 mm (No. 845110 10) or 25 mm (No. 837755) for size 4, which can be exchanged quickly and easily (clamping mechanism).
Supplied with: With 3 blades.

Note: Spare blades 25 mm No. 837755 without break points for scraper size 4.



83 7750_1

83 7750_2/_3/_4

Type			1	2	3	4
83L	**83 7750**	Universal scraper with 3 snap-off blades	XXX	XXX	XXX	XXX
	Blade width	mm	100	100	100	126
	overall length	mm	200	300	600	1200

S/STL

TAJIMA Universal scraper with stainless steel blade

One-piece blade and striking head for direct impact transmission. Ergonomic 2-component handle with hardened striking head. Blade thickness 1.8 mm.
Material: Stainless steel, heat treated, extremely wear-resistant.

83 7760_50

	Blade width	mm	50	75
83L	**83 7760**	Universal scraper with standard blade	XXX	XXX
	overall length	mm	235	245

83 7765

	Blade width	mm	95
83L	**83 7765**	Universal scraper with splayed blade	XXX
	overall length	mm	250

83 7770

	Blade width	mm	75
83L	**83 7770**	Universal scraper with multi-function blade	XXX
	overall length	mm	240

Gasket scraper

Offset blade for multiple regrinding. Shock-resistant plastic handle.

Blade width		mm	23
83A 83 7800	Gasket scraper		XXX
overall length		mm	265

Gasket scraper

Cranked blade of special spring steel (58 - 60 HRC), can be reground many times. Impact-resistant "multicraft" power grip.

Blade width / Blade length		mm	25/50	25/145
83B 83 7850	Gasket scraper with spring steel blade		XXX	XXX
overall length		mm	160	255

_25/50

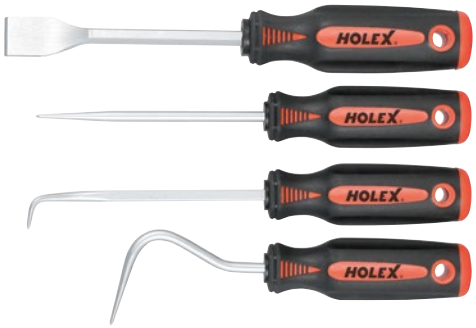
_25/145

Scraper and assembly set, 4 pieces

Offset scraper blade of chrome-vanadium steel (57 HRC). Roughening tool, sturdy gripper hook and offset gasket lifter, each of chrome-vanadium steel. Easy-grip 2-component handle.

Application: Many uses such as scraping, gripping, placing, assembling, and many more.

Number of tools			4
82F 83 7880	Scraper and assembly set		XXX



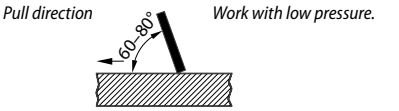
Ceramic scraper

Ergonomic 2-component plastic handle with **ceramic blade** (not replaceable). **Extremely long service life.** 90° cutting edge means it is very safe to use.

Application: For deburring almost any type of plastic and other soft materials. Application angle 60 - 80°, do not apply too much pressure.

83 6450

83G 83 6450	Ceramic scraper with fixed blade		XXX
overall length		mm	155



83 6465 – Plastic handle with 1 exchangeable ceramic blade for highly curved contours and narrow ribs.

Application:

83 6465 – For deburring almost any type of plastic and other soft materials. Application angle 60 - 80°, do not apply too much pressure.

83 6465

83G 83 6465	Ceramic scraper with exchangeable blade		XXX
overall length		mm	175
83G 83 6470	Ceramic blade concave		XXX
83G 83 6475	Ceramic blade convex		XXX

83 6470 83 6475

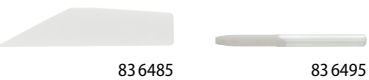
Mini ceramic scraper

For deburring almost any type of plastic and other soft materials.

83G 83 6480	Mini ceramic scraper with convex exchangeable blade		XXX
overall length		mm	145
83G 83 6490	Mini ceramic scraper with square exchangeable blade		XXX
overall length		mm	129
83G 83 6485	Ceramic blade, convex		XXX
83G 83 6495	Ceramic blade, square		XXX

83 6480

83 6490



83 6485 83 6495

Universal deburrers with ceramic blades

83 8150 – Handy 2-component handle with unique mounting for the ceramic blades. In conventional deburrers the blade rotates; here the blade mounting rotates. The result is smoother working, which is easier on the blade.

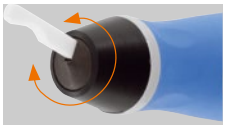
Application: Deburring holes and a wide variety of contours. Highly suitable not only **for** soft materials such as aluminium and plastics but also for **very abrasive plastics** such as fibreglass. Extremely wear-resistant: approx. **20 times the working life** of a HSS blade (when deburring plastics).

83 8150

83 8160

Cutting angle		Degrees	65	75
83G 83 8150	Universal deburrer handle with ceramic blade		XXX	XXX

Cutting angle		Degrees	65	75
83G 83 8160	Ceramic deburrer blade		XXX	XXX
Blade width		mm	4	
Blade thickness		mm	1.7	



Deburrer handle, individual

2-part plastic handle with spring-loaded lock for locking / unlocking blades / telescopic shank. Blades can be stored in the removable end cap.

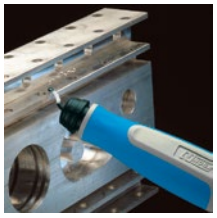
Size S – Takes **S-blades Ø 3.2 mm.**
Size N – Takes **N-blades Ø 2.6 mm.**
Size T – Takes **telescopic shanks Ø 7 mm and hexagonal.**

Type			S	N	T
83G 83 9890	Deburrer handle		XXX	XXX	XXX
overall length		mm	125		

Universal deburrer with N-blade Ø 2.6 mm

Handle with rotating, exchangeable blades. Very easy to use, the blade adapts itself automatically to the contours of the workpiece.

Application: For efficient deburring of different materials / contours.



83 9150

83 9120

83 9140

83 9170

83G 83 9150	Universal deburrer, aluminium handle with 1 blade (N1)		XXX
83G 83 9120	Universal deburrer, 2-component handle with 2 blades (N1, N2)		XXX
83G 83 9140	Universal deburrer, 2-component handle with telescopic shank and 2 blades (N1, N2)		XXX
overall length (83 9150)		mm	135
overall length (83 9120)		mm	140
overall length (83 9140)		mm	155 – 225
83G 83 9170	Telescopic shank for N-blades Ø 2.6		XXX

Universal blade shank Ø 2.6 mm

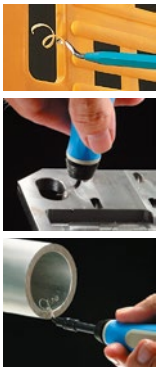
Type			N1	N2	N3	N6	N10	N150	
83G 83 9010	Deburrer blade		XXX	XXX	XXX	XXX	XXX	XXX	10
83G 83 9030	Deburrer blade **HSS TiN coated**	TiN	XXX	XXX	–	–	–	–	10
83G 83 9040	Deburrer blade **HSS diamond coated**	Diamond	XXX	–	–	–	–	–	10
Shank Ø		mm	2.6						
overall length		mm	20	20	20	45	25	20	
Material (83 9010)			HSS	HSS	HSS	HSS	HSS-E	HSS	
Material (83 9030)			HSS-TiN	HSS-TiN	–	–	–	–	
Material (83 9040)			HSS diamond	–	–	–	–	–	
applicable			right-hand	right+left	right-hand	right-hand	right-hand	right-hand	
for deburring of			steel, aluminium	Brass, cast iron	2 edges in one operation for steel, aluminium	rear of workpieces for steel, aluminium	abrasive plastics, stainless steel, very long tool life	Alu, plastic, small holes from Ø 1.5 mm	

Universal deburrer with S-blade Ø 3.2 mm

Handle with rotating, exchangeable blades. Very easy to use, the blade adapts itself automatically to the contours of the workpiece.

Application: For efficient deburring of different materials / contours.

83G 83 8350	Universal deburrer, plastic handle with 1 blade (S150)	XXX
83G 83 8400	Universal deburrer, alu. handle with 1 blade (S10)	XXX
83G 83 8410	Universal deburrer, 2-component handle with 3 blades (S10, S20, S35)	XXX
83G 83 8420	Universal deburrer, 2-component handle with telescopic shank and 3 blades (S100, S20, S30)	XXX
overall length (83 8350) mm		140
overall length (83 8400) mm		150
overall length (83 8410) mm		145
overall length (83 8420) mm		170 – 240
83G 83 8430	Telescopic shank for S-blades Ø 3.2	XXX



Universal blade shank Ø 3.2 mm

Type			S10	S101	S20	S100	S30	S60	S35	S150	
83G 83 8510	Deburrer blade		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
83G 83 8520	Deburrer blade (for left-hand use)		XXX	XXX	–	–	–	–	–	–	10
83G 83 8530	Deburrer blade, TiN coated	TiN	XXX	XXX	XXX	XXX	XXX	–	XXX	XXX	10
83G 83 8550	Deburrer blade carbide		XXX	–	–	–	–	–	–	–	10
Shank Ø		mm	3.2								
overall length		mm	43	43	48	48	48	66	48	43	
Material (83 8510, 83 8520, 83 8530)			HSS	HSS	HSS	HSS-E	HSS	HSS	HSS	HSS	
Material (83 8550)			Carbide	–	–	–	–	–	–	–	
applicable (83 8510, 83 8530, 83 8550)			right-hand	right-hand	right+left	right-hand	right-hand	right-hand	right+left	right-hand	
for deburring of (83 8510, 83 8520, 83 8530)			steel, aluminium	steel, aluminium, fine cutting edge	Brass, cast iron	abrasive plastics, stainless steel, very long tool life	Steel, alu, 2 edges in one operation	steel, aluminium, stainless steels	almost all materials, only straight edges	Steel, aluminium, plastics, slim cutting edge	
for deburring of (83 8550)			hard steel, plastic	–	–	–	–	–	–	–	
Identification (surface) (83 8510)			black	black	bright finish	bright finish	black	black	black	black	

Universal deburrer set with S-blade Ø 3.2 mm

Supplied with:

83 9915 – Deburrer handle No. 839890 size S complete with 20 blades No. 838510 size S10.

83 9916 – Deburrer handle No. 839890 size S complete with 20 blades No. 838510 size S100.

83 9917 – Deburrer handle No. 839890 size S complete with 10 blades No. 838510 size S150.

Number of blades		10	20
83G 83 9915	Deburrer set with 20 blades S10	–	XXX
83G 83 9916	Deburrer set with 20 blades S100	–	XXX
83G 83 9917	Deburrer set with 10 blades S150	XXX	–

Supplied with: Deburrer handle No. 839890 size T complete with telescopic shank No. 838430 and 5 each of blades No. 838510 size S10 and size S20.

Type		5/5
83G 83 9935	Deburrer set with telescopic shank, 5 each of blades S10 and S20	XXX

ROTO-DRIVE deburrer

Handle with rotating, exchangeable deburring head. Easy to use due to crank system.

Application: For easy deburring, chamfering or reworking of holes, external diameters, threads, and grooves.

83 8605

83 8655

			overall length mm
83G 83 8605	ROTO-DRIVE deburrer with deburring head ∅ 10.4	XXX	155
83G 83 8655	ROTO-DRIVE deburrer with external deburring head ∅ 4 -18	XXX	155

ROTO-DRIVE deburring head (patented) shank ∅ 3.2 mm

Deburring head ∅		mm	3,2	6,3	8,3	10,4	16,5	20
83G 83 8610	Hole deburring head HSS 90°, with shank		XXX	XXX	XXX	XXX	XXX	XXX
83G 83 8611	Hole deburring head, 90°, with shank HSS TiN coated	TiN	–	–	–	XXX	–	–

83 8610

83 8610

83 8610

83 8611

83G 83 8660	External deburring head HSS for ∅ 4–18 mm	XXX

Suitable for: Roto-Drive deburrer No. 838605.

Application: For cleaning up **dirty** and **damaged internal threads from M8.** For all standard thread forms.

83 8660

83 8710

83G 83 8710	Internal thread cleaning blade HSS	XXX

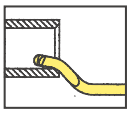
Application: For deburring **grooves** to **maximum 3 mm width** (e.g. O-ring grooves) in internal bores.

83 8760

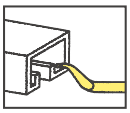
83G 83 8760	O-ring groove deburring blade HSS	XXX

Universal deburrer set

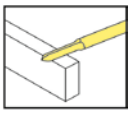
Supplied with: Aluminium handle with 1 each HSS blade No. 838510 sizes S20, S100, and S150, No. 839677 as well as 1 hole deburring head No. 838610 size 16.5, and 1 external deburring head No. 838660.



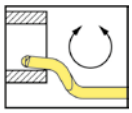
Long tool life even on abrasive materials.



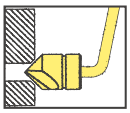
Finest deburring work, holes from ∅ 1.5 mm.



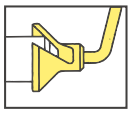
Deburring all contours.



Deburring brass, cast iron.



Hole countersinking, countersink head ∅ 16.5 mm.



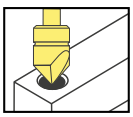
External ∅ deburring 4 -18 mm.

83 8960

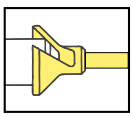
83G 83 8960	Universal deburrer set, in a plastic box **7 pieces**	XXX

Application: Shanks for direct fitting in electric screwdrivers.

Supplied with: 1 bit holder internal No. 839615 INT for deburring heads No. 839610 / 839611.
1 bit holder external for external deburring heads.
1 pc. each deburring head No. 839610 size 12; 20 and 30.
1 external deburring head for dia. 8 - 28 mm.



Hole countersinking, countersink head ∅ 12; 20 and 30 mm.



External ∅ deburring 8 -28 mm.

Number of pieces		6
83G 83 8961	Deburrer set, in a plastic box **6 pieces**	XXX

83 8961

Hole deburrers

83 9605 – 2-component handle with **hexagonal telescopic shank** and exchangeable deburring head HSS 90°, ∅ 20 mm. Suitable even for **deeply recessed** holes.

			overall length mm
83G 83 9605	Hole deburrer with deburring head HSS ∅ 20 mm	XXX	170 – 240

83 9605

Deburring head ∅		mm	12	20	30
83G 83 9610	Deburring head HSS, 90°		XXX	XXX	XXX
83G 83 9611	Hole deburring head, 90° HSS TiN coated	TiN	–	XXX	–

83 9610_12 _20 _30 83 9611

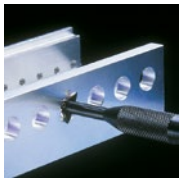
Type		INT	Suitable for: Deburring heads
83G 83 9615	Adapter for internal hole deburring heads with 1/4 inch shank	XXX	No. 839610; 839611

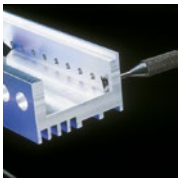
83 9615

			Suitable for: Deburring heads
83G 83 9620	Telescopic shank for deburring heads	XXX	No. 839610; 839611

83 9620

External and internal hole deburrers





83 9650/9655 – By pushing the pressure bolt at the top of the handle, you can position the deburrer blade **vertically** for insertion into the drilled hole. The **cutting blade operates in both directions**. Rotating it 180° achieves easy deburring. The blade is exchangeable. A hexagon socket screwdriver for changing the blade is stored in the handle.

Material:

Size 3HM – Of **carbide**.

Application: Ideal for external and internal hole deburring where access is difficult.

83 9650

Type			1	2	3	3HM
83G 83 9650	External and internal hole deburrer		XXX	XXX	XXX	–
83G 83 9660	Spare blade with screw		XXX	XXX	XXX	XXX
for hole ∅		mm	3 – 5.5	5 – 10	10 – 22	10 – 22
for maximum hole depth t (83 9650)		mm	15	17	52	–

83 9660_3HM

83 9655

83 9660_3

Type		3
83G 83 9655	External and internal hole deburrer set	XXX
Supplied with: 1 each external and internal hole deburrer No. 839650		Size 1; 2; 3

Mini scraper with exchangeable blade

2-component handle with **telescopic shank** and exchangeable scraper blades.

83 9670 – With straight mini scraper blade 2.5×50 mm for fine scraping work.

83 9675 – With cranked special scraper blade 2.7×50 mm for **deburring the back of holes** (from ∅ 4 mm).

83G 83 9670	Mini scraper with telescopic shank and mini scraper blade, straight	XXX
83G 83 9675	Mini scraper with telescopic shank and mini scraper blade, cranked	XXX
overall length	mm	170 – 240

83 9670

83 9675

83G 83 9676	Mini scraper blade, straight HSS TiN coated	XXX
83G 83 9677	Mini scraper blade, straight	XXX
83G 83 9678	Mini scraper blade, cranked	XXX
Blade length (83 9676, 83 9677)	mm	50
Blade length (83 9678)	mm	48
Shank ∅	mm	3.2

83 9676

83 9677

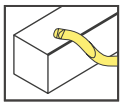
83 9678

83G 83 9679	Telescopic shank for scraper blades	XXX
Suitable for: Scraper blades		No. 839676; 839677; 839678; 836420; 836425

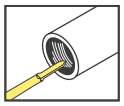
83 9679

Deburrer set in holder

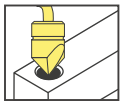
Supplied with: Fold-away handle with 1× HSS blade No. 838510 size S10, 1 hole deburring head No. 838610 size 10.4, 1 HSS blade No. 839010 size N2 and 1 mini-scraper blade No. 839677.



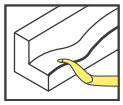
Deburring straight edges.



Scraping bushes.



Hole countersinking, countersink head ∅ 10.4 mm.



Deburring contours.

83 8970

83G **83 8970**	Deburrer set in a fold-away handle	XXX

Spline / keyway deburrers

83 9705 – 2-component handle with **telescopic shank** and exchangeable insert.

Application:

83 9705 – For deburring keyways in bores or shafts.

83 9705

83G **83 9705**	Spline deburrer with telescopic shank and insert size 11		XXX	
overall length	mm		160 – 230	
for maximum width	mm	8	11	15
83G **83 9720**	Spline deburring blade	XXX	XXX	XXX
Blade thickness	mm	4.5	4.5	6.8
for keyway width	mm	1.2 – 8	2.4 – 11	3 – 15
83G **83 9725**	Telescopic shank for inserts		XXX	
Suitable for: Inserts			No. 839720	

83 9720

83 9725

Sheet metal deburrers

83 9740 – 2-component handle with **telescopic shank** and exchangeable V-blade for material thickness from 1– 8 mm.

Application:

83 9740 – For **deburring both sides** of sheet metal, flat material or narrow ribs **in a single operation (2 edges simultaneously).**

83 9740

83 9745_2,5 83 9745_8

83 9750

83G **83 9740**	Sheet metal deburrer with telescopic shank and V-blade size 8		XXX
overall length	mm		160 – 230
for maximum web width	mm	2,5	8
83G **83 9745**	Spare V-blade of HSS	XXX	XXX
for material thicknesses	mm	0 – 2.5	1 – 8
83G **83 9750**	Telescopic shank for V-blades		XXX
Suitable for: V-blades			No. 839745

83 9860 – Holder with 2 reversible and exchangeable cutting discs for material thickness from 0 –12 mm. Worn cutter wheels can be indexed and reversed. With shield to protect the hand against injury.

83 9880 – Of **HSS-E** (cobalt steel).

83 9860/9870 – Of **HSS.**

83 9860

83G **83 9860**	Sheet metal deburrer with 2 HSS cutting discs	XXX
83G **83 9870**	Spare cutting disc of HSS	XXX
83G **83 9880**	Spare cutting disc of HSS-E (cobalt steel)	XXX
overall length (83 9860)	mm	190
Abrasive disc ∅ (83 9870, 83 9880)	mm	12
Cutting disc thickness (83 9870, 83 9880)	mm	5

83 9870

Garant Deburrer / scraper

Plastic handles with clip, each with 1 exchangeable blade.

Supplied with:

Size S10 – Blade for steel and aluminium No. 838510 size S10.
Size N1 – Blade for steel and aluminium No. 839010 size N1.
Size CR8 – Blade for plastic and soft materials No. 839902 size CR8.
Size D50 – Blade for fine scraping work No. 839677.

83 9901_S10

83 9901_N1

83 9901_CR8

83 9901_D50

Type		S10	N1	CR8	D50
83G 83 9901	Deburrer / scraper	XXX	XXX	XXX	XXX
overall length mm		140	133	138	145

Number of pieces		4
83G 83 9903	Deburrer / scraper set	XXX
Supplied with: 1 each deburrer / scraper No. 839901		Size S10; N1; CR8; D50

83 9903

NOGA Mini-deburrers / scrapers

Aluminium body with secure-grip plastic sheathing. **Non-replaceable blade.**

83 9941/9943 – Rotating exchangeable blade.

Application:

83 9941 – Mini-deburrer for extra-fine work.
83 9942 – Mini-three-edge scraper, ideal tool-making and mould-making.
83 9943 – Mini-deburrer and countersink for small holes 0 – 3.0 mm.

83 9941

83 9942

83 9943

83G 83 9941	Mini deburrer, extra fine (S150)	XXX
overall length mm		98
83G 83 9942	With three-edge scraper (D50)	XXX
overall length mm		105
83G 83 9943	Mini hole deburrer ROTO-DRIVE (3.2 mm)	XXX
overall length mm		109

83 9941

83 9942

83 9943

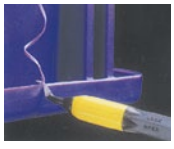
Supplied with: 1 mini-deburrer No. 839941.
1 mini-three-edge scraper No. 839942.
1 mini-hole deburrer No. 839943.

83G 83 9944	Mini deburrer/scraper set in a plastic box	XXX

83 9944

NOGA Universal deburrer set

Supplied with: 4 deburrers for 4 applications, with colour coding. Plastic handles with clip, each with 1 exchangeable blade No. 838510.



Blade S100 – for steel
Blade S10 – for aluminium
Blade S20 – for brass
Blade S150 – for plastics

83 9945

83G 83 9945	Universal deburrer set (4 holders, each with 1 blade)	XXX

Multi-purpose deburrer / scraper set in a plastic box, 22 pieces

83G 83 9954	Multi-purpose deburrer /scraper set in a plastic box **22 pieces**	XXX
Supplied with: Sheet metal deburrer		1 pc. similar to No. 839150
Spare cutting disc		1 pc. No. 839870
Deburrer handle for telescopic shank		1 pc. No. 839890 size S
Deburrer blade HSS ∅ 3.2 mm		1 pc. each No. 838510 size S10, S20, S30; S150
ROTO-DRIVE deburring head HSS ∅ 10.4 mm		1 pc. No. 838610 size 10.4
ROTO-DRIVE external deburring head HSS ∅ 4 – 18 mm		1 pc. No. 838660
Deburrer handle for telescopic shank		1 pc. No. 839890 size T
Telescopic shank for S-blades ∅ 3.2 mm		1 pc. No. 838430
Telescopic shank for N-blades ∅ 2.6 mm		1 pc. No. 839170
Deburrer blade HSS ∅ 2.6 mm		1 pc. each No. 839010 size N1; N2
Telescopic shank for deburring heads		1 pc. No. 839620
Deburrer head HSS, 90°, ∅ 20 mm		1 pc. No. 839610 size 20
Telescopic shank for inserts		1 pc. No. 839725
insert for splines / keyways, 11 mm		1 pc. No. 839720 size 11
Telescopic shank for scraper blades		1 pc. No. 839679
Mini scraper blade		1 pc. No. 839677
Special scraper blade		1 pc. No. 839678
Aluminium deburrer handle for N-blades ∅ 2.6 mm		1 pc. similar to No. 839150

Multi-purpose deburrer / scraper set in a plastic box, 19 pieces

83G 83 9955	Multi-purpose deburrer /scraper set in a plastic box **19 pieces**	XXX
Supplied with: precision scraper with exchange blade		1 pc. No. 836400
Deburrer handle (without blade)		1 pc. No. 838350
Telescopic shank for S-blades ∅ 3.2 mm		1 pc. No. 838430
Deburrer blade HSS ∅ 3.2 mm		1 pc. each No. 838510 size S10, S20, S30; S150
ROTO-DRIVE deburring head HSS ∅ 10.4 mm		1 pc. No. 838610 size 10.4
Telescopic shank for N-blades ∅ 2.6 mm		1 pc. No. 839170
Deburrer blade HSS ∅ 2.6 mm		1 pc. each No. 839010 size N1; N2
Telescopic shank for deburring heads		1 pc. No. 839620
Deburrer head HSS, 90°, ∅ 20 mm		1 pc. No. 839610 size 20
Telescopic shank for scraper blades		1 pc. No. 839679
Mini scraper blade		1 pc. No. 839677
Special scraper blade		1 pc. No. 839678
Telescopic shank for inserts		1 pc. No. 839725
insert for splines / keyways, 11 mm		1 pc. No. 839720 size 11
Deburrer handle for telescopic shank		1 pc. No. 839890 size T

All-round deburrer / scraper set in a plastic box, 16 pieces

83G 83 9980	All-round deburrer / scraper set (7 holders with blades), in a plastic box **16 pieces**	XXX
Supplied with: universal deburrer with 3 blades (S100, S20, S30)		1 pc. No. 838420
Mini-scraper with special cranked scraper blade		1 pc. No. 839675
Spline / keyway deburrer with 1 cutting tip (2.4 – 11 mm)		1 pc. No. 839705
precision scraper with special interchangeable tool steel blade		1 pc. No. 836400
Sheet metal deburrer with deburrer blade (1 – 8 mm)		1 pc. No. 839740
Mini-scraper with straight scraper blade		1 pc. No. 839670
Hole deburrer with deburrer head (up to ∅ 20 mm)		1 pc. No. 839605

Fixed blade cable knife / assembly knife

84 4410 – With protective cap, fully insulated to DIN EN 60900 / VDE 0682-201.
84 4455 – With hinged blade protector, fully insulated to DIN EN 60900 / VDE 0682-201.

86E 84 4400	OTTER 1840	Fixed blade cable knife **Special quality**	XXX
overall length		mm	175
82B 84 4300	HOLEX	Fixed blade cable knife	XXX
overall length		mm	175
86E 84 4410	KNIPEX	Cable knife fixed **fully insulated to VDE**	XXX
overall length		mm	180
86E 84 4455	intercable	Fixed blade cable knife, with blade protection **fully insulated to VDE**	XXX
overall length		mm	200

TAJIMA Allround knives

Strong multi-purpose knife for versatile applications; fixed through-blade with 2-component handle, hard enduring end to the handle for impact applications. Supplied with a protective cap.

Application: All the following functions in a single tool:
cutting, scraping, chiselling, roughening, cable stripping.

83M 84 4470	Allround knife		XXX
Blade length		mm	90
overall length		mm	235

Folding cable knife

84 4500 Size 1F – Wooden handle with **self-locking** blade.
Size 2 – Wooden handle with straight and curved blade.
Size 3 – Wooden handle with blade, screwdriver and reamer.
84 4520 Size 1 – Plastic handle with blade.
Size 3 – Plastic handle with blade, screwdriver and reamer.
84 4525 Size 1F – Plastic handle with **self-locking** blade.
84 4630 Size 1F – Stainless steel handle with **self-locking** blade.
84 4500/4600 Size 1 – Wooden handle with blade.

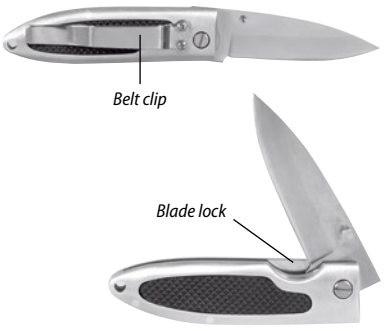
Type			1	1F	2	3
82B 84 4500	HOLEX	Cable knife with wooden handle, folding	XXX	XXX	XXX	XXX
82B 84 4520	HOLEX	Cable knife with plastic handle, folding	XXX	–	–	XXX
82B 84 4525	HOLEX	Cable knife with plastic handle, folding	–	XXX	–	–
86E 84 4600	OTTER 1840	Folding cable knife **Special quality**	XXX	–	–	–
86E 84 4630	OTTER 1840	Stainless steel folding cable knife	–	XXX	–	–

HOLEX Single-hand knives

Lockable single-hand knife with stainless blade. Handle of aluminium with non-slip inlays and clip.

Advantage: Quick, easy opening and closing of the blade.

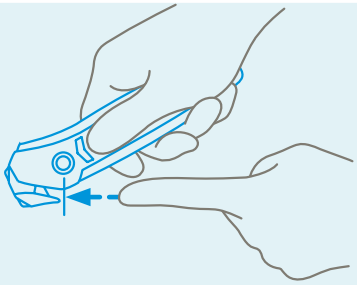
Note: Please comply with the relevant national offensive weapons regulations! Germany – WaffG § 42a Section 1 no. 3 permits the carrying of fixed-blade knives only for trade use, maintenance of traditions or participation in sports.



Type			1
82B 84 4620		Single-hand knife	XXX
Handle length		mm	90
Blade length		mm	70

martor SECUMAX: Highest level of security due to covered blade

The blade is not open,
rather it is shielded from people and goods.
This provides maximum security
against cuts and damage to goods.



martor Safety knives SECUMAX

SECUMAX 350

Disposable safety knife with **concealed blade** and exchangeable **2-in-1 blade head** (for 2-times use) for cutting and scoring. Ergonomic handle of glass fibre-reinforced plastic including Softgrip, with **spare blade head** in the handle. Safe and easy blade change.

Application: For cutting all materials commonly used - be they film, plastic strapping, adhesive tape, 2-layer cardboard or bagged goods.

Spare part: For replacement blades see No. 842012 Size 10.

84 2010

Spare blade in the handle

84D 84 2010	Safety knife SECUMAX 350 with 2 blades	XXX
Length	mm	154

number		10
84D 84 2012	Set of spare blades **10 pieces**	XXX

84 2012

SECUMAX 150

Disposable safety knife with **concealed blade** and **3-in-1 blade head** for cutting, scraping and scoring. Ergonomic light-weight handle (24 g) of glass fibre-reinforced plastic.

Application: For cutting all materials commonly used - be they film, plastic strapping, adhesive tape or 2-layer cardboard.

Concealed blade including label scraper

Good guidance

84 2015

number		10
84D 84 2015	SECUMAX 150 safety knife set **10 pieces**	XXX

SECUMAX 145

Disposable safety knife with **concealed blade** and **2-in-1 blade head** for cutting and scoring. Ergonomic, extremely light-weight handle (12 g) of glass fibre-reinforced plastic.

Application: For cutting all materials commonly used - be they film, adhesive tape or 1-layer cardboard.

Material protection due to use of a plastic sheathed blade

Less effort required when cutting due to 1.5-mm flat cutting edge

84 2016

number		10
84D 84 2016	SECUMAX 145 safety knife **10 pieces**	XXX

SECUMAX EASYSAFE

Large safety knife with **concealed blade** (4-way use) and additional adhesive tape scorer. Ergonomic handle of glass fibre-reinforced plastic. Safe and easy blade change. Access to the blade can also be locked using the **EASYSAFE locking key** (No. 842023 Size 5).

Application: Specialist for film and paper, sacks, fabrics and plastic straps.

Spare part: For replacement blades see No. 842022 Size 10.

Lockable blade

84 2020

84D 84 2020	Safety knife SECUMAX EASYSAFE with 1 blade	XXX
Length mm		207

number		5	10
84D 84 2022	Set of spare blades **10 pieces**	–	XXX
84D 84 2023	EASYSAFE locking key set **5 pieces**	XXX	–

84 2022

84 2023

SECUMAX 320

Large safety knife with **concealed blade** (4-way use) and additional adhesive tape scorer with two scoring depths (3.5 mm / 5.0 mm). Ergonomic handle of glass fibre-reinforced plastic including Softgrip. Safe and easy blade change.

Application: For all types of film (thick or thin), plastic straps, leather and belts.

Spare part: For replacement blades see No. 842038 Size 10 or ceramic blade 842065 Size 2C..

84 2026

Blade change without tools

Reversible adhesive tape scorer

Type		1
84D 84 2026	Safety knife SECUMAX 320 with 1 blade	XXX
Length mm		158

number		10
84D 84 2038	Set of spare blades **10 pieces**	XXX

84 2038

SECUMAX OPTICUT

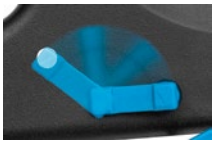
Large safety knife with **concealed blade** (4-way use). Ergonomic plastic handle with extremely **wear-resistant sliding foot** of Teflon-coated metal. Integral plastic spring for compressing the material that is being cut. Safe and easy blade change.

84 2030 – For cutting **under tension**.

84 2035 – For cutting under **compression**.

Application: Ideal for all type of films and foam materials.

Spare part: For replacement blades see No. 842037 Size 10.



Easy blade change

Integral plastic spring

84 2030

84 2035

84D 84 2030	Safety knife SECUMAX OPTICUT with 1 blade	XXX
84D 84 2035		XXX
Length mm		112

SECUMAX OPTICUT replacement blades

Suitable for: Safety knives No. 842025 (up to Cat. 48); 842030; 842035.

		10
84D 84 2037	Set of spare blades **10 pieces**	XXX

84 2037

SECUMAX POLYCUT

Disposable safety knife with **concealed blade**. Light-weight (7 g) and narrow (3 mm) cardboard knife, of plastic. With **longer pointed knife projection** which reliably leads the material being cut on to the blade.

Application: Ideal for films, even in narrow strips, and paper.

Long pointed knife projection

84 2041

number		10
84D 84 2041	Safety cutter SECUMAX POLYCUT	XXX
Length	mm	76

SECUMAX CARDYCUT

Disposable safety knife with **concealed blade**. With short knife projection for cutting tight radii. Stainless, **TiN-coated blade**.

84 2043 – Light-weight (5.5 g) and narrow (2 mm) box cutter, of plastic.

84 2045 – Light-weight (6.5 g) and narrow (3 mm) box cutter of **transparent plastic** for better visual checking whilst cutting.

Application: Specialised for thin films and thin paper.

84 2043 – For use even in narrow slots, e.g. in the automotive industry.

Additional divider

84 2043

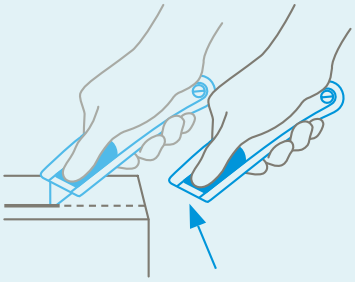
number		10
84D 84 2043	Safety knife SECUMAX CARDYCUT	XXX
84D 84 2045		XXX
Length	mm	71

TiN-coated blade

84 2045

martor SECUPRO: Fully automatic blade retraction

The intelligent cutting tools:
As soon as the blade exits the cut material it automatically retracts into the handle – without you doing anything.
We call this "enhanced safety".



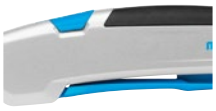
martor Safety knives SECUPRO

SECUPRO 625

Safety knife with **21 mm depth of cut** and fully automatic blade retraction. Ergonomic pliers grip of aluminium (incl. soft-grip for optimum grip), with an easy-action lever to release the blade. Safe and comfortable blade change, blade for 2 times use.

Application: Ideal for cardboard up to 3 layers, goods on rolls, rubber, PVC, carpeting and much more.

Spare part: For replacement blades see No. 842057 Size 10 or ceramic blade 842057 Size 2C.



Outstanding ergonomics

84 2050

84D 84 2050	Safety knife SECUPRO 625 with 1 blade	XXX
Length	mm	154

SECUPRO MEGASAFE

Safety knife with **17 mm depth of cut** and fully automatic blade retraction. Ergonomic handle of aluminium with **slides on both sides for right-hand and left-hand users**. Safe and comfortable blade change, blade for 2 times use.

Application: For cardboard up to 3 layers, goods on rolls, rubber, PVC and much more.

Spare part: For replacement blades see No. 842057 Size 10 or ceramic blade 842057 Size 2C.

84 2052

Easy blade change

Slides on both sides

84D 84 2052	Safety knife SECUPRO MEGASAFE with 1 blade	XXX
Length	mm	153

SECUPRO MAXISAFE

Safety knife **with 3-sided slide**, **16 mm depth of cut** and fully automatic blade retraction. Optimised ergonomic handle of glass fibre-reinforced plastic and **metal element** underneath the blade slot, for **enhanced abrasion protection**. Safe and comfortable blade change, blade for 2 times use.

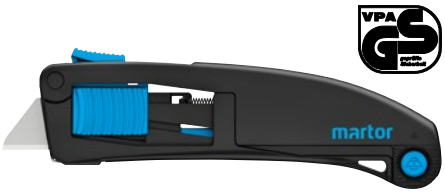
Application: For cardboard up to 3 layers, plastic wrapping straps, adhesive tape, goods on rolls etc.

Spare part: For replacement blades see No. 842057 Size 10 or ceramic blade 842057 Size 2C.

3-sided slide

Abrasion protection

Type		1
84D 84 2054	Safety knife SECUPRO MAXISAFE with 1 blade	XXX



84 2054

SECUPRO 625 / MEGASAFE / MAXISAFE replacement blades

Suitable for:

84 2057 – Safety knives No. 842050; 842052; 842054.

84 2058 – Safety knives No. 842050; 842052; 842054 as well as No. 842080; 842082 (up to Cat. 49).

Material:

Size 2C – Ceramic.

84 2057_10

84 2057_2C

84 2058

number		10	2C
84D 84 2057	Set of spare blades	XXX	XXX
84D 84 2058	Set of spare blades **10 pieces**	XXX	–

SECUPRO MARTEGO

Safety knife with **9 mm depth of cut** and fully automatic blade retraction. Ergonomic pliers grip of aluminium (incl. soft-grip for optimum grip), with an easy-action lever to release the blade. Safe and comfortable blade change, blade for 4 times use.

Application: For cardboard up to 2 layers, plastic wrapping straps, adhesive tape, goods on rolls, PVC and much more.

Spare part: For replacement blades see No. 842065 Size 10 or ceramic blade 842065 Size 2C.

Safe blade changing

84D 84 2060	Safety knife SECUPRO MARTEGO with 1 blade		XXX
Length		mm	155

84 2060

SECUPRO MERAK

Light-weight safety knife with **9 mm depth of cut** and fully automatic blade retraction. Ergonomic light-weight (59 g) pliers grip of glass fibre-reinforced plastic, with an easy-action lever to release the blade. Safe and comfortable blade change, blade for 4 times use.

Application: For cardboard up to 2 layers, plastic wrapping straps, adhesive tape, goods on rolls and much more.

Spare part: For replacement blades see No. 842065 Size 10 or ceramic blade 842065 Size 2C.

Extension security

84D 84 2062	Safety knife SECUPRO MERAK with 1 blade		XXX
Length		mm	128

84 2062

SECUPRO MARTEGO / MERAK spare blades / SECUMAX 320

Suitable for: Safety knives No. 842026; 842060; 842062.

Material:

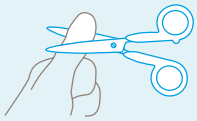
Size 2C – Ceramic.

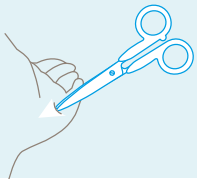
84 2065_10

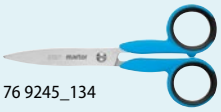
84 2065_2C

number		10	2C
84D 84 2065	Set of spare blades	XXX	XXX

martor SECUMAX scissors from No. 76 9245 and SCRAPEX scraper from No. 83 7740







76 9245_134

76 9245_218

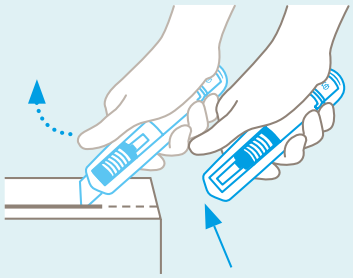
76 9245_216

83 7740

83 7741

martor SECUNORM: Automatic blade retraction

Thumbs up – for enhanced safety. As soon as you start cutting, release the slide.
This allows the blade to retract automatically back into the handle as soon as you finish the cut.



martor Safety knives SECUNORM

SECUNORM 380

Safety knife with **73 mm depth of cut** and automatic blade retraction. Ergonomic handle of glass fibre-reinforced plastic (incl. soft-grip), with a sturdy metal rail for blade guidance. Safe and easy blade change (**replacement blade No. 842072, blade with serrated edge No. 842073 or short blade No. 842077**). **Left-handed users just switch over the high-quality blade** in the handle.

Application: Cuts like a cutter knife but with even better safety - e.g. thicker materials such as expanded polystyrene or foam, insulating foam or insulating wool, cardboard up to 4 layers, sacking and all types of film.

Easy blade change

Long blade extension

84 2070

84D 84 2070	Safety knife SECUNORM 380 with 1 blade	XXX
Length	mm	170.5

84 2072

84 2073
with wave profile

number		10
84D 84 2072	Set of spare blades **10 pieces**	XXX
84D 84 2073		XXX

SECUNORM 500

Safety knife with 17 mm depth of cut and automatic blade retraction. Ergonomic and sturdy grip of aluminium incl. non-slip Soft-Grip on the slides - on both sides for right-handed and left-handed users. Safe and easy blade change **(replacement blade No. 842098 size 10 and 2C or short blade No. 842097)** blade for 2 times use.

Application: Ideal for all cut materials in general use, such as 3-layer cardboard, film, sacking, and plastic parcel strapping.

Blade change without tools. In addition a magnet prevents the blade falling out accidentally.

For right-handed and left-handed use

84 2081

Type		1
84D 84 2081	SECUNORM 500 safety knife with 1 blade	XXX
Length	mm	143

SECUNORM 500 / 300 / MIZAR replacement blades

Suitable for: Safety knives No. 842081 / 842094 / 842095 and No. 842090 / 842091 (up to Cat. 49) and No. 842093 (up to Cat. 50).

Material:

Size 2C – Ceramic.

84 2098_10

84 2098_2C

number		10	2C
84D 84 2098	Set of spare blades	XXX	XXX

SECUNORM 525

Safety knife with **18 mm depth of cut** and automatic blade retraction. Ergonomic handle made from aluminium, including large soft-grip on the slide. Safe and easy blade change (**replacement blade No. 842085 size 10 or ceramic blade No. 842057 size 2C**). **Left-handed users just switch over the high-quality blade** in the handle. Blade for 2 times use.

Application: Ideal for all cut materials in general use, such as 3-layer cardboard, film, sacking, roll goods, foam, expanded polystyrene, PVC, etc.

For right handed and left-handed use

84 2079

Type		1
84D 84 2079	SECUNORM 525 safety knife with 1 blade	XXX
Length	mm	143

SECUNORM 540

Safety knife with **36 mm depth of cut** and automatic blade retraction. Ergonomic handle made from aluminium including large slide. Safe and easy blade change (**replacement blade No. 842077**), **left-handed users just switch over the high-quality blade** in the handle.

Application: Ideal for all cut materials in general use, such as 3-layer cardboard, film, sacking, roll goods, foam, expanded polystyrene, PVC, etc.

For right handed and left-handed use

84 2076

Type		1
84D 84 2076	SECUNORM 540 safety knife with 1 blade	XXX
Length	mm	143

number		10
84D 84 2077	Set of spare blades **10 pieces**	XXX

84 2077

SECUNORM 175

Safety knife with **10 mm depth of cut** and automatic blade retraction. Ergonomic handle of glass fibre-reinforced plastic with **slides on both sides for right-hand and left-hand users**. Safe and easy blade change (**replacement blade No. 842022**), blade for 4 times use.

Application: Handy cardboard box opener which also cuts film, adhesive tape, plastic strapping and sacking without trouble.

Easy blade change

84 2087

84D 84 2087	Safety knife SECUNORM 175 with 1 blade	XXX
Length	mm	109.5

number		10
84D 84 2022	Set of spare blades **10 pieces**	XXX

84 2022

SECUNORM 300

Safety knife with **17 mm depth of cut** and automatic blade retraction. Ergonomic light-weight handle with slide at both ends including non-slip soft-grip **for right-handed and left-handed users**. Safe and simple blade change (**replacement blade No. 842097 or ceramic blade No. 842098 size 2C**), blade for 2 times use.

Application: Ideal for safe and trouble-free cutting of cardboard up to 2 layers, film, plastic strapping, adhesive tape, sacking and much more.

Easy blade change

84 2094

		1
84D 84 2094	SECUNORM 300 safety knife with 1 blade	XXX
Length	mm	140

SECUNORM MIZAR

Safety knife with **15 mm depth of cut** and automatic blade retraction. Ergonomic light-weight (59 g) pliers grip of glass fibre-reinforced plastic, with an easy-action lever to release the blade. **Innovative 3-in-1 lock** for locking and unlocking the cutting tool, and for fitting a new blade (**replacement blade No. 842097**). Blade for 2 times use.

Application: For all normal cutting tasks such as cutting cardboard up to 3 layers, film, plastic strapping, adhesive tape, sacking or textiles.

Easy blade change

3In1 security

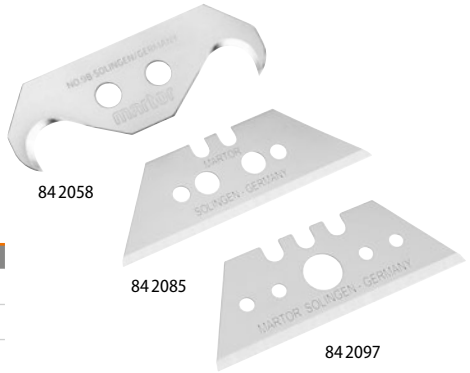
84 2095

84D 84 2095	Safety knife SECUNORM MIZAR with 1 blade		XXX
Length		mm	139

SECUNORM 500 / PROFI / PROFI LIGHT / PROFI25 / MULTISET / MIZAR replacement blades

Suitable for:

84 2058 – Safety knives No. 842050; 842052; 842054 as well as No. 842080; 842082 (up to Cat. 49).
84 2085 – Safety knives No. 842080 / 842082 (up to Cat. 49).
84 2097 – Safety knives No. 842081 / 842094 / 842095 and No. 842090 / 842091 (up to Cat. 49) and No. 842093 (up to Cat. 50).



84 2058

84 2085

84 2097

number		10
84D 84 2058	Set of spare blades **10 pieces**	XXX
84D 84 2085		XXX
84D 84 2097		XXX

martor Belt pocket

The sturdy belt pockets of hard-wearing nylon are sized exactly for the MARTOR knife and shears. Fastening capability by clip or hook and loop fastening.

Application examples

_S _M _L

84 2200_M

Type		S	M	L
84D 84 2200	Belt pocket with clip	XXX	XXX	XXX
Length	mm		215	
Width	mm	53	60	68
Height	mm	23	28	40

martor Cutting mat

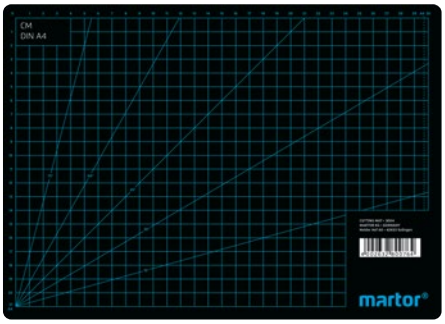
Available in five different sizes, for insertion underneath all types of materials to be cut.

- Consisting of a fixed core and two wear-resistant outer faces.
- Self-healing: After the cut, the two outer faces immediately close up to one another again.

Size DINA5 – Printed grid with the MARTOR safety techniques: German and English (front), French and Spanish (rear). The type designation refers to the dimensions of the mat.

Size DINA1–DINA4 – Printed grid cm (front) and inch (rear). The type designation refers to the size of the printed grid.

84 2210_DINA5



84 2210_DINA4

Type		DINA1	DINA2	DINA3	DINA4	DINA5
84D 84 2210	Cutting mat	XXX	XXX	XXX	XXX	XXX
Length	mm	870	620	440	320	210
Width	mm	620	440	320	230	148
Height	mm			3		
Legend		DIN A1	DIN A2	DIN A3	DIN A4	–

Trapezoidal and hooked spare blades

The universal blade - **Lutz® experience**, the solution for all cutting work.

Description:

84 4710 – LUTZ spare blades / trapezoidal blades set, pack of 10, 61.0 × 18.7 × 0.63 mm

Note:
84 4720 – Not suitable for knife No. 844850; 844890; 844895.

number		10
86E 84 4710	Spare blades set, 10 pieces, trapezoidal shape "experience"	XXX
86E 84 4720	Spare blades set, 10 pieces, hooked point "experience"	XXX

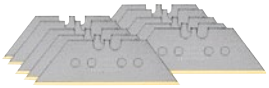
84 4710

84 4720

The hard blade - **Lutz® longlife** with **TiN-coated blade** for low blade wear and significantly longer working life. Depending on the material being cut this will result in a 2 - 8 times longer blade life.

Note:
84 4725 – Not suitable for knife No. 844850; 844890; 844895.

number			10
86E 84 4715	Spare blades set, 10 pieces, trapezoidal shape "longlife"	TiN	XXX
86E 84 4725	Spare blades set, 10 pieces, hooked point "longlife"	TiN	XXX

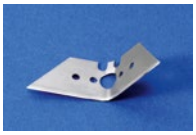

84 4715

84 4725

Unbreakable **bimetal blade.** High quality tool steel as backing material with TiN-coated HSS blade up to 5 times longer tool life compared to conventional standard trapezoidal blades.

Advantage: Reduced risk of injury, permits special cutting operations in confined areas.

Conventional standard blade.


Unbreakable bi-metal blade.

number			10
86E 84 4730	Spare blades set, 10 pieces, trapezoidal shape bimetal	TiN	XXX

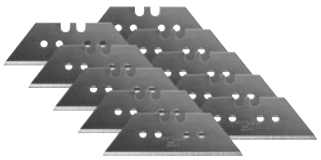
84 4730

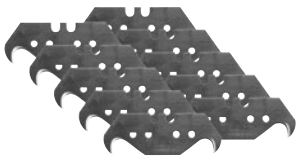
The black blade - **Lutz® multisharp**,
premium hardened blades with ultra-sharp ground edges.

Application: Optimised for plasterboard and for all cutting work.

Note:
84 4755 – Not suitable for knife No. 844850; 844890; 844895.

number		10
86E 84 4745	Spare blades set, 10 pieces, trapezoidal shape "multisharp"	XXX
86E 84 4755	Spare blades set, 10 pieces, hooked point "multisharp"	XXX


84 4745

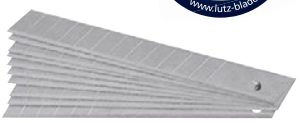

84 4755

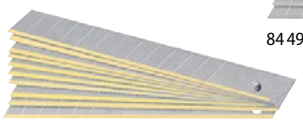
Spare blades 9 mm

84 4915 – TiN-coated blades.
84 4916/4918 – **Pointed 30° blade,** 7 sections – for fine and clean cuts.
84 4917/4918 – Extra-fine and ultra-sharp ground blade.

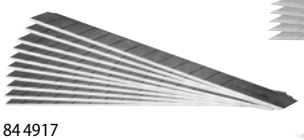
Suitable for: General-purpose knife No. 844900; 844905; 844920; 844955; 845022; 845037.

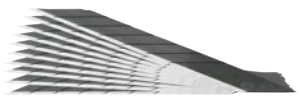
number			10
86E 84 4910	Snap-off "experience" blades set, 10 pieces, 9 mm		XXX
86E 84 4915	Snap-off "longlife" blades set, 10 pieces, 9 mm	TiN	XXX
86E 84 4916	Snap-off "experience" blades set , 10 pieces, 9 mm, 30° tip		XXX
86E 84 4917	Snap-off "multisharp" blades set, 10 pieces, 9 mm		XXX
86E 84 4918	Snap-off "multisharp" blades set, 10 pieces, 9 mm, 30° tip		XXX
Blade length (84 4910, 84 4915, 84 4917)		mm	80
Blade length (84 4916, 84 4918)		mm	73
Blade width		mm	9
Blade thickness		mm	0.4
Number of snap-off points (84 4910, 84 4915, 84 4917)			13
Number of snap-off points (84 4916, 84 4918)			7


84 4910


84 4915

84 4916 pointed 30° blade.

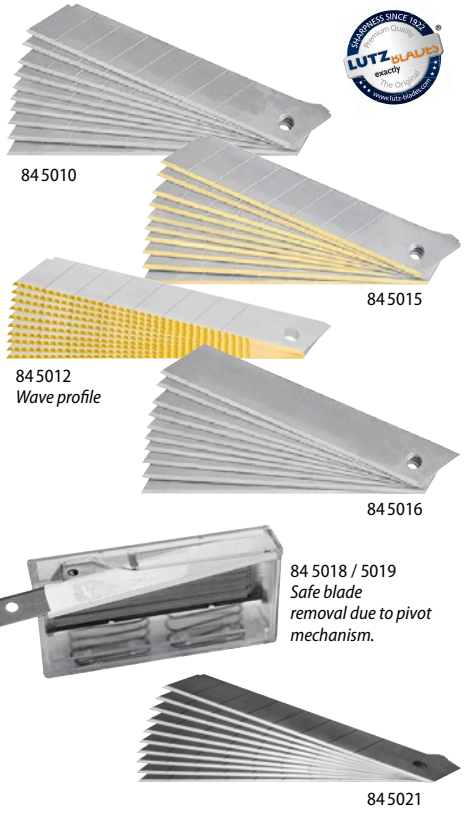

84 4917


84 4918

Spare blades 18 mm

84 5012 – With wave profile and TiN-coated blades.
84 5016 – **Without** snap off points.
84 5015/5019 – TiN-coated blades.
84 5018/5019/5023 – 50-piece pack in a sturdy special safety dispenser.
84 5021/5023 – Extra-fine and ultra-sharp ground blade.
Suitable for: Universal trimming knives No. 845000 – 845020 and 845025 – 845080.

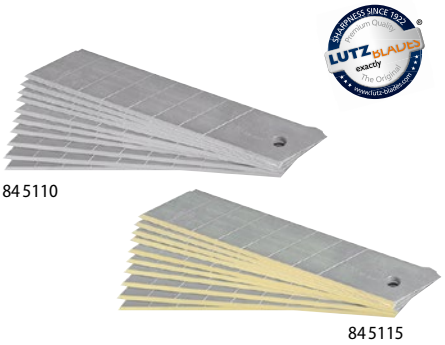
number			10	50
86E 84 5010	Snap-off "experience" blades set, 10 pieces, 18 mm		XXX	–
86E 84 5015	Snap-off "longlife" blades set, 10 pieces, 18 mm	TiN	XXX	–
86E 84 5012	Snap-off "longlife" blades set, 10 pieces, 18 mm **with wave profile**	TiN	XXX	–
86E 84 5016	"experience" blades set, 10 pieces, 18 mm, not snap-off		XXX	–
86E 84 5018	Snap-off "experience" blades set, 50 pieces, 18 mm		–	XXX
86E 84 5019	Snap-off "longlife" blades set, 50 pieces, 18 mm	TiN	–	XXX
86E 84 5021	Snap-off "multisharp" blades set, 10 pieces, 18 mm		XXX	–
86E 84 5023	Snap-off "multisharp" blades set, 50 pieces, 18 mm		–	XXX
Blade length		mm	100	
Blade width		mm	18	
Blade thickness		mm	0.5	
Number of snap-off points (84 5010, 84 5015, 84 5012, 84 5018, 84 5019, 84 5021, 84 5023)			8	



Spare blades 22 mm

84 5115 – TiN-coated blades.
Suitable for: General-purpose knife No. 845100.

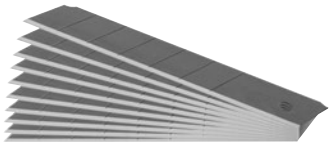
number			10
86E 84 5110	Snap-off "experience" blades set, 10 pieces, 22 mm		XXX
86E 84 5115	Snap-off "longlife" blades set, 10 pieces, 22 mm	TiN	XXX
Blade length		mm	100
Blade width		mm	22
Blade thickness		mm	0.65
Number of snap-off points			8



Spare blades 25 mm

Extra-fine and ultra-sharp ground blade.
Suitable for: General-purpose knives No. 845120 / 845121.

number			10
86E 84 5125	Snap-off "multisharp" blades set, 10 pieces, 25 mm		XXX
Blade length		mm	100
Blade width		mm	25
Blade thickness		mm	0.7
Number of snap-off points			7



Collection boxes for used blades

Collection box for safe storage and disposal of used blades.
84 5130 – As soon as the box is completely full, the cover is closed. The integral locking mechanism then ensures that the Safebox cannot be opened again. The full collection box can then be disposed of safely.
84 5135 – Small handy box with an opening mechanism. The box can thus be emptied and re-used.
Application: For used blades such as snap-off blade segments, trapezoidal blades, and hook blades, scalpel blades etc.

86E 84 5130	Collection box		XXX
Width		mm	100
Height		mm	210
Depth		mm	100

86E 84 5135	Tajima Collection box, small		XXX
Width		mm	33.5
Height		mm	124.5
Depth		mm	25

TAJIMA General-purpose knife with die-cast aluminium handle

Robust, impact resistant handle of die-cast aluminium, powder-coated, with **3 special quality blades** (stored in the handle.)

84 4740 – With **fixed** blade.

84 4840 – With **multi-section adjustable** blade. Blade can be fully retracted into the handle (protection from injury).

84 4845 – With automatic blade. The blade is spring mounted and **automatically** retracts back into the handle on completion of the cutting operation. Very good protection against injuries.

Advantage: Quick-change screw (button on No. 844845) allows blades to be changed **without using tools.** No irritating dropping the blade when changing it, since it is held by a magnet.

84 4740

84 4840

83M	**84 4740**	General-purpose trimming knife standard with fixed blade	XXX
83M	**84 4840**	General-purpose trimming knife standard, with retractable blade	XXX
83M	**84 4845**	Safety general-purpose trimming knife with automatic blade	XXX
overall length (84 4740, 84 4840)		mm	145
overall length (84 4845)		mm	165
Number of blades			3

84 4845

HOLEX Universal trimming knife with zinc die-cast handle

Sturdy handle of die-cast zinc, powder-coated, **with 5 blades** of special steel (stored in the handle).

84 4700 – With **fixed** blade.

84 4750 – With **fixed** blade, in storage **case with belt clip.** Knife can be opened (without tools), with **magnetic blade mounting** and **spare blades storage** in the handle. Ergonomic **2-component handle.**

84 4830 – With spare blades in the handle (can be opened without tools). With ergonomic **2–part handle** and storage **case with belt clip.**

84 4850 – With **automatic blade.** The blade is spring mounted and retracts **automatically** back into the handle when the cutting operation is finished. Very good protection against injuries.

84 4800/4830 – With **multi-section adjustable** blade. Blade can be fully retracted into the handle (protection from injury).

84 4700

84 4750

84 4800

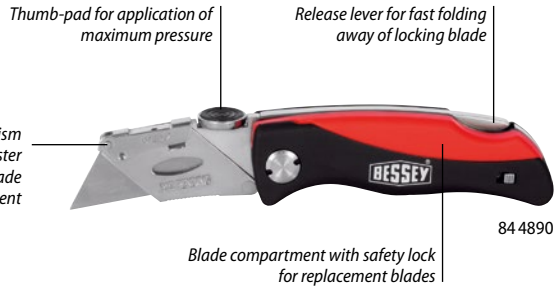
84 4830

84 4850

82B	**84 4700**	General-purpose trimming knife, standard with fixed blade	XXX
overall length		mm	135
Number of blades			5
82B	**84 4750**	General-purpose trimming knife with case	XXX
overall length		mm	170
Number of blades			5
82B	**84 4800**	General-purpose trimming knife standard, with retractable blade	XXX
overall length		mm	150
Number of blades			5
82B	**84 4830**	General-purpose trimming knife with retractable blade and case	XXX
overall length		mm	200
Number of blades			5
82B	**84 4850**	Safety general-purpose trimming knife with automatic blade	XXX
overall length		mm	150
Number of blades			5

Cutter knife, fold-away blade

Sturdy cutter knife for trapezoidal blades (exchangeable). **Blade folds away**, reducing the risk of injury.



84 4890

With comfortable plastic handle, storage for spare blades and belt clip.
Thumb-pad on handle for application of maximum pressure.

Supplied with: With 5 spare blades.

86E **84 4890**	BESSEY	Cutter knife with fold-away blade	XXX
length when folded away		mm	93
overall length		mm	160

Size 150 – With wood / metal combination handle and belt clip.
Size 180 – With plastic handle, storage for spare blades. Thumb-pad on handle for application of maximum pressure.

Supplied with:
Size 180 – With 4 spare blades.

Note: Suitable spare blades No. 844715 and No. 844745.

84 4895_150

84 4895_180

			150	180
overall length		mm		
82B **84 4895**	HOLEX	Cutter knife with fold-away blade	XXX	XXX
length when folded away		mm	93	115
overall length		mm	150	180

Cutter knife set

Supplied with: 1 cutter knife with fold-away blade No. 844890
15 trapezoidal blades
5 hooked blades
2 linoleum blades
2 cut-out blades

84 4891

			20
Number of pieces			
86E **84 4891**	BESSEY	Cutter knife with fold-away blade	XXX
Storage in			Nylon bag

84

Safe cutting

CUTTING:
- Before performing cutting, the user must familiarise himself with the product and the operation of the safety arrangement.
- The use must always cut away from the body.
- We recommend the wearing of safety gloves whilst performing cutting.

KEEPING SAFE:
- No knives in your trouser pockets - keep even safety knives in a belt bag.
- If there is a catch to secure a slide or lever, this should also be used.

CLEANING:
- A safety knife - just like any other tool - must be cleaned and looked after so that it performs correctly.
- For thorough and safe cleaning the blade must first be taken out and put aside.

CHANGING THE BLADE:
- Blunt or damaged blades must always be changed in good time. If you carry on using a knife when the blade is blunt, you have to apply significantly more force. Damaged blades can disable the safety arrangement and thus increase the risk of injuries.
- Dispose of used blades in a fixed and lockable container.
  Under no circumstances should they end up loose in paper or residual waste.

General-purpose knife with snap-off blades 9 mm

Blade extends and retracts in precise metal guide, stops automatically. High quality blades, extremely sharp, with long service life.

84 4900 – Impact-resistant plastic handle, with 3 snap-off blades (No. 844910 Size 10) with 13 segments, **9mm wide.**

84 4905 – With 3 snap-off blades (No. 844916 Size 10) with 7 segments, **9 mm wide, 30°.** Slim stainless steel knife for very fine and clean cutting.

84 4920 – Slender and ergonomic **2-component handle** for powerful but also precise cutting. Easy-grip **Haptoprene** coating with a core of specially tough, impact-resistant polypropylene. Safe working, since the risk of slipping is minimised, even with wet or oily hands. Automatic blade stop. With 3 snap-off blades (No.844910 Size 10) with 13 segments, **9 mm wide.**

84 4955 – Impact-resistant plastic handle, with 3 snap-off blades (No. 844910 Size 10) with 13 segments, **9 mm wide.** Integral locking mechanism in the slide.

84 4960 – With 1 snap-off blade (No. 844918 Size 10) with 7 segments, **9 mm wide, 30°.** Slim stainless steel knife in black for very fine and clean cutting.

84 4970 – Handy **2-component handle** with comfortable elastomer coating. Automatic blade stop. **Multi-functional tip** to the blade guide for opening tins, use as a screwdriver, opening cardboard boxes etc. With 1 snap-off blade (No. 844917 Size 10) with 13 segments, **9 mm wide.**

84 4920

84 4900

84 4905

81B 84 4920	Garant	General-purpose knife with 2-component handle **with 3 blades, 9 mm**	XXX
83M 84 4900	TAJIMA	General-purpose knife **with 3 blades, 9 mm**	XXX
83M 84 4905	TAJIMA	General-purpose stainless steel knife **with 3 blades 30°, 9 mm**	XXX
83M 84 4955	TAJIMA	General-purpose knife with lockable slide **with 3 blades, 9 mm**	XXX
83M 84 4960	TAJIMA	Universal stainless steel knife **with 1 blade 30° Razar Black, 9 mm**	XXX
83M 84 4970	TAJIMA	All-purpose knife with 2-component handle and work tip **with 1 blade Razar Black, 9 mm**	XXX

Knife length without blade (84 4920)	mm	145
Knife length without blade (84 4900, 84 4955)	mm	130
Knife length without blade (84 4905)	mm	120
Knife length without blade (84 4960, 84 4970)	mm	160
Blade length (84 4920, 84 4900, 84 4955, 84 4970)	mm	80
Blade length (84 4905, 84 4960)	mm	73
Blade width	mm	9
Blade thickness	mm	0.4
Number of snap-off points (84 4920, 84 4900, 84 4955, 84 4970)		13
Number of snap-off points (84 4905, 84 4960)		7

84 4955

Detail No. 84 4955

Blade can be moved.

Blade locked – accidental movement of the blade virtually impossible.

84 4960

84 4970

TAJIMA General-purpose knife with snap-off blades 18 mm

Blade extends and retracts in precise metal guide, stops automatically. High quality blades, extremely sharp, with long service life.

84 5000 – Impact-resistant plastic handle, with 3 snap-off blades (No. 845010 Size 10) with 8 segments, **18mm wide.**

84 5055 – Impact-resistant plastic handle, with 3 snap-off blades (No. 845010 Size 10) with 8 segments, **18mm wide.** Integral locking mechanism in the slide.

84 5000

84 5055

Detail No. 84 5055

Blade can be moved.

Blade locked – accidental movement of the blade virtually impossible.

83M 84 5000	General-purpose knife **with 3 blades, 18 mm**	XXX
83M 84 5055	General-purpose knife with lockable slide **with 3 blades, 18 mm**	XXX

Knife length without blade	mm	160
Blade length	mm	100
Blade width	mm	18
Blade thickness	mm	0.5
Number of snap-off points		8

General-purpose knife with 2-component handle / snap-off blades, 18 mm

Blade extends and retracts in a precise metal guide. High quality blades, extremely sharp, with long service life.

84 5020 – Comfortably rounded but slender **2-component handle** for powerful but also precise cutting. Easy-grip **Haptoprene** coating with a core of specially tough, impact-resistant polypropylene. Safe working, since the risk of slipping is minimised, even with wet or oily hands. Automatic blade stop. With **3** snap-off blades (No. 845010 Size 10) with 8 segments, **18 mm wide.**

84 5030 – Ergonomic **2-component handle** with rubber coating for safe working. Absolutely secure blade fixing, with a **knurled clamping screw.** With 1 snap-off blade (No. 845010 Size 10) with 8 segments, **18 mm wide.**

84 5070 – Handy **2-component handle** with comfortable elastomer coating. Automatic blade stop. **Multi-functional tip** to the blade guide for opening tins, use as a screwdriver, opening cardboard boxes etc. With 3 snap-off blades each with 8 segments, **18 mm wide.**

84 5080 – Unique **safety cutter,** without kite mark, with ergonomic **2-component handle** and precision blade guide. Multi-functional tip to the blade guide for opening tins, use as a screwdriver, opening cardboard boxes etc. With an additional metal fin at the end of the handle for opening cardboard boxes. With 1 snap-off blade (No. 845021 Size 10) with 8 segments. **18 mm wide.**

84 5090 – Ergonomic **2-component handle** and precise blade guidance. Absolutely secure blade fixing, with a **knurled clamping screw.** Multi-functional tip to the blade guide for opening tins, use as a screwdriver, opening cardboard boxes etc. With an additional metal fin at the end of the handle for opening cardboard boxes. With 1 snap-off blade (No. 845021 Size 10) with 8 segments. **18 mm wide.**

84 5095 – Ergonomic **2-component handle** and precise blade guidance. Automatic blade stop. Multi-functional tip to the blade guide for opening tins, use as a screwdriver, opening cardboard boxes etc. With an additional metal fin at the end of the handle for opening cardboard boxes. With 1 snap-off blade (No. 845021 Size 10) with 8 segments. **18 mm wide.**

Advantage:

84 5080 – Combines 2 types of knife in one: Safety knife **and** cutting knife.

- With the slide locked into position: high-quality cutting knife.
- With the slide pushed forward, becomes a fully-specified safety knife, i.e. when the slide is released the blade retracts back into the body.**An extremely versatile knife!**

Spare part: For spare blades see No. 845010; 845015; 845016; 845017; 845018; 845019; 845021; 845023.

84 5020

84 5030

84 5070

Safety knives

Slide in the forward position

Automatic blade retraction when the slide is released prevents injuries.

84 5080

84 5090

84 5095

Work tip
84 5080 / 5090 / 5095

81B 84 5020	Garant	General-purpose knife with 2-component handle **with 3 blades, 18 mm**	XXX
83M 84 5030		General-purpose knife with 2-component handle **with 1 blade, 18 mm**	XXX
83M 84 5070		General-purpose knife with 2-component handle and work tip **with 3 blades, 18 mm**	XXX
83M 84 5080	TAJIMA	General-purpose safety knife QuickBack™ with 2-component handle and work tip **with 1 Razar Black blade, 18 mm**	XXX
83M 84 5090		General-purpose knife with 2-component handle and work tip **with 1 blade Razar Black, 18 mm**	XXX
83M 84 5095			XXX

Knife length without blade (84 5020, 84 5030)	mm	160
Knife length without blade (84 5070)	mm	170
Knife length without blade (84 5080, 84 5090, 84 5095)	mm	182
Blade length	mm	100
Blade width	mm	18
Blade thickness	mm	0.5
Number of snap-off points		8

HOLEX General-purpose knife with zinc die-cast handle

Blade extends and retracts in precise metal guide, stops automatically.
High quality blades, extremely sharp, with long service life.

Advantage: Zinc die-cast handle: High load capacity and hardness, yet very light.
Outstanding corrosion resistance, non-sparking and non-magnetic.

Spare part:

84 5037 – For replacement blades, see No. 844910; 844915; 844917.

84 5039 – For spare blades see No. 845010; 845015; 845016; 845018; 845019; 845021; 845023.

	overall length	mm	130
82B	**84 5037**	General-purpose knife with zinc die-cast handle **9 mm**	XXX
	Blade length	mm	80
	Blade width	mm	9
	Blade thickness	mm	0.4
	Number of snap-off points		13

84 5037

	overall length	mm	160
82B	**84 5039**	General-purpose knife with zinc die-cast handle **18 mm**	XXX
	Blade length	mm	100
	Blade width	mm	18
	Blade thickness	mm	0.5
	Number of snap-off points		8

84 5039

TAJIMA General-purpose knife „Aluminist“ with die-cast aluminium handle / snap-off blades

High quality professional version of die-cast aluminium, powder-coated.
Blade extends and retracts in a precise metal guide.
With 3 snap-off blades (No. 845010) with 8 segments, **18 mm wide.**
Quality blades, extremely sharp, with long working life.

84 5040 – **Blade stops automatically.**

84 5045 – With **clamping screw** for stopping the blade.

Spare part: For spare blades see No. 845010; 845015; 845016; 845017; 845018; 845019; 845021; 845023.

84 5040

84 5045

83M	**84 5040**	General-purpose knife with automatic blade stop **and 3 blades, 18 mm**	XXX
83M	**84 5045**	General-purpose knife with clamping screw **and 3 blades, 18 mm**	XXX
	overall length	mm	170

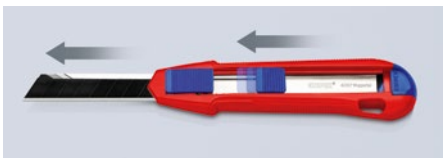
KNIPEX General-purpose knife with magnesium handle

Reliable companion with unique blade stabilisation.
Innovative stabilisation rail with variable extension functionality.
Sturdy, long-life magnesium body.
As light as plastic, as strong as die-cast aluminium.
Attachment eye for securing the tool.
With 3 snap-off blades with 8 segments, 18 mm wide.

Advantage:
- Separate flat and ergonomic slider for blade and stabilisation rail.
  No accidental actuation of the slider.
- Unique blade stabilisation.
  Apply targeted pressure without risk of injury.
  No accidental bending or breaking of the blade.

Spare part: For spare blades see No. 845010; 845015; 845016; 845017; 845018; 845019; 845021; 845023.

84 5051



Innovative stabilisation rail that is variably extendible

Reduced risk of injury:
Left-hand – **with** *extendible stabilisation rail*
Right-hand – **without** *extendible stabilisation rail*

	overall length	mm	165
86E	**84 5051**	General-purpose knife with magnesium handle **and 3 blades, 18 mm**	XXX
	Blade length	mm	100
	Blade thickness	mm	0.5
	overall length	mm	165
	Number of snap-off points		8

TAJIMA General-purpose safety knife with 2-component handle / snap-off blades

Unique **safety knife**, without kite mark, with comfortable 2-component handle and sturdy zinc die-cast body. Precise stainless blade guide.

Advantage: Combines 2 types of knife in one: Safety knife **and** cutting knife.
- With the slide locked into position: high-quality cutting knife.
- With the slide pushed forward, becomes a fully-specified safety knife, i.e. when the slide is released the blade retracts back into the stainless steel body.

An extremely versatile knife!

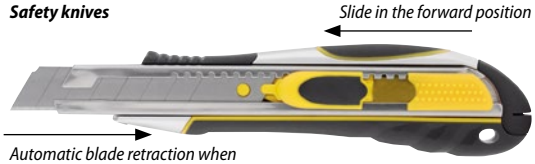
84 5022

Comfort cutting knife

84 5025

Safety knives

Slide in the forward position



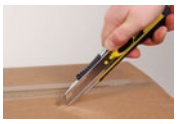
Automatic blade retraction when the slide is released prevents injuries.

84 5025

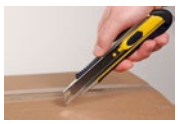
83M 84 5022	General-purpose safety knife **9 mm**		XXX
Knife length without blade		mm	165
Blade length		mm	80
Blade width		mm	9
Blade thickness		mm	0.4
Number of snap-off points			13

83M 84 5025	General-purpose safety knife **18 mm**		XXX
Knife length without blade		mm	190
Blade length		mm	100
Blade width		mm	18
Blade thickness		mm	0.5
Number of snap-off points			8

Press the slide and start cutting.



Cutting



Blade retracts automatically.

TAJIMA General-purpose knife with feed magazine / snap-off blades, 18 mm

Robust, **non-slip elastomer handle** for ergonomically optimised working with anti-slip control. Blade extends and retracts in precise metal guide, stops automatically. With 3 snap-off blades with 8 segments, **18 mm wide.** For spare blades see No. 845010 / 845012 / 845015 / 845016 / 845017 / 845018 / 845019.

Advantage: Extremely quick and safe working, due to **automatic reload magazine** for up to 6 blades.

Remove the old blade.

Adjust the new blade.

Magazine for 6 blades.

83M 84 5035	General-purpose knife with automatic feed magazine and 3 blades **18 mm**		XXX
overall length		mm	170

TAJIMA General-purpose knife with die-cast aluminium handle / snap-off blades, 22 mm

High quality professional version of die-cast aluminium, powder-coated. Blade extends and retracts in precise metal guide, stops automatically. Additional blade clamping with knurled screw for precise cutting.
With 3 snap-off blades (No. 845110 10) with 8 segments, **22 mm wide.** Quality blades, extremely sharp, with long working life.

Blade fixing for precise cuts.

83M 84 5100	General-purpose knife with 3 blades **22 mm**		XXX
Knife length without blade		mm	170
Blade length		mm	100
Blade width		mm	22
Blade thickness		mm	0.65
Number of snap-off points			8

TAJIMA Safety holster for universal trimming knife

Sturdy ergonomic holster of polypropylene with soft elastomer inlays. Safe and comfortable storage of universal trimming knives, e.g. on the belt.

Suitable for: All universal trimming knives (with 18 mm and 22 mm snap-off blades) No. 845000 – 845100, and other similar universal trimming knives.

Application example

83M 84 5065	Holster for universal trimming knife		XXX
overall length		mm	180

TAJIMA General-purpose knife with 2-component handle / snap-off blades 25 mm

Handy **2-component handle** with comfortable elastomer coating. Blade extends and retracts in a precise metal guide. Quality blades, extremely sharp with a long working life. With 1 snap-off blade (No. 845125) with 7 sections.

84 5120 – Automatic blade stop.

84 5121 – Absolutely secure blade fixing, with a **knurled clamping screw.**

84 5120

84 5121

83M	84 5120	General-purpose knife with 2-component handle **with 1 Razar Black blade, 25 mm**	XXX
83M	84 5121		XXX
Blade length		mm	100
Blade width		mm	25
Blade thickness		mm	0.7
Number of snap-off points			7

Insulation knife

84 5150 – Sturdy handle of die-cast zinc, powder-coated, with 1 extra long fixed blade of special steel. Simple handle opening to change the blade without additional tools.

Application: For clean cutting of insulation material boards, saving time and effort.

84 5150

84 5155

82B	84 5150	HOLEX Insulation knife with 1 blade, 140 mm long	XXX
86E	84 5155	LUTZ BLADES Insulation knife blades set, 5 pieces, 140 mm long	XXX
Blade length		mm	140
Blade width		mm	19
Blade thickness		mm	0.9
overall length with blade (84 5150)		mm	285

Ergonomic wooden handle. High-quality blades of non-rusting stainless steel, ground on both sides: Wave profile for soft material and saw-tooth profile for hard material.

Application: Best cutting characteristics for materials such as glass wool, expanded polystyrene, hard foam etc.

84 5140

Blade length			mm	200	280	360	480
86E	84 5140	OTTER 1840 Insulation knife		XXX	XXX	XXX	XXX

OLFA Safety knife (film cutter)

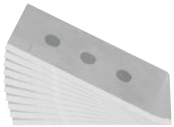
84 5200 – Concealed blade (4-way use) for safe working. Easy blade-change thanks to flip-up mechanism. With built-in packaging opener (metal plate) for cutting adhesive tape around packages.

Suitable for:

84 5210 – Film cutter No. 845200.

Application: For cutting film, leather, plastic strapping and seat belts.

84 5200



84 5210

86E	84 5200	Film cutter with 1 blade	XXX
86E	84 5210	Spare blades set **10 pieces**	XXX
Length (84 5200)		mm	160

OLFA Safety circular blade cutter

84 5250 – With double safety-locking mechanism. When the handle is pressed the blade swings out; the blade can be locked in either position. The circular blade allows cutting forwards and backwards, straight and curved.

Suitable for:

84 5255 – Safety circular blade cutter 845250.

Application: For patchwork, cutting and craft work on paper, film, leather and fabrics.

84 5250

84 5255

Blade ∅		mm	45
86E	84 5250	Safety circular blade cutter	XXX
86E	84 5255	Spare blade	XXX
overall length (84 5250)			165
Blade ∅			45

TAJIMA Precision knife (scalpel)

84 5300 – Slim **aluminium handle** with clamping blade holder. Plastic protective cap. Spare blades stored in the end of the handle. Supplied complete with 9 blades.

Application: Ideal for precision graphical work.

84 5300

83M 84 5300	Precision knife complete **with 9 blades.**		XXX
83M 84 5310	Spare blades set **20 pieces**		XXX
Length without blade (84 5300)		mm	150

84 5310

BAYHA® High-precision industrial scalpels

84 5320 – Delicate handle of stainless steel for precision work.

84 5325 – Ergonomic handle, holder of stainless steel and handle of hard-wearing polyamide, for powerful cutting.

84 5320/5325 – Proven secure locking system for positively fixing the blade in the handle.

Application:

84 5320/5325 – Precise and safe cutting, deburring, and scraping of metal, plastic, films, leather, glass fibres etc.

Optional extras:

84 5320/5325 – Scalpel blade set No. 845330

84 5320

84 5325

86E 84 5320	Precision handle (without blade) of non-rusting stainless steel		XXX
86E 84 5325	Power grip handle (without blade) with stainless steel holder		XXX
overall length		mm	160

84 5335

86E 84 5335	Protective cap for No. 845320 / 5325		XXX

Scalpel blades

Dimensionally stable blades of carbon steel with edges of outstanding and sustainable sharpness.

Size 11 – Needle-point tip, very high precision.

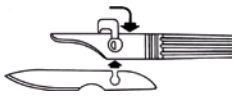
Size 18 – Curved multi-purpose blade.

Size 20 – Sharply radiussed profile for powerful cutting.

Size 24 – Top quality multi-purpose blade.

Suitable for: Precision grip 845320 and power grip 845325.

84 5330_11



Extremely quick and safe blade changing – no need to touch the edge!

_18

_20

_24

Type			11	18	20	24
86E 84 5330	Scalpel blades set **12 pieces**		XXX	XXX	XXX	XXX
Cutter length		mm	25	32	34	30

TAJIMA Cutting guide

Light-weight aluminium hollow body with finger protection shield and stainless steel rail to guide the blade. Rubber-coated soft underlay prevents the guide slipping away or scratching the material.

Application: Ensures a safe and straight cut. Acts as a ruler for quick measurement of the material.

Length		mm	300	600	1000
83M 84 5360	Cutting guide		XXX	XXX	XXX
Width of the seating face		mm		40	
Height of the finger protection		mm		18.5	

Garant Swiss Pocket Tool

Original Swiss pocket tool in unmatched quality, precision, practicality, and functionality.
Length 110 mm with **locking blade, ball-point pen,**and tweezers with scale of length.

Application: An all-purpose tool and "friend in need",
a must-have for every tool cabinet and every toolbox.

81B	**84 6000**	Pocket tool	XXX
	overall length	mm	110
	Number of functions		14

Swiss Pocket Tool

Original Swiss pocket tool in unmatched quality, precision, practicality, and functionality. **Length 58 mm**. With knife blade, nail file with screwdriver, scissors, tweezers, tooth pick and key ring.

Application: As a "friend in need", this pocket tool will be your companion during your working life and leisure time.

	Type		60
80N	**84 6010**	Pocket tool	XXX
	overall length	mm	58
	Number of functions		7

VICTORINOX Swiss Pocket Tool / Swiss Tool

Original Swiss pocket and multi-function tool in unmatched quality, precision, practicality, and functionality.

Application: An all-purpose tool and "friend in need", a must-have for every tool cabinet and every toolbox.

Note: Please comply with the relevant national offensive weapons regulations!
Germany - WaffG § 42a Section 1 no. 3 permits the carrying of fixed-blade knives only for trade use, maintenance of traditions or participation in sports.

84 6050_90

84 6050_60L

84 6050_120R

84 6050_90C

84 6050_90A

84 6050_90E

84 6050_90X

	Type		60L	90	90A	90C	90E	90X	120R
83C	**84 6050**	Pocket tool	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	overall length	mm	58	91	93	91	93	93	111
	Number of functions		10	12	2	32	7	9	14

VICTORINOX Swiss Pocket Tool / Swiss Tool

Original Swiss pocket and multi-function tool in unmatched quality, precision, practicality, and functionality.

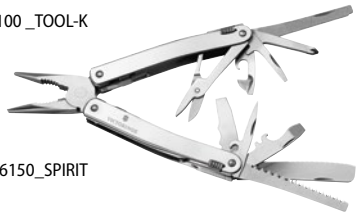
Application: An all-purpose tool and "friend in need", a must-have for every tool cabinet and every toolbox.

Supplied with: Leather case.

Note:
Size TOOL-K – The multi-function tool is additionally equipped with a set of bits and a corkscrew.

84 6100 _TOOL

84 6100 _TOOL-K


84 6150_SPIRIT

Type		TOOL	TOOL-K
830 84 6100	Multi-function tool	XXX	XXX
overall length	mm	115	
Number of functions		28	39

Type		SPIRIT
830 84 6150	Multi-function tool	XXX
overall length	mm	105
Number of functions		26

LEATHERMAN Multi-function tool

Made in the USA.
Uniquely sturdy, versatile, and precise universal tools. Pleasant to use, thanks to the smoothly finished stainless steel body.

Application: An all-purpose tool and "friend in need", a must-have for every tool cabinet and every toolbox.

Note: Please comply with the relevant national offensive weapons regulations! Germany - WaffG § 42a Section 1 no. 3 permits the carrying of fixed-blade knives only for trade use, maintenance of traditions or participation in sports.
Size SURGE – See No. 588400 ff for suitable spare jigsaw blades with single-cam shank (blade length 83 mm).
Size SURGE; WAVE-P – Suitable BIT KIT can be found under No. 846171.

_MICRA

_OHT

_REBAR

_SUPERTOOL

_SURGE

_WAVE-P

_WINGMAN

Type		MICRA	OHT	REBAR	SUPERTOOL	SURGE	WAVE-P	WINGMAN
86E 84 6170	Multi-function tool	XXX	XXX	XXX	XXX	XXX	XXX	XXX
overall length	mm	65	115	100	115	115	100	97
Number of functions		10	16	17	19	21	17	14
Supplied with: Presented in a		–	Nylon bag	Leather case	Nylon bag	Nylon bag	Nylon bag	Nylon bag

LEATHERMAN Pocket tool / multi-function tool FREE

Made in the USA.
Uniquely sturdy, versatile, and precise universal tools. Pleasant to use, thanks to the smoothly finished stainless steel body.

Application: An all-purpose tool and "friend in need", a must-have for every tool cabinet and every toolbox.

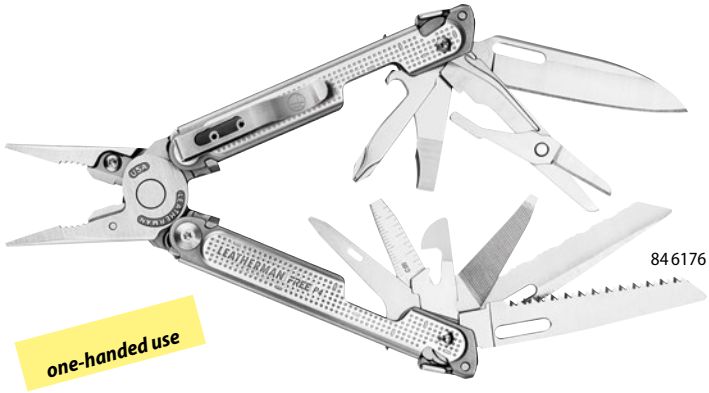
Note: Please comply with the relevant national offensive weapons regulations! Germany – WaffG § 42a Section 1 no. 3 permits the carrying of fixed-blade knives only for trade use, maintenance of traditions or participation in sports.

Easy handling:
The Leatherman FREE™ with improved ergonomics, lies even better in the hand. All the tools can be accessed with a light press of the thumb – that means you no longer need a fingernail to open or close them.

84 6175

One-handed operation:
When working with Leatherman FREE™ you always have one hand free. The individual tools are all accessible from outside and can be opened and closed with just one hand.

Type		T4
86E 84 6175	Pocket tool	XXX
overall length	mm	93
Number of functions		12



84 6176

Magnetic design:
The new type of magnetic design means the individual tools suffer less friction when they are opened and closed.
This creates easier and quicker access to the tools.

Type		P4
86E 84 6176	Tool Multifunction	XXX
overall length	mm	107
Number of functions		21
Supplied with: Storage in		Nylon bag

BESSEY Multitool

Handy multi-function tool with the most popular functions: Scissors, knife, saw, file, and various screwdrivers. All tools of stainless steel, non-slip handles with soft inlays. Including belt pocket.

86E 84 6075	Multi-function tool	XXX
overall length	mm	175
Number of functions		7

84 6075

Malleable cast iron screw clamp

High quality malleable cast iron clamping arms; strong prismatic steel slide beam, knurled, electro-galvanised. Smooth running steel spindle, burnished with trapezoidal thread and movable jaw. Instant (high speed) adjustment, reliable clamping.

Standard: **DIN 5117**

Spindle locking in the unloaded state.

Spindle locking loaded.

Anti-slip protection 860000 / 860050

86 0050

Quality feature:
strong prismatic section steel sliding rails.

86 0000

86 0100 / 0200

86 0000 Size 100–400 – Moving jaw with integral **spindle locking prevents the release** of the spindle even in case of vibrations. Maximum force transfer due to **power grip** with easy-grip Haptoprene surface and impact-resistant PP core. Surface structure is anti-slip even with wet, oily hands.

86 0000/0050 – Movable clamping arm **with anti-slip protection,** preventing inadvertent release of the clamp. Movable pressure pad from size 160 can be exchanged without tools.

86 0000 Size 100–400 – Clamping force of up to 6000 N.

86 0000 Size 500–2500 – Clamping force of up to 7000 N.

Size 100–400 – With plastic protective cover on the clamping jaw.

Size 500–2500 – **Without protective cap**.

Jaw capacity		mm	100	120	160	200	250	300	400	500
81D 86 0050	Garant		–	–	XXX	XXX	XXX	XXX	XXX	XXX
83J 86 0000	BESSEY	Malleable cast iron screw clamp	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
82C 86 0100	HOLEX		XXX	–	XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail		mm	15×5	20×5	25×6	27×7	29×9	32×10	32×10	35×11
Throat		mm	50	60	80	100	120	140	175	120

Jaw capacity		mm	600	800	1000	1250	1500	2000	2500
81D 86 0050	Garant		XXX	XXX	XXX	(XXX)	(XXX)	(XXX)	(XXX)
83J 86 0000	BESSEY	Malleable cast iron screw clamp	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)	(XXX)
82C 86 0100	HOLEX		XXX	XXX	XXX	(XXX)	(XXX)	(XXX)	(XXX)
Cross section of the slide rail		mm	35×11						
Throat		mm	120						

Lightweight malleable cast iron screw clamp

Jaw capacity		mm	150	200/60	200/80	250	300	400	500
82C 86 0200	HOLEX	Lightweight malleable cast iron screw clamp	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail		mm	15×5	20×5	25×6	27×7	29×9	29×9	29×9
Throat		mm	50	60	80	100	120	120	120

BESSEY One-hand clamp

Clamp body of quenched and tempered steel. Housing and lever of glass fibre reinforced polyamide. Flexible plastic protective covers for gentle clamping. **Fast clamping** of components **using only one hand** due to lever advance. Can be operated using the **2-component handle** or from the rail side. **Positive clamping** (and releasing) by means of trapezoidal thread spindle as with normal all-steel clamps. Ergonomic release button for easy slide bar movement. Clamping force up to 3500 N.

Application: **Universally useful,** in particular, where the **user has only one hand free for clamping,** e.g. when holding strips, profiles, cables, pipes etc. Also advantageous for **overhead work** and **springy** or **yielding components.**

Jaw capacity		mm	300	600
83K 86 0250	One-hand clamp		XXX	XXX
Cross section of the slide rail		mm	19.5×9.5	
Throat		mm	100	

“DuoKlamp” one-hand clamp for clamping and spreading

Rails of drawn steel, burnished. Sliding jaw, fixed jaw, body, and pump handle of glass fibre reinforced polyamide (unbreakable).
Large flat clamping faces permit clamping all round the rail.
Handy **rotary button** for quick **change-over** from clamping to spreading.
With release handle for quick adjustment.

Application: For general purpose use, easy to use one-handed for low clamping pressures (up to 1200 N). **Clamping and spreading with quick change-over.**

Jaw capacity	mm	160	300	450	650
83K **86 0280**	One-hand clamp, reversible	XXX	XXX	XXX	XXX
Cross section of the slide rail	mm	20×5			
Spreading width	mm	75 – 235	75 – 380	75 – 535	75 – 685
Throat	mm	85			

One-hand clamp for clamping and spreading

Ergonomically shaped 2-component plastic handle, burnished rail of drawn steel.
No tools required for conversion to spreading, thanks to intelligent release mechanism in the upper part, **reversible**. With release handle for quick adjustment.

Application: General purpose use, easy to use one-handed for clamping pressures (up to 2000 N).

86 0285

86 0286

Jaw capacity	mm	150	300	450	600
83K **86 0285**	Interchangeable one-hand clamp	XXX	XXX	XXX	XXX
82C **86 0286**		XXX	XXX	XXX	XXX
Cross section of the slide rail (86 0285)	mm	19×6			
Cross section of the slide rail (86 0286)	mm	20×6			
Spreading width (86 0285)	mm	170 – 360	170 – 510	170 – 660	170 – 810
Spreading width (86 0286)	mm	200 – 415	200 – 565	200 – 715	200 – 865
Throat (86 0285)	mm	80			
Throat (86 0286)	mm	90			

“GearClamp” clamp

Ergonomically shaped 2-component plastic handle, burnished rail of drawn steel.
Fibreglass-reinforced plastic body, smooth-running spindle with trapezoidal thread and tiltable pressure pad.
With release handle for quick adjustment.

Application: Enormously flexible and suitable for use even in the tightest spaces, for clamping forces up to 2000N.

Driving mechanism protected from dust

Fixed jaw with cross prism

Clamping in the tightest spaces.

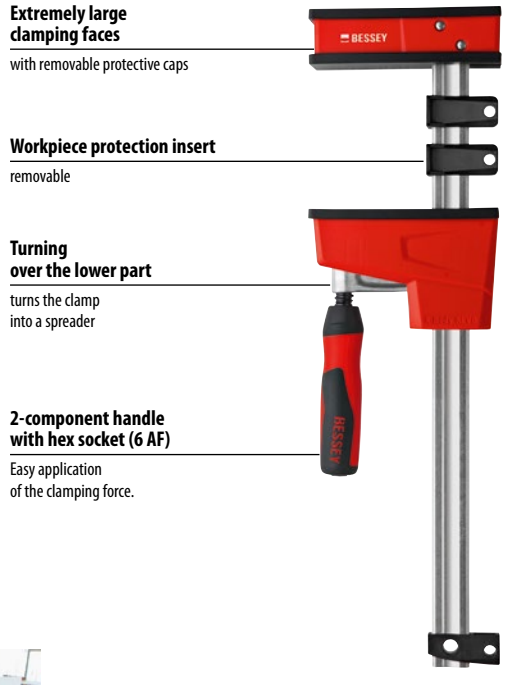
Jaw capacity	mm	150	300	450	600
83K **86 0271**	Geared clamp	XXX	XXX	XXX	XXX
Cross section of the slide rail	mm	19×6			
Throat	mm	60			

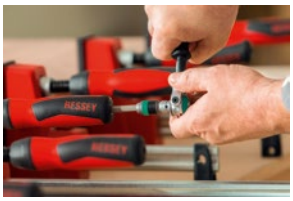
BESSEY "Revo" body clamp for clamping and spreading

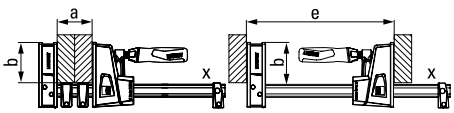
Beam of bright drawn steel, electro-galvanised. Moving jaw with double anti-slip protection. Smooth running steel spindle with trapezoidal thread, burnished. Metal, reinforced plastic housing. Clamping forces up to **8000 N.**

Application: The jaws surround the beam, thus can be used to clamp at the sides and the rear. This allows access to clamping positions inaccessible to conventional clamps. Can be converted to spreading, **no tools required.**

Note: **Successor product to No. 860290.**







Clamping / spreading

Jaw capacity a	mm	600	800	1000	1250
83K 86 0291 Body clamp		XXX	XXX	XXX	XXX
Cross section of the slide rail	mm	29×9			
Spreading width e	mm	255 – 730	255 – 930	255 – 1130	255 – 1355
Throat b	mm	95			
Weight	kg	2.76	3.1	3.45	3.87

Spring clamp

Lightweight and handy version with ergonomic handles. Movable contact faces which adjust optimally to the various contours.

Size 35; 50; 75 – With ergonomic 2-component handles.

86 0350_25

86 0350_50

86 0351_50

Jaw capacity	mm	25	35	38	50	75
83K 86 0350 BESSEY	Spring clamp	XXX	XXX	–	XXX	XXX
82C 86 0351 HOLEX	Spring clamp	–	–	XXX	XXX	XXX
Throat (86 0350)	mm	30	37	–	50	70
Throat (86 0351)	mm	–	–	30	45	65

86 0352_25SET

Type		25SET
82C 86 0352 HOLEX	Spring clamp set, 4 pieces	XXX
Throat	mm	20

All-steel clamp

Beam / fixed jaw made of bright drawn steel, moving jaw of forged steel, each hardened and electro galvanised. Smooth running steel spindle with trapezoidal thread, burnished.

86 0490 – All-steel clamp with fold-out handle. Quick approach and clamping of the workpiece with the handle engaged in the vertical position. **Powerful and convenient working with the handle folded out.**

86 0500 – Movable pressure pad from size 160 can be exchanged without tools. Clamping force of up to 6000 N.

86 0480/0490 – Moving jaw with integral **spindle locking prevents the release** of the spindle even in case of vibrations. Maximum force transfer due to **power grip** with handy Haptoprene® surface and impact resistant PP core. Surface structure is anti-slip even with wet, oily hands.

Spindle locking in the unloaded state.

Spindle locking loaded.

86 0490
With handle folded away.

86 0480

86 0490

86 0500

Jaw capacity		mm	100	120	160	200	250	300
81D 86 0480	Garant	All-steel clamp	XXX	XXX	XXX	XXX	XXX	XXX
81D 86 0490	Garant	All-steel clamp with fold-out handle	–	–	–	XXX	XXX	XXX
83K 86 0500	BESSEY	All-steel clamp	XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail (86 0480, 86 0490)		mm	11.5×5.7	13.5×6.5	16×7,5	19.5×9.5	22×10.5	25×12
Cross section of the slide rail (86 0500)		mm	15×6	15×6	17.5×6.8	22×8.5	24.5×9.5	28×11
Throat		mm	60	60	80	100	120	140

Jaw capacity		mm	400	500	600	800	1000	1250
81D 86 0480	Garant	All-steel clamp	XXX	XXX	XXX	XXX	XXX	XXX
81D 86 0490	Garant	All-steel clamp with fold-out handle	XXX	–	XXX	–	–	–
83K 86 0500	BESSEY	All-steel clamp	XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail (86 0480, 86 0490)		mm	25×12	25×12	25×12	27×13	27×13	27×13
Cross section of the slide rail (86 0500)		mm	28×11					
Throat		mm	120					

HOLEX All-steel clamp

Beam / fixed jaw made of bright drawn steel, moving jaw of forged steel, each hardened and electro galvanised. Smooth running steel spindle with trapezoidal thread and moving jaw anvil. Spindle burnished. With plastic protective cap.

86 0550

Jaw capacity		mm	160	200	250	300
82C 86 0550	All-steel clamp		XXX	XXX	XXX	XXX
Cross section of the slide rail		mm	15.5×7.5	22×10.5	22×10.5	25.5×12
Throat		mm	80	120	120	120

Jaw capacity		mm	450	600	800	1000
82C 86 0550	All-steel clamp		XXX	XXX	XXX	XXX
Cross section of the slide rail		mm	25.5×12	25.5×12	29.5×14	29.5×14
Throat		mm	120			

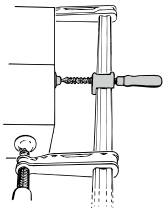
Edge clamp for all clamps with steel profile slide beam

Yoke with wing screw for mounting on the steel clamp slide beam.
Burnished spindle with movable jaw.

Suitable for: Steel clamps with maximum slide beam cross section 45×12 mm.

Application: In conjunction with steel clamps for clamping on to face strips and edge strips as well as for clamping from three sides. Also supports the slide beam when clamping with very long steel clamps to stabilise the clamping pressure.

86 0400



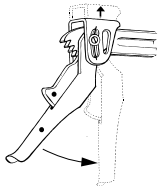
83K 86 0400	Edge clamp		XXX
overall length		mm	225

All-steel lever clamp

Beam / fixed jaw made of bright drawn steel, moving jaw of forged steel, each hardened and electro galvanised. Clamping lever with self-locking ratchet clamping mechanism.
Opens by releasing the ratchet. Movable pressure pad, clamping lever powder coated.

86 0600 – Maximum clamping force: up to 8500 N.

Application: For **fast** and easy **clamping with high clamping pressure.**



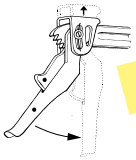
86 0650

Jaw capacity		mm	120	160	200	250	300	500
83K 86 0600	BESSEY All-steel lever clamp		XXX	XXX	XXX	XXX	XXX	XXX
82C 86 0650	HOLEX All-steel lever clamp		XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail (86 0600)		mm	15×6	17.5×6.8	22×8.5	24.5×9.5	28×11	28×11
Cross section of the slide rail (86 0650)		mm	13.5×6.5	16×7.5	19.5×9.5	22×10.5	25×12	25×12
Throat		mm	60	80	100	120	140	120
Weight (86 0600)		kg	0.5	0.65	1.1	1.5	2.3	2.6
Weight (86 0650)		kg	0.5	0.68	1.15	1.5	2.31	3

"KliKlamp" magnesium lever clamp

Moving jaw and fixed jaw of **magnesium** (die-cast), **high strength and extremely light.**
Beam of bright drawn steel, electro-galvanised. Clamping lever, movable jaw and locking pawl of **glass fibre reinforced plastic, unbreakable.** Fixed jaw with removable plastic cap with a cross Vee for clamping round parts underneath. Clamping lever with self-locking ratchet clamping mechanism.
Opens by releasing the ratchet.

Application: For **fast** and easy **clamping with medium clamping pressure.**



Fixed jaw with cross prism.

86 0750

Jaw capacity		mm	120	160	200	250	300	400
83K 86 0750	Magnesium lever clamp		XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail		mm	20×5					
Throat		mm	80					
Weight		kg	0.26	0.29	0.32	0.355	0.38	0.45

Heavy all-steel U-clamp

Beam and fixed jaw of steel section, tempered and electro-galvanised. Slide jaw drop-forged, tempered, and electro-galvanised. Wear-resistant smooth-running steel spindle with trapezoidal thread and movable (up to 35°) special jaw anvil, spindle tempered and burnished with adjustable clamp handle.

Application: For clamping T-beams, RSJs, and steel channel as well as for gripping around profiles / over profiles and webs. **Maximum clamping pressure up to approx. 12000 N.**

86 1000

Jaw capacity		mm	300
83K 86 1000	Heavy all-steel U-clamp with special jaw anvil		XXX
Cross section of the slide rail		mm	30×15
Reach depth of the U-jaw		mm	100
Throat		mm	140
Weight		kg	3.7

All-steel high-performance clamp

Beam and fixed jaw made of bright steel section (special profile), tempered and electro-galvanised. Slide jaw made of steel, drop-forged, tempered, and electro-galvanised. Wear-resistant smooth-running steel spindle with trapezoidal thread. Long working life due to heat-resistant special pressure pad with sintered steel inlay, can tilt through 35°. Spindle tempered and burnished with adjustable clamp handle.

Application: For heaviest duty clamping of workpieces in steel construction, blacksmith's shops, HGV bodywork, machine tool manufacture etc. The movable special jaw anvil permits clamping diagonal workpieces up to 35°. **Maximum clamping pressure up to approx. 12000 N.**

86 1100

Jaw capacity	mm	250	300	500	800	1000	1500
83K 86 1100	All-steel high-performance clamp with special jaw anvil	XXX	XXX	XXX	XXX	XXX	(XXX)
Cross section of the slide rail	mm	34×13					
Throat	mm	140					
Weight	kg	2.5	2.9	3.4	4.4	4.9	6.5

Quality features: strong steel profile slide rails.

Jaw capacity	mm	250	300	500	800	1000	1500
82C 86 1120	All-steel high-performance clamp with special jaw anvil	XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail	mm	30×15					
Throat	mm	140					
Weight	kg	2.8	3	3.7	4.6	5.2	6.7

Quality features: strong steel profile slide rails.

86 1120

Heavy all-steel high-performance clamp

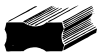
Beam and fixed jaw made of bright steel section (special profile), tempered and electro-galvanised. Slide jaw made of steel, drop-forged, tempered, and electro-galvanised. Wear-resistant smooth-running steel spindle with trapezoidal thread. Long working life due to heat-resistant special pressure pad with sintered steel inlay. Spindle tempered and burnished with adjustable clamp handle.

86 1310 – Can tilt through 35°.
86 1320 – Can tilt through 30°.

Application: For heaviest duty clamping of workpieces in steel construction, blacksmith's shops, HGV bodywork, machine tool manufacture etc. The movable special jaw anvil permits clamping diagonal workpieces. **Maximum clamping pressure up to approx. 22000 N.**

86 1310

Jaw capacity	mm	300	400	500	600	800	1000	1500
83K 86 1310	Heavy all-steel high-performance clamp with special jaw anvil	XXX	XXX	XXX	XXX	XXX	XXX	(XXX)
82C 86 1320		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail	mm	40×20						
Throat	mm	175						
Weight (86 1310)	kg	5.6	6.1	6.7	7.2	8.4	9.4	12.2
Weight (86 1320)	kg	5.5	6	6.6	6.8	8.5	9.4	12



Quality feature: strong Vee profile steel slide rails.

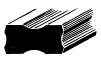
Extra-heavy all-steel high-performance clamp

Beam and fixed jaw made of bright steel section (special profile), tempered and electro-galvanised. Slide jaw made of steel, drop-forged, tempered, and electro-galvanised. Wear-resistant smooth-running steel spindle with metric thread. Long working life due to heat-resistant special pressure pad with sintered steel inlay, can tilt through 35°. Spindle tempered and burnished with adjustable clamp handle.

Application: For heaviest duty clamping of workpieces in steel construction, blacksmith's shops, HGV bodywork, machine tool manufacture etc. The movable special jaw anvil permits clamping diagonal workpieces up to 35°. **Maximum clamping pressure up to approx. 35000 N.**

86 1400

Jaw capacity	mm	300	500	1000
83K 86 1400	Extra-heavy all-steel high-performance clamp with special jaw anvil	XXX	XXX	XXX
Cross section of the slide rail	mm	50×25		
Throat	mm	200		
Weight	kg	10.5	12.2	17.3



Quality feature: strong Vee profile steel slide rails.

C-clamp

C-shape, forged steel, tempered. Strong spindle with trapezoidal thread and movable special jaw anvil.

Application: **Maximum clamping pressure up to 22,000 N.**

86 1550

Jaw capacity	mm	40	60	80	100	120	150	200
83K 86 1550	C-clamp	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Throat	mm	40	55	65	75	85	95	105

Claw beam clamp

86 1600 – Fixed beam of bright drawn steel (special profile), electro-galvanised. Sliding jaw of steel with trapezoidal thread spindle and jaw anvil that can tilt up to 30°. The clamp can be used for **spreading tasks** (exerting outwards pressure) by reversing the sliding jaw.

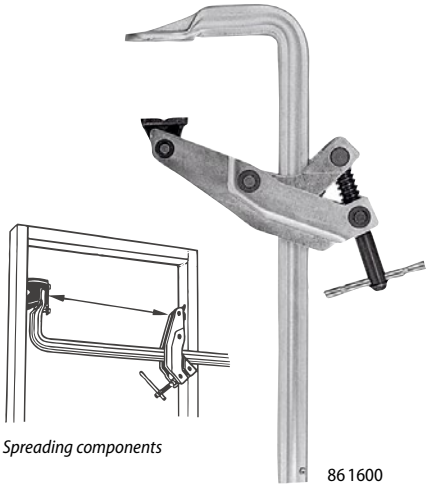
86 1605 – For spreading from the inside outwards. Flat clamping face. With Vee-slot for clamping round and oval workpieces.

Suitable for:

86 1605 – Claw beam clamp No. 861600.

Application:

86 1600 – **Maximum clamping pressure up to approx. 7500 N.**


86 1600

Spreading components

86 1605

Jaw capacity	mm	300	600	1000
83K 86 1600	Claw beam clamp	XXX	XXX	XXX
Cross section of the slide rail	mm	28×11		
Throat	mm	120		
Weight	kg	2.4	3.1	3.8
83K 86 1605	Pressure piece		XXX	

Malleable cast iron deep throat steel clamp

High quality, long malleable cast iron jaws for large clamping depths; sturdy solid profile beam with serrations. Smooth running steel spindle with trapezoidal thread and moving jaw anvil. Instant adjustment, secure clamping. Clamp handle for large clamping force with little effort. Clamping force of up to 7000 N.

86 0300

Throat / Jaw capacity	mm	200/400	250/400	250/600	250/800	300/400	300/600
83J 86 0300	Deep throat steel clamp	XXX	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail	mm	35×11	40×11	40×11	40×11	45×12	45×12
Weight	kg	3.2	4.4	5	5.6	5.5	6.3

Throat / Jaw capacity	mm	400/400	400/800	500/300	500/600	500/800
83J 86 0300	Deep throat steel clamp	XXX	XXX	XXX	XXX	XXX
Cross section of the slide rail	mm	45×12				
Weight	kg	6.6	8.3	8	9.2	10.1

Clamping elements for welding tables

For machine table quick clamps and adjustable clamps for welding tables see Vol. 1 from No. 37 7065.

377065_BS

377065_GRS

37 7152_16/100

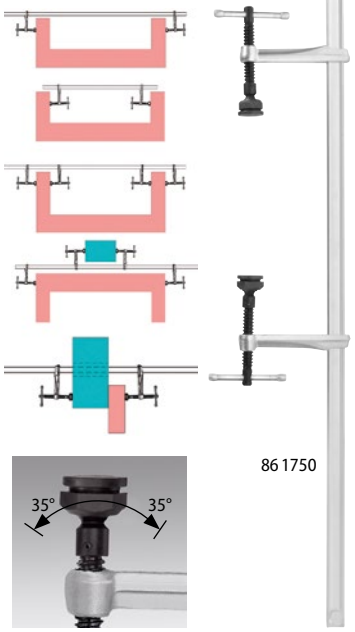
37 7150_28/160

Variable clamp

Variable screw clamp – new flexibility with large spans up to 2 m! Beam of drawn profile steel, galvanised. End stops at each end can be removed without using tools. Slide jaw made of heat treatable steel, drop-forged. Wear-resistant smooth running steel spindle with trapezoidal thread and movable (up to 35°) special jaw anvil. Spindle tempered and burnished with adjustable clamp handle.

Application: Modular principle gives many different application possibilities in woodworking and metalworking. The moving jaws can be replaced with other ones or also further ones added. The switch from clamping to spreading requires no tools. Clamp can also be inserted through an opening in the workpiece. Central positioning on the workpiece prevents tipping. The movable special jaw anvil permits clamping diagonal workpieces up to 35°. **Maximum clamping pressure up to approx. 6500 N.**

Note: See spare parts list for No. 861756 (clamping handle), 861757 (wooden handle) or 861758 (lever handle) for spare sliding jaws.



86 1750

Jaw capacity		mm	1000	1500	2000
83K 86 1750	Variable clamp with special jaw and 2 clamp handles		XXX	XXX	XXX
Cross section of the slide rail		mm	27×13		
Throat		mm	120		
Weight		kg	4.78	5.97	7.15

"STE" ceiling and assembly support

Extremely stable structure thanks to high-tensile steel pipe and non-slip PVC contact faces. One-handed operation thanks to 2-component plastic grip with pump mechanism. Pushbutton for quick extension and retraction of the telescopic rod. Holding force adjustable by twisting the support on the grip. When the **telescopic rod is fully retracted a maximum load of 200 kg can be held**. The contact faces can also be **pivoted steplessly** for use at angles **-45° to 45°**.

Application: For fixing plasterboard, wooden boards, panels, roof laths, metal strips, foils and luminaires at a height of up to 3.00 m. Can also be used without problems at angles due to the pivoted and non-slip PVC contact faces.

2-component plastic handle with quick adjustment button and pump mechanism.

9×7 cm size shims with a pivoting angle of -45° to 45°.

When used at an angle, load capacity is limited to max. 40 kg.

maximum length		cm	250	300
83K 86 1780	Ceiling and assembly support		XXX	XXX
overall length		cm	145 – 250	170 – 300
maximum load capacity		kg	200	130
Weight		kg	3.1	3.5

Multi-function/laser holder "STE-LH"

L rotary mounting with two rotary axes: 360° next to the attachment clamp, 180° on the threaded mounting. Holder with 1/4 inch threaded mounting.

Application: For fixing aids such as a laser, camera or construction light. Can be used without the need for tools on round (up to 45 mm) and rectangular (up to 55 mm) carrier elements such as ceiling and assembly supports (No. 861780), profiles, ladders, etc.

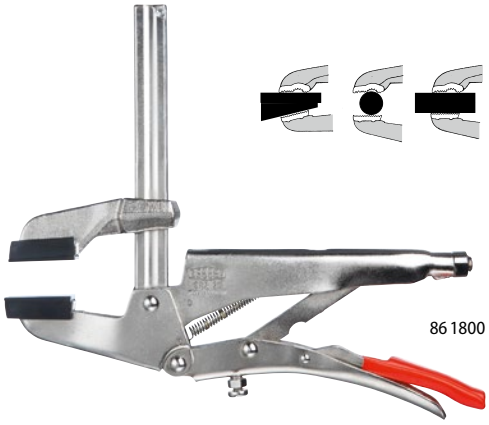
Note: Suitable lasers under No. 468488; 468490; 468481; 468465 and suitable distance meters can be found under No. 465550 size X3; size X4 and No. 465560 size GLM50-27C; size GLM80 and size GLM120C.

86 1785

Type			1
83K 86 1785	Multi-function/laser holder		XXX
Length		mm	200
Width		mm	140
Height		mm	60
Weight		kg	0.25

Heavy grip clamp

Heat-treated steel profile beam; **quick adjustment; steplessly adjustable clamp jaw;** jaws parallel over the range of opening any span (adjustment up to ± 9° available); clamping faces serrated; **clamping force adjustable** (maximum 4000 N).



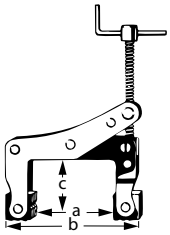
Jaw capacity		mm	100	200
83K 86 1800	Heavy grip clamp		XXX	XXX
overall length		mm	260	
Throat		mm	65	

Universal clamp (clamping hand)

With trapezoidal thread spindle and 2 swing clamping jaws. Each clamping jaw has 3 smooth faces and a cross-Vee face; can be used for **clamping the most diverse components.**

Material: Spindle and clamping block of burnished steel.

Application: For **internal** and **external clamping** of the most diverse workpiece shapes.



86 1900_100

86 1900_25

Type			25	50	75	100	150
82C 86 1900	Universal clamp (clamping hand)		XXX	XXX	XXX	XXX	XXX
Capacity in compression a		mm	0 – 25	0 – 50	0 – 75	0 – 100	0 – 150
Capacity in tension b		mm	20 – 48	32 – 82	40 – 115	50 – 150	50 – 200
Clamping depth c		mm	15	30	50	60	100
maximum clamping force		N	1000	2000	2500	3000	3500

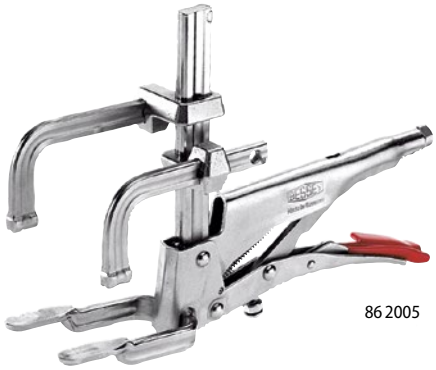
Locking C clamp

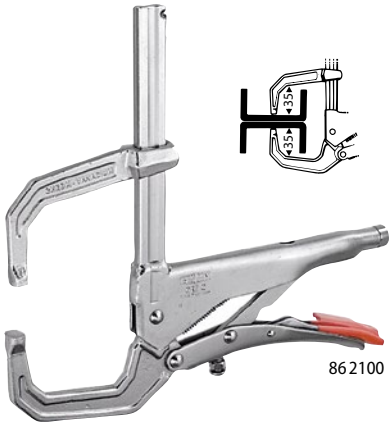
Quenched and tempered profile steel beam; **quick adjustment; steplessly adjustable clamp jaw; clamping force adjustable** (maximum 4000 N).

86 2005 – With 2 separate yoke arms for clamping together workpieces of equal or unequal thicknesses (e.g. when welding).

86 2100 – With C-shaped yoke arms for clamping profiled material with high flanges.

86 2150 – With Vee jaws for holding round bodies of the same diameter. (including plastic protective jaws, temperature-resistant to 200 °C).

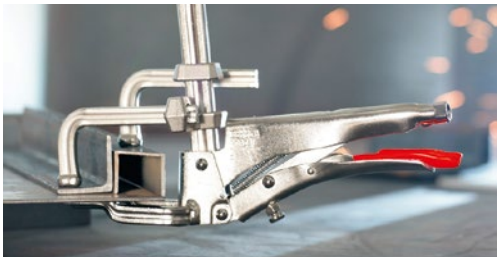

86 2005



86 2100

86 2150

			Jaw capacity mm	Throat mm
83K 86 2005	Double yoke grip clamp (welding grip clamp)	XXX	100	70
83K 86 2100	Locking C clamp	XXX	110	80
83K 86 2150	Pipe grip clamp with plastic jaws	XXX	110	65



Toolmaker's clamp

Jaws entirely of steel, parallel adjustment by 2 screw spindles, bright galvanised.

86 2200

Jaw capacity	mm	36	46	60	87	116
83K 86 2200 Toolmaker's clamp		XXX	XXX	XXX	XXX	XXX
Throat	mm	19	26	35	50	72
Spindle thread		M5	M6	M6	M8	M9

Pole welding clamp

High quality malleable cast iron clamping arms with eyelet for electric welding cable on upper clamping arm. Strong spindle with ball-mounted captive pad. Clamp bright galvanised.

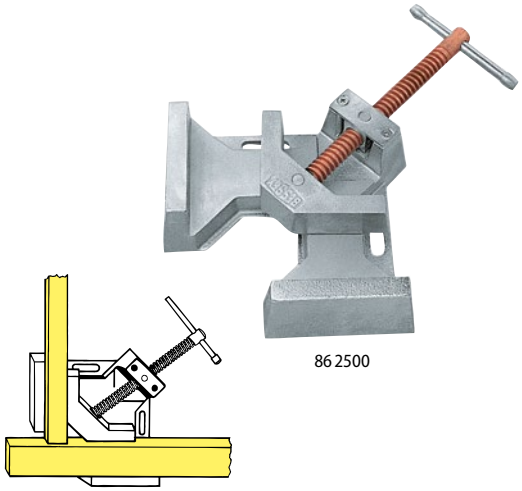
86 2310

Type		1	2
83K 86 2310 Pole welding clamp		XXX	XXX
Slide beam cross section	mm	25×6	30×8
Jaw capacity	mm	150	
Throat	mm	80	60
for maximum current	A	400	600

Welder's angle clamps

Malleable cast iron base body with strong cleanly machined support faces (clamping angle 90°). Clamping jaws movable for **different material cross-sections.**

Application: For clamping components at the correct angle during welding and/or assembly work.



86 2500

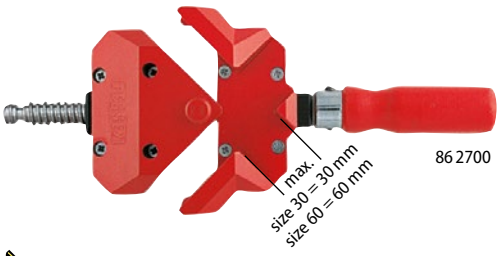
maximum clamping range	mm	90	120
83K 86 2500 Welder's angle clamp		XXX	XXX
maximum aperture	mm	60	100
Jaw height	mm	35	61
Weight	kg	3.8	7.8

Lightweight welder's angle clamp

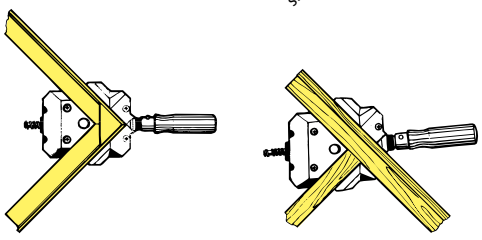
Metal body with plastic coating, clamping angle 90°. Clamping jaws movable, allowing **different thicknesses of material** to be clamped.

Application: For clamping flat material, profiles etc. at the correct angle for bolting, gluing together etc. Not for use as a welding clamp.

Size 60 – Quick adjustment feature.



86 2700

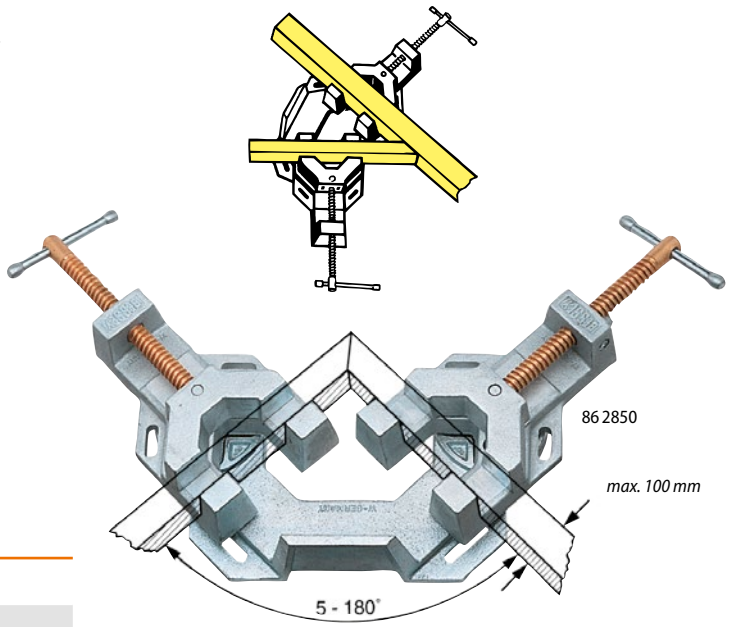


maximum aperture	mm	30	60
83K 86 2700 Angle clamp, light version		XXX	XXX
maximum aperture	mm	30	60
Jaw height	mm	30	36
Clamping range for 2 identical components	mm	45 / 45	100 / 100
Clamping range for 2 non-identical components	mm	23 / 63	25 / 140

Adjustable angle clamp

Consisting of base plate and 2 adjustable clamps; base plate and clamps are high quality castings, spindles copper plated, therefore particularly suitable for welding applications. Slotted holes permit mounting on welding benches or jigs.

Application: For clamping components during welding or assembly work. Clamping angle adjustable from 5° - 180°.

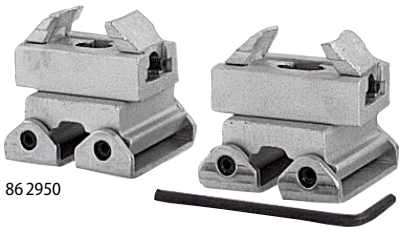


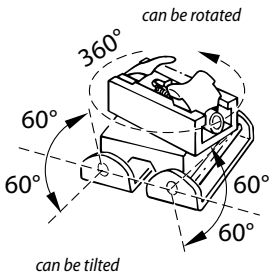
83K 86 2850	Adjustable angle clamp		XXX
Jaw capacity		mm	2×0 – 100
Jaw height		mm	35
Weight		kg	10.7
Clamping angle		degrees	5 – 180

Vario clamp attachments for steel clamps

Clamping faces can be rotated and moved to accommodate components from 60° internal angle to 60° external angle.

Application: As an add-on for screw clamps No. 860000 from size 200 and 860500 from size 200. For use in pairs or individually.



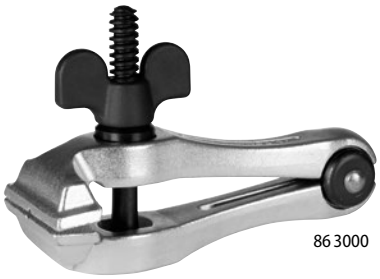


83K 86 2950	Pair of Vario clamp attachments		XXX
Clamping face		mm	50×50

Hand vices

Forged steel; wide jaws with prism. Reinforced shank with secure hinge guide and enclosed special spring. Spindle with trapezoidal thread and strong butterfly nut.

Spare part: Spare spindle No. 863100. Indicate size of hand vice when ordering.

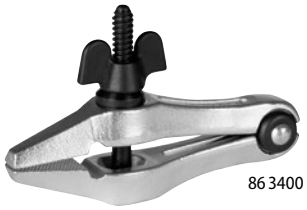


overall length		mm	100	120	130	145	160	180	200
86F 86 3000	Hand vice		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Jaw width		mm	40	45	48	52	58	60	65
Jaw capacity		mm	18	22	25	28	35	40	45

Tapered hand vices

Arms made from high-tensile alloy heat-treatable steel, galvanised. Narrow jaws. Reinforced shank with secure hinge guide and enclosed special spring. Spindle with trapezoidal thread and strong butterfly nut.

Spare part: Spare spindle No. 863100 size 120.


86 3400

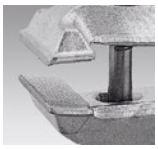
overall length		mm	120
86F 86 3400	Tapered hand vice		XXX
Jaw width		mm	13
Jaw capacity		mm	20

Heavy-duty hand vices

Particularly sturdy design. Arms made from high-tensile alloy heat-treatable steel, galvanised. Wide jaws with Vee groove; strong arms with secure hinge guide and enclosed jaw spring. Spindle with trapezoidal thread, hexagon nut and crank lever.

Size 200 – With flat jaws (without prism) especially for pipe bending.

Spare part: Spare spindle No. 863700. Indicate size of the machine vice when ordering spare parts.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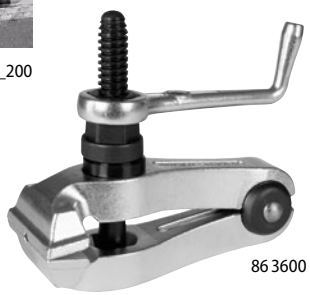

86 3600

overall length		mm	160	180	200	250
86F 86 3600	Heavy-duty hand vice		XXX	XXX	XXX	XXX
Jaw width		mm	65	70	80	90
Jaw capacity		mm	40	40	50	60

RIDGID Peddinghaus Hinged pipe vice

Entirely of steel, unbreakable. Hinged design with automatically closing securing hook. Drop forged movable jaw. Movable jaw and fixed jaw exchangeable. Gripping surfaces milled and hardened. Strong spindle with adjustable T-bar handle.

86 8600

Capacity for pipes up to		inch	2	3	4
83S 86 8600	Hinged pipe vice		XXX	XXX	XXX
Jaw capacity		mm	60	90	120
Weight		kg	4.3	6.5	10

ROLLER Sturdy "Anaconda WB" chain clamp for pipes

Sturdy chain clamp for pipes for attaching to a workbench. For easy secure clamping of pipes using special serrated Vee-shaped clamping jaws and a sturdy clamping chain with a quick-release fastener.

- Sturdy distortion-free cast design of the baseplate, with integral chain clamp vice, pipe support and bending machine.
- Specially serrated and hardened double vice jaws, easily exchanged, Vee-shaped for secure clamping of pipes.
- Clamping chain with sturdy chain links, easily clamped with quick-release fastener and trapezoidal thread spindle.
- For attachment to a workbench – **please ensure compliance with the workbench load capacity.**

Application: Secure clamping of pipes and solid materials, 1/8 inch – 6 inches (10 – 165 mm).

Note: Adjustable material stand No. 919904 and workbenches from No. 921001 can be found in the Workstations and Storage catalogue.

86 8650

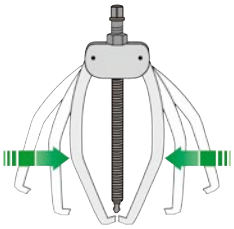
Application example

Capacity for pipes up to		inch	6
84B 86 8650	Anaconda WB chain clamp for pipes		XXX
Jaw capacity		mm	10 – 165
Weight		kg	21

Universal extractor

The clamping force increases proportionally to the extraction force due to the self-clamping extractor legs.

Application: The spring effect and the slim design permit extractions even where access is difficult.



Self–clamping (spring–mounted)

Optimum matching of the spindle to the shaft thanks to the 2-ended spindle tips.

83U 88 0020	Two-leg universal extractor		XXX
83U 88 0030	Three-leg universal extractor		XXX
External clamping range (88 0020)		mm	150
External clamping range (88 0030)		mm	120
Depth of reach up to		mm	150

			Content: consisting of extractors
83U 88 0050	Universal extractor set, 2 pieces	XXX	No. 880020 / 880030

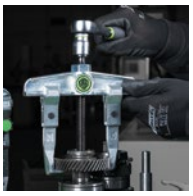
88 0020

88 0030

Heavy universal extractor

With reversible extraction legs **(for external and internal extraction).**
Extraction legs adjustable on cross beam for different workpiece ∅.
Extraction legs and cross beam of high-quality tool steel;
sturdy double-ended spindle (ball end and point end).

Application: Universally applicable for extracting bearings, discs, gear wheels etc. On model 880100 size 5 the depth of reach can be extended from 400 mm (normal) up to 700 mm by adjusting the legs.



for external

for internal

88 0100

Type			1	10	2	20	3	30	4	5
83U 88 0100	Two-leg extractor		XXX	XXX	XXX	XXX	XXX	XXX	XXX	(XXX)
External clamping range		mm	90	120	160	200	250	350	520	750
Internal capacity		mm	70 – 140	70 – 180	100 – 220	100 – 260	180 – 340	180 – 440	200 – 590	340 – 1000
Depth of reach up to		mm	100	100	150	150	200	200	200	700

88 0130

Type			1	10	2	20	3	4	5	6
83U 88 0130	Three-leg extractor		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
External clamping range		mm	90	130	160	200	250	375	520	650
Internal capacity		mm	70 – 140	70 – 180	100 – 220	100 – 260	180 – 340	200 – 500	280 – 600	290 – 740
Depth of reach up to		mm	100	100	150	150	200	200	200	200

Spare pressure spindle

Type			1	2	3	4
83U 88 0150	Spare pressure spindle		XXX	XXX	XXX	XXX
overall spindle length		mm	160	260	340	340
Thread			M14×1.5	G1/2 inch	G3/4 inch	G1 inch
Suitable for: Extractor 880100			Size 1; 10	Size 2; 20	Size 3; 30	Size 4
Extractor 880130			Size 1; 10	Size 2; 20	Size 3	Size 4
Extractor 880450			Size 1; 10	Size 2; 20	Size 3; 30	—

88 0150

Hydraulic pressure spindle

Application: The hydraulic spindle is very advantageous for seized-on parts due to its high pressure performance.
The spindle is screwed in until the pressure part is seated firmly on the shaft.
Then the hydraulics are operated by turning the upper spindle.
Suitable for bearing extractor No. 880100 size 4 as well as for No. 880130 sizes 4 - 6.

Type			1	2
83U 88 0170	Hydraulic pressure spindle		XXX	XXX
Hydraulic power			150 kN (15 t)	200 kN (20 t)
Hydraulic stroke		mm	10	
Suitable for: Extractor 880100			Size 4	—
Extractor 880130			Size 4	Size 5; 6

88 0170

Spare extractor leg

Type / Clamping depth		mm	1/100	2/150	3/200
88 0200	Pair of spare extractor legs		XXX	XXX	XXX
88 0220	Spare extractor legs (3 pieces)		XXX	XXX	XXX
Suitable for: Extractor 880100			Size 1; 10	Size 2; 20	Size 3; 30; 4
Extractor 880130			Size 1; 10	Size 2; 20	Size 3; 4; 5; 6

88 0200

Extended extractor legs

Application: In order to reach larger depths, the normal extractor legs can be exchanged for extended extractor legs.
Size 4/500 – Adjustable for depths of reach up to 300 mm and with adjusted legs up to 500 mm.

Type / Clamping depth		mm	1/200	2/300	3/300	3/400	4/500
88 0300	Pair of extended extractor legs		XXX	XXX	XXX	XXX	XXX
88 0320	Extended extractor legs (3 pieces)		XXX	XXX	–	–	XXX
Suitable for: Extractor 880100			Size 1; 10	Size 2; 20	Size 3; 30; 4	Size 3; 30; 4	Size 3; 30; 4
Extractor 880130			Size 1; 10	Size 2; 20	—	—	Size 3; 4; 5; 6

88 0300

Heavy-duty two-leg universal extractor with quick adjustment

Spindle nose
with collar = protection against slipping.

Cross rail
with hexagon profile for restraint.

Quick adjustment without tools

88 0400

With knurled grip for **quick loosening and moving** of the extractor jaws **without additional tools.**

Application: Universally capable of extracting bearings, gear wheels etc.
Can be used as external and internal extractor.

Optimum matching of the spindle to the shaft thanks to the 2-ended spindle tips.

Type			1	10	2	20	3	30
88 0400	Two-leg extractor with quick adjustment		XXX	XXX	XXX	XXX	XXX	XXX
External clamping range		mm	90	120	160	200	250	350
Internal capacity		mm	70 – 140	70 – 180	100 – 220	100 – 260	180 – 340	180 – 440
Depth of reach up to		mm	100	100	150	150	200	200

Spindle nose
with collar = protection against slipping.

Cross rail
with hexagon profile for restraint.

Quick adjustment without tools

88 0450

With **extremely slender extractor legs.**

Application: Very suitable for working in tight spaces and places where access is difficult.

For confined spaces

Type			1	10	2	20	3	30
88 0450	Two-leg extractor with quick adjustment, slender extractor legs		XXX	XXX	XXX	XXX	XXX	XXX
External clamping range		mm	90	120	160	200	250	350
Internal capacity		mm	70 – 140	70 – 180	100 – 220	100 – 260	180 – 340	180 – 440
Depth of reach up to		mm	100	100	150	150	200	200

Extractor set for 2 clamping depths, with quick adjustment, in a plastic case

With **slender extractor legs** for confined spaces and with knurled grip for **quick loosening** and **moving** of the extractor legs.

Application: Universally capable of extracting bearings, gear wheels etc. Can be used as external and internal extractor.

Content: 1 each two-leg and three-leg cross beam and 3 each extractor legs with different clamping depths and with knurled quick adjustment grip, in plastic case (275×230×83 mm) with foam inlay.

Optimum matching of the spindle to the shaft thanks to the 2-ended spindle tips

88 0505

83U 88 0505	Extractor set for 2 depths with quick adjustment	XXX
Jaw capacity	mm	90
Depth of reach up to	mm	100 / 200

Extractor set for 3 depths in KUKKO L-BOXX®

With **slender extractor legs** for confined spaces in 3 clamping depths.

Application: For easy extraction of bearings, plates, gear wheels etc. Ideal for use under difficult space conditions such as very narrow components or housings. Can be used as external and internal extractor.

Content: 1 each two-leg and three-leg cross beams and 3 each extractor legs each with a different depth completely in KUKKO L-BOXX® size 136 with foam inlay.

88 0550

83U 88 0550	Extractor set for 3 depths	XXX
Jaw capacity	mm	120
Depth of reach up to	mm	100 / 200 / 250

Two-leg extractor

With reversible extractor legs **(for external and internal extraction),** strong cross beam and powerful spindle. The desired span is adjusted simply by moving the extraction legs.

Application: A quick adjustment extractor for gear wheels, bearings, discs, etc., which can be adjusted to the required span.

88 0930

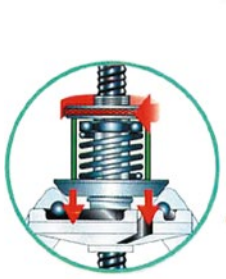
Type		1	10	2	20	3	4
83U 88 0930	Two-leg extractor	XXX	XXX	XXX	XXX	XXX	XXX
External clamping range	mm	100	120	160	200	250	350
Internal capacity	mm	55 – 105	55 – 105	80 – 170	90 – 215	95 – 265	195 – 365
Depth of reach up to	mm	100	100	150	175	200	250

FACOM Internal / external extractors

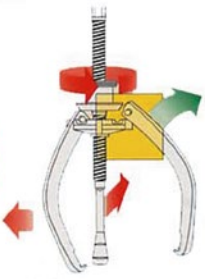
With two sets of exchangeable extractor legs for **internal and external extraction,** allowing either 2 or 3 extractor legs to be used.

Supplied with: Basic body with spindle and 3 internal and external extractor legs each.

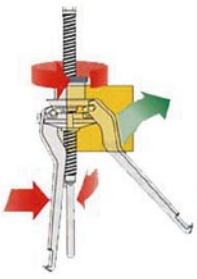
88 0850



■ ***Secure***
Full extractor leg locking with a knurled screw.



■ ***Practical***
Extractor legs can easily be added or removed.



■ ***Automatic***
self-tightening and self-centring.

■ ***Spindle nose***
with force limiter - the shear pin will fracture at overload.

Type		1	2
83H 88 0850	Internal / external extractor	XXX	XXX
External clamping range	mm	7 – 140	10 – 180
Internal capacity	mm	23 – 130	50 – 170
Depth of reach up to	mm	140	190

Three-leg extractor with pre-adjustable clamping range

Powerful extractor with high clamping force and excellent clamping. Using the adjustment wrench, the symmetrical clamping legs are easily set to the necessary spread. The part to be extracted is **positively gripped**, the **gripper jaws** cannot **jump or slip.**

88 0950 – For external extraction only.
88 0960 – For external **and** internal extraction.

Application: For extracting tightly seized ball bearings, gear wheels, pulleys and similar parts.

880950
880960

Type		1	2	3	4	5
83U 88 0950	Three-leg extractor with pre-adjustable clamping range	XXX	XXX	XXX	–	–
83U 88 0960		–	–	–	XXX	XXX
External clamping range	mm	100	150	200	20 – 250	30 – 350
Internal capacity	mm	–	–	–	225 – 325	300 – 425
Clamping depth	mm	–	–	–	50	50
Depth of reach up to	mm	100	125	165	225	275
Power	t	6	8	10	10	10

Self-centring extractor

Very handy design with **jointed spread adjustment.** The extractor legs automatically grip the part to be extracted with a force that increases as the spindle pressure is applied. Extractor legs made from high-quality tool steel.

88 1000_0
88 1000_1–4

Type		0	1	2	3	4
83U 88 1000	Self-centring two-leg extractor	XXX	XXX	XXX	XXX	XXX
External clamping range	mm	60	100	120	160	250
Depth of reach up to	mm	50	100	120	160	200

Type		0	1	2	3	4
83U 88 1010	Self-centring three-leg extractor	XXX	XXX	XXX	XXX	XXX
External clamping range	mm	60	100	120	160	250
Depth of reach up to	mm	50	100	120	160	200

88 1010_0
88 1010_1–4

Adjustable extractor

The self-locking pins allow individual selection of the clamping range and depth of reach. The extractor is self-clamping and simple to use due to the special design. Extremely large span range due to variable configuration of extractor legs (see diagram).

88 1100

83U 88 1100	Adjustable extractor	XXX
External clamping range	mm	100
Depth of reach up to	mm	70

Two-leg extractor with lateral clamp

Specially shaped gripping faces on the extractor legs, which operate with a clamp to loosen the bearing (No. 881180).

Application:

88 1180 – For extracting **flush fitted** ball bearings, rings, bushes etc.
88 1200 – For extracting gear wheels, pinions, steering arms etc.

88 1180_1

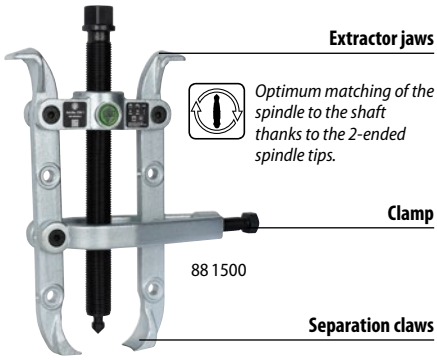
88 1180_2
88 1200_3

Type		1	2	3
83U 88 1180	Bearing extractor with lateral clamp	XXX	XXX	–
83U 88 1200	Extractor with lateral clamp	–	–	XXX
External clamping range	mm	50	90	150
Depth of reach up to	mm	70	100	140

Separator / extractor

One side with separation claws for loosening flush fitted parts, the other side with normal extractor jaws.
To free the bearing the separation claws are pressed between bearing and bearing seat by closing the clamp.
The bearing is then fully removed by use of the spindle.

Application: For extracting ball races, pinions and so on, where access is difficult.
For many jobs where normal extractors cannot be used due to lack of space.

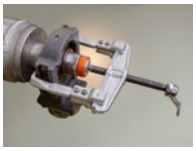


Type		1	2	3
83U 88 1500	Separator / extractor two legs	XXX	XXX	XXX
Jaw capacity	mm	95	135	150
Depth of reach up to	mm	170	270	325

Centre protector for use with extractors

Advantage: Rotating centre permits higher tensile forces.
Easy extraction even where the centring hole is too large or is absent.

Application: Perfect **protection of the centre** when extracting bearings, sleeves, pulleys and gears.
Extracting the components **without damage** (protects the end of the shaft).

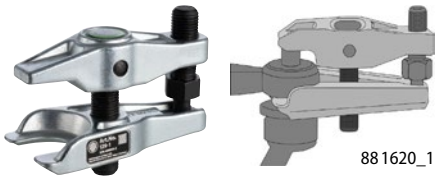


External ∅	mm	18	28	38	48
83U 88 1550	Centre protector for shafts	XXX	XXX	XXX	XXX

Ball joint separators

Sturdy body with pressure frame and strong spindle. Of high-quality tool steel.
Simple and quick application: simply the push extractor frame between the ball joint and tighten the screw.
The joint will separate easily.

Application: For pressing out the ball studs when disassembling ball joints.
Also as extractor for track rod ends.



Type		1	0
83U 88 1620	Ball joint separator	XXX	XXX
for ball joints of nominal size	mm	19 – 27	27 – 30
Lever travel capacity	mm	50	
Fork aperture	mm	18 – 22	20

Fork separator

Tapered, solid fork head with strong holding rod and knurled handle.

Application: For releasing track rod ends, shock absorbers, steering arms etc.
Place fork on joint strike on the shank to separate the parts.

Type		1	3
83U 88 1700	Fork separator	XXX	XXX
for ball joint ∅	mm	16 – 27	27 – 40
Fork aperture	mm	18	29

Hydraulic ram

Steel body with hydraulic mechanism and automatic return. Easy handling: the ram is used between extractor spindle and shaft. Clamp ram with extractor spindle and tighten ram spindle (hydraulics come into effect).
If the travel is insufficient, release the ram spindle and repeat the procedure.

Application: For increasing the power of mechanical extractors from Size 3.
Even tightly seized parts can easily be freed.

Hydraulic ram between shaft and extractor spindle.

Type		1	2	3
83U 88 1800	Hydraulic ram	XXX	XXX	XXX
Construction height	mm	62	90	113
Ram cylinder ∅	mm	14	23	39.5
Body ∅	mm	37	50	80
Stroke	mm	10	15	7
maximum permissible torque	Nm	35	50	40
maximum permissible extraction force	kN	100	150	300

Extractor set with a sliding hammer in a plastic case

Sturdy extractor (galvanised) with ergonomically shaped sliding hammer.

Application: For extracting and pulling off parts with internal threads (taper pins or dowel pins) and ball bearings. The appropriate adapter or internal extractor is attached to the part to be extracted, which is then pulled off by firm strikes with the sliding hammer.

Supplied with:

88 2000 – Pin extractor in a plastic case (275×230×80 mm) with 6 threaded inserts (M3 – M10), 3 adapters for internal extractors No. 882600. For M12 the slide bar is used without a threaded insert. Accepts threaded inserts to DIN 913.

88 2020 – Pin and ball bearing extractor in a plastic case (370×320×75 mm) with 10 threaded inserts (M3 - M18), 2 adapters for internal extractors and 5 internal extractors (∅ 6 - 19 mm).

88 2000

88 2020

83U 88 2000	Pin extractor set	XXX
Adapter for internal extractor		M7×M12, M10×M12, 15-16G×M12
Hammer mass	kg	0.9
Hammer travel	mm	230
suitable for threads		M3; M4; M5; M6; M8; M10; M12

83U 88 2020	Pin and ball bearing extractor set	XXX
Adapter for internal extractor		M7×M12; M10×M12
Hammer mass	kg	0.9
Hammer travel	mm	150
Internal extractor for ∅	mm	6 – 10; 8 – 12; 10 – 14; 12 – 16; 14 – 19
suitable for threads		M3; M4; M5; M6; M8; M10; M12; M14; M16; M18

Sliding hammer

Sturdy extractor jig (galvanised) with ergonomically shaped sliding hammer.

Advantage: Very suitable for use on deep-seated components.

Application: For extraction and pulling off ball bearings in combination with internal extractors (No. 882600), using special adapters. Very versatile device for a wide variety of components. Energetic use of the sliding hammer pulls the components off.

Supplied with: Extractor jig with appropriate adapters to suit various internal extractors.

Note:

Size 5 – Optional additional weights can be screwed on to increase the impact.

88 2050_0,5

88 2050_1,7

88 2050_5

Hammer mass	kg	0,5	1,7	5
83U 88 2050	Sliding hammer	XXX	XXX	XXX
Adapter for internal extractor		M7×M10	15-16 G×G1/2, 15-16 G×M10	G3/4×G1/2
Hammer travel	mm	150	230	340
Total weight	kg	0.7	2.5	6.5

Extractor set in KUKKO L-BOXX®

Composed of the most frequently used extractors for the most diverse extraction applications.

Size 24A – Particularly suitable for automobile technicians.

88 2700_24B

Type		24A	24B	24C
83U 88 2700	Extractor set in KUKKO L-BOXX®	XXX	XXX	XXX
Storage in		2 KUKKO L-BOXX® size 136	2 KUKKO L-BOXX® size 136	3 KUKKO L-BOXX® size 136
Content: 1 each two-leg extractor No. 880100		Size 1	Size 1; 2	Size 1; 2
1 each two-leg extractor No. 881000		Size 0		
1 each pulling chuck		5–32 mm		
1 each internal extractor No. 882600		Size 1–6	Size 1–8	size 1–7; 10
1 each support brace No. 882800		Size 1; 2	Size 1; 2	Size 1; 2; 4

Internal extractor set in KUKKO L-BOXX®

Consisting of internal bearing extractor and centre reaction piece. **Internal bearing extractor** with 2-piece jaws and spreader.
Centre reaction piece of high-quality tool steel, with sturdy spindle, tightening nut, and clamping handle. Internal thrust bearing for easy operation of the support brace nut (Size 1 without thrust bearing). The sets are supplied in a KUKKO L-BOXX® size 136.

Application: For trouble-free extraction of ball bearings etc. Even close flush-fitted ball bearings are gripped securely and pulled out quickly. (The spindle of the support brace is screwed on to the wedge spindle of the internal bearing extractor for extraction.)

88 2500

Type		25A	25B	25C
83U 88 2500	Internal extractor set in KUKKO L-BOXX®	XXX	XXX	XXX
for bores	mm	12 – 46	12 – 70	12 – 110
Weight including box	kg	6.4	9.3	15.2
Content: 1 each internal extractor No. 882600		Size 1-6	Size 1–8	Size 1–7 and 10
1 each support brace No. 882800		Size 1 and 2	Size 1 and 2	Size 1; 2 and 4

Internal extractor single

2-part clamps and spreader made of premium tool steel.

88 2600

Type		01	02	1	2	3	4
83U 88 2600	Internal extractor single	XXX	XXX	XXX	XXX	XXX	XXX
for bores	mm	8 – 12	10 – 14	12 – 16	14 – 19	18 – 23	20 – 30

Type		5	6	7	8	9	10
83U 88 2600	Internal extractor single	XXX	XXX	XXX	XXX	XXX	XXX
for bores	mm	28 – 40	35 – 46	45 – 58	56 – 70	70 – 100	56 – 110

Counter supports single

Integral thrust bearing for easy operation of the support brace nut (size 1 without thrust bearing).

No frictional resistance due to the integral thrust bearing.

88 2800_3

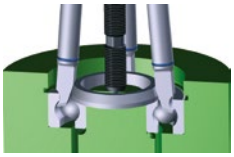
Type		1	2	3	4
83U 88 2800	Counter support, single	XXX	XXX	XXX	XXX
for bores	mm	8 – 40	18 – 70	35 – 100	56 – 110
Suitable for: Internal extractor No. 882600		Size 01–5	Size 3–8	Size 6–9	Size 10

88

Ball bearing extractor set in KUKKO L-BOXX®

Extractor set in KUKKO L-BOXX® size 136, consisting of one base body with spindle (120 mm long) and 3 each narrow and wide extractor hooks (each 70 mm long) and one base body with spindle (240 mm long) and 4 each narrow and wide extractor hooks (each 156 mm long).

Application: For non-destructive extraction of grooved ball bearings from a housing on a shaft by gripping them between inner and outer ball races.



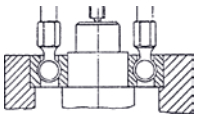
88 3000

Type		K70C
83U 88 3000	Ball bearing extractor set in KUKKO L-BOXX®	XXX
Suitable for: Ball bearings to ISO		6000 – 6020; 6200 – 6212; 6300 – 6311; 6403 – 6408

Universal ball bearing extractor set in KUKKO L-BOXX®

Extractor set in KUKKO L-BOXX® size 136 consisting of 1 cross arm, 1 forcing screw, 2 draw bolts and 3 pairs (sizes 69-A and 69-B) or 6 pairs of legs (size 69-C). Strong design of special steel, specially shaped pullers for precise seating in the ball bearing.

Application: For easy and quick extraction of **ball bearings of all types** which are seated in a housing on a shaft. Very versatile – covers many repair and service applications in the automobile and manufacturing trades and much more.



69-A

Type		69-A	69-B	69-C
83U 88 3100	Ball bearing extractor set in KUKKO L-BOXX®	XXX	XXX	XXX
Clamping range	mm	20 – 110	40 – 110	56 – 240
Suitable for: Ball bearings to ISO		6004 – 6013; 6201 – 6206; 6300 – 6305	6011 – 6020; 6206 – 6212; 6305 – 6309; 6403 – 6407	6021 – 6032; 6213 – 6230; 6310 – 6321; 6406 – 6417

Sealing ring extractor set in KUKKO L-BOXX®

Slide hammer base unit, extraction lever, and bradawl with 2-component handle. Quick and easy extraction of sealing rings using the momentum of the mass on the slide unit. The extraction lever has a sturdy blade for gently levering out sealing rings.

Application: Gentle, quick, and easy but at the same time powerful removal / extraction of Simmerring seals, seals, oil seals, sealing sleeves, sealing rings, bearing seals, and many more.

Content: 1 base unit (including a slide hammer), 2 extensions (100 mm and 250 mm), 1 universal extraction lever, 1 bradawl (for easier insertion of the special screws), 1 spare blade for the extraction lever, 50 self-tapping special screws in KUKKO L-BOXX® size 136.

88 3900

83U 88 3900	Sealing ring extractor set in KUKKO L-BOXX®	XXX

simatherm® smart mounting — Induction heating device

Application: Quick and selective heating of roller bearings, gear wheels, sleeves etc. For gentle and safe installation of shafts, pins etc.

88 3960

The patented **portable** induction heater operates in the high-frequency range and thus is very efficient. Integral timer and temperature control. The temperature control ensures even warming of the workpiece.

Advantage: Portable high-performance induction heater, very light-weight and handy (3.5 kg). **No** yoke necessary, simply lay the workpiece on the heater.

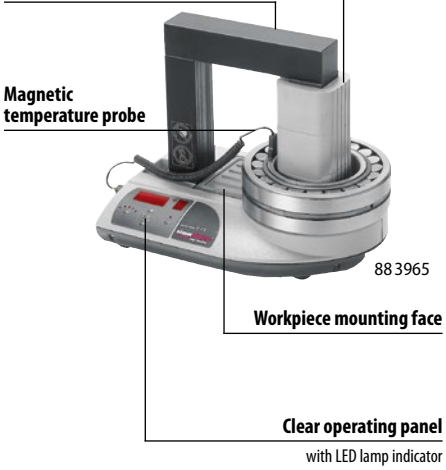
Supplied with: Heater, temperature probe, thermal protection gloves, and carrying case.

86H 88 3960	Induction heating device		XXX
Voltage		V	230
Power		kW	1.5
Workpiece internal ∅ from		mm	20
Workpiece external ∅ up to		mm	160
maximum component weight		kg	10
Temperature control range		°C	20 – 180

The medium-sized simatherm® induction heating device for roller bearings and other ring-shaped metal parts up to 400 mm bore diameter. Roller bearings and other ring-shaped metal parts can be brought up to the 110 °C specified by the manufacturer under automatic control of time and temperature. Particularly compact design – only 35 kg in weight including 3 yokes.

Supplied with: Heating device, 3 yokes, temperature probe and thermal protection gloves.

86H 88 3965	Induction heating device		XXX
Voltage		V	230
Power		kW	3.7
Workpiece internal ∅ from		mm	20
Workpiece external ∅ up to		mm	400
maximum component weight		kg	80
Temperature control range		°C	20 – 250
Length		mm	420
Width		mm	280
Height		mm	345



simatool® Ball bearing insertion and fitting kit in a plastic case

Light but very robust aluminium impact sleeves in combination with 33 extremely impact resistant striking rings for bearing external ∅ from 26 - 110 mm and internal ∅ from 10 - 50 mm.
Dead-blow hammer with nylon inserts.
Supplied in a plastic case.

Application: Quick, precise, and safe installation of (roller) bearings thanks to **even application of force** on the bearing. Also suitable for fitting of bushes, sealing rings, and pulleys.

Content: 3 impact sleeves, ∅ 25; 40; 60 mm.
1 set striking rings internal ∅ 10 mm (external ∅ 26; 30; 35 mm)
1 set striking rings internal ∅ 12 mm (external ∅ 28; 32; 37 mm)
1 set striking rings internal ∅ 15 mm (external ∅ 32; 35; 42 mm)
1 set striking rings internal ∅ 17 mm (external ∅ 35; 40; 47 mm)
1 set striking rings internal ∅ 20 mm (external ∅ 42; 47; 52 mm)
1 set striking rings internal ∅ 25 mm (external ∅ 47; 52; 62 mm)
1 set striking rings internal ∅ 30 mm (external ∅ 55; 62; 72 mm)
1 set striking rings internal ∅ 35 mm (external ∅ 62; 72; 80 mm)
1 set striking rings internal ∅ 40 mm (external ∅ 68; 80; 90 mm)
1 set striking rings internal ∅ 45 mm (external ∅ 75; 85; 100 mm)
1 set striking rings internal ∅ 50 mm (external ∅ 80; 90; 110 mm).

88 4000

86H 88 4000	Ball bearing installation set in a plastic case	XXX

FACOM Centring tool for seals and bearing cages

Handle with mounted steel impact cap. Adjustable jaws of aluminium, secured using the hexagonal 3 AF socket supplied (4 AF for size 90).
3 steps per jaw for adjustment to suit all types of seals and bearing cages.
Size 50 – 9.5 – 23.5 mm; 23.5 – 36.5 mm; 36.5 – 50 mm.
Size 90 – 18 – 53 mm; 41 – 76 mm; 54 – 90 mm.

Application: Easily adjustable diameter for positioning and centring seals, bearings etc. For use on most vehicles including motor bikes.

88 4110_90

88 4110_50

Head ∅	mm	50	90
83H 88 4110	Seal centring tool	XXX	XXX
Diameter	mm	9.5 – 50	18 – 90
overall length	mm	175	210
Weight	g	280	834

Application example

Application example

KUKKO Bearing separator and extractor set in KUKKO L-BOXX®

Bearing separator made of premium tool steel in KUKKO L-BOXX® size 136.
Bearing separator: The quick-release semicircular jaws are symmetrically tensioned by a screw. This causes the wedge-shaped jaws to insert themselves between bearings and shaft.
Extractor: Used in conjunction with the separator to extract bearings from their seating (for this the draw bolts are screwed into the threaded holes in the separation jaws).

Application: For the separation of tightly wedged ball bearings, gears, etc., if the gap is too small for normal extraction arms.

Optimum matching of the spindle to the shaft thanks to the 2-ended spindle tips.

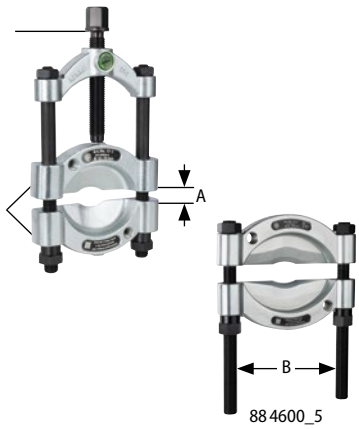
88 4500

Set		K	A	B	C
83U 88 4500	Bearing separator and extractor set in KUKKO L-BOXX®	XXX	XXX	XXX	XXX
Clamping range	mm	5 – 60	12 – 75	22 – 115	25 – 155
Weight including box	kg	4.3	5.6	8.6	14.2
Content: 1 bearing separator No. 884600		Size 0	Size 1	Size 2	Size 3
1 extractor No. 884700		Size 0	Size 1	Size 2	Size 3
1 pair of extension bolts		Size 0 / 1	Size 0 / 1	Size 2	Size 3

Application example

Bearing separator individual

Size 5 – The separation jaws are tensioned by tightening the nuts on the side spindles.
Size 0–3 – The semicircular separation jaws are symmetrically tensioned by a quick-release pressure spindle.



88 4600_5

Type		0	1	2	3	5
83U 88 4600	Bearing separator individual	XXX	XXX	XXX	XXX	XXX
Clamping range dimension A	mm	5 – 60	12 – 75	22 – 115	25 – 155	30 – 250
Spacing of side pins dimension B	mm	60	75	115	155	250
Connection thread for bearing extractor		M10	M10	M14×1.5	M18×1.5	G3/4

Bearing extractor individual for bearing separators No. 884600

88 4700

Type		0	1	2	3	5
83U 88 4700	Bearing extractor individual	XXX	XXX	XXX	XXX	XXX
Length of draw bolt	mm	180	270	280	360	530
Clamping depth	mm	120	200	190	260	370
Connection thread		M10	M10	M14×1.5	M18×1.5	G3/4
Suitable for: Bearing separator No. 884600.		0	1	2	3	5

Nut splitter

Mechanical nut splitter from splitting seized or overtightened nuts (up to strength class 6) without damaging the bolt thread.
The splitter chisel (with hardened blade) slides easily, without sticking.

88 4850

for nuts		M2-M6	M6-M12	M12-M18	M18-M24
83U 88 4850	Mechanical nut splitter	XXX	XXX	XXX	XXX
Chisel edge width	mm	8	12	14	16
Total length without spindle screw	mm	58.5	80	105	125
Jaw capacity	mm	4 – 10	10 – 18	19 – 27	27 – 36

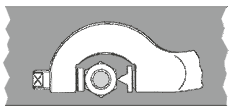
Nut splitter with hydraulic ram

With hydraulic ram for splitting jammed or seized nuts (grade 5 – 10) without damaging the bolts. Double curved, allowing operation even where access is difficult. With hardened chisel edge blade. Actuated by tightening the pressure screw. After the nut has been split, unscrew the nut pressure screw and push the chisel back to the stop. Size M18 – M30 for stainless steel nuts - up to M30 in strength class 8, up to M24 in strength class 10.

Note: The pressure screw may be tightened to a **maximum of 60 Nm** for sizes M4 – M14 to a **maximum of 70 Nm** for sizes M14 – M24 and to a **maximum of 120 Nm** for sizes M18 – M30. Do not exceed the tightening torques; excessive torque can break the tool and cause accidents.

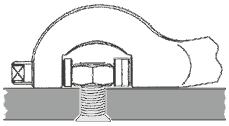
88 4900_M18-M30

Normal application method



88 4900_M4-M14

Space-saving method (chisel blade turned 90°).



88 4900_M14-M24

for nuts		M4-M14	M14-M24	M18-M30
83U 88 4900	Nut splitter	XXX	XXX	XXX
83U 88 4910	Spare chisel edge bit	XXX	XXX	XXX
Chisel edge width	mm	18	30	37
Total length without spindle screw (88 4900)	mm	185	350	210
Jaw capacity (88 4900)	mm	7 – 24	22 – 36	27 – 46

88 4910

EFORM – THE ONLINE CONFIGURATION TOOL

The **eForm Online configurator** with its many technical refinements offers you the ideal basis for designing your tailor-made rigid foam inlays. As it has done for many years.

Individual on-line planning:

Our on-line configurator allows you to design your own individual rigid foam inlays. You determine where each tool is placed.

Easy handling:

No complicated downloading of software. Use drag-and-drop to select your items from amongst over 53,400 tools or tool contours in the familiar Hoffmann Group item classes, insert them and position them as you wish.

Cost transparency:

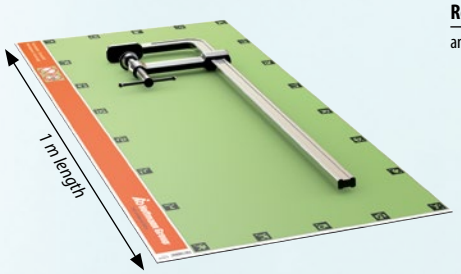
Online calculation, quotation, consistent scanning costs and a project archive. Ready configured rigid foam inlays can be re-ordered without problems, at a top price-performance ratio.

Further information about our **eForm online configurator** and our rigid foam inlays can be found in our brochure:

Individual stock control tool

So you wish to plan your tools within rigid foam inlays? No problem!

Just lay the tools on a Hoffmann Group scanning template (DIN A3 scanning template for a tool No. KD5009), photograph them, arrange them – done!



You can also do this for extra-large tools: ***XXL scanning pad*** *1000×400 mm, No. KD5013.*

Multiple scanning pad *600×600 mm, No. KD5011.*

See immediately

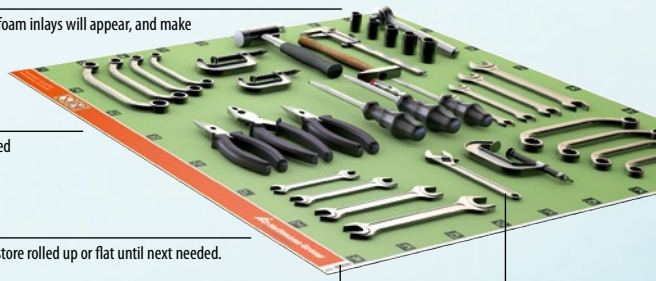
how the subsequent rigid foam inlays will appear, and make adjustments directly.

All products

on the template are scanned simultaneously.

Reusable

and space-saving. Simply store rolled up or flat until next needed.



Special coding

recognisable by eForm software.

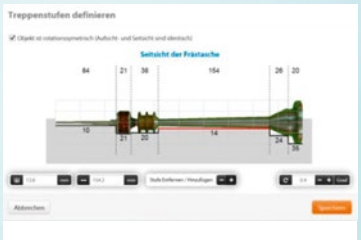
Simple and convenient

Determine the position of the individual objects on the mat.

3D milling steps even for your individual tools!

Do you need the perfect depth in 3D rigid foam to suit your existing tools? Various milled depths in the foam define the ideal positioning of the tools.

A 3D foam inlay can be created for each of your existing tools via the online configuration tool, without long tool downtime.



Garant RIGID FOAM INLAYS FOR GARANT GRIDLINE

GRID LINE

This is how to find your desired foam inlay:

1. Seek out suitable tools for your requirements

■ **Rigid foam inlays for workbenches, tool cabinets and other cabinets**

– Rigid foam inlays **for measuring tools** p. 921
– Rigid foam inlays for **files** p. 922
– Rigid foam inlays for **spanners (ring spanners and open-ended spanners)** p. 924
– Rigid foam inlays for **sockets** p. 929
– Rigid foam inlays for **hexagon key L-wrenches** p. 931
– Rigid foam inlays for **screwdrivers for Torx® screws** p. 932
– Rigid foam inlays for **screwdrivers** (slot-head and Phillips) p. 936
– Rigid foam inlays for **socket sets** p. 940
– Rigid foam inlays for **torque wrenches** p. 947
– Rigid foam inlays for **pliers** p. 948
– Rigid foam inlays for **cable processing tools** p. 951
– Rigid foam inlays for **tools fully insulated to VDE standards** p. 952
– Rigid foam inlays for **impact tools** p. 954
– Rigid foam inlays for various **tool selections** p. 956
- Rigid foam inlay basic set **for one complete drawer of the roller cabinet 20×16G** p. 962
– Rigid foam inlay for basic set **for several drawers of the roller cabinet 20×16G** p. 964
– Rigid foam inlay basic set for **one complete drawer 20×20G** p. 965

■ **Rigid foam inlays for shadowboards**

– Shadowboard **depth 115 mm** p. 966
– Shadowboard **depth 176 mm** p. 969

2. Seek out the desired size

Available sizes of foam inlays:
The new GridLine foam inlays are available in 3 widths:

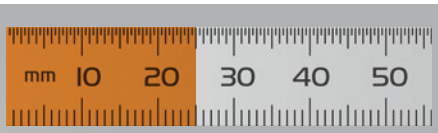
Note: Drawer front height must be at least 75 mm. Check the respective article to determine if a different front height such as 100 mm is required.

6 G	8 G	10 G
6G 8G	8G 8G	10G 10G
6G 10G	8G 10G	10G 16G
6G 16G	8G 16G	10G 20G
6G 20G	8G 20G	10G 24G
6G 24G	8G 24G	
Depths: 8, 10, 16, 20 and 24 G	**Depths: 8, 10, 16, 20 and 24 G**	**Depths: 10, 16, 20 and 24 G**

The foam inlays **16**, **20** and **24 G** match the corresponding drawer depths.
This facilitates the filling of drawers with rigid foam inlays.

New size concept – 1 G = 25 mm:

The colour markings of the size fields for drawer internal dimensions can also be seen on the drawers for tool cabinets and other cabinets, thus clearly indicating which dividing material fits which drawers.

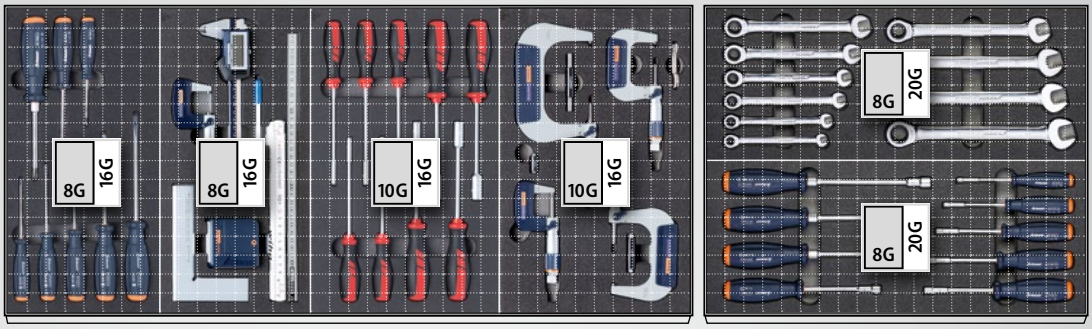


1 G = 25 mm

Here we give you examples of how to fill the various drawer sizes:

Usable drawer depth

16 G
(400 mm)

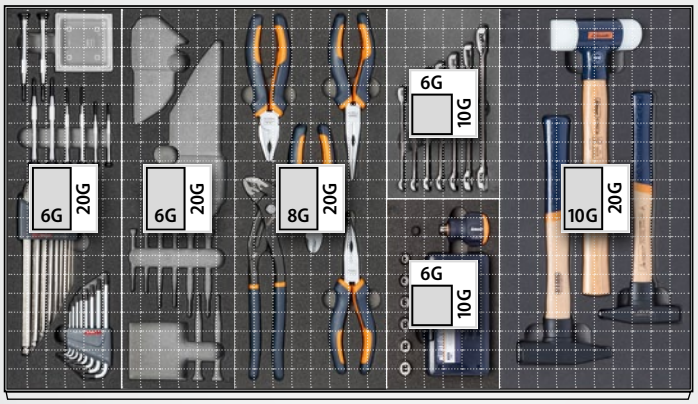


Drawer usable width × usable depth in G

16×16 G
26×16 G
36×16 G
20×16 G

Usable drawer depth

20 G
(500 mm)

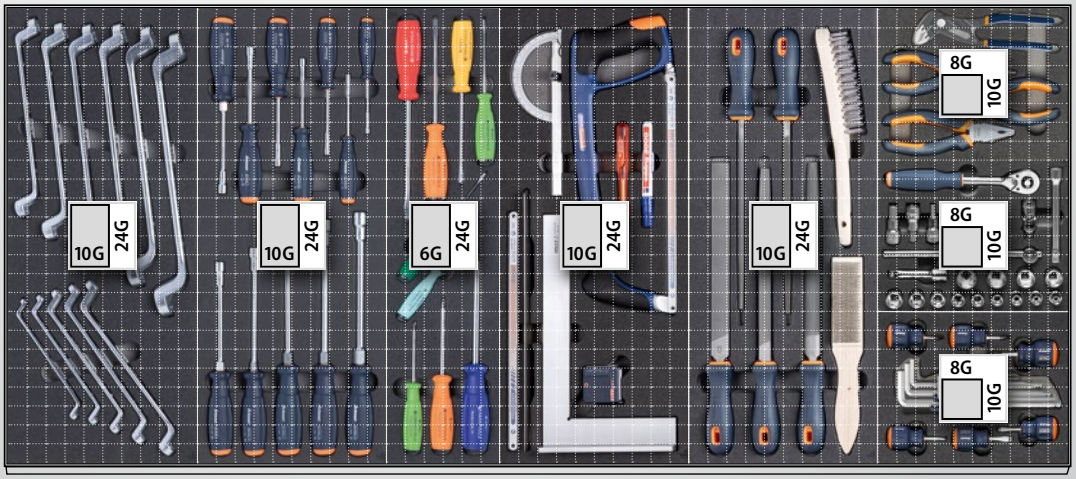


Drawer usable width × usable depth in G

12×20 G
20×20 G
26×20 G
36×20 G

Usable drawer depth

24 G
(600 mm)



Drawer usable width × usable depth in G

20×24 G
26×24 G
36×24 G
46×24 G
56×24 G

LD 45 / 30

Rigid foam inlay measuring tools

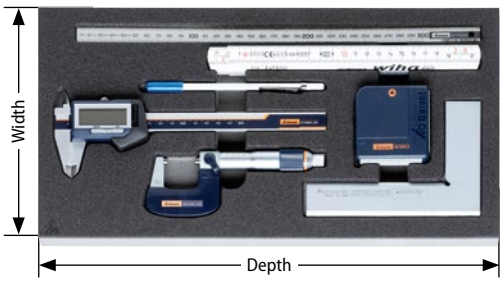
GRID LINE

6G 24G | 100 mm

Number of tools		7
91A **95 2048**	Measuring tools set	(XXX)
Width	mm	150
Depth	mm	600
Width in G		6
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952048		1 pc.
HOLEX vernier caliper No. 410200 size 150		1 pc.
HOLEX try square No. 452600 size 150×100		1 pc.
HOLEX carbide scriber No. 458800		1 pc.
HOLEX steel rule No. 461805 size 300		1 pc.
GARANT tape measure No. 462201 size 2.5		1 pc.
WIHA folding rule No. 466200 size 2		1 pc.
HOLEX aluminium spirit level No. 467435 size 400		1 pc.

8G 16G

Number of tools		7
91A **95 2070**	Measuring tools set	(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 952070		1 pc.
GARANT digital caliper No. 412680 size 150		1 pc.
GARANT external micrometer No. 420402 size 0-25		1 pc.
GARANT bevel edge square No. 450010 size 150×100		1 pc.
HOLEX carbide scriber No. 458800		1 pc.
GARANT steel rule No. 461770 size 300		1 pc.
GARANT tape measure No. 462210 size 3		1 pc.
WIHA plastic folding rule No. 466200 size 2		1 pc.



8G 20G

Number of tools		5
91A **95 2072**	Measuring tools set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952072		1 pc.
GARANT digital caliper No. 412680 size 150		1 pc.
GARANT stock square No. 451030 size 150×100		1 pc.
HOLEX protractor No. 453000 size 80×120		1 pc.
GARANT workshop straight edge No. 461170 size 400		1 pc.
GARANT tape measure No. 462210 size 3		1 pc.

8G 20G

Number of tools		6
91A **95 2073**	Measuring tools set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952073		1 pc.
GARANT digital caliper No. 412680 size 150		1 pc.
GARANT external micrometer No. 420402 size 0-25		1 pc.
GARANT bevel edge square No. 450010 size 150×100		1 pc.
HOLEX protractor No. 453000 size 120×150		1 pc.
GARANT workshop straight edge No. 461170 size 400		1 pc.
GARANT tape measure No. 462210 size 3		1 pc.

8G 20G

Number of tools		7
91A **95 2078**	Measuring tools set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952078		1 pc.
HOLEX caliper No. 410200 size 150		1 pc.
HOLEX try square No. 452600 size 150×100		1 pc.
HOLEX carbide scriber No. 458800		1 pc.
HOLEX steel rule No. 461805 size 300		1 pc.
GARANT tape measure No. 462201 size 2.5		1 pc.
WIHA plastic ruler 2 m No. 466200 size 2		1 pc.
HOLEX spirit level No. 467436 size 400		1 pc.

8G 24G

Number of tools		8
91A **95 2083**	Measuring tools set	(XXX)
Width	mm	200
Depth	mm	600
Width in G		8
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952083		1 pc.
HOLEX vernier caliper No. 410200 size 150		1 pc.
HOLEX try square No. 452600 size 150×100		1 pc.
HOLEX protractor No. 453000 size 120×150		1 pc.
HOLEX carbide scriber No. 458800		1 pc.
HOLEX steel rule No. 461805 size 300		1 pc.
GARANT tape measure No. 462201 size 2.5		1 pc.
WIHA plastic folding rule No. 466200 size 2		1 pc.
HOLEX spirit level with magnet No. 467436 size 400		1 pc.

10G 16G

Number of tools		4
91A **95 2095**	Garant Micrometer set	(XXX)
Width	mm	250
Depth	mm	400
Width in G		10
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 952095		1 pc.
GARANT external micrometer No. 420402 size 0-25; 25-50; 50-75; 75-100		1 pc. each

95

LD 45 30

Rigid foam inlay for files

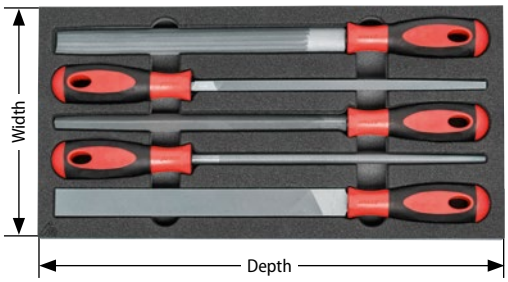
GRID LINE

8G 16G

Number of tools		5
91A **95 2205**	Garant Workshop file set	(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 952205		1 pc.
GARANT set of files, 5 pieces, No. 517411 size 200		1 pc.

8G 16G

Number of tools		5
91A 95 2210 HOLEX Workshop file set		(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 952210		1 pc.
HOLEX set of files, 5 pieces, No. 517420 size 250		1 pc.



8G 20G

Number of tools		5
91A 95 2215 Workshop file set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952215		1 pc.
Workshop files set, 5 pieces, No. 517200 size 250		1 pc.

8G 20G

Number of tools		10
91A 95 2218 Workshop file set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952218		1 pc.
Key file set 6 pieces, No. 518970		1 pc.
Wire brush No. 575000 size 3		1 pc.
File brush No. 576000 size 100×25		1 pc.
PUK saw, adjustable No. 581200		1 pc.
Pack of PUK saw blades, 12 pieces, metal No. 581250		1 pc.

10G 20G

Number of tools		6
91A 95 2253 File set		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952253		1 pc.
Set of files, 5 pieces, No. 517411 size 250		1 pc.
File brush No. 576000 size 100×25		1 pc.

10G 24G

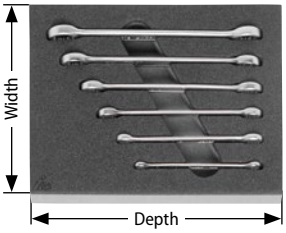
Number of tools		7
91A 95 2263 Workshop file set		(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952263		1 pc.
Set of files, 5 pieces, No. 517411 size 250		1 pc.
Wire brush No. 575000 size 3		1 pc.
File brush No. 576000 size 115×40		1 pc.

LD 45 30

Rigid foam inlay spanners (ring spanners and open-ended spanners)

6G 8G

Number of tools		6
91A 95 2309 HOLEX Double-ended ring spanner set		(XXX)
Width	mm	150
Depth	mm	200
Width in G		6
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 952309		1 pc.
HOLEX double-ended ring spanners No. 617950 size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17		1 pc. each



6G 10G

Number of tools		7
91A 95 2315 Garant Open-ended / ratchet ring spanner set		(XXX)
Width	mm	150
Depth	mm	250
Width in G		6
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 952315		1 pc.
GARANT open ended / ratchet ring spanner No. 614800 size 8; 9; 10; 11; 13; 14; 16		1 pc. each

6G 16G

Number of tools		9
91A 95 2325 Garant Combination spanner set		(XXX)
Width	mm	150
Depth	mm	400
Width in G		6
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 952325		1 pc.
GARANT combination spanner set No. 613610 size 9 (5.5; 7; 8; 10; 13; 16; 17; 18; 19)		1 pc.

6G 24G

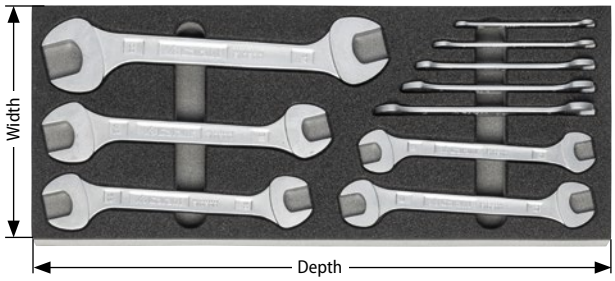
Number of tools		11
91A 95 2365 Garant Open-ended / ratchet ring spanner set		(XXX)
Width	mm	150
Depth	mm	600
Width in G		6
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952365		1 pc.
GARANT open ended / ratchet ring spanner No. 614800 size 8; 9; 10; 11; 12; 13; 14; 16; 17; 18; 19		1 pc. each

8G 8G

Number of tools		5
91A 95 2385 Garant Open ended spanner set		(XXX)
Width	mm	200
Depth	mm	200
Width in G		8
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 952385		1 pc.
GARANT double open-ended spanner No. 610600 size 4×5; 6×7; 8×9; 10×11; 12×13		1 pc. each

8G 20G

Number of tools		10
91A 95 2422	Garant Open ended spanner set	XXX
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952422		1 pc.
GARANT double open-ended spanner set No. 610610 size 10 (6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×24; 27×30)		1 pc.



8G 20G

Number of tools		10
91A 95 2425	Garant Ratchet ring spanner set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952425		1 pc.
GARANT open ended / ratchet ring spanner set No. 614810 size 10; (8; 9; 10; 11; 13; 14; 16; 17; 18; 19)		1 pc.

8G 20G

Number of tools		19
91A 95 2428	Garant Combination spanner set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952428		1 pc.
GARANT combination spanner set, No. 613610 size 19 (5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24)		1 pc.

8G 20G

Number of tools		10
91A 95 2432	HOLEX Open ended spanner set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952432		1 pc.
HOLEX double open-ended spanner set No. 610960 size 10 (6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×24; 27×30)		1 pc.

8G 20G 100 mm

Number of tools		19
91A 95 2435	HOLEX Combination spanner set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952435		1 pc.
HOLEX combination spanner set, No. 613960 size 19 (5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24)		1 pc.

8G 20G

Number of tools		11
91A 95 2440	Wera JOKER ratchet ring spanner set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952440		1 pc.
WERA open ended / ratchet ring spanner No. 614870 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19		1 pc. each

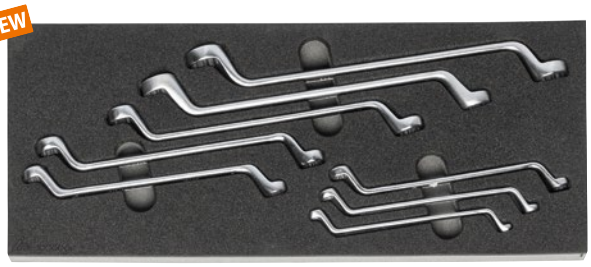
8G 20G

Number of tools		8
91A 95 2443	Garant Double-ended ring spanner set, cranked	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952443		1 pc.
GARANT double-ended ring spanner deep cranked no. 615600 size 6×7; 8×9; 10×11; 12×13; 14×17; 16×18; 19×22; 24×27		1 pc. each

8G 20G

Number of tools		8
91A 95 2445	HOLEX Double-ended ring spanner set, cranked	XXX
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952445		1 pc.
GARANT double-ended ring spanner deep cranked no. 615950 size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×21; 19×22		1 pc. each

NEW

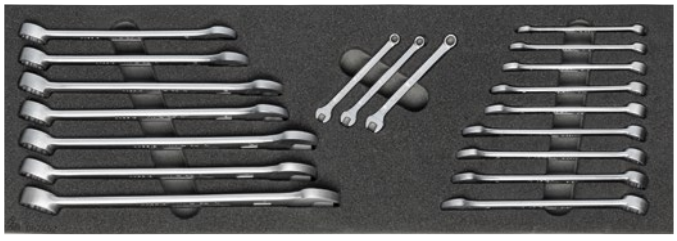


8G 20G

Number of tools		11
91A 95 2447	HOLEX Double-ended ring spanner set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952447		1 pc.
HOLEX double-ended ring spanner set No. 617960 size 11 (6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×24; 27×32; 30×34)		1 pc.

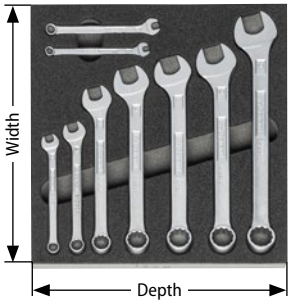
8G 24G 100 mm

Number of tools		19
91A 95 2452	Garant Combination spanner set	(XXX)
Width	mm	200
Depth	mm	600
Width in G		8
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952452		1 pc.
GARANT combination spanner No. 613600 size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24		1 pc. each



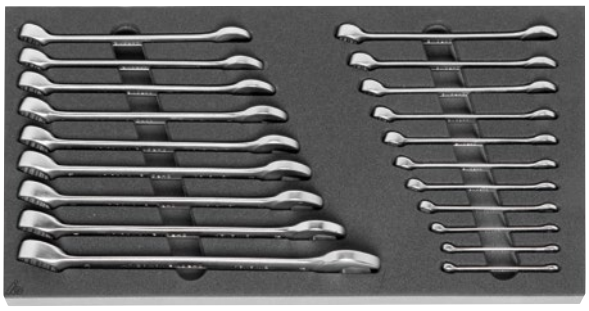
10G
10G

Number of tools		9
91A 95 2462 Garant Combination spanner set		(XXX)
Width	mm	250
Depth	mm	250
Width in G		10
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 952462		1 pc.
GARANT combination spanner No. 613600 size 5.5; 7; 8; 10; 13; 16; 17; 18; 19		1 pc. each



10G 20G 100 mm

Number of tools		20
91A 95 2505 HOLEX Combination spanner set		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952505		1 pc.
HOLEX combination spanner No. 613950 size 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24; 27		1 pc. each



10G 20G 100 mm

Number of tools		19
91A 95 2508 STAHLWILLE Combination spanner set		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952508		1 pc.
STAHLWILLE combination spanner set, no. 613510 size 19 (5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 24)		1 pc.

10G 24G

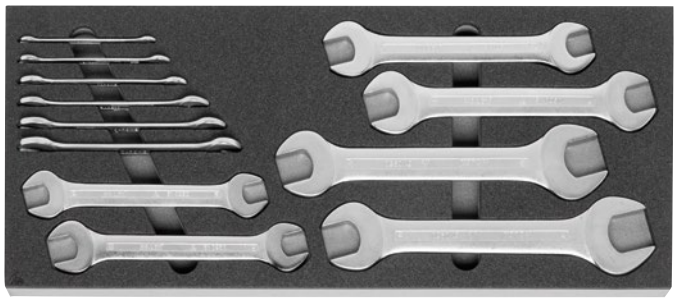
Number of tools		11
91A 95 2523 Garant Open ended spanner set		(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952523		1 pc.
GARANT double open-ended spanner No. 610600 size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×23; 24×27; 30×32		1 pc. each

10G 24G

Number of tools		11
91A 95 2525 Garant Double-ended ring spanner set, cranked		(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952525		1 pc.
GARANT double-ended ring spanner, deep cranked No. 615600 size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×23; 24×26; 27×30		1 pc. each

10G 24G

Number of tools		12
91A 95 2535 HOLEX Open ended spanner set		(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952535		1 pc.
HOLEX open ended spanner set No. 610960 size 12 (6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19; 20×22; 21×23; 24×26; 27×32; 30×34)		1 pc.



LD 45 30

GRID LINE

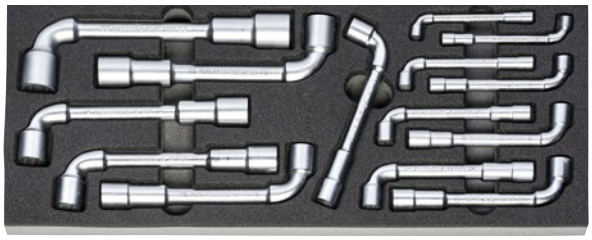
Rigid foam inlay for sockets

6G 24G

Number of tools		9
91A 95 2625 HOLEX Nut spinner set		(XXX)
Width	mm	150
Depth	mm	600
Width in G		6
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952625		1 pc.
HOLEX nut spinner set with handle No. 622211 size 9 (4; 4.5; 5; 5.5; 6; 7; 8; 9; 10)		1 pc.

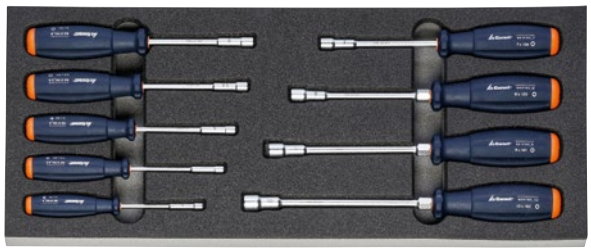
8G 20G

Number of tools		14
91A 95 2651 HOLEX Tubular socket wrench set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952651		1 pc.
HOLEX socket wrench, angled No. 621340 size 6; 7; 8; 9; 10; 11; 12; 13; 14; 16; 17; 18; 19; 22		1 pc. each



8G 20G

Number of tools		9
91A 95 2654 Garant Nut spinner set		(XXX)
Width	mm	500
Depth	mm	200
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952654		1 pc.
GARANT nut spinner No. 622160 size 9 (4; 4.5; 5; 5.5; 6; 7; 8; 9; 10)		1 pc.

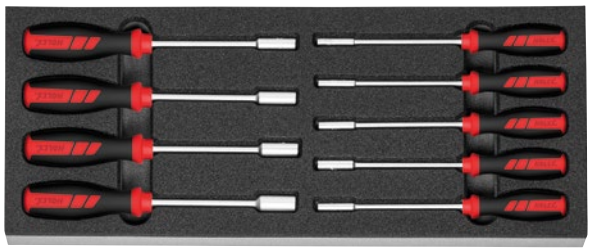


8G 20G

Number of tools		5
91A 95 2657 Garant Nut spinner set with T-handle		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952657		1 pc.
GARANT nut spinner No. 622550 size 8; 10; 11; 12; 13		1 pc. each

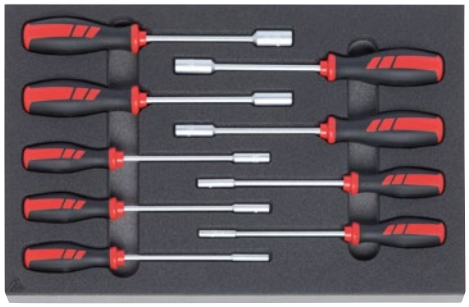
8G 20G

Number of tools		9
91A 95 2661	HOLEX Nut spinner set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952661		1 pc.
HOLEX nut spinner set No. 622211 size 9 (4; 4.5; 5; 5.5; 6; 7; 8; 9; 10)		1 pc.



10G 16G

Number of tools		9
91A 95 2725	HOLEX Nut spinner set	(XXX)
Width	mm	250
Depth	mm	400
Width in G		10
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 952725		1 pc.
HOLEX nut spinner set No. 622211 size 9 (4; 4.5; 5; 5.5; 6; 7; 8; 9; 10)		1 pc.



10G 24G

Number of tools		12
91A 95 2752	Garant Nut spinner set	(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 952752		1 pc.
GARANT nut spinner with handle No. 622160 size 12 (4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13)		1 pc.

Garant Foam inlays for roller cabinets

Foam inlays that fill a complete drawer of the roller cabinet can be found on pages 961 – 963.
They make it even easier to equip the drawers with tools.

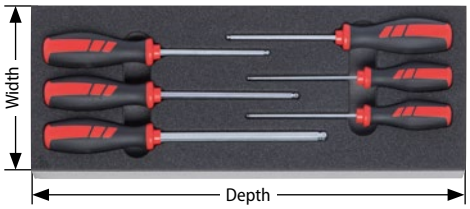
LD 45 / 30

GRID LINE

Rigid foam inlay for hexagon screwdrivers

6G 16G

Number of tools		6
91A 95 2835 HOLEX	Hexagon ball-point screwdriver set	(XXX)
Width	mm	150
Depth	mm	400
Width in G		6
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 952835		1 pc.
HOLEX hexagon ball point screwdriver No. 627511 size 2.5; 3; 4; 5; 6; 8		1 pc. each

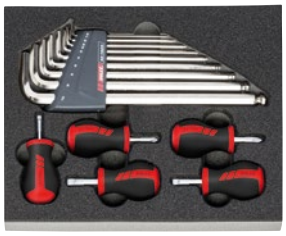


8G 10G

Number of tools		15
91A 95 2891 Garant	Hexagon key L-wrenches / short screwdrivers	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 952891		1 pc.
GARANT hexagon key L-wrench set No. 627132 size 9		1 pc.
GARANT short screwdriver set No. 664120 size 4; 5.5; 6.5		1 pc. each
GARANT stub screwdriver for Phillips No. 667720 size 0; 1; 2		1 pc. each

8G 10G

Number of tools		14
91A 95 2896 HOLEX	Hexagon key L-wrenches / short screwdrivers	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 952896		1 pc.
HOLEX hexagon key L-wrench set, No. 627225 size 9		1 pc.
HOLEX stub screwdriver for Phillips No. 668471 size 1; 2		1 pc. each
HOLEX short screwdriver set No. 664201 size 4; 5.5; 6.5		1 pc. each



8G 20G

Number of tools		17
91A 95 2919 HOLEX	Hexagon key L-wrenches / screwdriver set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952919		1 pc.
HOLEX hexagon key L-wrench set No. 627225 size 9		1 pc.
HOLEX slot-head screwdriver No. 660701 size 2.5; 3.5; 5.5; 7; 8		1 pc. each
HOLEX screwdriver for Phillips No. 668401 size 0; 1; 2		1 pc. each

8G 20G

Number of tools		7
91A 95 2921 Garant	Hexagon screwdriver set with T-handle	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952921		1 pc.
GARANT hexagon screwdriver No. 627423 size 2.5		1 pc.
GARANT hexagon screwdriver No. 627424 size 3; 4; 5; 6; 8; 10		1 pc. each

8G 20G

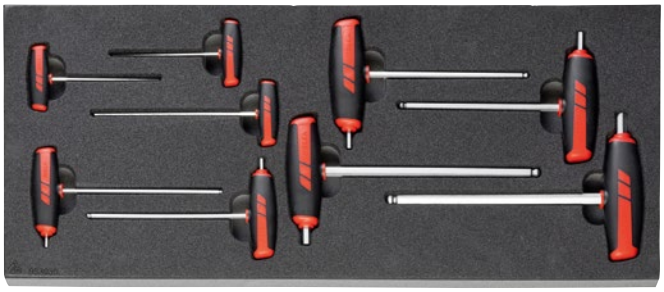
Number of tools		7
91A 95 2926	HOLEX Hexagon screwdriver set with T-handle	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952926		1 pc.
HOLEX hexagon screwdriver No. 627481, size 2; 2.5		1 pc. each
HOLEX hexagon screwdriver No. 627484 size 3; 4; 5; 6; 8		1 pc. each

8G 20G

Number of tools		8
91A 95 2931	PB SWISS TOOLS 3-way hexagon screwdriver set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 952931		1 pc.
PB SWISS TOOLS 3-way hexagon screwdriver No. 627391 size 2; 2.5; 3; 4; 5; 6; 8; 10		1 pc. each

10G 24G

Number of tools		9
91A 95 3035	HOLEX Hexagon screwdriver set with T-handle	(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953035		1 pc.
HOLEX hexagon screwdriver with T-handle No. 627481, size 2; 2.5; 3		1 pc. each
HOLEX hexagon screwdriver with ball point No. 627484 size 3; 4; 5; 6; 8; 10		1 pc. each



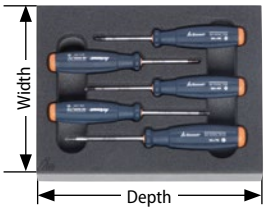
LD 45 30

Rigid foam inlay for screwdrivers for Torx® screws

GRID LINE

6G 8G

Number of tools		5
91A 95 3062	Garant Screwdriver set for Torx®	(XXX)
Width	mm	150
Depth	mm	200
Width in G		6
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 953062		1 pc.
GARANT screwdriver for Torx® No. 625330 size TX6; TX7; TX8; TX9; TX10		1 pc. each



6G 24G

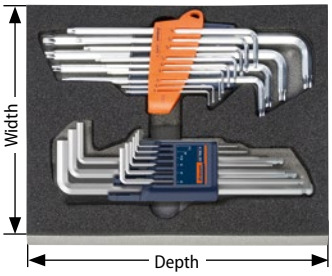
Number of tools		9
91A 95 3115	Garant Screwdriver set for Torx®	(XXX)
Width	mm	150
Depth	mm	600
Width in G		6
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953115		1 pc.
GARANT screwdriver set for Torx® No. 625331 size 9 (TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX30)		1 pc.

6G 24G

Number of tools		9
91A 95 3120	Garant Screwdriver set for Torx®, with T-handle	(XXX)
Width	mm	150
Depth	mm	600
Width in G		6
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953120		1 pc.
GARANT screwdriver for Torx® No. 625150 size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX30		1 pc. each

8G 10G

Number of tools		22
91A 95 3141	Garant L-wrenches for Torx® and hexagon key L-wrenches	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953141		1 pc.
GARANT hexagon key L-wrench set No. 627132 size 9		1 pc.
GARANT L-wrench set for Torx® no. 625025 size 13 (TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45)		1 pc.

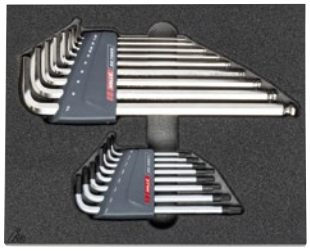


8G 10G

Number of tools		16
91A 95 3144	PB SWISS TOOLS L-wrenches for Torx® and hexagon key L-wrenches	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953144		1 pc.
PB SWISS TOOLS L-wrench No. 627140 size 1.5; 2; 3; 4; 5; 6; 8; 10		1 pc. each
PB SWISS TOOLS Torx® key L-wrench No. 624850 size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25		1 pc. each

8G 10G

Number of tools		17
91A 95 3147	HOLEX L-wrenches for Torx® and hexagon key L-wrenches	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953147		1 pc.
HOLEX hexagon key L-wrench set, No. 627225 size 9		1 pc.
HOLEX L-wrench set for Torx® no. 624921 size 8 (TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40)		1 pc.

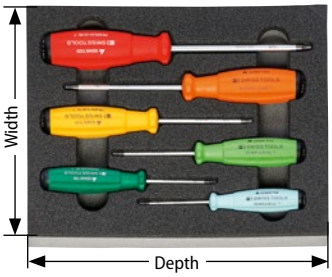


8G 10G

Number of tools		7
91A 95 3151	Garant Screwdrivers for Torx®	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953151		1 pc.
GARANT screwdriver set for Torx® No. 625331 size 7 (TX6; TX7; TX8; TX9; TX10; TX15; TX20)		1 pc.

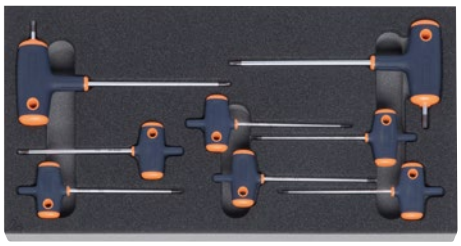
8G 10G

Number of tools		6
91A **95 3154**	PB SWISS TOOLS Screwdrivers for Torx®	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953154		1 pc.
PB SWISS TOOLS screwdriver for Torx® No. 625405 size TX8; TX9; TX10; TX15; TX20; TX25		1 pc. each



8G 16G

Number of tools		8
91A **95 3170**	Garant Screwdriver set for Torx®, with T-handle	(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 953170		1 pc.
GARANT screwdriver for Torx® No. 625150 size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25		1 pc. each



8G 20G

Number of tools		15
91A **95 3181**	Garant Screwdrivers for Torx® and hexagon screwdrivers	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953181		1 pc.
GARANT hexagon screwdriver, No. 627451, size 2; 2.5		1 pc. each
GARANT hexagon screwdriver No. 627453 size 3; 4; 5; 6; 8		1 pc. each
GARANT screwdriver for Torx® No. 625330 size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25		1 pc. each

8G 20G

Number of tools		9
91A **95 3185**	Garant Screwdrivers for Torx® with T-handle	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953185		1 pc.
GARANT screwdriver for Torx® No. 625150 size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX30		1 pc. each

8G 20G

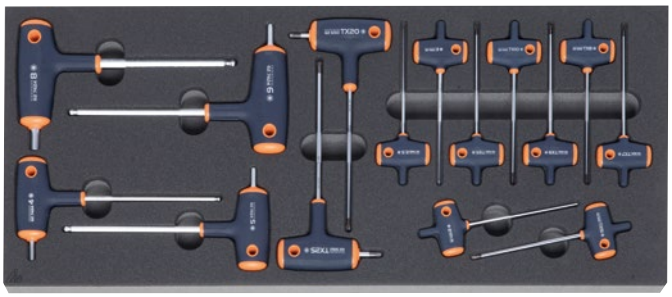
Number of tools		14
91A **95 3190**	HOLEX Screwdrivers for Torx® and hexagon screwdrivers	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953190		1 pc.
HOLEX hexagon screwdriver No. 627511 size 2.5; 3; 4; 5; 6; 8		1 pc. each
HOLEX screwdriver for Torx® No. 625701 size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25		1 pc. each

8G 24G

Number of tools		31
91A 95 3201	Garant Screwdriver set	(XXX)
Width	mm	200
Depth	mm	600
Width in G		8
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953201		1 pc.
GARANT L-wrench set for Torx® no. 625025 size 13 (TX5; TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45)		1 pc.
GARANT hexagon key L-wrench set No. 627132 size 9		1 pc.
GARANT screwdriver No. 660030 size 2; 2.5; 3.5; 4; 5.5		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 00; 0; 1; 2		1 pc. each

10G 24G

Number of tools		15
91A 95 3285	Garant Torx® screwdriver set with T-handle	(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953285		1 pc.
GARANT screwdriver for Torx® No. 625150 size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25		1 pc. each
GARANT hexagon screwdriver with T-handle No. 627423 size 2; 2.5; 3; 4; 5; 6; 8		1 pc. each

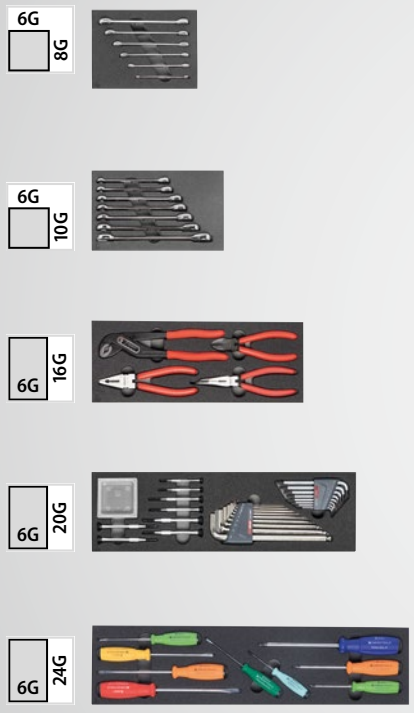


Seek out the desired size

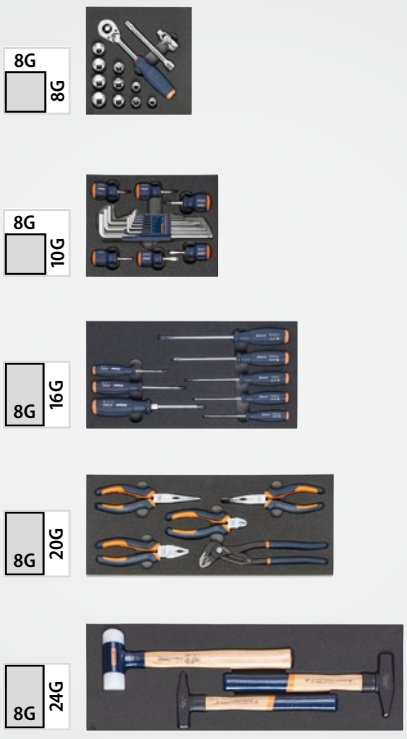
Available sizes of foam inlays

The new GridLine foam inlays are available in 3 widths:

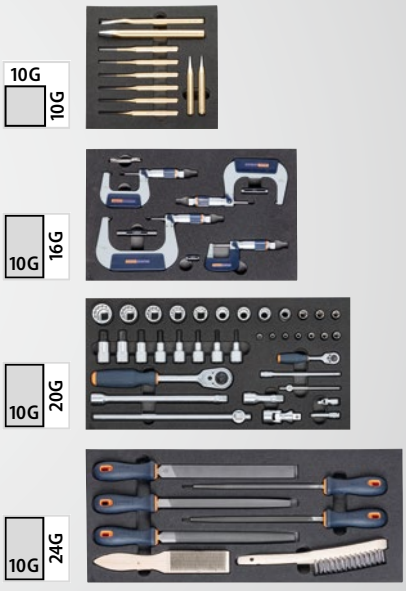
6 G



8 G



10 G



Depths: 8, 10, 16, 20 and 24 G

Depths: 8, 10, 16, 20 and 24 G

Depths: 10, 16, 20 and 24 G

The foam inlays **16**, **20** and **24 G** match the corresponding drawer depths.
This facilitates the filling of drawers with rigid foam inlays.

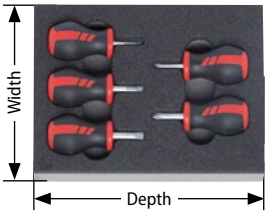
LD 45 / 30

Rigid foam inlay for screwdrivers (slot-head and Phillips)

GRID LINE

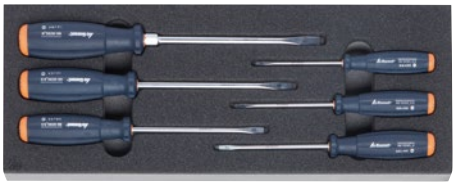
6G / 8G

Number of tools		5
91A 95 3307 HOLEX Screwdriver set		(XXX)
Width	mm	150
Depth	mm	200
Width in G		6
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 953307		1 pc.
HOLEX short slot-head screwdriver No. 664201 size 4; 5.5; 6.5		1 pc. each
HOLEX stub screwdriver for Phillips No. 668471 size 1; 2		1 pc. each



6G / 16G

Number of tools		6
91A 95 3325 Garant Screwdriver set		(XXX)
Width	mm	150
Depth	mm	400
Width in G		6
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 953325		1 pc.
GARANT slot-head screwdriver No. 660030 size 2.5; 3.5; 4; 5.5; 6.5; 8		1 pc. each



6G / 24G

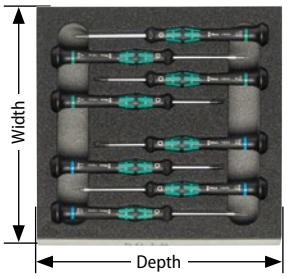
Number of tools		10
91A 95 3370 Wera Screwdriver set		(XXX)
Width	mm	150
Depth	mm	600
Width in G		6
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953370		1 pc.
WERA slot-head screwdriver No. 662200 size 2.5; 3; 3.5; 4; 5.5; 6.5		1 pc. each
WERA screwdriver for Phillips No. 668260 size 0; 1; 2; 3		1 pc. each

6G / 24G

Number of tools		9
91A 95 3372 PB SWISS TOOLS Screwdriver set		(XXX)
Width	mm	150
Depth	mm	600
Width in G		6
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953372		1 pc.
PB SWISS TOOLS slot-head screwdriver No. 660040 size 3.5; 4; 5.5; 6.5; 8		1 pc. each
PB SWISS TOOLS screwdriver for Phillips No. 667695 size 0; 1; 2; 3		1 pc. each

8G
8G

Number of tools		8
91A 95 3386 Wera Electronics screwdriver set		(XXX)
Width	mm	200
Depth	mm	200
Width in G		8
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 953386		1 pc.
WERA electronics screwdriver for Torx® No. 625770 size TX5; TX6; TX8; TX10		1 pc. each
WERA electronics screwdriver No. 627470 size 0.9; 1.3; 1.5; 2		1 pc. each



8G
10G

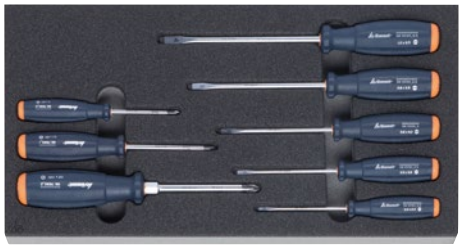
Number of tools		9
91A 95 3391 Garant Screwdriver set		(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953391		1 pc.
GARANT slot-head screwdriver No. 660030 size 2; 2.5; 3.5; 4; 5.5		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 00; 0; 1; 2		1 pc. each

8G
10G

Number of tools		11
91A 95 3396 Wera Micro screwdriver set		(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953396		1 pc.
WERA hexagon electronics screwdriver No. 627470 size 0.9; 1.3; 1.5; 2; 2.5		1 pc. each
WERA electronics slot-head screwdrivers No. 664600 size 1.2; 1.5; 2; 2.5		1 pc. each
WERA electronics screwdriver for Phillips No. 668800 size 00; 0		1 pc. each

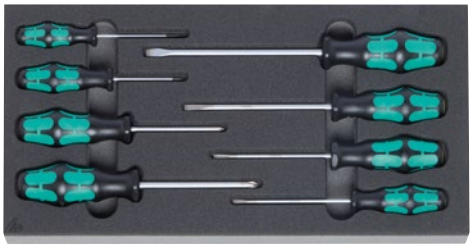
8G
16G

Number of tools		8
91A 95 3415 Garant Screwdriver set		(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 953415		1 pc.
GARANT slot-head screwdriver No. 660030 size 2.5; 3.5; 4; 5.5; 6.5		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 0; 1; 2		1 pc. each



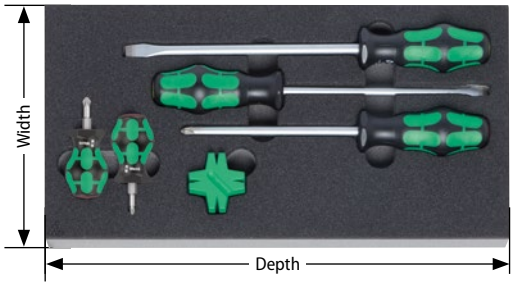
8G
16G

Number of tools		8
91A 95 3420 Wera Screwdriver set		(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 953420		1 pc.
WERA slot-head screwdriver No. 662200 size 2.5; 3.5; 4; 5.5; 6.5		1 pc. each
WERA screwdriver for Phillips No. 668260 size 0; 1; 2		1 pc. each



8G 16G

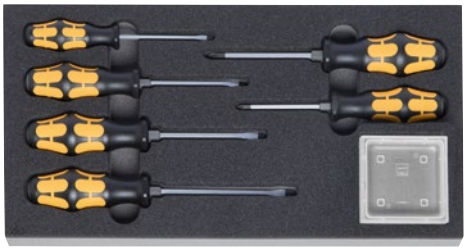
Number of tools		6
91A 95 3421 Wera Screwdriver set		(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 953421		1 pc.
WERA slot-head screwdriver No. 662200 size 8; 10		1 pc. each
WERA screwdriver for Phillips No. 668260 size 1S; 2S; 3		1 pc. each
WERA magnetic retainer No. 666450		1 pc.



8G 16G

Number of tools		7
91A 95 3423 Wera Screwdrivers with impact cap		(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 953423		1 pc.
WERA slot-head screwdriver No. 660300 size 3.5; 4.5; 5.5; 7		1 pc. each
WERA screwdriver for Phillips No. 668300 size 1; 2		1 pc. each
GARANT easyPick small parts storage bin No. 951211 size 3×3/1		1 pc.

With impact cap



8G 20G

Number of tools		13
91A 95 3431 Garant Screwdriver set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953431		1 pc.
GARANT slot-head screwdriver No. 660030 size 2; 2.5; 3.5; 4; 5.5; 6.5; 8; 10		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 00; 0; 1; 2; 3		1 pc. each

8G 20G

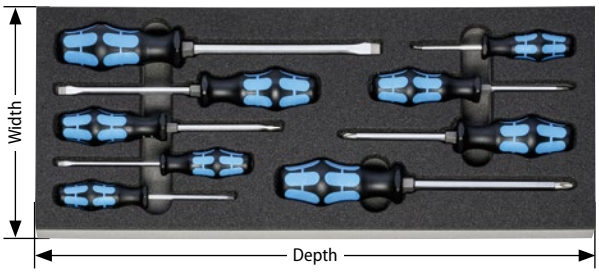
Number of tools		10
91A 95 3435 PB SWISS TOOLS Screwdriver set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953435		1 pc.
PB SWISS TOOLS slot-head screwdriver No. 660040 size 3.5; 4; 5.5; 6.5; 8; 10		1 pc. each
PB SWISS TOOLS screwdriver for Phillips No. 667695 size 0; 1; 2; 3		1 pc. each

8G 20G

Number of tools		11
91A 95 3438 Wera Screwdriver set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953438		1 pc.
WERA slot-head screwdriver No. 662200 size 2.5; 3; 3.5; 4; 5.5; 6.5; 8		1 pc. each
WERA screwdriver for Phillips No. 668260 size 0; 1; 2; 3		1 pc. each

8G 20G

Number of tools		9
91A 95 3441 Wera Screwdriver set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953441		1 pc.
WERA slot-head screwdriver No. 660100 size 3.5; 4; 5.5; 7; 10		1 pc. each
WERA screwdriver for Phillips No. 667700 size 0; 1; 2; 3		1 pc. each



8G 20G

Number of tools		11
91A 95 3444 HOLEX Screwdriver set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953444		1 pc.
HOLEX slot-head screwdriver No. 660701 size 2.5; 3; 3.5; 5.5; 7; 8; 10		1 pc. each
HOLEX screwdriver for Phillips No. 668401 size 0; 1; 2; 3		1 pc. each

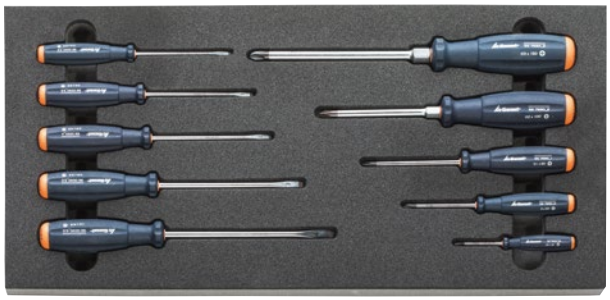
8G 20G

Number of tools		8
91A 95 3447 Wera Screwdrivers with impact cap		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953447		1 pc.
WERA slot-head screwdriver with impact cap No. 660300 size 3.5; 4.5; 5.5; 7; 10		1 pc. each
WERA screwdriver with impact cap for Phillips No. 668300 sizes 1; 2; 3		1 pc. each

With impact cap

10G 20G

Number of tools		10
91A 95 3521 Garant Screwdriver set		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953521		1 pc.
GARANT slot-head screwdriver No. 660030 size 2.5; 3.5; 4; 5.5; 6.5		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 00; 0; 1; 2; 3		1 pc. each



10G 24G

Number of tools		17
91A 95 3551 HOLEX Screwdriver set		(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953551		1 pc.
HOLEX slot-head screwdrivers No. 660701 size 2.5; 3; 3.5; 4; 5.5; 7; 8; 10		1 pc. each
HOLEX short screwdriver set No. 664201 size 4; 5.5; 6.5		1 pc. each
HOLEX screwdriver for Phillips No. 668401 size 0; 1; 2; 3		1 pc. each
HOLEX stub screwdriver No. 668471 size 1; 2		1 pc. each

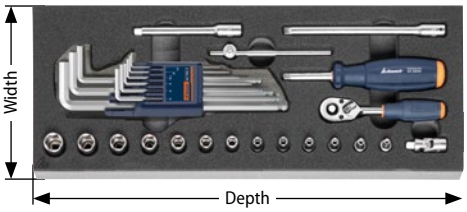
LD 45 / 30

Rigid foam inlay for socket sets

GRID LINE

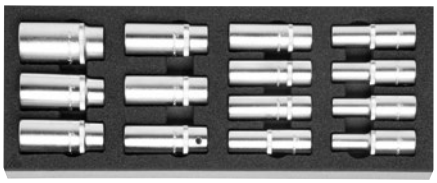
6G 16G ¼″

Number of tools		28
91A 95 3624 Garant Socket set 1/4 inch		(XXX)
Width	mm	150
Depth	mm	400
Width in G		6
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 953624		1 pc.
GARANT ratchet No. 632025 size 1/4		1 pc.
GARANT extension No. 632429 size 100; 150		1 pc. each
GARANT spinner handle No. 632829 size 146		1 pc.
GARANT T-handle No. 633029 size 116		1 pc.
GARANT universal joint No. 633529 size 1/4		1 pc.
GARANT hexagon key L-wrench set No. 627132 size 9		1 pc.
GARANT hexagon socket No. 631029 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13		1 pc. each



6G 16G ½″

Number of tools		14
91A 95 3635 HOLEX Expansion set 1/2 inch		(XXX)
Width	mm	150
Depth	mm	400
Width in G		6
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 953635		1 pc.
HOLEX bi-hexagon socket, deep, No. 642520 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27		1 pc. each



8G 8G ⅜″

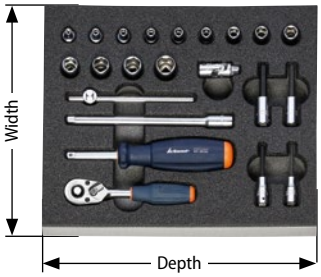
Number of tools		13
91A 95 3690 Garant Socket set 3/8 inch		(XXX)
Width	mm	200
Depth	mm	200
Width in G		8
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 953690		1 pc.
GARANT ratchet No. 635025 size 3/8		1 pc.
GARANT extension No. 635429 size 125		1 pc.
GARANT universal joint No. 636229 size 3/8		1 pc.
GARANT hexagon socket No. 637125 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19		1 pc. each

8G 8G ¼″

		19
91A 95 3695 STAHLWILLE Socket set 1/4 inch		(XXX)
Width	mm	200
Depth	mm	200
Width in G		8
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 953695		1 pc.
STAHLWILLE ratchet, 1/4 inch No. 632000 size 1/4		1 pc.
STAHLWILLE extension 1/4 inch No. 632400 size 50; 150		1 pc. each
STAHLWILLE universal joint 1/4 inch No. 633500 size 1/4		1 pc.
STAHLWILLE spinner handle 1/4 inch No. 632800 size 150		1 pc.
STAHLWILLE T-handle 1/4 inch No. 633000 size 116		1 pc.
STAHLWILLE hexagon socket No. 631000 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13		1 pc. each

8G 10G ¼″

Number of tools		22
91A **95 3701**	Garant Socket set 1/4 inch	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953701		1 pc.
GARANT hexagon socket No. 631029 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13		1 pc. each
GARANT hexagon screwdriver bit No. 631729 size 3; 4; 5; 6		1 pc. each
GARANT reversible ratchet, No. 632025 size 1/4		1 pc.
GARANT extension No. 632429 size 150		1 pc.
GARANT spinner handle No. 632829 size 146		1 pc.
GARANT T-handle No. 633029 size 116		1 pc.
GARANT universal joint No. 633529 size 1/4		1 pc.



8G 10G ¼″

Number of tools		20
91A **95 3704**	HOLEX Socket set 1/4 inch	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953704		1 pc.
HOLEX hexagon socket No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13		1 pc. each
HOLEX hexagon screwdriver bit No. 631720 size 3; 4; 5; 6		1 pc. each
HOLEX reversible ratchet, No. 632090 size 1/4		1 pc. each
HOLEX extension No. 632420 size 150		1 pc.
HOLEX spinner handle No. 632840 size 150		1 pc.
HOLEX T-handle No. 633029 size 116		1 pc.

8G 10G ⅜″

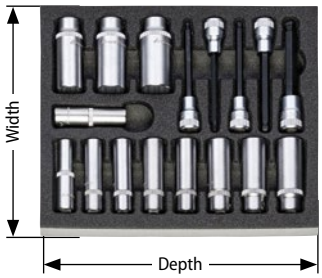
Number of tools		24
91A **95 3707**	Garant Socket set 3/8 inch	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953707		1 pc.
GARANT hexagon socket No. 637125 size 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19		1 pc. each
GARANT hexagon screwdriver bit No. 637629 size 3; 4; 5; 6; 7; 8; 10		1 pc. each
GARANT reversible ratchet, No. 635025 size 3/8		1 pc.
GARANT extension No. 635429 size 75; 125		1 pc. each
GARANT T-handle No. 635729 size 200		1 pc.
GARANT universal joint No. 636229 size 3/8		1 pc.

8G 10G ⅜″

Number of tools		24
91A **95 3710**	HOLEX Socket set 3/8 inch	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953710		1 pc.
HOLEX hexagon socket No. 637220 size 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19		1 pc. each
HOLEX hexagon screwdriver bit No. 637620 size 3; 4; 5; 6; 8; 10		1 pc. each
HOLEX reversible ratchet, No. 635090 size 3/8		1 pc.
HOLEX extension No. 635420 size 75; 125		1 pc. each
HOLEX T-handle No. 635720 size 200		1 pc.
HOLEX universal joint No. 636220 size 3/8		1 pc.

8G 10G 3/8″

Number of tools		17
91A **95 3713**	HOLEX Expansion set 3/8 inch	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953713		1 pc.
HOLEX bi-hexagon socket No. 637320 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22		1 pc. each
HOLEX hexagon screwdriver bit extra long No. 637625 size 4; 5; 6; 8; 10		1 pc. each



8G 20G 3/8″

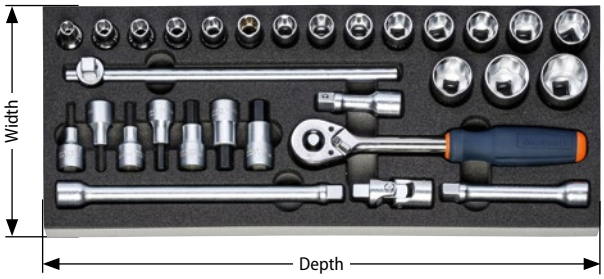
Number of tools		37
91A **95 3741**	Garant Socket set 3/8 inch	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953741		1 pc.
GARANT hexagon socket No. 637125 size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24		1 pc. each
GARANT screwdriver bit for Torx® No. 637560 size TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40; TX45		1 pc. each
GARANT hexagon screwdriver bit No. 637629 size 3; 4; 5; 6; 7; 8; 10		1 pc. each
GARANT reversible ratchet, No. 635025 size 3/8		1 pc.
GARANT extension No. 635429 size 75; 125; 240		1 pc. each
GARANT T-handle No. 635729 size 200		1 pc.
GARANT universal joint No. 636229 size 3/8		1 pc.

8G 20G 1/4″

Number of tools		46
91A **95 3744**	Garant Socket set 1/4 inch	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953744		1 pc.
GARANT hexagon socket No. 631225 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14		1 pc. each
GARANT socket for Torx® No. 631515 size E4; E5; E6; E7; E8; E10		1 pc. each
GARANT screwdriver bit No. 631615 size 3.5; 4; 5.5; 8		1 pc. each
GARANT screwdriver bit for Phillips No. 631625 size 1; 2; 3; 4		1 pc. each
GARANT hexagon screwdriver bit No. 631729 size 2.5; 3; 4; 5; 6		1 pc. each
GARANT screwdriver bit for Torx®, long No. 631780 size TX8; TX9; TX10; TX15; TX20; TX25; TX30; TX40		1 pc. each
GARANT reversible ratchet, No. 632025 size 1/4		1 pc. each
GARANT extension No. 632429 size 50; 150		1 pc. each
GARANT spinner handle No. 632829 size 146		1 pc.
GARANT T-handle No. 633029 size 116		1 pc.
GARANT universal joint No. 633529 size 1/4		1 pc.

8G 20G ½″

Number of tools		30
91A 95 3747	Garant Socket set 1/2 inch	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953747		1 pc.
GARANT hexagon socket No. 642325 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32		1 pc. each
GARANT hexagon screwdriver bit No. 643229 size 4; 5; 6; 8; 10; 12; 14		1 pc. each
GARANT reversible ratchet, No. 640025 size 1/2		1 pc.
GARANT extension No. 641029 size 75; 130; 255		1 pc. each
GARANT T-handle No. 641329 size 295		1 pc.
GARANT universal joint No. 641629 size 1/2		1 pc.



8G 20G ⅜″

Number of tools		37
91A 95 3748	STAHLWILLE Socket set 3/8 inch	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay No. 952001 size 953748		1 pc.
STAHLWILLE bi-hex socket 3/8 inch No. 637000 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19		1 pc. each
STAHLWILLE hexagon screwdriver bit 3/8 inch No. 637600 size 4; 5; 6; 7; 8; 10		1 pc. each
STAHLWILLE socket 3/8 inch No. 637450 size E5; E6; E7; E8; E10; E12; E14		1 pc. each
STAHLWILLE socket 3/8 inch No. 637560 size TX9; TX10; TX15; TS20; TX 25; TX27; TX30; TX40		1 pc. each
STAHLWILLE reversible ratchet, 3/8 inch No. 635000 size 3/8		1 pc.
STAHLWILLE extension No. 635400 size 75; 240		1 pc. each
STAHLWILLE T-handle No. 635700 size 165		1 pc.
STAHLWILLE universal joint No. 636200 size 3/8		1 pc.

8G 20G ½″ 100 mm

Number of tools		31
91A 95 3749	STAHLWILLE Socket set 1/2 inch	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953749		1 pc.
STAHLWILLE bi-hex socket 1/2 inch No. 642100 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32		1 pc. each
STAHLWILLE hexagon screwdriver bit 1/2 inch No. 643200 size 4; 5; 6; 7; 8; 10; 12; 14		1 pc. each
STAHLWILLE reversible ratchet, 1/2 inch No. 640100 size 1/2		1 pc.
STAHLWILLE extension No. 641000 size 75; 130; 255		1 pc. each
STAHLWILLE T-handle No. 641300 size 300		1 pc.
STAHLWILLE universal joint No. 641600 size 1/2		1 pc.

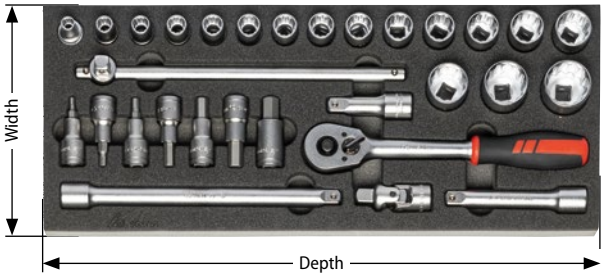
95

Cleaning

GARANT rigid foam inlays are easy to clean.
Wash them out with a neutral soap solution using a soft hand-brush. Then rinse them off under running water and allow them to dry.

8G 20G ½″ 100 mm

Number of tools		30
91A 95 3751 HOLEX Socket set 1/2 inch		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953751		1 pc.
HOLEX bi-hexagon socket No. 642120 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32		1 pc. each
HOLEX hexagon screwdriver bit No. 643220 size 4; 5; 6; 8; 10; 12; 14		1 pc. each
HOLEX reversible ratchet, No. 640190 size 1/2		1 pc.
HOLEX extension No. 641020 size 75; 130; 255		1 pc. each
HOLEX T-handle No. 641320 size 295		1 pc.
HOLEX universal joint No. 641620 size 1/2		1 pc.



8G 20G ½″

Number of tools		23
91A 95 3754 HOLEX Expansion set 1/2 inch		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953754		1 pc.
HOLEX bi-hexagon socket No. 642520 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32		1 pc. each
HOLEX hexagon screwdriver bit No. 643320 size 5; 6; 7; 8; 10; 12; 14		1 pc. each

10G 20G ½″

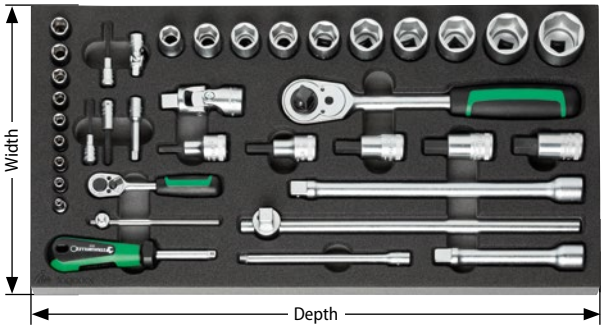
Number of tools		32
91A 95 3821 Garant Socket set 1/2 inch		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953821		1 pc.
GARANT reversible ratchet, No. 640025 size 1/2		1 pc.
GARANT extension No. 641029 size 75; 130; 255		1 pc. each
GARANT T-handle No. 641329 size 295		1 pc.
GARANT universal joint No. 641629 size 1/2		1 pc.
GARANT hexagon socket No. 642229 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34		1 pc. each
GARANT hexagon screwdriver bit No. 643229 size 4; 5; 6; 7; 8; 10; 12; 14		1 pc. each

10G 20G ¼″ ½″

Number of tools		37
91A 95 3828 Garant Socket set 1/4 inch and 1/2 inch		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953828		1 pc.
GARANT hexagon socket 1/4 inch No. 631029 size 4; 5; 5.5; 6; 7; 8; 9; 10; 11; 12		1 pc. each
GARANT reversible ratchet, 1/4 inch No. 632025 size 1/4		1 pc.
GARANT extension 1/4 inch No. 632429 size 50; 150		1 pc. each
GARANT T-handle 1/4 inch No. 633029 size 116		1 pc.
GARANT universal joint 1/4 inch No. 633529 size 1/4		1 pc.
GARANT reversible ratchet, 1/2 inch No. 640025 size 1/2		1 pc.
GARANT extension 1/2 inch No. 641029 size 75; 255		1 pc. each
GARANT T-handle 1/2 inch No. 641329 size 295		1 pc.
GARANT universal joint 1/2 inch No. 641629 size 1/2		1 pc.
GARANT bi-hex socket 1/2 inch No. 642129 size 13; 16; 17; 18; 19; 21; 22; 24; 27		1 pc. each
GARANT hexagon screwdriver bit 1/2 inch No. 643229 size 4; 5; 6; 7; 8; 10; 12; 14		1 pc. each

10G 20G | ¼" | ½"

Number of tools		38
91A **95 3829**	STAHLWILLE Socket set 1/4 inch and 1/2 inch	(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay No. 952001 size 953829		1 pc.
STAHLWILLE hexagon socket 1/4 inch No. 631000 size 4; 5; 5.5; 6; 7; 8; 9; 10; 11		1 pc. each
STAHLWILLE hexagon screwdriver bit 1/4 inch No. 631700 size 3; 4; 5		1 pc. each
STAHLWILLE reversible ratchet 1/4 inch No. 632000		1 pc.
STAHLWILLE extension 1/4 inch No. 632400 size 50; 150		1 pc. each
STAHLWILLE spinner handle 1/4 inch No. 632800 size 150		1 pc.
STAHLWILLE T-handle 1/4 inch alloy No. 633000 size 116		1 pc.
STAHLWILLE universal joint 1/4 inch No. 633500 size 1/4		1 pc.
STAHLWILLE reversible ratchet 1/2 inch No. 640100		1 pc.
STAHLWILLE extension 1/2 inch No. 641000 size 130; 255		1 pc. each
STAHLWILLE T-handle 1/2 inch alloy No. 641300 size 300		1 pc.
STAHLWILLE universal joint 1/2 inch alloy No. 641600 size 1/2		1 pc.
STAHLWILLE bi-hex socket 1/2 inch No. 642200 size 13; 16; 17; 18; 19; 21; 22; 24; 27; 30		1 pc. each
STAHLWILLE hexagon screwdriver bit 1/2 inch No. 643200 size 6; 8; 10; 12; 14		1 pc. each

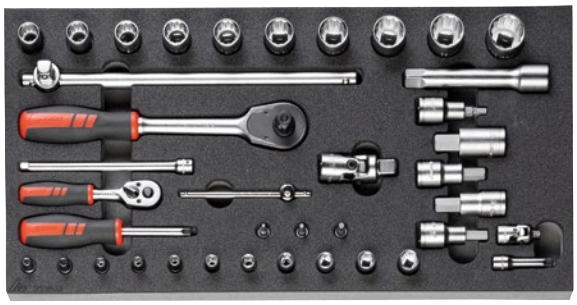


10G 20G | ½" | 100 mm

Number of tools		31
91A **95 3831**	STAHLWILLE Socket set 1/2 inch	(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953831		1 pc.
STAHLWILLE reversible ratchet, 1/2 inch No. 640100 size 1/2		1 pc.
STAHLWILLE extension 1/2 inch No. 641000 size 75; 130; 255		1 pc. each
STAHLWILLE T-handle 1/2 inch No. 641300 size 300		1 pc.
STAHLWILLE universal joint 1/2 inch No. 641600 size 1/2		1 pc.
STAHLWILLE bi-hex socket 1/2 inch No. 642100 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32		1 pc. each
STAHLWILLE hexagon screwdriver bit 1/2 inch No. 643200 size 4; 5; 6; 7; 8; 10; 12; 14		1 pc. each

10G 20G | ¼" | ½"

Number of tools		39
91A **95 3833**	HOLEX Socket set 1/4 inch and 1/2 inch	(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953833		1 pc.
HOLEX hexagon socket 1/4 inch No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 13		1 pc. each
HOLEX hexagon screwdriver bit 1/4 inch No. 631720 size 3; 4; 5; 6		1 pc. each
HOLEX reversible ratchet, 1/4 inch No. 632090 size 1/4		1 pc.
HOLEX extension 1/4 inch No. 632420 size 50; 150		1 pc. each
HOLEX spinner handle 1/4 inch No. 632840 size 150		1 pc.
HOLEX T-handle 1/4 inch No. 633029 size 116		1 pc.
HOLEX universal joint 1/4 inch No. 633520 size 1/4		1 pc.
HOLEX reversible ratchet, 1/2 inch No. 640190 size 1/2		1 pc.
HOLEX extension 1/2 inch No. 641020 size 130		1 pc.
HOLEX T-handle 1/2 inch No. 641320 size 295		1 pc.
HOLEX universal joint 1/2 inch No. 641620 size 1/2		1 pc.
HOLEX bi-hex socket 1/2 inch No. 642120 size 13; 14; 15; 16; 17; 18; 19; 21; 22; 24		1 pc. each
HOLEX hexagon screwdriver bit 1/2 inch No. 643220 size 6; 8; 10; 12; 14		1 pc. each

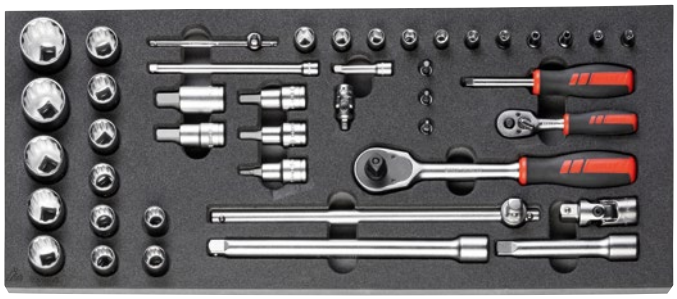


10G 24G | ½″ | 100 mm

Number of tools		32
91A 95 3857	Garant Socket set 1/2 inch	(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953857		1 pc.
GARANT reversible ratchet, No. 640025 size 1/2		1 pc.
GARANT extension No. 641029 size 75; 130; 255		1 pc. each
GARANT T-handle No. 641329 size 295		1 pc.
GARANT universal joint No. 641629 size 1/2		1 pc.
GARANT hexagon socket No. 642229 size 8; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32; 34		1 pc. each
GARANT hexagon screwdriver bit No. 643229 size 4; 5; 6; 7; 8; 10; 12; 14		1 pc. each

10G 24G | ¼″ | ½″

Number of tools		41
91A 95 3860	HOLEX Socket set 1/2 inch and 1/4 inch	(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 953860		1 pc.
HOLEX hexagon socket 1/4 inch No. 631020 size 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 13		1 pc. each
GARANT hexagon screwdriver bit 1/4 inch No. 631720 size 3; 4; 5; 6		1 pc. each
HOLEX ratchet, 1/4 inch No. 632090 size 1/4		1 pc.
HOLEX extension 1/4 inch No. 632420 size 50; 150		1 pc. each
HOLEX spinner handle 1/4 inch No. 632840 size 150		1 pc.
HOLEX T-handle 1/4 inch No. 633029 size 116		1 pc.
HOLEX universal joint 1/4 inch No. 633520 size 1/4		1 pc.
HOLEX ratchet, 1/2 inch No. 640190 size 1/2		1 pc.
HOLEX extension 1/2 inch No. 641020 size 130; 255		1 pc. each
HOLEX T-handle 1/2 inch No. 641320 size 295		1 pc.
HOLEX universal joint 1/2 inch No. 641620 size 1/2		1 pc.
HOLEX bi-hex socket 1/2 inch No. 642120 size 13; 14; 15; 16; 17; 18; 19; 21; 22; 24; 27; 30; 32		1 pc. each
HOLEX hexagon screwdriver bit 1/2 inch No. 643220 size 8; 10; 12; 14		1 pc. each



eForm – the online configuration tool

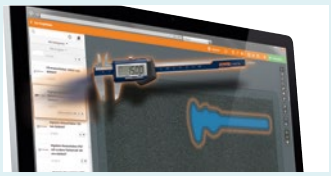
Virtual planning. Tailor-made solution. Perfect organisation. Individual rigid foam inlays.

1. Can be individually planned

You determine where each tool is placed.

2. More than 14,000 tools

and 50,000 tool contours in machining and clamping technology together with 3400 contours from Stahlwille. Simple choice from the familiar Hoffmann Group item list.



3. Easy to use

Insert tools and position them using drag-and-drop.

4. Adding new tools

Individual tools can be added by scanning - without tool downtime costs.

5. Safety

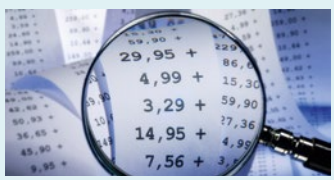
The 2-colour foam immediately indicates when a tool is missing.

6. Easy care

Particularly easy to clean.

7. Protection

Positive retention of the tool in the cabinet by means of the high clamping force



8. Cost transparency

Online calculation, quotation, consistent scanning costs and a project archive.

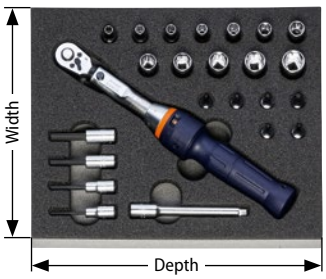
LD 45 30

GRID LINE

Garant Rigid foam inlay for torque wrenches

8G 10G ¼″

Number of tools		24
91A 95 3941	Torque wrench set 25 Nm 1/4 inch	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 953941		1 pc.
GARANT hexagon socket No. 631225 size 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14		1 pc. each
GARANT hexagon screwdriver bit No. 631729 size 3; 4; 5; 6		1 pc. each
GARANT screwdriver bit for Torx® No. 631805 size TX8; TX9; TX10; TX15; TX20; TX25		1 pc. each
GARANT extension No. 632429 size 100		1 pc.
GARANT torque wrench with reversible ratchet No. 656050 size 25		1 pc.



8G 20G ⅜″

Number of tools		22
91A 95 3961	Torque wrench set 60 Nm 3/8 inch	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953961		1 pc.
GARANT hexagon socket No. 637125 size 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19		1 pc. each
GARANT hexagon screwdriver bit No. 637629 size 3; 4; 5; 6; 8; 10		1 pc. each
GARANT extension No. 635429 size 75; 125; 240		1 pc. each
GARANT torque wrench with reversible ratchet No. 656050 size 60		1 pc.

8G 20G ½″

Number of tools		23
91A 95 3966	Torque wrench set 120 Nm 1/2 inch	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 953966		1 pc.
GARANT hexagon socket No. 642325 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 21; 22; 24		1 pc. each
GARANT hexagon screwdriver bit No. 643229 size 5; 6; 8; 10; 12; 14		1 pc. each
GARANT extension No. 641029 size 75; 130; 255		1 pc. each
GARANT torque wrench with reversible ratchet No. 656050 size 120		1 pc.

95

Customer example

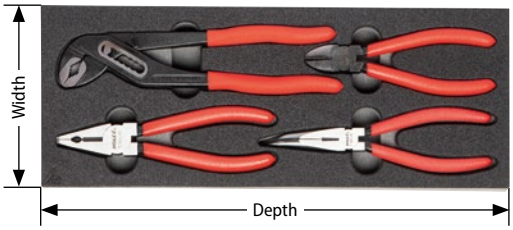
Individually tailored foams are also available in our online configurator in 45, 60 and 90 mm thicknesses.
This gives you even more design options for your rigid foams.

LD 45 / 30

Rigid foam inlay for pliers

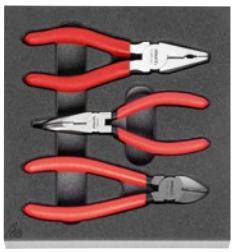
6G / 16G

Number of tools		4
91A 95 4075 HOLEX Pliers set		(XXX)
Width	mm	150
Depth	mm	400
Width in G		6
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 954075		1 pc.
HOLEX water pump pliers No. 706151 size 250		1 pc.
HOLEX combination pliers, vanadium No. 703000 size 180		1 pc.
HOLEX snipe-nose pliers, angled No. 713600 size 200		1 pc.
HOLEX side cutter No. 725250 size 160		1 pc.



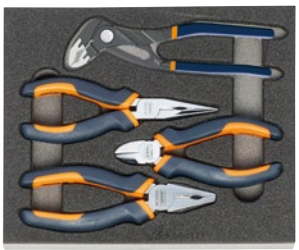
8G / 8G

Number of tools		3
91A 95 4165 HOLEX Pliers set		(XXX)
Width	mm	200
Depth	mm	200
Width in G		8
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 954165		1 pc.
HOLEX combination pliers, vanadium No. 703000 size 160		1 pc.
HOLEX snipe-nose pliers, angled No. 713600 size 160		1 pc.
HOLEX side cutter No. 725250 size 160		1 pc.



8G / 10G

Number of tools		4
91A 95 4171 Garant Pliers set		(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954171		1 pc.
GARANT combination pliers No. 700940 size 160		1 pc.
GARANT water pump pliers No. 706001 size 180		1 pc.
GARANT snipe-nose pliers No. 713040 size 160		1 pc.
GARANT side cutter No. 724840 size 140		1 pc.

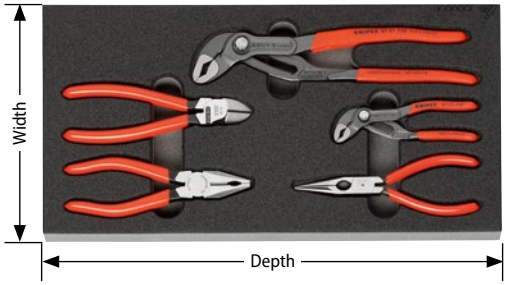


8G / 16G

Number of tools		4
91A 95 4183 Garant Pliers set		(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 954183		1 pc.
GARANT combination pliers No. 700940 size 180		1 pc.
GARANT water pump pliers No. 706001 size 250		1 pc.
GARANT snipe-nose pliers No. 713040 size 200		1 pc.
GARANT side cutter No. 724840 size 160		1 pc.

8G 16G

Number of tools		5
91A 95 4188 KNIPEX Pliers set		(XXX)
Width	mm	200
Depth	mm	400
Width in G		8
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 954188		1 pc.
KNIPEX combination pliers No. 701500 size 160		1 pc.
KNIPEX snipe-nose pliers No. 713150 size 160		1 pc.
KNIPEX side cutters No. 724900 size 160		1 pc.
KNIPEX water pump pliers No. 705800 size 125; 250		1 pc. each



8G 20G

Number of tools		5
91A 95 4201 Garant Pliers set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954201		1 pc.
GARANT combination pliers No. 700940 size 180		1 pc.
GARANT water pump pliers No. 706001 size 250		1 pc.
GARANT snipe-nose pliers No. 713040 size 200		1 pc.
GARANT snipe-nose pliers, angled No. 713440 size 200		1 pc.
GARANT side cutter No. 724840 size 160		1 pc.

8G 20G

Number of tools		5
91A 95 4204 Pliers wrench set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954204		1 pc.
HOLEX universal grip wrench No. 708005 size 225		1 pc.
HOLEX long nose grip wrench No. 708401 size 175		1 pc.
GARANT pliers wrench No. 813501 size 250		1 pc.
HOLEX adjustable spanner No. 814001 size 100; 200		1 pc. each

8G 20G

Number of tools		5
91A 95 4207 HOLEX Pliers set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954207		1 pc.
HOLEX combination pliers No. 703000 size 180		1 pc.
HOLEX water pump pliers No. 706151 size 300		1 pc.
HOLEX snipe-nose pliers No. 713200 size 200		1 pc.
HOLEX snipe-nose pliers, angled No. 713600 size 200		1 pc.
HOLEX side cutter No. 725250 size 160		1 pc.

8G 20G

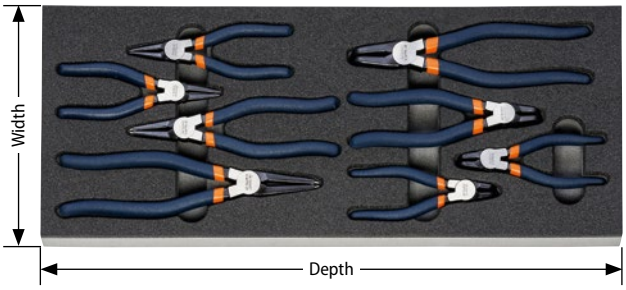
Number of tools		8
91A 95 4210 Garant Precision circlip pliers set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954210		1 pc.
GARANT precision circlip pliers No. 719770 size J0; J1; J2; J3		1 pc. each
GARANT precision circlip pliers No. 719870 size A0; A1; A2; A3		1 pc. each

8G 20G

Number of tools		8
91A 95 4214 HOLEX Precision circlip pliers set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954214		1 pc.
HOLEX precision circlip pliers No. 719805 size J0; J1; J2; J3		1 pc. each
HOLEX precision circlip pliers No. 719905 size A0; A1; A2; A3		1 pc. each

8G 20G

Number of tools		8
91A 95 4217 Garant Precision circlip pliers set **internal**		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954217		1 pc.
GARANT precision circlip pliers No. 719770 size J0; J1; J2; J3; J01; J11; J21; J31		1 pc. each



8G 20G

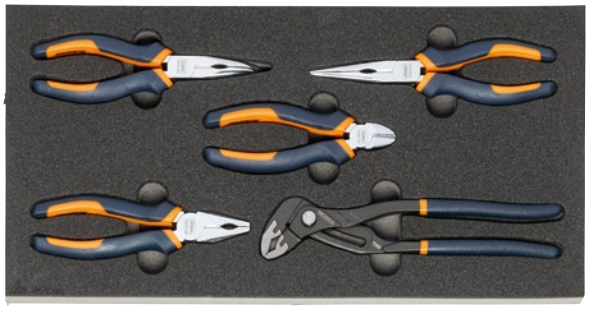
Number of tools		8
91A 95 4220 Garant Precision circlip pliers set **external**		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954220		1 pc.
GARANT precision circlip pliers No. 719870 size A0; A1; A2; A3; A01; A11; A21; A31		1 pc. each

8G 24G

Number of tools		5
91A 95 4231 Garant Pliers set		(XXX)
Width	mm	200
Depth	mm	600
Width in G		8
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 954231		1 pc.
GARANT combination pliers No. 700940 size 180		1 pc.
GARANT water pump pliers No. 706001 size 250		1 pc.
GARANT snipe-nose pliers No. 713040 size 200		1 pc.
GARANT snipe-nose pliers, angled No. 713440 size 200		1 pc.
GARANT side cutter No. 724840 size 160		1 pc.

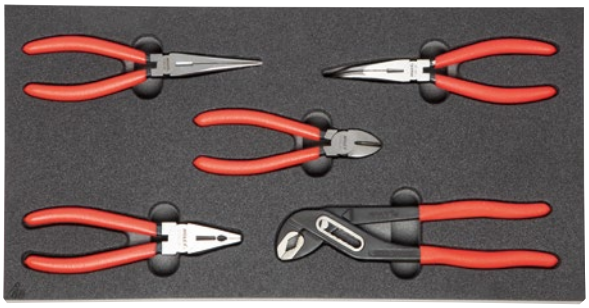
10G 20G

Number of tools		5
91A 95 4295 Garant Pliers set		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954295		1 pc.
GARANT combination pliers No. 700940 size 180		1 pc.
GARANT water pump pliers No. 706001 size 250		1 pc.
GARANT snipe-nose pliers No. 713040 size 200		1 pc.
GARANT snipe-nose pliers, angled No. 713440 size 200		1 pc.
GARANT side cutter No. 724840 size 160		1 pc.



10G 20G

Number of tools		5
91A **95 4305** HOLEX Pliers set		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954305		1 pc.
HOLEX combination pliers, vanadium No. 703000 size 180		1 pc.
HOLEX water pump pliers No. 706151 size 250		1 pc.
HOLEX snipe-nose pliers No. 713200 size 200		1 pc.
HOLEX snipe-nose pliers, angled No. 713600 size 200		1 pc.
HOLEX side cutter No. 725250 size 160		1 pc.

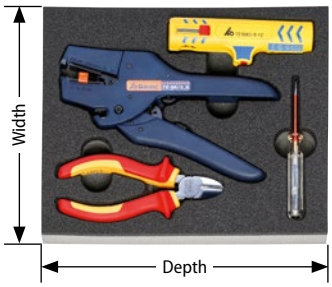


LD 45 30 8G 10G

GRID LINE

Rigid foam inlay for cable processing

Number of tools		4
91A **95 4387** Wire stripping tool set		(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954387		1 pc.
GARANT voltage tester No. 665010 size 2.5		1 pc.
GARANT side cutter No. 725310 size 140		1 pc.
JOKARI cable stripper No. 728065 size 8 -13		1 pc.
GARANT wire stripper No. 728613 size 6		1 pc.



Number of tools		2
91A **95 4389** Crimping tool / cable knife set		(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954389		1 pc.
HOLEX crimping pliers No. 729720 size 6IS		1 pc.
KNIPEX fixed blade cable knife No. 844410		1 pc.

EFORM – THE ONLINE CONFIGURATION TOOL

Further information about our **eForm online configurator** and our rigid foam inlays can be found in our brochure:

The **eForm online configurator** with its many technical refinements offers you the ideal basis for designing your tailor-made rigid foam inlays.
As it has done for many years.

Individual on-line planning:

Our on-line configurator allows you to design your own individual rigid foam inlays. You determine where each tool is placed.

Easy handling:

No complicated downloading of software. Use drag-and-drop to select your items from more than 53,400 tools or tool contours in the familiar Hoffmann Group item classes, insert them and position them as you wish.

Cost transparency:

Online calculation, quotation, consistent scanning costs and a project archive. Ready configured rigid foam inlays can be re-ordered without problems, at a top price-performance ratio.

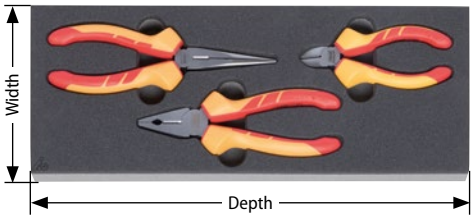
LD 45 / 30

GRID LINE

Rigid foam inlay for VDE tools, fully insulated

6G 16G

Number of tools		3
91A 95 4475 HOLEX Pliers set, fully insulated		(XXX)
Width	mm	150
Depth	mm	400
Width in G		6
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 954475		1 pc.
HOLEX combination pliers, vanadium No. 701852 size 180		1 pc.
HOLEX snipe-nose pliers No. 713351 size 200		1 pc.
HOLEX side cutter No. 725351 size 140		1 pc.



6G 20G

Number of tools		4
91A 95 4486 HOLEX Pliers / scissors set fully insulated		(XXX)
Width	mm	150
Depth	mm	500
Width in G		6
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954486		1 pc.
HOLEX combination pliers No. 701852 size 180		1 pc.
HOLEX snipe-nose pliers No. 713351 size 200		1 pc.
HOLEX side cutter No. 725351 size 140		1 pc.
HOLEX electrician's scissors with 2-component grip No. 768800 size 140		1 pc.

6G 24G

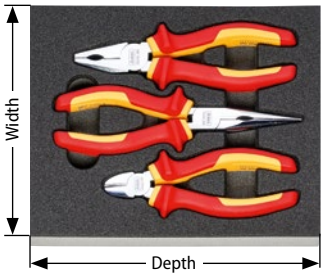
Number of tools		9
91A 95 4495 HOLEX Screwdriver set, fully insulated		(XXX)
Width	mm	150
Depth	mm	600
Width in G		6
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 954495		1 pc.
HOLEX slot-head screwdriver No. 663301 size 2.5; 3; 3.5; 4; 5.5; 6.5		1 pc. each
HOLEX screwdriver for Phillips No. 668631 size 0; 1; 2		1 pc. each

8G 10G

Number of tools		5
91A 95 4511 Wera Electrician's screwdrivers fully insulated		(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 915500 size 915210		1 pc.
WERA electrician's slot-head screwdriver No. 663200 size 3.5; 4; 5.5		1 pc. each
WERA electrician's screwdriver for Phillips No. 668620 size 1; 2		1 pc. each

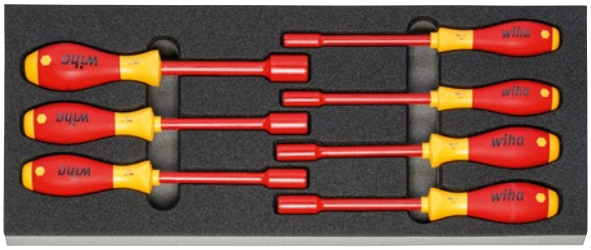
8G 10G

Number of tools		3
91A **95 4515**	Garant Pliers set, fully insulated	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954515		1 pc.
GARANT vanadium combination pliers No. 701710 size 180		1 pc.
GARANT snipe-nose pliers No. 713310 size 200		1 pc.
GARANT side cutter No. 725310 size 160		1 pc.



8G 20G

Number of tools		7
91A **95 4532**	wiha Nut spinner set, fully insulated	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954532		1 pc.
WIHA nut spinner No. 622500 size 5.5; 6; 7; 8; 9; 10; 13		1 pc. each



8G 20G

Number of tools		11
91A **95 4534**	HOLEX Electrician's screwdrivers fully insulated	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954534		1 pc.
HOLEX electrician's slot-head screwdriver No. 663301 size 2.5; 3; 3.5; 4; 5.5; 6.5; 8		1 pc. each
HOLEX electrician's screwdriver for Phillips No. 668631 size 0; 1; 2; 3		1 pc. each

8G 20G

Number of tools		5
91A **95 4537**	Garant Pliers set, fully insulated	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954537		1 pc.
GARANT vanadium combination pliers No. 701710 size 180		1 pc.
GARANT snipe-nose pliers No. 713310 size 200		1 pc.
GARANT snipe-nose pliers, angled No. 713710 size 200		1 pc.
GARANT side cutter No. 725310 size 160		1 pc.
GARANT wire stripper No. 728755 size 160		1 pc.

8G 20G

Number of tools		5
91A **95 4539**	HOLEX Pliers set, fully insulated	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954539		1 pc.
HOLEX combination pliers, vanadium No. 701852 size 180		1 pc.
HOLEX water pump pliers No. 705746 size 250		1 pc.
HOLEX snipe-nose pliers No. 713351 size 200		1 pc.
HOLEX side cutter No. 725351 size 160		1 pc.
HOLEX wire stripper No. 728761 size 160		1 pc.

10G 24G

Number of tools		12
91A 95 4585	Electrician's tool set, fully insulated	(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 954585		1 pc.
WERA electrician's slot-head screwdriver No. 663100 size 2.5; 3.5; 4; 5.5		1 pc. each
Voltage tester No. 665050 size 3		1 pc.
WERA screwdriver for Phillips No. 668600 size 1; 2		1 pc. each
GARANT combination pliers, fully insulated, No. 701710 size 180		1 pc.
GARANT snipe-nose pliers, fully insulated, No. 713310 size 200		1 pc.
GARANT side cutters, fully insulated, No. 725310 size 160		1 pc.
Cable stripping knife No. 728010 size 8-28		1 pc.
GARANT wire stripper No. 728613 size 6		1 pc.

12G 20G

Number of tools		12
91A 95 4586	Electrician's tool set, fully insulated	(XXX)
Width	mm	300
Depth	mm	500
Width in G		12
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954586		1 pc.
WERA electrician's slot-head screwdriver No. 663100 size 2.5; 3.5; 4; 5.5		1 pc. each
Voltage tester No. 665050 size 3		1 pc.
WERA screwdriver for Phillips No. 668600 size 1; 2		1 pc. each
GARANT combination pliers, fully insulated, No. 701710 size 180		1 pc.
GARANT snipe-nose pliers, fully insulated, No. 713310 size 200		1 pc.
GARANT side cutters, fully insulated, No. 725310 size 160		1 pc.
Cable stripping knife No. 728010 size 8 – 28		1 pc.
GARANT wire stripper No. 728613 size 6		1 pc.

LD 45 30

Rigid foam inlay for striking tools

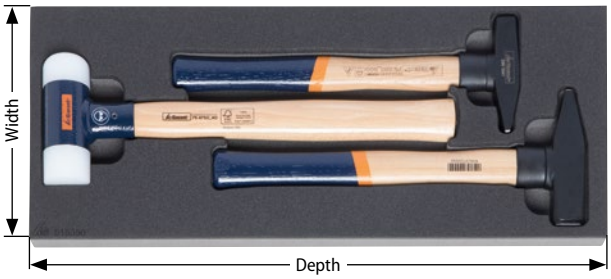
GRID LINE

8G 10G

Number of tools		10
91A 95 4652	Chisel, taper pin punch, and pin punch set	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954652		1 pc.
Flat cold chisel No. 740500 size 200		1 pc.
Cross-cut chisel No. 740600 size 200		1 pc.
Taper pin punch No. 745500 size 3; 4		1 pc. each
Pin punch No. 747000 size 2; 3; 4; 5; 6; 8		1 pc. each

8G 20G

Number of tools		3
91A 95 4665 Garant Hammer set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954665		1 pc.
GARANT engineer's hammer No. 750110 size 300; 500		1 pc. each
GARANT dead-blow plastic hammer No. 754750 size 40		1 pc.



8G 20G

Number of tools		15
91A 95 4668 Hammer / taper pin punch / pin punch set		(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954668		1 pc.
GARANT engineer's hammer No. 750110 size 300		1 pc.
Flat cold chisel No. 740500 size 200		1 pc.
Cross-cut chisel No. 740600 size 200		1 pc.
Taper pin punch No. 745500 size 3; 4		1 pc. each
Pin punch No. 747000 size 2; 3; 4; 5; 6; 8		1 pc. each
Centre punch No. 749000 size 100; 120/10; 120/12; 150		1 pc. each

8G 24G

Number of tools		3
91A 95 4672 Garant Hammer set		(XXX)
Width	mm	200
Depth	mm	600
Width in G		8
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 954672		1 pc.
GARANT engineer's hammer No. 750110 size 300; 500		1 pc. each
GARANT dead-blow plastic hammer No. 754750 size 40		1 pc.

10G 10G

Number of tools		10
91A 95 4678 Chisel, taper pin punch, pin punch set		(XXX)
Width	mm	250
Depth	mm	250
Width in G		10
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954678		1 pc.
Flat cold chisel No. 740500 size 200		1 pc.
Cross-cut chisel No. 740600 size 200		1 pc.
Taper pin punch No. 745500 size 3; 4		1 pc. each
Pin punch No. 747000 size 2; 3; 4; 5; 6; 8		1 pc. each

10G 20G

Number of tools		3
91A 95 4690 Garant Hammer set		(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954690		1 pc.
GARANT engineer's hammer No. 750110 size 300; 500		1 pc. each
GARANT dead-blow plastic hammer No. 754750 size 40		1 pc.

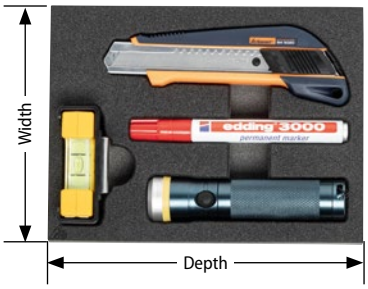
LD 45 30

Rigid foam inlay for tool sets

GRID LINE

6G 8G

Number of tools		4
91A 95 4730	Workshop accessories assortment	(XXX)
Width	mm	150
Depth	mm	200
Width in G		6
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 954730		1 pc.
GARANT LED torch No. 081505 size 125		1 pc.
EDDING permanent marker No. 085130 size R		1 pc.
STABILA pocket spirit level No. 467482 size 70		1 pc.
GARANT universal knife No. 845020		1 pc.



6G 8G

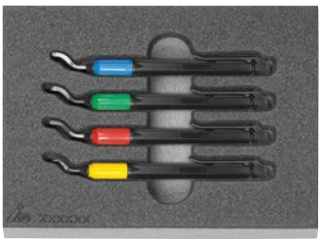
Number of tools		5
91A 95 4735	HOLEX Tweezers set	(XXX)
Width	mm	150
Depth	mm	200
Width in G		6
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 954735		1 pc.
HOLEX tweezers, pointed tips, No. 727520 size AMB		1 pc.
HOLEX tweezers, rounded tips, No. 727550 size AMB		1 pc.
HOLEX tweezers, narrow tips, angled, No. 727600 size AMB		1 pc.
HOLEX tweezers, wide flat tips, No. 727610 size AMB		1 pc.
HOLEX tweezers, sickle shaped, No. 727631 size AM		1 pc.

6G 8G ¼″

Number of tools		69
91A 95 4751	Screwdriver bits set	(XXX)
Width	mm	150
Depth	mm	200
Width in G		6
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 954751		1 pc.
HOLEX hexagon socket 1/4 inch No. 631020 size 6; 7; 8; 9; 10; 11		1 pc. each
GARANT bits set 61 pieces No. 676040		1 pc.
GARANT magnetic bit-holding screwdriver with magazine No. 676663 size 10		1 pc.
HOLEX adapter with 1/4 inch C 6.3 hexagon shank No. 676950 size 4/4		1 pc.

6G 8G

Number of tools		4
91A 95 4754	Deburrer set	(XXX)
Width	mm	150
Depth	mm	200
Width in G		6
Depth in G		8
Supplied with: Rigid foam inlay, empty No. 952001 size 954754		1 pc.
Universal deburrer set (4 holders, each with 1 blade) No. 839945		1 pc.

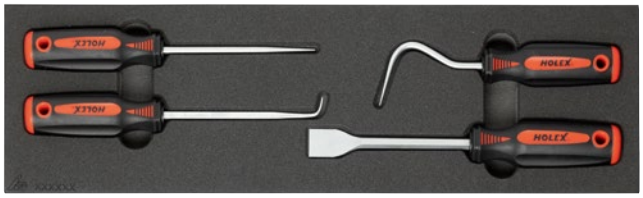


6G 20G

Number of tools		26
91A **95 4785**	Workshop accessories assortment	(XXX)
Width	mm	150
Depth	mm	500
Width in G		6
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954785		1 pc.
HOLEX offset screwdriver set for Torx® no. 624921 size 8 (TX9; TX10; TX15; TX20; TX25; TX27; TX30; TX40)		1 pc.
HOLEX hexagon key L-wrench set, No. 627225 size 9		1 pc.
HOLEX watchmaker's screwdriver set No. 669005 size 1; 1.5; 1.8; 2.3; 3; 3.5		1 pc. each
HOLEX watchmaker's screwdriver set for Phillips No. 669015 size 0; 1		1 pc. each
GARANT easyPick small parts storage bin No. 951211 size 3×3/1		1 pc.

6G 20G

Number of tools		4
91A **95 4795**	HOLEX Scraper and assembly set	(XXX)
Width	mm	150
Depth	mm	500
Width in G		6
Depth in G		20
Supplied with: Rigid foam inlay No. 952001 size 954795		1 pc.
HOLEX scraper and assembly set No. 837880 size 4		1 pc.



8G 10G

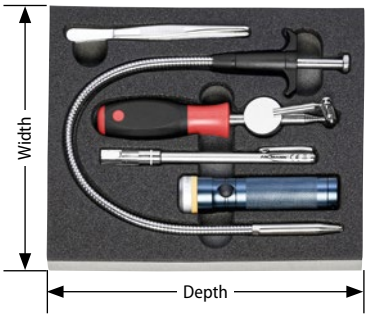
Number of tools		14
91A **95 4845**	Garant Screwdriver and workshop accessories set	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954845		1 pc.
GARANT LED torch No. 081505 size 140		1 pc.
GARANT hexagon key L-wrench set No. 627132 size 9		1 pc.
GARANT short slot-head screwdriver No. 664120 size 5.5; 6.5		1 pc. each
GARANT stub screwdriver for Phillips No. 667720 size 1; 2		1 pc. each

8G 10G

Number of tools		8
91A **95 4847**	Assembly set	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954847		1 pc.
GARANT snipe-nose pliers, angled No. 713440 size 160		1 pc.
HOLEX tweezers pointed No. 727520 size N		1 pc.
HOLEX tweezers, angled No. 727600 size N		1 pc.
HOLEX assembly forceps No. 727950 size 200		1 pc.
PB SWISS TOOLS Pick set, 5 pieces, No. 727990 size 5		1 pc.

8G 10G

Number of tools		5
91A **95 4849**	Inspection tool set	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954849		1 pc.
GARANT LED torch No. 081505 size 125		1 pc.
Claw retriever No. 081610 size 500		1 pc.
HOLEX telescopic inspection mirror No. 081630 size 30		1 pc.
Telescopic inspection lamp No. 081665		1 pc.
HOLEX tweezers, rounded tips, No. 727550 size AM		1 pc.



8G 10G

Number of tools		5
91A **95 4852**	Workshop accessories assortment	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954852		1 pc.
GARANT LED torch No. 081505 size 125		1 pc.
EDDING permanent marker No. 085130 size R		1 pc.
UVEX comfort safety glasses No. 096515 size CLEAR		1 pc.
GARANT universal knife No. 845020		1 pc.
Snap-off blades, pack of 10, No. 845010 size 10		1 pc.

8G 10G

Number of tools		4
91A **95 4855**	Squares set	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954855		1 pc.
HOLEX stock square No. 452590 size 150×100		1 pc.
HOLEX try square No. 452600 size 200×130		1 pc.
HOLEX protractor No. 453000 size 120×150		1 pc.
Plastic folding rule No. 466200 size 1		1 pc.

8G 10G 100 mm

Number of tools		4
91A **95 4858**	Marking out, drilling, deburring	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954858		1 pc.
GARANT jobber drill set HSS No. 115120 size 1 – 13		1 pc.
GARANT hand deburrer 90° No. 150400 size 12.4		1 pc.
HOLEX carbide scriber No. 458800		1 pc.
Centre punch special quality No. 748900 size 120/10		1 pc.

8G 10G

Number of tools		14
91A **95 4860**	Precision mechanics set	(XXX)
Width	mm	200
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954860		1 pc.
Watchmaker's eye glass No. 490702 size 10		1 pc.
HOLEX watchmaker's screwdriver set No. 669005 size 1; 1.5; 1.8; 2.3; 3.0; 3.5		1 pc. each
HOLEX watchmaker's screwdriver set for Phillips No. 669015 size 0; 1		1 pc. each
Precision pliers No. 716100 size 125		1 pc.
GARANT precision engineer's side cutter No. 725390 size 110		1 pc.
HOLEX tweezers pointed No. 727520 size N		1 pc.
HOLEX tweezers flat tip No. 727550 size N		1 pc.
HOLEX tweezers, angled No. 727600 size N		1 pc.

10G 10G

Number of tools		12
91A **95 4862**	Hexagon key L-wrench and workshop accessories set	(XXX)
Width	mm	250
Depth	mm	250
Width in G		8
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954862		1 pc.
GARANT LED torch No. 081505 size 125		1 pc.
UVEX comfort safety glasses No. 096515 size CLEAR		1 pc.
GARANT hexagon key L-wrench set, 9 pieces No. 627132 size 9		1 pc.
GARANT universal knife No. 845020		1 pc.

8G 20G

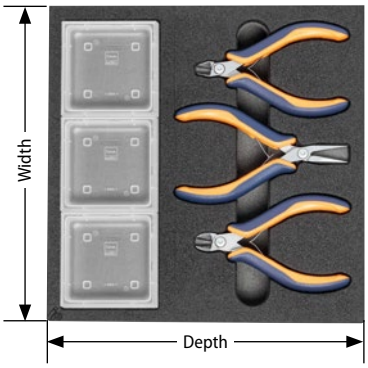
Number of tools		5
91A **95 4883**	Shears set	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954883		1 pc.
GARANT multi-purpose shears No. 763030 size 205		1 pc.
GARANT multi-purpose shears No. 763040 size 205		1 pc.
Ideal snips No. 766000 size 260		1 pc.
GARANT electrician's scissors No. 768850 size 140		1 pc.
GARANT heavy duty scissors No. 769240 size 210		1 pc.

8G 20G

Number of tools		8
91A **95 4890**	Marking out and sawing	(XXX)
Width	mm	200
Depth	mm	500
Width in G		8
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954890		1 pc.
EDDING permanent marker No. 085130 size R		1 pc.
GARANT caliper No. 410100 size 150		1 pc.
Carbide scriber No. 458760		1 pc.
HOLEX precision steel rule No. 461600 size 300		1 pc.
GARANT steel tape measure No. 461992 size 3		1 pc.
Pocket spirit level No. 467482 size 70		1 pc.
GARANT hacksaw frame No. 580400		1 pc.
GARANT hacksaw blades No. 582500 (pack of 10)		1 pc.

10G
10G

Number of tools		6
91A **95 4925**	Garant Electronics pliers set	(XXX)
Width	mm	250
Depth	mm	250
Width in G		10
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954925		1 pc.
GARANT electronics side cutter, normal, No. 726210 size 125		1 pc.
GARANT electronics side cutter, pointed, No. 726250 size 125		1 pc.
GARANT electronics snipe-nosed pliers No. 727170 size 140		1 pc.
GARANT easyPick small parts storage bin No. 951211 size 3×3/1		3 pcs.



10G
10G

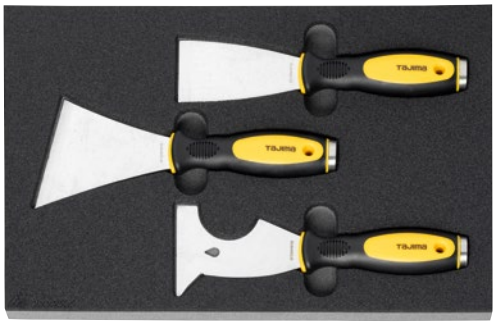
Number of tools		7
91A **95 4930**	Logistics set	(XXX)
Width	mm	250
Depth	mm	250
Width in G		10
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954930		1 pc.
EDDING permanent marker No. 085130 size B		1 pc.
MARTOR safety scissors No. 769245 size 134		1 pc.
MARTOR scraper No. 837740		1 pc.
MARTOR safety knife with 2 blades No. 842010		1 pc.
MARTOR set of spare blades No. 842012 size 10		1 pc.
MARTOR safety knife No. 842041 size 10		1 pc.
MARTOR safety knife with 1 blade No. 842050		1 pc.

10G
10G

Number of tools		7
91A **95 4935**	MARKAL Pen set	(XXX)
Width	mm	250
Depth	mm	250
Width in G		10
Depth in G		10
Supplied with: Rigid foam inlay, empty No. 952001 size 954935		1 pc.
MARKAL deep hole marker No. 085012 size 096260		1 pc.
MARKAL spare leads No. 085013 size 096262		1 pc.
MARKAL deep hole marker No. 085152 size BL		1 pc.
MARKAL permanent marker No. 085154 size B		1 pc.
MARKAL paint marker No. 085160 size W; Y		1 pc. each
MARKAL tubular marker No. 085178 size W		1 pc.

10G
16G

Number of tools		3
91A **95 4955**	Scraper set	(XXX)
Width	mm	250
Depth	mm	400
Width in G		10
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 954955		1 pc.
Universal scraper with standard blade No. 837760 size 50		1 pc.
Universal scraper with splayed blade No. 837765 size 95		1 pc.
Universal scraper with multi-function blade No. 837770 size 75		1 pc.



10G 20G

Number of tools		8
91A **95 4895**	Marking out and sawing	(XXX)
Width	mm	250
Depth	mm	500
Width in G		10
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 954895		1 pc.
EDDING permanent marker No. 085130 size B		1 pc.
HOLEX try square No. 452600 size 300×175		1 pc.
HOLEX protractor No. 453000 size 120×150		1 pc.
PB straight carbide scriber No. 458760		1 pc.
HOLEX precision steel rule No. 461600 size 300		1 pc.
GARANT tape measure No. 462201 size 2.5		1 pc.
GARANT hacksaw frame No. 580400		1 pc.
GARANT hacksaw blades No. 582500 (pack of 10)		1 pc.

10G 24G

Number of tools		9
91A **95 4986**	Workshop accessories assortment	(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 954986		1 pc.
GARANT LED torch No. 081505 size 125		1 pc.
Claw retriever No. 081610 size 500		1 pc.
HOLEX telescopic inspection mirror No. 081630 size 30		1 pc.
EDDING permanent marker No. 085130 size R		1 pc.
UVEX safety goggles No. 096515 size CLEAR		1 pc.
HOLEX tweezers, rounded tips, No. 727550 size AM		1 pc.
Snap-off blades, No. 845010 size 10		1 pc.
GARANT universal trimming knife No. 845020		1 pc.
Telescopic inspection lamp No. 081665		1 pc.

10G 24G

Number of tools		8
91A **95 4987**	Marking out and sawing	(XXX)
Width	mm	250
Depth	mm	600
Width in G		10
Depth in G		24
Supplied with: Rigid foam inlay, empty No. 952001 size 954987		1 pc.
EDDING permanent marker No. 085130 size B		1 pc.
HOLEX try square No. 452600 size 300×175		1 pc.
HOLEX protractor No. 453000 size 120×150		1 pc.
PB carbide scriber No. 458760		1 pc.
HOLEX precision steel rule No. 461600 size 300		1 pc.
Tape measure No. 462201 size 2.5		1 pc.
GARANT hacksaw frame No. 580400		1 pc.
GARANT hacksaw blades No. 582500 (pack of 10)		1 pc.

Cleaning

GARANT rigid foam inlays are easy to clean.
Wash them out with a neutral soap solution using a soft hand-brush. Then rinse them off under running water and allow them to dry.

20G 16G

GRID LINE

Rigid foam inlay basic set (for one complete drawer of the roller cabinet)

Suitable for: Roller cabinets No. 914520 – 914582.

LD 45 30 100 mm

Number of tools		23
91A **95 5001** Garant Workshop set		(XXX)
Width	mm	500
Depth	mm	400
Width in G		20
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 955001		1 pc.
GARANT IP54 digital caliper No. 412680 size 150		1 pc.
GARANT tape measure No. 462210 size 3		1 pc.
GARANT light metal spirit level No. 467020 size 250		1 pc.
GARANT combination spanner No. 613600 size 5.5; 7; 8; 10; 13; 16; 17; 18; 19		1 pc. each
GARANT slot-head screwdriver No. 660030 size 3.5; 5.5; 6.5		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 1; 2; 3		1 pc. each
GARANT combination pliers No. 700940 size 180		1 pc.
GARANT water pump pliers No. 706001 size 250		1 pc.
GARANT snipe-nose pliers No. 713040 size 200		1 pc.
GARANT side cutter No. 724840 size 160		1 pc.
GARANT general-purpose knife with 2-component handle with 3 blades No. 845020		1 pc.

LD 45 30 100 mm

Number of tools		34
91A **95 5003** Garant Workshop set		(XXX)
Width	mm	500
Depth	mm	400
Width in G		20
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 955003		1 pc.
GARANT combination spanner No. 613600 size 5.5; 7; 8; 10; 13; 16; 17; 18; 19		1 pc. each
GARANT reversible ratchet, No. 640025 size 1/2		1 pc.
GARANT extension 1/2 inch No. 641029 size 130; 255		1 pc. each
GARANT T-handle 1/2 inch No. 641329 size 295		1 pc.
GARANT universal joint No. 641629 size 1/2		1 pc.
GARANT hexagon socket No. 642325 size 13; 14; 15; 16; 17; 18; 19; 21; 22; 24		1 pc. each
GARANT bi-hex socket, long, No. 642529 size 17; 19; 21		1 pc. each
GARANT slot-head screwdriver No. 660030 size 3.5; 5.5		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 1; 2		1 pc. each
GARANT engineer's hammer No. 750110 size 300		1 pc.
GARANT combination pliers No. 700940 size 180		1 pc.
GARANT water pump pliers No. 706001 size 250		1 pc.

LD 45 30 | 100 mm

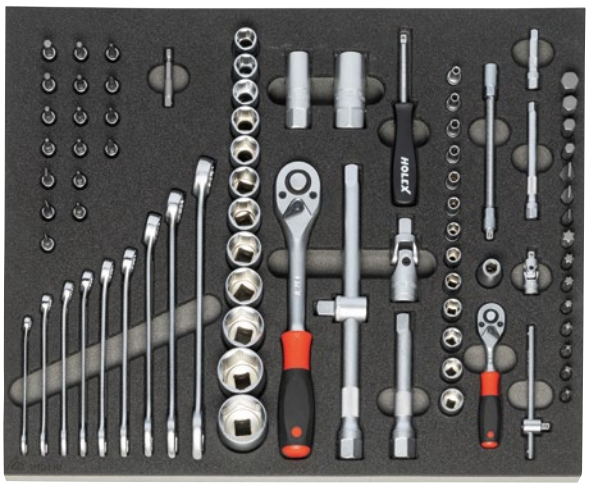
Number of tools		23
91A 95 5013	Workshop set	(XXX)
Width	mm	500
Depth	mm	400
Width in G		20
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 955013		1 pc.
HOLEX caliper No. 410200 size 150		1 pc.
HOLEX locking tape measure No. 462010 size 3		1 pc.
HOLEX aluminium spirit level No. 467435 size 300		1 pc.
HOLEX combination spanner No. 613950 size 5.5; 7; 8; 10; 13; 16; 17; 18; 19		1 pc. each
HOLEX slot-head screwdriver No. 660701 size 3.5; 5.5; 7		1 pc. each
HOLEX screwdriver for Phillips No. 668401 size 1; 2; 3		1 pc. each
HOLEX combination pliers, vanadium No. 703000 size 180		1 pc.
HOLEX water pump pliers No. 706151 size 250		1 pc.
HOLEX snipe-nose pliers, angled No. 713600 size 200		1 pc.
HOLEX side cutter No. 725250 size 160		1 pc.
GARANT universal knife No. 845020		1 pc.

LD 45 30 | ½″ | 100 mm

Number of tools		36
91A 95 5017	HOLEX Workshop set	(XXX)
Width	mm	500
Depth	mm	400
Width in G		20
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 955017		1 pc.
HOLEX combination spanner No. 613950 size 5.5; 7; 8; 10; 13; 16; 17; 18; 19		1 pc. each
HOLEX reversible ratchet, 1/2 inch No. 640190 size 1/2		1 pc.
HOLEX extension 1/2 inch No. 641020 size 130; 255		1 pc. each
HOLEX T-handle 1/2 inch No. 641320 size 295		1 pc.
HOLEX universal joint 1/2 inch No. 641620 size 1/2		1 pc.
HOLEX bi-hex socket 1/2 inch No. 642120 size 13; 14; 15; 16; 17; 18; 19; 21; 22; 24		1 pc. each
HOLEX bi-hex socket long 1/8 inch No. 642520 size 17; 19; 21		1 pc. each
HOLEX slot-head screwdriver with power grip No. 660701, size 3.5; 5.5		1 pc. each
HOLEX short slot-head screwdriver No. 664201 size 5.5		1 pc.
HOLEX screwdriver for Phillips No. 668401 size 1; 2		1 pc. each
HOLEX stub screwdriver for Phillips No. 668471 size 2		1 pc.
HOLEX combination pliers, vanadium No. 703000 size 180		1 pc.
HOLEX water pump pliers No. 706151 size 250		1 pc.
HOLEX engineer's hammer No. 750125 size 300		1 pc.

LD 45 30 | ¼″ | ½″ | 100 mm

Number of tools		82
91A 95 5025	HOLEX Socket set 1/4 inch and 1/2 inch	(XXX)
Width	mm	500
Depth	mm	400
Width in G		20
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 955025		1 pc.
HOLEX socket set No. 630002 size 82		1 pc.



Application example

LD 45 50 | 125 mm

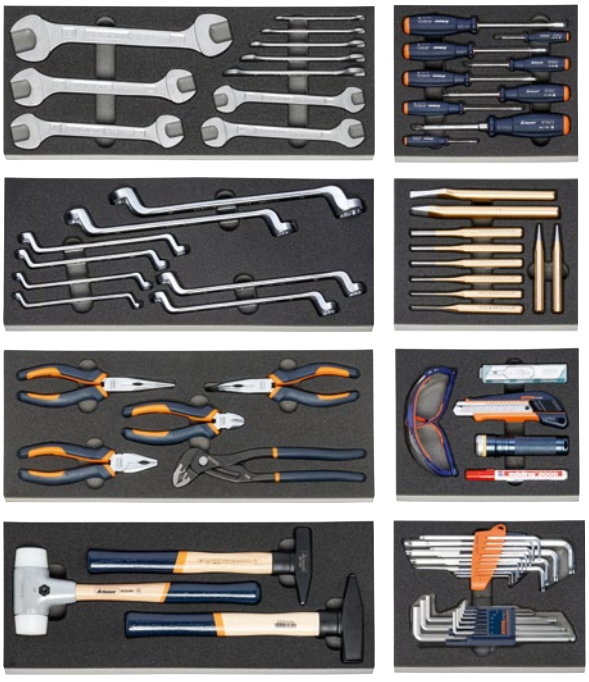
Number of tools		62
91A **95 5028**	Garant Universal cordless screwdriver set	(XXX)
Width	mm	500
Depth	mm	400
Width in G		20
Depth in G		16
Supplied with: Rigid foam inlay, empty No. 952001 size 955028		1 pc.
GARANT bits set 61 pieces No. 676040		1 pc.
GARANT easyPick small parts storage bin No. 951211 size 3×3/1		2 pcs.

20G 16G

GRID LINE

Rigid foam inlay basic sets (for several drawers of the roller cabinet)

Suitable for: Roller cabinets No. 914520 – 914582.



Type		G1
91A **95 5051**	Garant Tool organiser system set **for 3 drawers**	(XXX)
Supplied with: Double open-ended spanner set No. 952422 size 10		1 pc.
Double-ended ring spanner set No. 952443 size 8		1 pc.
Screwdriver set No. 953391 size 9		1 pc.
Pliers set No. 954201 size 5		1 pc.
Hammer set No. 954665 size 3		1 pc.
Chisel, taper pin punch, pin punch set No. 954652 size 10		1 pc.
Workshop accessory set No. 954852 size 5		1 pc.
Hexagon key L-wrenches for Torx® No. 953141 size 22		1 pc.

Type		H1
91A **95 5061**	HOLEX Tool organiser system set **for 2 drawers**	(XXX)
Supplied with: Combination spanner set No. 952435 size 19		1 pc.
Screwdriver set No. 953444 size 11		1 pc.
Pliers set No. 954207 size 5		1 pc.
Socket set No. 953704 size 20		1 pc.
Hexagon key L-wrench set No. 953147 size 17		1 pc.

LD 45 30 | 20G 20G | 100 mm

GRID LINE

Rigid foam inlay basic set (for one complete drawer, usable area 20×20G)

Suitable for: GridLine Ready-to-go workbenches,
GridLine Vario workbenches with 24G casing,
GridLine 24G casing,
GridLine 24×24G tool cabinets,
GridLine 20×20G drawers,
GridLine XL ToolCar No. 914590.

¼″

Number of tools		22
91A **95 5071** Garant Workshop set		(XXX)
Width	mm	500
Depth	mm	500
Width in G		20
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 955071		1 pc.
GARANT caliper No. 410100 size 150		1 pc.
GARANT external micrometer No. 420402 size 0 – 25		1 pc.
GARANT tape measure No. 462201 size 2.5		1 pc.
GARANT spirit level No. 467010 size 250		1 pc.
GARANT double open ended spanner No. 610600 size 8×9; 10×11; 12×13; 14×15; 17×19		1 pc. each
GARANT hexagon key L-wrench with retention ball No. 627132 size 9		1 pc.
GARANT slot-head screwdriver No. 660030 size 2.5; 4; 5.5		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 1; 2		1 pc. each
GARANT screwdriver holder with 1/4-inch bits with magnet No. 676663 size 10		1 pc.
GARANT combination pliers No. 700940 size 160		1 pc.
GARANT side cutter No. 724840 size 160		1 pc.
GARANT engineer's hammer No. 750110 size 200		1 pc.
GARANT heavy duty scissors No. 769240 size 175		1 pc.
GARANT pliers wrench No. 813501 size 180		1 pc.
GARANT universal knife No. 845020		1 pc.

Number of tools		26
91A **95 5081** HOLEX Workshop set		(XXX)
Width	mm	500
Depth	mm	500
Width in G		20
Depth in G		20
Supplied with: Rigid foam inlay, empty No. 952001 size 955081		1 pc.
HOLEX LED torch No. 081437 size BLACK		1 pc.
HOLEX digital caliper ABS No. 412821 size 150		1 pc.
HOLEX external micrometer No. 420200 size 0 – 25		1 pc.
HOLEX locking tape measure No. 462010 size 3		1 pc.
HOLEX spirit level No. 467435 size 300		1 pc.
HOLEX double open-ended spanner No. 610950 size 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×21; 19×22		1 pc. each
HOLEX hexagon key L-wrench set, No. 627225 size 9		1 pc.
HOLEX slot-head screwdriver with power grip No. 660701, size 3.5; 5.5; 8		1 pc. each
HOLEX short slot-head screwdriver No. 664201 size 5.5		1 pc.
HOLEX screwdriver for Phillips with power grip No. 668401 size 1; 2; 3		1 pc. each
HOLEX stub screwdriver for Phillips No. 668471 size 2		1 pc.
HOLEX combination pliers, vanadium No. 702995 size 160		1 pc.
HOLEX water pump pliers No. 706145 size 250		1 pc.
HOLEX snipe-nose pliers No. 713195 size 160		1 pc.
HOLEX engineer's hammer No. 750125 size 300		1 pc.

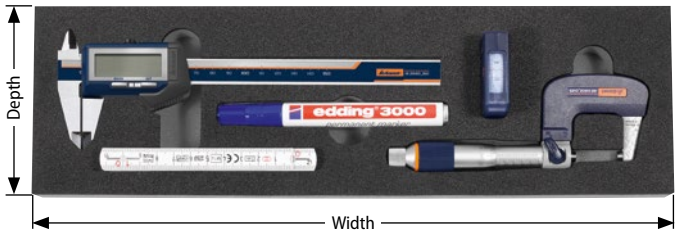
Tool organiser system for GARANT shadowboards

Popular tool sets in two-colour moulded PE rigid foam inlays.
The closed-pore foam is **oil-resistant** and does not absorb liquids of any sort.
The upper layer is anthracite, the underlying **contrast colour is grey,** thereby indicating **any missing tools.**
Suitable for: GARANT Shadowboards No. 92 8220 size 115 and size 176.

LD 45 30 | 115

Rigid foam inlay measuring tools

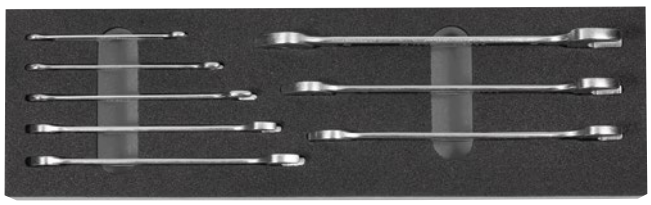
Number of tools		5
91A **95 5110**	Measuring tool set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955110		1 pc.
Edding permanent marker No. 085130 size B		1 pc.
GARANT digital caliper No. 412680 size 150		1 pc.
GARANT external micrometer No. 420402 size 0 – 25		1 pc.
Plastic folding rule No. 466200 size 1		1 pc.
GARANT tape measure No. 462201 size 2.5		1 pc.



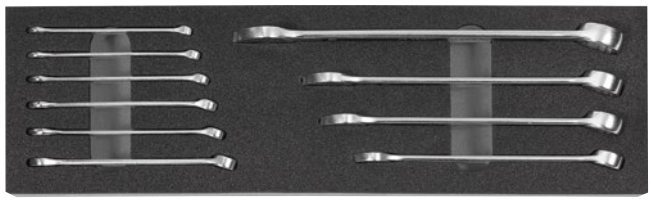
LD 45 30 | 115

Garant Rigid foam inlay spanners (ring spanners and open-ended spanners)

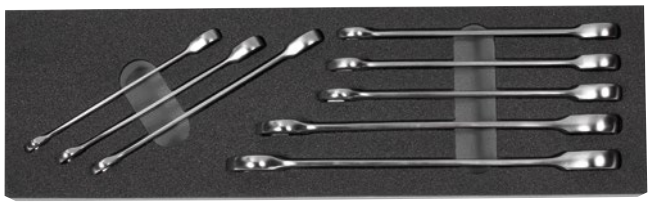
Number of tools		8
91A **95 5115**	Open ended spanner set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955115		1 pc.
GARANT open-ended spanner No. 610600 size 4×5; 6×7; 8×9; 10×11; 12×13; 14×15; 16×17; 18×19		1 pc. each

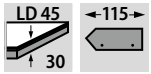


Number of tools		10
91A **95 5120**	Combination spanner set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955120		1 pc.
GARANT combination spanner No. 613600 size 5.5; 6; 7; 8; 9; 10; 13; 16; 17; 19		1 pc. each



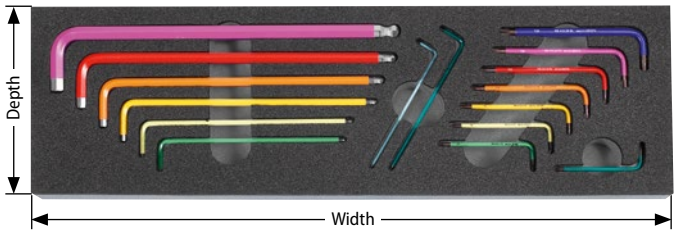
Number of tools		8
91A **95 5125**	Ratchet ring spanner set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955125		1 pc.
GARANT open ended / ratchet ring spanner No. 614800 size 8; 9; 10; 11; 12; 13; 16; 17		1 pc. each





Rigid foam inlay screwdrivers

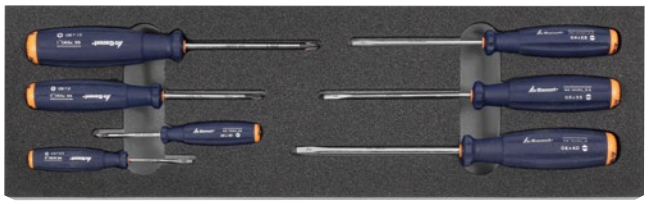
Number of tools		16
91A 95 5130	PB SWISS TOOLS L-wrench set, "Rainbow"	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955130		1 pc.
L-wrench for Torx® No. 624850 size TX6; TX7; TX8; TX9; TX10; TX15; TX20; TX25		1 pc. each
Hexagon key L-wrench with ball point No. 627140 size 1.5; 2; 2.5; 3; 4; 5; 6; 8		1 pc. each



Number of tools		7
91A 95 5135	Garant Screwdriver set for Torx®	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955135		1 pc.
GARANT screwdriver set for Torx® No. 625331 size 7 (TX6; TX7; TX8; TX9; TX10; TX15; TX20)		1 pc.

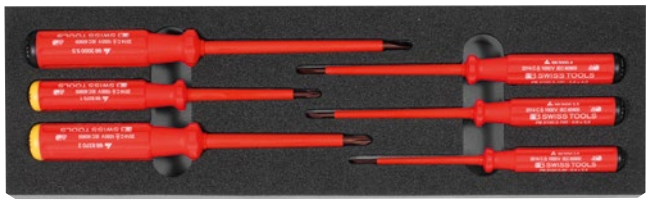
Number of tools		9
91A 95 5140	Wera Electronics screwdriver set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955140		1 pc.
Electronics screwdriver for Torx® No. 625770 size TX5; TX6; TX8; TX10		1 pc. each
Hexagon electronics screwdriver No. 627470 size 0.9; 1.3; 1.5; 2; 2.5		1 pc. each

Number of tools		7
91A 95 5145	Garant Screwdriver set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955145		1 pc.
GARANT slot-head screwdriver No. 660030 size 2; 2.5; 3.5; 4		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 00; 0; 1		1 pc. each



Number of tools		7
91A 95 5151	Wera Electronics screwdriver set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955151		1 pc.
Electronics slot-head screwdriver No. 664600 size 1.2; 1.5; 2; 3.5		1 pc. each
Electronics screwdriver for Phillips No. 668800 size 00; 0; 1		1 pc. each

Number of tools		6
91A 95 5156	PB SWISS TOOLS Screwdriver set **fully insulated**	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955156		1 pc.
Electrician's slot-head screwdriver No. 663000 size 2.5; 3.5; 4; 5.5		1 pc. each
Screwdriver for Phillips No. 668370 size 1; 2		1 pc. each

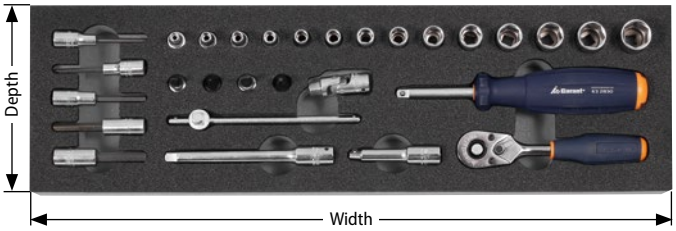


LD 45 30 | 115

Rigid foam inlay for socket sets

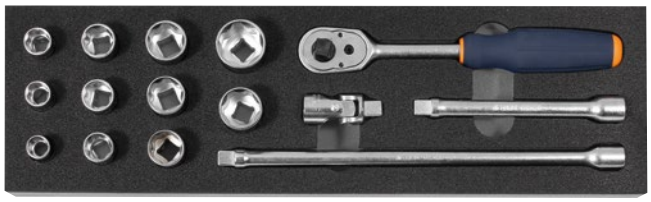
1/4″

Number of tools		29
91A 95 5160	Socket set 1/4 inch	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955160		1 pc.
GARANT hexagon socket 1/4 inch No. 631029 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13; 14		1 pc. each
HOLEX screwdriver bit 1/4 inch No. 631615 size 3.5; 5.5		1 pc. each
HOLEX screwdriver bit for Phillips 1/4 inch No. 631625 size 1; 2		1 pc. each
GARANT hexagon screwdriver bit 1/4 inch long No. 631729 size 2.5; 3; 4; 5; 6		1 pc. each
GARANT reversible ratchet, 1/4 inch No. 632025 size 1/4		1 pc.
GARANT extension 1/4 inch No. 632429 size 50; 100		1 pc. each
GARANT spinner handle 1/4 inch No. 632829 size 146		1 pc.
GARANT T-handle 1/4 inch No. 633029 size 116		1 pc.
GARANT universal joint 1/4 inch No. 633529 size 1/4		1 pc.



3/8″

Number of tools		15
91A 95 5165	Garant Socket set 3/8 inch	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955165		1 pc.
GARANT reversible ratchet, 3/8 inch No. 635025 size 3/8		1 pc.
GARANT extension 3/8 inch No. 635429 size 125; 240		1 pc. each
GARANT universal joint 3/8 inch No. 636229 size 3/8		1 pc.
GARANT hexagon socket 3/8 inch "Surface Drive" No. 637125 size 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 22		1 pc. each



LD 45 30 | 115

HOLEX Rigid foam inlay for pliers

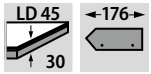
Number of tools		3
91A 95 5170	Pliers set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955170		1 pc.
HOLEX combination pliers No. 703000 size 160		1 pc.
HOLEX snipe-nose pliers, angled No. 713600 size 200		1 pc.
HOLEX side cutter No. 725250 size 160		1 pc.

LD 45 30 | 115

Rigid foam inlay for tool sets

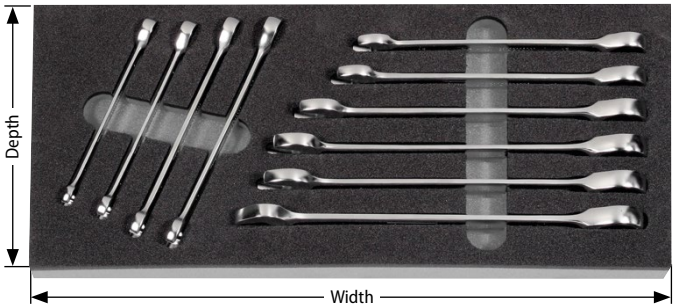
Number of tools		4
91A 95 5175	Workshop accessories set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955175		1 pc.
Inspection mirror 23 mm No. 081620 size 23		1 pc.
Telescopic inspection lamp No. 081665		1 pc.
UVEX cybrix safety goggles No. 096509 size CLEAR		1 pc.
GARANT universal knife No. 845020		1 pc.

Number of tools		4
91A 95 5180	Garant Bits set	(XXX)
Width	mm	383
Depth	mm	115
Supplied with: Rigid foam inlay, empty No. 952001 size 955180		1 pc.
Milled hole for 1/4 inch bit, empty		66 pcs.
GARANT shank with magnet No. 675050 size 6.3		1 pc.
GARANT screwdriver holder for 1/4 inch bits with magnet No. 676653 size 10; 30		1 pc. each
GARANT ratchet bit holder for 1/4 inch bits No. 676690 size 1/4		1 pc.



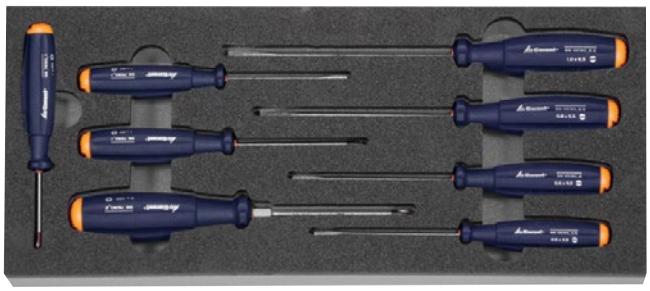
Rigid foam inlay for GARANT shadowboards, depth 176 mm

Number of tools		10
91A 95 5210	Garant Ratchet ring spanner set	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955210		1 pc.
GARANT open ended / ratchet ring spanner set No. 614810 size 10; (8; 9; 10; 11; 13; 14; 16; 17; 18; 19)		1 pc.



Number of tools		22
91A 95 5215	HOLEX Hexagon key L-wrenches / short screwdrivers	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955215		1 pc.
HOLEX hex key L-wrench set with ball point for Torx®, 8 pieces, TX 9 - TX 40, No. 624920 size 8		1 pc.
HOLEX hexagon key L-wrench set, long, with ball point, 9 pieces, 1.5 – 10 mm, No. 627225 size 9		1 pc.
HOLEX slot-head screwdriver, short, No. 664201 size 4; 5.5; 6.5		1 pc. each
HOLEX screwdriver for Phillips, short, No. 668471 size 1; 2		1 pc. each

Number of tools		8
91A 95 5220	Garant Screwdriver set	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955220		1 pc.
GARANT slot-head screwdriver No. 660030 size 2.5; 3.5; 4; 5.5; 6.5		1 pc. each
GARANT screwdriver for Phillips No. 667690 size 0; 1; 2		1 pc. each



¼″

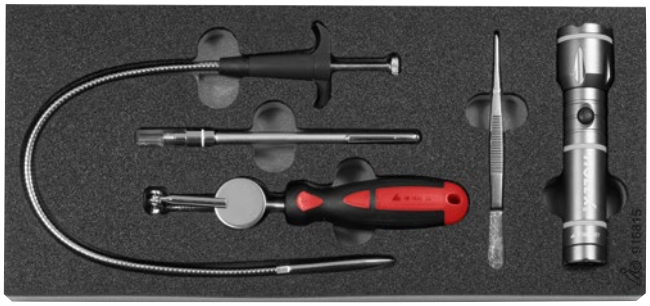
Number of tools		22
91A 95 5225	Garant Socket set 1/4 inch	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955225		1 pc.
GARANT hexagon socket No. 631029 size 3.5; 4; 4.5; 5; 5.5; 6; 7; 8; 9; 10; 11; 12; 13		1 pc. each
GARANT hexagon screwdriver bit No. 631729 size 3; 4; 5; 6		1 pc. each
GARANT T-handle No. 633029 size 116		1 pc.
GARANT spinner handle No. 632829 size 146		1 pc.
GARANT extension No. 632429 size 150		1 pc.
GARANT universal joint No. 633529 size 1/4		1 pc.
GARANT ratchet No. 632025 size 1/4		1 pc.

Number of tools		4
91A 95 5230	Garant Pliers set	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955230		1 pc.
GARANT water pump pliers No. 706001 size 250		1 pc.
GARANT side cutter No. 724840 size 160		1 pc.
GARANT snipe-nose pliers No. 713040 size 200		1 pc.
GARANT combination pliers No. 700940 size 180		1 pc.

Number of tools		2
91A 95 5235	Garant Hammer set	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955235		1 pc.
GARANT dead-blow plastic hammer No. 754750 size 40		1 pc.
GARANT engineer's hammer No. 750110 size 500		1 pc.

Number of tools		11
91A 95 5240	Chisel, taper pin punch, and pin punch set	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955240		1 pc.
Cold chisel 200 mm No. 740500 size 200		1 pc.
Cross-cut chisel 200 mm No. 740600 size 200		1 pc.
Taper pin punch No. 745500 size 3; 4		1 pc. each
Pin punch No. 747000 size 2; 3; 4; 5; 6; 8		1 pc. each
GARANT engineer's hammer No. 750110 size 300		1 pc.

Number of tools		5
91A 95 5245	Inspection tool set	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955245		1 pc.
Magnetic retriever with LED lamp No. 081665		1 pc.
Claw retriever No. 081610 size 500		1 pc.
HOLEX telescopic inspection mirror No. 081630 size 30		1 pc.
HOLEX LED torch No. 081437 size GREY		1 pc.
Tweezers No. 727550 size N		1 pc.



Number of tools		5
91A 95 5255	Marking out, drilling, deburring	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955255		1 pc.
GARANT jobber drill set HSS No. 115120 size 1 – 13		1 pc.
GARANT hand deburrer 90° No. 150400 size 12.4		1 pc.
Carbide scriber No. 458760		1 pc.
GARANT workshop straight edge No. 461170 size 300		1 pc.
Centre punch special quality No. 748900 size 120/10		1 pc.

Number of tools		9
91A 95 5260	Precision key files / PUK saw set	(XXX)
Width	mm	383
Depth	mm	176
Supplied with: Rigid foam inlay, empty No. 952001 size 955260		1 pc.
Key file set 6 pieces, No. 518970		1 pc.
Diamond wet stone No. 559150 size D25		1 pc.
PUK saw, adjustable No. 581200		1 pc.
Pack of PUK saw blades, 12 pieces, metal No. 581250		1 pc.

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Innovations –
Power tools & workshop accessories

We use this symbol to tag new items in our catalogue range

Page **982**
AEG
cordless drill/driver 65 Nm

Page **985**
BOSCH
cordless impact wrench
BITURBO

NEW

Page **987**
MILWAUKEE 1 inch
cordless impact wrench

Page **1013**
FEIN MultiMaster
new generation

Page **1023**
BOSCH
hand-held circular saw BITURBO

Page **1034**
KÄRCHER
cordless wet and dry vacuum cleaner

Page **1041**
STEINEL
cordless hot air gun 18 V

Page **1048**
CP pneumatic straight die grinder

Page **1053**
GARANT PU hose set

Page **1058**
HOLEX industrial
compressed air couplings

Page **1069**
LED machine lamp ring form

Page **1073**
Scangrip
cordless lamps, CAS

Page **1075**
GARANT
LED rechargeable pen light

Page **1086**
HOLEX
LED headlamp with battery

Page **1097**
GARANT GreenPlus
cleaning agents
with no hazard labels

Page **1102**
GARANT Green Plus
adhesives
with no hazard labels

Page **1108**
HOLEX
cartridge grease guns

Page **1153**
Attachment eye
Quick Lift DSR

Power tools & workshop accessories

Power tools, pneumatic tools, compressors, accessories — 07 — 972 – 1051

Compressed air accessories, hoses, hose reels — 080 — 1052 – 1062

Electrical accessories, cable drums, lighting, torches, batteries, grippers, inspection mirrors — 081 — 1063 – 1089

Soldering, thread repairing, extractors, ultrasonic cleaning baths — 082 — 1090 – 1096

Technical sprays, sealants, adhesives, nebulisers, containers, oilers, grease guns, adhesive tapes, cable ties — 083 — 1097 – 1122

Coolant pipework systems, coolants, cutting oils, oil absorbent fleeces — 084 — 1123 – 1128

Lettering, marking, labelling, punches, padlocks, magnets, welding aids — 085 — 1129 – 1146

Chain hoists, high-pressure hydraulics, hoists, chain slings, back-stops, machine supports, lever presses — 086 — 1147 – 1160

Painter's supplies, brooms, shovels, trowels, scrapers — 087 — 1161 – 1166

Cleaning wipes dispensers, cleaning wipes — 089 — 1165 – 1167

Pictograms and guidelines

Pictograms

MB 18	Battery management system	L-BOXX	Supplied in LBOXX. Modular cases with easy connection to each other.		Supplied in a transport case.	HD	HD modular case of ABS with easy Connection facility between them. Supplied in an HD box (modular case).
	Wireless charging. Wireless transmission of inductive energy for charging cordless tools		**ONE-KEY.** Wireless device settings, stock management and device reporting using an app via Bluetooth.			45°	Chamfer angle

Transport and delivery notes

For some products we are prevented by law from offering express delivery (by air freight) outside Germany.
Certain products cannot be delivered to some countries in Europe. These products are indicated by a special note in the catalogue.
The background to this are EU directives regarding carriage of hazardous goods. These directives require labelling of the product and a safety data sheet in the respective national language. In particular the labelling requirement applies to goods which are oxidising, explosive, and hazardous to health.

Note:
Not available in all countries.
Express delivery not available.

The following items in our range fall into these categories:
■ Li-ion batteries ■ Technical sprays ■ Adhesives and sealants ■ Cutting oils ■ Batteries ■ Magnets

Pneumatic power tools

Lubrication: Pneumatic tools may only be used with a service unit (e.g. No. 08 0012) consisting of water separator, oiler and pressure reducer, and on long pneumatic hoses an additional supplementary oil atomiser such as No. 08 0022 (except for oil-free tools).

Performance data: All services are provided in accordance with the standards in force and also apply to new of well–maintained used pneumatic tools. They relate to a dynamic pressure of 6.3 bar and the recommended hose sizes.
1/4 inch BSP thread is equivalent to a tapered R 1/4 inch thread.

Warranty conditions (only with proof of purchase by invoice or delivery note).

Note: *** Warranty conditions do not apply for accessories such as rechargeable batteries and wearing parts. Some extended warranty conditions are applicable only after registration via the manufacturer's web page. These may differ from country to country.**

Manufacturer	Warranty conditions*	Terms and conditions / auxiliary service
BOSCH	3 years on electric tools.* 2 years on devices powered by Li-ion batteries, including the batteries and their chargers	**Online registration within the first 4 weeks after purchase.** See user manual or www.bosch-pt.com/warranty
	3 years on electric tools.* 1 year on high-frequency and ACCU TECH tools. 3 years on Li-ion batteries.	**Online registration within the first 6 weeks after purchase.** See user manual or www.fein.com Li-ion batteries: Application for the Fein Plus warranty.
AEG	6 years on electric tools.* 3 years on Red Li-ion batteries.	**Online registration within the first 4 weeks after purchase.** See user manual or www.aeg-powertools.de
Milwaukee	3 years on electric tools.* 2 years on Red Li-ion batteries.	**Online registration within the first 4 weeks after purchase.** See user manual or www.milwaukeetool.de – for additional registration for 1 year full service (including wearing parts) for electric tools (only in Germany and Austria).
FLEX	1 year on electric tools.*	**Online registration within the first 4 weeks after purchase.** Registration via the FLEX-Service app extends the warranty to 3 years (only in Germany and Austria).
KÄRCHER	1 year.*	**Online registration within the first 4 weeks after purchase.** See user manual or www.kaercher.com. Warranty extension by 12 months available.
	1 year.*	See www.reichmann.com
Nilfisk	2 years on electric appliances for private use * 1 year for standard use.	See www.nilfisk.com
ALZMETALL	2 years warranty on single-shift operation.	Send back the warranty application card within the first 4 weeks after purchase.
steinel	1 year on electric appliances.*	www.steinel-professional.de
Atlas Copco	1 year on pneumatic tools.*	See user manual or www.atlascopco.com
	1 year on pneumatic and electric tools.*	See user manual or www.dynabrade.com
LEDLENSER	5 years on H series, P series and i-series.*	**Online registration** extends the warranty to 7 years. See the registration card with QR code (supplied with the goods).
SCANGRIP	3 years on lights* excl. LITE lights	**Online registration within the first 4 weeks after purchase.** See www.scangrip.com.
DYMO	2 years on types LM, MOBILE, and RHINO. 3 years on type XTL.	**Online registration** See the instruction manual or www.dymo.com/register Warranty extension by 12 months available.

Tool selection, vibration values

Tool selection: When selecting cordless tools the critical factor is the intended application.
All cordless screwdrivers in the catalogue are divided into 4 categories to ensure a long working life:

L	Light	Light-duty screwdriving applications
M	Medium	Medium drilling and screwdriving applications
S	Strong	Heavy screwdriving and drilling applications
HD	Heavy Duty	Heavy-duty application, very high torques

Vibration directive: The European directive 2002/44/EC regulates the maximum permissible exposure of the body to vibration hazardous to health which occurs when using hand-held power tools.
The measured values listed are 3-axis measured values for hand-arm vibration in m/s^2.

The stated value applies to cutting discs. Higher values apply to rough grinding discs.

Vibration exposure m/s^2	< 2.5 (threshold value)	2.5 – 5	> 5 (exposure limit value)
Duties of the employer	No preventative measures necessary.	Avoidance of increased exposure of the employee to vibration.	Reduction of the exposure to vibration.

Cordless hammer drill / driver 18V

2-Speed cordless impact drill screwdriver with brushless motor.

- Electronic speed control for smooth, safe starts to drilling and screw driving; reversible.
- 2-speed all-metal gearbox with selectable hammer drive in metal, stone and masonry.
- Multi-stage torque adjustment and removable drill chuck.

07 0100 – ■ With QuickIN all-metal drill chuck (120 Nm) with carbide-coated jaws and high clamping forces.
■ FEIN SafetyCell technology. Protects the battery and the machine against overheating and deep discharge.

Size BSB18C2X24 – Compact and powerful 18V cordless impact wrench for the most demanding applications.

_7113236H3 _71132364

Supplied with:

Size 71132364 – **Without battery and without charger.**
Size BSB18C2X24 – 1 × 18 V/ 2.0 Ah and1 × 18 V/ 4.0 Ah PRO Li-ion batteries, 1 × charger, carrying case.
Size 71132364; 7113236H3 – Supplied with 1 × QuickIN drill chuck (120 Nm), 1 × belt clip, 1 × bit garage, carrying case.

Note:
07 0100 – See from No. 073835 for suitable batteries and chargers, No. 073832 for suitable starter kits.
07 0229 – See No. 073820, 073841 and 073842 for suitable batteries and chargers.

_BSB18C2X24

Type			7113236H3	71132364	BSB18C2X24
03F 07 0100		Cordless hammer drill / driver	–	XXX	–
07A 07 0229	AEG	Cordless compact hammer drill / driver	–	–	XXX
Manufacturer's designation			ASB 18 Q	ASB 18 Q select	BSB 18C2XLI-X02C
Battery capacity		Ah	3	–	2; 4
Battery voltage		V		18	
Motor design				Brushless	
maximum torque soft		Nm		32	
maximum torque hard		Nm	60	60	50; 60
maximum speed 1st speed		rpm		0 – 450	
maximum speed 2nd speed		rpm	2000	2000	1800
Quick-clamping chuck range		mm		1.5 – 13	
maximum twist drill size ∅ in steel		mm		13	
maximum twist drill size ∅ in wood		mm	50	50	45
maximum twist drill size ∅ in concrete		mm	13	13	14
maximum vibration to EN with hammer drill function		m/s^2		13	
maximum vibration to EN without hammer drill function		m/s^2		< 2.5	
Weight		kg	1.8	1.3	1.7
typical application				Heavy Duty	

QuickIN accessories set for extension of all FEIN cordless drill / drivers with a QuickIN interface in the application fields screwing and tapping.

Supplied with: Metal angular head, nut spinner adapter 1/2 inch, bit holder 1/4 inch, tapping adapter with two collets for shank ∅ 4.5 and 6 mm.

07 0208

Type			711301
03G 07 0208		Accessories for hand-held screwdrivers **Quick-In**	XXX

Cordless hammer drill / driver

- Powerful cordless 2-speed hammer drill / driver with **multi-stage torque setting.**
- **REDLITHIUM-ION™** Red Li-ion batteries with single-cell monitoring and charge display.
- **Sturdy metal gearbox** for long working life.
- **FIXTEC metal quick-change chuck** with spindle lock.
- Handle with Softgrip coating for comfortable use.
- LED illumination of the working area.
- **Brushless POWERSTATE™-**motor (not size M18BPD4) for very high efficiency. Very low wear and **up to 10 times the working life** of standard DC motors.
- **REDLINK PLUS™** electronics overload protection and power management.

Size M18OPD2-5 – FUEL™ ONE-KEY™ – latest generation of the FUEL™ devices with **integral Bluetooth technology for individual configuration, online stock management** and **device reporting.**

Size M18BPD4 – With low-maintenance 4-pole DC motor.

Size M12FPD2XK – FUEL™ compact cordless hammer drill/driver with **6-in-1 drilling system. Removable drill chuck system with 3 attachments for maximum flexibility.**

07 0110 Size M18FPD2-2; M18FPD2-5 – FUEL™ with high torque.

Size M12FPD6–M12FPD2 – FUEL™ compact cordless hammer drill/driver with only 168 mm tool length. 16-stage electronic torque adjustment plus drill step plus hammer drill mode.

Supplied with:

Size M12FPD6 – Supplied with 2× Li-ion batteries, charger, carrying case (HD box) and belt clip.

Size M12FPD2XK – Supplied with 2 pcs. Li-ion batteries, charger, transport case (HD box) and belt clip, 13 mm quick-change chuck, eccentric attachment, offset screwdriving attachment.

07 0111 – Zero version – without battery, charger or transport case, with belt clip.

07 0102 Size M18OPD2-5/0110 Size M12FPD2; M12FPD4; M18FPD2-2; M18FPD2-5; M18BPD4 – Supplied with 2 pcs. Li-ion batteries, charger, transport case (HD box) and belt clip.

Note: See from No. 073814 and 073840 for suitable batteries and chargers. Suitable Bluetooth tracking module can be found in the online shop.

07 0111 – See No. 073839 for a suitable starter set.

07 0102_M18OPD2-5

07 0110_M18FPD2-5

07 0110_M18FPD2-2

Bluetooth tracking module

07 0110_M18BPD4

07 0110_M12FPD2XK

07 0110_M12FPD6

07 0110_M12FPD2

Type		M18OPD2-5	M18FPD2-5	M18FPD2-2	M18BPD4	M12FPD6	M12FPD4	M12FPD2	M12FPD2XK
07 0102	ONE-KEY™ cordless hammer drill / driver	XXX	–	–	–	–	–	–	–
07 0110	Cordless hammer drill / driver	–	XXX	–	XXX	XXX	XXX	XXX	XXX
07 0111	Cordless hammer drill / driver without battery or charger	–	–	XXX	–	–	–	XXX	–
Manufacturer's designation		M18ONE-PD2-502X	M18FPD2-502X	M18 FPD2	M18BPD-402X	M12FPD-602X	M12FPD-402X	M12 FPD2	M12FPDX-KIT-202X
Battery capacity	Ah	5	5	2	4	6	4	2	2
Battery voltage	V	18	18	18	18	12	12	12	12
Motor design		FUEL™	FUEL™	FUEL™	4-pin	FUEL™	FUEL™	FUEL™	FUEL™
maximum torque	Nm	135	135	135	60	44	44	37	37
maximum speed 1st speed	rpm	0 – 550	0 – 550	0 – 550	0 – 450	0 – 450	0 – 450	0 – 450	0 – 450
maximum speed 2nd speed	rpm	2000	2000	2000	1800	1700	1700	1700	1700
Quick-clamping chuck range	mm	1.5 – 13							
maximum twist drill size ∅ in steel	mm	16	16	16	13	13	13	13	13
maximum twist drill size ∅ in wood	mm	89	89	89	38	35	35	35	35
maximum twist drill size ∅ in concrete	mm	16	16	16	16	13	13	13	13
maximum vibration to EN with hammer drill function	m/s^2	13.2	13.2	13.2	13	30.8	30.8	30.8	30.8
maximum vibration to EN without hammer drill function (07 0102, 07 0110)	m/s^2	1.33	1.33	1.33	0.95	<2.5	<2.5	<2.5	<2.5
maximum vibration to EN without hammer drill function (07 0111)	m/s^2	–	–	1.33	–	–	–	< 2.5	–
Weight	kg	2.2	2.2	2.1	2.1	1.5	1.5	1.2	1.2
typical application		Heavy Duty	Heavy Duty	Heavy Duty	Strong	Strong	Strong	Strong	Strong

BOSCH Cordless hammer drill / driver

Bosch cordless hammer drill / driver for very heavy-duty screwdriving, drilling and hammer drilling applications.

- **Electronic Cell Protection (ECP)** protects the battery against overheating and deep discharge.
- **Electronic Motor Protection (EMP)** protects the motor against overloading.
- Mechanical multi-stage **torque cut-out.**
- Handy **belt clip** (not 070104).
- Integral **LED light, battery charge indicator.**
- Quick-clamping drill chuck.

07 0104 – Sturdy and handy cordless drill / driver, only **1 kg** in weight.

07 0105 – Robust cordless screwdriver with powerful DC motor.

07 0105 Size GSB1821/0106 Size GSB1860PC; GSB18110C/0113 Size GSB1860PRO – With motor brake.

07 0106/0113 – With **brushless EC motor.**
Kick-back control with automatic shut-down if jammed, together with unique precision clutch. Compact design, very short head length (only 184 mm) for perfect handling (size GSB1860PC), therefore ideal for working in restricted spaces. Can be retrofitted with a connectivity module.

Supplied with:

07 0104 – Supplied with 2× 12V Li-ion batteries, charger and transport bag.

07 0105 – Supplied with 2× 18V / 2.0 Ah Li-ion battery, charger and L-BOXX.

07 0106 – Supplied with 2× ProCORE 18V 4.0 Ah Li-ion batteries, charger and L-BOXX.

07 0113 – Cordless Concept impact wrench **without battery,** without charger and with L-BOXX.

Note:	See from No. 073851 and 073866 for suitable replacement batteries and chargers.

07 0104_GSB1215B _GSB1235

07 0105_GSB1821

07 0113_GSB1855

07 0106_GSB18110C

07 0106_GSB1860PC

07 0113_GSB1860PRO

Type		GSB1215B	GSB1235	GSB1821	GSB1855	GSB1860PC	GSB18110C	GSB1860PRO
03B 07 0104	Cordless hammer drill / driver	XXX	XXX	–	–	–	–	–
03B 07 0105		–	–	XXX	–	–	–	–
03B 07 0106	Cordless hammer drill / driver **ProCORE**	–	–	–	–	XXX	XXX	–
03B 07 0113	Cordless hammer drill / driver without battery or charger	–	–	–	XXX	–	–	XXX
Manufacturer's designation		GSB 12V-15	GSB 12V-35	GSB 18V-21	GSB 18V-55	GSB 18V-60 PC	GSB 18V-110C	GSB 18V-60C
Number of rechargeable batteries contained		2	2	2	2	2	2	0
Type of rechargeable battery		Lithium-ion						
Battery capacity	Ah	2	3	2	4	4	4	–
Battery voltage	V	12	12	18	18	18	18	18
Motor design		Motor with brushes	Brushless motor	4-pole DC motor	Brushless motor	Brushless motor	Brushless motor	Brushless motor
maximum torque soft	Nm	15	20	21	28	31	47	31
maximum torque hard	Nm	30	35	55	55	60	85	60
maximum speed 1st speed	rpm	0 – 380	0 – 460	0 – 480	0 – 460	0 – 600	0 – 480	0 – 600
maximum speed 2nd speed	rpm	1300	1750	1800	1800	1900	2100	1900
Quick-clamping chuck range	mm	1 – 10	1 – 10	1.5 – 13	1.5 – 13	1.5 – 13	1.5 – 13	1.5 – 13
maximum twist drill size ∅ in steel	mm	10	10	10	13	10	13	10
maximum twist drill size ∅ in wood	mm	19	32	35	35	38	82	38
maximum twist drill size ∅ in concrete	mm	10	10	–	13	10	16	10
maximum vibration to EN with hammer drill function	m/s^2	10.5	10.5	–	11	8	12.5	8
maximum vibration to EN without hammer drill function	m/s^2	<2.5	<2.5	2.5	1.5	2.5	2.5	2.5
Weight	kg	1	1	1.5	1.1	1.9	2.1	1.8
typical application		Medium	Medium	Medium	Medium	Strong	Strong	Strong

BOSCH ProCORE 18 V

Revolutionary cordless technology through new cell generation 21700 for batteries 4.0 Ah / 8.0 Ah / 12.0 Ah.
Longer running time and up to 87% more power per cell (power 86 W vs. 162 W) with only 47% increase in cell volume.
Flexible application possibilities thanks to compatibility with all 18 V Bosch power tools and chargers.

4.0 Ah / 810 W
07 3856_C18

8.0 Ah / 1620 W
07 3857_C18

12.0 Ah / 1980 W
07 3858_C18

L-BOXX B 18

BOSCH Cordless drill / driver 18 V

Cordless drill/driver

- Compact, powerful cordless drill with forward/reverse operation.
- With **Electronic Motor Protection (EMP)** and **Electronic Cell Protection (ECP).**
- LED light to illuminate the working area and **battery charge display**.
- **Multi-stage torque setting** for precise screw driving.
- **Electronic speed control** for precise drilling and screw driving.
- **Softgrip**.

Size GSR1860FCS – Full flexibility: With many adjustable options, the **FlexiClick** system is the optimum solution for all working situations.

07 0243 – Outstanding available and comfortable handling due to **compact design**. **Motor brake** for precise working.

07 0245 – **Kick-back control** with automatic shut-down if jammed, together with unique precision clutch and motor brake. 13 mm auto-lock metal drill chuck. High torque.

07 0107/0245/0246 –Can be retrofitted with a **connectivity** module.

Supplied with:

Size GSR1860FCS – Without battery, without charger. Supplied with adjustable options within the FlexiClick system: Drill chuck, angled option, eccentric option, SDS-Plus hammer option including additional handle, L-BOXX.

Size GSR1821 – Supplied with 2× 18 V / 2 Ah Li-ion battery, charger and L-Boxx.

Size GSR1860C – Cordless Concept impact wrench **without battery,** without charger and with L-BOXX.

Size GSR1860PRO; GSR18110C – Supplied with 2× ProCORE 18V 4.0 Ah Li-ion batteries, quick charger, L-BOXX.

Note:	See No. from 073851 and No. 073863 – 073867 for suitable replacement batteries, starter sets and chargers.

07 0243_GSR1821

07 0246_GSR1860C

07 0245_GSR18110C

07 0245_GSR1860PRO

07 0107_GSR1860FCS

Type		GSR1821	GSR1860C	GSR1860PRO	GSR1860FCS	GSR18110C
03B 07 0243	Cordless drill / driver	XXX	–	–	–	–
03B 07 0245	Cordless drill / driver **ProCORE**	–	–	XXX	–	XXX
03B 07 0246	Cordless drill / driver without battery or charger	–	XXX	–	–	–
03B 07 0107	FlexiClick system cordless drill / driver	–	–	–	XXX	–
Manufacturer's designation		GSR 18V-21	GSR 18V-60C	GSR 18V-60C	GSR 18V-60FC	GSR 18V-110C
Motor design		4-pole DC motor	Brushless motor	Brushless motor	Brushless motor	Brushless motor
Number of rechargeable batteries contained		2	–	2	–	2
Type of rechargeable battery				Lithium-ion		
Battery capacity	Ah	2	–	4	–	4
Battery voltage	V			18		
maximum torque soft	Nm	21	31	31	31	47
maximum torque hard	Nm	55	60	60	60	110
Speed range 1st speed	rpm	0 – 480	0 – 600	0 – 600	0 – 600	0 – 480
Speed range 2nd speed	rpm	0 – 1800	0 – 1900	0 – 1900	0 – 1900	0 – 2100
Quick-clamping chuck range	mm			1.5 – 13		
maximum twist drill size ∅ in steel	mm			13		
maximum twist drill size ∅ in wood	mm	35	38	38	38	82
Weight	kg	1.7	1.8	1.8	1.7	2.2
maximum vibration to EN	m/s²			<2.5		
typical application		Medium	Strong	Strong	Strong	Heavy Duty

B 12

BOSCH Cordless drill / driver 12 V

Bosch cordless drill / driver

- Compact, powerful **12 V cordless drill** with forward/reverse operation.
- With **Electronic Motor Protection (EMP)** and **Electronic Cell Protection (ECP).**
- LED light to illuminate the working area and **battery charge display**.
- **Multi-stage torque setting** for precise screw driving.
- **Electronic speed control** for precise drilling and screw driving.
- **Softgrip**.

07 0241 – **Top power-weight ratio** with up to 20 Nm torque for powerful screwdriving, yet low weight and very short head 163 mm.
Long service life thanks to **brushless EC motor.**

07 0242/0244 – Precise operation even where access is difficult due to compact size **with bit holder** or interchangeable **angle drilling attachment or eccentric drilling attachment.**
Flexible working thanks to the quick-change system with four different **FlexiClick**-heads.
Comfortable to use: Attachments remain for simply setting 16 different positions on the device.

Supplied with:

07 0240 – Supplied with charger and transport bag.

Size GSR1235 – Supplied with charger and L-BOXX.

Size GSR1235HX – Including 2× 12 V / 3.0 Ah Li-ion battery, charger, L-BOXX, belt clip, bit holder, 1/2 L-BOXX inlay for device and charger, 1/2 L-BOXX inlay, accessories.

07 0244 – **Without battery,** without charger (cordless concept), supplied with eccentric option, chuck, angle option, bit-holder.

Size GSR1215FC; GSR1235FCF – Supplied with charger, eccentric option, drill chuck, angle option, bit holder and L-BOXX.

Note:	Suitable spare batteries and chargers can be found under No. 073851 – 073866.

07 0240_GSR1215B

Lockable
HX 1/4 inch bit holder

07 0241_GSR1235HX

07 0242_GSR1215FC

07 0241_GSR1235

07 0242_GSR1235FCF

07 0244_GSR1235FCS

Type		GSR1215B	GSR1215FC	GSR1235	GSR1235HX	GSR1235FCF	GSR1235FCS
03B 07 0240	Cordless drill / driver	(XXX)	–	–	–	–	–
03B 07 0241		–	–	(XXX)	(XXX)	–	–
03B 07 0242	Cordless drill/driver with exchangeable drill chuck	–	(XXX)	–	–	(XXX)	–
03B 07 0244		–	–	–	–	–	(XXX)
Manufacturer's designation		GSR 12V-15	GSR 12V-15FC	GSR 12V-35	GSR 12V-35 HX	GSR 12V-35 FC	GSR 12V-35 FC
Motor design		2-pole motor	2-pole motor	Brushless motor	Brushless motor	2-pole motor	2-pole motor
Battery capacity	Ah	2	2	3	3	3	–
Battery voltage	V	12					
maximum torque soft	Nm	15	15	15	15	20	20
maximum torque hard	Nm	30	30	30	30	35	35
Speed range 1st speed	rpm	0 – 380	0 – 400	0 – 400	0 – 400	0 – 460	0 – 460
Speed range 2nd speed	rpm	0 – 1300	0 – 1300	0 – 1750	0 – 1750	0 – 1300	0 – 1300
Quick-clamping chuck range	mm	0 – 10					
maximum twist drill size ∅ in steel	mm	10					
maximum twist drill size ∅ in wood	mm	19	19	19	19	32	32
Weight	kg	1	0.8	0.8	0.8	0.8	0.8
maximum vibration to EN	m/s²	<2.5	< 1.9	<1.9	< 1.9	<1.9	<1.9
typical application		Medium	Strong	Strong	Strong	Strong	Strong

FE 18

Cordless drill / driver 18 V

Cordless drill / driver

- For **precise** drilling and screw tightening results.
- **Electronic speed control** for smooth, safe starts to drilling and screw driving; reversible.
- **Sturdy metal gearbox** for long working life.
- **Good weight balance and ergonomics** with softgrip inserts for non-tiring continuous work.
- **Li-ion batteries** with high current capability, single-cell monitoring, and capacity display.

07 0200 – **Cordless 4-speed drill / driver with brushless EC motor**

- **Extremely powerful drill / driver** with high concentricity.
- **Maintenance-free brushless EC motor** with 30% higher efficiency than DC motors, and high speed stability.
- **Very low wear** and up to **10 times the working life** of standard DC motors.
- The high efficiency and the increased battery capacity permit up to **50 % longer operating times.**
- **Patented 4-speed gearbox** with direct drive for positive screw tightening, drilling at optimised speed, together with thread tapping.
- **Multi-stage torque setting** adjustable in 15 steps, additional drilling step.

With removable **QuickIN quick-change drill chuck** and **carbide-coated jaws.**

Size 7113226H1 – **Cordless 2-speed drill / driver**

- Low-maintenance POWER-Drive EC DC motor with high torque and overload protection.
- **Mechanical torque cut-out adjustable,** in 22 steps, additional drilling step.

Size 71132264; 7116116H1 – **2-speed cordless impact drill / driver with brushless motor.**

- Low-maintenance, POWER-Drive EC motor with high torque, and overload protection.
- **Mechanical stage torque setting,** adjustable in 22 steps, additional drilling step.
- For **precise** drilling and screwdriving results.
- **Electronic speed control** for smooth, safe starts to drilling and screw driving; reversible.
- **Sturdy metal gearbox** for long working life.
- **Good weight balance and ergonomics** with softgrip inserts for non-tiring continuous work.
- **Li-ion batteries** with high current capability, single-cell monitoring, and capacity display.

Supplied with:

Size 7116116H1 – Supplied with 2× 18 V Li-ion batteries, drill chuck, charger, belt clip, carrying case.

Size 711SET – Comprehensive **professional thread tapping set** ideal for metalworking.

- QuickIN bit holder (1/4 inch).
- QuickIN tapping adapter with 2 collets.
- QuickIN socket adapter.
- Angle head.
- Charger and 2 x batteries.

Size 7113226H1 – Supplied with drill chuck, belt clip, transport case and charger.

07 0200 Size 71161164; 71161264/0205 Size 71132264 – Supplied with drill chuck, belt clip and transport case. **Without battery and without charger.**

Note:

07 0200 – See from No. 073834 and No. 073845 for suitable replacement batteries and chargers.

07 0205 – See No. 073832 size 9260431701 for suitable starter kits (consisting of spare battery and charger).

_7113226H1

_71132264
_71161264

_7116116H1

_711SET

_71161164

Type		7113226H1	71132264	7116116H1	711SET	71161164	71161264
03F 07 0205	Cordless 2-speed drill / driver	–	(XXX)	–	–	–	–
03F 07 0200	Cordless 4-speed drill / driver	–	–	–	–	(XXX)	(XXX)
Manufacturer's designation		ABS 18Q	ABS 18Q Select	ASCM 18 QM	ASCM 18 QMSET	ASCM 18 QMSelect	ASCM 18 QSW Select
Battery capacity	Ah	3	–	6	6	–	–
Battery voltage	V	18					
maximum torque soft	Nm	32	32	46	46	45	20
maximum torque hard	Nm	60	60	90	90	90	40
maximum speed 1st speed	rpm	450	450 – 450	400	400	400 – 400	400
maximum speed 2nd speed	rpm	2000	2000	800	800	800	700
maximum speed 3rd speed	rpm	–	–	1950	1950	1950	1400
maximum speed 4th speed	rpm	–	–	3850	3850	3850	2500
Quick-clamping chuck range	mm	1.5 – 13					
maximum twist drill size ∅ in steel	mm	13	13	25	25	25	13
maximum twist drill size ∅ in wood	mm	50	50	50	50	50	40
Weight	kg	1.7	1.3	2	2	1.5	1.2
maximum vibration to EN	m/s²	<2.5					
typical application		Strong	Strong	Heavy Duty	Heavy Duty	Heavy Duty	Heavy Duty

07

FE 12

Cordless drill / driver 12 V

Cordless drill / driver

- For **precise** drilling and screw tightening results.
- **Electronic speed control** for smooth, safe starts to drilling and screw driving; reversible.
- **Sturdy metal gearbox** for long working life.
- **Good weight balance and ergonomics** with softgrip inserts for non-tiring continuous work.
- **Li-ion batteries** with high current capability, single-cell monitoring, and capacity display.

07 0204 – **Powerful 12V cordless drill / driver with brushless motor with 4-speed gearbox and removable drill chuck.**

- Brushless FEIN power drive motor, powerful and maintenance-free for maximum efficiency and working life.
- **QuickIN quick-change system.**
- **Removable drill chuck** in all-metal design for outstanding load capacity under the toughest conditions.
- Optimum cutting speed for every drill diameter, thanks to 4-speed all-metal gearbox.
- Drill 6mm holes in metal in 4th gear at 2500 rpm.
- Powerful thread tapping in 1st gear.
- Optimum speeds for self-tapping screws, stepped drills or the thread tapping.
- Compact 150mm long (without drill chuck).
- FEIN SafetyCell Technology. Protects the battery and the machine against overheating and deep discharge.
- **Maintenance-free, brushless EC motor** with 30 % higher efficiency than DC motors, and high speed stability.
- **Very low wear** and up to **10 times the working life** compared to standard DC motors.
- **Patented 4-speed gearbox** with direct drive for positive screw tightening, drilling at optimised speed, and for thread tapping.

Mechanical torque cut-out adjustable in 20 steps, additional drilling step.

Supplied with:

Size 7116106H1 – Including battery starter set 12 V / 3.0 Ah, drill chuck, belt clip, carrying case and charger.

Size 711SET – Comprehensive **professional thread tapping set** ideal for metalworking.

- QuickIN bit holder (1/4 inch).
- QuickIN tapping adapter with 2 collets.
- QuickIN socket adapter.
- Angle head.

07 0204 Size 711SET; 71161064/0205 Size 71132064 – **Without battery and without charger.**

Size 71161064; 71132064 – Supplied with drill chuck, belt clip and transport case.

Note:	See No. 073832 size 9260431701 for suitable starter kits (consisting of spare battery and charger).

_71132064

_7116106H1

_711SET

_71161064

Type		71132064	7116106H1	711SET	71161064
03F 07 0204	Cordless 4-speed drill / driver	–	–	(XXX)	(XXX)
03F 07 0205	Cordless 2-speed drill / driver	(XXX)	–	–	–
Manufacturer's designation		ABSU 12 SELECT	ASCM 12Q	ASCM 12Q SET	ASCM 12Q SELECT
Battery voltage	V	12			
Battery capacity	Ah	–	3		–
maximum torque soft	Nm	14	20	20	20
maximum torque hard	Nm	20	40	40	40
maximum speed 1st speed	rpm	400			
maximum speed 2nd speed	rpm	1300	700	700	700
maximum speed 3rd speed	rpm	–	1400	1400	1400
maximum speed 4th speed	rpm	–	2500	2500	2500
Quick-clamping chuck range	mm	1 – 10	1.5 – 13	1.5 – 13	1.5 – 13
maximum twist drill size ∅ in steel	mm	10	13	13	13
maximum twist drill size ∅ in wood	mm	30	40	40	40
Weight	kg	1.2	1.3	1.3	1.1
maximum vibration to EN	m/s²	< 2.5	<2.5	<2.5	<2.5
typical application		Strong	Heavy Duty	Heavy Duty	Heavy Duty

HD MB 18

Cordless drill / driver 18 V

MILWAUKEE – Cordless power drill
Powerful cordless 2-speed drill / driver, reversible. REDLITHIUM™ rechargeable batteries with **single-cell monitoring** and **charge status display.**
Sturdy **metal gearbox** for long working life.
FIXTEC metal quick-clamping drill chuck with spindle lock.
LED illumination of the working area. Handle with Softgrip coating for comfortable use.

Size M18ODD2-5 – M18 FUEL™ **ONE-KEY™** Cordless drill / driver with high torque.

07 0210 Size M18FDD2-2; M18FDD2-5/0212 Size M18ODD2-5 – Top model FUEL™ with **brushless POWERSTATE™ motor** for very high efficiency. **Very low wear** and up to 10 times the working life of standard DC motors. The high efficiency and the enhanced battery capacity permit **up to 2× longer operating times** (compared to other Li-ion technologies). **REDLINK PLUS™ electronics** – for unique power management:

- With **system communication** between the drive machine and battery.
- With **overload protection** for longer working life of the battery, motor, and gearbox.

Size M18CBLDD-4; M18CBLDD-2 – With low-maintenance brushless motor with high torque. **REDLINK™ electronics** – reliable load management with **overload protection** for long working life of the battery, motor and gearbox.

Supplied with:

07 0211 – Version **without rechargeable battery, charger.** Includes transport case.

07 0212 – Supplied with 2× M18 B5 Red-Li-ion rechargeable batteries, M12-18 FC charger, belt clip, HD box (carrying case).

07 0210 Size M18FDD2-2; M18FDD2-5/0212 Size M18ODD2-5 – Supplied with additional handle for easier support of the torque forces.

Size M18FDD2-5; M18FDD2-2; M18CBLDD-4; M18CBLDD-2 – Supplied with 2× Red Li-ion batteries, with charger, belt clip, HD box (modular case).

Note:
07 0210/0211 – See No. 073815 ff and No. 073840 ff for suitable replacement batteries and chargers.

_M180DD2-5

_M18FDD2-5

_M18FDD2-2

_M18CBLDD-4

_M18CBLDD-2

Type		M180DD2-5	M18FDD2-5	M18FDD2-2	M18CBLDD-4	M18CBLDD-2
03L 07 0210	Cordless drill / driver	–	(XXX)	–	(XXX)	(XXX)
03L 07 0211	Cordless drill / driver without battery or charger	–	–	(XXX)	–	–
03L 07 0212	ONE-KEY™ cordless drill / driver	(XXX)	–	–	–	–
Manufacturer's designation		M180NEDD2-502X	M18FDD2-502X	M18 FDD2	M18CBLDD-402C	M18CBLDD-202C
Motor design		Brushless motor				
Battery voltage	V	18				
Battery capacity	Ah	5	5		4	2
maximum torque hard	Nm	135	135	135	60	60
maximum speed 1st speed	rpm	0 – 550	0 – 550	0 – 550	0 – 500	0 – 500
maximum speed 2nd speed	rpm	2000	2000	2000	1800	1800
Quick-clamping chuck range	mm	1.5 – 13				
maximum twist drill size ∅ in steel	mm	16	16	16	13	13
maximum twist drill size ∅ in wood	mm	89	89	89	52	52
Weight (07 0210, 07 0212)	kg	2.1	2.1	2.1	1.8	1.5
Weight (07 0211)	kg	–	–	1.8	–	–
maximum vibration to EN	m/s²	<2.5				
typical application		Heavy Duty	Heavy Duty	Heavy Duty	Strong	Strong

HD MB 12

Cordless drill / driver 12 V

MILWAUKEE – Cordless power drill
Powerful cordless 2-speed drill / driver, reversible.
REDLITHIUM™ rechargeable batteries with **single-cell monitoring** and **charge status display.**
Sturdy **metal gearbox** for long working life.
FIXTEC metal quick-clamping drill chuck with spindle lock.
LED illumination of the working area. Handle with Softgrip coating for comfortable use.

Size M12BDD2 –
- With low-maintenance 4-pole DC motor with high torque.
- **REDLINK™ electronics** – reliable load management with **overload protection** for long working life of the battery, motor and gearbox.

Size M12BDD2 –
- Very compact – **only 185 mm overall length.**
- 19-step torque limit adjustment, plus drill steps.

Size M12FDDXK2 – Cordless compact drill / screwdriver with quick-change drill chuck.
- 4-in-1 exchangeable head system with four different attachments.
- Very compact – only 185 mm overall length.

Size M12FDD2–M12FDD6 –
- Brushless POWERSTATE™ motor for more power and a compact shape (168 mm in length).
- REDLINK PLUS™ electronics for intelligent power management and overload protection.
- 16-step electronic torque limit setting, plus drill steps.

Supplied with:

Size M12FDDXK2 – Kit with 10-mm metal drill chuck, offset screwdriving attachment, eccentric attachment, 6-mm HEX attachment, including 2 pcs. 12V / 2.0 Ah Li-ion battery M12 B2, charger, HD Box.

Size M12FDD4 – Supplied with 2× 12 V / 4.0 Ah Li-ion batteries, charger, belt clip, HD box.

Size M12FDD6 – Supplied with 2× 12 V / 6.0 Ah Li-ion batteries, charger, belt clip, HD box.

Size M12BDD2; M12FDD2 – 2× 12 V / 2.0 Ah Li-ion batteries, charger, belt clip, HD box

Note: See No. 073815 ff and 073840 for suitable spare batteries and chargers.

_M12FDDXK2

_M12BDD2

_M12FDD2

_M12FDD4

_M12FDD6

Type		M12BDD2	M12FDDXK2	M12FDD2	M12FDD4	M12FDD6
03L 07 0210	Cordless drill / driver	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		M12BDD-202C	M12 FDDXKIT-202X	M12FDD-202X	M12FDD-402X	M12FDD-602X
Motor design		4-pole motor	Brushless motor	Brushless motor	Brushless motor	Brushless motor
Number of rechargeable batteries contained				2		
Type of rechargeable battery				Lithium-ion		
Battery capacity	Ah	2	2	2	4	6
Battery voltage	V			12		
maximum torque hard	Nm	30	34	37	44	44
maximum speed 1st speed	rpm	0 – 400	0 – 400	0 – 450	0 – 450	0 – 450
maximum speed 2nd speed	rpm	1500	1600	1700	1700	1700
Quick-clamping chuck range	mm	1.5 – 10	1.5 – 13	1.5 – 13	1.5 – 13	1.5 – 13
maximum twist drill size ∅ in steel	mm	10	10	13	13	13
maximum twist drill size ∅ in wood	mm	22	34	35	35	35
Weight	kg	1.2	0.9	1.2	1.5	1.5
maximum vibration to EN	m/s²			< 2.5		
typical application		Medium	Medium	Strong	Strong	Strong

Cordless drill / driver 12V and 18V

AEG – Cordless drill / driver

- Sturdy and handy cordless 2-speed drill / screwdriver, reversible.
- **FIXTEC quick-change chuck** with spindle lock.
- Handle with Softgrip coating for comfortable use.
- LED illumination of the working area.

Size BS12C2 –
- Extremely compact - **only 176 mm overall length.**
- 17-step torque limit adjustment, plus drill steps.
- 10 mm quick-change chuck.
- Metal gearbox casing, electronic overload protection.

Size BS18SBL2 – Brushless **subcompact** motor with up to 65 Nm of torque, 24-step torque adjustment.

Size BS18C2X –
- 23-step torque limit adjustment, plus drill steps.
- 13 mm quick-change chuck.
- 4-pole motor for maximum power within a compact design.

Size BS18C2BL4 –
- 21-step torque adjustment.
- Quick-clamping drill chuck.

Supplied with:

Size BS18SBL2 – Supplied with 2 pcs. 18 V / 2.0 Ah battery, charger, transport case.

Size BS18C2X – Supplied with 2× 2Ah batteries, charger, transport case, and additional handle.

Size BS12C2; BS18C2BL4 – Supplied with charger, carrying case.

Note: See No. 073820 ff and No. 073841 ff for suitable replacement batteries and chargers.

07 0221_BS12C2

07 0222_BS18SBL2

07 0222_BS18C2X

07 0222_BS18C2BL4

Type		BS12C2	BS18SBL2	BS18C2X	BS18C2BL4
07A 07 0221 AEG Cordless drill / driver		(XXX)	–	–	–
07A 07 0222 AEG Cordless drill / driver		–	(XXX)	(XXX)	(XXX)
Manufacturer's designation		BS 12 C2	BS 18 SBL2	BS 18 C2X	BS 18 C2BL
Motor design		2-pole motor	Brushless subcompact motor	4-pole motor	4-pole motor
Battery capacity	Ah	–	2	2	4
Battery voltage	V	12	18	18	18
maximum torque hard	Nm	34	65	50	65
maximum speed 1st speed	rpm	0 – 350	0	0 – 450	0 – 500
maximum speed 2nd speed	rpm	1500	1750	1800	1950
Quick-clamping chuck range	mm	1.5 – 10	1.5	1.5 – 13	1.5 – 13
maximum twist drill size ∅ in steel	mm	10	13	13	13
maximum twist drill size ∅ in wood	mm	20	40	45	40
Weight	kg	1.1	1.3	1.7	1.9
maximum vibration to EN	m/s²	< 2.5	<2.5	< 2.5	<2.5
typical application		Medium	Strong	Strong	Strong

Offset screwdriving attachment, 1/4 inch

Size OSD2 – 1/4 inch magnetic hexagon socket, suitable for all standard bits 25 mm (C 6.3) and ball-lock bits (E 6.3).

Size SHW; OSD2 – Offset screwdriving / drill attachment is the ideal solution for all screw fastenings in restricted and inaccessible places.

Supplied with:

Size SHW – Offset screwdriving attachment together with 10×25 mm SHOCKWAVE™ screwdriver bits.

Size WB1 – Includes 10-piece bit set.

_SHW

_OSD2

_WB1

Type		SHW	WB1	OSD2
07A 07 3920 Offset screwdriving attachment		(XXX)	(XXX)	(XXX)
maximum torque	Nm	225	11	40

Cordless special drill / driver

07 0220 – **AEG cordless deflection screwdriver**
Li-ion battery **compact screwdriver** and drill **with swivel joint** allowing use as a straight baton or as a pistol grip. 10-stage torque and safety clutch. Reversible, **1/4 inch hex bit** holder (E 6.3).

07 0223 – **Bosch – cordless right angle drill**

- Bosch premium lithium-ion technology.
- **Battery charge display.**
- **Very compact:** short, **5-way adjustable head** with **10 mm auto-lock drill chuck.**
- **High speed** from 0-1300 rpm for fast work progress – optimal for holes, motor brake.

Size M4D2 – Li-ion cordless **compact drill / screwdriver with swivel joint** allowing use as a straight baton or as a pistol grip. REDLINK™ electronic overload protection for a long working life. 21-step torque adjustment with electronic switch-off function, drill step, battery charge display in the device, forwards/reverse running, **1/4 inch hex bit** arbor (E 6.3).

Size M12FIR12-0 – Compact design for quick access for all applications, such as working on engines or gearboxes.
Brushless POWERSTATE™ motor with heavy-duty gearbox and casing for a long working life.
REDLINK PLUS™ electronics for intelligent power management.

07 0225/0228 – **MILWAUKEE – cordless right angle drill / driver and ratchet driver**

- REDLINK™ electronics with stepless speed control, reversible running and overload protection.
- LED illumination of the working area.

Size C12RAD; C18RAD-0 – Lightweight and handy compact **right angle** drill / driver for places where access is difficult, very compact – **only 95 mm width across head.** 10-stage electronic torque adjustment plus drill step, **FIXTEC** quick-release chuck. A red LED indicates the torque that has been reached.

Supplied with:

Size GWB1210 – Including charger, L-BOXX 102, 1/2 L-BOXX inlay for accessories, 1/2 L-BOXX inlay for device.
Size M12FIR12-0 – Supplied with 1/2 inch to 3/8 inch adapter.
07 0220 Size SE3/0224 Size M4D2/0225 Size C12RAD; C18RAD-0 – Supplied with charger and transport case.
07 0225 Size C18RAD-0/0228 Size M12FIR12-0; M12FHIR14; M12FHIR38 – **Without battery and without charger.**

Note:

07 0220 – See No. 073824 and No. 073841 for suitable spare batteries and chargers.
07 0223 – See as of No. 073851 and No. 073866 for suitable replacement batteries and chargers.
Size C18RAD-0 – Suitable battery No. 073816 size MB18.
07 0224–0228 – See No. 073814, No. 073839 and No. 073840 ff. for suitable replacement batteries and chargers.

AB 3

_SE3

MB 4

_M4D2

B 12
L-BOXX

_GWB1210

MB 12

_C12RAD

MB 18

_C18RAD-0

MB 12

_M12FHIR14

MB 12

_M12FHIR38

MB 12

_M12FIR12-0

Type			SE3	M4D2	GWB1210	C12RAD	C18RAD-0	M12FHIR14	M12FHIR38	M12FIR12-0
07A 07 0220	AEG	Cordless compact screwdriver	(XXX)	–	–	–	–	–	–	–
03L 07 0224	Milwaukee	Cordless special drill / driver	–	(XXX)	–	–	–	–	–	–
03B 07 0223	BOSCH	Cordless special drill / driver	–	–	(XXX)	–	–	–	–	–
03L 07 0225	Milwaukee	Cordless special drill / driver	–	–	–	(XXX)	(XXX)	–	–	–
03L 07 0228	Milwaukee	Cordless ratchet screwdriver	–	–	–	–	–	(XXX)	(XXX)	(XXX)
Manufacturer's designation			SE3,6	M4D-202B	GWB1210	C12RAD-202B	C18RAD-0	M12FHIR14	M12FHIR38	M12FIR12-0
Number of rechargeable batteries contained			2	2	2	2	0	0	0	0
Type of rechargeable battery			Lithium-ion							
Battery capacity		Ah	1.5	2	2	2	–	2	2	–
Battery voltage		V	3.6	4	12	12	18	12	12	12
maximum torque soft		Nm	4.5	–	–	–	–	–	–	–
maximum torque hard		Nm	6.5	5	11	12	20	54	75	81
maximum speed 1st speed		rpm	0 – 200	0 – 200	0 – 1300	0 – 800	0 – 1500	0	0	0 – 175
maximum speed 2nd speed		rpm	0 – 600	0 – 600	–	–	–	–	–	–
Toolholder			E 6.3	E 6.3	∅ 1.0 – 10 mm	∅ 1.0 – 10 mm	∅ 1.0 – 10 mm	Square 1/4 inch	Square 3/8 inch	Square 1/2 inch
Format			Compact drill / driver	Compact drill / driver	Pistol grip drill / driver	Right angle drill / driver	Right angle drill / driver	Impact ratchet	Impact ratchet	Impact ratchet
maximum twist drill size ∅ in steel		mm	3	3	10	10	10	–	–	–
maximum twist drill size ∅ in wood		mm	6	6	10	25	28	–	–	–
Weight		kg	0.6	0.5	1.2	1.1	1.9	1.1	1.4	1.5
maximum vibration to EN		m/s²	–	–	–	< 2.5	< 2.5	<2.5	<2.5	<2.5
typical application			Light	Medium	Medium	Medium	Strong	Strong	Strong	Strong

ACCU TEC torque shut-off screwdrivers to DIN ISO 5393, VDI / VDE 2647

FEIN ACCU TEC shut-off screwdrivers are designed for the most demanding applications requiring **precise screw tightening in series production.**

- **Brushless EC motors** with working life extended by a factor of several times and **up to 80 % lower maintenance costs.**
- **Restart delay** after the screw tightening, to avoid "follow-up".
- **Restart inhibit** if the remaining battery charge is insufficient to perform the screw tightening.
- **Tight screw tightening tolerances** for high screw tightening quality.
- **Precise and consistent tightening torques** in any screw tightening application.
- Testable screwdrivers, CmK-value > 1.67 ±10% (based on 6 sigma) to ISO 5393 VDI/VDE 2647.

The release torque is 25 % above the tightening torque.
Torque shut-off screwdriver with ParameterControl for easy and individual programming on a PC , using the programming adaptor (No. 071135 size 92604163).
Freely programmable parameters: Speed, direction of rotation, angle of rotation, torque threshold and time.
Up to 5 programmable steps. Precise configuration for each screw tightening application. **Final switch-off by mechanical clutch.** Ideal for optimising the process and time. **Shut-off screwdriver, takes a Li-ion battery. Maintenance-free** up to 500,000 screw fastenings.

Supplied with: Just the screwdriver itself is supplied, **without battery, charger or setting tool and angle head.** Please order the battery, charger, setting tool and angle head specifically for the device.

Note:
See No. 073832 ff. for suitable rechargeable batteries and chargers.
See no. 654300 ff. for
torque analysers; see no. 654381 for torque sensors/rotational angle sensors.
Calibration service on request.

ACCU TEC torque shut-off screwdriver with parameter control

FE 12 FE 18

07 1120

07 1111

Type		71126660	71126860	71127060	71126260	71126360	71126460	7112776	7112786	7112796
03F 07 1111	Torque shut-off screwdriver with ParameterControl **Centre handle screwdriver**	–	–	–	–	–	–	(XXX)	(XXX)	(XXX)
03F 07 1120	Torque shut-off screwdriver with ParameterControl **Baton offset screwdriver**	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	–	–	–
Manufacturer's designation		ASW 18-6 PC	ASW 18-12 PC	ASW 18-18 PC	ASW 18-30 PC	ASW 18-45 PC	ASW 18-60 PC	ASM 18-3 PC	ASM 18-8 PC	ASM 18-12 PC
Battery voltage	V	12; 18	12; 18	12; 18	12; 18	12; 18	12; 18	12; 18	12; 18	12; 18
Torque range	Nm	1.2 – 6	3 – 12	6 – 18	12 – 30	20 – 45	25 – 60	0.5 – 3	1 – 8	4 – 12
Speed range	rpm	100 – 1340	75 – 1020	65 – 900	30 – 420	25 – 310	20 – 230	110 – 1200	110 – 1200	80 – 900
Toolholder		–	–	–	–	–	–	1/4 inch HEX (E 6.3)		
Format		Baton offset screwdriver						Centre handle screwdriver		
Weight including rechargeable battery	kg	1	1	1.2	1.7	1.7	1.7	0.8	0.8	0.8
suitable angle head		071133 12010; 13010; 14010	071133 12010; 13010; 14010	071133 17010	071133 15010	071133 15010	071133 16010	–	–	–

Accessories for ACCU TEC shut-off screwdriver

_14010

_17010

_16010

Type		12010	14010	13010	17010	15010	16010
03G 07 1133	Angle head for ASW 18	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Tool arbor drive profile		QuickIn	External square drive				
Tool arbor size	inch	1/4	1/4	3/8	3/8	3/8	1/2
suitable for drive	Nm	12	12	12	18	45	60

Type		ESTW
03G 07 1119	ACCU TEC setting tool	(XXX)

07 1119

Programming adaptor for all AccuTec parameter control models (No. 071111 and 071120). To connect the machine to the PC, in addition to the software (Download from FEIN), the programming adaptor is required with the associated USB cable.

Supplied with: Programming adaptor, USB connecting cable and guide for downloading the software.

Type		92604163
03G 07 1135	Programming adaptor	(XXX)

07 1135

L-BOXX

BOSCH Cordless impact wrench / impact driver

Cordless impact driver
- Forward / reverse.
- Battery charge display.

Size GDS18V1050 – 3/4 inch impact screwdriver with **BITURBO** brushless technology, with 3 speed/torque settings.

Size GDS18VLIHT – Powerful 18V impact screwdriver for the **most demanding** screw tightening in metal.
- Extremely robust and tough thanks to **all-metal gearbox** and **metal casing**.
- One of the lightest **high-torque** impact screwdrivers.

Size GDS18300 – Integral **Auto Bolt Release** (ABR Stop) automatically switches the tool off in anti-clockwise mode when required. Secure fixing and quick release of the socket, thanks to our new external square socket with snap ring and securing pin. With **ProCORE** 18V 4.0Ah battery.

Size GDX18200 – **Universal** cordless impact drill / screwdriver with **ProCORE**18V 4.0Ah battery.
- Special tool arbor combining **1/2 inch square and 1/4 inch hexagon.**
- **3-stage PowerControl** for different torques to suit different applications.
- Longer motor life thanks to **brushless EC motor technology.**

Size GDR18160 – Compact 18 V / 2.0 Ah cordless impact wrench.
- High torque and high impact rate (3,200 impacts/minute) for rapid progression of work when tightening screws in metal (up to M14) and wood.
- Very short body for perfect handling even in confined spaces and overhead.

07 4054 – **Compact** impact screwdrivers for **high precision.**
- Perfect handling thanks to the short overall length.
- Higher precision: **2-stage power control** to avoid overdriving smaller screws.
- Longer motor life thanks to **brushless EC motor technology.**
- **LED light** for illuminating the working area, even in dark areas.

Supplied with:

07 4051 – Version without battery and without charger, including L-BOXX.

07 4052/4054 – Supplied with 2× Li-ion batteries, charger, L-BOXX

Note:	Suitable spare batteries and chargers can be found under No. 073851– 073866.

B 18

NEW

Biturbo

maximised ProCORE18 V battery potential.

074051_GDS18V1050

B 18

_GDS18VLIHT

B 18

integral LED work light

Auto Bolt Release (ABR)

_GDS18300

B 18

_GDX18200

B 18

_GDR18160

B 12

_GDS12115

B 12

_GDR12110

Type		GDS18V1050	GDS18VLIHT	GDS18300	GDX18200	GDR18160	GDS12115	GDR12110
03B 07 4051	Cordless impact wrench / impact driver **without battery**	(XXX)	–	–	–	–	–	–
03B 07 4052	Cordless impact wrench / impact driver	–	(XXX)	(XXX)	(XXX)	(XXX)	–	–
03B 07 4054		–	–	–	–	–	(XXX)	(XXX)
Manufacturer's designation		GDS 18V-1050 H	GDS 18V-Li HT	GDS 18V-300	GDX 18V-200 C	GDR V18-160	GDS 12V-115	GDR 12V-110
Number of rechargeable batteries contained		0	2	2	2	2	2	2
Type of rechargeable battery		Lithium-ion						
Battery capacity	Ah	8	5	4	4	2	3	3
Battery voltage	V	18	18	18	18	18	12	12
maximum screw ∅ (8.8 - 12.9)		M24	M20	M20	M14	M14	M12	M12
maximum torque hard	Nm	1050	650	300	200	160	115	110
Number of impacts	rpm	0	0 – 2100	0 – 3400	0 – 4000	0 – 3200	0 – 3100	0 – 3100
Tool arbor drive profile		External square drive	External square drive	External square drive	Internal square drive, external square drive	Internal square drive	External square drive	Internal square drive
Tool arbor size	inch	3/4	1/2	1/2	1/4; 1/2	1/4	3/8	1/4
maximum speed 1st speed	rpm	1600	1900	2400	1100	2800	1200	1200
maximum speed 2nd speed	rpm	2400	–	–	2300	–	2600	2600
Weight	kg	2.9	3	2.3	1.2	1.7	0.9	0.9
maximum vibration to EN	m/s²	12.5	12.5	12.5	9.8	10	10	10
typical application		Heavy Duty	Heavy Duty	Heavy Duty	Strong	Strong	Strong	Strong

Cordless impact wrench / impact driver

Robust and **powerful cordless impact wrench / driver** with durable **metal gearbox**, all-metal impact drive and ergonomic **central handle with soft-grip coating**.
Stage of charge display, LED illumination of the working area. Reversible, with electronic speed control.
10% higher torque in reverse. Electronic torque adjustment in 6 steps.
Select Version.

Size 71150664 –
- 1/2 inch square drive socket.
- 290 Nm maximum torque.
- with MultiVolt interface for all FEIN Li-ion batteries (12-18 V).

Size 71150764 –
- 1/4 inch HEX bit direct drive socket.
- 210 Nm maximum torque.
- **Select Version** with MultiVolt interface for all FEIN Li-ion batteries (12-18 V).

Size 71150864 –
- 3/4-inch square drive socket.
- 1,050 Nm max. torque.
- with MultiVolt interface.

Size 71150464 –
- 3/8 inch square drive socket.
- 135 Nm maximum torque.

Supplied with: **Without battery and without charger,** with carrying case.

Note: For matching spare batteries and accessories see No. 073835, battery starter sets can be found under No. 073832.

NEW

_71150864

FE 12 FE 18

_71150664

FE 12 FE 18

_71150764

FE 12

_71150464

Type		71150664	71150764	71150864	71150464
03F 07 4000	Cordless impact wrench / impact driver	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		ASCD 18-300 W2	ASCD 18-200 W4	ASCD 18-1000	ASCD 12-150 W8
Battery voltage	V	12; 18	12; 18	12; 18	12
maximum torque	Nm	290	210	1050	135
maximum screw ∅ (8.8 - 12.9)		M18	–	M27	M14
Number of impacts	rpm	0 – 3400	0 – 3000	0 – 2200	0 – 3600
Tool arbor drive profile		External square drive	HEX	External square drive	External square drive
Tool arbor size	inch	1/2	1/4	3/4	3/8
Weight	kg	1	1	3	0.85
maximum vibration to EN	m/s²	6	6	12.9	14.5
typical application		Heavy Duty	Heavy Duty	Heavy Duty	Strong

Cordless impact wrench 12 V

HD MB 12

- Robust and **powerful FUEL™ cordless impact wrench** with **brushless POWERSTATE™ EC motor.**
- Long motor service life and high energy efficiency.
- Sturdy **metal gearbox casing** and ergonomic **central handle with soft-grip coating.**
- Battery charge display.
- LED illumination of the working area.
- Reversible, with electronic speed control.
- **REDLINK PLUS™ electronics** – for unique power management.
- DRIVE CONTROL™ permits quick switching between the available settings with different speeds and torques.

Size M12FID – Compact impact wrench (130 mm long) with 1/4 inch HEX bit holder.

Size M12FQID – When performing fastening work in wood, the M12 **FUEL-DRIVE™ SURGE™** (at 76 dB(A)) the cordless impact wrench/driver is the quietest impact wrench/driver in the M12™ range.

Size M12FIWF12; M12FIW38 – With snap ring.

Supplied with:

Size M12FID – Supplied with charger and HD box.

Size M12FIWF12; M12FIW38; M12FQID – Supplied with 2× Li-ion high-power batteries, charger, HD box.

„SURGE" Fluid Drive

Type		M12FIWF12	M12FIW38	M12FID	M12FQID
03L 07 4014	Cordless impact wrench / impact driver	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		M12FIWF12-422X	M12FIW38-422X	M12FID-202X	M12FQID-202X
Battery capacity	Ah	2; 4	2; 4	2	2
Battery voltage	V	12			
maximum torque 1st step	Nm	339	339	147	50
maximum screw ∅ (8.8 - 12.9)		M16	M16	M14	M14
Number of impacts 1st stage	rpm	0 – 1100	0 – 1100	0 – 4000	0 – 950
Number of impacts 2nd stage	rpm	0 – 2100	0 – 2100	–	0 – 2200
Number of impacts 3rd stage	rpm	0 – 3200	0 – 3200	–	0 – 3400
Tool arbor drive profile		External square drive	External square drive	HEX (E 6.3)	HEX (E 6.3)
Tool arbor size	inch	1/2	3/8	1/4	1/4
Weight	kg	1.1			
maximum vibration to EN	m/s²	1.5			
typical application		Heavy Duty	Heavy Duty	Strong	Strong

Cordless impact wrench / impact driver

Robust and **powerful FUEL™ cordless impact wrench** with **brushless POWERSTATE™ EC motor** for long motor service life and high energy efficiency. Sturdy **metal gearbox casing** and ergonomic **central handle with soft-grip coating.** Stage of charge display, LED illumination of the working area. Reversible, with electronic speed control. **REDLINK PLUS™ electronics** – for unique power management:

- With **system communication** between the drive machine and battery.
- With **overload protection** for longer working life of the battery, motor, and gearbox.

DRIVE CONTROL™ permits quick switching between the 4 available settings with different speeds and torques.

Size M18ONEFF34 – Cordless impact wrench / impact driver with snap ring provides up to 2576 Nm of tightening torque and replaces wired, petrol and pneumatic devices. DRIVE CONTROL enables quick switching between the 4 available settings with different speeds and torques.

Size M18ONEFF-1 – The first **1 inch 18-V cordless impact wrench in the world FUEL™** delivers up to 2033 Nm torque from a compact tool, and needs neither a cable nor compressed air to do it. Integral impact rate adjustment increases the reproducible results for the chosen torque setting. With new **High-Output™** 8.0 Ah battery.

Size M18ONEFFDS – M18 FUEL™ ONEKEY™ 1 inch cordless impact wrench / impact driver with snap ring provides up to 2576 Nm of tightening torque and replaces wired, petrol and pneumatic devices. DRIVE CONTROL enables quick switching between the 4 available settings with different speeds and torques.

Size M18FIW2F12 – **18 V / 5.0 Ah compact cordless impact driver** with only 151 mm overall length.

Size M18FQID – **M18 FUEL™ SURGE™ 1/4 inch hex cordless impact driver.**

- **Impact mechanism mounted in an oil bath** with FLUID-DRIVE™ technology for very low noise, and extended working life.
- In control step 4 the unit automatically throttles the no-load speed, ideal for instance for self-tapping screws.

07 4010 Size M18FMT2F12; M18FIW2F12; M18ONEFF12; M18ONEFF34 –

- Compact design.
- Stage 4 for an optimum mix of power and precision when undoing screws.

Size M18ONEFFDS; M18ONEFF-1; M18ONEFF12; M18ONEFF34 –

- ONE KEY™ app for individualising the tool settings.
- ONE KEY™ tool tracker & security permits amongst other things a display of the latest position of the device.

Supplied with:

Size M18ONEFFDS – 1 pc. M18 HB12 12.0 Ah battery pack, M12-18 FC charger, carrying case.

Size M18FQID; M18ONEFF-1; M18ONEFF12; M18ONEFF34 – Supplied with 2× Li-ion batteries, charger, HD box, belt clip.

Note:	For matching spare batteries and accessories see from No. 073808.

HD

MB 18

_M18ONEFF34

MB 18

_M18ONEFF12

MB 18

MHB 18

_M18ONEFF-1

SURGE™ FLUID-DRIVE™

MB 18

NEW

_M18ONEFFDS

MB 18

NEW

_M18FMT2F12

MB 18

NEW

_M18FIW2F12

MB 18

_M18FQID

Type		M18ONEFF34	M18ONEFF12	M18ONEFF-1	M18ONEFFDS	M18FMT2F12	M18FIW2F12	M18FQID
07 4010	Cordless impact wrench / impact driver	(XXX)	(XXX)	–	–	–	–	(XXX)
Manufacturer's designation		M18ONEFHI-WF34-502X	M18ONEFHI-WF12-502X	M18ONEFHI-WF1-802X	M18 ONEFHIW-F1DS-121C	M18 FMTIW2F12	M18 FIW2F12	M18FQID-502X
Number of rechargeable batteries contained		2	2	2	1	2	2	2
Type of rechargeable battery		Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Battery capacity	Ah	5	5	8	12	5	5	5
Battery voltage	V	18	18	18	18	18	18	18
maximum torque 1st step	Nm	250	130	530	1180	475	102	40
maximum torque 2nd step	Nm	500	400	1020	1254	610	203	–
maximum torque 3rd step	Nm	1627	1356	1800	1966	745	339	–
maximum torque 4th setting	Nm	1627	1356	2033	2576	47	34	–
maximum screw ∅ (8.8 - 12.9)		M33	M33	M42	M42	M22	ASCD18-300W2	M14
Number of impacts 1st stage	rpm	0 – 850	0 – 950	0 – 1350	0 – 750	0 – 900	0 – 1000	0 – 1800
Number of impacts 2nd stage	rpm	0 – 1850	0 – 1750	0 – 1650	0 – 930	0 – 2100	0 – 2400	0 – 2900
Number of impacts 3rd stage	rpm	0 – 2400	0 – 2100	0 – 2100	0 – 1200	0 – 3100	0 – 3400	0 – 3700
Number of impacts 4th setting	rpm	0 – 2400	0 – 2100	0 – 2500	0 – 1440	–	–	0 – 3700
Tool arbor drive profile		External square drive	External square drive	External square drive	External square drive	External square drive	External square drive	HEX (E 6.3)
Tool arbor size	inch	3/4	1/2	1	1	1/2	1/2	1/4
Weight	kg	3.2	3.3	5.9	11.1	6.3	5.9	1.8
maximum vibration to EN	m/s²	–	–	–	–	–	–	12
typical application		Heavy Duty	Heavy Duty	Heavy Duty	Heavy Duty	Heavy Duty	Strong	Strong

Cordless impact wrench / impact driver

Size M18BRAIW/0 – **Cordless right angle impact driver M18 BRAIW-0** with 3/8 inch hex socket.
- Compact angle impact wrench, only 307 mm long.

07 4016 – 18 V impact wrench with brushless **Subcompact motor** with up to 280 Nm of torque.

Supplied with: **0 version without battery and without charger, in a cardboard box.**

Note:
07 4013 – For matching spare batteries and accessories see from No. 073808.
07 4016 – For suitable spare battery see No. 073820 size AS18.

HD

MB 18

_MB18BRAIW/O

AB 18

_BSS181

Type			M18BRAIW/0	BSS1812
03L 07 4013	Milwaukee	Cordless right angle impact driver	(XXX)	–
07A 07 4016	AEG	Impact wrench	–	(XXX)
Manufacturer's designation			M18BRAIW-0	BSS 18S12BL
Battery voltage		V	18	
maximum torque 1st step		Nm	40	280
Number of impacts 1st stage		rpm	0 – 2400	0 – 2800

Impact wrench

Impact wrench 1/2 inch with high **torque up to 400 Nm.**
- Electronic speed control.
- Reversible.

07 4110

Type			IPWE400R
03M 07 4110	Impact wrench		(XXX)
Manufacturer's designation			IPWE400R
Power consumption		W	725
maximum torque		Nm	400
maximum screw ∅ (8.8 - 12.9)			M12 – M20
maximum speed		rpm	0 – 1700
Number of impacts		rpm	1000 – 2600
Tool arbor drive profile			External square drive
Tool arbor size		inch	1/2
Weight		kg	2.7
maximum vibration to EN		m/s^2	15.9

Tapper and accessories

- Electronic speed control for responsive starting.
- Sustained power for reliable performance.
- **Integral reversing gear** and quick backing out.
- FEIN **sensitive handle** for non-fatiguing and safe working.
- Integral switch for ease of use.

Size 720938 – Mains adaptor 220V.

Size 71090162 – 18 V **battery** tap up to M 10.

Supplied with: **Without drill chuck.** With additional handle. A collet chuck (No. 075580 size 063012) or a jaw chuck (No. 075580 size 019009) is required for operation.

Size 71090162 – **Without battery.** Supplied with plastic tool case.

Note:
Size 71090162 – Suitable rechargeable battery starter set No. 073832.

FE 18

_720938

_71090162

Type			720938	71090162
03F 07 5550	Tapper up to M10		(XXX)	(XXX)
Manufacturer's designation			GWP 10	AGWP 10 Select
Power consumption		W	450	–
maximum speed		rpm	0 – 450	0 – 440
Toolholder			B12	
maximum machine tap ∅ in steel			M10	
Weight		kg	1.6	
maximum vibration to EN		m/s^2	< 2.5	

Accessories

Supplied with:

Size 063012 – Collet chuck supplied with collets for taps to DIN 374 / 376, ∅ 3.5×square 2.7 / ∅ 4.5×square 3.4 / ∅ 6×square 4.9.

Size 019009 – Universal jaw chuck, including chuck key.

Size 009013 – Drifts, pack of 2.

_063012

_019009

_009013

Type		063012	019009	009013
03G 07 5580	Thread tapping accessories	(XXX)	(XXX)	(XXX)

Single speed hand-held drills

07 5012 – ■ **Cordless** power drill with high concentricity for precise drilling results.
■ **Maintenance-free brushless** FEIN PowerDrive motor, fully enclosed and dust-proof with high efficiency and very long working life.
■ **Röhm metal quick-release chuck** with automatic spindle locking pin.
■ Self-tightening chuck clamping jaws.

Size 71050162 – **Quick** single-speed power drill for drilling up to 6 mm in steel, speed under load 2900 rpm.

Size 71050262 – Single-speed power drill for drilling up to 10 mm in steel, speed under load 1100 rpm.

07 5110 – **Fein hand-held power drill –**
■ Precision drill chuck with full metal body.
■ Stepless electronic speed control for a gentle start to drilling.

Size 720552 – Compact, high speed.

Size 720553 – Versatile use for drilling, countersinking and tapping.

07 5210 – **Milwaukee hand-held power drill –**
■ **13 mm power drill with 94 Nm torque.**
■ Electronic speed control.
■ FIXTEC spindle lock for quick drill change.

07 5310 – **Powerful AEG power drill**
■ **With an extremely short body for working in confined spaces.**
■ Robust quick-change chuck for rapid tool changing.
■ Electronic speed control.
■ Ergonomic design and soft-grip for the highest user comfort.

Supplied with:

07 5012 – Quick-clamping drill chuck with clamping force safety device, 1 additional handle. **Select version without rechargeable battery and charger.**

Size 720552 – 1 quick-clamping drill chuck 0.5 – 10 mm **with clamping force protection.**

Size 720553 – 1 quick-clamping drill chuck 1.5 – 13 mm **with clamping force protection.**

07 5210 – Supplied with 1.5 - 13 mm metal quick-change chuck, additional handle, QUIK-LOK cable (4 m), HD box.

07 5310 – 1.5 – 13 mm quick-change chuck, tool bag, 4 m power cable.

Note:

07 5012 – Suitable rechargeable battery starter set available with No. 073832 92604324.

07 5012_71050162/_7150262

07 5110 _720552/_720553

075210_HDE13RQX

07 5310_BE750R

Type			71050162	71050262	720552	720553	HDE13RQX	BE750R
03F 07 5012		Cordless single-speed drill	(XXX)	(XXX)	–	–	–	–
03F 07 5110		Single-speed power drill	–	–	(XXX)	(XXX)	–	–
03M 07 5210	Milwaukee		–	–	–	–	(XXX)	–
07A 07 5310	AEG		–	–	–	–	–	(XXX)
Manufacturer's designation			ABOP 6 select	ABOP 10 select	BOP-6	BOP-10	HDE13RQX	BE750R
Battery voltage		V	18	18	–	–	–	–
Speed range		rpm	0 – 3350	0 – 1250	0 – 4000	0 – 1500	0 – 850	0 – 3000
Drill chuck adapter			1/2 inch – 20 UNF	1/2 inch – 20 UNF	1/2 inch – 20 UNF	1/2 inch – 20 UNF	1/2 inch – 20 UNF	SSBF 1 – 13
Chuck clamping range		mm	0.5 – 10	1.5 – 13	0.5 – 10	1.5 – 13	1.5 – 13	1.5 – 13
maximum twist drill size ∅ in steel		mm	6	10	6	10	13	13
maximum twist drill size ∅ in wood		mm	20	30	20	30	38	30
Weight		kg	1.4	1.5	1.7	1.8	2	1.8
maximum vibration to EN		m/s^2	< 2.5					
Power consumption		W	–	–	500	500	950	750
Reversible			yes					

Drills

07 5022 – Universal **two-speed cordless** power drill for drilling, countersinking, tapping, and screwdriving in steel and **stainless steel**.
- **Cordless** power drill with high concentricity for precise drilling results.
- **Maintenance-free brushless EC motor** with high efficiency and high speed stability.
- High-strength **metal gearbox casing** with 43 mm ∅ clamping neck, **width across the head only 23 mm.**
- **Röhm steel quick-change chuck with automatic spindle locking, carbide-coated jaws.**
- **0 version without battery and charger.**

07 5120 – **FEIN angle drill –**
- Gearbox only 96 mm high including drill chuck, **width across the head 17 mm.**
- Integral switch with clockwise / anticlockwise switch for ease of use.
- Hollow shaft **taper arbor** for precise concentricity.

07 5123 – **Fein cordless angle drill –**
- Gearbox only 96 mm high including drill chuck, **width across the head 17 mm.**
- Integral switch with clockwise / anticlockwise switch for ease of use.
- Hollow shaft **taper arbor** for precise concentricity.
- **0 version without battery and charger**.

07 5150 –
- **Compact 2-speed power drill** for drilling, countersinking, tapping, and screwdriving.
- Stepless electronic speed control for gentle starts to drilling and screwdriving.
- Integral switch with clockwise / anticlockwise switch for ease of use.

07 5155 – Powerful power drill with speed control for flexible use in metal construction.
- Reversible for thread tapping up to M12.
- High-quality SUPRA SK Röhm metal quick-release chuck.
- With torque slip clutch.
- 1200 W high-power motor with stable torque.

07 5156 – Universal **four-speed hand drill** for drilling holes up to 32 mm. Reversible, speed pre-set, MT3 tool arbor for heavy-duty drilling operations.

Supplied with:

07 5155 – Quick-clamping drill chuck 3 – 16 mm, additional handle.
07 5022/5150 – Quick-clamping drill chuck with locking force safety device, 1 additional handle.
07 5120/5123 – With 1 quick-clamping drill chuck 0.8 – 10 mm.

Note:
07 5022/5123 – See No. 073836; 073838 and 073845 FE80-BC for suitable spare batteries, starter sets and chargers.
07 5156 – suitable magnetic drill stands available on request.

07 5150

07 5022

07 5120

07 5123

07 5155_720547

07 5156

Type		720554	720555	71050362	720551	71050462	720547	720549	720251
03F 07 5150	Two-speed power drill	(XXX)	(XXX)	–	–	–	–	–	–
03F 07 5022	Cordless two-speed drill	–	–	(XXX)	–	–	–	–	–
03F 07 5120	Angle drill	–	–	–	(XXX)	–	–	–	–
03F 07 5123	Cordless angle drill	–	–	–	–	(XXX)	–	–	–
03F 07 5155	Heavy-duty power drill	–	–	–	–	–	(XXX)	(XXX)	–
03F 07 5156	Four-speed hand drill	–	–	–	–	–	–	–	(XXX)
Manufacturer's designation		BOP 10-2	BOP 13-2	ABOP 13-2 SE-LECT	WBP10	AWB P10 SE-LECT	BOS 16	BOS 16-2	BOZ 32-4 M
Type of rechargeable battery		–	–	Lithium-ion	–	Lithium-ion	–	–	–
Battery voltage	V	–	–	18	–	18	–	–	–
maximum speed	rpm	–	–	–	0 – 1830	0 – 1370	–	–	–
Speed range 1st speed	rpm	0 – 700	0 – 680	0 – 580	–	–	0 – 520	0 – 520	0 – 140
Speed range 2nd speed	rpm	0 – 2250	0 – 2200	0 – 1760	–	–	–	0 – 1600	0 – 480
Drill chuck adapter		1/2 inch – 20 UNF			B10	B10	1/2 inch – 20 UNF		MT3
Chuck clamping range	mm	1.5 – 13	1.5 – 13	1.5 – 13	0.8 – 10	0.8 – 10	3 – 16	3 – 16	–
Maximum twist drill size ∅ in steel 1st speed	mm	10	13	13	10	10	16	16	32
maximum twist drill size ∅ in steel 2nd speed	mm	8	10	10	–	–	–	10	20
maximum twist drill size ∅ in wood 1st speed	mm	35	37	37	25	25	50	50	60
maximum twist drill size ∅ in wood 2nd speed	mm	25	27	27	–	–	–	50	70
Weight	kg	2	2	2.4	1.5	2	3.5	3.7	7.5
maximum vibration to EN	m/s^2	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	<2.5
Power consumption	W	500	550	–	500	–	1200	1200	1800

BOSCH Drills, impact drills

Power drills

Size GBM10RE – Hand-held power drill with 600-W motor and high torque for holes up to 10 mm in steel.
- Quick-release chuck for high precision and long working life.
- **Compact design** and low weight.
- Control electronics for exact starts to holes.
- Reversible.
- Softgrip.

Size GBM132RE – Hand-held power drill with 750-W motor and high torque for holes up to 13 mm in steel.
- **2-speed gearbox.**
- Ball hearings and anti-friction bearings for precise work and long working life.
- Small size of 29 mm across corners.
- Stepless speed pre-selection with control wheel.
- Control electronics for exact starts to holes.
- **Overload clutch** to protect both user and machine.
- Spindle neck ∅ 43 mm (Euro standard) – can be used in a drill stand.
- Reversible.
- Softgrip.

Supplied with:

Size GBM10RE – Including quick-clamping drill chuck, 10 mm.

Size GBM132RE – Supplied with 13 mm quick-change chuck, additional handle, depth stop 210 mm, L-BOXX 102.

_GBM10RE

_GBM132RE

Type		GBM10RE	GBM132RE
03B 07 5420 Drill		(XXX)	(XXX)
Manufacturer's designation		GBM 10 RE	GBM 13-2 RE
Power consumption	W	600	750
maximum speed 1st speed	rpm	2600	1000
maximum speed 2nd speed	rpm	–	3000
Drill chuck adapter		1/2 inch – 20 UNF	
Chuck clamping range	mm	1 – 10	1.5 – 13
Maximum twist drill size ∅ in steel 1st speed	mm	10	13
maximum twist drill size ∅ in steel 2nd speed	mm	–	8
maximum twist drill size ∅ in wood 1st speed	mm	25	32
maximum twist drill size ∅ in wood 2nd speed	mm	–	20
Weight	kg	1.7	2.4
maximum vibration to EN	m/s²	4.8	7.5

Impact drills

Impact drill with high-performance motor with high torque for very heavy duty applications (drilling, working with drills, masonry hole saws and hole saws) as well as screwdriving and smoothing.
- New safety handle with innovative fastening and softgrip for secure holding of the machine.
- Sturdy metal gearbox for long working life.
- Mechanical **overload clutch** Anti-rotation for high working security even for the toughest applications
- Single-sleeve **quick-change chuck with auto-lock** for quick tool-changing using only one hand.
- Rotatable brush plate for equal torque in clockwise and anti-clockwise directions.
- Spindle neck ∅ 43 mm (European standard) – can be used in drill stands.
- **2-speed gearbox.**

Size GSB242 – ■ Enhanced user protection by **KickBack Control.**

Size GSB212RCT – ■ **Torque Control** for high precision: Speed pre-selection for even driving of screws.
- **Constant-speed electronics** for comfortable work: Maintains constant speed under load.

Supplied with:

Size GSB242 – Including quick-change drill chuck 13 mm, additional handle, depth stop 210 mm, L-BOXX, 7-piece wood drill set (3/4/5/6/7/8/10 mm), hole saw set.

Size GSB212RCT – Including additional handle, depth stop 210 mm, quick-change drill chuck 13 mm, L-BOXX 136, 1/1 L-BOXX inlay for device.

_GSB242

_GSB212RCT

Type		GSB242	GSB212RCT
03B 07 5720 Impact drill		(XXX)	(XXX)
Manufacturer's designation		GSB 24-2	GSB 21-2 RCT
Power consumption	W	1100	1300
maximum torque	Nm	40	43
Drill chuck adapter		1/2 inch – 20 UNF	
maximum speed 1st speed	rpm	900	
maximum speed 2nd speed	rpm	3000	
maximum twist drill size ∅ in steel	mm	16	
maximum twist drill size ∅ in wood	mm	40	
maximum twist drill size ∅ in concrete	mm	22	
maximum hammer rate	rpm	15300	
Quick-clamping chuck range	mm	1.5 – 13	
Weight	kg	2.9	
maximum vibration to EN	m/s²	14.6	

AEG Impact drills, hammer drill

07 5610 – Powerful **impact drill**
- Reversible.
- Safety shut-off.
- **FIXTEC** metal quick-change chuck.
- 2-speed planetary gearbox for high torque and optimum adaptation to the material.

Size SB2E850R – Compact and powerful 850 W impact drill

Size SB2E1100RV – Compact and powerful 1100 W impact drill with anti-vibration system (AVS).

07 5620 –
- **1010 W** combi hammer with **FIXTEC adapter,** for lightning-fast changeover between SDS-plus chuck and quick-clamping drill chuck.
- **Pneumatic hammer mechanism.**
- **Electronic controls** with stepless pre-selection of speed and impact.
- **Safety clutch.**
- 2-speed planetary gearbox.
- **Zero rotation** and 16 possible chisel positions for **easy chisel work.**
- **Anti-vibration system** AVS and soft-grip for maximum user comfort.
- Soft-Grip for very good user comfort.

Supplied with:

07 5610 – Metal quick-change chuck 1.5 - 13 mm, additional handle, drilling depth stop, transport case.

07 5620 – FIXTEC adapter, quick-clamping chuck 1.5 - 13 mm, SDS-plus bit holder, additional handle, drilling depth stop, transport case.

Note:

07 5610 – Suitable drill chucks can be found in Group 34.

_SB2E850R

_SB2E1100RV

_KH28SXE

Type			SB2E850R	SB2E1100RV	KH28SXE
07A 07 5610	Impact drill		(XXX)	(XXX)	–
07A 07 5620	Hammer drill		–	–	(XXX)
Power consumption		W	850	1100	1010
maximum torque		Nm	56	60	–
maximum speed 1st speed		rpm	1000	1000	0 – 1500
maximum speed 2nd speed		rpm	3200	3200	–
maximum twist drill size ∅ in steel		mm		13	
maximum twist drill size ∅ in wood		mm	40	40	30
maximum twist drill size ∅ in concrete		mm	20	22	28
maximum hammer rate		rpm	–	–	5000
Impact energy		J	–	–	2.8
Quick-clamping chuck range		mm		1.5 – 13	
Weight		kg	2.8	2.9	2.8
maximum vibration to EN		m/s²	13.7	13.7	15.4

Drill stand

Industrial drill stand for power drills / impact drills.
With precision adjustable dovetail slide and solid base plate.

Supplied with:

07 5912 – Including gravity coolant feed with 500 ml coolant tank, flexible jointed hose and 43 mm reducer.

Type			ZBS100	IBS16
07E 07 5910	Industrial drill stand		(XXX)	–
03F 07 5912			–	(XXX)
Clamping neck ∅		mm	43	43 / 53
Spindle stroke		mm	195	145
Overall stroke range		mm	195	295
Height		mm	297	400

07 5910

07 5912

BOSCH (Cordless) hammer drills

Size GBH540DCE – Large all-purpose hammer drill with powerful impact mechanism (8.8 J impact energy) and **SDS-max tool holder.**

- **Vibration control** vibration damping ensures pleasant working, even on time-consuming tasks.

Size GBH540DCE –
- Automatic switch lock for maximum operator convenience during continuous chiselling work.
- Constant electronics, service display and standby display for maximum working convenience.
- Adjustment wheel for setting the rotation speed and impact rate, for optimum performance.

07 5515 – **18-V cordless hammer drill** with **SDS-plus tool mounting** and Bosch **Electronic Cell Protection (ECP)**: Protects the battery against overloading, overheating and deep discharge. Innovative CoolPack batteries ensure optimum heat dissipation (increases the service life).

- Efficient maintenance-free **EC motor (brushless).**
- The highest chiselling rate (12kg/hour) in its class.
- Overload clutch to protect both user and machine.
- Reversible.

Size GBH18V-26F –
- Cordless hammer drill ideal for everyday use.
- Full control thanks to KickBack Control and Electronic Precision Control.

Size GBH18V-26F –
- Clean working made possible through combination with the optional GDE 18V-16 dust extraction system.

Size GBH221–GBH228F – Sturdy hammer drill with **SDS-plus arbor** and high drill feed rate.

- Overload clutch to protect both user and machine.
- Stepless speed control for responsive starts to drilling.
- Versatile application possibilities using the chisel function (zero rotation).
- Reversible, for releasing jammed drills.

Size GBH226F; GBH228F –
- **Exchange chuck** for quick changeover between hammer drilling in concrete and hammer-free drilling in wood and steel.

Supplied with:

07 5510 – With additional handle, machine cloth.

Size GBH221 – Supplied with 210 mm depth stop and carrying case.

Size GBH226F – Supplied with 13mm quick-change chuck, SDS-plus chuck, 210 mm depth stop, carrying case.

Size GBH228F – Supplied with 13mm quick-change chuck, SDS chuck, 210 mm depth stop, L-BOXX 136.

Size GBH540DCE – Including tube of grease, additional handle, machine cloth and case.

Size GBH18VEC – Including 2 × 18V / 5.0 Ah Li-ion battery, charger, depth stop, 1/1 L-BOXX inlay for device and charger and L-Boxx.

Size GBH18V-26F – Supplied with 2 pcs. 18 V / 8.0 Ah **ProCore battery,** charger, 13 mm quick-change drill chuck, depth stop, additional handle, L-Boxx 136.

Note: Suitable carbide hammer drills can be found from No. 787000. Suitable spare batteries and chargers can be found under No. 073851 – 073866.

_GBH221D

_GBH226F

_GBH228F

_GBH540DCE

_GBH18VEC

_GBH18V-26F

Type		GBH221	GBH226F	GBH228F	GBH540DCE	GBH18VEC	GBH18V-26F
03B 07 5510	Hammer drill	(XXX)	(XXX)	(XXX)	(XXX)	–	–
03B 07 5515	Cordless hammer drill	–	–	–	–	(XXX)	–
Manufacturer's designation		GBH 2-21 D	GBH 2-26 F	GBH 2-28 F	GBH 5-40 DCE	GBH 18 V-EC	GBH 18V-26 F
Number of rechargeable batteries contained		–	–	–	–	2	2
Type of rechargeable battery		–	–	–	–	Lithium-ion	Lithium-ion
Battery capacity	Ah	–	–	–	–	5	8
Battery voltage	V	–	–	–	–	18	18
maximum twist drill size ∅ in steel	mm	13	13	13	–	13	13
maximum twist drill size ∅ in wood	mm	30	30	30	–	20	30
maximum twist drill size ∅ in concrete	mm	20	26	28	40	18	26
maximum hammer rate	rpm	–	4000	4000	3050	4550	4350
Impact energy	J	2	2.7	3.2	8.8	1.7	2.6
Tool arbor shape		SDS-Plus	SDS-Plus	SDS-Plus	SDS Max	SDS-Plus	SDS-Plus
Weight	kg	2.3	2.9	3.1	6.8	2.6	3.6
maximum vibration to EN	m/s^2	13.5	16.5	11	10.5	16	13
Power consumption	W	650	830	880	1150	–	–

(Cordless) hammer drills

SDS PLUS

Size PLH32XE – **Mains combination hammer drill with high impact energy for drilling holes up to 32 mm in concrete.** Power cable 4 m.

07 5530 Size M18FHX – **18 V / 5.0 Ah Red Li-ion cordless hammer drill** with brushless POWERSTATE™ EC motor, optimised for drilling in concrete and masonry. Redlink Plus™ electronics – overload protection for long working life of the battery, motor and gearbox.

Size M12CH4 – **12 V / 4.0 Ah Li-ion cordless hammer drill with brushless POWERSTATE EC motor,** optimised for holes from 4 - 10 mm ∅ in concrete and masonry. Redlink Plus electronic – overload protection for long working life of the battery, motor and gearbox.

Size M18FHM – M18 FUEL™ SDS-MAX cordless rotary hammer with brushless POWERSTATE™ motor. REDLINK PLUS™ electronics with new High-Output ™ 12.0 Ah battery.

07 5520 Size PLH32XE/5530 Size M18FHX/5532 Size M18FHX; M18FHPX –

- **FIXTEC tool quick-change system** for switching between the SDS-Plus chuck and the quick-release metal drill chuck, without using tools.
- **Zero rotation** for easy chisel work.
- **Safety clutch** protects user and machine if the drill jams.
- **AVS anti-vibration system.**

07 5530 Size M18FHPX; M18FHM – Integral **ONE-KEY™** technology and stop switch for continuous operation. Long anti-vibration back handle minimises vibration.

Supplied with:

07 5520 – FIXTEC SDS-plus adapter, quick-change chuck 1.5 – 13 mm, additional handle with depth stop, drilling grease, transport case.

07 5530 Size M18FHX – Supplied with FIXTEC SDS-Plus adapter, quick-change chuck 1.5 – 13 mm, additional handle with depth stop, quick charger, 2 pcs. 18 V battery, carrying case.

Size M12CH4 – Supplied with quick charger, 2 × 18V batteries, HD box.

Size M18FHM – Supplied with charger, 1× 18 V / 12 Ah High-Output battery, case.

07 5532 – **Zero-speed version – without battery, charger and case.**

Note:

07 5520/5532 – Suitable carbide hammer drills can be found from No. 787000. See from No. 073808 and No. 073840 for suitable replacement batteries and chargers.

_PLH32XE

MB 18

HD

075532_M18FHX

MB 12

HD

07 5530_M12CH4

MHB 18

MB 18

_M18FHM

MB 18

HD

075532_M18FHPX

Type		PLH32XE	M18FHX	M12CH4	M18FHM	M18FHPX
03M 07 5520	Hammer drill 230 V	(XXX)	–	–	–	–
03L 07 5530	Cordless hammer drill	–	(XXX)	(XXX)	–	(XXX)
03L 07 5532	Cordless hammer drill **without battery, charger or case**	–	(XXX)	(XXX)	–	(XXX)
Manufacturer's designation (07 5520, 07 5530)		PLH32XE	M18ONEFHX-552X	M12CH-402X	M18FHM-121C	M18ONEFHPX-552X
Manufacturer's designation (07 5532)		–	M18ONEFHX-0	M12CH-0	–	M18ONE FPHX
Number of rechargeable batteries contained (07 5530)		–	2	2	1	2
Number of rechargeable batteries contained (07 5532)		–	0	0	–	0
Type of rechargeable battery		–	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Battery capacity (07 5530)	Ah	–	5.5	4	12	5.5
Battery voltage	V	–	18	12	18	18
Speed range	rpm	0 – 800	0 – 1330	0 – 900	0 – 380	0 – 800
maximum twist drill size ∅ in steel	mm	16	13	10	–	13
maximum twist drill size ∅ in wood	mm	40	28	13	–	30
maximum twist drill size ∅ in concrete	mm	32	26	13	45	30
maximum hammer rate	rpm	4500 – 4500	4800	6575	2900	4600
Impact energy	J	3.8	2.5	1.1	11	4.2
Tool arbor shape		SDS-Plus	SDS-Plus	SDS-plus	SDS Max	SDS-Plus
Weight	kg	3.6	4.5	1.9	10.2	5.2
maximum vibration to EN	m/s²	22	8.9	4.4	9.4	8.6
Power consumption	W	900	–	–	–	–
Quick-clamping chuck range	mm	1.5 – 13	1.5 – 13	–	–	1.5 – 13

Core drilling machines

Swivel Base variant with adjustment facility (No. 07 6536).

- Integral internal lubrication system, magnetic indicator for monitoring the magnetic clamping force.
- Integral cutting oil container, complete cable routing within the casing.
- Oil bath gearbox.

076535 Size MABASIC200 – Single-speed magnetic core drilling machine for drill ∅ up to 32 mm. With 19 mm (3/4 inch) Weldon arbor.

Size MAB455 – Sturdy magnetic core drilling machine for all material types. With MT2 tool arbor and **keyless quick-change drilling system. Supplied with core drills dia. 14 / 18 / 22 mm,** cutting depth 30 mm.

Size MAB825 – The heavy-duty power package. Core drills up to ∅ 100 mm. **Thread tapping up to maximum M30** using the adapter supplied. MT3 tool arbor with **keyless quick-change clamping system.** Thermal cut-out and clutch protect machine and tool. Motor with 4-speed gearbox, full wave electronic controls and torque limit cut-out permits best speed settings with no loss of power. **Supplied with core drills dia. 17.5 / 21 / 24 mm,** cutting depth 55 mm; **thread tapping adapters** M20 / M24 / M27.

Size MAB1300 – The most powerful magnetic core drilling / broaching machine on the market, with 2300-Watt motor, **core drilling up to ∅ 130 mm and thread tapping up to M42.** Motor with wide range of speeds (30 – 550 rpm), 3-coil magnet for extremely high clamping force. New counterholder for easy conversion between core drills and twist drills. **Servo-support** for drilling with almost no applied force. **Supplied with core drills dia. 17.5 / 21 / 24 mm,** cutting depth 55 mm. **Thread tapping adapters** M20 / M24 / M27.

07 6536 – Core drilling machine with **Swivel Base,** an **adjustment option with the magnet switched on.** Swivel range up to 20° to either side and a stepless forwards and backwards adjustment (15 mm).

Size MAB845 – The heavy-duty power package. Core drills up to ∅ 100 mm. **Thread tapping up to maximum M30** using the adapter supplied. MT3 tool arbor with **keyless quick-change clamping system.** Thermal cut-out and clutch protect machine and tool. Motor with 4-speed gearbox, full wave electronic controls and torque limit cut-out permits best speed settings with no loss of power. **Supplied with core drills** ∅ 17.5 / 21 / 24 mm, cutting depth 55 mm; **thread tapping adapters** M20 / M24 / M27.

076535/36 Size MAB485; MAB525 – Powerful all-round machine for all material types, for drilling, **tapping,** reaming, and countersinking. **Reversible,** full wave electronic controls, toolholder with **keyless quick-change clamping system** and thermal overload protection allow for a wide variety of applications. **Supplied with core drills dia. 14 / 18 / 22 mm,** cutting depth 30 mm; **with quick-release drill chuck** SSBF 1 – 16 mm. **Thread tapping adapters** M10 / M12 / M16.

Application:

07 6535 Size MAB485; MAB525; MAB1300/6536 Size MAB485; MAB525 – The stepless speed control through the high ratio reduction gearbox permits the use of taps, jobber drills, reamers, countersinks and core drills for all material grades.

Supplied with:

Size MABASIC200 – Carrying case, core drill holder, ejector pin for core drills, safety chain, lubrication system, and operating tools.

07 6536 – Includes case, core drill holder, ejector pin for core drill, safety chain, **magnetic swarf hook,** lubrication system and operating tool.

07 6535 Size MAB455; MAB485; MAB525; MAB825; MAB1300 – Includes case, core drill holder, ejector pin for core drill, safety chain, **magnetic swarf hook,** lubrication system and operating tool.

Note:
- See No. 118780 to 118825 for core drills.
- Core drilling machines with **automatic feed, vacuum clamping plate and pipe clamping fixtures available on request.**
- Pneumatic core drilling machines with ATEX standard available on request.

The small MAB155 (076535_MAB155) can be found in the eShop.

_MABASIC200

_MAB455 / _MAB485

_MAB525

_MAB825 / _MAB845

_MAB1300

Type		MABASIC200	MAB455	MAB485	MAB525	MAB845	MAB825	MAB1300
07E 07 6535	Core drilling machine	(XXX)	(XXX)	(XXX)	(XXX)	–	(XXX)	(XXX)
07E 07 6536	SB core drilling machine	–	–	(XXX)	(XXX)	(XXX)	–	–
Power consumption	W	900	1150	1150	1600	1800	1800	2300
maximum speed 1st speed	rpm	450	–	–	–	–	–	–
Speed range 1st speed	rpm	–	250	50 – 250	70 – 280	40 – 110	40 – 110	30 – 80
Speed range 2nd speed	rpm	–	450	100 – 450	180 – 580	65 – 175	65 – 175	50 – 120
Speed range 3rd speed	rpm	–	–	–	–	140 – 360	140 – 360	130 – 350
Speed range 4th speed	rpm	–	–	–	–	220 – 600	220 – 600	210 – 550
Tool arbor shape		–	MT2	MT2	MT3	MT3	MT3	MT4
Tool arbor size		19 mm Weldon	19 mm Weldon	19 mm Weldon	19 mm Weldon	19 mm, 32 mm Weldon	19 mm, 32 mm Weldon	19 mm, 32 mm Weldon
maximum core drill ∅ in steel	mm	32	40	40	50	100	100	130
maximum machine tap ∅ in steel		–	–	M16	M20	M30	M30	M42
maximum twist drill size ∅ in steel	mm	13	18	18	20	31.75	31.75	45
maximum countersink ∅	mm	–	–	40	50	50	50	80
maximum reamer ∅	mm	–	–	18	20	31.75	31.75	50
Length of magnetic base	mm	84	84	84	90	110	110	120
Width of the magnetic base	mm	168	168	168	180	220	220	360
Working stroke	mm	160	160	160	160	255	255	310
Weight	kg	12	13	13	16	25	25	51
Length	mm	260	295	295	295	370	370	495
Width	mm	160	175	175	171	240	240	255
Height	mm	360	440	440	492	475	475	560

Core drilling machines

- High magnetic clamping force and safety circuit ensure safe working in any position.
- Integral coolant supply for clean cut and long tool life.
- Convenient **magnetic clamping force display.**
- Reversible (even for thread tapping).
- Weight-optimised design.

Size 727053 – **Compact lightweight single-speed magnetic core drilling machine** with high functionality and tilt sensor.

Size 72705761 – **Compact lightweight 2-speed magnetic core drilling machine. Very narrow magnetic base only 70 mm wide.** Ideal for machining T-section profiles. High functionality and tilt sensor.

Size 727041 – Lightweight core drilling machine, very easy to use, for efficient drilling in the workshop and on site.

Size 727040 – Universal core drilling machine for flexible work in the workshop and on site. With an **MT3 shaft** as a universal tool arbor.

Size 727042 – Saves time and cost by **digitally controlled drilling feed** and tilt sensor.

Size 727043 – High-power core drilling machine for universal and efficient work in the workshop. **MT3 shaft** and **fine adjustment** for precise alignment with the magnetic base activated.

Size 727060 – High-performance **4-speed universal** magnetic core drilling machine with powerful lift. Extra-high lift range for all mobile drilling operations such as core drilling, twist drilling, thread tapping, countersinking and reaming.

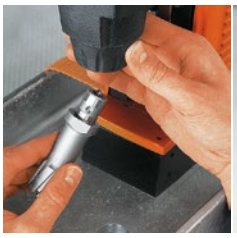
Size 727040; 727042; 727043; 727041 – **2-speed magnetic core drilling machines**

- Feed rate wheel can be switched from one side to the other.
- Increased magnetic clamping force.
- 5-stage speed adjustment and **speed setting memory.**

Supplied with: Supplied with cooling lubricant tank, lashing strap, 1× centring pin, swarf hook, carrying case.

Optional extras: On request.

Note:	See from No. 119000 for carbide core drills and arbors. Suitable QuickIN-Max arbor and carbide core drills max. DM 100 mm available on request.



QuickIN quick change system for quick tool changing without using tools.

Simple and easy-to read control panel in the direct field of view (not size 72 7060).

Vacuum plate / vacuum pump for embossed surfaces available on request.

_727053

_727041 /
Illustration similar to _727040

_727042

_727043

_727060

Type		727053	72705761	727041	727040	727042	727043	727060
03F 07 6520	Core drilling machine	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		KBU35Q	KBU35-2Q	KBM50Q	KBM50U	KBM50auto	KBM65U	KBU110-4M
Power consumption	W	1100	1100	1200	1200	1200	1300	1700
Speed range 1st speed	rpm	130 – 520	130 – 520	130 – 260	130 – 260	130 – 260	120 – 240	60 – 120
Speed range 2nd speed	rpm	–	400 – 1600	260 – 520	260 – 520	260 – 520	260 – 520	90 – 170
Speed range 3rd speed	rpm	–	–	–	–	–	–	150 – 300
Speed range 4th speed	rpm	–	–	–	–	–	–	230 – 430
Tool arbor shape		QuickIN	QuickIN	QuickIN	QuickIN / MK3	QuickIN / MK3	QuickIN / MK3	MT4
maximum core drill ∅ in steel	mm	12 – 35	12 – 35	12 – 50	12 – 50	12 – 50	12 – 65	110
maximum machine tap ∅ in steel	mm	M14	M14	M16	M16	M16	M20	M36
maximum twist drill size ∅ in steel	mm	16	16	16	23	23	25	40
maximum countersink ∅	mm	31	31	31	50	50	50	60
maximum reamer ∅	mm	16	16	16	23	23	25	36
Length of magnetic base	mm	175	186	195	195	195	205	240
Width of the magnetic base	mm	80	70	90	90	90	95	120
Working stroke	mm	135	135	145	145	145	145	400
Weight	kg	10.6	11	13.2	13.9	16.2	16.1	39
Length	mm	311	311	311	311	311	320	460
Width	mm	198	198	198	198	198	198	215
Height	mm	603	603	730	730	730	770	810
AC supply voltage	V				230			

Cordless core drilling machines

Cordless universal magnetic core drilling machine up to 35 mm

FE 18

Small single-speed magnetic core drilling machine with powerful lift and brushless EC motor. Very high functionality for mobiles work around the building site.

- For the best performance we recommend the **FEIN HighPower battery with 5.2 Ah**.
- Reversible.
- Extra narrow pre-magnetised permanent magnet.
- Flexibility for all mobile drilling operations such as core drilling, twist drilling, thread tapping, countersinking and reaming.
- Simple operating concept for the user, with no need for changeovers.

Supplied with: AKBU 35 PMQ Select **without battery, incl.** coolant pump, lashing strap, swarf hook, centring pin, guard, drive-out drift, carrying case.

Note: A suitable battery can be optionally obtained under No. 073834 FE 18, and a starter set under No. 073832 size 92604325.

07 6524

Type		71700162
03F 07 6524	Cordless core drilling machine	(XXX)
Manufacturer's designation		AKBU 35 PMQ Select
Manufacturer ID		71700162
Battery capacity	Ah	2.5
Battery voltage	V	18
maximum speed	rpm	130 – 520
Tool arbor shape		QuickIN / MT2
maximum machine tap ∅ in steel		M14
maximum twist drill size ∅ in steel	mm	18
Boring depth	mm	Core drills in steel maximum 50
maximum countersink ∅	mm	31
maximum reamer ∅	mm	18
Length of magnetic base	mm	195
Width of the magnetic base	mm	70
Height	mm	450
Working stroke	mm	135
Weight	kg	12.8

Cordless magnetic core drilling system up to 38 mm

MB 18

Size M18FMDP – **M18 FUEL™ rechargeable battery** magnetic core drilling machine with LED illumination.

- Core drilling up to 38 mm.
- 2-speed gearbox: Optimised speed for drilling with core drills (400 rpm) and jobber drills (690 rpm).
- Strong permanent magnet with holding force of 8890 N.
- Version with REDLINK PLUS™ electronics AUTOSTOP™.
- Integral magnetic coolant container.

Supplied with:

Size M18FMDP – Including tool case.

Note:

Size M18FMDP – Suitable carbide core drills can be found from No. 118780. Suitable rechargeable battery with No. 073816 size MB18 and No. 073839 size M18NRG5 available.

07 6528

Type		M18FMDP
03L 07 6528	Cordless core drilling machine	(XXX)
Manufacturer's designation		M18 FMDP-0C
Battery capacity	Ah	5
Battery voltage	V	18
maximum speed	rpm	400 – 690
Tool arbor shape		19 mm Weldon
maximum twist drill size ∅ in steel	mm	13
Boring depth	mm	Core drills in steel maximum 50
maximum countersink ∅	mm	38
maximum reamer ∅	mm	18
Length of magnetic base	mm	170
Width of the magnetic base	mm	65
Height	mm	552
Working stroke	mm	146
Weight	kg	13.9

07 6528

Bench drill

High-speed, durable and precise bench drill. Multi-touch display with scratch-resistant glass surface for optimum readability. Simple and coherent user guidance via pictograms on display. Digital drill depth display with reference zero orientation.

Fitted as standard:

- 5-inch TFT LCD display with touch function: Manual input spindle speed target value, actual value speed display, integral drill depth display with touch zero point transmission, virtual drilling depth scale on display, machine status display and warning instructions in the display, service information, choice of user languages: DE/ EN/ FR/ ES/ IT/ NL/ RU.
- **AC motor** 230 volts, 50 Hz.
- **Connection plug** ready assembled, cable length 3 m.
- **Speed adjustment** steplessly by potentiometer.
- **Three separate buttons for clockwise rotation - anticlockwise - stop** (spindle stop with braking function).
- Spindle guard with electrical interlock.
- Mushroom-head pushbutton (latching) for EMERGENCY STOP.
- Main switch, lockable.
- Paint finish: DD textured paint, signal white RAL 9003, PANTONE 7545c, black.

Size 6–12 – With height-adjustable and swivelling drill head.

Size 14; 16 – With rigid and height-adjustable and swivelling machine table.

Note: Further bench drills and optional equipment such as LED machine lamps, technology computers etc. are available on request.

5 inch TFT LCD display with touch function & optional technology computer.

07 6563_6
07 6563_9
07 6563_12

07 6563_14
07 6563_16

maximum drill ∅ in steel	mm	6	9	12	14	16
03P **07 6563** ALZTRONIC bench drill		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		ALZTRONIC i6	ALZTRONIC i9	ALZTRONIC i12	ALZTRONIC i14	ALZTRONIC i16
Power consumption	W			540		
maximum speed	rpm	700 – 10000	390 – 6500	250 – 5000	230 – 4000	100 – 2000
Toolholder		B16	B16	B16	MT2	MT2
maximum machine tap ∅ in steel		M6	M8	M10	M10	M12
Spindle stroke	mm	40	40	40	80	80
Feed				manual		
Distance spindle-base plate minimum	mm	110	110	110	437	437
Distance spindle-base plate maximum	mm	250	250	250	437	437
Distance spindle-machine table minimum	mm	–	–	–	75	75
Distance spindle-machine table maximum	mm	–	–	–	357	357
Throat	mm	200	200	200	190	190
Column ∅	mm	50	50	50	65	65
Drill head height adjustment		Handwheel	Handwheel	Handwheel	–	–
Machine table width of usable area	mm	–	–	–	240	240
Machine table length of usable area	mm	–	–	–	300	300
Machine baseplate width of usable area	mm			300		
Machine baseplate height of usable area	mm			240		
Machine table height adjustment		–	–	–	Hand crank	Hand crank
T-slot nominal size	mm			12		
Number of T-slots				2		
T-slot pitch	mm			80		
Weight	kg	64	64	64	83	83

NAKANISHI Micro grinding system

Emax EVOlution grinding and polishing system

Complete set EV410-230 **Emax** EVOlution 40,000 rpm, with hand-piece IR-310.

Supplied with: Control unit, micro-motor incl motor cable 1.5 m, hand-piece incl. collet (Ø 2.35 mm and 3.0 mm), digital speed display, On/Off switch on the motor, mains cable, reversible, motor speed recognition, 1 each hand-piece and hand-piece storage shelf.

Type		EV410
03T 07 8140	Micro-motor system **Emax EVOlution**	(XXX)
Manufacturer's designation		EV 410
Power consumption	W	73
Speed range	rpm	1000 – 40000
AC supply voltage	V	230
Weight	kg	3.3

07 8140

Additional item for No. 078140 EV410:

Size ENK250T – Micro-motor ENK-250T
Size RG01 – Reducer gearbox 1/4 RG-01
Size HG200 – Hand-piece
Size IC300 – Angle hand-piece IC-300/90°
Size KC300 – Angle hand-piece KC-300/50°
Size NLS110 – Luster NLS-110 hand filing machine
Size KBS101 – Linishing machine KBS-101
Size FC64 – Foot control FC-64

_RG01 _HG200 _IC300 _KC300

_ENK250T _KBS101 _NLS110

_FC64

Type		ENK250T	RG01	HG200	IC300	KC300	NLS110	KBS101	FC64
03T 07 8141	Micro-motor	(XXX)	–	–	–	–	–	–	–
03T 07 8142	Reducing gearbox	–	(XXX)	–	–	–	–	–	–
03T 07 8143	Hand-piece	–	–	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	–
03T 07 8144	Foot controller	–	–	–	–	–	–	–	(XXX)

ESPERT 500 grinding and polishing system

High precision manual abrasive system equipped with an extremely high-speed micro-motor **ESPERT 500.** The system was designed especially for high precision, very fine deburring, abrasion and for various further applications. The speed is steplessly controllable via the control unit.

Size ES50T-HR – Complete set ES50T-HR ESPERT 500, 200 Watt.

Type		ES50T-HR
03T 07 8150	Micro-motor system **ESPERT 500**	(XXX)
Power consumption	W	200
Speed range	rpm	1000 – 50000
Weight	kg	4.1

07 8150

Additional item for No. 078150 ES50T-HR:

Size ENK500C – Micro-motor ENK-500C-HR, incl. motor cable 1.5 m. On-Off switch on the motor cable.
Size ERG01B – Reducer gearbox 1/4 ERG-01B
Size EHG400 – Hand-piece EHG-400
Size EIC300 – Angle hand-piece EIC-300/90°
Size EKC300 – Angle hand-piece EKC-300/50°
Size ERA270 – Angle hand-piece ERA-270/90°
Size FC40 – Foot controller FC-40, steplessly adjustable

_ENK500C

_ERG01B _EHG400

_EIC300 _EKC300

_FC40

_ERA270

Type		ENK500C	ERG01B	EHG400	EIC300	EKC300	ERA270	FC40
03T 07 8151	Micro-motor	(XXX)	–	–	–	–	–	–
03T 07 8152	Reducing gearbox	–	(XXX)	–	–	–	–	–
03T 07 8153	Hand-piece	–	–	(XXX)	(XXX)	(XXX)	(XXX)	–
03T 07 8154	Foot controller	–	–	–	–	–	–	(XXX)

Deburring and chamfering machine

Chamfering machine with smooth start-up and thermal overload protection for machining straight edges, internal and external radii and holes from 22 mm ∅. Fine adjustment permits light chamfering for deburring and also wide chamfering. With improved cutter head for reduced cutting forces.

Size EKF300 – Chamfer 30° – width stepless 0 - 5 mm.
Size EKF450 – Chamfer 45° – width stepless 0 - 6 mm.
Size EKF452 – Radius R 2.5 mm.

Supplied with: Milling head, **3 carbide** inserts, swarf hook No. 084520 and transport case.

Note: A component edge height of at least 2 mm is necessary to provide guidance.

Type		EKF300	EKF450	EKF452
07E 07 8121	Deburring and chamfering machine	(XXX)	(XXX)	(XXX)
Power consumption	W	1500		
maximum speed	rpm	6000		
Length	mm	310		
Width	mm	138		
Height	mm	295		
AC supply voltage	V	230		
Chamfer		30°	45°	–
Radius	mm	–	–	2.5

Milling tools

3-edged milling tools, without inserts.

_ZFR300

_ZFR450

_ZFR452

Type		ZFR300	ZFR450	ZFR452
07E 07 8133	Milling tool **3-cutter**	(XXX)	(XXX)	(XXX)
suitable for			078121	
Chamfer	degrees	30°	45°	–
Radius	mm	–	–	2.5

Carbide milling insert set

Type		SHM200	SHM200E	SHM202
07E 07 8128	Carbide insert set, 3 pieces, SHM 200 **for steel**	(XXX)	–	–
07E 07 8129	Carbide insert set, 3 pieces, SHM 200 E **for stainless steel**	–	(XXX)	–
07E 07 8131	Carbide insert set, 3 pieces, SHM 202 **for steel radius 2.5 mm**	–	–	(XXX)
suitable for		ZFR 300, ZFR 450	ZFR 300, ZFR 450	ZFR 452

Deburring and chamfering machine

For producing chamfers and radii on flat materials, sheet metal and containers, internal and external edges, contour profiles and for rounding off holes.

07 8124 – Powerful cordless beveller for optimum preparation of the following coatings for flexible working in the workshop and on the construction site.
Size AKFH18-5 – Cordless beveller up to 5 mm.
07 8125 – General-purpose beveller with booster technology for optimum weld seam preparation and preparation for subsequent coatings. Non-fatiguing working with FEIN **ErgoGrip.**
Size KFH17-8R – Beveller up to 8 mm.
Size KFH17-15R – Beveller up to 15 mm

FE 18

07 8124_AKFH18-5

Supplied with:

Size AKFH18-5 – 1 machine incl. 45° milling head (without guide roller, without indexable inserts), 3 clamping screws, 1 copper paste, 1 hexagon L-wrench 4 mm, 1 Torx screwdriver TX 15, 1 plastic tool case.
Size KFH17-8R – 1 machine (without milling head, without guide roller, without indexable inserts), 3 clamping screws, 1 copper paste, 1 hexagon L-wrench 5 mm ,1 Torx screwdriver TX 15, 1 plastic tool case.
Size KFH17-15R – 1 machine (without milling head, without guide roller, without indexable inserts), 6 clamping screws, 1 copper paste, 1 hexagon L-wrench 5 mm, 1 Torx screwdriver TX 15, 1 plastic tool case.

07 8125_KFH17-8R
07 8125_KFH17-15R

Note: You can find the necessary accessories in our eShop.
07 8124 – See No. 073832 size 9260431501 for suitable battery starter sets.

Type		KFH17-8R	KFH17-15R	AKFH18-5
03F 07 8124	Cordless beveller **handheld**	–	–	(XXX)
03F 07 8125	Beveller **handheld**	(XXX)	(XXX)	–
Battery voltage	V	–	–	18
Power consumption	W	1700	1700	–
No load speed	rpm	2300 – 7500	2300 – 7500	2400 – 7500
∅	mm	118	137	98
Cable length	m	4	4	–
Chamfer angle	degrees	30; 45	30; 45	45
Radius	mm	3	3	2.5

BOSCH X-Lock angle grinders ∅ 115 / 125 mm

L-BOXX B 18

XLOCK

Size 18V-10SC – 125-mm **cordless angle grinder** from the new X-Lock system.
Size 18V15SC – ■ Selection of individual speed settings equipped with user interface and Bluetooth connectivity.
Size 18V15C; 18V15SC – **Cordless angle grinder** with **BITURBO brushless technology** with X-Lock.

- Has the same amount of power as a corded device with 1000 to 1800 watts.
- Ensures quicker cutting and more metal removal than with previous cordless grinders.
- Increased safety thanks to intelligent braking system, kick-back and drop control.

Supplied with:

07 7010 – Supplied with 2 × ProCORE18V 8.0Ah, quick charger GAL 1880 CV, additional vibration control handle, safety guard, L-BOXX.
Size 18V15C – Supplied with additional vibration control handle, safety guard, L-BOXX 136.
Size 18V15SC – Including additional vibration control handle, safety guard, connectivity module, L-BOXX 136.

_18V-10SC

_18V15C

_18V15SC

Type		18V-10SC	18V15C	18V15SC
03C 07 7010	GWX angle grinder	–	–	–
03C 07 7011	**Cordless**	–	(XXX)	(XXX)
Manufacturer's designation		GWX 18V-10 SC	GWS 18V-15 C	GWS 18V-15 SC
Number of rechargeable batteries contained		2	0	0
Type of rechargeable battery			Lithium-ion	
Battery capacity	Ah		8	
Battery voltage	V		18	
Speed range	rpm		4500 – 9000	
Toolholder			X-LOCK system	
maximum disc ∅	mm		125	
Weight	kg	2	2.3	2
Restart block			yes	
Special features		Variable speed; Kickback Control; Drop Control	BITURBO; Kickback Control; Drop Control	BITURO; Kickback Control; Drop Control

Size 9-115S – 115-mm angle grinder, 900 W motor with direct cooling. **X-Lock system.**
Size 14-125 – 125-mm angle grinder with 1,400 W motor. **X-Lock system.**
Size 19-125S – 125-mm angle grinder with 1,900 W motor. **X-Lock system.**

Supplied with:

Size 9-115S – Supplied with additional vibration control handle, safety hood, craftsman's case.
Size 14-125 – Including additional handle, safety guard and package.
Size 19-125S – Including additional vibration control handle, safety guard and package.

L-BOXX

_9-115S

_14-125

_19-125S

Type		9-115S	14-125	19-125S
03C 07 7050	GWX angle grinder	(XXX)	(XXX)	(XXX)
Manufacturer's designation		GWX 9-115 S	GWX 14-125	GWX 19-125 S
Power consumption	W	900	1400	1900
Speed range	rpm	2800 – 11000	11000	2800 – 11500
maximum disc ∅	mm	115	125	125
Weight	kg	2.1	2.3	2.5
Restart block			yes	
Special features		Variable speed	–	Variable speed; Kickback Control

Garant Grinding media suitable for the X-Lock:

Rough abrasive disc
Universal

56 0011

Cutting disc,
high-performance version

56 3273

Abrasive flap disc
long life

56 5279

Angle grinder ∅ 115 mm

07 7102 – Sturdy **800 W** motor, all-metal drive head, spindle locking, restart inhibit.

07 7103 – **1000 W** motor, spindle locking, restart inhibit.

07 7104 – **800 W** motor, slim easy-grip casing, restart inhibit.

07 7105 – **Cordless angle grinder 115mm** with POWERSTATE™ motor (brushless) for very heavy-duty use. The REDLINK PLUS™ electronics offers advanced digital overload protection for machine and battery and delivers constant power even under load. With dead man's switch.

07 7106 – **Dust-resistant and powerful 18 V cordless angle grinder** for effective cutting, grinding and deburring work in assembly applications.

- Maintenance-free brushless EC motor with innovative cooling ribs for optimum cooling, including temperature monitoring.

07 7102–7104 – Light-weight and powerful **115 mm one-hand angle grinder** in **handy compact design**, drive head can be rotated in 90° steps, quick adjustment of protective cover, M14 grinding spindle thread.

Advantage:

07 7106 –

- **Maximum service life** thanks to the next generation of brushless FEIN PowerDrive motors.
- **Protection of the motor** against aggressive ceramic and mineral dusts with a completely closed motor housing.
- Ideal for every application. **Optimum speeds**, tailored to a large number of abrasives and materials thanks to stepless, electronic speed preselection.

Supplied with:

Size M18FSAGV – **Without battery, without charger.** With cardboard box.

Size 71200162 – **Without battery, without charger.** Supplied with protective hood, tool-less quick-clamping nut, anti-vibration handle, wrench, carrying case.

07 7102 Size 72217360/7103 Size AG10-115EK/7104 Size WS8-115S – Supplied with protective hood, clamping set and additional handle.

Note:

Size 71200162 – See No. 073832 ff. for suitable rechargeable batteries and chargers. We recommend rechargeable battery 5.2 Ah.

FE 18

_71200162

HD MB 18

_M18FSAGV

_72217360

_AG10-115EK

_WS8-115S

Type			71200162	M18FSAGV	72217360	AG10-115EK	WS8-115S
03F 07 7106		Angle grinder **Cordless**	(XXX)	–	–	–	–
03L 07 7105			–	(XXX)	–	–	–
03F 07 7102		Angle grinder	–	–	(XXX)	–	–
03M 07 7103			–	–	–	(XXX)	–
07A 07 7104	AEG		–	–	–	–	(XXX)
Manufacturer's designation			CCG 18-115 BL SELECT	M18 FSAGV115XPDB-0	WSG 8-115	AG10-115EK	WS8-115S
Battery capacity		Ah	–	5	–	–	–
Battery voltage		V	18	18	–	–	–
Speed range		rpm	2500 – 8500	8500	11000	11000	12000
maximum disc ∅		mm			115		
maximum cutting depth		mm	25	28	34	28	28
Weight		kg	2.7	2.7	2	2.1	1.9
maximum vibration to EN		m/s^2	5	2.1	5	8.3	4.2
Power consumption		W	–	–	800	1000	800
Restart block					yes		

Cordless angle grinder ∅ 125 mm

Size 18V-7 – **Extremely powerful 18 V cordless angle grinder** in compact design.

Size 18V-10SC – Powerful **18 V cordless angle grinder.**

- 30% more power and 125% longer run time thanks to the new EC motor and the new ProCORE 18-V battery technology.
- Increased safety thanks to the intelligent brake system which shortens the brake time by up to 70% and KickBack Control.
- User comfort thanks to keyless disc change.

Size 18V15C –
- Thanks to the new **BITURBO technology,** 50% faster cutting and metal removal. Equivalent to the performance of an angle grinder with cable.
- **Increased safety** thanks to intelligent braking system, soft start, kick-back and drop control.
- Setting of individual **speed settings** with user interface and **Bluetooth connectivity**.
- Possibility to retrofit the connectivity module.

07 7140 – 18 V / 5.0 Ah FUEL™ Milwaukee cordless angle grinder:
- long-life **brushless motor,** spindle locking, quick adjustment of the safety guard.
- Integral **FIXTEC** quick-release system for changing discs without using tools.

Size M18FHSAG55 – M18™ **HIGH-OUTPUT™ 125 mm cordless angle grinder** with enough power for roughing and for up to 145 cuts per charge (5.5 Ah) with 50-mm electric pipe. RAPIDSTOP™ brake stops disc in under 2.5 seconds.

07 7145 – Dust-resistant and powerful **18 V cordless angle grinder** for effective cutting, grinding and deburring work in assembly applications.
- Maintenance-free brushless EC motor with innovative cooling ribs for optimum cooling, including temperature monitoring.
- Extremely smooth cutting action and anti-vibration working thanks to the independently mounted motor, decoupled from the housing, and 4 additional vibration dampers.
- Comprehensive user protection: Smooth start-up, restart inhibit, electronic overload protection, brake.

Supplied with:

Size 18V-10SC – Including 2 × ProCORE18 V 8.0 Ah, mounting flange, GAL 1880 CV quick charger, 1 x Bluetooth Low Energy Module GCY 42 Professional, safety guard, L-BOXX, 1/1 L-BOXX inlay for device and charger, additional vibration control handle.

07 7140 – Supplied with charger, safety guard, 2 dust-protection grilles, clamping set, anti-vibration handle, HD box.

Size 18V-7; 18V15C – **Without batteries** and without charger. Including L-BOXX, anti-twist safety guard, mounting flange, clamping nut, additional handle, 1/1 L-BOXX inlay for device and charger, two-pin wrench.

Size 71200262; 71200462 – **Without batteries and without charger.** Supplied with safety guard, tool-less quick-clamping nut, anti-vibration handle, wrench, carrying case.

Note:

07 7120 – See No. 073854 and No. 073866 for suitable spare batteries and chargers.

Size 18V15C – Suitable ProCORE 18 V battery No. 073857 size C18 and No. 073865 size C18.

07 7140 – See from No. 073809 and No. 073840 for suitable replacement batteries and accessories.

07 7145 – See No. 073832 ff. for suitable batteries and chargers.

B 18 L-BOXX

_18V-7

B 18 L-BOXX

_18V-10SC

B 18 L-BOXX

_18V15C

BITURBO

Brushless technology

MHB 18 MB 18 HD

_M18FSAGB

MHB 18 MB 18 HD

_M18FHSAG55

FE 18

_71200462

FE 18

_71200262

MHB 18 MB 18 HD

_M18FSAGDB

Type		18V-7	18V-10SC	18V15C	M18FSAGB	M18FSAGDB	M18FHSAG55	71200262	71200462
03C 07 7120	BOSCH GWS angle grinder **Cordless**	(XXX)	–	(XXX)	–	–	–	–	–
03L 07 7140	Milwaukee Angle grinder **Cordless**	–	–	–	(XXX)	(XXX)	(XXX)	–	–
03F 07 7145	Milwaukee Angle grinder **Cordless**	–	–	–	–	–	–	(XXX)	(XXX)
Manufacturer's designation		GWS 18V-7	GWS18V-10SC	GWS 18V-15 C	M18FSAGB	M18FSAGDB	M18FH-SAG125XB-552X	CCG 18-125 BL	CCG 18-125 BLPD
Number of rechargeable batteries contained		0	2	0	2	2	1	0	0
Type of rechargeable battery		Lithium-ion							
Battery capacity	Ah	4	8	8	5	5	5.5	–	–
Battery voltage	V	18							
maximum speed	rpm	10000	9000	9800	8500	8500	9000	–	–
maximum disc ∅	mm	125							
maximum cutting depth	mm	34	34	34	34	33	33	–	–
Weight	kg	2.3	2	2.2	2.5	2.7	3.4	1.95	1.95
maximum vibration to EN	m/s²	7	6	4	3.4	3.4	3.4	5	5
Overload protection		yes							
Dead man's circuit		no	no	no	no	yes	no	no	yes
Soft start		no	no	no	yes	yes	yes	yes	yes
Restart block		yes							
Kick-back stop		no	yes	yes	no	no	yes	no	no

BOSCH Angle grinder ∅ 125 mm

Size 7-125 – **Handy compact angle grinder** with narrow handle circumference.
- 720 Watt motor and only 1.9 kg weight, optimised air inlets (direct cooling) for longer working life, restart inhibit.
- **Very small handle circumference** (176 mm) compared to other angle grinders in its wattage class, flat gearbox head permits use in inaccessible places.

Size 9-125S – **Handy compact angle grinder** with a narrow handle circumference.
- Strong 900 W motor for fast work, high overload capacity, durability.
- With speed-control electronics, ideal for instance for grinding stainless steel.

Size 13-125CI – **1300 W** motor.

Size 15-125CIEP – **1500 W** motor and **maximum protection function** due to additional **motor brake (Intelligent Brake System** with up to 70 % shorter run-down time) and PROtection switch that can be actuated at various places, which switches the machine off immediately the trigger is released. With electronic speed control. Spindle thread M14×1.5.

Size 17-125INOX – **1700 W motor** with **speed-control electronics,** ideal for instance for **grinding stainless steel.**

Size 19-125CIE – **1900 W motor** with **electronic speed control.**

Size 18125LINOX – Reduced speed, with **very high torque** and high load factor for the heaviest duties.

Size 13-125CI; 17-125INOX; 15-125CIEP – **Powerful angle grinder in a compact format.**
- Powerful motor **with constant-speed electronics**, soft start and start-up current limitation.
- Long working life, thanks to direct cooling and overload protection.
- High user protection due to vibration control. Additional handle, kick-back stop and restart inhibit.

Size 19-125CI; 19-125CIE – **Very powerful 1900 W angle grinder for maximum productivity and very good user protection**
- Long working life due to motors with direct **motor cooling, constant-speed electronics, overload protection and long-life carbon brushes.**
- Easy to use due to slim body with Softgrip surface for a secure grip.
- Additional handle for 40 % reduction in vibration, ensuring non-fatiguing working (EN 60745).
- Top user protection due to **kick-back stop**, **restart inhibit**, torsion-resistant protective hood and reduced vibration.

Size 18-125L; 18125LINOX – **High performance** angle grinder with **best handling through ergonomic handle** and best weight-to-power ratio for continuous use and working overhead.
- Powerful **1800 W** motor with constant-speed electronics, smooth start-up, start-up current limitation and overload protection.
- High protection of the user by vibration control auxiliary handle, kick-back stop and restart inhibit.

Supplied with: Supplied with torsion-resistant protective hood, clamping set, additional handle.

_7-125

_9-125S

_13-125CI

_15-125CIEP

_17-125INOX
_19-125CI
_19-125CIE

_18-125L
_18-125LINOX

Type		7-125	9-125S	13-125CI	15-125CIEP	17-125INOX	19-125CI	19-125CIE	18-125L	18125LINOX
03C 07 7109	Angle grinder GWS	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		GWS 7-125	GWS 9-125 S	GWS 13-125 CI	GWS 15-125 CIEPX	GWS 17-125 INOX	GWS 19-125 CI	GWS 19-125 CIE	GWS 18-125 L	GWS 18-125 L stainless steel
Power consumption	W	720	900	1300	1500	1700	1900	1900	1800	1800
Speed range	rpm	11000	2800 – 11000	11500	2800 – 12000	2200 – 7500	11500	2800 – 11500	12000	8100
Connection thread		–	–	–	M14×1.5	–	–	–	–	–
maximum disc ∅	mm	125								
maximum cutting depth	mm	34								
Weight	kg	1.9	1.9	2.3	2.5	2.4	2.4	2.4	2.5	2.5
maximum vibration to EN	m/s²	6.5	6	6	6	5	6	6	6	6
Restart block		yes								
Special features		Narrow handle circumference	Electronic speed control	Compact design	Very high user protection	Electronic speed control.	Maximum power	Electronic speed control	Ergonomic handle	High torque, ergonomic handle

Compact angle grinder ∅ 125 mm

07 7111 – **FEIN – compact angle grinder ∅ 125 mm.**

- Handy light-weight design.
- Outstanding performance due to particularly high copper content in the motor.
- Long working life due to double dust-proofing of the motor, full metal grinding head, innovative impregnated carbon brushes, aluminium bearing plate, industrial cable H07 (4 m length), optimum motor ventilation.
- Low vibration values.
- Grinding head can be rotated in 90° steps (optimum switch position for the application).
- With restart inhibit.

Size 722213 – With variable speed, ideal for grinding stainless steel.

07 7121 – **AEG – Compact angle grinder ∅ 125 mm.** Powerful and ergonomic **angle grinder** in compact slim design.

- Safety spindle lock.
- Power cable 4 m.
- Dustproof bearings and switch.
- Grinding head can be rotated in steps of 90° for left-hand and right-handed use.
- Restart inhibit.

Size WS10-125S – Single-hand operation angle grinder 1000 W / ∅ 125 mm.

Size WS13125SXE – One-handed angle grinder 1300 W / ∅ 125 mm, constant-speed electronics with no-load speed limitation and overload protection. **FIXTEC** clamping nut.

07 7131 – **MILWAUKEE – Compact angle grinder ∅ 125 mm.** Compact, powerful angle grinder with large cutting depth due to flat metal gearbox head.

- Power cable 4 m.
- **Spindle lock** for quick disc change.
- **Quick adjustment of protective cover.**
- Restart inhibit.

Size AGV13-125X – 1250 W / 125 mm angle grinder, **short body,** with soft start, overload protection, **anti-kickback function,** and large **dead man's switch.** Disc change without tools, thanks to integral **FIXTEC** quick-change system. Anti-vibration handle (AVS).

Size AGV10125EK – 1000 W / 125 mm angle grinder, **short body.** Clamping set.

Supplied with: Handle, safety guard, clamping nut.

Note:	All compact angle grinders with lockable switch have no dead man's switch.

_722174
_722177

_722178
_722113
_722076

_AGV10-125E

_AGV13-125X

_WS10-125S

_WS13-125SXE

Type		722174	722177	722178	7222076	722213	AGV10125EK	AGV13-125X	WS10-125S	WS13125SXE
03F 07 7111	Compact angle grinder	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	–	–	–	–
03M 07 7131		–	–	–	–	–	(XXX)	(XXX)	–	–
07A 07 7121		–	–	–	–	–	–	–	(XXX)	(XXX)
Manufacturer's designation		WSG 8-125	WSG 11-125	WSG 15-125P	WSG 17-125 P	WSG 17-70 IN-OX	AGV10-125EK	AGV13-125XSPDE/ dead-man's switch	WS10-125S	WS13125SXE
Power consumption	W	800	1100	1500	1700	1700	1000	1250	1000	1300
maximum speed	rpm	11,000	11,000	11,000	11,000	2700 – 8500	11,000	12	11,500	2800 – 11000
maximum disc ∅	mm	125								
maximum cutting depth	mm	33	33	33	33	31	33	33	32	32
Weight	kg	2	2.2	2.3	2.3	2.4	2.2	2.3	2.4	2.4
maximum vibration to EN	m/s²	5	6	5	5	5	2.6	7.8	6	7.5
Special features		Short body	short body	Short body	short body	variable speed	short body	M14, FIXTEC	M14	M14, FIXTEC
Restart block		yes								

Angle grinders Ø 125 / Ø 150 mm

07 7138 – **FEIN ErgoGrip** angle grinder with ergonomically shaped handler, for non-fatiguing working and low applied force. Optimum grip, even when wearing welders' gloves. Also suitable for working overhead. Powerful motor for high removal rate with low vibration. **Dead man's switch** with **restart inhibit**, requires both hands on the grinder.

07 7141 – **Milwaukee** angle grinder with smooth start-up, **restart inhibit** and overload protection.

Size AGS15-125 – 1500 W special angle grinder with throttled speed **for use with flap discs** with constant speed electronics. Including clamping set.

Size AGV15-125 – 1550 W / 125 mm angle grinder with **constant-speed electronics,** anti-vibration handle, anti-kickback function for very high user protection, **FIXTEC** disc change without using tools.

Size AGV17-125 – 1750 W / 125 mm angle grinder with **electronic speed control,** anti-kickback function and soft start. **Anti-vibration handle,** disc change without using tools. **FIXTEC** clamping nut.

Size AGV17-150 – 1750 W / 150 mm angle grinder with **constant-speed electronics,** anti-kickback function, **anti-vibration handle,** disc change without using tools. **FIXTEC** clamping nut.

Supplied with:

07 7138 – Supplied with protective hood, 1 pair of flanges, anti-vibration handle, wrench.

07 7141 – Additional handle, guard cover, 4 m power cable.

_722196

_AGS15-125

_AGV15-125

_AGV17-125
_AGV17-150

Type		7222196	AGS15-125	AGV15-125	AGV17-125	AGV17-150
03F 07 7138	Angle grinder	(XXX)	–	–	–	–
03M 07 7141		–	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		WSG17-125PRT	AGS15-125CProTector	AGV15-125XCProTector	AGV17-125XEProTector	AGV17-150XCProTector/ dead-man's switch
Power consumption	W	1700	1500	1550	1750	1750
maximum speed	rpm	11,000	7,600	11,000	2600 – 11000	9,500
maximum disc Ø	mm	125	125	125	125	150
maximum cutting depth	mm	33	33	33	33	45
Weight	kg	2.4	2.4	2.6	2.8	3
maximum vibration to EN	m/s²	2.1	5.5	4.7	9.5	8.7

High-frequency 125 mm Ø angle grinder

High frequency angle grinder for **continuous use at high power.** These machines are operated at **300 Hz** and combine high motor power with very long working life. **Greatly improved ergonomics** compared to the predecessor machines.

07 7412

On request also available with a CEE plug.

Type		782086
03F 07 7412	High-frequency 125 mm Ø angle grinder	(XXX)
Manufacturer's designation		HFW 9–125
Power consumption	W	850
maximum speed	rpm	7100
maximum disc Ø	mm	125
maximum cutting depth	mm	33
Weight	kg	2.5
maximum vibration to EN	m/s²	< 4

Clamping nut for angle grinders

Size FIXTEC – M14 quick-clamping nut for quick disc changing without using tools. Low overall height, less than 8 mm. For washers up to Ø 150 mm

Size NUT – M14 flanged nut for disc Ø 115 - 230 mm.

_FIXTEC

_NUT

Type		FIXTEC	NUT
07A 07 3930	Clamping nut M14	(XXX)	(XXX)

Angle grinder ∅ 180 mm

07 7146 – **Powerful 180 mm angle grinder:**

- Powerful **2400 W** motor with smooth start-up and start-up current limitation.
- High protection of the user by vibration control on the main and auxiliary handles, kick-back stop and restart inhibit.
- Adjustable grasp handle for optimum grinding and cutting.

07 7147 – **Powerful 180 mm angle grinder:**

- Dust-proof **1750 W** ProTector motor with constant-speed electronics, smooth start-up, and overload protection.
- Vibration-damped AVS additional handle, anti-kick-back function and restart inhibit for comprehensive user protection.
- Changing discs without using tools due to the spindle lock and **FIXTEC** clamping nut (supplied).

Supplied with:

07 7146 – Supplied with protective hood, additional handle, clamping set.
07 7147 – Supplied with protective hood, additional handle, 4 m power cable.

07 7146

07 7147

Type			24-180LVI	AGV17-180
03C	07 7146	BOSCH Angle grinder GWS	(XXX)	–
03M	07 7147	Milwaukee Angle grinder	–	(XXX)
Manufacturer's designation			GWS 24-180 LVI	AGV17-180XCProTector/ dead-man's switch
Power consumption		W	2400	1750
maximum speed		rpm	8,500	7,600
maximum disc ∅		mm	180	
maximum cutting depth		mm	54	58
Weight		kg	5.4	3.1
maximum vibration to EN		m/s²	5.5	7.4
Special features			Rotatable loop handle	Constant-speed electron-ics, FIXTEC

Angle grinders ∅ 180 / ∅ 230 mm

- FEIN high power motor with enormous traction power for high removal rates.
- **Automatic restart inhibit** after power supply interruption.
- Rear handle **can be turned** to 4 positions.

07 7152 – **Dead man's** switch, i.e. can be operated only when both hands are on the machine. Without locking On / Off switch.

07 7151 Size 72210500; 72210600; 72211100/7152 Size 72210529; 72210629; 72211129 –

- Non–wearing EBS electrical **braking system** stops the machine in less than 3 seconds.
- FEIN **quick–release clamping system QuickIN** for quick easy and reliable disc changes without using tools.

Size 72210800; 72210829 –

- Angle grinder with **M14 clamping spindle** (e. g. for use with cup brushes).
- Without QuickIN or EBS braking system.

Supplied with: Supplied with protective hood, additional handle, clamping set.

_72210800

_72211129

Type			72210500	72210600	72210800	72211100	72210529	72210629	72210829	72211129
03F	07 7151	Angle grinder Classic	(XXX)	(XXX)	(XXX)	(XXX)	–	–	–	–
03F	07 7152	Angle grinder Deadman	–	–	–	–	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation			WSB 20-180	WSB 20-230	WSG 20-230	WSB 25-230X	WSB20-180	WSB20-230	WSG20-230	WSB25-230X
Power consumption		W	2000	2000	2000	2500	2000	2000	2000	2500
maximum speed		rpm	8,500	6,600	6,600	6,600	8,500	6,600	6,600	6,600
maximum disc ∅		mm	180	230	230	230	180	230	230	230
maximum cutting depth		mm	48	66	66	66	48	66	66	66
Weight		kg	4.8	4.8	4.5	5.4	4.8	4.8	4.5	5.4
maximum vibration to EN		m/s²	6							
Special features			QuickIN	QuickIN	M14	QuickIN	QuickIN	QuickIN	M14	QuickIN

Angle grinder Ø 230 mm

MHB 18

MB 18

07 7135 – **Cordless** two-hand angle grinder Ø 230 mm. Version with a dead man's switch and restart inhibit.

07 7153 – **Powerful 230 mm angle grinder:**

- Powerful motor with constant-speed electronics, smooth start-up and inrush current limitation.
- High protection of the user by vibration control on the main and auxiliary handles, kick-back stop and restart inhibit.
- Adjustable grasp handle for optimum grinding and cutting.

Size 24-230JVX – **2400 W** motor and additional **run-out brake.**

Size 26-230LVI – **2600 W** Motor, **PROtection switch**, which switches the machine off immediately the trigger is released.

07 7155 – **2200 W / 230 mm angle grinder** with start-up current limitation and restart inhibit.

07 7161 –

- Vibration-damped adjustable handle.
- Spindle locking pin.

Size AGVM26-230 – **2600 W** motor. With B-Guard anti-kickback **safety shut-off**, **FIXTEC** clamping nut and auto-balancer.

07 7162 – Version with dead-man's switch, which switches the machine off immediately the trigger is released.

Size AGVM26-230 – **2600 W** motor. With B-Guard anti-kickback **safety clutch** and **FIXTEC** clamping nut.

Size AGVKB24 – Angle grinder with **RAPIDSTOP™** brake and safety shut-off. Removable dust hood protects against contamination and extends the lifetime of the motor.

07 7161/7162 – **Powerful 230 mm angle grinder:**

- Dust-proof PROtector motor with smooth start-up and inrush current limitation.
- Safeguard against accidental restart.

Supplied with:

Size M18FLAG – Supplied with 1 × 18 V / 12 Ah **High Output™** Li-ion battery, AVS side handle, Fixtec quick clamping nut, 2 × exchangeable dust-protection grilles, carrying case.

07 7153 – With SDS quick-clamping nut.

07 7153–7162 – Supplied with protective hood, additional handle.

_M18FLAG

_GWS_24–230JVX

_GWS_26–230LVI

_WS–230

_AGV24–230
_AGVM26–230
_AGVKB24–230

Type		M18FLAG	AGVM26-230	24-230JVX	WS22-230	26-230LVI	AGV24-230	AGVKB24
03L 07 7135	Cordless angle grinder 18 V	–	–	–	–	–	–	–
03C 07 7153	BOSCH Angle grinder GWS	–	–	(XXX)	–	(XXX)	–	–
07A 07 7155	AEG Angle grinder	–	–	–	(XXX)	–	–	–
03M 07 7161	Angle grinder	–	(XXX)	–	–	–	(XXX)	–
03M 07 7162	Angle grinder Deadman	–	(XXX)	–	–	–	–	(XXX)
Manufacturer's designation		M18FLAG230X-PDB-121C	AGVM26-230GEX-ProTector	GWS 24-230 JVX	WS22-230E	GWS 26-230 LVI	AGV24-230GEPro-Tector	AGVKB-24-230 EKX DMS
maximum speed	rpm	6600	6,600	6,500	6,600	6,500	6,600	6500
maximum disc ∅	mm				230			
maximum cutting depth	mm	65	68	69	68	69	68	68
Weight	kg	5.2	5.8	6.5	5.2	5.6	5.5	5.9
maximum vibration to EN	m/s²	8.7	2.5	6.5	8.7	6	2.7	2.7
Power consumption	W	–	2600	2400	2200	2600	2400	2400
Restart block					yes			
Special features		Dead man's switch, FIXTEC	Auto-balancer, FIXTEC, dead-man's switch, adjustable handle	Constant-speed electronics, run-out brake	–	Constant-speed electronics, PROtection switch	Autobalancer	Dead man's switch, FIXTEC

FLEX Fillet weld grinder

07 7769 – Fillet weld grinder arm, suitable system attachment for No. 077770 BME18.

07 7770 – Powerful TRINOXFLEX 18 V cordless motor for metal surface preparation.

- Heavy-duty brushless motor with higher efficiency.
- Unique tool attachment with quick-release coupling for changing (without tools) the four modular attachments for burnishing and pipe linishing, for grinding with belt file or fillet weld grinder.

Supplied with:

07 7770 – **Version without attachment,** supplied with 2 × rechargeable batteries 18 V / 5.0 Ah, charger and L-Boxx® 238.

_LK152

L-BOXX

_BME18

Type		BME18	LK152
03S 07 7770	Fillet weld grinder base unit	(XXX)	–
03S 07 7769	Fillet weld grinder attachment	–	(XXX)
Battery voltage	V	18	–
maximum speed	rpm	1700 – 3760	–
Maximum tool ∅	mm	125	–
Weight	kg	2	0.7

Orbital sander „Rutscher“

07 7326 – **Light-weight and handy 260 W orbital sander:**

- User-friendly hand contact surfaces for even distribution of the pressure.
- DUO fastening system for precise seating of abrasive paper sheets, be they clamp fitting or hook and loop fastener fitting.
- Integral dust extraction through 10-hole abrasive paper.
- Direct connection to dust bag or external dust extraction system.

07 7328 – **Handy low-vibration 300 W** orbital sander with **speed pre-selection:**

- Ergonomically shaped holding surfaces with softgrip permit perfect handling.
- Very low vibration thanks to decoupling of the motor casing.
- Precise seating of abrasive paper sheets, be they clamp fitting or hook and loop fastener fitting.
- Integral dust extraction through 8-hole abrasive paper.
- Direct connection to micro-filter box or external dust extraction system.

Supplied with:

07 7326 – Supplied with 4 m power cable, dust bag, punched-out plate, carrying case.
07 7328 – Supplied with micro-filter box, abrasive plate, additional handle.

Note:

07 7326 – For suitable abrasive cloth see No. 556980 ff.
For suitable hook and loop sanding paper see No. 557620.
07 7328 – For a suitable hook and loop fastener sanding paper see No. 557576.

07 7326

07 7328

Type		SPS140	230AVE
03M 07 7326	Milwaukee Orbital sander	(XXX)	–
03C 07 7328	BOSCH GSS orbital sander	–	(XXX)
Power consumption	W	260	300
Abrasive paper length (hook and loop)	mm	105	184
Abrasive paper width (hook and loop)	mm	115	92
Abrasive paper length (clamped)	mm	140	230
Abrasive paper width (clamped)	mm	115	92
Orbital stroke	mm	1.6	2.4
Speed of oscillation	rpm	28000	22000
Hole pattern		10-hole	8-hole
Weight	kg	1.6	2.4
maximum vibration to EN	m/s^2	< 8.5	< 2.5

MIRKA Compact cordless random orbital sander

Brushless cordless spot repair sander with 5.0mm stroke for flexible cordless machining.
For wet and dry grinding. Optimum ergonomic design.

- Quick disc change due to Quick-Lock system.
- Up to 16 hours operating time for industrial applications.
- Quick battery charge time 45 min.
- Low noise level and low vibration level.

Supplied with: 2 × 10.8 V / 2.5 Ah battery, charger and 32 mm backing pad.

Note: Suitable grinding discs can be found under No. 567803 and No. 567902 in Group 56.

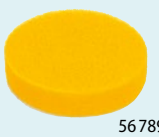
07 7325

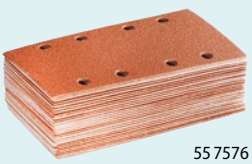
Type		AROS-B
07E 07 7325	Compact cordless random orbital sander **AROS-B 150NV**	(XXX)
Battery capacity	Ah	2.5
Battery voltage	V	10.8
Speed	rpm	4000 – 8000
maximum diameter	mm	32
Weight	kg	0.6
maximum vibration to EN	m/s^2	1.9
Stroke	mm	5
Operating noise	dB	62

Suitable accessories in Groups 55 and 56

567902

567803


567896


557576

556980

(Cordless) random orbital sander

07 7319 – **M18 cordless random orbital sander** 6-step pre-set speed settings for removal rate appropriate for the material. Dust box with integrated filter.
100% system-compatible with the Milwaukee® M18™ product range.
8-hole backing pad for efficient extraction.

07 7321 –
- Powerful **random orbital sander** with 440 W motor.
- Electronic speed pre-selection. **Hook and loop fastening** ensures quick and simple abrasive paper replacement.
- **2 pre-selection values for orbital stroke** 3.2 mm / 6.4 mm.
- Integral dust extraction through 6 hole universal backing pad. Connection for external extraction system.

07 7324 – The first random orbital sander with **brushless electric motor without a mains adapter.**
- Low power consumption. Especially compact, quiet, lightweight and powerful.
- Low-vibration, Bluetooth interface.
- Can be connected to an external extraction system.

Supplied with:

07 7319 – Supplied with 2×5.0 Ah Li-ion battery, dust bag, extraction adapter, extension adapter, 2× abrasive paper.

07 7321 – 150 mm ∅ backing pad for orbital sanders, additional handle, sanding disc, dust bag, extraction adapter.

Note:
Suitable 6-hole abrasive disc, item No. 567775, 15-hole item No. 567558 and ABRANET item No. 567800.

07 7324 – Suitable backing pad item No. 567990 size 147.
Suitable hose with electric cable for external extraction system No. 077327 size 5.5.

07 7319

07 7321

Type		M18B0S125	EX150ES	625CV	650CV
03L 07 7319	Cordless random orbital sander **18V**	(XXX)	–	–	–
07A 07 7321	AEG Random orbital sander	–	(XXX)	–	–
07E 07 7324	MIRKA Random orbital sander **DEROS**	–	–	(XXX)	(XXX)
Backing pad ∅ mm		125	150	150	150
Orbital stroke mm		2.4	3.2 / 6.4	2.5	5.0
Speed of oscillation rpm		14000 – 24000	4000 – 10000	4000 – 10000	4000 – 10000
Weight kg		1.6	2.8	1	1
Power consumption W		–	440	350	350
maximum vibration to EN m/s^2		–	8.5	< 2.5	3.4

07 7324_625CV / _650CV

MB 12

Cordless straight die grinder

07 7257 – FUEL™ cordless straight die grinder **angled** in compact design (overall length 119 mm).
DRIVE-CONTROL 4-speed setting and sensitive speed controller for good control.

07 7258 – FUEL™ cordless straight die grinder (overall length 262 mm).
DRIVE-CONTROL 3-speed setting.

Supplied with: 1 pc. 2.0 / 1 pc. 4.0 Ah battery packs, C12 C charger, 1 pc. each of collet 6 mm and 8 mm, tool bag.

Note:
Suitable grinding discs (CER) can be found from No. 554012, for cleaning discs and coarse cleaning discs see No. 554050; 554051; 554054 and 554055.

07 7257

07 7258

Type		M12FDGA422	M12FDGS422
03L 07 7257	Angled straight die grinder **Cordless**	(XXX)	–
03L 07 7258	Straight die grinder **Cordless**	–	(XXX)
Manufacturer's designation		M12FDGA-422B	M12FDGS-422B
Battery capacity Ah		2; 4	
Battery voltage V		12	
Speed range rpm		0 – 24500	0 – 21000
maximum disc ∅ mm		50	
maximum collet ∅ mm		6 – 8	
Weight kg		0.8	1

Straight die grinder

Size GGS18V23 – **Cordless straight die grinder** with sturdy and heavy-duty brushless motor.
- with long neck and performance equal to that of a main cable model (equivalent to 1000 Watt).

07 7265 – Handy compact straight die grinder for versatile grinding operations.
- **Constant-speed electronics** maintain constant speed even at high loads.
- New clamping system for zero-play fixing of the grinding points for precise working.
- **Soft start** and **Kick-Back stop:** If the machine senses a jam, it switches off immediately.
- Switch-off carbon brushes for high protection of the motor.
- Long working life thanks to **direct cooling** and double **sealed ball bearings.**
- 6-speed pre-selection to cater for different materials.

Size GGS28CE –
- **With short spindle neck,** permits stationary use (43 mm clamp).

Size GGS8CE –
- **High-torque** 750 Watt motor for a high rate of progression of the work.
- **Reduced speed,** suitable also for grinding stainless steel.

Size GGS18VLI – **Cordless straight die grinder** with sturdy heavy-duty 4-pole high-power motor.

Size GSL600E – **Universal** straight die grinder with electronic speed control.
- Extra long grinding spindle and slender thermally insulated gearbox neck for working where access is difficult.
- Robust metal gearbox with double bearing. 4 m power cable.

Size M18FDG – **Powerful 18 V / 5.0 Ah cordless straight die grinder** with brushless POWERSTATE™ motor.
- REDLINK PLUS™ electronics with digital overload protection for better performance.
- REDLITHIUM-ION™ battery with single-cell monitoring.
- Universal arbor for all the usual 6 and 8 mm accessories.
- Very slim design for increased user comfort.
- Exchangeable dust-protection grille protects the motor and prolongs its working life.
- Spindle neck with rubber face for extra user comfort.
- Restart inhibit.

Size GGS28LCE; GGS8CE –
- **With long slim grinding spindle** – particularly suitable for use in inaccessible places.

_GGS28CE

_GGS28LCE

_GGS8CE

B 18

L-BOXX

_GGS18V23

Supplied with:

Size GGS18V23 – **Without battery, without charger.** Supplied with 6 mm collet, 2× AF 13 and AF 19 tightening wrenches, L-BOXX.

Size GGS8CE – Including collet 6 mm, 2 single open ended spanner AF 13 and AF 19.

Size GGS18VLI – Including 2× 18 V / 5.0 Ah Li-ion battery, charger, 2 open-ended spanner AF 19, L-BOXX 136 and inlay for GGS 18 V-LI.

Size GSL600E – Includes 6 mm ∅ collet, tightening spanner AF 15/17.

Size M18FDG – Supplied with charger, 6 mm collet, 8 mm collet, open ended spanners AF 15 / 17 AF, 2 × dust-protection grilles, HD box.

Size GGS28CE; GGS28LCE – Supplied with 6 mm collet, 2 chuck wrenches AF 19.

B 18

L-BOXX

_GGS18VLI

_GLS600E

MB 18

HD

_M18FDG

Type			GGS28CE	GGS28LCE	GGS8CE	GGS18V23	GGS18VLI	GSL600E	M18FDG
03C 07 7265		Straight die grinder	(XXX)	(XXX)	(XXX)	–	–	–	–
03C 07 7263	BOSCH	Straight die grinder **Cordless**	–	–	–	(XXX)	–	–	–
03C 07 7267			–	–	–	–	(XXX)	–	–
07A 07 7271	AEG	Straight die grinder	–	–	–	–	–	(XXX)	–
03L 07 7280	Milwaukee	Straight die grinder **Cordless**	–	–	–	–	–	–	(XXX)
Manufacturer's designation			GGS 28 CE	GGS 28 LCE	GGS 8 CE	GGS18 V-23 LC	GGS18 V-Li	GSL600E	M18FDG-502X
Battery capacity		Ah	–	–	–	–	5	–	5
Battery voltage		V	–	–	–	18	18	–	18
Speed range		rpm	10000 – 28000	10000 – 28000	2500 – 8000	22000	22000	10000 – 29000	27000
maximum collet ∅		mm	6	6	6	8	8	6	6 – 8
Weight		kg	1.4	1.6	1.7	1.8	1.8	1.9	2.1
maximum vibration to EN		m/s²	8.0	14	< 2.5	3.5	3.5	3	3.4
Power consumption		W	650	650	750	–	–	600	–
electronic speed pre-selection			yes	yes	yes	no	no	yes	no

Straight die grinder

- Exceptionally handy straight die grinder.
- Quiet running due to multiple spindle bearings.
- Powerful motor with high cutting power.
- Due to speed regulation, outstandingly suitable for cutting stainless steel, and also for grinding and polishing work.
- Suitable for grinding points and carbide milling cutters.

Size 722322 – With FEIN **ErgoGrip** for non-fatiguing work thanks to ergonomically designed handle.

Size 722324; 722325; 722322 – Universal straight die grinder for working where access is difficult. Handy, slim neck enables internal grinding.

Size 722317; 722322 – Powerful, handy straight die grinder with **short spindle neck.** Also suitable for semi-stationary use.

Supplied with:

Size 722322 – Including collet ∅ 8 mm, 2 chuck wrenches 13 AF and 17 AF.

07 7261 Size 722317; 722319; 722320; 722324; 722325 – Collet ∅ 6 mm, 2 chuck wrenches 13 AF and 17 AF.

Note:	Straight die grinders are approved for use with burrs up to a ∅ of 12 mm.

Type		722324	722325	722317	722319	722320	722322
03F 07 7261	Straight die grinder	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		GSZ4-280EL	GSZ4-90EL	GSZ8-280PE	GSZ8-280PEL	GSZ8-90PEL	GSZ11-320PERL
Power consumption	W	350	350	750	750	710	1010
Speed range	rpm	13000 – 28000	3500 – 8500	8500 – 28000	8500 – 28000	2500 – 9000	9500 – 32500
maximum collet ∅	mm	6	6	6	6	6	8
Weight	kg	1.5	1.5	1.4	1.8	1.8	2.1
maximum vibration to EN	m/s^2	< 2.5					
Cable length	m	4					
electronic speed pre-selection		yes					

FE 18

- Dust-resistant and powerful **cordless straight die grinder.**
- Maintenance-free brushless EC motor with innovative cooling ribs for optimum cooling, including temperature monitoring.
- Ideal for every application. Optimum speeds, tailored to a large number of abrasives and materials thanks to stepless, electronic speed pre-selection.

Size 71230162 – Compact with short spindle neck.

Size 71230262; 71230362 – Long spindle neck. The long, slim neck makes deep plunging into workpieces possible (for example, internal grinding of pipes).

Supplied with: Supplied with 6 mm ∅ collet, 1 × 13 AF and 1 × 17 AF spanner, carrying case.
Without battery and charger.
Suitable spare batteries and chargers can be found under No. 073834 – 073845.

Note:	Straight die grinders are approved for use with burrs up to a ∅ of 12 mm.

FE 12

FE 12

Type		71230162	71230262	71230362
03F 07 7262	Straight die grinder **Cordless**	(XXX)	(XXX)	(XXX)
Manufacturer's designation		AGSZ 18-280 BL Select	AGSZ 18-280 LBL Select	AGSZ 18-90 LBL Select
Battery voltage	V	18		
Speed range	rpm	9000 – 28000	9000 – 28000	2900 – 9000
maximum collet ∅	mm	8		
Weight	kg	1.4	1.6	1.6
maximum vibration to EN	m/s^2	< 2.5	< 2.5	<2.5
electronic speed pre-selection		yes		

Collet ∅	mm	6	8	suitable for
03G 07 7268	Collet for straight grinder	(XXX)	(XXX)	077261; 077262

Oscillator – multi-tools

Market-leading oscillating tools in three different performance classes (SuperCut, MultiMaster, MultiTalent) in a new version with **Starlock tool arbor** (improved torque transmission of up to 35 % greater rate of progression of the work).

- Virtually unlimited application possibilities (sawing, grinding, scraping, cutting, rasping) due to the oscillating mode of movement (low generation of dust).
- **Stepless electronic speed control** for optimum working.
- Very high quality and stability thanks to the **metal gearbox** and use of ball bearings and needle bearings throughout.
- Optimum handling due to ergonomic design with soft-grip inlays and low weight.

07 7824_72297261

Thanks to the Starlock Plus tool arbor, you have access to around 100 FEIN accessories from the Starlock and Starlock Plus performance classes.
MultiTool for interior work and renovation with the basic equipment for sawing wood, metals, plasterboard and plastics.

Supplied with: 1× plastic tool case, 1× E-Cut long-life saw blade (35 mm), 1× E-Cut long-life saw blade (65 mm), 1× E-Cut universal saw blade (44 mm).

07 7825 – Incl. 1× ALG 80 quick charger, 2× Li-ion rechargeable battery packs (12 V / 3 Ah).

Type		72297261	71293261
03F 07 7824	MultiMaster MM 300 Plus Start	(XXX)	–
03F 07 7825	MultiMaster AMM 300 Plus Start **Cordless**	–	(XXX)
Manufacturer's designation		MM 300 Plus Start	AMM 300 Plus Start
Battery capacity	Ah	–	3
Battery voltage	V	–	12
Toolholder		Starlock, Starlock Plus	
Speed of oscillation	rpm	11000 – 20000	11500
Amplitude (oscillation movement)	degrees	2 × 1.6	
Weight	kg	1.4	1.5
Power consumption	W	250	–
Cable length	m	5	–

FE 12

07 7825_71293261

07 7814_72296761

Powerful MultiTool for rapid work progress (for interior work and renovation) with more than 30 accessories for sawing wood and metal, cutting tiles, and more.

Supplied with: 30-piece accessories set, 1× dust extractor, 1× plastic tool case.

07 7815 – Incl. 1× ALG 80 quick charger, 2× Li-ion rechargeable battery packs (18 V / 3 Ah).

Type		72296761	71293361
03F 07 7814	MultiMaster MM 500 Plus Top	(XXX)	–
03F 07 7815	MultiMaster AMM 500 Plus Top **Cordless**	–	(XXX)
Manufacturer's designation		MM 500 PLUS TOP	AMM 500 PLUS TOP
Battery capacity	Ah	–	3
Battery voltage	V	–	18
Toolholder		Starlock, Starlock Plus	
Speed of oscillation	rpm	10000	11000 – 19500
Amplitude (oscillation movement)	degrees	2 × 1.7	
Weight	kg	1.4	1.8
Power consumption	W	350	–

FE 18

07 7815_71293361

Most suitable MultiTool for rapid work progress (for interior work and renovating) with bi-metal saw blade for wood, metal and plastics. Thanks to the StarlockMax arbor, you have access to around 180 FEIN accessories from the Starlock, StarlockPlus and StarlockMax performance classes.

Supplied with:

07 7804 – 1× E-Cut universal saw blade (44 mm), 1× plastic tool case.

07 7805 – 60-piece accessories set, 1× ALG 80 quick charger, 2× Li-ion rechargeable battery packs (18 V / 3 Ah), 1× dust extractor, 1× plastic tool case.

Note:

07 7805 – Suitable rechargeable batteries for MultiVolt battery interfaces can be found under No. 073832.

Type		72296862	71293461
03F 07 7804	MultiMaster MM 700 Max	(XXX)	–
03F 07 7805	MultiMaster MM 700 Max Top **Cordless**	–	(XXX)
Manufacturer's designation		MM 700 MAX	AMM 700 MAX
Battery capacity	Ah	–	3
Battery voltage	V	–	18
Toolholder		StarlockMax	
Speed of oscillation	rpm	10000	
Amplitude (oscillation movement)	degrees	2 × 2.0	
Weight	kg	1.6	
Power consumption	W	450	–
Cable length	m	5	–

FE 18

07 7804_72296862

07 7805_71293461

Accessories for MULTIMASTER MM, AMM / MultiTalent / SuperCut

Sawing, parting off, filing with SLM mounting only for Fein MM 700 and AMM 700

07 7884 – E-Cut long life saw blade, bi-metal with offset tooth profile for wood.
07 7885 – E-Cut diamond saw blade for perfectly clean cut edges in CRP/GRP, without delamination.
07 7893 – E-Cut **Carbide Pro** TiN-coated solid carbide plunging saw blade 75x35 mm with extremely high wear resistance.

Suitable for: Only **Fein MM 700 and AMM 700,** No. 077805 and No. 077804.

Width of cut mm		32	42	44	35	Contents	Material
03G 07 7884	E–Cut saw blade, bi-metal, long-Life	(XXX)	(XXX)	–	–	1	Wood, plastics
03G 07 7885	E–Cut saw blade, diamond	–	–	(XXX)	–	1	CRP, GRP
03G 07 7893	E–Cut saw blade, Carbide Pro	–	–	–	(XXX)	1	Wood, CRP, GRP
Toolholder		SLM					

07 7884 07 7885 07 7893

Extra long working life. Suitable for very hard epoxy or cement joints.
07 7887 – Extra thin version. Cutting width 1.2 mm.

Suitable for: Only MULTIMASTER MM 700 and AMM 700 with StarlockMAX arbor.

			Material
03G 07 7886	E–Cut saw blade, diamond, 2.2 mm	(XXX)	Marble, epoxy resin, pozzolan grouts
03G 07 7887	E–Cut saw blade, diamond, 1.2 mm	(XXX)	Marble, epoxy resin, pozzolan grouts
Toolholder		SLM	

07 7887

For roughing, can be used with dust extraction and perforated.

Suitable for: Only MULTIMASTER MM 700 and AMM 700 with StarlockMAX arbor.

			Toolholder	Material
03G 07 7888	Carbide rasp, 3-square	(XXX)	SLM	Concrete, wood

07 7888

Sawing, cutting, filing with SL and SLP holder

Suitable for: **All FEIN multi-tools and all other popular multi-tools on the market.**

Cutting width mm		10	20	30	35	44	50	65	Contents	Material
03G 07 7844	E–Cut saw blade, standard	–	–	–	(XXX)	–	–	(XXX)	1	Wood, plastics
03G 07 7840	E-Cut saw blade, standard, 5 pieces	–	–	–	(XXX)	–	–	(XXX)	5	Wood, plastics
03G 07 7870	E–Cut saw blade, curved	–	–	–	(XXX)	–	(XXX)	(XXX)	1	Wood, plastics
03G 07 7847	E–Cut saw blade, bi-metal, Long-Life	(XXX)	(XXX)	–	(XXX)	–	–	(XXX)	1	Wood, plastics
03G 07 7850	E–Cut saw blade, bi-metal, Precision	–	–	–	(XXX)	–	–	(XXX)	1	Wood, plastics
03G 07 7856	E–Cut saw blade, bi-metal, Universal	–	–	–	–	(XXX)	–	–	1	Metal, aluminium, wood, plastic etc.
03G 07 7857	E–Cut saw blade, bi-metal, Fine	–	–	(XXX)	–	–	–	–	1	Aluminium, GRP, plastics
03G 07 7858	E-Cut saw blade, carbide, SLP mount	–	–	–	(XXX)	–	–	–	1	CRP, GRP
03G 07 7849	E-Cut saw blade, diamond, SLP mount	–	–	–	(XXX)	–	–	–	1	CRP, GRP
03G 07 7891	E–Cut saw blade, Carbide Pro	–	–	–	(XXX)	–	–	–	1	Wood, CRP, GRP
Toolholder (07 7844, 07 7840, 07 7847, 07 7850, 07 7856, 07 7857, 07 7891)		SL	SL	SL	SL	SLP	–	SLP		
Toolholder (07 7870)		–	–	–	SL	–	SL	SL		
Toolholder (07 7858, 07 7849)		–	–	–	SLP	–	–	–		

07 7840 / 44 / 50 / 56 / 57

07 7870

07 7847

07 7858

07 7849

07 7891

Sawing, cutting, filing with SL and SLP holder

07 7848 – 6 pieces, E-Cut plunging saw blades for sawing wood and metal.

Suitable for: **All FEIN multi-tools and all other popular multi-tools on the market.**

Supplied with:

07 7848 – 2 pcs. each of E-Cut Long-Life saw blades (50×35 mm, 50×65 mm), 1 pc. each of E-Cut Universal saw blade (55×28 mm, 55×44 mm).

07 7859 – 1 pc. general-purpose in width 44 mm as well as 1 pc. each of long-life in 35 mm and 65 mm.

07 7848

07 7859

Version		SET
03G 07 7848	E-Cut saw blade set, wood + metal **6 pieces**	(XXX)
03G 07 7859	E-Cut saw blade set, MiniCut **3 pieces**	(XXX)
Toolholder		SLP

Suitable for: **All FEIN multi-tools and all other popular multi-tools on the market.**

Saw blade ∅ mm		75	85	90	100	Contents	Material
03G 07 7834	Saw blade, solid HSS	–	(XXX)	–	–	1	Sheet metal up to 1mm, plastics, GRP, wood, sealant, non-ferrous metals
03G 07 7835	Saw blade, solid HSS, 5 pieces	–	(XXX)	–	–	5	Sheet metal up to 1mm, plastics, GRP, wood, sealant, non-ferrous metals
03G 07 7836	Segmented saw blade, solid HSS	–	(XXX)	–	–	1	Sheet metal up to 1mm, plastics, GRP, wood, sealant, non-ferrous metals
03G 07 7838	Saw blade, bi-metal HSS	–	(XXX)	–	(XXX)	1	Sheet metal up to 1mm, plastics, GRP, wood, sealant, non-ferrous metals
03G 07 7839	Saw blade, bi-metal HSS, 5 pieces	–	(XXX)	–	(XXX)	5	Sheet metal up to 1mm, plastics, GRP, wood, sealant, non-ferrous metals
03G 07 7827	Segmented saw blade, bi-metal HSS	–	–	–	(XXX)	1	Sheet metal up to 1mm, plastics, GRP, wood, sealant, non-ferrous metals
03G 07 7868	Segmented saw blade, diamond	–	–	(XXX)	–	1	CRP, GRP
03G 07 7828	Segmented saw blade, carbide	–	–	(XXX)	–	1	CRP/ GRP
03G 07 7865	Segmented saw blade, carbide, 2.2 mm	(XXX)	–	(XXX)	–	1	Tile grout, plaster, porous concrete
03G 07 7829	Segmented saw blade, carbide, 1.2 mm	(XXX)	–	(XXX)	–	1	Tile grout, plaster, porous concrete
03G 07 7867	Segmented saw blade, diamond, 2.2 mm	(XXX)	–	(XXX)	–	1	Marble, epoxy resin, cable tray joints
03G 07 7830	Segmented saw blade, diamond, 1.2 mm	(XXX)	–	(XXX)	–	1	Marble, epoxy resin, cable tray joints
Toolholder		SL	SL	SLP	SLP		

07 7834 / 35 07 7836

07 7838 / 39 07 7827

07 7868 07 7828

07 7829 / 65 07 7830 / 67

There's more in it for you!

FEIN original accessories are suitable for use anywhere, any time.

	STARLOCK	STARLOCK PLUS	STARLOCK MAX
Compatibility	■ All Fein devices with SL, SLP, SLM mounting. ■ Old generation Fein Multimaster and MultiTalent (–03/2016). ■ Old generation SuperCut (–03/2016) **only with adapter.** ■ Bosch, Milwaukee, AEG, Makita, Hitachi, Metabo, Einhell, Ryobi, Skill, etc.	■ All Fein devices with SLP, SLM mounting. ■ Old generation Fein Multimaster and MultiTalent (–03/2016). ■ Old generation SuperCut (–03/2016) **only with adapter.** ■ Bosch GOP 30-28, 40-30, 18V-28 PMF 350 CES, 55-36.	■ All Fein devices with SLP mounting (SuperCut). ■ Old generation SuperCut (–03/2016) **only with adapter.** ■ Bosch GOP 55-36.

Open the clamping lever, eject the accessory …

… Close the clamping lever …

… Position the new accessory and click it into place … done!

Sanding, polishing with SC and SLP holder

07 7851 – For rough cutting of putty, tile cement, cement, stone and wood. Triangular shape, edge length 80 mm, perforated, can also be used with vacuum dust extraction.

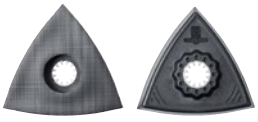
07 7852 – For rough cutting of putty, tile cement, cement, stone and wood. For use in very narrow and deep locations, in corrugations, slots, openings and folds. Also suitable for mould making, on curvatures and in hollows.

Suitable for: **All FEIN multi-tools and all other popular multi-tools on the market.**

07 7851

07 7852

07 7864



07 7862

07 7876

			Toolholder
03G 07 7851	Carbide rasp 3-square	(XXX)	SL
03G 07 7852	Carbide rasp round	(XXX)	SLP
03G 07 7862	Set of hook and loop sanding pads, unperforated, 2 pieces	(XXX)	SL
03G 07 7864	Set of hook and loop sanding pads, sanding finger, 2 pieces	(XXX)	SL

Grit		40	60	80	120	180	240	suitable for
03G 07 7846	Set of hook and loop abrasive sheets, unperforated, 50 pieces	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	077862
03G 07 7876	Set of hook and loop abrasive sheets, sanding finger, 20 pieces	–	(XXX)	–	(XXX)	–	–	077864

63-piece accessory set, for sanding in corners and on edges.

Suitable for: **All FEIN multi-tools and all other popular multi-tools on the market.**

Content: 2× sanding pads, unperforated (80 mm), 1× sanding finger, 10× each sanding sheets K60, K80 and K120 for sanding pad and sanding finger.

07 7869

		SET	Toolholder
03G 07 7869	Sanding set, Best of Starlock, SANDING	(XXX)	SL

For polishing metal parts, and for polishing and creation of special effects on stone and stone products. Plastic carrier plate to avoid damage and marks on the workpiece.

Suitable for: **All FEIN multi-tools and all other popular multi-tools on the market.**

07 7861

			Toolholder
03G 07 7861	Felt polishing plate set, 2 pieces	(XXX)	SL

Cutting, scraping

For removal of stubborn old paint, adhesive residues, carpet flooring, tile adhesive and underfloor coatings.

Suitable for: **All FEIN multi-tools and all other popular multi-tools on the market.**

07 7874_61

07 7874_68

Scraper length	mm	61	68
03G 07 7874	Scraper fixed	(XXX)	(XXX)
Toolholder		SL	SLP

For cutting, carpets, PVC floor covering, cardboard, bitumen shingles and roofing felt. With 3 cutting edges.

Suitable for: **All FEIN multi-tools and all other popular multi-tools on the market.**

07 7889

Type		251210
03G 07 7889	Multi-purpose knife, 3 mm blades	(XXX)
Toolholder		SL

Polishing / burnishing machine

Polishing machine

07 7712 –
- Stepless electronic **speed control** for optimum tool use.
- With spigot also applicable as a fully functional **burnishing machine** for longitudinal jobs.
- Very high **speed stability** at any load over the entire range.
- Automatic **start inhibit** against uncontrolled restart after power supply interruption.

Size PE14-118 –
- Microprocessor electronics with stepless speed pre-set, constant speed control by tacho-generator, overload protection, restart inhibit after a power failure and temperature monitoring.
- Powerful 1400 Watt motor with high-performance fan for optimum cooling.

Size XCE10-8125 –
- 8 mm positive-action polishing stroke for high abrasive power.
- High level of smooth running due to counterweight.
- Ideally suited to working on temperature-sensitive paint finishes, thanks to low heat generation on the surface.

Optional extras:

07 7712 – Standard surface finish set, No. 077718 size F, burnishing set for profiles, No. 077718 size S, polishing set, No. 077718 size P, pipework set, No. 077718 size R.

_PE14-118

_XCE10-8125

_72214900

Type		PE14-118	XCE10-8125	72214900	72214950
03S 07 7771 FLEX	Polishing machine	(XXX)	(XXX)	–	–
03F 07 7712	Angle polisher WPO	–	–	(XXX)	(XXX)
Manufacturer's designation		PE 14-1 180	XCE 10-8 125	WPO 14–25 E	WPO starter set – stainless steel
Power consumption	W	1400	1010	1200	1200
Speed range	rpm	250 – 1380	140 – 430	900 – 2500	900 – 2500
Toolholder		M 14	–	M14	M14
maximum polishing tool ∅	mm	250	160	250	250
Weight	kg	2.3	2.6	2.4	2.4
maximum vibration to EN	m/s²	–	–	3.5	3.5

_72214950

Size M18FAP180 – M18 FUEL™ **cordless polisher** with 8-stage speed pre-selection (range from 360 – 2200 rpm). Electronic speed control with soft start for optimum control.

Supplied with:

Size M18FAP180 – Supplied with 2 pcs. batteries 18 V / 5 Ah, charger, AVS additional handle, grasp handle and polishing pad.

07 7773_M18FAP180

		M18FAP180
03L 07 7773 Milwaukee	Cordless polishing machine	(XXX)
Manufacturer's designation		M18 FAP180-502X
Power consumption	W	1400
Speed range	rpm	360 – 2200
Toolholder		M14
maximum polishing tool ∅		180
Weight	kg	2

Burnishing machine

Powerful TRINOFLEX BSE 14-3 100 burnishing machine with constant-speed electronics.

- **Speed pre-selection** and **stability** by means of a tacho generator.
- Soft start, overload protection and restart inhibit after a power failure.
- Electronics module completely encapsulated, thereby preventing damage by ingress of dust.

Size SET – Unique tool attachment with quick-release coupling for changing the modular attachments "Burnishing" and "Pipe linishing" without tools.

Application: For burnishing, polishing, brushing, smoothing, rust removal and deburring.

Supplied with: Burnishing machine BSE14-3 100, 1 burnishing attachment BS100.

Size SET – Supplied with 1 pc. burnishing attachment BS 100, 1 pc. rubber air roller, 1 pc. air pump, 1 pc. abrasive fleece A 280/fine, 17-piece abrasive sleeve set, 1 pc. carrying case L-BOXX® 238.

07 7751_BSE14-3

Type		BSE14-3	SET
03S 07 7751 FLEX	TRINOX FLEX burnishing machine	(XXX)	(XXX)
Manufacturer's designation		BSE 14-3 100	BSE 14-3 100 set
Power consumption	W	1400	
Speed range	rpm	1000 – 3500	
Toolholder		19	
Polishing tool length	mm	100	
maximum polishing tool ∅	mm	125	
Weight	kg	2.9	
maximum vibration to EN	m/s²	0	

07 7751_SET

Belt files

High performance belt file with **comprehensive starter set.** Covers all important applications, with access to corners, edges, pipes, and profiles.

- Very high metal removal rates **in very small spaces.**
- Optimal speeds for grinding belts, fleece belts and polishing belts, using **adjustable speed range.**
- Maximum reach 165 mm.
- Belt widths from 3 to 20 mm.
- **Reliable belt guidance,** even for the narrowest belts.

Supplied with: 1 belt file BF 10-280 E in a plastic case, 3 grinding arms, 10 each grinding belts 3, 6, and 20 mm (120 grit) and 5 fleece belts 6 mm (medium grit).

Note:	Metal contact roller available on request.

07 7716

Type		72280551
03F 07 7716	Hand-held belt file BF10-280E **Starter set**	(XXX)
Manufacturer's designation		BF 10-280E
Power consumption	W	800
Speed range	rpm	10000 – 28000
Tape width	mm	3 / 6 / 20
Band length	mm	520
Weight	kg	2.1
maximum vibration to EN	m/s²	< 2.5

Pipework linishers

Pipework linisher with high cutting speed and **extremely high removal rate.** Ideal for **working on pipes and pipe elbows**, cleaning up, removal of colouration, grinding weld seams, preparation for polishing, and polishing to mirror finish. Speed range variable for grinding, linishing, and polishing belts. **improved belt guidance.**

Size 72216660 – For stainless steel pipes, pipe diameter 8–45 mm.
Size 722275 – For stainless steel pipes, pipe diameter 8-80 mm.

Supplied with:

Size 72216660 – 1 pipework linisher RS 10-70 E, 10 each linishing belts K120/K180, 5 pieces fine fleece belts, plastic tool case.
Size 722275 – Linishing belts 2×10 pieces 20×815 mm P120/P180, 2× 10 pieces 40×815 mm P120/P180, 5 pieces fleece belts 20×820 mm very fine, plastic tool case.

Note:	Linishing belts can be found from No. 558011.

07 7715_722275

Type		72216660	722275
03F 07 7715	Pipework linisher	(XXX)	(XXX)
Manufacturer's designation		RS 10-70 E	RS 17-70 E
Power consumption	W	800	1700
Tape width	mm	30	20; 40
Band length	mm	533	815
pipework ∅ for linishing	mm	8 – 45	8 – 80
Weight	kg	2.9	4.2
maximum belt speed	mm/s	350 – 1100	22
maximum vibration to EN	m/s²	4.5	4.1

Linishing belts

Suitable linishing belts for removal by abrasion and finishing can be found in catalogue part Group 55.

VSM zirconium-carborundum

3M Cubitron™II ceramic grit

3M Trizact ™ structured linishing belts

Non-woven linishing belts

FLEX Pipework linishers

Powerful pipework linisher with speed pre-selection, constant-speed electronics with tacho generator, soft start, **restart inhibit**, overload protection and temperature monitoring. With quick-release coupling for changing the modular attachments for burnishing and pipe linishing **without tools**. Electronics module completely encapsulated, thereby preventing damage by ingress of dust. High-quality spring-mounted linishing arm with 2 diverter rollers for optimum wrapping around pipes up to 270°.

Supplied with: 1 pipework linisher BRE14-3 125SET, 1 linishing belt attachment BR125, 1 pc. each super-finishing belt S600, S1500, 1 pc. each linishing belt Meshflex A240, A400, 5 pcs. each linishing belts Coruflex P80, P120, P220, 1 carrying case L-BOXX® 238.

Note: For linishing belts see from No. 558408 onwards.

07 7761

Type		SET
03S 07 7761	Pipework linisher	(XXX)
Manufacturer's designation		BRE14-3 125SET
Power consumption	W	1400
Tape width	mm	40
Band length	mm	760
pipework ∅ for linishing	mm	125
Weight	kg	3.6
maximum belt speed	mm/s	10
maximum vibration to EN	m/s²	0

Hand-held linishing machine

Hand-held linishing machines for machining stainless steel can be found in the eShop.

07 7780_79030100
Example application: suitable for stationary use with table mounting.

GKS belt linishing machines

Powerful compact linishing machine for deburring metal.

- Very high operator safety, thanks to control of flying sparks.
- Very cost-effective as a procurement proposition, with optimum price-performance ratio.
- For immediate use. No setting up or installation necessary.

Supplied with: Supplied with 1x linishing belt 75×2000mm (K 36 R).

2/3 less space required than on conventional machines, thanks to minimalist design concept

Reverse side

Powerful motor for high material removal rate

Type		790502004	790503004	790502002
03H 07 7608	GKS compact linishing machine	(XXX)	(XXX)	(XXX)
Manufacturer's designation		GKS 75		
AC supply voltage	V	400	400	230
Power consumption	W	1500	3000	1500
maximum speed	rpm	3000		
Tape width	mm	75		
Band length	mm	2000		
Weight	kg	45		

07 7608

Belt linishing machines

GX linishing machines

Powerful linishing machines with modular extensions for small series production.

- Removable dust collector.
- Connection facility to external extraction system.

Size 790132 – With two pre-selectable speeds, optimum for linishing stainless steel (1500 rpm) and other metals (3000 rpm).

Note: For linishing belts see No. 558310 and No. 558453-56.

_790131

Type		790131	790132
03H 07 7610	Linishing machine GX	(XXX)	(XXX)
Manufacturer's designation		GX 75	GX 75 2H
maximum speed 1st speed	rpm	3000	1500
maximum speed 2nd speed	rpm	–	3000
Tape width	mm	75	
Band length	mm	2000	
Weight	kg	75	

GIS linishing machines (without modular design); GI, GI 2H (modular design)

GRIT GI linisher range for demanding industrial applications: **Sturdy design**, with **extremely power motors**.

- High efficiency due to best removal rate.
- Powerful 4 kW motor (400 V, 3 ~, 50 Hz).
- Patented belt-tensioning system,
- **High operational safety:** Stop, linishing gap, and eye protection are individually adjustable.

07 7612 – The ideal solution for all those who need a linishing machine only (i.e. without any expansion options). Sturdy compact design and easy operation ensure first-class results. Easily adjustable working height, chip collector.

07 7613 – The **basic module** for industrial belt linishing.

- Easy to use, low-vibration running.
- With **constant** speed for high metal removal rates.
- Can be connected to a central vacuum system.

Application:

07 7613 – As a **linishing machine**, **when mounted on machine mount** No. 077614, **with extension modules for radial, longitudinal, surface, and centreless grinding and deburring.**

Supplied with:

07 7612 – Machine base, CEE plug (16 A), 1 linishing belt 2000 mm; 36 grit.

07 7613 – CEE plug (16 A), 1 linishing belt.

Note: For linishing belts see No. 558310 ff and No. 558453-56.

_790229

Type		790229	790230
03H 07 7612	Linishing machine GIS	(XXX)	(XXX)
Manufacturer's designation		GIS 75	GIS 150
maximum speed	rpm	3000	
Tape width	mm	75	150
Band length	mm	2000	
Weight	kg	74	86

_790201

Type		790201	790202	790204	790205
03H 07 7613	Linishing machine GI	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		GI 75	GI 75 2H	GI 150	GI 150 2H
maximum speed 1st speed	rpm	3000	1500	3000	1500
maximum speed 2nd speed	rpm	–	3000	3000	3000
Tape width	mm	75	75	150	150
Band length	mm	2000			
Weight	kg	65	65	82	82

_790204

Machine mount GIB, suction mount GIBE

The working height can be adjusted easily by means of gas pressure springs. Great stability due to robust construction.

Size 99001004 –

- Machine mount with integral motor for highly effective **double extraction.**
- Cassette filter for effective air cleaning
- The flexible, heat-resistant **steel extraction tubes** and the integral **metal chip collection box** are resistant to red-hot sparks.

_99001003

_99001004

Type		99001003	99001004
03H 07 7614	Machine mount	(XXX)	(XXX)
Manufacturer's designation		Machine mount GIB	Suction mount GIBE
Power consumption	W	–	350
Weight	kg	17	55

The complete Rema catalogue range (deburring, grinding, and cutting machines) and customised special machines are available on request.

Double-ended bench grinding machines

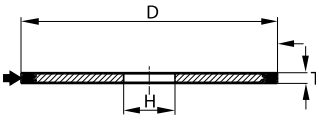
Single-phase AC double-ended bench grinding machine with a **low-noise and maintenance-free motor. Generously-sized eye protection shields** ensure user safety. Workpiece rests can be **adjusted without tools.**

Supplied with: With regular aluminium oxide grinding wheels NK36 and NK60.

Note: Suitable grinding wheels can be found under No. 596100 and No. 568733.
Suitable machine stand No. 077513 size DS04 with adapter plate No. 077515 size ECO.

07 7502

Type		W150	W175
035 07 7502	ECO double-ended grinding machine, 230 V	(XXX)	(XXX)
Power consumption	W	520	
maximum speed	rpm	2900	
Abrasive disc ∅ D	mm	150	175
Abrasive disc width T	mm	20 – 25	
Abrasive disc hole ∅ H	mm	32	
Weight	kg	16	18



The **extremely smooth-running** motor ensures a long working life, even when run **continuously. Supplied without grinding wheels.**

07 7511 – With 25.4 mm shaft.

Note: Suitable grinding wheels can be found from No. 596100.

07 7511

Type		DS04/150	DS04/175	DS07/200	DS12/250	DS15/300
035 07 7511	DS double-ended grinding machine, 400 V	(XXX)	–	–	–	–
035 07 7512		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Power consumption	W	250	250	500	730	1100
maximum speed	rpm	2900	2900	2900	1450	1450
Abrasive disc ∅ D	mm	150	175	200	250	300
Abrasive disc width T	mm	25	25	25	32	40
Abrasive disc hole ∅ H (07 7511)	mm	25.4	–	–	–	–
Abrasive disc hole ∅ H (07 7512)	mm	51	51	51	51	76
Weight	kg	14	15	30	47	80

Sturdy low-vibration support stand with water dip bath for DS Rema double-ended bench grinding machine.

07 7513

suitable for machine		DS04	DS07	DS12	DS15
035 07 7513	Support stand	(XXX)	(XXX)	(XXX)	(XXX)
Weight	kg	28	28	37	38

Double-ended bench grinding machine with extraction system incorporated in the base.

Note: Suitable grinding wheels can be found from No. 596100.

07 7514

Type		DS04/175A	DS07/200A	DS12/250A	DS15/300A
035 07 7514	DS double-ended grinding machine with dust extraction, 400 V	(XXX)	(XXX)	(XXX)	(XXX)
Power consumption	W	250	500	730	1100
maximum speed	rpm	2900	2900	1450	1450
Abrasive disc ∅ D	mm	175	200	250	300
Abrasive disc width T	mm	25	25	32	40
Abrasive disc hole ∅ H	mm	51	51	51	76
Extraction conveying volume	m³/min	6	6	6	10
Weight	kg	83	95	115	160

Solid tool mounting plate with angle adjustment stop. Adjustable between -5° and +15°. Angle stop adjustable 2×90°.

Note: A hollowed grinding wheel (such as shape 5) is necessary if used with a tool mounting plate. See No. 077509 for suitable protective shields. Incompatible with DS double-ended grinding machine with dust extraction No. 077514.

07 7519

Type		AT1	AT2
035 07 7519	Tool mounting plate left-hand	(XXX)	(XXX)
035 07 7525	Tool mounting plate right-hand	(XXX)	(XXX)
suitable for machine		DS04-DS12	DS15

JEPSON POWER Metal dry-cutting circular saw and accessories

Powerful metal cutting circular saws for sawing sheet metal, sandwich panels, metal plates, tubes and sections of steel, non-ferrous metals, and composite materials **without generating sparks.**

- No need to use cooling lubricants.
- No reworking necessary.
- Cuts in seconds.

07 8231 – Metal cutting circular saw Premium Super DRY Cutter 9435.

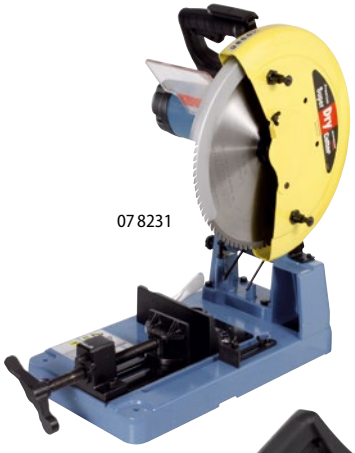
- Ideal for sawing pipes and profiles made from stainless steel, steel, non-ferrous metals, plastics and composite materials.
- **Vibration damper** for high safety and a long working life.
- Precision quick-clamping system for mitre cuts.
- Optionally with sturdy **table mounting stand** with length stop (No. 078238).

Size 8230 – Metal cutting **hand-held circular saw.**

- Mobile – solid and lightweight – only **7.1 kg.**
- Ideal for sawing sheet metal, sandwich panels, stainless steel, metal plates, pipes and profiles made from steel, non-ferrous materials and composite materials, **up to a thickness of 10 mm.**

Size 8320 – Metal cutting **hand-held circular saw**.

- 120-mm cutting depth on the guide rail.
- Optimum for sawing **sandwich panels,** trapezoidal sheets, cable ducts, steel pipes, iron and non-ferrous metals, composite materials etc., **up to a thickness of 12 mm.**
- Enclosed design **prevents chips flying up** towards the user.
- Magnesium lightweight design – only 8.4 kg.



07 8231

07 8234_8230

Type		9435	8230	8320
07E 07 8231	Metal cutting circular saw	(XXX)	–	–
07E 07 8234	Metal cutting hand-held circular saw	–	(XXX)	(XXX)
Manufacturer's designation		9435	8230	8320
Power consumption	W	2400	1700	1800
maximum speed	rpm	1400	2600	1700
Saw blade ∅	mm	355	230	320
maximum cutting depth 90°	mm	140	84	120
maximum cutting depth 45°	mm	102	56	–
Weight	kg	25	7.1	8.4
AC supply voltage	V		230	
Mains frequency	Hz		50	

_8320

Stand

Type		600526
07E 07 8238	Stand for No. 078231	(XXX)
Length	mm	980
Width	mm	560
Height	mm	900

07 8238

Carbide saw blades

Carbide-tipped circular saw blade for precise cutting.

- Safety at work: Thin-walled, low-vibration, reduced noise.
- Extremely long working life.
- High-quality cutting.
- Can be resharpened 5×.
- General-purpose use for steel, plastic, and non-ferrous metals (not No. 078236).

07 8236 – Specially coated for stainless steel.

Note: Other special saw blades for aluminium, stainless steel, for example, are available on request.

for stainless steel

07 8236_90

for extra thin-walled material

07 8237_90

for stainless steel

07 8239_60

for thick-walled material

07 8242_72

Number of teeth		48	60	72	84	90	suitable for
07E 07 8236	Carbide circular saw blade only for stainless steel ∅ 355×25.4 mm	–	–	–	–	(XXX)	078231 size 9435
07E 07 8237	Drytec® carbide circular saw blade ∅ 355×25.4 mm	–	(XXX)	(XXX)	–	(XXX)	078231 size 9435
07E 07 8239	Drytec® carbide circular saw blade ∅ 230×25.4 mm	(XXX)	(XXX)	–	(XXX)	–	078234 size 8230
07E 07 8242	Drytec® carbide circular saw blade ∅ 320×25.4 mm	–	–	(XXX)	(XXX)	–	078234 size 8320
Number of teeth		48	60	72	84	90	
No. of teeth optimised for		Universal	Material thickness 4 – 5 mm, mesh, aluminium	Material thickness 2.5 – 4 mm	Sheet material, sandwich panels	Material thickness up to 2.5 mm	
Width of cut B (07 8236, 07 8239)	mm	2	1.4	–	2	2	
Width of cut B (07 8237, 07 8242)	mm	–	2.2	2.2	2.2	2.2	

Cordless small angle grinder / cordless multi-cutter

Size 12-76 – Extremely handy 12 V / 3.0 Ah **cordless small angle grinder** for cutting using **small cutting discs ∅ 76 mm** (hole diameter 10 mm) in restricted places. With powerful EC motor, spindle locking.

Size M12FCOT-0 – FUEL **cordless multi-material cutter** with 76 mm blade for 16.3 mm depth of cut.

Supplied with:

Size 12-76 – Supplied with L-BOXX, L-BOXX inlay 1/2 for battery and charger, GAL 12V-40 Professional quick charger, 2 × synthetic resin-bonded cutting discs, 1 × carbide cutting disc, Expert for Inox, 76×10×1 mm, safety guard.

Size M12FCOT-0 – **Without battery and without charger.** 1 × diamond disc for tiles, 1 × carbide abrasive disc, 1 × metal cutting wheel, 1 × adjustable dust extraction.

Note:

Size 12-76 – See from No. 563050 for suitable small cutting discs and clamping mandrels.

07 8204 – For matching spare batteries and accessories see from No. 073814. For a suitable cutting disc see No. 563050 size 75.

L-BOXX MB 12

_12-76

B 12

_M12FCOT-0

Type			M12FC0T-0	12-76
03C 07 7100	BOSCH	GWS small angle grinder **Cordless**	–	(XXX)
03L 07 8204	Milwaukee	Cordless multi-material cutter	(XXX)	–
Manufacturer's designation			M12FC0T-0	GWS 12V-76
Number of rechargeable batteries contained			0	2
Type of rechargeable battery			Lithium-ion	
Battery capacity		Ah	–	3
Battery voltage		V	12	
maximum speed		rpm	20000	19500
maximum disc ∅		mm	76	
Saw blade bore ∅		mm	10	
maximum cutting depth		mm	16.3	16
Weight		kg	1	0.9
maximum vibration to EN		m/s²	2.9	13.5

(Cordless) hand-held and plunging circular saws

Size GKS55GCE – **Powerful portable circular saw** in a light-weight, compact design.

Size GKT55GCE – **Plunging circular saw** with powerful 1400 Watt motor.

- Adjustable speed and **Constant-Speed electronics** for cutting a range of different materials such as wood, board materials, aluminium and acrylic glass.
- Comfortable working especially indoors due to the highly efficient dust extraction and noise-reduced saw blade.

Size GKS1226 – Handy 12 V / 3.0 Ah **cordless portable circular saw.**

- The most compact design in its class, for perfect handling.
- Outstanding view of the line of cut, thanks to the bright LED.

Size GKS18V68C – Powerful 18 V **cordless circular saw with BITURBO technology.**

- **Integrated VAC adaptor** for easy manoeuvring. Adaptor can be rotated 360°.

Supplied with:

Size GKS55GCE – Including hex socket, carbide saw blade (Speedline ∅ 165 × 1.7/1.2 × 20 × 12T), mitre ruler, vacuum adapter, parallel stop, L-BOXX 238.

Size GKT55GCE – Including circular saw blade (Top Precision Best for Wood dia. 165 mm), L-BOXX 374N, 1/1 L-BOXX inlay, device.

Size GKS1226 – Supplied with charger, saw blade for wood, parallel stop / guide rail adapter, extraction adapter, hexagon L-wrench and L-BOXX 238.

Size GKS18V68C – Including saw blade, parallel guide.

L-BOXX

_GKS55GCE

L-BOXX

Dust extraction
highly efficient

_GKT55GCE

L-BOXX B 12

_GKS1226

L-BOXX B 18

_GKS18V86C

Type			GKS55GCE	GKT55GCE	GKS1226	GKS18V68C
03B 07 8181	BOSCH	Hand-held circular saw	(XXX)	(XXX)	–	–
03B 07 8183	BOSCH	Hand-held circular saw **cordless**	–	–	(XXX)	(XXX)
Manufacturer's designation			GKS 55+ GCE	GKT 55 GCE	GKS12V-26	GKS 18V-68 C
Number of rechargeable batteries contained			–	–	2	0
Type of rechargeable battery			–	–	Lithium-ion	Lithium-ion
Battery capacity		Ah	–	–	3	–
Battery voltage		V	–	–	12	18
Version			Hand-held circular saw	Plunging circular saw	Hand-held circular saw	Plunging circular saw
maximum speed		rpm	4700	6250	1400	6250
Saw blade ∅		mm	165	165	–	165
maximum disc ∅		mm	–	–	85	–
Saw blade bore ∅		mm	20	20	15	20
maximum cutting depth 90°		mm	63	57	–	57
maximum cutting depth		mm	–	–	26.5	–
Weight		kg	3.8	4.7	1.4	4.7
maximum vibration to EN		m/s²	4	< 2.5	< 2.5	< 2.5
Power consumption		W	1350	1400	–	–

Size M12CCS44 – **FUEL™ powerful cordless circular saw with brushless POWERSTATE™ motor.**
- **Compact ergonomic** design with knob handle.
- Integral dust extraction port for connection to an extraction system.
- Deep cuts and mitre cuts up to 50°.

Size M18FMCS – **Handy and powerful 18 V / 5.0 Ah cordless circular metal saw** for cutting pipes, profiles, threaded rods and cable ducts.
- **Brushless POWERSTATE™ motor** for higher cutting speeds.
- **REDLINK PLUS™ electronics with digital overload protection,** for more power.

Size M18FCSG66 – **Cordless portable circular saw** delivers performance identical to an equivalent cable unit – up to 750 cuts in 90 × 45 mm softwood on one battery charge (M18™ 12 Ah). Compatible with guide rail (No. 078208 GRU1400).
- **Brushless POWERSTATE™ motor** for higher cutting speeds.
- **REDLINK PLUS™ electronics with digital overload protection,** for more power.

Size M18FMCS66 – Cordless circular saw for metal 66 mm.
- Large metal swarf collector catches the residue created during cutting and provides the necessary clear view.
- Dry cutting technology permits quick, clean and burr-free metal cutting.

Supplied with:

Size M12CCS44 – Supplied with charger, hexagon L-wrench, 18-tooth carbide saw blade, parallel stop, carrying case (HD box).

Size M18FMCS – Supplied with charger, hexagon L-wrench, 34-tooth carbide saw blade and carrying case (HD box).

Size M18FCSG66; M18FMCS66 – Supplied with M12-18FC charger, carrying case.

Note: See from No. 073814 and No. 073839 for suitable spare batteries and starter kits.
Size M12CCS44 – For a suitable circular saw blade see No. 078212 size 18.
Size M18FMCS – For a suitable circular saw blade see No. 078212 size 150X20T34.
Size M18FCSG66; M18FMCS66 – For a suitable circular saw blade see from No. 584075.

MB 12 HD

_M12CCS44

MB 18

_M18FMCS

MB 18

_M18FCSG66

MHB 18

_M18FMCS66

Type		M12CCS44	M18FMCS	M18FCSG66	M18FMCS66
03L **07 8207** Milwaukee Cordless circular saw		(XXX)	(XXX)	(XXX)	–
Manufacturer's designation		M12CCS44-402C	M18FMCS-502X	M18FCSG66-121C	M18FMCS66-121C
Number of rechargeable batteries contained		2	2	1	1
Type of rechargeable battery		Lithium-ion			
Battery capacity	Ah	4	5	12	12
Battery voltage	V	12	18	18	18
Version		Hand-held circular saw			
maximum speed	rpm	3600	3900	5800	4000
Saw blade ∅	mm	140	150	190	203
Saw blade bore ∅	mm	20	20	30	16
maximum cutting depth 90°	mm	44	57	66	66
Weight	kg	2.7	2.8	10	7.5
maximum vibration to EN	m/s^2	< 2.5	< 2.5	<2.5	< 2.5

07 8208

Guide rail 1400 mm long.

Suitable for: Cordless hand-held circular saw 078207 size M18FCSG66 and size M18FMCS66.

Type		GRU1400
07A **07 8208** Milwaukee Guide rail		(XXX)
Manufacturer's designation		GRU 1400

Oscillating saw and mitre saw

Oscillating saw and mitre saw **with pull function.**

- Large cutting capacity up to 305×90 mm at 90°.
- Integral cutting line laser and LED workplace illumination for precise cutting.
- Fine adjustment of the mitre angle up to 50° with a stop.
- Power cable 3 m.
- Integral dust extraction captures 80 % of all dust particles.

Supplied with: Workpiece clamp, extraction hose and cover, 48 tooth carbide saw blade (saw blade/bore ∅: 254 / 30 mm), tool for changing the blade.

Note: Suitable saw blades can be found under No. 078227ff.

07 8229

Type		PS254L
07A 07 8229 AEG Oscillating saw and mitre saw		(XXX)
Power consumption	W	2000
maximum speed	rpm	4500
maximum inclination angle left	degrees	47
maximum inclination angle right	degrees	-2
maximum mitre angle left	degrees	50
maximum mitre angle right	degrees	50
Weight	kg	19.5

High-quality pull-out work table.

- Height-adjustable support leg for secure standing.
- Comfortable working height of 0.85 m.
- Light-weight and stable design, up to 180 kg support load.

07 8240

Type		PSU1000
07A 07 8240 AEG Work table for PS254L		(XXX)
suitable for		078229
Safe working load	kg	180
Weight	kg	14
Height	mm	850

B 18

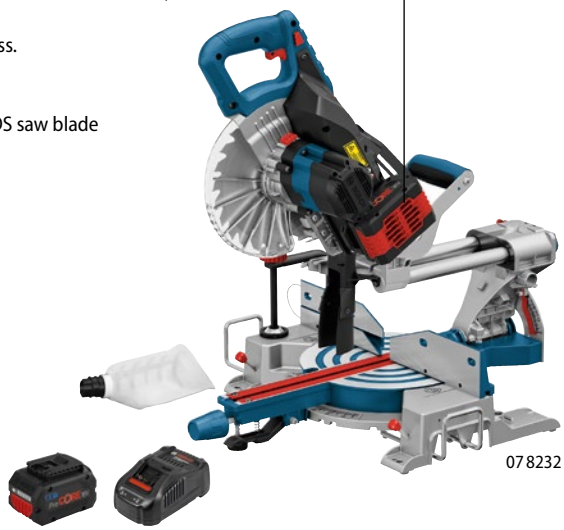
Size GCM18216 – Cordless pivoting saw and mitre saw.

- Maximum cutting performance thanks to new BITURBO technology.
- Outstanding cutting capacity with a depth of cut 70 mm, the largest in its class.
- Best mobility thanks to its low weight and outstanding ergonomics.

BITURBO
Maximum force due to new high-performance motors and ProCORE battery.

Supplied with:

Size GCM18216 – Including starter set ProCORE 18 V 8.0 Ah S2, saw blade ∅ 216 mm, dust bag, SDS saw blade locking, insert plate, package.


07 8232

Type		GCM18216
03B 07 8232 BOSCH Oscillating saw and mitre saw BITURBO **Cordless**		–
Manufacturer's designation		GCM 18V-216
Number of rechargeable batteries contained		2
Type of rechargeable battery		Lithium-ion
Battery capacity	Ah	8
Battery voltage	V	18
maximum speed	rpm	4600
maximum inclination angle left	degrees	45
maximum inclination angle right	degrees	0
maximum mitre angle left	degrees	47
maximum mitre angle right	degrees	47
Weight	kg	14.7

Support frame for the GCM 18216 oscillating saw and mitre saw from Bosch.

- Comfortable working height of 0.82 m.
- Light-weight and stable design, up to 160 kg support load.

07 8241

Type		GTA2600
03B 07 8241 BOSCH Transport table and work table **GTA 2600**		(XXX)
suitable for		078232
Safe working load	kg	160
Weight	kg	21.6
Height	mm	820

Jigsaws

Size GST150BCE – Jigsaw with **D-shape handle.**

- High power reserves even in hard and think beams, thanks to powerful 780 Watt motor with overload capability.
- High precision of cutting.
- Extremely robust and distortion-resistant base plate for the heaviest duties.

Size GST160CE – Jigsaw with **straight handle.**

- Highly precise saw blade guidance thanks to patented double roller which minimises saw blade bending – for outstanding precision of cutting.
- Powerful 800 Watt motor with constant speed electronics, with power in reserve even when cutting hard materials.
- Switchable LED for bright illumination of the cutting area.

Size GST1270 – Lightweight and compact **cordless jigsaw** with a straight handle.

- **Electronic Motor Protection (EMP)** protects the motor against overloading and ensures a long working life.
- Bosch **Electronic Cell Protection (ECP)**: Protects the battery against overheating and deep discharge.
- Switchable LED for bright illumination of the cutting area.

07 8210 – Sturdy metal jigsaw for **precise cutting** even in materials that are difficult to machine (such as stainless steel).

- Very **smooth cutting** due to exact balancing.
- **Saw blade angle** enables clean sawdust removal for the orbital stroke.
- **Sawdust extraction** can be changed over – suction or blowing.

07 8211 – **Cordless jigsaw,** brushless POWERSTATE™ motor for high cutting power. Switch for 6 speed settings, with soft start. LED illumination of the working area.

Supplied with:

Size GST150BCE – Including 1× saw blade, protective cover, slide shoe, extraction adapter, suction nozzle, transport case.

Size GST160CE – Including 3 × saw blade, extraction adapter, L-BOXX 136, 1/1 L-BOXX inlay.

Size GST1270 – Including 2× 12 V / 3.0 Ah Li-ion battery, charger, 2× saw blade, chip break guard, extraction set, slide shoe, extraction adapter, L-BOXX 102 and L-BOXX inlay.

07 8210 –

07 8211 – Supplied with charger, 1 × saw blade, adapter for dust extraction, dust protection hood, plastic sole plate and HD box.

07 8213 – Supplied with 2 × saw blades, extraction adapter, sole plate, mains cable 4 m, carrying case.

07 8210–8213 – Supplied with chip break guard.

Note: Suitable spare batteries and chargers can be found under No. 073808 – 073840.

_GST150BCE

_GST160CE

_GST1270

_723415

_M18FBJS-5

_STEP1200XE

Type		GST150BCE	GST160CE	GST1270	723415	M18FBJS-5	STEP1200XE
03B 07 8200	BOSCH Jigsaw	(XXX)	(XXX)	–	–	–	–
03B 07 8201	BOSCH Jigsaw **cordless**	–	–	(XXX)	–	–	–
03F 07 8210	Jigsaw	–	–	–	(XXX)	–	–
03L 07 8211	Milwaukee Jigsaw **cordless**	–	–	–	–	(XXX)	–
07A 07 8213	AEG Jigsaw	–	–	–	–	–	(XXX)
Manufacturer's designation		GST150BCE	GST160CE	GST 12V-70	ASTE 638	M18FBJS-502X	STEP1200XE
Number of rechargeable batteries contained		–	–	2	–	2	–
Type of rechargeable battery		–	–	Lithium-ion	–	Lithium-ion	–
Battery capacity	Ah	–	–	3	–	5	–
Battery voltage	V	–	–	12	–	18	–
Rate of strokes	rpm	500 – 3100	800 – 3000	1500 – 2800	1050 – 2600	800 – 3500	500 – 3000
maximum sawn thickness steel	mm	10	10	3	10	10	10
maximum sawn thickness wood	mm	150	160	70	–	100	135
Mitre angle adjustment		yes	yes	yes	–	yes	yes
Orbital stroke		4-way	4-way	3-way	modified	5-way	4-way
Weight	kg	2.7	2.2	1.5	2.2	2.8	2.4
maximum vibration to EN	m/s²	7.0	7.5	5.5	< 2.5	6.3	10.5
Power consumption	W	780	800	–	450	–	730
Format		D-shape handle	Straight handle	Compact straight handle	Straight handle	Straight handle	Straight handle
Special features		Robust	High-power, LED	LED	rigid guide, for general purpose use	general purpose use	general purpose use
tool change without tools		yes, SDS system	yes, SDS system	yes, SDS system	–	yes, FIXTEC system	yes, FIXTEC system
maximum sawn thickness INOX	mm	–	–	–	6	–	–

(Cordless) sabre saws

Size GSA1832-0 – Two-speed setting for different materials.

Size GSA18VLIC – **Variable cutting speed control**, low vibration thanks to integral **vibration balancing system.**

Size GSA18VLIC – With LED workplace illumination.

07 8219 – **Milwaukee compact cordless sabre saw** for working in difficult to access places.

- Electronic controls with **steplessly variable stroke length** and **overload protection.**
- Tool-less **FIXTEC** saw blade quick-release clamping system.

Size M18ONEFSZ – Version M18FSZ but with **ONE-KEY™** technology.

- Up to 3 individual profiles can be saved on the internal memory of the device.

07 8215/8217 – **Bosch cordless sabre saw** with **SDS system** for quick and convenient changing of saw blades.

- Bosch Professional Lithium-ion technology for long working life and outstanding battery performance.
- **Electronic Cell Protection (ECP)** protects the battery against overloading, overheating and deep discharge.
- Ergonomic soft-grip handle.
- With LED workplace illumination.

07 8215 Size GSA1214/8217 Size GSA18VLIC – **Compact lightweight sabre saw** and small handle circumference, suitable also for overhead work and one-handed use.

07 8219 Size M12CHZ2/8220 Size M18FHZ – With **powerful brushless POWERSTATE™ motor.**

Size M18FSZ; M18ONEFSZ – Cordless sabre saw.

- New generation of the brushless POWERSTATE™ motor for greater efficiency.
- Patented clutch protection prevents the tool jerking when the saw blade jams.
- Controllable soft start for maximum speed and control.
- Tool-less FIXTEC saw blade quick-release clamping system.
- Tiltable and adjustable saw base plate, permits optimisation of the cutting position.

Supplied with:

07 8214 – Cordless sabre saw, without batteries, without charger.

07 8219 – Supplied with a carrying case / carrying wallet, 2 batteries, quick charger and saw blade.

Size M18FHZ – Supplied with HD box carrying case, 2 pcs. 18 V batteries, quick charger, and saw blade.

Size M18FSX-12 – Supplied with HD box carrying case, 2 pcs. 18 V / 5.5 Ah High Output batteries, quick charger and sabre saw blade.

07 8215/8217 – Supplied with carrying case, 2 pcs. saw blades, 2 pcs. batteries, quick charger.

Size M18FSZ; M18ONEFSZ – Variant in HD box **without battery, without charger.**

Note:

07 8219 – See No. 073808; 073809; 073810; 073811; 073814; 073815; 073816; 073829 for suitable spare batteries and chargers.

07 8214–8219 – Sabre saw blades can be found from No. 588600.

07 8214–8217 – Suitable spare batteries and chargers can be found under No. 073851 – 073859.

B 18

_GSA1832-0

B 12 L-BOXX

_GSA1214

B 18 L-BOXX

_GSA18VLIC

MB 12 HD

_M12CHZ2

MB 18 HD

_M18FHZ

MB 18 HD NEW

_M18FSZ

MB 18 HD NEW

_M180NEFSZ

MB 18 HD

_M18FSX-12

Type		GSA1832-0	GSA1214	GSA18VLIC	M12CHZ2	M18FHZ	M18FSZ	M18ONEFSZ	M18FSX-12
03B 07 8214	Cordless sabre saw **without battery**	(XXX)	–	–	–	–	–	–	–
03B 07 8215	BOSCH	–	(XXX)	–	–	–	–	–	–
03B 07 8217	Cordless sabre saw	–	–	(XXX)	–	–	–	–	–
03L 07 8219	Milwaukee	–	–	–	(XXX)	–	–	–	–
03L 07 8220		–	–	–	–	(XXX)	(XXX)	(XXX)	–
Manufacturer's designation		GSA 18 V-32	GSA 12 V-14	GSA 18 V-LIC	M12CHZ-202X	M18FHZ-502X	M18 FSZ	M18 ONE FSZ	M18FSX-121C
Number of rechargeable batteries contained		0	2	2	2	2	0	0	2
Type of rechargeable battery		Lithium-ion							
Battery capacity	Ah	–	3	5	2	5	5	5	12
Battery voltage	V	18	12	18	12	18	18	18	18
Stroke length	mm	32	14.5	21	16	22	32	32	28.6
Rate of strokes	rpm	0 – 2500	0 – 3000	0 – 3050	0 – 3000	0 – 3000	0 – 3000	0 – 3000	0 – 3000
Weight	kg	3.5	1.2	2.5	1.5	2.6	8	7.9	5.5
maximum vibration to EN	m/s^2	10	12	8.8	6.5	9.9	9.9	9.9	22.2
Special features		SDS	SDS, LED	SDS, LED	FIXTEC, LED	FIXTEC, LED	FIXTEC, LED	FIXTEC, LED	FIXTEC, LED

Sabre saws

07 8224 – Powerful and robust 1500 W **Milwaukee universal sabre saw** with metal gearbox casing.
- **FIXTEC** quick-release saw blade clamping system, no tools required.
- Electronic control of rate of strokes, **orbital stroke can be switched off.**
- AVS anti-vibration system and patented eccentric gearbox for **very smooth running.**
- **Kick-back protection system** to protect the gearbox against kick-backs from the workpiece..

07 8225 – Powerful 1300 W **AEG sabre saw**, ideal for cutting wood, plastic, metal pipes and profiles.

Supplied with: Transport case, saw blade.

Note: Sabre saw blades can be found from No. 588600.

07 8224

Type		SSPE1500X	US1300XE
03M 07 8224 / 07A 07 8225	Sabre saw	(XXX) / –	– / (XXX)
Manufacturer's designation		SSPE1500X	US1300XE
Power consumption	W	1500	1300
Stroke length	mm	32	30
Rate of strokes	rpm	0 – 2800	
Weight	kg	4	3.8
maximum vibration to EN	m/s²	15.2	18.5
Special features		FIXTEC / AVS	FIXTEC

07 8225

Cordless bandsaw

MB 12 MHB 12

FUEL™ compact powerful cordless bandsaw with brushless POWERSTATE™ motor for mobile sawing for improved handling characteristics.
- Easy band saw blade change **without using tools.**
- **Steplessly** variable saw blade speed control with speed switch.
- Sturdy metal frame, metal hook.
- LED illumination of the cutting area.

Supplied with:

07 8202 – Supplied with 2 pcs. M12 B4 batteries, no charger, carrying case.

07 8205 – Supplied with charger, 2 pcs. M18 B2 batteries, 14 TPI bi-metal saw blade, carrying case.

Note: For matching spare batteries and accessories see No. 073816 and 073809. Suitable saw blades available on request.

07 8202_ M12FBS64

MB 18 MHB 18

07 8205_ M18FBS85

Band saw safety guard
protects the user when using the saw.

Type		M12FBS64	M18FBS85
03L 07 8202 / 03L 07 8205	Cordless compact bandsaw	(XXX) / –	– / (XXX)
Battery capacity	Ah	4	2
Battery voltage	V	12	18
Belt speed	m/min	0 – 116	0 – 165
maximum cutting depth 90°	mm	85	
Band saw width	mm	13	
Band saw length	mm	726	898
Weight	kg	3.2	6
maximum vibration to EN	m/s²	< 2.5	

MB 12

Cordless pipe cutter

Compact cordless pipe cutter with stainless cutting head for copper pipe ∅ 12 – 28 mm. **Automatic adaptation** to the pipe ∅. **Quick cutting,** e.g. cuts 15 mm ∅ copper pipe in less than 3 seconds. Overall width 40 mm, minimum wall clearance 40 mm. Supplied **without batteries and charger.**

Note: Batteries can be found from No. 073814.

07 8218

Robust stainless cutting head

Type		C12PC/0
03L 07 8218	Cordless pipe cutter	(XXX)
Battery voltage	V	12
Speed range	rpm	0 – 500
maximum pipe ∅ copper	mm	12 – 28
Weight	kg	1.5
maximum vibration to EN	m/s²	< 2.5
Special features		LED

Sheet metal slitters / shears / nibblers

Size 7130036 – Cordless sheet metal slitter for mobile use.
Size 7130046 – Cordless sheet metal shears for mobile use.
Size 7132046 – **Cordless sheet metal nibbler for portable use.**

07 8100 Size 7130036/8102 Size 723031 – **Sheet metal slitter**.

- **Distortion-free cut.**
- **Open cutting head** for best view on to the cut.
- **QuickIN quick-change system** for quick blade changing without tools or adjustment.

07 8100 Size 7130046/8102 Size 723034 – **Sheet metal shears.**

- Cuts well round curves with only minor sheet metal deformation.
- Comfortable and quick for seaming and cutting to length.
- For sheet metal up to 800 N/mm² and stainless steels.
- **Four-way changeover blade:** clean and burr-free cutting with low operating costs.

07 8109/8111 –
- **Flexible nibblers with high manoeuvrability** for thin sheet metal, trapezoidal sheet, corrugated sheet and sections.
- Very **economical operating costs** due to long working life of die and matrix.
- **QuickIN quick-change system** for quick die and matrix changing without tools
- Working direction can be changed without tools.

07 8109 Size 7132046/8111 Size 723241 –
- Slim design ensures optimum handling even under difficult working conditions.
- Highly suitable for **trapezoidal sheet** up to 1.3 mm thick and **up to 85 mm step depth.**

Supplied with:

07 8100/8109 – Cordless lamp **without** battery and **without** charger.

Note:	See No. 073832 and No. 073845 for suitable batteries and chargers.

FE 18

_7130036

FE 18

_7130046

_723031

_723034

FE 18

_7132046

_723241

Cutting width 5 mm.

Cutting width 4 – 5 mm.

Type		7130036	7130046	723031	723034	7132046	723241
03F 07 8100	Cordless sheet metal slitters / shears	(XXX)	(XXX)	–	–	–	–
03F 07 8102	Sheet metal slitter / shears	–	–	(XXX)	(XXX)	–	–
03F 07 8109	Cordless nibbler	–	–	–	–	(XXX)	–
03F 07 8111	Nibblers	–	–	–	–	–	(XXX)
Manufacturer's designation		ABSS 18 1.6E	ABLS 18 1.6E	BSS 1.6 CE	BLS 1.6E	ABLK 1.6E	BLK 1.3TE
Battery voltage	V	18	18	–	–	18	–
Rate of strokes	rpm	3500	4000	3800	4000	–	1800
maximum material thickness steel 400 N/mm²	mm	1.6	1.6	1.6	1.6	1.6	1.3
maximum material thickness steel 800 N/mm²	mm	0.8	1	0.8	1	0.7	0.6
Radius of the smallest curve	mm	90	15	90	15	30	30
Cutting speed	m/min	5 – 8	5 – 8	6 – 10	5 – 8	1.9	2.3
Cutting width	mm	5	0	5	0	5	4
Weight	kg	1.9	2	1.4	1.6	2.1	1.8
maximum vibration to EN	m/s²	< 2.5					
Power consumption	W	–	–	350	350	–	350

IP 54

Milwaukee Battery / mains radios

Sturdy site radio, splash-proof (IP54) for mains and battery operation.
Size M12RCDAB – Battery/mains radio with charging function. DAB+, AM and FM tuner.
Size M18JSRDAB – High-performance audio system with DAB+ digital radio and FM tuner.
Size M18RC –
- Charger function for Milwaukee 18 V batteries.
- Bluetooth function with 30 m range.
- 12 V USB output for charging mobile phones or operation of portable audio devices.
- Operation with Milwaukee 18 V batteries or with 230 V mains voltage.

Size M18JSR; M18JSRDAB –
- USB port for charging mobile devices.
- AUX input for connecting external audio playback devices.
- LCD digital clock with batteries.
- Operation with Milwaukee 18 volt batteries or with 220-240 volt AC voltage.

Supplied with: Includes mains cable, 2 back-up batteries, AUX connection cable, without batteries.

MB 12

M12RCDAB

MB 18

M18JSR
_M18JSRDAB

MB 18

_M18RC

Type		M12RCDAB	M18JSR	M18JSRDAB	M18RC
03L 07 3960	Battery / mains radio	(XXX)	(XXX)	(XXX)	(XXX)
Battery voltage	V	12	18	18	18
Length	mm	523	400	400	304
Width	mm	155	400	200	304
Height	mm	386	200	200	381
Weight	kg	1.9	5	5	7.7

MB 12

Milwaukee Cordless soldering iron

Cordless soldering iron for temperature range up to 400°C and heating power of 90 W.
Supplied with: Supplied with 1 pc. Li-ion battery 12 V / 2.0 Ah, charger and carrying case.

Note: For a suitable battery see No. 073814 size MB12.

07 3955

Manufacturer's designation		M12SI201C
03L 07 3955	Cordless soldering iron	(XXX)
Warm-up time	s	30
Heating power	W	90
Battery voltage	V	12

AEG Batteries and charger

07 3841 – BL1418 - 14 V - 18 V charger. LED display gives easy recognition of the charge status. Charges a 18 V 4.0 Ah battery in 60 min.

Suitable for:
07 3820 – Compact screwdriver, for example no. 070222 size BS18C2.
07 3824 – Compact screwdriver No. 070220 size SE3 (3.6 V).
07 3825 – Compact screwdriver BS12C2.

_AB3

_AB12

_AB18

Rechargeable battery type, battery voltage		V	AB3	AB12	AS18
07A 07 3820	Li-ion system GBS	2.0 Ah	–	–	–
07A 07 3824	Li-ion system S	1.5 Ah	–	–	–
07A 07 3825	Li-ion system L1220	2.0 Ah	–	–	–
Battery voltage		V	3.6	12	18

_BL1418

Type		BL1418
07A 07 3841	Battery charger	(XXX)
Manufacturer's designation		BL1418

Batteries and chargers

„HighPower“ Li-ion battery with charge status display and FEIN SafetyCell Technology. Protects the battery and the machine against overheating and deep discharge. 100% compatible with all FEIN 12V cordless tools and 18V cordless tools with MultiVolt interfaces.

07 3836_FE14

07 3837_FE12

07 3837_FE18

07 3838_FE14

07 3834_FE18

07 3835_FE12

07 3835_FE18

Battery type, battery voltage		V	FE18	FE12	FE14
03G 07 3836	Li-ion battery	2.5 Ah	–	–	–
03G 07 3837		3.0 Ah	–	–	–
03G 07 3838		5.0 Ah	–	–	–
03G 07 3834		5.2 Ah	–	–	–
03G 07 3835		6.0 Ah	–	–	–
Battery voltage		V	18	12	14.4

07 3832_9260431701

07 3832_92604324

07 3832_92604325

07 3832_92604323

Supplied with:

Size 9260431701 – 2 pcs. 12V / 3.0 Ah Li-ion battery, quick charger.
Size 92604324 – 2 pcs. 18V / 3.0 Ah Li-ion battery, quick charger ALG 80 BC.
Size 92604325 – 2 pcs. 18V / 5.2 Ah Li-ion battery, **High Power,** quick charger ALG 80 BC.
Size 92604323 – 2 pcs. 18V / 6.0 Ah Li-ion battery, quick charger ALG 80 BC.

Type		9260431701	92604324	92604325	92604323
03G 07 3832	Battery starter set	–	–	–	–
Battery voltage	V	12	18	18	18

Size FE80-BC – Quick charger for all FEIN batteries. Charging time from 26 minutes.

07 3845_FE80-BC

Type		FE80-BC
03G 07 3845	Battery charger	(XXX)
Manufacturer's designation		ALG80 BC
maximum charging current	A	8

BOSCH Accessories

Batteries

Compact and powerful **Li-ion batteries.**

- **No memory effect.**
- No drop-off in power.
- Low self-discharge rate.
- **Battery recharges quickly.**
- Very powerful even at temperatures below 0 °C.

Size B18 – **Bosch CoolPack – Optimum protection for the cells** against excessive warming by special heat dissipating casing on the underside.

07 3856–3858 – **ProCORE 18**V Professional battery with CoolPack 2.0 technology. Flexible operational capability with all BOSCH 18V power tools.

07 3851_B12
07 3855_B12

07 3859_B12

07 3851_B18

07 3853_B18

07 3854_B18

Battery type, battery voltage		V	B18	B12
03B 07 3851	Li-ion battery	2.0 Ah	–	–
03B 07 3855		3.0 Ah	–	–
03B 07 3853		4.0 Ah	–	–
03B 07 3854		5.0 Ah	–	–
03B 07 3859		6.0 Ah	–	–
Battery voltage		V	18	12

Battery type, battery voltage		V	C18
03B 07 3856	Li-ion battery **ProCore**	4.0 Ah	–
03B 07 3857		8.0 Ah	–
03B 07 3858		12.0 Ah	–
Battery voltage		V	18

07 3856_C18

07 3857_C18

07 3858_C18

Starter set

ProCore battery starter set Professional - suitable for all Bosch cordless devices in the 18 Volt class.

Supplied with:

07 3865 – Supplied with charger and Bluetooth connectivity module GCY 42.

07 3863/3867 – Including battery charger.

07 3865_C18

Battery type, battery voltage		V	C18
03B 07 3863	Battery starter set **ProCore**	4.0 Ah	–
03B 07 3865		8.0 Ah	–
03B 07 3867		12.0 Ah	–
Battery capacity (07 3863)		Ah	4
Battery capacity (07 3865)		Ah	8
Battery capacity (07 3867)		Ah	12
Battery voltage		V	18

Chargers

Size GAL1240 – Li-ion quick charger for 12 Volt batteries. Only 45 minutes charging time.

Size 1880CV – Very compact Li-ion quick charger with convenient cable reel for 14.4 to 18 Volt batteries. A 4.0 Ah battery is ready for use after only 25 minutes.

Size GAL18160C – Li-ion quick charger with 16 Ampere charging current for 14.4V and 18 Volt batteries. Personalisation, information and service via the connectivity module and connection by smartphone. Charging time 80/100%: 32/51 min.

Size GAL18V6-80 – Charger with 6 battery interfaces for 14.4 – 18 V.

_GAL1240

_1880CV

_GAL18160C

_GAL18V6-80

Type			GAL1240	1880CV	GAL18160C	GAL18V6-80
03B 07 3866	Battery charger		(XXX)	(XXX)	(XXX)	(XXX)
Nominal voltage		V	10.8; 12; 12	14.4 – 18	14.4 – 18	18
Maximum number of charging points			1	1	1	6

Accessories

07 3808–3811 – Milwaukee M18™ REDLITHIUM-ION™ **HIGH OUTPUT™** batteries.
- With improved cooling for longer working life and more power.
- For extremely demanding high-power applications - for use down to -28 °C.

Supplied with:

07 3826–3833 – Including a quick charger.

07 3808_MHB3

07 3809_MHB55

07 3810_MHB8

07 3811_MHB12

Battery type, battery voltage		V	MHB3	MHB55	MHB8	MHB12
07 3808	Li-ion battery **High Output™**	3.0 Ah	–	–	–	–
07 3809		5.5 Ah	–	–	–	–
07 3810		8.0 Ah	–	–	–	–
07 3811		12.0 Ah	–	–	–	–
Battery voltage		V	18			

Type			M18HNRG3	M18HNRG55	M18HNRG8	M18HNRG12
07 3826	Battery starter set **High Output™**	3.0 Ah	–	–	–	–
07 3830		5.5 Ah	–	–	–	–
07 3831		8.0 Ah	–	–	–	–
07 3833		12.0 Ah	–	–	–	–
Battery voltage		V	18			

07 3826_M18HNRG3

Size M12NRG4 – 2 pcs. M12 B4 battery packs, C12 C charger.
Size M18NRG5 – 2 pcs. M18 B5 battery packs, M12-18 FC charger.

Type			M12NRG4	M18NRG5
07 3839	Battery starter set		–	–
Battery capacity		Ah	4	5
Battery voltage		V	12	18

_M18NRG5

_M12NRG4

Size MB12; MB14; MB18 – MILWAUKEE **REDLITHIUM-ION™ battery technology.**
- For all professional users.
- LED battery charge status display gives information at the push of a button about the current status of charge of the battery at all times.
- Problem-solver use down to - 20 °C.

Suitable for:

07 3816 – **M18** push-on battery system for all Milwaukee 18V-Li-ion power tools.
07 3817 – **M28** push-on battery system for all Milwaukee 28V-Li-ion power tools.
07 3819 – **M14** push-on battery system for Milwaukee cordless drill/driver C14DD.

07 3815_MB12

07 3829_MB12

07 3819_MB14

07 3827_MB18

07 3816_MB18

07 3817_MC28

Rechargeable battery type, battery voltage		V	MB4	MB12	MB14	MB18	MC28
07 3814	Li-ion system M4B2/M12B2	2.0 Ah	–	–	–	–	–
07 3815	Li-ion system M12B4	4.0 Ah	–	–	–	–	–
07 3829	Li-ion system M12B6	6.0 Ah	–	–	–	–	–
07 3819	Li-ion system M14B4	4.0 Ah	–	–	–	–	–
07 3827	Li-ion system M18B2	2.0 Ah	–	–	–	–	–
07 3816	Li-ion system M18B5	5.0 Ah	–	–	–	–	–
07 3817	Li-ion system M28BX	3.0 Ah	–	–	–	–	–
Battery voltage		V	4	12	14	18	28

Chip-controlled impulse charge technology. With battery charge display and overload protection.
The batteries are charged successively in sequence as they have been inserted.
- Red, continuous light: The battery is being charged.
- Red, slow flashing: Battery in waiting mode.
- Green, continuous light: Battery charged.

Size M1218C – Charger for batteries with 12, 14, and 18 V Li-ion technology.
Size M1218FC – Quick charger for batteries with 12, 14, and 18 V Li-ion technology.
Size M1218SC – HIGHOUTPUT™ quick charger M12/M18 Super Charger.
Size M18DFC – M18 cordless double simultaneous quick charger.
Size M1418C6 – Multi-charger M1418 C6 with slots for 6 rechargeable batteries.

_M1218C

_M1218FC

_M1218SC

_M18DFC

_M1418C6

Type		M1218C	M1218FC	M1218SC	M18DFC	M1418C6
07 3840	Battery charger	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Manufacturer's designation		M12-18C	M12-18 FC	M12-18SC	M18 DFC	M1418C6

Cordless vacuum cleaner systems

Size M12FVCL-0 – Portable and powerful 12 V cordless wet/dry vacuum cleaner with M12 FUEL™ motor. Stackable tool box design for additional transport options and improved storage.

Size M18VC2-0 – Portable and powerful 18 V cordless wet / dry vacuum cleaner.

- 80 mbar vacuum.

07 0231 – Cordless vacuum cleaner for mobile vacuuming. Easy transport and comfortable handling thanks to support loops on which the vacuum cleaner can be suspended.

Supplied with:

07 0230 – **Without battery and without charging cable.**

Supplied with filter, suction hose, coarse dirt nozzle and crevice nozzle.

07 0231 – **Without battery and charger.**

Note:

07 0230 – See No. 073816; 073827 and No. 073840 for suitable spare batteries and chargers.

07 0231 – Suitable spare batteries and chargers can be found under No. 073851 – 073866.

MB 12

07 0230_M12FVCL-0

MB 18

07 0230_M18VC2-0

Type		M12FVCL-0	M18VC2-0	GAS1810L
03L 07 0230	Cordless wet / dry vacuum cleaner	(XXX)	(XXX)	–
03B 07 0231		–	–	(XXX)
Type of rechargeable battery			Lithium-ion	
Battery voltage	V	12	18	18
Container volume	l	6.1	7.5	7.5
Length of suction hose	m	0.5	0.47	1.6
Volumetric flow	l/min	1275	1300	1440
Weight without battery	kg	4.5	5.3	6

B 18

07 0231_GAS1810L

KÄRCHER Wet and dry vacuum cleaners

With the NT 22/1 Ap Bp L we offer the first cordless wet/dry vacuum cleaner for professional requirements. With high-specification Battery Power and battery for very high suction power and long operating times.

Supplied with: High-power battery 36 V / 7.5 Ah, quick charger, suction hose with elbow, fleece filter bag, crevice nozzle, wet and dry nozzle.

Note: See No. 078518 CHARGER and 078519 BATTERY for suitable BATTERY and CHARGER.

07 8520

Type		NT22AP
07C 07 8520	Wet and dry vacuum cleaner	–
Number of rechargeable batteries contained		1
Type of rechargeable battery		Lithium-ion
Battery voltage	V	36
Container volume	l	22
Volumetric flow	l/min	342
maximum vacuum performance	mbar	152
Weight including rechargeable battery	kg	8.6

KÄRCHER Accessories for cordless vacuum cleaner

07 8518 – ■ Operating readiness indication by LEDs.
■ High charging current, short charging times.

07 8519 – ■ Compatible with all devices in the 36 V platform.

07 8518

07 8519

Type		CHARGER	BATTERY
07C 07 8518	Quick charger	(XXX)	–
07C 07 8519	High-performance rechargeable battery	–	–
Nominal voltage	V	110 – 240	–
maximum charging current	A	6	–
Battery voltage	V	–	36

07

steinel CAS system

One battery and charger for everything. For charging all battery packs of the CAS partners "Cordless Alliance System".

Size CAS-8 – 18 V Li-ion battery with a battery capacity of 8.0 Ah.

Size ASC145 – Quick charger ASC 145, 12-36 V, "AIR COOLED".

Size ASC55 – Charger ASC 55, 12-36 V, "AIR COOLED".

07 8328

07 8327

Type		ASC145	ASC55	CAS-8
07E 07 8327	Battery	–	–	(XXX)
07E 07 8328	Battery charger	(XXX)	(XXX)	–
Nominal voltage	V	12 – 36	12 – 36	–
Battery voltage	V	–	–	18

KÄRCHER Wet and dry vacuum cleaners

Powerful all-purpose **wet and dry cleaners** with high suction power and compact design, hose storage, and accessory storage on the cleaner. **Automatic shut-down** when the maximum filling level is reached in the container.

- Folded filter enables **wet and dry suction without removing the filter.**
- The **Tact automatic filter cleaning system** permits uninterrupted work in combination with low maintenance costs and long working life of the filter.
- The **central rotary** switch permits easy switching between the suction programs.
- **Robust 30-litre container with bumpers and metal castors.**

Size NT22APTE – Wet / dry vacuum cleaner with device socket and automatic start-up for electric tools.
- PES cartridge filter unaffected by moisture.

Size NT55T2ME –
- Outstanding suitability for removing even **large quantities of fine dust** right through to coarse dust and liquids.
- For **emptying**, the **stainless steel tank** can be completely **removed** from the mobility trolley and taken to a disposal point.
- **Anti-static system (grounding up to the suction hose connection) and protection class I.**

Size NT30TL; NT30TEL –
- The large top-mounted Eco flat fold filter permits **immediate change from wet to dry suction without removing the filter.**
- The **central rotary** switch permits easy switching between the suction programmes.

Supplied with:

Size NT75APMETC – With hose for draining liquids.

Size NT27ME; NT65APME; NT55T2ME; NT30TL; NT30TEL; NT75APMETC – Suction hose with elbow, metal suction tube 2×0.5 m, floor nozzle, and crevice nozzle, flat fold filter or paper filter bag.

Note:	Industrial vacuum cleaner No. 078522 for materials that are oily or contain oil.

_NT22APTE

_NT27ME

_NT30TL /_NT3OTEL

_NT65APME

_NT75APMETC

_NT55T2ME

Manufacturer's designation		NT22APTE	NT27ME	NT30TL	NT30TEL	NT65APME	NT75APMETC	NT55T2ME
07 8521	Wet and dry vacuum cleaner	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Power consumption	W	1300	1380	1380	1380	2760	2760	2760
Container volume	l	22	27	30	30	65	75	55
Connection width	mm	35	35	35	35	40	40	40
Length	mm	380	420	560	560	600	700	710
Width	mm	370	420	370	370	480	505	570
Height	mm	480	540	580	580	920	995	1070
Suction hose length	m	1.9	2.5	2.5	4	4	4	4
Cable length	m	6	7.5	7.5	7.5	10	10	10
Number of turbines		1	1	1	1	2	2	2
Air flow volume	l/s	71	67	74	74	2×74	2×74	2×74
Vacuum	mbar	255	200	254	254	254	254	254
Operating noise	dB(A)	72	72	69	69	73	73	73
Automatic switch-on		yes	–	–	yes	–	–	–
Anti-static system		–	–	–	yes	–	–	yes
Fine dust suitability		–	–	–	–	–	–	yes
Filter cleaning		ApClean semi-automatic filter cleaning	–	Tact automatic filter cleaning	Tact automatic filter cleaning	ApClean semi-automatic filter cleaning	ApClean semi-automatic filter cleaning	Tact² automatic filter cleaning
Dust class — vacuum cleaner					L			
Weight	kg	6.1	8.2	13.9	14	23	26.5	45
Filter system		Cartridge filter	Cartridge filter	Eco flat fold filter	Eco flat fold filter	Fan-fold filter	Fan-fold filter	Fan-fold filter
Special features		Compact	Stainless steel tank, particularly mobile	Robust container with bumper	Robust container with bumper	Stainless steel tank	Stainless steel tank, tilting mobility trolley	Stainless steel tank, anti-static, protection class I

Nilfisk Wet / dry / swarf vacuum cleaner

Wet / dry / swarf vacuum cleaner

Robust and powerful **wet / dry vacuum cleaners** with flexible hose connection system (MultiFit) and for performing a very wide variety of professional cleaning tasks. **Degree of separation > 99.9%.**

Size 21-01 – Compact all-purpose vacuum cleaner with Push & Clean **filter cleaning system.**

Size 21-21INOX –
- With **socket and automatic switch-on** for connection of an electric power tool (maximum 2000 W).
- **Stainless steel tank** with handle and hose clip.

Size 44-2LICM –
- Extremely quiet industrial vacuum cleaner with 42 l tank, washable PTFE fan-fold filter for vacuuming up even fine dust.

Size 751-11 –
- **Extremely quiet industrial vacuum cleaners** with long-lasting washable PET fleece filter.
- Soft start, generous tool storage, and additional power tool socket.

Size 961-01 –
- **Dual-motor industrial vacuum cleaner** with long-lasting washable PET fleece filter.

Size 961-01 –
- Push & Clean **filter cleaning system**.
- High-performance vacuum cleaner with large tilting mobility trolley and detachable **stainless steel tank** (tank capacity 70 litres).
- MultiFit accessories system with float switch and audible signal on reaching the maximum tank capacity.

Size 33-2HIC – Compact **safety vacuum cleaners** for working with hazardous dusts of **class L, M, H and asbestos**.

Supplied with:

Size 44-2LICM – Including M class washable PTFE flat fold filter, **anti-static suction hose** ∅ 32 mm, D 36 stainless steel extension tubes (3 × 350 mm), curved stainless steel hand tube, adapter plate for a tool box, 400 mm industrial floor nozzle, universal nozzle, suction brush, crevice nozzle, anti-static tool adaptor, trolley handle for easy transport and secure storage.

Size 751-11 – Supplied with curved stainless steel hand tube, rubber oblique-end nozzle, **without drain hose**.

Size 961-01 – Including stainless steel extension tubes (2×0.5 m), stainless steel hand tube, 400 mm floor nozzle and 300 mm crevice nozzle.

Size 33-2HIC – Including washable PTFE fan-fold filter, **anti-static suction hose** ∅ 32 mm, D 36 stainless steel extension tubes (2 × 505 mm), curved stainless steel hand tube, 300 mm industrial floor nozzle, crevice nozzle, anti-static tool adapter.

07 8541/8542 – Supplied with suction hose, curved hand tube, wet filter and washable filter element (PET), hose storage, and cable storage.

Note:	Other safety vacuum cleaners for all hazard classes (health hazard or explosive dusts) are available on request (class L, M, H).

Manufacturer's designation		21-01	21-21INOX	44-2LICM	751-11	961-01	33-2HIC
07 8540	Wet and dry vacuum cleaner AERO	(XXX)	(XXX)	–	–	–	–
07 8541	Wet and dry vacuum cleaner ATTIX	–	–	(XXX)	(XXX)	(XXX)	–
07 8542	Safety vacuum cleaner ATTIX	–	–	–	–	–	(XXX)
Power consumption	W	1250	1250	1400	1500	3000	1400
Container volume	l	20	20	42	70	70	30
Length	mm	375	390	565	605	580	565
Width	mm	385	400	385	580	600	385
Height	mm	505	525	650	970	970	520
Suction hose length	m	2.5	2.5	4	4	4	4
Hose ∅	mm	32	32	32	36	38	36
Cable length	m	5	5	7.5	7.5	10	7.5
Number of turbines		1	1	1	1	2	1
Air flow volume	l/s	60	60	75	60	2×60	75
Vacuum	mbar	210	210	250	230	250	250
Operating noise	dB(A)	64	64	60	57	67	60
Automatic switch-on		–	yes	yes	–	–	yes
Anti-static system		–	–	yes	–	–	yes
Fine dust suitability		–	–	yes	–	–	–
Filter cleaning		Push & Clean system	Push & Clean system	InfiniClean™ fully automatic	–	Push & Clean system	InfiniClean™ fully automatic
Dust class – vacuum cleaner		–	–	L	–	–	Asbestos; H; L; M
Weight	kg	7.5	8.5	17.5	25	30	14.5
Filter system		PET filter element	PET filter element	PTFE flat fold filter element	PET fleece filter	PET fleece filter	PTFE flat fold filter
Special features		Compact	Compact stainless steel container	Vacuum cleaner for fine dust	Extremely quiet	tip-up stainless steel container	Safety vacuum cleaner

KÄRCHER Accessories for wet/dry vacuum cleaners

07 8526

Supplied with:

07 8526 – 1 PU suction hose (4 m) oil-resistant, 1 crevice nozzles, 1 rubber oblique-end nozzle.
07 8538 – Adaptor 40 mm to 35 mm for use with chip set No. 078528 size DN40.

Note:
07 8538 – Adaptor suitable for wet/dry vacuum cleaner (version from series No. 100001).

Connection width		DN35	DN40
07 8526	Swarf set oil-resistant	–	(XXX)
07 8527	Rubber oblique-end nozzle	(XXX)	(XXX)
07 8528	Crevice nozzle, narrow, 13 mm	(XXX)	(XXX)
07 8538	Adaptor piece, ∅ 40-35 mm	(XXX)	–
suitable for		NT27ME, NT30T, NT30TE, NT35T, NT35TE, NT22APTE	NT65APME, NT75APMETC, NT55T2ME

07 8527

07 8528

07 8538

Nilfisk Accessories for Nilfisk ATTIX wet / dry / swarf vacuum cleaner

Additional suction set for No. 078541 and No. 078542 for general-purpose workshop use.

Supplied with:
- Suction hose 4 m, ∅ 36 mm.
- Curved stainless steel hand tube and extension tube 2×500 mm.
- Professional floor nozzle 360 mm and plastic crevice nozzle 300 mm.
- Rubber oblique-end nozzle 190 mm.

07 8543

Manufacturer's designation		ATTIX5
07 8543	Workshop set	(XXX)
suitable for		ATTIX 33-2HIC, 44-2LICM, 751-11, 961-01

07 8545 – Special chip suction hose for vacuuming up metal chips, including rubber oblique-end nozzle No. 078546 size 7868.
Suitable for No. 078541, all sizes.
07 8546 – Rubber oblique-end nozzle for vacuuming up chips No. 078545.
07 8547 – Rubber crevice nozzle for vacuuming up chips No. 078545.
07 8555 – Professional plastic floor nozzle for wet and dry vacuum cleaner No. 078541 size 751-11, 961-01; 078541 size 44-2LICM; 078540 size 21-01; 21-21INOX.
07 8556 – Stainless steel extension tube, 2-part for wet and dry vacuum cleaner No. 078541 size 751-11; 901-01;
078541 size 44-2LICM;
078540 size 21-01; 21-21INOX.

07 8545

07 8546

07 8547

07 8555

07 8556

Manufacturer's designation		DN50	7868	7102	3666	8074
07 8545	Chip suction hose set	(XXX)	–	–	–	–
07 8546	Rubber oblique-end nozzle	–	(XXX)	–	–	–
07 8547	Joint nozzle	–	–	(XXX)	–	–
07 8555	Floor nozzle, 400 mm wide	–	–	–	(XXX)	–
07 8556	Stainless steel extension tube	–	–	–	–	(XXX)
∅	mm	50	50	50	36	36
Length	m	4	0.26	0.37	–	2×0.5

Durable chip basket for separation of metal chips.

Manufacturer's designation		ATTIX7	ATTIX9
07 8544	Chip basket	(XXX)	(XXX)
suitable for		ATTIX 751-11	ATTIX 961-01

07 8544

KÄRCHER Industrial vacuum cleaner

Industrial vacuum cleaner suitable for vacuuming up and separating **coolants, lubricating emulsions, water or oil with solids (e.g. metal chips).**

- Compact design and robust materials for the best movement characteristics.
- Maximum flexibility in use and long working life for the oil-resistant power cable.
- Suction is applied via a 360° rotatable hose connection on the suction head.

Size IVR-L65 – 1-motor 1.2 kW industrial vacuum cleaner with **tilting mobility trolley** and **65 litre tank**.

Size IVR-L100TC – 2-motor 2.4 kW industrial vacuum cleaner with **tilting mobility trolley** and **100 litre tank**.

Size IVR-L100DP – 2-motor 2.4 kW industrial vacuum cleaner with **tilting mobility trolley, 100 litre stainless steel tank and integral barrel pump** for easy and complete emptying.

Size IVR-L40 – 1-motor 1.2 kW industrial vacuum cleaner **40 litre tank.**

Supplied with:

07 8522 Size IVR-L40; IVR-L65; IVR-L100TC; IVR-L100DP – With tilting chassis, and drain hose with level indicator. **Without accessories. Suitable accessories can be found under No. 078524, 078529 and 078533.**

_IVR-L40

_IVR-L65

_IVR-L100TC

_IVR-L100DP

Manufacturer's designation			IVR-L65	IVR-L100TC	IVR-L100DP	IVR-L40
07D 07 8522	Industrial vacuum cleaner		(XXX)	(XXX)	(XXX)	(XXX)
Power consumption		W	1200	2400	2400	1200
Container volume		l	65	100	100	40
Connection width		mm	DN50			
Length		mm	742	740	740	711
Width		mm	500	620	620	523
Height		mm	1100	1180	1180	960
Cable length		m	6			
Number of turbines			1	2	2	1
Air flow volume		l/s	59	118	118	59
Vacuum		mbar	230			
Operating noise		dB(A)	71	76	76	71
Dust class – vacuum cleaner			L			
Weight		kg	43	58	59	36

Accessories for Kärcher wet / dry and industrial vacuum cleaners

Volume		l	20	40
07C 07 8524	Swarf basket for the industrial vacuum cleaner		(XXX)	(XXX)
suitable for			IVR-L40, IVR-L65	IVR-L100 TC, IVR-L100 DP

Supplied with:

07 8529 Size DN40 – 1 PU suction hose (3 m) oil-resistant and cut-resistant, 1 angled manual tube, 1 extension tube, 1 floor nozzle, 1 nozzle elastic, 1 reducer DN 50 to DN 40.

Size DN50 – 1 PU suction hose (3 m) oil-resistant and cut-resistant, 1 curved hand tube, 1 extension tube, 1 floor nozzle, 1 flat nozzle.

07 8529_DN40

Connection width		DN40	DN50
07C 07 8529	Set for vacuuming chips and liquids	(XXX)	(XXX)
07C 07 8533	Reducing adaptor	(XXX)	–
suitable for		IVR-L40, IVR-L65	IVR-L100 TC, IVR-L100 DP

07 8533_DN40

07 8529_DN50

Nilfisk Industrial vacuum cleaner

High quality, very durable Nilfisk CFM "grey line" industrial vacuum cleaner.

Size 118HCSBS – **Dry vacuum cleaner** with powerful, long-life 1-kW bypass AC turbine.
Inlet ∅ 50mm. Swarf container with rollers, Easylift system for easy emptying of the container.
Approved **safety vacuum cleaners for dust class H**.

Size VHO200 – Powerful **liquid vacuum cleaner** with high-power oil-resistant cleaning set.
Equipped with **air reverse blowing valve** for simple and reliable emptying of the dirt container.
A chip basket and emptying kit are already incorporated.
Suitable for a very wide range of cleaning work in the metal industry.

Size ECO-OIL13 – **Swarf and liquid suction set.** With powerful smooth-running 1.3-kW turbine.
Inlet ∅ 50mm. Oil-proof castors with parking brakes and oil-resistant seals.
Metal chips are **separated from liquids** by the swarf basket included in the scope of delivery. This allows the re-use of coolants and assists the recycling of the metal chips.

Supplied with:

Size 118HCSBS – Including "Safe-Bag-System" safety filter bag, radial filter. **Without accessories**.

Size VHO200 – Supplied with chip basket, integral emptying kit including oil-resistant cleaning set.

Size ECO-OIL13 – Supplied with chip basket (30L), mobility trolley, drain hose. **Without accessories.**

Note:	See under 078551-078552 for suitable accessories.

07 8558_118HCSBS

07 8559_VHO200

07 8559_ECO-OIL13

Manufacturer's designation		118HCSBS	VHO200	ECO-OIL13
07D 07 8558	Dry vacuum cleaner	(XXX)	–	–
07D 07 8559	Swarf and liquid vacuum cleaner	–	(XXX)	(XXX)
Power consumption	W	1000	2400	1300
Container volume	l	25	75	180
Length	mm	510	580	1050
Width	mm	500	880	670
Height	mm	950	1230	1500
Number of turbines			1	
Air flow volume	l/s	45	55	46
Vacuum	mbar	215	230	320
Operating noise	dB(A)	75	70	76
Weight	kg	26	60	120

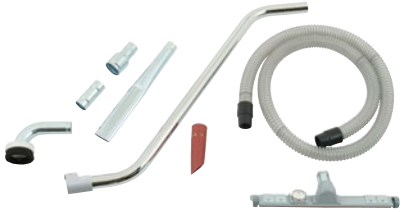
Special accessories for industrial vacuum cleaners

Supplied with:

07 8551 – Rubber hose (3 m), 1 curved hand tube, 1 rubber oblique-end nozzle, 1 400 mm floor nozzle, 50 to 40 reducer piece, galvanised hose sleeve.

07 8552 – PU hose (3 m), 1 hand tube, 1 floor nozzle (400 mm), 1 rubber angle tube nozzle, 50 to 40 reducer piece, galvanised hose connector, galvanised flat 500 mm crevice nozzle, ∅ 80 mm round brush with nylon bristles.

07 8551


07 8552

Hose ∅	mm	50
07C 07 8551	Industrial set **oil-resistant**	(XXX)
07C 07 8552	Industrial set	(XXX)
suitable for		118HCSBS, ECO-OIL 13

Extraction table for metal dusts

Dynabrade extraction table for metal dusts is the perfect system for the extraction of aluminium, steel, stainless steel and non-metal dust, and is thus another addition to Dynabrade clean air solutions.

- Self-cleaning system of the cartridge filter.
- Explosion-proof motor (ATEX Zone 22), suitable for aluminium dust.
- Flexible configuration.
- Easy to use.
- High efficiency.
- Welding fumes extraction (optional).

On request we will find the optimum solution for your extraction table with other optional equipment!

Fig. model No. 70520

Width (mm)	Length (mm)	Height (mm)	Motor V/watts/Hz
1000	1800	850	400 V; 2200 watts; 50Hz

KÄRCHER High-pressure cleaner

Mobile high pressure jet cleaner with AC motor. Cleaner has **pressure switch control**, anti-kink system, high-pressure hose that can be rotated under pressure and rotatable stainless steel tubular jet. Sturdy 3-piston axial pump with brass cylinder head. Water infeed of brass. Maximum infeed temperature 60 °C.

Size HD615MPLUS – ■ 3-piston axial pump with hardened stainless steel pistons.

Supplied with:

Size HD615MPLUS – 10 m high premium pressure hose, EASY!Force gun with softgrip inlay, stainless steel tubular jet 840 mm, power nozzle and dirt abrader.

Size HD511P – Supplied with 10 m high-pressure hose, stainless steel tubular jet 850 mm with one-way nozzle.

EASY! Force gun

07 8571_HD615MPLUS

07 8571_HD511P

Manufacturer's designation			HD615MPLUS	HD511P
OLD 07 8571	High pressure cleaner unheated		(XXX)	(XXX)
Power consumption		W	3100	2200
Mains supply fuse		A	16	10
Working pressure		bar	150	110
Pumped volume		l/h	560	490
Weight		kg	30	20.5

KÄRCHER Dry ice cleaner

Flexible cleaning with dry ice to remove obstinate dirt. Small and ergonomic blasting pistol, ideal for restricted spaces.

Application: The device is portable and equipped for **integral dry ice production**. It permits cleaning work even on complex substrates, machines, motors and parts. Due to its low consumption of compressed air it is ideal for use with workshop compressors.

Supplied with: IB 10/8 L2P dry ice cleaner with 5 m spray hose, spray gun, nozzle illumination, CO2 connecting hose, flat spray nozzle.

Note: CO2 bottle not supplied. CO2 specifications: Standard CO2 bottle with riser tube/dip tube.

07 8573_IB10/8L2P

Type			IB10/8L2P
OLD 07 8573	Dry ice cleaning device		(XXX)
Power consumption		W	1500
Working pressure		bar	0.7 – 10
Air flow volume		l/h	4200 – 48000
Weight		kg	92

Nilfisk Sweeper

Manually-guided sweepers with tool-less adjustment of side brush and main brush for optimum cleaning even under varying floor conditions.

Manually operated, **large collection hopper** and fold-away handle.

Suitable for indoor and outdoor use.

Application: For hard floors and also for carpeted floors. Ideal for sweeping up leaves, small quantities of dry dirt, crown caps, cigarettes etc.

Supplied with: Manually-guided sweeper, main sweeper roller, side brush, integral filter.

Size SW250 – Main cylindrical sweeping brush and two side brushes.

Size SW200 – Main cylindrical sweeping brush and side brushes.

_SW200

_SW250

Manufacturer's designation			SW200	SW250
OLD 07 8550	Sweeper		(XXX)	(XXX)
Container volume		l	38	
Length		mm	1470	
Width		mm	850	920
Height		mm	1120	
Theoretical area output		m²/h	2800	3680
Working width with side brushes		mm	700	920
Weight		kg	19.5	20

steinel Heat gun

Size 008338 – **High-quality straight handle hot air gun HG 2620 E** for professional applications.
Size 351601 – **High-quality hot air gun HG 2520 EKF in pistol format** for professional applications, with carrying case.
Size 351502 – **Hot air gun set HG 2320 EKF** in a plastic case, consisting of:
- Hot air gun with stepless air flow control, four memory programmes, temperature and residual heat display, LOC function, single-hand operation.
- Reducer nozzle 9 mm, wide angle nozzle 50 mm, reflector nozzle, 100-piece shrink sleeve set.

Size 351403 – Electronically controlled **heat gun** HG 2120 E, air volume adjustment 150 – 500 l/min in 3 stages.
Size 006464 – Electronically controlled **heat gun**, air volume adjustment 150 – 500 l/min in 3 stages.
Size 008338; 351601 – **Electronically controlled heat gun** with stepless regulation of the air quantity.
Size 063993; 066611 – Compact cordless hot air gun mobile heat MH 5 offers four application-specific programs. Air volume can be regulated digitally in six steps (up to 300 l/min).
Size 063986; 066604 – Cordless heat gun with 2 temperature settings (300° / 500°).

Supplied with:
07 8322 – Cordless heat gun including 1 pc. 18 V / 8.0 Ah battery, charger and case.
07 8323 – Version without battery and without charger, case.

Note:
07 8323 – See No. 078327 for suitable batteries and No. 078328 for the charger.

_008338

_351601 _351502

_006464 _351403 _066604

Type		008338	351601	351502	351403	006464	066611	066604	063993	063986
07E 07 8321	Heat gun	XXX	XXX	XXX	XXX	XXX	–	–	–	–
07E 07 8322	18V cordless heat gun	–	–	–	–	–	XXX	XXX	–	–
07E 07 8323		–	–	–	–	–	–	–	XXX	XXX
Manufacturer's designation		HG 2620E	HG 2520EKF	HG 2320EKF	HG 2120E	HG 2120EKF	MH5	MH3	MH5	MH3
Power consumption	W	2300	2300	2300	2200	2200	2200	–	2200	–
Air temperature	°C	50 – 700	50 – 700	80 – 650	80 – 630	80 – 630	50 – 500	300 – 500	50 – 500	300 – 500
Air flow volume	l/min	150 – 500	150 – 500	150 – 500	–	–	300	200	300	200
Weight	g	840	840	960	850	850	660	680	660	680
Version		–	–	Set	–	Set	Set	Set	–	–

Hot air gun accessories

Supplied with: 12-piece set consisting of: Wide angle nozzle 75 mm, blasting nozzle 75 mm, reducer nozzles 14 and 9 mm, wide slot nozzle, soldering nozzle, reflector nozzle, scraper, scraper handle, 3 spare blades, plastic case.

07 8329

Type		075569
07E 07 8329	Heat gun accessory set **12 pieces**	XXX
suitable for		HG 2320, HG 2120, MH3, MH5

Hot glue gun

08 3385 – Gluematic 5000 hot glue guns for hobbies and manual crafts, cordless operation, very high feed rate of approx. 22 g/min, warming-up time only 3 – 5 min.
08 3386 – The sturdy GluePRO 300 with its non-slip handle is comfortable to hold. The feed stroke is easily adjustable, allowing the amount of glue per stroke to be set individually. The warming-up time is approx. three minutes. Temperature: 190 °C.

Supplied with:
08 3385 – Glue gun with interchangeable glue nozzles, charger, **without glue sticks.**
08 3386 – Glue gun **without glue sticks.**

08 3386_035280

08 3385_332716

Manufacturer's product number		332716	035280
07E 08 3385	Gluematic 5000 hot glue gun	XXX	–
07E 08 3386	Glue PRO 300 hot glue gun	–	XXX

Low-drip glue stick Ø 11 mm.
Size 048419 – Transparent glue sticks for invisible bonded joints, clear craft glue, drip-resistant.
Size 044930 – **Ultra Power** white glue sticks for bonding a wide variety of materials; particularly strong general-purpose glue.
Size 052423 – **"Flex"** glue stick. Temperature 190 °C, for large areas. Sets in 60 – 80 seconds max. and bonds to full strength after 100– 120 seconds.
Size 050092 – **"Universal"** glue stick. Temperature 190 °C. Sets in 15 seconds max. and bonds to full strength after 60 – 90 seconds.

Suitable for:
Size 048419; 044930 – Hot glue gun No. 083385 and 083386.
Size 052423; 050092 – Hot glue gun Glue PRO 300 No. 083386.

08 3388

Manufacturer's product number		048419	044930	052423	050092
07E 08 3388	Glue stick set, 20 pieces	XXX	XXX	XXX	XXX

Electric and manual tacker

User-friendly, ergonomic professional tackers for precision driving of round-wire and flat staples and nails.

07 8405 – **Sturdy hammer tacker** with integral staple insertion slide and non-slip grip.

07 8407 – **Durable professional tacker** with robust, low-recoil zinc die-cast housing.
The re-strike function ensures that staples / nails of all types are driven flush.

07 8409 – **Handy cordless tacker** with soft-touch handle. Wild shot prevention lock for greater safety.
LED lamp for illuminating the working area.

07 8410 – **Universal electric tacker (230 V / 16 A)** with electronic impact force control.
Cable length 3 m.

07 8407–8410 –
- Reload system in the base for quick and easy reloading.
- Distance stop for insertion of parallel rows of staples.
- Impact force control.
- Patented safety unlocking.
- Good access to restricted spaces.
- Staple supply viewing window.

Supplied with:

07 8409 – Includes an Li-ion battery, charger and transport case.

Note:

07 8409 – For suitable spare batteries see No. 078408.

07 8405

07 8407

07 8409

07 8410

Type			J033G	J29	J214EA	J105EADHG
07E 07 8405	NOVUS	Hammer tacker	XXX	–	–	–
07E 07 8407	NOVUS	Hand tacker	–	XXX	–	–
07E 07 8409	NOVUS	Cordless tacker	–	–	XXX	–
07E 07 8410	NOVUS	Electric tacker	–	–	–	XXX
Manufacturer's designation			J-033	J-29	J-214	J-105
maximum staple insertion depth		mm	10	16	14	16
suitable type of staple			BSW	E, A, D, H, G	E, A	E, A, D, H, G
Weight		kg	0.5	1	2.7	1.2

Staples and nails for tacker

07 8417 – **Round wire staples type A 53/6-14** for strip wood, wire mesh, metal labels, textiles, etc.

07 8418 – **Flat wire staples type D 53F/6-10** for film, aluminium cladding, card, labels etc.

07 8419 – **Nails type E J/16** for decorative strips, corner strips etc.

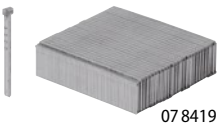
07 8420 – **Flat wire staples type G 11/6-14** for film, aluminium cladding, sarking membranes, paper and card, labels etc.

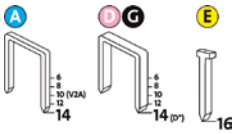
07 8417_8

07 8417

07 8418_8
07 8420_8

07 8418


07 8419



*Panel clip

maximum staple insertion depth			mm	6	8	10	14	16	Set contents
07E 07 8417	NOVUS	Round wire staples set **5000 pieces**	**Type A**	XXX	XXX	XXX	XXX	–	5000 pieces
07E 07 8418	NOVUS	Flat wire staples set **1200 pieces or 600 pieces**	**Type D**	XXX	XXX	XXX	XXX	–	Sizes 6, 8 = 1200 pcs; sizes 10, 14 = 600 pcs
07E 07 8419	NOVUS	Nail set **1000 pieces or 2600 pieces**	**Type E**	–	–	–	XXX	XXX	Size 14 = 1000 pieces; size 16 = 2600 pieces
07E 07 8420	NOVUS	Flat wire staples set **1200 pieces or 600 pieces**	**Type G**	XXX	XXX	XXX	XXX	–	Sizes 6, 8 = 1200 pcs; sizes 10, 14 = 600 pcs

Cordless stapler

MB 12

Compact and powerful M12™ **cordless stapler** with integral staple insertion slide and non-slip grip.
Up to 2000 staples per 2.0 Ah battery charge. Function to prevent accidental operation.

Suitable for: Type D staples with maximum insertion depth of 6-14 mm.

Supplied with:

07 8402 – Supplied with 2 pcs. 12 V / 2.0 Ah batteries, C12 C charger, HD box.

07 8403 – Version **without battery and without charger.**

07 8402_M12BST

Manufacturer's designation			M12BST
03L 07 8402	Milwaukee	Cordless stapler	XXX
03L 07 8403	Milwaukee	Cordless stapler	XXX
Manufacturer's designation			M12BST
Battery capacity (07 8402)		Ah	2
Battery voltage		V	12
maximum staple insertion depth		mm	14
suitable type of staple			D

Pneumatic power tools

All technical data relate to a dynamic pressure of **6.3 bar** and the specified hose internal ∅.

Pneumatic power drills

A range of powerful and very smooth running drills with pistol grip and a drilling power of up to 13 mm in steel. Exhaust air is discharged through the handle, to prevent drill chips from swirling up. With quick-release chuck.

Size D2163Q – Angle drill, width across head 115 mm / 25 mm.

Size D2116RQ; D2148RQ – With changeover valve for **clockwise / anticlockwise rotation** (for use as a screwdriver or tap driver).

Supplied with: **Quick-clamping chuck.**

07 9051 Size D2121Q; D2148RQ – Additionally with support handle.

Spare part: **Selected service kits:** Sets of replacement parts for most Atlas Copco pneumatic tools can be supplied on request for preventive maintenance and servicing.

_D2112Q
_D2116Q
_D2116RQ

_D2121Q

_D2148RQ

Type			D2112Q	D2116Q	D2116RQ	D2121Q	D2148RQ	D2163Q
03R 07 9051	Atlas Copco	Pneumatic power drill	XXX	XXX	XXX	XXX	XXX	XXX
Output power		W	350	350	250	350	250	330
maximum speed		rpm	0 – 5400	0 – 2400	0 – 2400	0 – 750	0 – 750	0 – 2000
Quick-clamping chuck range		mm	1.5 – 10	1.5 – 10	1.5 – 10	1.5 – 13	1.5 – 13	1.5 – 10
maximum air consumption		l/min	600	600	600	600	600	540
Connection thread			BSW					
Compressed air connection		inch	1/4					
recommended hose size (internal ∅)		mm	10					
Weight		kg	1	1	1	1.4	1.4	1.1
Operating noise		dB(A)	80	82	82	87	85	78
maximum vibration to EN		m/s²	< 2.5	< 2.5	< 2.5	2.5	3.7	< 2.5
Length		mm	211	211	211	248	248	242

Pneumatic ratchet screwdriver

07 9121 – Reversible ratchet screwdriver with speed control in a compact design with glass-fibre composite casing for good thermal insulation. Exhaust air outlet can be rotated 360°.

Size W2611 – Overall length only 192 mm, ideal for restricted spaces.

07 9122 – Pneumatic mini ratchet screwdriver with 130 mm overall length. Quick-change button for socket changes.

Spare part: **Selected service kits:** Sets of replacement parts for most Atlas Copco pneumatic tools can be supplied on request for preventive maintenance and servicing.

_D2163Q

07 9121_W2611

07 9121_W2621
07 9121_W2630

Type			W2611	W2630	W2621	9427
03R 07 9121	Atlas Copco	Pneumatic ratchet screwdriver	XXX	XXX	XXX	–
03R 07 9122	Chicago Pneumatic		–	–	–	XXX
Torque range		Nm	4 – 40	25 – 80	5 – 68	7 – 35
maximum screw ∅ (8.8 - 12.9)			M8	M14	M12	M8
maximum speed		rpm	280	200	170	270
Tool arbor size		inch	1/4	1/2	3/8	3/8
maximum air consumption		l/min	540	660	600	336
Connection thread			BSW			
Compressed air connection		inch	1/4			
recommended hose size (internal ∅)		mm	10			
Weight		kg	0.5	1.2	1.1	0.5
Operating noise		dB(A)	85	86	87	93
maximum vibration to EN		m/s²	8,8	10.5	15	5
Length		mm	202	307	271	130

07 9122_9427

Atlas Copco Screw tightening tools for high torques

Atlas-Copco hydraulic wrench

Hydraulic torque wrench for up to 70,000 Nm. Extremely sturdy, made for very high precision. A comprehensive range of accessories consisting of hydraulic pumps, replacement cassettes and restrain blocks.

On request we will find the optimum solution for your requirements!

RTP pneumatic screw tightening tool

Atlas-Copco pneumatic screw tightening tool for torques up to 8100 Nm.
Easy to use thanks to the narrow head casing and Weldox torque struts.

Pneumatic screwdriver

Versatile application screwdrivers with 1/4 inch hexagon socket quick-release chuck for E 6.3 bits (see No. 674200 ff), reversible for **clockwise / anticlockwise** rotation.

Size S2480 – With impact mechanism (low reset torque).

Spare part: **Selected service kits:** Sets of replacement parts for most Atlas Copco pneumatic tools can be supplied on request for preventive maintenance and servicing.

Type		S2326	S2305	S2480
03R 07 9161 Atlas Copco Pneumatic screwdriver		(XXX)	(XXX)	(XXX)
Torque range	Nm	up to 4,5	up to 12	6 – 13
maximum screw ∅ (8.8 - 12.9)		M6	M8	M5
maximum speed	rpm	2400	750	6500
Tool arbor size	inch		1/4	
maximum air consumption	l/min	336	336	600
Connection thread			BSW	
Compressed air connection	inch		1/4	
recommended hose size (internal ∅)	mm	6.3	6.3	10
Weight	kg	0.8	0.9	0.78
Operating noise	dB(A)	83	83	90
maximum vibration to EN	m/s²	< 2.5	< 2.5	6.4
Length	mm	178	198	132

07 9161_S2305
07 9161_S2326

07 9161_S2480

Pneumatic screwdriver with slip clutch

- With slip clutch.
- Adjustable torque setting.
- Reversible for clockwise/ anticlockwise rotation.

Particularly suitable for series production screwdriving with quick-release bit holder for E 6.3 bits (see No. 674205 ff).

Size S2307CE – Torque is externally adjustable using a twist sleeve.

Spare part: **Selected service kits:** Sets of replacement parts for most Atlas Copco pneumatic tools can be supplied on request for preventive maintenance and servicing.

07 9163_S2340
_S2370

Type		S2340	S2370	S2307CE	S2308	S2310
03R 07 9163 Atlas Copco Pneumatic screwdriver		(XXX)	(XXX)	XXX	XXX	XXX
Torque range	Nm	0.5 – 2	2 – 6	2,5 – 10	2,5 – 11	2 – 15
maximum screw ∅ (8.8 - 12.9)		M3	M5	M6	M6	M8
maximum speed	rpm	1300	1300	900	950	800
Tool arbor size	inch			1/4		
Format		Rod	Rod	Pistol	Pistol	Pistol
maximum air consumption	l/min	240	240	504	504	510
Connection thread				BSW		
Compressed air connection	inch			1/4		
recommended hose size (internal ∅)	mm	6.3	6.3	10	10	10
Weight	kg	0.9	0.9	1.2	1.1	1.4
Operating noise	dB(A)	83	83	82	82	81
maximum vibration to EN	m/s²			< 2.5		

07 9163_S2307CE
_S2308
_S2310

Pneumatic impact wrench

Powerful impact wrench.
Exhaust air passes through the handle, **reversible**.

Application:

Size W2411 – Suitable for light assembly work.
Size W2412 – Suitable for places where access is difficult and places where space is restricted.
Size W2428 – Suitable for heavy-duty disassembly work.

Size W2910–W2920 – Suitable for heavy-duty use.

07 9171_W2412

07 9171_W2910
_W2911
_W2915
_W2920

Type		W2411	W2412	W2910	W2911	W2915	W2920	W2428
03R 07 9171 Atlas Copco Pneumatic impact wrench		XXX	XXX	XXX	XXX	XXX	XXX	XXX
Torque range	Nm	13 – 80	100 – 300	150 – 400	150 – 400	200 – 800	300 – 1450	800 – 1600
Maximum screw ∅ (8.8 - 12.9)		M10	M16	M14	M14	M16	M30	M33
maximum speed	rpm	7000	7400	6500	7300	7700	5500	5000
Tool arbor drive profile					□			
Tool arbor size	inch	3/8	1/2	3/8	1/2	1/2	3/4	1
Format		Pistol	Pistol	Pistol	Pistol	Pistol	Pistol	Straight
maximum air consumption	l/min	678	780	1020	1020	1080	1620	2880
Connection thread					BSW			
Compressed air connection	inch	1/4	1/4	1/4	1/4	1/4	3/8	1/2
recommended hose size (internal ∅)	mm	10	10	10	10	10	13	19
Weight	kg	1	1.4	1.2	1.2	2	3.2	10.5
Operating noise	dB(A)	94	99	89	92	96	96	98
maximum vibration to EN	m/s²	7	5.6	3.3	5.1	7.5	10.2	10.67
Length	mm	154	113	160	160	185	218	345
Height	mm	165	178	178	178	186	206	131

07 9171_W2411

07 9171_W2428

Chicago Pneumatic Pneumatic impact wrench

07 9200 – Compact powerful angle impact wrench with aluminium casing. Very flat design. One-hand changeover and a **single-hammer impact mechanism with long working life.**

07 9201 – Compact powerful mini-impact wrench with aluminium casing. 2-stage operating lever for user-friendly **side-to-side switchover** for changing between forwards and reverse directions.

Size 7731 – 415 Nm maximum release torque. Jumbo hammer impact mechanism.

Size 7732 – 610 Nm maximum release torque at just 1.0 kg weight and an installed length of just 108 mm. Jumbo hammer impact mechanism.

Size 7762 – 1420 Nm maximum release torque. Double hammer impact mechanism.

07 9200_7737

07 9201_7731

07 9201_7732

07 9201_7762

Type		7737	7731	7732	7762
03R 07 9200	Pneumatic angle impact wrench **compact**	XXX	–	–	–
03R 07 9201	Pneumatic impact wrench **compact**	–	XXX	XXX	XXX
Torque range	Nm	34 – 300	96 – 328	70 – 387	200 – 900
Maximum screw ∅ (8.8 - 12.9)		M20			
maximum speed	rpm	9030	6400	9410	4850
Tool arbor drive profile		Square			
Tool arbor size	inch	1/2	3/8	1/2	3/4
maximum air consumption	l/min	703.8	498	612	984
Connection thread		NPT			
Compressed air connection	inch	1/4	1/4	1/4	3/8
recommended hose size (internal ∅)	mm	10	10	10	13
Weight	kg	1.12	1.3	1	2.9
Operating noise	dB(A)	93	93	95	92.8
maximum vibration to EN	m/s²	10.3	8.5	10.8	2.8
Length	mm	240	112	108	158

07 9202 – Robust impact wrench with **convenient one-hand changeover using Side-2-Side technology,** composite casing with thermal insulation properties and robust double hammer impact drive. Balanced weight distribution for more comfortable working. Exhaust air is directed downwards through the handle. **Tightening power can be regulated in steps.**

07 9203 – Impact wrench with **adjustable power setting.** Adjustable power setting, highly innovative and very easy to use: 11 settings for clockwise driving. Incorporates **Air Flex Mini** multi-axial swivelling are connection.

07 9204 – **Impact wrench for the most demanding applications** and highest torques. **Exceptionally robust 2-claw impact mechanism** (twin lobe) for a very long working life under rough conditions. The screw tightening phase starts slowly and increases with every impact. **Suitable for all bolt-tightening requirements.** Simple 3-piece design for **very low maintenance requirements.**

07 9220 – Powerful very sturdy impact wrench with **long-life double hammer impact drive mounted in an oil bath.** Simple one-hand controls. Balanced handle for ergonomic handling. Fitted with a suspension hook for attachment to spring suspension. With **ATEX certification.**

07 9204_6120

07 9202_7729 _7739

07 9202_7749

07 9203_7755

07 9202_7769

07 9220_6748-EX

Type		7729	7739	7749	7755	7769	0611	6120	6748EX
03R 07 9202	Pneumatic impact wrench **3/8 inch – 1/2 inch**	XXX	XXX	XXX	–	XXX	–	–	–
03R 07 9203	Pneumatic impact wrench **1/2 inch, adjustable**	–	–	–	XXX	–	–	–	–
03R 07 9204	Pneumatic impact wrench	–	–	–	–	–	(XXX)	(XXX)	–
03R 07 9220	Pneumatic impact wrench **ATEX**	–	–	–	–	–	–	–	XXX
Torque range	Nm	68 – 414	68 – 414	135 – 704	80 – 575	407 – 1464	1220 – 2440	815 – 2710	180 – 760
Maximum screw ∅ (8.8 - 12.9)		M20	M20	M24	M24	M30	M36	M36	M20
maximum speed	rpm	9400	9900	7000	7700	7000	3500	3500	8400
Tool arbor drive profile		Square							
Tool arbor size	inch	3/8	1/2	1/2	1/2	3/4	1	1,1/2	1/2
maximum air consumption	l/min	564	564	540	156	882	1920	1698	852
Connection thread		NPT							
Compressed air connection	inch	1/4	1/4	1/4	1/4	3/8	3/8	1/2	1/4
recommended hose size (internal ∅)	mm	10	10	10	10	13	13	13	10
Weight	kg	1.2	1.2	1.8	1.93	3.15	10.4	15.7	2.4
Operating noise	dB(A)	91	92	95	93	97	99	102	93
maximum vibration to EN	m/s²	6.4	6.9	10.9	8.5	12.6	18	21.8	8.7
Length	mm	163	163	171	169	200	360	420	200

Balancer

Balancers make power tools, especially heavy ones, both easier and safer to use.

- **"Weightless" equipment.**
- **Tidiness** at the workplace.
- **Equipment and tools** within easy reach.
- **Safety** at the workplace due to suspension of equipment and leads.
- Equipment in clear view and in reach of the user.
- Weight compensation and thus balance can be maintained over the entire cord travel.

07 9295 – Shock-resistant plastic casing.
07 9298 – Sturdy aluminium casing, cable of stainless steel.
Size 3; 5 – **With arrester** – for limiting the travel of the rope lifting gear.
Size 10; 14 – **With cable stop** – keeps the weight at the chosen height.

07 9295_1,5 | 07 9295_3/_5 | 07 9298

maximum towing capacity	kg	1,5	2,5	3	4	5	6	8	10	14
03F 07 9295	Balancer	XXX	–	XXX	–	XXX	–	–	–	–
03R 07 9298	Balancer	–	XXX	–	XXX	–	XXX	XXX	XXX	XXX
Cord travel length	m	0.9	2	2	2	2	2	2	2.5	2.5
Safe working load	kg	0.5 – 1.5	1 – 2.5	1 – 3	2 – 4	2.5 – 5	4 – 6	6 – 8	8 – 10	10 – 14
Weight	kg	0.35	2	3.2	2	3.2	2.3	2.5	3.8	4

Pneumatic random orbital sander

Powerful random orbital sanders with polyurethane hook and loop fastening backing pads. **Easy to use** due to light-weight composite housing and ergonomic hand application area. **Robust, smooth-running,** and **low-vibration pneumatic drive** with steel cylinder, low noise level.

Size G2438-65C – For **roughing and intermediate sanding** with a 5 mm orbital stroke. Connection for **external suction.**

Size G2438-65N – For **roughing and intermediate sanding** with a 5 mm orbital stroke **without dust extraction.**

Size 59043 – For **fine sanding** with a 2.5 mm orbital stroke. **Integral extraction** via a hose and dust bag supplied including hook and loop pad No. 567872 size 150.

Size X31V – Dynorbital® Mini Extreme orbital sander (76 mm).

Size X61V – **EXTREME** orbital sander series. Very ergonomic and **powerful**. With a 5 mm orbital stroke. Connection for **external extraction.**

Size 58436 – **Combination sander,** permits **orbital** abrasion for **coarse and intermediate sanding,** with a 5 mm stroke combined with **rotary** movement for high rates of material removal. Connection for **external suction.**

Note: See No. 567775 for velour abrasive discs. DynaMaze hook and loop backing pad for No. 079655 and 079656 size X61V and size 58436 can be found under No. 567872 size 150.

_G2438-65C

_G2438-65N

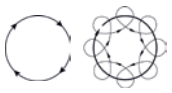
2.5 mm stroke
_59043

_X31V

5 mm stroke

_X61V

Type		G2438-65C	G2438-65N	59043	X31V	X61V	58436
03R 07 9655	Pneumatic random orbital sander	XXX	XXX	–	–	–	–
03R 07 9656	Pneumatic random orbital sander	–	–	XXX	XXX	XXX	XXX
maximum speed	rpm	12000					
maximum air consumption	l/min	540	540	396	538	538	654
Backing pad ∅	mm	150	150	150	76	150	150
Type of extraction		External	–	Own dust extraction	External	External	External
Stroke	mm	5	5	2.5	5	5	5
Weight	kg	0.9	0.9	0.6	0.7	0.9	1.3
Operating noise	dB(A)	85	85	77	75	75	82
maximum vibration to EN	m/s²	8.7	10.5	<2.5	8.78	8.78	2.67


rotary movement | 5 mm stroke

_58436

Pneumatic straight grinder

07 9440 – **ATA –Pneumatic straight grinders.** Turbine-driven small straight grinders for fine milling, grinding and engraving. **Integral pre-filter.**

Size SMP60 – Turbine-driven small straight die grinder with a **maximum speed of 60,000 rpm.**

Size ST100 – Turbine-driven small straight die grinder with a **maximum speed of 100,000 rpm.**

Size 51701 – Turbine-driven small straight grinder, without gears, with a maximum speed of **60,000 rpm.** Ceramic bearings, pneumatic drive with **patented speed monitoring** for constant speed under load.

Size 51813 – Turbine-driven small straight die grinder with a **maximum speed of 100,000 rpm.** Equipped with high-quality high-speed bearings.

Size 52855 – Adjustable straight pencil grinder. Robust pneumatic motor suitable for oiled compressed air, stepless speed regulation from 35,000 rpm – 60,000 rpm. Integrated on/off switch, memory function.

Size 52862 – Well-balanced,slow running small straight grinder with an **adjustable speed up to 25,000 rpm.**

Size 48325 – **Compact** 300 Watt straight die grinder, without gears, with a maximum speed of **25,000 rpm.** Speed monitoring for constant speed under load. The upstream filter extends the working life of the tool.

Size 52669 – **Powerful** 750 Watt straight die grinder, without gears, with a maximum speed of **20,000 rpm. Patented speed monitoring** for constant speed even under load.

Size 53531 – **Powerful** straight die grinder with a maximum speed of **18,000 rpm.** The robust, fixed **steel extension** permits **low-vibration** operation even at places that are difficult to access.

07 9441/9443 – **Dynabrade – pneumatic straight die grinder.**
Versatile, smooth running straight die grinders of robust and ergonomic design, with soft grip.

Application:

07 9440 Size ST100/9441 Size 51701; 51813 – **Use only oil-free compressed air. Do not add oil!**

_SMP60

_ST100

_51701

_51813

_52862

_52855

For use with oiled compressed air!

_53531

_48325

_52669

Type		SMP60	ST100	51701	51813	52855	52862	48325	52669	53531
03P 07 9440	ata tools	XXX	XXX	–	–	–	–	–	–	–
03R 07 9441	Pneumatic die grinder	–	–	XXX	XXX	XXX	XXX	–	–	–
03R 07 9443	DYNABRADE	–	–	–	–	–	–	XXX	XXX	XXX
Output power	W	85	40	75	75	75	298	298	744	744
maximum speed	rpm	60000	100000	60000	100000	60000	25000	25000	20000	18000
maximum air consumption	l/min	230	168	228	170	170	564	648	1254	1128
Connection thread		BSW	BSW	NPT	NPT	NPT	NPT	NPT	NPT	NPT
Compressed air connection	inch	1/4	1/4	1/4	1/4	1/4	1/4	1/4	3/8	3/8
Collet ∅	mm	3	3	3	3	3	3	6	6	6
Weight	kg	0.17	0.24	0.4	0.4	0.61	0.48	0.41	1	2.2
Operating noise	dB(A)	68	62	66	81	67	79	79	79	84
maximum vibration to EN	m/s²	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	2.6	< 2.5	< 2.5	3.2
Length	mm	140	160	132	135	114	144	202	221	467

Pneumatic die grinder

07 9452 – **Pneumatic die grinders.** Robust, smooth-running straight grinders. The safety switch prevents accidental switching on.
Size G2412 – Short version, maximum speed **20,000 rpm.**
Size G2422 – Long version with slim shank, ideal for holes, maximum speed **20,000 rpm.**
07 9453 – Pneumatic straight die grinder with 1050 W output power and a maximum speed of 18,000 rpm. Collet size 6 mm.

_G2412

_G2422

Type		G2412	G2422	3550-180	3550-180ES
03R 07 9452	Pneumatic die grinder collet ∅ 6 mm	XXX	XXX	–	–
03R 07 9453	Pneumatic die grinder collet ∅ 6 mm	–	–	XXX	XXX
Output power	W	350	350	1050	1050
maximum speed	rpm	20000	20000	18000	18000
maximum air consumption	l/min	618	618	1560	1560
Connection thread		BSW	BSW	NPT	NPT
Compressed air connection	inch	1/4			
Weight	kg	0.5	0.7	1.2	1.4
Operating noise	dB(A)	79	77	81	81
maximum vibration to EN	m/s²	< 2.5	3.4	<2.5	<2.5
Length	mm	180	277	248	365

07 9453_3550-180

07 9453_3550-180ES

Pneumatic die grinders

Powerful and **robust smooth-running straight die grinders**. The safety switch prevents accidental switching on. Application-optimised maximum speeds between **8500 and 25,000 rpm.**

07 9447 – Short design, length 215 mm.
07 9448 – With long, slim spindle, ideal for holes length 317 mm.

Supplied with: Including the necessary coupling adaptors.

Spare part: **Selected service kits:**
Sets of replacement parts for most Atlas Copco pneumatic tools can be supplied on request for preventive maintenance and servicing.

Type		S085	S150	S200	S250
03R 07 9447	Pneumatic die grinder G2414, ∅ 6 mm **short**	XXX	XXX	XXX	XXX
Output power	W	500	850	900	950
maximum speed	rpm	8500	15000	20000	25000
maximum air consumption	l/min	252	432	540	870
Connection thread		BSW			
Compressed air connection	inch	3/8			
recommended hose size (internal ∅)	mm	13			
Weight	kg	0.78			
Operating noise	dB(A)	70	76	81	85
maximum vibration to EN	m/s²	< 2.5	2.5	< 2.5	< 2.5

07 9447

Type		S085	S150	S200	S250
03R 07 9448	Pneumatic die grinder G2424, ∅ 6 mm **long**	XXX	XXX	XXX	XXX
Output power	W	440	750	850	900
maximum speed	rpm	8500	15000	20000	25000
maximum air consumption	l/min	252	432	540	870
Connection thread		BSW			
Compressed air connection	inch	3/8			
recommended hose size (internal ∅)	mm	13			
Weight	kg	0.96			
Operating noise	dB(A)	70	76	81	85
maximum vibration to EN	m/s²	5.3	< 2.5	< 2.5	3.5

07 9448

Mini die grinder with high no-load speed for quiet and efficient grinding.
Precise power and control due to integrated speed controller.

Supplied with: Supplied with 1 each of 1/4 inch and 6 mm collet.

Type		9105Q-B	9110Q-B
03R 07 9454	Pneumatic die grinder collet ∅ 6 mm **short**	XXX	–
03R 07 9455	Pneumatic die grinder collet ∅ 6 mm **long**	–	XXX
Output power	W	240	
maximum speed	rpm	28000	27000
maximum air consumption	l/min	243	226
Connection thread		NPT	
Compressed air connection	inch	1/4	
recommended hose size (internal ∅)	mm	10	
Weight	kg	0.4	0.7
Operating noise	dB(A)	80	
maximum vibration to EN	m/s²	3.6	4.9
Length	mm	160	260

07 9454

07 9455

Pneumatic angle grinder

07 9311 – **Small pistol-grip angle grinder** with two Roloc® mini-grinding discs ∅ 50/75 mm. Speed can be precisely adjusted using the starter pushbutton. Rubber-coated handle is comfortable to use.

07 9312 – **Powerful angle grinder,** whose operating speed under load scarcely dips when load is applied. The safety starter prevents accidental starting.

Size G2511-125 – Angle grinder for one-hand operation in ergonomic lightweight construction with composite casing. The length of the mounting piece is adjustable for easier access to restricted places. With spindle locking and quick adjustment of the guard. **M14 mounting thread.**

07 9325 – **Small angle grinder** with powerful pneumatic motor, maximum speed 20,000 rpm. **Collet ∅ 6 mm.** For use as an angle miller or with backing disc No. 554090.

Size 46002 – Compact low height for direct grinding contact. With bevel gearbox.

Size 52294 – 7° angle head, direct drive.

Size G2588-180; G2588-230 – Angle grinder with 1700 Watt output power, designed for heavy-duty use and constant high material removal rate. Ergonomic in use. **M14 mounting thread.**

07 9314/9315 – **Compact** and **powerful** angle grinder for very high service life on heavy-duty applications, up to 1000 hours maintenance intervals. Ergonomic and vibration-damped handle. Protective hood adjustable without using tools. **M14 spindle thread.**

Note:

07 9311/9325 – The 3M Roloc® small grinding system ∅ 55 / 75 mm can be found under No. 554005 ff.

07 9311_G2302

07 9312_G2408-115

07 9312_G2511-125

07 9315_3550-120

07 9314_7550

07 9325_46002

07 9325_52294

07 9312_G2588-230

Type		G2302	G2408-115	G2511-125	G2588-180	G2588-230	7550-A	3550-120	46002	52294
03R 07 9311	Pneumatic pistol-grip angle grinder	XXX	–	–	–	–	–	–	–	–
03R 07 9312	Pneumatic angle grinder	–	XXX	XXX	XXX	XXX	–	–	–	–
03R 07 9314	Pneumatic angle grinder	–	–	–	–	–	XXX	–	–	–
03R 07 9315	Pneumatic angle grinder	–	–	–	–	–	–	XXX	–	–
03R 07 9325	Pneumatic small angle grinder	–	–	–	–	–	–	–	XXX	XXX
Output power	W	175	350	900	1700	1700	840	1100	300	522
maximum speed	rpm	17000	12000	12000	8500	6600	12000	12000	20000	20000
maximum air consumption	l/min	534	786	1020	2160	2160	1134	1560	714	1050
Connection thread		BSP	BSP	BSP	BSP	BSP	BSP	NPT	NPT	NPT
Compressed air connection	inch	1/4	1/4	3/8	1/2	1/2	1/4	3/8	1/4	1/4
maximum vibration to EN	m/s²	< 2.5	8.1	6.5	7.1	7.8	7	9.8	1.3	1.3
recommended hose size (internal ∅)	mm	10	10	13	16	16	10	13	6	10
maximum disc ∅	mm	75	115	125	180	230	125	125	75	75
Minimum disc ∅	mm	50	–	–	–	–	–	–	50	50
Weight	kg	0.6	0.9	1.77	2.4	2.4	1.6	1.9	0.5	1
Operating noise	dB(A)	81	81	84	90	90	85	84	81	79

Pneumatic belt linisher

Size 15006 – **Mini-Dynafile®II set,** handy linisher in compact and flexible lightweight design. Adjustable linishing head. Ideal for working in restricted places. Linishing belt dimensions 3 - 4, 6, 13×305 mm.

Size 15302 – **Dynafile® III, powerful** 520 W linisher for high removal rates, **surface preparation set, adjustable linishing head** with additional support handle. Linishing belt dimensions 6, 13, 19, 25×457 mm.

07 9571 – **Atlas Copco** belt linishing machine for use in **confined places.** The angle between handle and linishing belt guide can be adjusted for improved handling. Linishing belt dimensions 13×305 mm (see No. 558205, 558423).

Size 14000; 14010 – **Dynafile®,** sturdy general-purpose linishing machine.

Application:

07 9551 – For abrading, deburring, blending, finishing and polishing, ideal also for flexible access to difficult places.

Supplied with:

Size 14000 – 1 contact arm, linishing belt 13 × 610 mm.

Size 14010 – **Dynafile®,** 5 contact arms, surface preparation set, linishing belt dimensions 3 – 4, 6, 13×610 mm, transport case.

Size 15006 – **Mini-Dynafile® II,** 3 contact arms, set of linishing belts, carrying case.

Note:

07 9551 – Other contact arm versions for Dynafile® from No. 079559 available on request or in our eShop.

_14000

_14010

_15302

_15006

_G2410

Type			14000	14010	15006	15302	G2410
03R 07 9551	DYNABRADE	Pneumatic belt linisher Dynafile®	XXX	XXX	XXX	XXX	–
03R 07 9571	Atlas Copco	Pneumatic belt linisher	–	–	–	–	XXX
Model range			Dynafile	Dynafile	Mini- Dynafile II	Dynafile III	–
Output power		W	379	379	295	522	275
maximum speed		rpm	20000	20000	25000	20000	25000
maximum air consumption		l/min	876	876	564	906	660
Connection thread			NPT	NPT	NPT	NPT	BSP
Compressed air connection		inch			1/4		
Tape width		mm	3–4; 6; 13	3–4; 6; 13	3–4; 6; 13;	6; 13; 19; 25;	13
Band length		mm	610	610	305	457	305
Weight		kg	1.4	1.4	0.8	1.1	0.9
Operating noise		dB(A)	77	77	81	87	89
maximum vibration to EN		m/s²			< 2.5		

Pneumatic power tools

Pneumatic engraving / chiselling, and filing pin

07 9708 – DynaPen pencil-sized pneumatic pen with **accessories set (collet 1/8 inch).** The pulsating drive movement (amplitude 0.018 mm) permits **many applications** such as engraving, lettering, light cleaning, and filing work, as well as deburring etc.

07 9710 – **Pencil-sized scriber** with greatly improved engraving head, for marking tools, engraving, and delicate cleaning jobs. Carbide tips are easy to replace.

Supplied with:

07 9708 – Incl. 1.4 m connection hose, 1 file, and a hexagon key.

07 9710 – 1.8 m PVC hose, internal ∅ 3.2 mm.

Note:

07 9708 – See No. 529420 for suitable diamond mini-files.

07 9710 – Spare engraving tips set can be ordered with product code No. 079719.

07 9708

07 9710

Type		10844	P2505
03R 07 9708	Pneumatic scriber DynaPen®	XXX	–
03R 07 9710	Pneumatic scriber	–	XXX
maximum air consumption l/min		28.2	33
Impact frequency Hz		233	190
Connection thread		NPT	BSP
Compressed air connection inch		1/4	1/8
Weight kg		0.26	0.12
Operating noise dB(A)		79	72
maximum vibration to EN m/s^2		8	5.6
∅ mm		23	19
Length mm		108	148

Pneumatic needle descalers and chisel hammers

07 9720 – Lightweight **needle descaler** for removing welding slag, rust, and paint.
No tools required to change needles.
Highly vibration-damping characteristics for optimum safety in all applications.

07 9730 – Handy **chisel hammer** for chiselling and separating.

Size P2551 – With good vibration-damping characteristics.

07 9730_P2531-H

Type		P2531-H	P2551	P2541
03R 07 9720	Pneumatic needle descaler	–	–	XXX
03R 07 9730	Pneumatic chisel hammer	XXX	XXX	–
Tool arbor size mm		10.2	12.7	–
Tool arbor shape		Hexagon	Square	–
maximum air consumption l/min		402	480	480
Impact frequency Hz		50	40	40
Thread of the compressed air connection port inch			1/4 BSP	
recommended hose size (internal ∅) mm			10	
Weight kg		1.5	2.95	2.35
Operating noise dB(A)		100	85	85
maximum vibration to EN m/s^2		11.5	6.7	3.1
Length mm		193	435	370

07 9730_P2551

07 9720_P2541

Pneumatic accessories

07 9729 – Needle set, 19 pieces, ∅ 3 mm.

Suitable for:

Size 180 – Needle descaler No. 079720 P2541.

Size 19×178; 35×178 – Chisel hammer No. 079730 size P2551.

Size 3,2×178; 20×178 – Chisel hammer No. 079730 size P2531-H.

07 9739_3.2×178

07 9739_19×178

07 9739_20×178

07 9739 _35×178

07 9729_180

Dimensions mm		3,2×178	19×178	20×178	35×178	180
03R 07 9729	Pack of spare needles	–	–	–	–	XXX
03R 07 9739	Chisel	XXX	(XXX)	XXX	(XXX)	–
Shape of chisel (07 9739)		taper	flat	flat	flat	–

Construction Site & Workshop compressor

Size 210/10W – Compact small compressor with sturdy wheels for smaller air requirements.
Size 300/30W – "On-site compressor", with all-round steel frame protection, for small to medium air requirements.
Size 450/90D – 2-cylinder compressor for medium air requirements, very easy to handle.
Size I.COMP3 – Portable and wheeled workman's compressor, oil-free and water-free.
07 9844 – M18 FUEL™ cordless compressor. Conventional nailers and tackers can be operated with an air pressure of 2.8 bar and an effective delivery quantity of 48 l/m. Sound pressure level of only 68 dB(A) for pleasant working conditions.

Supplied with:
Size M18FAC – Version without batteries and without charger.
Size 210/10W–450/90D – Filter pressure regulator with manometer, quick-release connection.

Note: Other workshop compressors available on request.
07 9844 – See No. 073833 size M18HNRG12 for suitable battery starter set.

_210/10W

_300/30W

450/90D

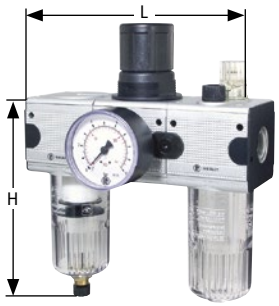
_M18FAC

_I.COMP3

Type		210/10W	300/30W	450/90D	I.COMP3	M18FAC
03R 07 9841	KAESER KOMPRESSOREN Workshop compressor	(XXX)	(XXX)	(XXX)	(XXX)	–
03L 07 9844	Milwaukee Cordless compressor	–	–	–	–	(XXX)
Power consumption	kW	1.1	1.5	2.4	1.5	0.4
maximum pressure (air)	bar	10	10	10	11	9.31
maximum suction rate	l/min	210	300	450	265	126
maximum filling rate	l/min	140	215	330	–	74
Pressure vessel volume	l	10	30	90	117	7.6
Weight	kg	29	43	86	29	14.4
Length	mm	420	770	1190	440	500
Width	mm	370	510	500	570	500
Height	mm	650	450	840	1050	500
AC supply voltage	V	230	230	400	240	–
Battery voltage	V	–	–	–	–	18

RIEGLER Service units

Service unit in modular series ("multifix" system), consisting of filter, pressure regulator and mist atomiser. Control range 0.5- 10 bar, operating pressure maximum 16 bar, operating temperature maximum 60 °C.
08 0015 – 2-part service unit, assembled, with pressure regulator, oil atomiser and filter.
Advantage: The service unit can be configured individually, e. g. with several pressure regulators, without oil atomiser (for oil-free tools) etc.



08 0012 / 08 0013 / 08 0014
Individual modules can be assembled into a three-part unit.

08 0015
Two-part service unit, delivered assembled.

Internal thread ∅	inch	1/4	3/8	1/2
08A 08 0011	Filter controller	XXX	XXX	XXX
08A 08 0012	Pressure regulator **0.5 –10 bar**	XXX	XXX	XXX
08A 08 0013	Oil atomiser	XXX	XXX	XXX
08A 08 0014	Filters **5 µm**	XXX	XXX	XXX
08A 08 0015	Service unit **2-part assembled**	XXX	XXX	XXX
Height (H)	mm	190	196	248
Overall length (L) as 2-part service unit (08 0015)	mm	93	93	136
Overall length (L) as 3-part service unit (08 0012, 08 0013, 08 0014)	mm	138	183	202
Flow rate for 3-part service unit (08 0012, 08 0013, 08 0014)	l/min	1150	1150	3100

08 0011 08 0012 08 0013 08 0014

Application: Oil atomiser for reliable supply to oil-lubricated pneumatic tools, even in long piping systems.

Internal thread ∅	inch	1/4
08A 08 0022	Oil atomiser attachment 1/4 inch	XXX

08 0022

Digital pressure gauge with backlighting in a sturdy plastic case for monitoring and measurement of pressures in dry oil-free compressed air and non-toxic non-aggressive gases.
Supplied with: Button cell CR2032.

Display range	bar	0-10
08A 08 0031	Digital pressure gauge	XXX
Connection thread	inch	1/4" external thread

08 0031

Pneumatic oil

Special pneumatic oil 32 in a can. Type HVLP to DIN 51524, T 3 mineral-oil based for high functional and operating reliability. Pays for itself by providing good corrosion protection, exceptional resistance to ageing and outstanding wear protection. Free of zinc compounds.

Application: For oil mist atomisers, pneumatic systems and all pneumatic tools (except for: dry tools).

Contents		l	2,5
08A 08 0146	Special pneumatic oil		XXX

Hoses

Hose with polyester fibre reinforcement. Temperature range -15 °C to 60 °C.

08 0036 – Super Nobelair Soft, **due to Full-Soft technology highly flexible** even at low temperatures. For use indoors and outdoors. Operating pressure 15 bar.

08 0037 – Airsoft Performance braided hose, flexible oil-resistant compressed air hose for pneumatic tools. Operating pressure 15 bar.

08 0042 – TCN-AL, flexible pressure-resistant hose with long working life. High chemical resistance. Operating pressure 20 bar. Foodstuffs approved (VO/2011 - category A/B/C).

08 0220/0221 – Very light, flexible, and abrasion-resistant PU hose. Outstanding resistance to oil, solvents, and non-aqueous solvents. Operating pressure 16 bar.

08 0036

08 0042

08 0037

08 0220

Hose internal ∅				mm	8	9	11	13
08A 08 0036		Braided hose, blue plasticised PVC	**Length 50 m**		–	XXX	–	XXX
08A 08 0037	TRICOFLEX	AIRSOFT braided hose, black PVC	**Length 50 m**		–	XXX	–	XXX
08A 08 0042		Braided hose, transparent PVC	**Length 50 m**		–	XXX	–	XXX
08A 08 0220	EJN	PU braided hose, blue	**Length 50 m**		XXX	–	–	–
08A 08 0221			**Length 25 m**		–	–	XXX	XXX
Hose external ∅ (08 0036, 08 0037, 08 0042, 08 0220)				mm	12	15	–	20
Hose external ∅ (08 0221)				mm	–	–	16	18

High-quality twist-resistant water hose in yellow with blue stripes. Length 50 m.

08 0046

Hose internal ∅				mm	13	19	25
08A 08 0046	TRICOFLEX	Water hose yellow-blue, PVC	**Length 50 m**		XXX	XXX	XXX
Hose external ∅				mm	17.1	24.5	31.6

Hose set

Very light, flexible, and abrasion-resistant PU hose with good retracting force.

08 0242/0243 – Well suited to oiled compressed air.

08 0246/0247 – Hose kit in the signal colour green (high-visibility).

Supplied with: Includes steel **safety** quick-change coupling and steel coupling adaptor.

08 0242

08 0246

usable hose length			m	5	10
01A 08 0242	Garant	PU hose set with steel safety coupling **∅ 8 × 12 mm**		XXX	XXX
01A 08 0243		PU hose set with steel safety coupling **∅ 11 × 16 mm**		–	XXX
08A 08 0246	EJN	High Vis PU hose set with eSafe steel safety coupling **∅ 8 × 12 mm**		XXX	XXX
08A 08 0247		High Vis PU hose set with eSafe steel safety coupling **∅ 11 × 16 mm**		–	XXX
maximum operating pressure			bar	16	
Hose external ∅ (08 0242, 08 0246)			mm	12	
Hose external ∅ (08 0243, 08 0247)			mm	–	16
Hose internal ∅ (08 0242, 08 0246)			mm	8	
Hose internal ∅ (08 0243, 08 0247)			mm	–	11

RIEGLER Pneumatic accessories

Hose support

Aluminium hose support, unpainted. For easy wall -mounting.

Suitable for: Maximum 50 m hose turns at an internal ∅ of:
Size 9 – 9 mm
Size 13 – 13 mm

08 0027

Fig. Hose support No. 955760_225

Type		9	13
08A 08 0027	Hose support	XXX	XXX

Hose clips

08 0052 – Hose clip of chromium steel with galvanised 7AF hexagon bolt. Belt width 9 mm.
08 0054 – 2-lug hose clips of bright chromium galvanised steel.

Note: For hose clip pliers see No. 719985 size 220.

08 0052

08 0054

Clamping range hose external ∅	mm	5-7	7-9	9-11	11-13	13-15	14-17	17-20	20-23	10-16	12-20
08A 08 0052	Hose clip set **10 pieces**	–	–	–	–	–	–	–	–	XXX	XXX
08A 08 0054	2-lug hose clip set **10 pieces**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	–	–

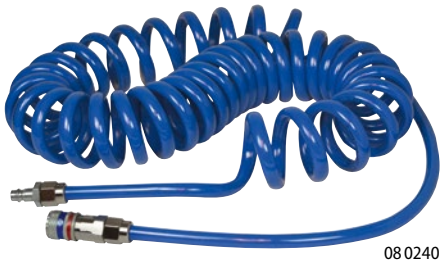
Coiled hoses

Very light, flexible, and abrasion-resistant PU spiral hose with good spring retention.
Temperature-resistant from -20 / 60 °C.

Supplied with:
08 0238/0239 – Includes **GARANT steel safety quick-change coupling** and steel coupling adaptor.
08 0240/0241 – Includes quick-release **safety** coupling No. 080285 and steel coupling adaptor No. 080290.

08 0238

usable hose length		m	3	5
01A 08 0238	Garant	PU coiled hose 1/4 inch with steel safety coupling **∅ 8 × 12 mm**	XXX	XXX
01A 08 0239	Garant	PU coiled hose 1/2 inch with steel safety coupling **∅ 11 × 16 mm**	XXX	XXX
maximum operating pressure		bar	10	



08 0240

usable hose length		m	2	4	6	8
08A 08 0240	CEJN	PU coiled hose 1/4 inch with eSafe steel safety coupling **∅ 8 × 12 mm**	XXX	XXX	XXX	XXX
08A 08 0241	CEJN	PU coiled hose 1/2 inch with eSafe steel safety coupling **∅ 11 × 16 mm**	–	XXX	XXX	XXX
maximum operating pressure		bar	10			

Nylon hose. Flexible, temperature-resistant from -60 / 60 °C.

Supplied with:
08 0102 – Supplied with 1 piece each of HOLEX brass quick-release coupling and male coupling.
08 0103 – Supplied with 1 piece each of HOLEX quick-release coupling and male coupling.

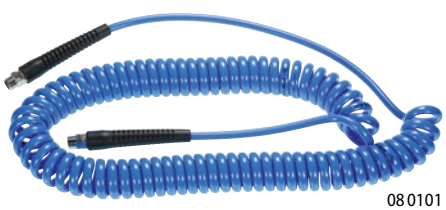
usable hose length		m	2,5	5	7,5
02A 08 0102	HOLEX	Coiled 1/4 inch nylon hose, with coupling	XXX	XXX	XXX
02A 08 0103	HOLEX	Coiled 3/8 inch nylon hose, with coupling	XXX	XXX	XXX
maximum operating pressure		bar	10		
Hose external ∅ (08 0102)		mm	8		
Hose external ∅ (08 0103)		mm	12		
Hose internal ∅ (08 0102)		mm	6		
Hose internal ∅ (08 0103)		mm	9		

08 0102_5

Hose is polyurethane, therefore extremely resilient, **extremely high retracting force, low pressure drop** and **low permanent deformation. Temperature-resistant from -40/ + 60°C.**

Supplied with: Rotating assembly and kink protection spring.

usable hose length		m	3	7,5
08A 08 0101	RIEGLER	PU coiled hose 1/4 inch with rotating screw attachment and anti-kink protection	XXX	XXX
08A 08 0106	RIEGLER	PU coiled hose 3/8 inch with rotating screw attachment and anti-kink protection	XXX	XXX
Hose external ∅ (08 0101)		mm	8	
Hose external ∅ (08 0106)		mm	12	
Hose internal ∅ (08 0101)		mm	5	
Hose internal ∅ (08 0106)		mm	8	



08 0101
08 0106

Enclosed safety hose reel

- Safety hose reel with high-impact enclosed plastic casing for use in dirty and dusty environments.
- Hose guide and controlled retraction system.
- Integral stop ball.
- **PU hose** with high resistance to abrasion and steel compressed air connections suitable for high flow rates.
- Pivoted bracket for wall mounting and the wall or ceiling.

08 0078 – Hose reel for compressed air. Sturdy hose in bright orange **signal colour**. Ensures safe handling.

08 0079 – Water hose reel for liquids. Hose colour steel blue.

Supplied with:

08 0078 – Supplied with GARANT steel safety coupling and coupling adaptor.

08 0079 – Includes coupling adaptor.

Note:

08 0079 – For water coupling see No. 080149 1/2.

08 0078_10
08 0078_15
08 0079_15

Type			10	15
01A 08 0078	Garant	Safety hose reel, plastic casing **Compressed air**	XXX	XXX
01A 08 0079		Safety hose reel, plastic casing **Water**	–	XXX
Body width		mm	310	490
Body depth		mm	190	
Body height		mm	406	409
Connection outlet (08 0078)		inch	1/4	3/8
Connection outlet (08 0079)		inch	–	1/2
maximum operating pressure		bar	16	
usable hose length		m	10	15
Hose external ∅		mm	12	13.5
Hose internal ∅		mm	8	9.5

Safety hose reel with **hose guide** and powerful controlled retraction.
Impact resistant enclosed **plastic casing** for use in dirty and dusty environments. Compact design, easy to mount on the wall or ceiling, with **180° swing angle. PU hose** suitable for high throughputs, with high abrasion resistance and steel compressed air connection fittings.

08 0071 – Hose reel with PU hose in **neon green** signal colour.

08 0073 – **Water hose reel**, suitable for wet and damp environments, ideal for washing applications, liquid filling stations, and washing areas. PU hose in green colour for better differentiation.

Note:

08 0073 – For water coupling see No. 080149 size 1/2.

08 0071/0072/0077 – For coupling, see No. 080286.

08 0071

08 0072 / 08 0077

08 0073

Type				10S	17S	14S
08A 08 0071	EJN	Safety hose reel, plastic casing **Compressed air**	Ø8×12 mm	XXX	–	–
08A 08 0072			Ø8×12 mm	XXX	XXX	–
08A 08 0073		Safety hose reel, plastic casing **Water**	Ø9.5×13.5 mm	–	–	XXX
08A 08 0077		Safety hose reel, plastic casing **Compressed air**	Ø11×16 mm	XXX	–	–
Body width (08 0071, 08 0072, 08 0073)			mm	406	490	490
Body width (08 0077)			mm	490	–	–
Body depth			mm	190		
Body height (08 0071, 08 0072, 08 0073)			mm	313	409	409
Body height (08 0077)			mm	409	–	–
Connection outlet (08 0071, 08 0072, 08 0073)			inch	1/4	1/4	1/2
maximum operating pressure (08 0071, 08 0072, 08 0073)			bar	16	16	9
maximum operating pressure (08 0077)			bar	12	–	–
usable hose length			m	10	17	14
Hose external ∅ (08 0071, 08 0072, 08 0073)			mm	12	12	13.5
Hose external ∅ (08 0077)			mm	11	–	–
Hose internal ∅ (08 0071, 08 0072, 08 0073)			mm	8	8	9.5
Hose internal ∅ (08 0077)			mm	16	–	–

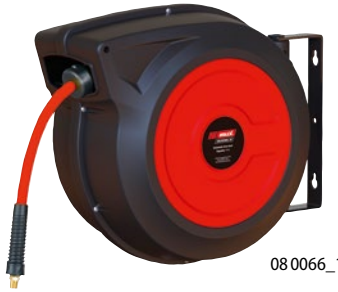
Hose reel

Sheet steel industrial hose reel with ergonomic handle, high stability, turning handle and drum brake. Hose internal ∅ = 9 mm; operating pressure maximum 12 bar.

08 0060

usable hose length	m	20
08B 08 0060 HEDI Compressed air hose reel 1/4 inch		XXX
maximum operating pressure	bar	12
usable hose length	m	20
Hose internal ∅	mm	9

Automatic hose reel in plastic housing. PU flexible hose for compressed air with anti-kink protection. Integral **hose guide.** Pivoted bracket for wall mounting.


08 0066_15

Type		15
02A 08 0066 HOLEX Automatic hose reel		XXX
Body width	mm	465
Body depth	mm	220
Body height	mm	400
Connection outlet	inch	3/8
Connection inlet	inch	3/8
maximum operating pressure	bar	16
usable hose length	m	15
Hose internal ∅	mm	10

rapid Open hose reel

Hose reels with **automatic pull-out and roll-up mechanism guided** by long life steel springs with **multiple stop points per revolution.**

08 0074 – Open hose roll-up reel with **aluminium cast body,** galvanised **pivoting run-out guide,** and robust **nylon-reinforced PVC hose.**

08 0076 – Open hose reel in **painted, partially galvanised sheet steel design**with **variable run-out guide** and robust **rubber hose.**

Size 15SCS; 20SCS – With patented SCS controlled automatic roll-up mechanism for avoidance of damage and injuries.

Application: For increased ergonomics by relieving cable tension, and for ensuring tidiness and for avoiding the risk of accidents and injuries due to hoses lying on the ground.

08 0074 – Suitable for air.

08 0076 – Suitable for air, water, oil, diesel.

RAPID SCS® Safety Control System

Size 15SCS and 20SCS with damped automatic roll-up mechanism.

08 0074

08 0076

Type		20	20SCS	15	15SCS
08A 08 0074	Hose reel 3/8 inch cast aluminium casing, 20 bar	XXX	XXX	–	–
08A 08 0076	Hose reel 1/2 inch sheet metal casing, 50 bar	–	–	XXX	XXX
Body width	mm	380	380	470	470
Body depth	mm	155	155	180	180
Body height	mm	375	375	494	494
Connection outlet	inch	3/8	3/8	1/2	1/2
Connection inlet	inch	3/8	3/8	1/2	1/2
maximum operating pressure	bar	20	20	50	50
usable hose length	m	20	20	15	15

Mounting plates for attaching hose reels to the wall with 120° pivoting range.

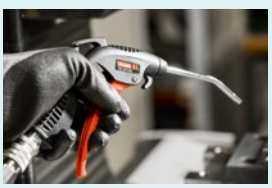
08 0084

08A 08 0084	Pivoting mounting plate for No. 080074	XXX
08A 08 0086	Pivoting mounting plate for No. 080076	(XXX)

Compressed air supply

For compressed-air supplies, we offer high-quality couplings and connections made of different materials and tailored to each application area:

- Brass (bright finish/nickel-plated)
- Steel
- Stainless steel (on request)



Compressed air couplings

Compressed air couplings (Euro standard DN 7.6)

The GARANT safety shut-off is a high-performance coupling of galvanised steel, with extremely high flow rate capacity. New improved single-handed operation. Rate of flow: 2250 ltr/min, maximum operating pressure 16 bar. Satisfies the ISO standard 4414 and EN 983.

Note: See No. 080290 – 080293 for suitable coupling adapters.
The GARANT series satisfies Euro standard 7.6 (nominal ∅ 7.6 mm, Euro profile) and is compatible with all popular systems.

Connection external thread		inch	1/4	3/8	1/2
01A 08 0270	Garant	Safety coupling **External thread**	XXX	XXX	XXX

Connection internal thread		inch	1/4	3/8	1/2
01A 08 0271	Garant	Safety coupling **Internal thread**	XXX	XXX	XXX

Hose connection internal ∅ (nominal bore)		mm	8	11	13
01A 08 0272	Garant	Safety coupling **Hose connection**	XXX	XXX	XXX

08 0270 08 0271 08 0272

eSafe pneumatic couplings series 320 (Euro standard)

The **eSafe safety coupling** satisfies the ISO standard 4414 and EN 983 It is first depressurised and then decoupled in a second step (no whiplash). New improved single-handed operation. Rate of flow: 2250 ltr/min, maximum operating pressure 16 bar.

08 0297 – Stream-Line hose adapter simply and effectively clamps the hose on to the coupling by means of a threaded nut - no hose clip required.

Application: For improving the performance, economics, and safety of industrial compressed air installations.

Note: **The CEJN series 320 satisfies Euro standard 7.6 (nominal ∅ 7.6 mm, Euro profile) and is compatible with all popular systems.**

Connection external thread		inch	1/4	3/8	1/2
08A 08 0285	CEJN	Safety shut-off **External thread**	XXX	XXX	XXX

Connection internal thread		inch	1/4	3/8	1/2
08A 08 0286	CEJN	Safety shut-off **Internal thread**	XXX	XXX	XXX

Hose connection internal ∅ (nominal bore)		mm	8	11	13
08A 08 0287	CEJN	Safety shut-off **Hose connection**	XXX	XXX	XXX
08A 08 0297		Safety shut-off **Stream-Line**	XXX	XXX	–

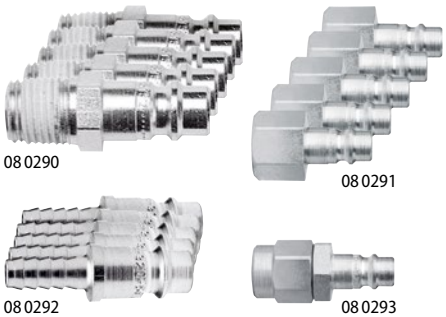
08 0285 08 0286 08 0287 08 0297

CEJN Industrial steel coupling adaptor series 320 (Euro standard)

Connection external thread		inch	1/4	3/8	1/2
08A 08 0290	Coupling adaptor with external thread **5-piece set**		XXX	XXX	XXX

Connection internal thread		inch	1/4	3/8	1/2
08A 08 0291	Coupling adaptor with internal thread **5-piece set**		XXX	XXX	XXX

Hose connection internal ∅ (nominal bore)		mm	8	11	13
08A 08 0292	Coupling adaptor with hose coupling **5-piece set**		XXX	XXX	XXX
08A 08 0293	Coupling adaptor with Stream-Line		XXX	XXX	–



08 0290 08 0291 08 0292 08 0293

CEJN Pneumatic accessories series 320 (Euro standard)

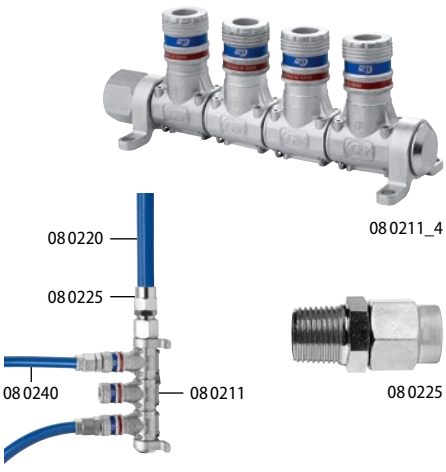
Multi-Link multiple distribution system and accessories

The Multi-Link system combines **optimum compressed air distribution** and flexibility within a very small space. The system is suitable for compressed air distribution in both new and also existing workplaces. Assembly and installation times are reduced to a minimum. The connections can be **rotated through 180°.**

Number of distributor sockets			2	3	4
08A 08 0211	eSafe Multi-Link system with steel safety coupling		XXX	XXX	XXX
Connection internal thread		inch		1/2	

Suitable for: No. 080211.

Hose connection internal ∅ (nominal bore)		mm	8	11	13
08A 08 0225	Stream-Line hose adapter		XXX	XXX	XXX
Connection thread		inch	1/4	1/2	1/2



08 0211_4 08 0225

Compressed air couplings

Brass – standard couplings and male couplings

Quick-release couplings nominal value 7.2. Flow rate 1000 l/min (air). Brass material (bright finish). Operating pressure: PN 35 bar / temperature: -20 °C to +100 °C.

Connection external thread	inch	1/4	3/8	1/2
02A 08 0170	Quick-release coupling with external thread	XXX	XXX	XXX
Flow rate	l/min		1000	
Connection internal thread	inch	1/4	3/8	1/2
02A 08 0171	Quick-release coupling with internal thread	XXX	XXX	XXX
Flow rate	l/min		1000	
Hose internal thread connection ∅	mm	6	9	13
02A 08 0172	Quick-change hose coupling	XXX	XXX	XXX
Flow rate	l/min		1000	
Connection internal thread	inch	1/4	3/8	1/2
02A 08 0173	Nipple pack with internal thread **10 pieces**	XXX	XXX	XXX
Connection external thread	inch	1/4	3/8	1/2
02A 08 0174	Nipple pack with external thread **10 pieces**	XXX	XXX	XXX
Hose internal thread connection ∅	mm	9	13	
02A 08 0176	Hose coupling adaptor set **10 pieces**	XXX	XXX	

08 0170 08 0171 08 0172

08 0173 08 0174 08 0176

Industrial couplings and coupling adaptors

Industrial coupling designed for an optimised high flow rate of 2000 l/min (air)**, nominal value 7.8.** High-quality and sturdy quick-release coupling that shuts off on one side. Flow-optimised valve, extremely high flow rates, low pressure drop, long service life, excellent operational reliability and absolute leak-tightness.
Operating pressure: PN 35 bar / temperature: -20 °C to +100 °C.

Material: Nickel-plated brass, sleeve steel hardened and nickel-plated.

Connection external thread	inch	1/4	3/8	1/2
02A 08 0230	Industrial coupling **External thread**	XXX	XXX	XXX
Flow rate	l/min		2000	
Connection internal thread	inch	1/4	3/8	1/2
02A 08 0231	Industrial coupling **Internal thread**	XXX	XXX	XXX
Flow rate	l/min		2000	
Hose connection internal ∅ (nominal bore)	mm	6	9	13
02A 08 0232	Industrial coupling **Hose connection**	XXX	XXX	XXX
Flow rate	l/min		2000	

08 0230 08 0231 08 0232

Adaptors and coupling adaptors for couplings of nominal value 7.2 – nominal value 7.8 steel hardened.

Suitable for: Industrial couplings No. 080230; 080231 and 080232 and steel safety coupling No. 080153 and 080154.

Connection internal thread	G	1/4	3/8	1/2
02A 08 0233	Nipple pack with internal thread **10 pieces**	XXX	XXX	XXX
Connection external thread	R	1/4	3/8	1/2
02A 08 0234	Nipple pack with external thread **10 pieces**	XXX	XXX	XXX
Hose internal thread connection ∅	mm	6	9	13
02A 08 0235	Adaptor pack with hose coupling **10 pieces**	XXX	XXX	XXX

08 0233 08 0234 08 0235

Steel safety coupling

Pushbutton for safety coupling of nominal value 7.2. Pushing the button releases the pent-up pressure – the coupling can then be disconnected without triggering a whiplash effect.

Standard: Safety version satisfies the ISO standard DIN EN ISO 4414.

Suitable for: Coupling adaptors No. 080233; 080234 and 080235.

08 0153

08 0154

Connection external thread	inch	1/4	3/8	1/2
08A 08 0153	Safety coupling with external thread, aluminium	XXX	XXX	XXX
Hose internal thread connection ∅	mm	6	9	13
08A 08 0154	Safety coupling with hose coupling, aluminium	XXX	XXX	XXX

Compressed air guns

Blow gun

High-quality blow gun for compressed air, with very good ergonomic grip, scratch-resistant surface and solvent-resistant for general-purpose use. Easy to use **interchangeable nozzles.** Rotating quick-release head is unlocked, stops in a range of detent positions.

08 0123 – Blow gun with interchangeable 100 mm steel discharge nozzles.

Supplied with:

08 0122 – Compressed air gun with connection adapters size 1/4 inch steel, with 7-piece nozzle set No. 080124 size AIR.

08 0123 – Compressed air gun with connection adapters size 1/4 inch steel, with interchangeable nozzle 100 mm.

Note:	A suitable blow gun holder can be found under No. 955750.

080122_AIR

Type		AIR
01A 08 0122	Garant AIR blow gun	XXX
01A 08 0123		XXX
maximum operating pressure bar		15
Flow rate at 6 bar l/min		330

080123_AIR

7-piece plastic nozzle set. For blow guns GARANT up to 15 bar operating pressure.

Content: Angled nozzle 100 mm 6 mm ∅, angle plastic nozzle 100 mm 6 mm ∅, low-noise OSHA plastic nozzles, wide angle nozzle, rubber nozzle as socket for long metal nozzle.

080124_AIR

Type		AIR
01A 08 0124	Garant 7-piece nozzle set **for compressed air gun**	XXX
Length mm		255
Width mm		145
Height mm		45
Storage in		ABS plastic box

Plastic blow gun for compressed air, with fixed nozzle pipe 100 mm long 6 mm ∅, angled. Easy metering and good grip due to the serrated surface.

Supplied with: Supplied with connection adapter size 1/4 inch steel.

080125_100

Length exhaust pipe mm		100
02A 08 0125	HOLEX Compressed air gun	XXX
Flow rate at 6 bar l/min		250

Blow guns aluminium and nozzles

Universally applicable, up to 10 bar operating pressure.

Supplied with:

08 0118 – With 1.5 mm standard nozzle. Supplied with male coupling 1/4 inch.

08 0119 – With **low-noise safety nozzle**. Supplied with male coupling 1/4 inch.

080118_ALU

080119_ALU

Type		ALU
02A 08 0118	HOLEX Compressed air gun	XXX
02A 08 0119	Compressed air gun with low-noise safety nozzle	XXX
Flow rate at 6 bar (08 0118) l/min		250
Flow rate at 6 bar (08 0119) l/min		367

080132_VARIO

080132_SILENT1

Size 150 – Extension nozzle 150 mm.

Size SILENT1 – Combined safety and silencer nozzle.

Size SILENT2 – Noise-reduction round nozzle.

Size VARIO – Nozzle with air volume regulation.

Suitable for: Only for compressed air gun No. 080118 and 080119 size ALU.

080132_150

080132_SILENT2

Type		150	SILENT1	SILENT2	VARIO
08A 08 0132	Nozzle for ALU compressed air gun	XXX	XXX	XXX	XXX

Compressed air and liquid blow guns series 320 (Euro standard)

Compressed air and liquid blow gun 208 and accessories

Compressed air guns with steplessly adjustable air flow, low weight, flexible suspension options, and easy handling.

08 0251 – Safety compressed air gun with **low-noise nozzle** (79 dB).

Application: For improving the performance, economics, and safety of industrial compressed air installations.

Supplied with: Supplied with steel coupling adapter No. **080290 size 1/4** and 8 mm steel hose connector .

Note: **The CEJN series 320 satisfies Euro standard 7.6 (nominal Ø 7.6 mm, Euro profile) and is compatible with all popular systems.**

08 0250
08 0251

Length exhaust pipe		mm	90	Flow rate l/min
08A	**08 0250**	Air blow gun, plastic with permanently attached pipe	XXX	500
08A	**08 0251**	Safety compressed air gun with permanently attached pipe "StarTip"	XXX	190

08 0251
Star tip – includes six separate outlets.

08 0256 – The protective shield protects the operator against flying dirt particles. To assemble, push it onto the discharge pipe.

08 0257 – Rubber nozzles for use on delicate surfaces. Fit directly on to the tube. Whisper-quiet nozzle reduces noise generation. Noise level 82 dB(A).

Suitable for: Accessories for air blow gun No. 080250.

Supplied with:

08 0257 – 3× rubber nozzles and 1× whisper-quiet nozzle.

08 0256

08 0257

External Ø		mm	100
08A	**08 0256**	Protective shield, transparent for compressed air gun	XXX
08A	**08 0257**	Pipe nozzle and whisper-quiet nozzle set	XXX
External Ø		mm	14; 20; 25; 35

Magnetic holder kit for easy attachment of the air blow gun to the machine.

08 0261

08A	**08 0261**	Magnetic holder kit series	XXX

Compressed air and liquid blow gun 210, MultiFLOW

08 0253 – Steel liquid coupling adapter.

08 0254 – Safety compressed air gun with **low-noise nozzle, adjustable flow rate.**

08 0259 – Magnetic holder and 3 m water hose resistant to **coolants and lubricants** (8×12 mm) with 1/4 inch connection.

08 0252/0253 – **Compressed air and liquid blow gun** with jet nozzle, **adjustable jet** (point to flat) **controllable flow** (air: 200 -1200 ltr/min, liquid: 7– 46 ltr/min).

08 0252/0254 – Supplied with steel coupling adapter 1/4 inch.

Note:

08 0253 – Suitable quick-release coupling for water connection can be found under No. 080149 size 1/2.

08 0252–0254 – **The CEJN series 320 satisfies Euro standard 7.6 (nominal Ø 7.6 mm, Euro profile) and is compatible with all popular systems.**

08 0252

08 0254

Connector 080253, similar to Gardena.

			Flow rate l/min
08A	**08 0252**	Compressed air and liquid blow gun, adjustable **Air connection**	XXX	200 – 1200
08A	**08 0253**	Compressed air and liquid blow gun, adjustable **Water connection**	XXX	200 – 1200
08A	**08 0254**	Safety compressed air gun with "StarTip" pipe **Air connection**	XXX	100 – 1100
08A	**08 0259**	Compressed air and liquid blow gun, adjustable **Magnetic holder and water hose**	XXX	200 – 1200

08 0259

Compressed air guns

Blow guns and accessories

08 0120 – **High-power** blow gun **precisely controllable; 3 times the blowing volume** of conventional blow guns.

08 0121 Size STAR – **High-performance compressed air gun** made from aluminium, **low-noise safety nozzle, connection 1/2 – 27 UNS.**

08 0120/0121 – **Universally applicable,** up to 10 bar operating pressure.

Supplied with:

08 0120/0121 – Includes threaded coupling adapter No. 080157 size 1/4 inch and hose adapter 9 mm.

Note:

08 0120/0121 – For suitable compressed air gun holder see from No. 955750.

08 0120_STAR

Type		STAR
08A 08 0120	RIEGLER Compressed air gun	XXX
08A 08 0121	RIEGLER Compressed air gun with low-noise safety nozzle	XXX
maximum operating pressure (08 0120) bar		10
Flow rate at 6 bar (08 0120) l/min		680
Flow rate at 6 bar (08 0121) l/min		1216

08 0121_STAR

Length mm		300
08A 08 0134	RIEGLER Extension pipe for compressed air gun	XXX
Suitable for: Compressed air gun		No. 080120 size STAR

08 0134

Air blow gun of aluminium, steplessly controllable air flow by the actuator lever, including hose connection. General purpose, up to 12 bar operating pressure.

Hose internal thread connection ∅ mm		9	13
08A 08 0136	RIEGLER Blow-out valve	XXX	XXX
∅ mm		21.7	21.5
Length mm		113	

08 0136

Spray gun with straight spray tube and plastic container, matt transparent, approx. 0.7 ltr contents.

Type		SP11
08A 08 0144	RIEGLER Spray gun	XXX
maximum operating temperature °C		50
Flow rate at 5 bar l/min		25

08 0144

Professional cleaning gun, ideal for cleaning jobs in trade and industry up to an operating temperature of maximum 50 °C. Resistant to water, commercial cleaning agents, citric acid (maximum 10% solution), cold cleaners. Steplessly adjustable spray jet. size 1/2 inch internal thread.

Type		RP1
08A 08 0145	RIEGLER Cleaning gun	XXX

08 0145

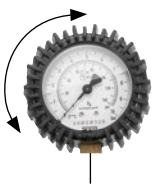
Tyre inflater

08 0147 – Uncalibrated manual tyre inflater and pressure gauge with 63 mm ∅ pressure gauge protected by a plastic cap, can be turned for ease of reading. Pressure release by pressing a button. With steel male coupling for connection to NB 7.2 – 7.8.

08 0148 – Sturdy professional tyre inflater of plastic with protected pressure gauge 80 mm ∅. Inflating and deflating controllable by an actuation lever. **With CEE calibration.** Incl. steel male coupling for connection to NB 7.2 – 7.8.

Note: Accuracy class 2.5.

08 0147_BASIC



Rotating pressure gauge

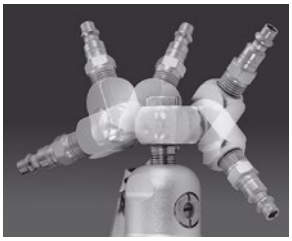
08 0148_PRO

Type		BASIC	PRO
02A 08 0147	HOLEX Compressed air tyre inflator **Clip connector**	XXX	–
02A 08 0148		–	XXX
Measuring range bar		0 – 10	0 – 12
Hose length mm		400	1000

Pneumatic accessories

Swivelling hose connections

Patented universal hose connection of aluminium.
The arrangement can swivel **360° about two points**, allowing freedom of movement for the connected tools, without strain.



08 0190

Connection external thread		inch	1/4	3/8
03R 08 0190	Dynaswivel® **Swivelling hose connection**		XXX	(XXX)
Connection external thread		inch	NPT	
Compressed air connection		inch	1/4	3/8
Flow rate		l/s	11.8	21.25

Distributor socket

Distributor socket of fibreglass-reinforced plastic, 3-way distributor socket, sturdy brass threaded insert G1/2 inch.

08 0140 – End distributor socket
08 0141 – Distributor socket with through hole

Supplied with:
- Distributor socket
- 2× connection screws

08 0140

Number of distributor sockets			3
08A 08 0140	RIEGLER	End distributor socket, plastic	XXX
08A 08 0141	RIEGLER	Plastic distributor socket with through hole	XXX
Inlet thread		inch	1/2

Compressed air distributor

08 0180 – Y-coupling with 2 couplings and thread, brass.
08 0181 – Y-coupling with 3 couplings and thread, brass.

08 0180

08 0181

Connection external thread		inch	1/4	3/8	1/2
08A 08 0180	RIEGLER	Y-coupling with 2 couplings	XXX	XXX	XXX
08A 08 0181	RIEGLER	Distributor with 3 couplings	XXX	XXX	XXX

Standard screw fastenings

Double-ended adapter, cylindrical external thread on both sides, brass.

Note: Other T threaded pieces can be found under No. 080035 in the online shop.

08 0167

Connection external thread		inch	1/4	3/8	1/2
08A 08 0167	RIEGLER	Double-ended adapter set **10 pieces**	XXX	XXX	XXX
Length		mm	23	23	28
Connection external thread		inch	G1/4	G3/8	G1/2
Width across flats		mm	17	19	24
Number of external threads				2	

Reducing bushes, short version. With cylindrical external and internal threads, brass.

08 0168

Connection thread		inch	3/8-1/4	1/2-3/8	1/2-1/4
08A 08 0168	RIEGLER	Reducing bushes set **10 pieces**	XXX	XXX	XXX
Length		mm	14	17	17
External thread			G3/8	G1/2	G1/2
Internal thread			G1/4	G3/8	G1/4

Ball valves

08 0029 – Sandblasted mini ball valve with rotary handle.

08 0026

08 0029

Internal thread ∅		inch	1/4	3/8	1/2
08A 08 0026	RIEGLER	Ball valve with hand lever	XXX	XXX	XXX
08A 08 0029	RIEGLER	Ball valve with rotary handle	XXX	XXX	XXX

K1 Satisfies category 1 (K1) to DGUV 203-005 (formerly BGI / GUV-I 600) e.g. for workshop, stores and production areas without high medical, physical or chemical effects on the electrical equipment.

K2 Satisfies category 2 (K2) to DGUV 203-005 (formerly BGI / GUV-I 600) (IPX4, fully insulated, H07RN or H07BQ-F cables) for high mechanical or thermal effects on the electrical equipment.

HEDI Cable drums

Hedi® cable drums stand for "Made in Germany" quality and a long service life. The drum body is specially designed to optimally guide the cable. The integrated rotation stop switch prevents accidental drum rotation. All cable drums are equipped with thermal cut-out switches.

Plastic cable drums 250 V

08 1125_25V

08 1125_25N

08 1125_40N/50R

08 1125_40B

08 1125_40B2

Type		25V	25N	40N	50R	40B	40B2
08B 08 1125	Cable drum plastic	XXX	XXX	XXX	XXX	XXX	XXX
08B 08 1127	Cable drum plastic for F, B, PL and CZ	XXX	XXX	XXX	XXX	XXX	–
Rated power unrolled	W	3500 (16 A)	3500 (16A)	3500 (16 A)	3500 (16 A)	3500 (16 A)	3500 (16 A)
Cable class		H05VV-F	H07RN-F	H07RN-F	H05RR-F	H07BQ-F	H07BQ-F
Cable structure		3G1.5	3G1.5	3G1.5	3G1.5	3G1.5	3G2.5
Material cable		PVC red	Neoprene	Neoprene	Rubber	Armoured cable	Armoured cable
Cable length	m	25	25	40	50	40	40
Number of sockets		4	3	3	3	3	3
Diagnostic system present		no	yes	yes	yes	yes	yes

Sheet steel cable drums 250 V with complete earthing

08 1105 _40N

08 1105_50V/50R

Type		40N	50V	50R
08B 08 1105	Cable drum sheet steel	XXX	XXX	XXX
08B 08 1107	Cable drum, sheet steel, for F, B, PL and CZ	XXX	XXX	XXX
Rated power unrolled	W	3500 (16 A)		
Cable class		H07RN-F	H05VV-F	H05RR-F
Cable structure		3G1.5		
Material cable		Neoprene	PVC	Rubber
Cable length	m	40	50	50
Number of sockets		3	4	4
Diagnostic system present		yes	no	no

All-plastic cable drums 250 V

K2

Cable drum from **generation 7.** Enormously sturdy, stable and secure. With wall mounting, cable storage and guide, and rotary handle. Additionally satisfies DGUV I 203-006 (formerly BGI 608).

Size 40B2 – With PRCDS switch.

08 1108_40B

Type		40B	40B2	50B
08B 08 1108	All-plastic cable drum G7	XXX	XXX	XXX
08B 08 1109	All-plastic cable drum for F, B, PL and CZ G7	XXX	XXX	XXX
Rated power unrolled	W	3500 (16 A)		
Cable class		H07BQ-F		
Cable structure		3G1.5	3G2.5	3G1.5
Material cable		Armoured cable		
Cable length	m	40	40	50
Number of sockets		4		
Diagnostic system present		yes		

All-plastic cable drums – generation 7

- Innovative design with many ergonomic and safety features.
- Non-conductive all-plastic design.
- Suitable for extreme application areas and environments.
- 7° drum inclination for improved water drainage.
- 3-year manufacturer's warranty.

Cable drums 400 V

IP 44 K2

Sturdy cable drum of high-impact plastic with **thermal overload protection**.

- 400 V CEE input plug 16 A.
- 400 V CEE output plug 16 A with spring-loaded cover.
- Two 250 V standard Schuko sockets with spring-loaded covers.
- **Conductor cross-section 2.5 mm.**

Certified for continuous exterior use and for use in humid environments.

08 1133/1136 – Satisfies the specifications of DGUV I 203-006 (formerly BGI 608) and DGUV I 203-005 (formerly BGI 600).

08 1134/1138 – With 250 V sockets for **F, B, PL, and CZ.**

08 1136_20N2

Type			20N2	25B2
08B 08 1133	All-plastic cable drum **G7**		–	XXX
08B 08 1134	All-plastic cable drum for F, B, PL and CZ **G7**		–	XXX
08B 08 1136	Cable drum plastic		XXX	–
08B 08 1138	Cable drum plastic for F, B, PL and CZ		XXX	–
Rated power unrolled		W	5500 (16 A)	
Cable class			H07RN-F	H07BQ-F
Cable structure			5G2.5	
Material cable			Neoprene	Armoured cable
Cable length		m	20	25

08 1136_25B2

K2

Cable reel

Cable reel with **guided automatic draw-in and roll-up, with multiple stop points per revolution.** High-impact enclosed **plastic housing.** Thermal **overload cut-out,** sturdy H07RN-F neoprene cable with connection point.

08 1192/1198 – Easy to mount on the wall or ceiling, with **180° pivoting range.**

08 1194–1197 – Easy to mount on the wall or ceiling with **150° pivoting range.**

Application: Improved ergonomics by relieving cable tension, and for ensuring tidiness and avoiding the risk of accidents and injuries due to cables lying on the ground.

Note: For spring return hose reels see No. 080078, 080079 and 080076.

IP 44

08 1192

08 1198

Spring-loaded cable reel

Type				15	17S
08A 08 1192	CEJN	Safety cable reel	250 V	–	XXX
01A 08 1198	Garant		250 V	XXX	–
Rated power unrolled			W	2400	
Nominal voltage			V	250	
Length			mm	496	490
Width			mm	192	190
Height			mm	401	410
Cable class				H07RN-F	
Cable structure				3G1.5	
Material cable				Neoprene	
Cable length			m	15	17

Type				10N	15N	15N2	20N
08B 08 1194		Cable reel	250 V	XXX	XXX	–	–
08B 08 1195	HEDI	Cable reel for F, B, PL, CZ	250 V	XXX	XXX	–	–
08B 08 1197		Cable reel	400 V / 16 A	–	–	XXX	XXX
Rated power unrolled			W	2000 (16 A)	2000 (16 A)	5000 (16 A)	3000 (16 A)
Nominal voltage			V	250	250	400	400
Length			mm	325	325	361	361
Width			mm	185	185	208	208
Height			mm	275	275	450	450
Cable class				H07RN-F			
Cable structure				3G1.5	3G1.5	5G2,5	5G1.5
Material cable				Neoprene			
Cable length			m	10	15	15	20

08 1194
08 1195

08 1197

Cable reels

Robust cable reel of unbreakable plastic. Easy to roll up and unroll.
With 4-way multiple sockets and thermal cut-out.

08 1158 – **Plastic bracket** for attachment to walls or perforated panels with square holes 9×9 mm on a 37 mm grid.

08 1158

Suitable for Hoffmann Group workstations and storage equipment and roller cabinets

08 1155

Type			15V
08B 08 1155	HEDI	Cable reel	XXX
08B 08 1157	HEDI	Cable reel for F, B, PL and CZ	XXX
08B 08 1158	HEDI	Plastic bracket for cable reel	XXX
Rated power unrolled (08 1155, 08 1157)		W	3500 (16 A)
Cable class (08 1155, 08 1157)			H05V V-F
Cable structure (08 1155, 08 1157)			3G1.5
Material cable (08 1155, 08 1157)			PVC
Cable length (08 1155, 08 1157)		m	15

Extension cables

IP 44

Size 5N; 10N; 15N; 25N – Resistant to oil, petrol, UV radiation.
Size 10BQ2; 15B – For heavy duty use, oil and acid-resistant, with smooth wear-resistant surface.

K2

08 1182_5N; _10N; _25N
08 1183_5N; _10N; _25N
08 1184; 08 1186
08 1185; 08 1188
Shock-resistant and splash-proof all-rubber plug and socket.

08 1182_5N/25N

08 1183_10N

08 1184_15N

08 1182_15B

Type				5N	10N	15N	15B	25N
08B 08 1182	HEDI	Extension cable	250 V	XXX	XXX	–	XXX	XXX
08B 08 1183	HEDI	Extension cable for F, B, PL, CZ	250 V	XXX	XXX	–	XXX	XXX
08B 08 1184	HEDI	Extension cable with 3-way outlet	250 V	–	–	XXX	–	–
08B 08 1186	HEDI	Extension cable with 3-way outlet for F, B, PL, CZ	250 V	–	–	XXX	–	–
Cable class				H07RN-F	H07RN-F	H07RN-F	H07BQ-F	H07RN-F
Cable structure				3G1.5				
Material cable				Neoprene	Neoprene	Neoprene	Armoured cable	Neoprene
Cable length			m	5	10	15	15	25

08 1188_10N

08 1185_10BQ2

Type				10N	10BQ2
08B 08 1185	HEDI	Extension cable	400 V / 16 A	–	XXX
08B 08 1188	brennenstuhl	Extension cable	400 V / 16 A	XXX	–
Cable class				H07RN-F	H07BQ-F
Cable structure				5G1.5	5G2.5
Material cable				Neoprene	Armoured cable
Cable length			m	10	

Spiral cable 250 V / 16 A

IP 44 K2

Spiral-Plus cable with PU sheath, extends from 1 – 5m (recommended 1 – 3m).
An additional glass fibre braid in the cable sheath ensures long-lasting and consistent coil resilience.

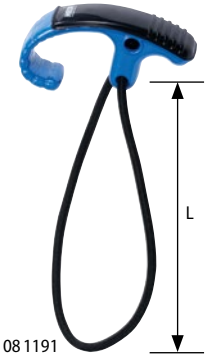
Supplied with: With two metal clips for strain relief.

08 1145

08B 08 1145	HEDI	Spiral cable 1 – 5 m	250 V	XXX
Cable class				H07BQ-F
Cable structure				3G1.5
Material cable				Armoured cable

Suspension system for cables and conductors

Carrying handle made from plastic with exceptionally sturdy hook.
For hanging up cables, wires, hoses, buckets and more.



08 1191

Type			S	L	XL
08B 08 1191	HEDI	CableFix cable suspension system	XXX	XXX	XXX
Loop length L		mm	100	210	300
maximum load capacity		kg	20	50	100

Power distributor

Suspended power distributor

Output sockets with spring-loaded covers.
Compact suspended power distributor with robust hard rubber reinforced casing for tidy and space-saving provision of electric power and compressed air.

Size 250AIR – **2×1/4 inch compressed air** hose connections, 2.5 m supply hose.
Size 250SAFE – 2× pushbutton safety couplings 3/8 inch, 2 m compressed air hose.

Note: Suspended power distributors with Ethernet connection on request.

08 1142_250AIR

_250

_250SAFE

Type			250AIR	250	250SAFE
08B 08 1142	HEDI	Suspended power distributor	XXX	XXX	–
08B 08 1143	HEDI	Suspended power distributor for F, B, PL, CZ	XXX	XXX	–
08B 08 1144	HEDI	Suspended power distributor	–	–	(XXX)
08B 08 1146	HEDI	Suspended power distributor for F, B, PL, CZ	–	–	(XXX)
Rated power	kW		9.5	3.5	9.5
Width	mm			227	
Depth	mm			212	
Height	mm			305	
Number of compressed air connections			2	–	2
Number of 250 V sockets				6	
Number of sockets 400 V/16 A			1	–	1

Mobile multi-way sockets

Output sockets with spring-loaded covers.
Mobile multi-way sockets with sturdy hard rubber reinforced casing. 2.5 m connection cable H07RN-F 3G2.5 with 250V Schuko plug.

08 1139_250

08 1139_400

Type			250	400
08B 08 1139	HEDI	Mobile multi-way sockets	XXX	XXX
08B 08 1140	HEDI	Mobile multi-way sockets for F, B, PL, CZ	XXX	XXX
Width	mm		227	
Depth	mm		212	
Height	mm		305	
Illumination	lm		2000	
Number of 250 V sockets			8	4
Number of sockets 400 V/16 A			–	2

IP 44

Output socket with spring-loaded covers.

Size CEE1 – **Power distributor made from impact-resistant plastic** with wind-up feature for cable storage.
Size BKV2/4 – **Compact low-current power distributor**. Stable, shock-resistant plastic casing, with sturdy galvanised tubular steel frame. Shuttered contact sockets on all 3 phases distributed with a CEE 400 V / 16 A, 5-pin plug.

08 1148_CEE1

08 1148_BKV2/4

Type			CEE1	BKV2/4
08B 08 1148	brennenstuhl	Current distributor	XXX	(XXX)
Width	mm		200	255
Depth	mm		120	190
Height	mm		360	
Cable structure (electric)			5G1.5	
Cable class (electric)			H07RN-F	
Cable length	m		2	
Number of 250 V sockets			3	4
Number of sockets 400 V/16 A			1	2

08

brennenstuhl® Wifi sockets

Intelligent WiFi plug with networking capability. Communication by 2.4 GHz wireless (WLAN standard).

- Actuation by the brennenstuhlConnect app or by voice.
- Permits automatic timed actuation of the devices.

Size XS01 – Smart WiFi socket for indoors use.
Size XS02 – Smart WiFi socket for outdoors use. For use down to -10 °C.
Size LRF01 – WiFi plug with 433 MHz transmitter.

_XS01

_XS02

_LRF01

Type			XS01	XS02	LRF01
08B 08 1593		WiFi plug	XXX	XXX	XXX

Multiple socket strips

With illuminated safety switch and sockets offset at 45°. 3500 W (16 A) rated power.

08 1175 – Alu-Line premium socket strip with sturdy aluminium casing and **cable storage for excess cable.**

08 1176 – **6-way black socket strip with 3m H05VV-F 3G1.5 rubber cable.**
Sockets arranged at an angle of 90°, thus ideally suited to accept angled plugs.
Particularly wide spacing for insertion of power supply units.
Illuminated two-pole on/off safety switch.
Holes for permanent 4-point attachment of the socket strip, e.g. to a wall.

08 1179 – **Automatic socket strip** with **surge protection and Master-Slave function**. The surge protection (19500 A) prevents damage to connected equipment due to voltage spikes. Switching an on/off switch on a device that is plugged into the master socket automatically switches all devices plugged into slave sockets on or off in synchronism. **1 master, 5 slaves and 2 permanent sockets**. Adjustable switching threshold (approx. 8 to 80 W).

08 1163/1168 – Impact resistant casing with cable inlet at the opposite end to the safety switch placed for easy operation, and with additional suspension loop.
The **surge protection** (13,000 A) prevents damage to connected equipment due to voltage spikes.

08 1165/1169 – **Splashproof sockets** with self-closing covers and sealing rings. Shock-resistant, unbreakable plastic housing with sturdy suspension loop.

08 1161/1166

08 1175

08 1179

08 1165/1169

08 1163/1168

08 1176_6

08 1161, 08 1175, 08 1163, 08 1179

08 1166, 08 1168, 08 1169

for countries F, B, PL and CZ

		5	6	8	Number of sockets	Length of strip mm	Cable structure	Cable class	Cable length m
08B 08 1165	Socket strip IP44	XXX	–	–	5	520	3G1.5	H07RN-F	2
08B 08 1169		XXX	–	–	5	520	3G1.5	H07RN-F	2
08B 08 1161	Socket strip with switch,	–	XXX	–	6	340	3G1.5	H05VV-F	1.5
08B 08 1166	Socket strip with switch	–	XXX	–	6	340	3G1.0	H05VV-F	1.5
08B 08 1175	Aluminium socket strip with switch	–	XXX	–	6	420	3G1.5	H05VV-F	3
08B 08 1176	Socket strip with switch	–	XXX	–	6	400	3G1.5	H05VV-F	3
08B 08 1163	Socket strip with overvoltage protection	–	–	XXX	8	630	3G1.5	H05VV-F	2.5
08B 08 1168		–	–	XXX	8	630	3G1.5	H05VV-F	2.5
08B 08 1179	Socket strip with Master-Slave function	–	–	XXX	8	570	3G1.5	H05VV-F	3

USB socket strips

08 1178 – 5-way socket strip with 2-way USB charger function. Sockets arranged at an angle of 90°. Bolt holes for wall mounting.

08 1181 – Desk socket outlet with 2 pcs. **USB 2.0 charger sockets** and **2 desk socket outlet**. Charging current of 2100 mA for quick charging.

08 1189 – **Alu-Office-Line socket strip with USB charger function. With 4 desk socket outlets and 2 USB charger sockets.** Shuttered contact sockets at a **45° angle, also suitable for angled plugs.** For easy connection of devices directly on the desk. Cabling can be concealed, comfortable operation. Integrated child-proofing.

Note: Adapter plug with earth contact 250 V / 16 A for connecting earth contact plugs to other European plug systems can be found in the online shop under No. 081172 and No. 081174.

08 1189

08 1178_7w

08 1178_7b

08 1181

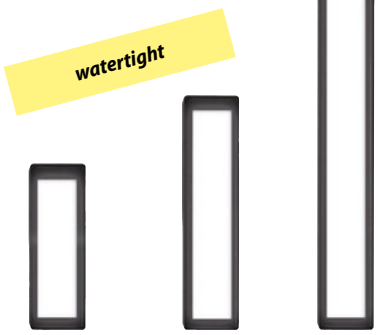
Number of sockets		4	6	7B	7W	Number of sockets	Length of strip mm	Cable structure	Cable class	Cable length m
08B 08 1189	Alu-Office-Line socket strip **6-way**	–	XXX	–	–	6	380	3G1.5	H05VV-F	1.8
08B 08 1181	Tabletop socket **4-way**	XXX	–	–	–	4	160	3G1.5	H05VV-F	1.8
08B 08 1178	Socket strip with USB **7-fold**	–	–	XXX	XXX	7	460	3G1.5	H05VV-F	3

Workshop lamps

Planonlight LED-light **black series** is the most intense, **most dense** and **most compact** of the Planonlight work lights. Add-on variant with flexible fastening options for the most demanding industrial applications.

- **Very high illumination intensity** with 157 Lumen/Watt LEDs.
- **Absolutely maintenance-free** (with a long working life of 50,000 h).
- Very compact design makes it ideal for retrofitting and for use in very intricate machines.
- Very wide range of variants, with 8 different models (built-in versions on request).
- Flexible attachment: **Flush fitted** in-built or with suitable, adjustable attachment 081381 for 45° surface mounting.
- **Improved** and **proven sealing principle** with IP68 and IP69K (leak-free against emulsion).

Note:	**Operating voltage 24 V DC – connecting directly to the mains (230 V/50 Hz) will destroy the lamp!** Use transformer No. 081375 to connect to the mains.



08 1353_10 _15 _30

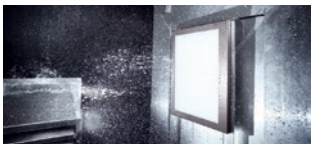
Power consumption	W	10	15	30
04E 08 1353	hagnleone Working area lamp Planonlight LED Black Series	XXX	XXX	XXX
Manufacturer's designation		10487	10488	10493
Illumination	lm	1300	2000	4000
Overall length	mm	168.5	234	430.5
Overall width	mm		65	
Overall height	mm		20	
Weight	g	500	600	900

Revolutionary working area lamp with the latest LED technology. Almost **doubled light intensity** in comparison to existing lighting systems, **giving very high sharpness for contours and contrast**.
Due to the **minimum installation height of 28 mm** the PLANONLIGHT LED saves space in virtually every workstation.

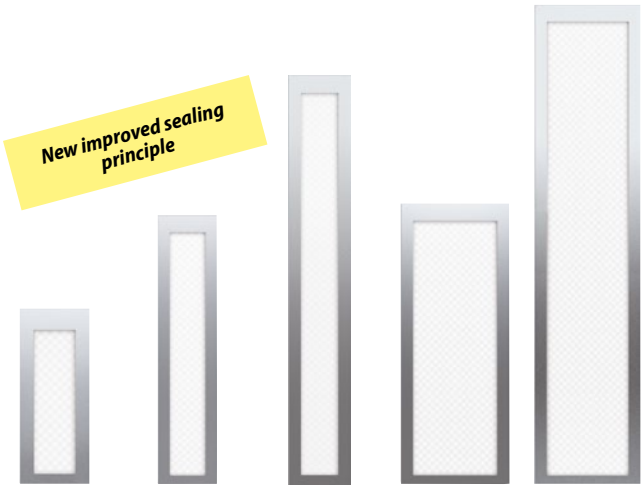
- **Very high light density** over the entire area.
- **Extremely high illumination of daylight quality**, whilst remaining dazzle-free and flicker-free, with no stroboscopic effects.
- Steplessly dimmable (transformer not included).
- **Immersion-proof (IP68) even against aggressive emulsions (IP69K).**
- **Very easy to clean** – smooth surface and low surface temperature (maximum 10 °C above ambient).
- **Absolutely maintenance-free.**
- Certified to UL standards – for world-wide use.
- **Easy retrofitting** by self-installation.
- Direct connection via an M12 machine plug connector or using the connecting cable supplied

Function: IP69K: Protected against continuous submersion in pressurised water (pressurised watertight) and protected against penetration by dust (dust-tight), also completely protected against touching.

Note:	**Operating voltage 24 V DC – connection directly to the mains (230 V/50 Hz) will damage the lamp beyond repair!** Use transformer No. 081375 to connect to the mains.



waterproof



Power consumption	W	10	20	30	33	66
04E 08 1350	hagnleone Working area lamp Planonlight LED	XXX	XXX	XXX	XXX	XXX
Manufacturer's designation		20290	20291	20292	20293	20294
Illumination	lm	750	1800	2800	3000	6000
Overall length	mm	241	441	641	421	771
Overall width	mm	97	97	97	171	171
Overall height	mm			28		
Weight	g	1200	1800	2600	2900	5200

Accessories for workshop lamps

08 1375 – Transformer cannot be dimmed. Suitable dimmable transformer on request.

			suitable for
04E 08 1375	Transformer for PLANONLIGHT LED 24 V / 100 W	XXX	081350; 081353
04E 08 1380	Bracket for PLANONLIGHT LED with ball joint	XXX	081350
04E 08 1381	hagnleone Bracket for Black series 45°	XXX	081353

08 1375

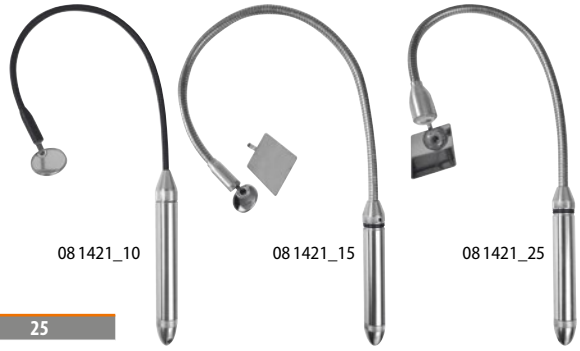
08 1380

08 1381

LED inspection lamps

Exceptionally robust inspection lamps made from **solid aluminium** with LED lamp head. Battery grip including flexible neck, splash-proof.

Size 10 – 1 pc. inspection mirror ∅ 30 mm, ring magnet.
Size 15 – 1 pc. stainless steel inspection mirror 40×65mm unbreakable, 1 pc. inspection mirror ∅30 mm, screw-on ring magnet.
Size 25 – 1 pc. stainless steel inspection mirror 40×65mm unbreakable.



Lamp head ∅		mm	10	15	25
08C 08 1421	LED inspection lamp with battery		XXX	XXX	XXX
Illumination		lm	25	25	120
Number of batteries contained				2	
Battery type				LR6	
Overall length		mm	490	560	600
Head ∅		mm	10	15	25

Suitable for: LED inspection lamp No. 081421.

08C 08 1413	Magnetic base	XXX

IP 67

LED machine lamps

Bauer & Böcker

Sturdy LED machine lamps in an **aluminium casing**, with a satinised acrylic lens for **homogeneous 160-degree illumination**.

- Low-reflection, non-dazzle and non-flicker.
- For connection to a 24 V **mains adapter** or **24 V machine control system.**

08 1435 – Rotatable.
08 1438 – Flat lighting strip, can pivot through 45°.
08 1439 – Ring illumination „circle light" for shadow-free 360° illumination around the spindle on milling machines and drilling machines. Flexible attachment to different types of machine using the adjustable magnetic holder.

Supplied with: With rubber-clad magnets, mains adapter.

Type		mm	140	250	303	546	160
08C 08 1435	LED machine lamp **round**		XXX	XXX	–	–	–
08C 08 1438	LED machine lamp **flat**		–	–	XXX	XXX	–
08C 08 1439	LED machine lamp **Ring**		–	–	–	–	XXX
Light output		W	3	9	12	24	7.5
Illumination		lm	300	900	1200	2400	460
Overall length		mm	140	250	303	546	–
Overall width		mm	–	–	40	40	–
Overall height		mm	–	–	39	36	42
Head ∅		mm	40	40	–	–	–
External ∅		mm	–	–	–	–	160
Internal ∅		mm	–	–	–	–	100

IP 63

Machine / workstation lamps

LED workshop lamps, aluminium black with rocker switch. Rubberised with flex shaft, including magnetic base.

Size 5W – LED workshop light, 5 watts with focusable beam angle 15-75°.
Size 6WDUO – LED workshop light 2 × 6 watts, light head with two 360° rotating light modules in the light head.

Note: In addition to the magnetic base, a screw clamp, wall mounting, table stand and base stand are available.

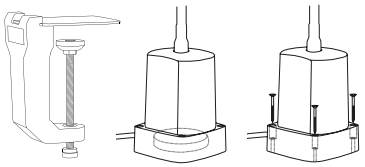
Adjustable lamp head.

Focussable lamp head.

Type		Type	5W	6WDUO
08C 08 1321	Machine / workstation lamp		XXX	XXX
Light output		W	5	6; 6
Illumination		lm	300	1200
Overall height		mm	480	510
Magnetic base ∅		mm	50	

HEDI Machine / workstation lamps

High-quality, universally usable lamps, with On/Off switch, 3 m rubber connection cable. Robust, long, coated flexible metal arm for good mobility of the lamp head and high stability.
All Hedi® machine/workstation lights come as standard with table clamps, integrated magnet and 4 screws for flexible attachment of the lamp to a variety of surfaces.

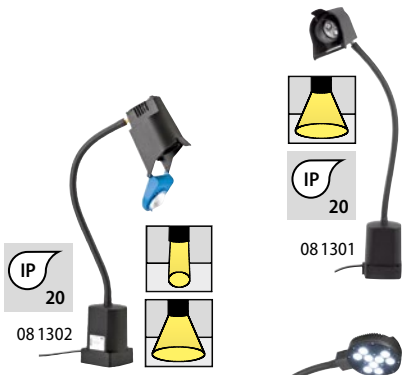


Classic machine lamp in wide-beam version. Lamp head can be rotated and swivelled 340° using the ball joint. With exchangeable light source. Also available in warm white (3000 K).

Type		3LED	6LED
08B 08 1301	Machine lamp	XXX	XXX
Light output	W	3	6
Illumination	lm	300	450
Light colour		cold white	

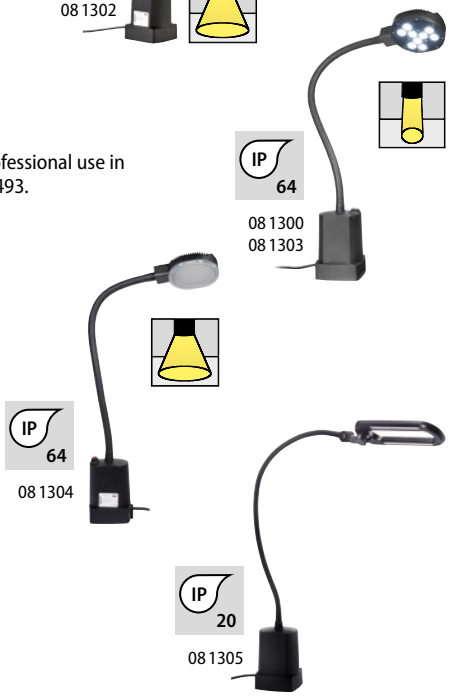
A fold-away lens allows the lamp to be quickly and easily switched over between spot and wide-beam illumination. Lamp head can be rotated and swivelled 340° using the ball joint. With exchangeable light source. Also available in warm white (3000 K).

Type		6LEDDUO
08B 08 1302	Machine lamp DUO	XXX
Light output	W	6
Illumination	lm	450
Light colour		cold white



Proven machine lamp with extremely sturdy lamp head, protected against splashed water and dust-tight, for professional use in tough working environments or use on and in machines. Radio interference suppression according to DIN EN 62493.

Type		9LED	9LED-24V	10LED
08B 08 1300	Machine lamp	XXX	–	–
08B 08 1303		–	XXX	–
08B 08 1304		–	–	XXX
Nominal voltage	V	250	24	250
Light focussing		focussed tight beam	focussed tight beam	non-dazzling flood beam
Beam dispersion angle fixed	degrees	60	60	120
Light output	W	9	9	9.6
Illumination	lm	1000	900	1100



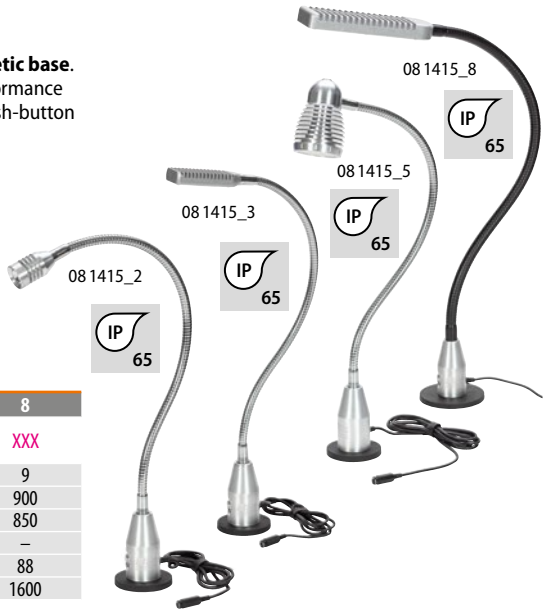
With 3 brightness levels for optimal illumination of the workplace; innovative design enables object to be assessed from above using the lamp, extended 600 mm flexible metal arm.

Type		9LED-BR
08B 08 1305	Machine lamp	XXX
Light output	W	9
Illumination	lm	900

Bauer & Böcker LED work lamps

08 1415 – Powerful, long-lived and robust work lamps with **flexible neck** and sturdy **magnetic base**. For connection to a 24V mains adapter or 24V machine control system. High-performance LED in an aluminium casing, cold white approx. 5500 Kelvin. Neatly integrated push-button with dimming function.
Size 2 – Spot beam for focussed light.
Size 3; 8 – Wide beam dispersion angle 120° with uniform illumination.

Supplied with:
08 1415 – Supplied with 250-V power supply unit.



Type		2	3	5	8
08C 08 1415	LED work lamp	XXX	XXX	XXX	XXX
Light output	W	2	2.5	4.5	9
Illumination	lm	200	300	450	900
Overall height	mm	600	620	600	850
Lamp head ∅	mm	28	–	60	–
Magnetic base ∅	mm	66	66	66	88
Weight	g	760	550	0.8	1600

Top mounting plate ∅	mm	95
08C 08 1418	Table clamp	XXX
08C 08 1419	Magnetic holder	XXX

LED floodlight

08 1123 – Stand can be extended for stepless height adjustment 0.8 to 1.75 m, LED floodlight with switch.

08 1211 – Die-cast aluminium housing with bulb and aluminium reflector. On/ off switch on casing.

SMD-LED floodlights for portable use with robust stands (all-round protection).

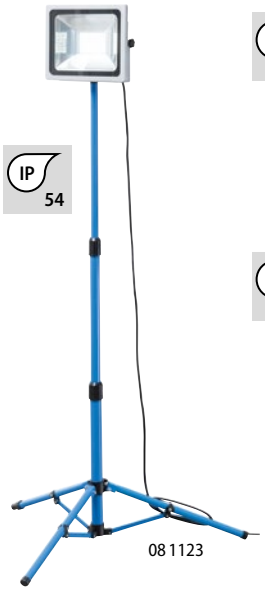
08 1265 – **NOVA work lamps** with integral carrying handle. High-performance COB-LED with 5-step dimmer function, pivoting.

08 1287 – With **2 splash–proof sockets**.

SMD-LED work lights with frosted glass lens for homogeneous and pleasant illumination.

08 1265/1287 – Sturdy LED floodlight with shock-resistant aluminium casing and rubber protective edge.

08 1265/1287 –
- Soft non-shadowing anti-glare lamp, with low heat emission.
- High light output, low energy consumption, long working life.
- Certified for exterior use and for use in humid environments.



08 1123

08 1211_50

08 1265

Power consumption			W	30	42	50	60	84	150
08B 08 1123	HEDI	LED floodlight with stand	230 V	–	–	XXX	–	–	–
08B 08 1211	HEDI	Portable LED floodlight	230 V	XXX	–	XXX	–	–	XXX
08C 08 1265	SCANGRIP	LED floodlight	230 V	–	XXX	–	–	XXX	–
02A 08 1287	HOLEX	LED floodlight	230 V	–	–	–	XXX	–	–
Illumination			lm	2500	500 – 5000	4000	4300	1000 – 10000	12000
Overall length			mm	300	267	360	292	302	530
Overall width			mm	240	87	300	292	102	380
Overall height			mm	360	262	350	72	298	480
Connection cable length			m	–	5	–	5	5	–
Weight			g	–	266	–	3700	4100	–

08 1287

LED floodlights

IP 54

Non-shadowing and non-dazzle version with wide spread of light.

08 1266 – With 2 lighting levels and up to 3 hours illumination. Base of steel, powder-coated.

08 1267 – High-power 360° work lamp with Schuko socket. The lamp can be hung anywhere on a sturdy hook, and stood directly on the workbench.

08 1274 – With integrated handle and base for direct mounting of the floodlight. Two Schuko sockets allow the connection of electric tools quickly and easily, without having to additionally use a cable.

08 1264/1268 – Robust work lamp with rubberised side parts and five different inclination angles depending on the positioning (90°, 35°, 25°, 15°, 0°). Integral carrying handle, on/off switch at the back. Approved for continuous use and on building sites/installation sites to BGI 608.

Suitable for:

Size 18; 48; 65 – Three-leg stand No. 081252 size 1.35-3.

08 1264
08 1268

08 1266
08 1274

Power consumption			W	18	35	48	65
08B 08 1264	HEDI	LED cordless work light		–	XXX	–	–
08B 08 1268	HEDI	LED floodlight	230 V	–	XXX	–	–
08C 08 1266		LED cordless floodlight		XXX	–	–	–
08C 08 1267	SCANGRIP	LED area floodlight	230 V	–	–	–	XXX
08C 08 1274		LED floodlight		–	–	XXX	–
Illumination			lm	2500	3850	6000	6000
Illumination step 2 (08 1264, 08 1266)			lm	750	1650	–	–
Working life (08 1264, 08 1266)			h	3	4.5	–	–
Number of rechargeable batteries contained (08 1264, 08 1266)				1	1	–	–
Type of rechargeable battery (08 1264, 08 1266)				Lithium-ion	Lithium-ion	–	–
Overall length			mm	288	273	318	305
Overall width			mm	103	256	117	199
Overall height			mm	280	163	310	199
Connection cable length (08 1268, 08 1267, 08 1274)			m	–	3	5	5
Weight (08 1268, 08 1266, 08 1267, 08 1274)			g	1600	2300	3430	3500

08 1267

Cordless LED floodlight

IP 67

Cordless LED battery floodlight with sturdy aluminium casing for everyday use in rough environments.

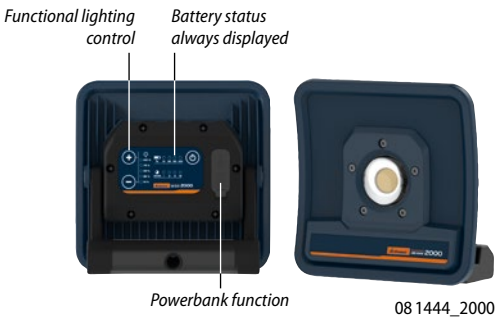
- High-performance COB LED modules.
- Dimmable in 5 steps from 10 to 100 %.
- Practical monitoring of the state of charge of the battery by LED display directly on the lamp.
- Base with integral 10 mm hole, for mounting on suitable stands.

08 1445 – Flexibility in use. Cordless or mains power.

Supplied with:

08 1444 – Supplied with USB charging cable and plug-in power supply unit.

08 1445 – Including battery charger.



08 1444_2000

08 1445_3000

Type		2000	3000
01A 08 1444	Garant Cordless LED floodlight	XXX	–
01A 08 1445		–	XXX
Illumination lm		200 – 2000	300 – 3000
Working life h		2 – 20	1 – 14
Type of rechargeable battery		Lithium-ion	
Overall length mm		163	235
Overall width mm		63	88
Overall height mm		163	233

IP 67

08 1254_16

Sturdy LED floodlight with shock-resistant aluminium casing and rubber protective edge.

- Soft non-shadowing anti-glare lamp, with low heat emission.
- High light output, low energy consumption, long working life.
- Certified for exterior use and for use in humid environments.

08 1254 – **NOVA work lamps** with integral carrying handle. High-performance COB-LED with 5-step dimmer function, pivoting.

08 1286 – SMD-LED work lights with frosted glass lens for homogeneous and pleasant illumination.

Size 26; 42 – Due to the dual system, can be used both as a mobile cordless floodlight, and also with mains cable. Charge status display, remaining time display, dimmable in 5 stages.

Supplied with:

Size 16 – Supplied with USB charging cable and plug-in power supply unit.

Size 20–42 – Including battery charger.

IP 67

08 1254_42

IP 65

08 1286_20

Power consumption		W	16	20	26	42
08C 08 1254	SCANGRIP	LED cordless work lamp	XXX	–	XXX	XXX
02A 08 1286	HOLEX		–	XXX	–	–
Illumination		lm	200 – 2000	1600	300 – 3000	500 – 5000
Type of rechargeable battery			Lithium-ion			
Overall length		mm	163	202	235	275
Overall width		mm	63	202	88	92
Overall height		mm	163	55	233	275

08 1252

Height		m	1,35-3
08C 08 1252	SCANGRIP	Three-leg stand	XXX
Suitable for:			081240; 081241; 081242; 081243; 081254; 081265; 081266; 081267; 081266; 081274; 081444; 081445; 081516 STAR; 081514 MULTI3

SCANGRIP® LED cordless lamps, CAS (Cordless Alliance System)

Cordless Alliance System (CAS) is a cross-manufacturer battery pack system of leading power tool brands.

Supplied with: **Lamps are supplied without battery and charger.**

Note:	Suitable batteries, chargers and power supply units for wired power supplies can be found under No. 081246 – 081249.

Cordless LED floodlight

High-performance cordless LED floodlight with dimmer function. The housing is made of injection-moulded aluminium and is extremely robust and resistant to strong blows, impacts and vibrations. For use with CAS 12V or 18V batteries or direct connection to SCANGRIP® power supplies (accessory).

08 1241/1242 –
- BLUETOOTH light control enables up to four lights to be switched on/off and the light output to be adjusted in five levels to suit the respective task.
- With removable diffuser.
- Integral carrying handle and new base for flexible alignment and for direct mounting on the SCANGRIP® stand or with magnetic holders.

Type		NOVA-2	NOVA-4	NOVA-10
07A 08 1240	LED floodlight with CAS dimmer function	XXX	–	–
07A 08 1241		–	XXX	–
07A 08 1242		–	–	XXX
Illumination	lm	200 – 2000	400 – 4000	1000 – 10000
Number of rechargeable batteries contained		0		
Type of rechargeable battery		Lithium-ion		
Battery voltage	V	12; 18		
Overall length	mm	163	240	305
Overall width	mm	63	104	125
Overall height	mm	163	230	290

08 1240

08 1242

08 1241

Cordless LED floodlight

High-performance cordless LED floodlight with uniform, non-dazzle illumination.
The sturdy, shock-resistant plastic housing of the lamps is perfect for all working environments.
Can be mounted on the SCANGRIP® stand.

08 1243 –
- Beam dispersion angle of 360° or 180° can be selected.
- Dimmable in five lighting levels.
- BLUETOOTH light control enables up to four lights to be switched on/off and the light output to be adjusted in five levels to suit the respective task.
- For CAS 12/18V battery pack or direct connection to the SCANGRIP® power supply (accessory).

Type		AREA-10	VEGA-LITE
07A 08 1243	360° LED floodlight with CAS dimmer function	XXX	–
07A 08 1244	LED CAS floodlight	–	XXX
Illumination	lm	1000 – 10000	4000
Number of rechargeable batteries contained		0	
Type of rechargeable battery		Lithium-ion	
Battery voltage	V	12; 18	18
Overall length	mm	198	280
Overall width	mm	198	103
Overall height	mm	380	288

08 1243

08 1244

Batteries / chargers / power supply

Lithium-ion batteries, suitable for all products from the Cordless Alliance System (CAS) platform in the respective voltage class.

Battery voltage		V	12	18
07A 08 1246	SCANGRIP® Li-ion battery LiHD **4.0 Ah**		–	–
07A 08 1247	SCANGRIP® Li-ion battery Li-POWER **5.2 Ah**		–	–
Type of rechargeable battery			Lithium-ion	
Battery capacity		Ah	4	5.2
Battery voltage		V	12	18

08 1247

08 1246

Lithium-ion quick charger, suitable for 12V and 18V batteries from the Cordless Alliance System (CAS) platform.

Type		SC30
07A 08 1248	Battery charger	XXX

08 1248

Power supply for mains operation of all SCANGRIP® Cordless Alliance System (CAS) lights and floodlights. Instead of the battery, the power supply unit is pushed onto the lamp, which enables wired operation for any desired period of time.

Type		POWER
07A 08 1249	SCANGRIP® 100-240V power supply unit **Schuko**	XXX

08 1249

LED cordless lamps

Supplied with: **Cordless lamp without battery and without charger.**

07 3200 – Compact cordless LED lamp with pivoting lamp head.
Compatible with all **Fein 12-18 Volt Li-ion batteries**.

07 3203 – 12 V work light with 10 LEDs and two brightness levels.
Adjustable angle up to 200°, suspension hook, carabiner and integral magnet.

Size GLI18300 – Robust 18 V Li-ion cordless lamp with adjustable LED head.
6 powerful LEDs with 300 Lumens and very long working life.

Size GLIVARI – Very compact cordless LED lamp with pivoting lamp head.
Change in the light beam (bundled/spread) and 9 lighting angles.

Size GLI182200C – Sturdy cordless building site lamp 120°.
Individual control and adjustment using **Bosch Connectivity app.**

Note:

07 3200 – See No. 073832 and No. 073845 for suitable spare batteries and chargers.

07 3203/3205 – Suitable spare batteries and chargers can be found under No. 073851– 073866.

FE 12
FE 18

_92604200

B 12

_GLI12330

B 18

_GLI18300

B 18

_GLIVARI

Type			92604200	GLI12330	GLI18300	GLIVARI	GLI182200C
03G 07 3200	LED cordless lamp 0 version without battery	18 V	XXX	–	–	–	–
03B 07 3203		12 V	–	XXX	–	–	–
03B 07 3205		18 V	–	–	XXX	XXX	XXX
Manufacturer's designation			ALED 12-18V	GLI 12-330	GLI 18V-300	GLI VARI LED	GLI 18-2200C
Illumination		lm	300	330	300	420	2200
Illumination step 2		lm	100	–	–	–	300
Number of rechargeable batteries contained					0		
Type of rechargeable battery					Lithium-ion		
Battery voltage		V	12; 18	12	18	18	18

Robust Li-Ion battery lights with high light intensity.

Size M12SLED – LED hand-held floodlight, 12 volts, with **TRUEVIEW™ technology.**

Size M18SLED – **Robust Li-ion battery lights with TRUEVIEW™ technology.**

- Tiltable floodlight head with up to 1,250 Lumen.
- Range 650 m.
- 4 lighting levels for maximum flexibility.

Size M18AL – ■ Handy and very robust cordless lamp with high illumination intensity of 1500 Lumen.
- 2 brightness levels.
- Integral handle. Can be hung vertically and horizontally on a 13 mm ∅ pipe.

Size M18SAL – ■ Very sturdy **18 Volt LED floodlight with stand.**
- 3 brightness levels.
- 12 LEDs generate up to **2000 Lumen**.
- Floodlight head can be rotated 230° and tilted 240°.
- Stand can be extended from 1.10 m to 2.20 m.

Size M18ONESLSP – ■ ONE-KEY™ technology for extended settings and wireless control of the floodlight from distances up to 15 m.
- Optimised brightness and running time, specifying the power between 0 and 4400 Lumen.

Size M18ONESLSP – The floodlight offers complete 360-degree illumination and is an ideal solution for floodlighting including overhead working.

Size M12TLED; M18TLED – With adjustable LED head

Suitable for:

Size M12TLED – Milwaukee 12 V batteries MB12.

07 3211 – Milwaukee 18 V batteries (No. 073816 MB18 and 073827 MB18).

IP 64
B 18

_GLI182200C

IP 54
MB 18

_M18SAL

MB 12

_M12TLED

MB 12

_M18TLED

MB 18

_M12SLED

MB 18 | IP 54

_M18SLED

MB 18

_M18AL

MB 18

_M18TAL

_M180NESLSP

Type			M12TLED	M12SLED	M18TLED	M18SLED	M18AL	M18TAL	M18SAL	M180NESLSP
07A 07 3210	LED cordless lamp 0 version without battery	12.0 V	XXX	XXX	–	–	–	–	–	–
07A 07 3211		18.0 V	–	–	XXX	XXX	XXX	XXX	XXX	XXX
Manufacturer's designation			M12TLED-0	M12SLED-0	M18TLED-0	M18SLED-0	M18AL-0	M18TAL-0	M18SAL-0	M180NESLSP-0
Spread angle		degrees	–	–	–	–	–	–	–	180 – 360
Illumination		lm	120	750	120	1250	1500	2200	2000	4400
Illumination step 2		lm	–	400	–	1200	780	1100	1300	2100
Working life		h	–	8	10	–	4	8	6	8
Illumination range		m	–	650	–	–	–	–	–	–
Number of rechargeable batteries contained						0				
Type of rechargeable battery						Lithium-ion				
Battery voltage		V	12	12	18	18	18	18	18	18

Garant LED work lamps

Turn the spotlight on your work.

Discover the new powerful and efficient GARANT work lamps.

The new flexible and highly efficient GARANT LED work lamps help you to bring light to places where general lighting doesn't reach. Illuminate dark or inaccessible areas in a targeted manner, thereby making your work easier. The shock and break-resistant housing is optimally designed for harder working conditions. The work lamp is therefore extremely energy-efficient.

IP 65

Garant Work lamps

Versatile LED cordless work lamp in slim sturdy design with a wide range of applications.
Practical monitoring of the state of charge of the battery by LED display directly on the lamp.

- Main lamp steplessly dimmable from 10 - 100 %.
- Integral spotlight function.
- Flexible use thanks to 180° pivoting magnetic base, together with fold-up and rotating suspension hook.

08 1442 – Charging station compatible with the Garant Easyfix system.
Uncomplicated charging, ready to hand at all times.

Supplied with: Supplied with USB-C charging cable and plug-in power supply unit.

Note: For mounting on Easyfix perforated panels, order the Easyfix plastic base plate No. 955820 size 2 also.

GARANT Easyfix compatible

08 1441_200 08 1442_500

Type		200	500
01A 08 1441	LED cordless work light	XXX	–
01A 08 1442		–	XXX
Illumination	lm	20 – 200	50 – 500
Working life	h	2 – 20	
Number of rechargeable batteries contained		1	
Type of rechargeable battery		Lithium-ion	
Overall length	mm	200	230
Overall width	mm	39	47
Weight	g	157	257

IP 30

Garant LED rechargeable pen light

Extremely slim rechargeable LED pen torch with sturdy and elegant aluminium casing.
The steplessly dimmable main beam, and the strongly focussed spotlight LED ensure optimum illumination in restricted spaces.

- Sturdy metal clip on the back.
- Strong magnet in the lamp base.
- Battery charge is always clearly visible through the central LED display.

Supplied with: Including USB charging cable.

Type		200
01A 08 1448	LED rechargeable pen light	XXX
Illumination	lm	20 – 200
Working life	h	1 – 10
Number of rechargeable batteries contained		1
Type of rechargeable battery		Lithium-ion
Overall length	mm	173
Overall width	mm	17
Weight	g	56

HOLEX LED work lamp

08 1537 – LED rechargeable work lamp with 2 brightness levels and high illumination intensity. With suspension hook and fold-down support, **micro-USB charging port**, rotating magnetic base and hand loop.

08 1538 – Sturdy slim LED rechargeable battery torch with rubberised outer surface, holder magnet and additional LED in the head of the lamp. **3 different illumination settings** (head LED, bright, dimmed). Rechargeable via a micro-USB port. Ideal as an inspection lamp in restricted spaces.

08 1543 – LED rechargeable work lamp with adjustable lamp head angle, rotary knob for stepless dimming. Translucent cover for non-dazzle 360° illumination. Stand with integral magnet and suspension hook.

08 1549 – Slim LED rechargeable lamp with main beam and spotlight for illumination even in narrow spaces. Free-moving rotary knob for stepless dimming. Flexible attachment by means of rotary magnetic base with integral suspension hook.

08 1572 – Slim rechargeable LED inspection lamp with swan neck and sturdy 200 mm flexible shank. Main lamp steplessly dimmable. Additional spotlight function. The stable magnetic base with an integral suspension hook also allows use a desk lamp.

Supplied with:

08 1549 – Charging cable.

08 1537–1543/1572 – Supplied with charging cable and plug-in power supply unit.

08 1537_205 08 1538_260

08 1543_360 08 1549_380 08 1572_460

Type			205	260	360	380	460
02A 08 1537	LED rechargeable work light		XXX	–	–	–	–
02A 08 1538	LED rechargeable rod lamp		–	XXX	–	–	–
02A 08 1543	LED rechargeable work light		–	–	XXX	–	–
02A 08 1549			–	–	–	XXX	–
02A 08 1572	LED rechargeable inspection lamp **with swan neck**		–	–	–	–	XXX
Illumination		lm	350	300	60 – 1000	120 – 500	50 – 500
Illumination step 2		lm	150	60	–	–	–
Working life		h	3	3	1.5	2.5	2 – 22
Number of rechargeable batteries contained					1		
Type of rechargeable battery					Lithium-ion		
Overall length		mm	205	260	260	380	470
Weight		g	216	94	470	250	325

08 1576 – Handy powerful rechargeable pocket LED work light. Steplessly dimmable main beam and additional spotlight function. Attachment by means of a strong magnet or fold-away suspension hook.

08 1577 – Rechargeable LED pen light with steplessly dimmable main beam and additional spotlight function. Strong magnet in the lamp base.

08 1579 – LED rechargeable pen light with main beam and spotlight, with a pocket clip with powerful attachment magnet. Magnetic base with 360° rotation.

Supplied with: Including USB charging cable.

08 1576_118 08 1577_175 08 1579

Type			118	170	175
02A 08 1576	LED pocket rechargeable work light		XXX	–	–
02A 08 1577	LED rechargeable pen light		–	–	XXX
02A 08 1579			–	XXX	–
Illumination		lm	50 – 500	220	20 – 200
Illumination step 2		lm	–	80	–
Working life		h	1 – 10	2.5	2 – 16
Number of rechargeable batteries contained				1	
Type of rechargeable battery				Lithium-ion	
Overall length		mm	108	170	175
Overall width		mm	47	20	23
Weight		g	114	83	77

SCANGRIP® Work lamps

LED cordless work lamp with high-power LEDs for high light output. With fold-out swivel support hook and powerful attachment magnet.

Size MINIFORM – **Miniform** version, **slim**, handy size for the pocket (120×59×25 mm), belt clip, ergonomic handle.

Size UNIFORM – New generation of the version **UNIFORM**. **Extremely sturdy**, with intelligent battery charge display and additional spotlight. Belt clip.

Size MINI-PRO – New generation of the **MINI-MAG** version, powerful spotlight and main light, with charge indicator at the front.

Size MAG-PRO – New generation of the **MAG3** version, with exceptionally high light output, very powerful spotlight and main light, with charge indicator at the front.

Size STAR – **Handy cordless work lamp** and floodlight combined in a single lamp. **Flexible handle** with built-in magnet, suitable for direct mounting on a Scangrip stand. Built-in power bank with USB socket.

Size STAR – Without suspension hook.

Size MAGPEN3 – Powerful general-purpose LED **rechargeable battery** torch with side main beam and torch head spotlight. With pocket clip and integral magnet.

Size MINIFORM; UNIFORM; MINI-PRO; MAG-PRO – High-performance **COB LED technology for extremely bright homogeneous lighting of an area at two levels of brightness.**

Size MINI-PRO; MAG-PRO; MAGPEN3 – Steplessly dimmable.

Supplied with:

Size MINIFORM; MINI-PRO; MAGPEN3 – Supplied with USB charging cable.

Size UNIFORM; MAG; MAG-PRO; STAR – Supplied with charger and USB cable.

IP 65

_MINIFORM

IP 65

_UNIFORM

IP 54

_MINI-PRO

IP 20

_MAG

IP 54

_MAG-PRO

IP 65

_STAR

IP 20

_MAGPEN3

Type		MINIFORM	UNIFORM	MINI-PRO	MAG	MAG-PRO	STAR	MAGPEN3
08C 08 1516	LED rechargeable work lamp	XXX	XXX	XXX	XXX	XXX	XXX	–
08C 08 1517	LED rechargeable pencil work light	–	–	–	–	–	–	XXX
Illumination	lm	200	500	20 – 200	300	60 – 600	1000	15 – 150
Illumination step 2	lm	100	250	–	150	–	500	–
Working life	h	2.5	3	2 – 20	2.5	1.5 – 15	2.5	2 – 20
Number of rechargeable batteries contained		1						
Type of rechargeable battery		Lithium-ion						
Overall length	mm	120	190	202	260	270	156	174
Overall width	mm	59	60	40	61	70	103	–
Weight	g	138	265	143	273	312	710	98

IP 30

Fold-away 3-in-1 lamp in extremely slim and compact design. Permits inspection and lighting in difficult to access and narrow places. Pocket-size when fully folded away, the lamp operates like a conventional torch. Additional spotlight and two lighting levels (50 and 100%). Strong built-in magnet and hook.

08 1571 – Ultra-thin compact design.

08 1539

08 1571

Overall length	mm	310	240
08C 08 1539	LED inspection light with battery	XXX	–
08C 08 1571	LED inspection light with battery	–	XXX
Illumination	lm	500	200
Illumination step 2	lm	250	100
Working life	h	2.5	
Lighting life stage 2	h	5	
Number of rechargeable batteries contained		1	
Type of rechargeable battery		Lithium-ion	
Overall length	mm	310	240
Head ∅	mm	17	–
Weight	g	228	100

LED cordless rod lamp

08 1259 – **Battery-powered rod lamp** with rotating plastic hook; On/Off switch, floodlight and torch can be controlled separately.

08 1341 – The Line Light work lamp is formed of an extruded acrylic profile with an **integral lens** (beam dispersion angle 75°). It is thus exceptionally **sturdy and shock-resistant.** It is thus designed for use under the **harshest conditions** and reliably provides strong and concentrated light in any working area. With **battery for mobile use** with additional torch on the end (150 lumen).

Supplied with:

08 1341 – Work light with battery, charger, mounting clip with magnet, and lockable hook.

IP 20

08 1259

IP 65

08 1341

Type		160	465
08C 08 1341	SCANGRIP Line Light cordless inspection lamp	–	XXX
08B 08 1259	HEDI LED cordless rod lamp	XXX	–
Illumination	lm	400	150 – 600
Working life	h	3	1.5
Number of rechargeable batteries contained		1	
Type of rechargeable battery		Nickel metal hydride	Lithium-ion
Overall length	mm	520	380
Head ∅	mm	58	25
Weight	g	300	450

IP 65

Mini LED floodlight

Compact and powerful cordless LED floodlight for mobile use.
The compact dimensions mean it is perfectly suitable for use as a hand lamp.
The adjustable magnetic base allows the lamp to be used as a stationary light source.

08 1452 – With integral speaker, ideal for the workplace and building site.
With remote control.

08 1451

08 1452

08 1573

Type		10	7-SOUND	7
08C 08 1451	SCANGRIP Mini LED floodlight	XXX	–	–
08C 08 1452		–	XXX	–
02A 08 1573	HOLEX	–	–	XXX
Illumination	lm	100 – 1000	300	100
Illumination step 2	lm	–	600	350
Illumination step 3	lm	–	–	700
Working life	h	1.5 – 15	3	10
Lighting life stage 2	h	–	6	4
Lighting life stage 3	h	–	–	2
Number of rechargeable batteries contained		1		
Type of rechargeable battery		Lithium-ion		
Battery voltage	V	3.7		
Overall length	mm	104	92	89
Overall width	mm	38	74	30
Overall height	mm	96	86	95
Weight	g	250	430	255

IP 20

SCANGRIP LED rechargeable battery torch

Rechargeable mini-LED torch in an elegant and extremely compact design.

- with integrated charging cable which also serves as a key ring.
- steplessly dimmable from 10 – 100%.
- Switch-on delay to prevent accidental switching on in the pocket.

Type		MICRO
08C 08 1569	LED torch with battery	XXX
Illumination	lm	7.5
Working life	h	0.25
Number of rechargeable batteries contained		1
Type of rechargeable battery		Lithium-ion
Overall length	mm	55
Overall width	mm	25
Weight	g	17

08 1569

IP 54

SCANGRIP® Pen torch

Sturdy and elegant LED torch of aluminium, with handy retainer clip for professional use.
Size PEN – With focussable light beam from 10-60° spread.
Size PENCIL – Ultra-thin pen torch with head ∅ only 11 mm.

Note:
Size PENCIL – For suitable batteries see No. 081561 size LR8D425.

		PEN	PENCIL
08C 08 1511	LED pen torch **with batteries**	XXX	XXX
Illumination	lm	100 – 200	75
Working life	h	1.75 – 3.5	2.5
Number of batteries contained		2	
Battery type		Micro, AAA	AAAA
Overall length	mm	153	131
Head ∅	mm	16	15
Weight	g	62	32

_PEN

_PENCIL

Garant LED rechargeable battery torch

Focussable and very sturdy LED torch of anodised aluminium. The single-hand focussing enables quick and easy adjustment of the beam. Rotary switch with integral charging status display and micro-USB port.
Supplied with: Supplied with a micro-USB charger, hand loop and GARANT transport box.

Type	mm	145
01A 08 1545	LED rechargeable battery torch	XXX
Illumination	lm	300
Working life	h	3
Number of rechargeable batteries contained		1
Type of rechargeable battery		Lithium-ion
Overall length	mm	145
Head ∅	mm	35
Weight	g	188

USB port

Charge status display

IP 54

Garant LED torches

Long-life and very sturdy LED torch of anodised aluminium. **Latest** 1 Watt or 3 Watt **LED technology** with **outstanding lighting power**.

- **Tight beam** with little scatter loss.
- High energy efficiency for long illumination time.
- **Illuminated ring,** easy to find in the dark.
- Splash-proof, protection class IP54.

Size 125 – Homogeneous illumination via the diffusion lens,single-hand push-button switch at the front.
Size 140 – Switch at rear.

Note: For suitable batteries see No. 081551 ff.

_125

_140

Type	mm	125	140
01A 08 1505	LED torches **with batteries**	XXX	XXX
Illumination	lm	100 – 250	35
Working life	h	4 – 10	10
Number of batteries contained		3	2
Battery type		Micro, AAA	
Overall length	mm	125	140
Head ∅	mm	29	16
Weight	g	119	54

LEDLENSER LED torches

LED lenses are amongst the technology leaders for LED torches. Within the **splash–proof aluminium housing,** all the contacts are gold-plated, **high-quality lenses** gather the light uniformly and without losses. All lamps are equipped with focussable lamp head.

08 1467 – Compact torches in bar format or key fob format.
- Optionally as a disposable battery or rechargeable battery version.

08 1468 – Core series LED lenses, the new generation of the well-known P series.
- Dimmable.
- Extremely good protection against dust and water - index of protection IP68.
- Easy battery charging using the Magnetic Charge System.

08 1469 – Work series LED lenses, virtually indestructible lamps for use in the rough industrial environment.
- Rubber covering around the lamp head and on the end cap provide protection against impacts and damage.
- Additional front screen protects the lens against scratches.

Supplied with:

08 1467 Size P3R; P4R/1469 Size P7R-WORK –
Supplied with charging station and USB charging cable.

08 1468 Size P5R-CORE; P6R-CORE/1469 Size P18R-WORK –
Supplied with USB charging cable.

IP X4
08 1467_P3

IP 54
08 1467_P3R

IP 54
08 1467_P4

IP 54
08 1467_P4R

IP 68
08 1469_P7R-WORK

IP 68
08 1468_P5R-CORE

IP 54
08 1469_P18R-WORK

IP 68
08 1468_P6R-CORE

Type		P3	P3R	P4R	P4	P5R-CORE	P6R-CORE	P7R-WORK	P18R-WORK
04B 08 1467	LED torch	XXX	XXX	XXX	XXX	–	–	–	–
04B 08 1468	Core LED torch	–	–	–	–	XXX	XXX	–	–
04B 08 1469	Work LED torch	–	–	–	–	–	–	XXX	XXX
Illumination	lm	25	140	120	120	350	600	900	2600
Illumination step 2	lm	–	20	10	10	130	240	390	1000
Illumination step 3	lm	–	–	–	–	15	15	15	30
Working life	h	6	2.5	4	4	1	2	2	2.5
Lighting life stage 2	h	–	6	18	20	3.5	6	3.25	4.5
Lighting life stage 3	h	–	–	–	–	25	95	60	70
Number of batteries contained		1	–	–	2	–	–	–	–
Battery type		Micro, AAA	–	–	Micro, AAA	–	–	–	–
Number of rechargeable batteries contained		–	1	2	–	1	1	1	1
Type of rechargeable battery		–	Lithium-ion	Nickel metal hydride	–	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Overall length	mm	90	102	146	140	123	151	170	183
Head ∅	mm	19	20	15	15	29	35	45	99
Weight	g	35	42	60	55	106	170	219	669

LEDLENSER Technical highlights of the Ledlenser torches

	Function	products
ADVANCED FOCUS SYSTEM	Combination of lens and reflector permits stepless transition from homogeneous local beam to sharply focussed long-range beam.	P3, P3R, P4, P4R, P5R-CORE, P6R-CORE, P7R-WORK, P18R-WORK
SMART LIGHT TECHNOLOGY	Individual functional scopes can be programmed for different combinations of buttons and circuits (such as power, low power, flashing light).	P5R-CORE, P6R-CORE P7R-WORK, P18R-WORK
TEMPERATURE CONTROL	Thanks to the intelligent and fully automatic temperature control, which prevents overheating of the LED, there is no risk of burns.	P5R-CORE, P6R-CORE P7R-WORK, P18R-WORK
MAGNETIC CHARGE SYSTEM	Magnetic interface between lamp and charger permits charging without taking the battery out. The lamp is always ready to hand.	P5R-CORE, P6R-CORE P7R-WORK, P18R-WORK

IP 54

LED torches

High-quality, long-life and sturdy LED torch of anodised aluminium. **Latest LED technology** with **outstanding lighting power**.

- Anti-roll protection.
- Rubber cover for the operating button.

With **focussable** lamp head.

Size 94 – ■ Small and handy, but with a powerful beam.
■ With a handy key ring.

08 1533_94

08 1533_117

08 1533_160

Type		94	117	160
02A 08 1533	LED torch, black **with batteries**	XXX	XXX	XXX
Illumination	lm	35	160	250
Working life	h	7	5	9
Number of batteries contained		1	1	2
Battery type		Micro, AAA	Mignon, AA	Mignon, AA
Overall length	mm	94	117	160

08 1437_BLACK

08 1437_SILVER

08 1437_GREY

08 1437_RED

Colour		BLACK	SILVER	GREY	RED
02A 08 1437	LED torch **with batteries**	XXX	XXX	XXX	XXX
Illumination	lm	250			
Illumination step 2	lm	100			
Working life	h	4			
Lighting life stage 2	h	12			
Number of batteries contained		3			
Battery type		Micro, AAA			
Overall length	mm	143			
Head ∅	mm	27			

Size PEN – Handy LED pen torch with **focussable lamp head** for bundled and concentrated illumination between 10° and 80°. Practical pocket clip and push-button.

08 1461

Type		PEN
02A 08 1461	LED pen torch **with batteries**	XXX
Illumination	lm	120
Working life	h	6
Number of batteries contained		2
Battery type		Micro, AAA
Overall length	mm	130
Head ∅	mm	17
Weight	g	60

IP 54

LED / UV torch with battery

Rechargeable anodized aluminium LED torch with battery, 2-stage LED, **switchable to UV light, 90° rotating head** and magnetic base. Latest LED technology with outstanding light power and virtually unlimited working life (approx. 100,000 hours).

- Rubber cover for the operating button.

Supplied with: Supplied with USB charging cable.

08 1518

Type		UV-LED
02A 08 1518	Torch LED and UV **with battery**	XXX
Illumination	lm	300
Working life	h	5
Wavelength of UV radiation	nm	395
Number of rechargeable batteries contained		1
Type of rechargeable battery		Lithium-ion
Overall length	mm	158
Head ∅	mm	29

SCANGRIP® UV-LED lamps

UV CURING. Special LED lamps for quick curing of UV-curing primers, fillers, paints and also adhesives.

Size UV-LIGHT – Flexible cordless LED hand-held lamp for UV curing of small and medium-sized areas. Curing area Ø 10 cm. Supplied with charging station, Li-ion battery (2.6 Ah).

Size NOVA-UV – Rechargeable floodlight for UV curing of large areas. Curing area Ø 25 cm. Supplied with charger, Li-ion battery (5.4 Ah), integral power bank with USB port.

IP 30

08 1525_UV-LIGHT

08 1525_NOVA-UV

Type		UV-LIGHT	NOVA-UV
08C 08 1525	UV work lamp with rechargeable battery	XXX	(XXX)
Working life	h	1.5	
Number of rechargeable batteries contained		1	
Type of rechargeable battery		Lithium-ion	
Battery voltage	V	3.7	

LED true colour work lamps

Size CRI-PEN – LED pen torch with focussable lamp head, pocket clip and push-button. True colour LED with **high CRI value** (> 95) for recognition of colour matching.

Size PEN – **MATCHPEN.** Small portable pen torch with focus function for bundled and concentrated illumination between 10° and 70°. Ideal for detecting scratches and scuffs during quality control.

Size MINI – **MINIMATCH.** With a 2 COLOUR LIGHT function. This allows the choice between two colour temperatures depending on the work in hand. Warm light (4500 K) for light surfaces and cold light (6500 K) for dark surfaces.

Size SUN3 – **SUNMATCH 3.** Cordless LED hand-held work lamp with selector switch for 5 colour temperatures (ALL DAYLIGHT function).

Size SUN3 – Rechargeable dust-proof and waterproof cordless hand-held work lamp. With sturdy swivel hook and powerful built-in magnet. Flexible lamp head (swings through180°).

Size MULTI3 – **MULTIMATCH 3.** Powerful portable cordless work light with selector switch for 5 colour temperatures. Display at the back, showing the battery capacity and remaining working time. Integral adjustment base for direct mounting on Scangrip stand 081252 1.35-3.

08 1513/1514 – **COLOUR MATCH**. Special LED with high CRI value for **perfect colour reproduction** and extremely long LED working life. Perfect for all painting, polishing, cleaning and preparation work. Designed for use in paint shops. **Exchangeable glass lens** and resistant to all types of solvent, even when cleaned every day.

Supplied with:

Size MULTI3 – Including battery charger.

Size MINI; SUN3 – Supplied with charger and USB cable.

IP 54

08 1461_CRI-PEN

IP 54

08 1513_PEN

IP 65

08 1513_MINI

IP 65

08 1513_SUN3

IP 67

08 1514_MULTI3

Type		CRI-PEN	PEN	MINI	SUN3	MULTI3
02A 08 1461	HOLEX LED pen torch **with batteries**	XXX	–	–	–	–
08C 08 1513	SCANGRIP COLOUR MATCH LED true colour work lamps	–	XXX	XXX	XXX	–
08C 08 1514	LED true colour rechargeable work lamp	–	–	–	–	XXX
Illumination	lm	100	100	200	500	3000
Working life	h	2	2	2	4	15
CRI value		95	95	96	96	96
Number of batteries contained		2	2	–	–	–
Battery type		Micro, AAA	Micro, AAA	–	–	–
Number of rechargeable batteries contained		–	–	1	1	1
Type of rechargeable battery		–	–	Lithium-ion	Lithium-ion	Lithium-ion
Overall length	mm	135	150	156	190	240
Overall width	mm	17	16	60	60	230
Weight	g	60	60	190	270	1970

08

LED Ex lamps

Explosion-proof work lamp, tested to the applicable ATEX guidelines.
Extremely bright illumination and very long working life.

08 1462 – Sturdy and robust cordless LED EX work light.
08 1491 – Multi-functional work lamps with magnetic foot for securing to metal surfaces or for use as a standing light. Lamp head can be rotated through 360° and tilted 120° upwards or downwards. With spot beam, nylon clip and front switch.
08 1515 – Rechargeable multi-function LED EX work light. Main lamp with two-stage switch and upper spotlight.

Supplied with:

08 1462 – Supplied with 5 m charging cable.
08 1515 – Supplied with charging station.

IP 67

08 1491_3AAHL

08 1515_UNI-EX

IP 65

08 1462_NOVA-EXR

Type		3AALH	UNI-EX	NOVA-EXR
08C 08 1491	Underwater Kinetics LED EX work light **with battery**	XXX	–	–
08C 08 1515	SCANGRIP Rechargeable LED EX work light	–	XXX	–
08C 08 1462	SCANGRIP Rechargeable LED EX work light	–	–	XXX
ATEX zone		Zone 0; Zone 20	zone 20; Zone 20	Zone 1; Zone 21
Illumination	lm	228	200	2000
Illumination step 2	lm	–	330	4000
Working life	h	8.4	7.5	2
Number of batteries contained		3	–	–
Battery type		Mignon, AA	–	–
Number of rechargeable batteries contained		–	1	1
Type of rechargeable battery		–	Lithium-ion	Lithium-ion
Overall length	mm	182	220	270
Overall width	mm	54	70	261
Overall height	mm	–	39	130
Weight	g	–	420	3900

LED headlamps with Ex protection (ATEX)

Explosion-proof headband lamp, tested to the applicable ATEX guidelines.

08 1474 – Headband lamp, very comfortable to wear, focussable, with red backlight. Comfortable "Magnetic Switch" for easy operation even when wearing gloves and protective equipment.
Size EXH8 – Comfortable "Magnetic Switch" for easy operation even when wearing gloves and protective equipment.
Size EXH8 – Headlamp, very comfortable to wear, focussable, with red backlight.
08 1494 – Sturdy and light-weight headband lamp. Able to switch between wide beam and focussable beam. Lamp head can be removed and used separately as a work lamp.
08 1519 – Surface, lightweight LED headband lamp with detachable lamp module for use as a work lamp. 3 selectable beam profiles (point, diffused, diffused red), 2 light intensities (high / low), non-slip rubber helmet strap (textile strap available as an option).

IP 67

08 1519_1

IP 68

08 1474_EXH8

IP 65

08 1494_EX-VIEW

Type		1	EXH8	EX-VIEW
08C 08 1494	SCANGRIP LED-EX headband lamp **with battery**	–	–	XXX
04B 08 1474	LEDLENSER LED-EX headband lamp **with battery**	–	XXX	–
08C 08 1519	Underwater Kinetics Vizion I LED-EX headband lamp **with battery**	XXX	–	–
Manufacturer's designation		–	EXH8	EX-VIEW
ATEX zone		Zone 0; Zone 20	Zone 0; Zone 20	Zone 2; Zone 22
Illumination	lm	35 – 65	180	200
Illumination step 2	lm	–	50	100
Working life	h	13 – 17	15	1.75
Lighting life stage 2	h	–	40	3.5
Number of batteries contained		3	3	–
Battery type		Micro, AAA	Mignon, AA	–
Number of rechargeable batteries contained		–	–	1
Type of rechargeable battery		–	–	Lithium-ion
Head ∅	mm	45	41	–
Weight	g	110	345	240

LED torches with Ex protection (ATEX)

Explosion-proof torch, tested to the applicable ATEX guidelines.

08 1484 – The lamps of the new LED Lens EX series are certified both for maximum dustproof and waterproof qualities.

Size EX4 – Handy lightweight pen torch, with pressure switch.

Size EX7 – Comfortable "Magnetic Switch" for easy operation even when wearing gloves and protective equipment.

Size EX7 – Torch with patented Advanced Focus System for focussing the light beam.

08 1521 – **Special torch** with **impact resistant** and **waterproof** ABS casing. With **LED reflector technology.**

Size 3AA – **LED hand-lamp and helmet lamp** with bright spot beam, **flame-resistant** to EN 443, **TRS system** for consistent performance at temperatures below freezing, front switch.

Size 4AAZOOM – **Focussable LED hand-lamp and helmet lamp** (light beam 13° - 22°), 2 power settings (high / low), patented lens system, front switch.

Size 4AARFL – **LED safety lamp** with smooth wide-angle beam, ideal for lighting larger areas, helmet mount for easy attachment to work helmets and safety helmets.

Size 4AA2B – **Twin-beam LED safety lamp,** front switch for the primary beam (shines forwards), rotary knob switch for the secondary beam (shines downwards), no reduction in the working duration if the two beams are used at the same time.

08 1522 – **Special torches** with **impact resistant** and **waterproof** ABS casing.
Powerful LED pen torch of the latest generation with pocket clip and switch at rear.

ATEX Ex ZONE 0 + 20 IICT4 / IIICT75°C

08 1484_EX4

ATEX Ex ZONE 0 + 20 IICT4 / IIICT75°C

08 1484_EX7

ATEX Ex ZONE 1 + 21 IIBT4 / IIICT60°C

08 1522_2ELED

ATEX Ex ZONE 0 + 20 IICT4 / IIICT75°C

08 1521_3AA

ATEX Ex ZONE 0 + 20 IICT4 / IIICT75°C

08 1521_4AAZOOM

ATEX Ex ZONE 0 + 20 IICT4 / IIICT75°C

08 1521_3AA

ATEX Ex ZONE 0 + 20 IICT4 / IIICT75°C

08 1521_4AA2B

Type		EX4	EX7	2ELED	3AA	4AAZOOM	4AARFL	4AA2B
04B 08 1484	LED-EX torch **with battery**	XXX	XXX	–	–	–	–	–
08C 08 1521	LED-EX torch **with batteries**	–	–	–	XXX	XXX	XXX	XXX
08C 08 1522		–	–	XXX	–	–	–	–
ATEX zone		Zone 0; Zone 20	Zone 0; Zone 20	Zone 1; Zone 21	zone 0; zone 20	zone 0; zone 20	Zone 0; zone 20	Zone 0; zone 20
Illumination	lm	50	60 – 200	35	110	230	225	170
Illumination step 2	lm	–	–	–	–	–	–	20
Working life	h	7	16 – 45	3	8	5	6.5	6.5
Number of batteries contained		2	3	2	3	4	4	4
Battery type		Micro, AAA	Micro, AAA	Micro, AAA	Mignon, AA	Mignon, AA	Mignon, AA	Mignon, AA
Overall length	mm	140	161	132	135	170	158	158
Head ∅	mm	20	41	22	35	35	35	35
Weight	g	65	232	53	139	176	156	158

Type		2ELED
08C 08 1528	Fibre optic attachment for pin-point illumination	XXX
suitable for		081522 2ELED

08 1528_2ELED

LEDLENSER Technical highlights of the Ledlenser headlamps

	Function	products
ADVANCED FOCUS SYSTEM	Combination of lens and reflector permits stepless transition from homogeneous local beam to sharply focussed long-range beam.	IH3, IH5, IH5R, IH8R, IH9R
SMART LIGHT TECHNOLOGY	Individual functional scopes can be programmed for different combinations of buttons and circuits (such as power, low power, flashing light).	IH5, IH5R, IH8R, IH9R
RAPID FOCUS	Single-handed mechanism for instant adjustment of the light beam.	IH5, IH5R, IH8R, IH9R
DUAL POWER SOURCE	Dual system: Use of rechargeable batteries or disposable batteries as the power source. Practical for long periods of use without a power socket.	IH5, IH5R, IH9R

LEDLENSER LED headlamp

Powerful high-performance LED **industrial** headlamp for professional use.

- **Pivoting head** and stepless focussing function.
- Exchangeable and washable head band.

Size IH3 – Very light-weight headband lamp, easy to operate. Easily dimmed.

Size IH8R – Powerful light-weight multi-purpose light with helmet attachment and belt bag.

08 1476 Size IH5/1478 Size IH5R – Innovative multi-purpose light with removable lamp head.

08 1476 Size IH5/1478 Size IH5R; IH9R – Flexibility in use, can be operated either with a rechargeable battery or disposable battery.

Size H7R-CORE; H15R-CORE – Powerful headlamps with intuitive operation and stepless brightness control, extremely high protection against dust and water due to Flex Sealing Technology Ledlenser Connecting System as a standard interface permits easy coupling with a comprehensive range of accessories.

IP 67 NEW

08 1479_H7R-CORE

IP X4

08 1476_IH3

IP 54

08 1476_IH5 / 08 1478_IH5R

IP 54

08 1478_IH8R

IP 54

08 1478_IH9R

IP 67 NEW

08 1479_H15R-CORE

Type		IH3	IH5	IH5R	IH8R	IH9R	H7R-CORE	H15R-CORE
04B 08 1476	LED headlamp with battery	XXX	XXX	–	–	–	–	–
04B 08 1478	LED headlamp with rechargeable battery	–	–	XXX	XXX	XXX	–	–
04B 08 1479		–	–	–	–	–	XXX	XXX
Manufacturer's designation		iH3	iH5	iH5R	iH8R	iH9R	H7R Core	H15R Core
ATEX zone		no	no	no	no	no	–	–
Illumination	lm	120	200	400	600	400	600	1000
Illumination step 2	lm	5	20	20	250	170	15	20
Illumination step 3	lm	–	–	–	10	20	–	–
Light current boost	lm	–	–	–	–	600	1000	2500
Working life	h	6	4.5	4	10	7	4	5
Lighting life stage 2	h	60	35	35	15	10	65	80
Lighting life stage 3	h	–	–	–	120	60	–	–
Number of batteries contained		3	1	–	–	–	–	–
Battery type		Micro, AAA	Mignon, AA	–	–	–	–	–
Number of rechargeable batteries contained		–	–	1	1	1	1	1
Type of rechargeable battery		–	–	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Head ∅	mm	28	31	31	36	31	41	47
Weight	g	133	92	98	158	139	259	380

IP 65

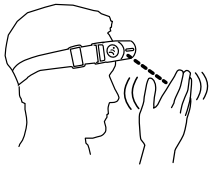
NEW

SCANGRIP LED working headlamp

New generation of the well-known I-View headlamp with wide spread of light for optimum illumination of the entire work area. Light-weight slim profile lamp. Non-contact switching on and off thanks to the sensor system. Stepless dimming function from 10 – 100%. Handy battery charge display directly on the lamp.

Supplied with: Supplied with USB charging cable.

Type		I-VIEW
08C 08 1473	LED headlamp with battery	XXX
Manufacturer's designation		I-VIEW
Illumination	lm	40 – 400
Working life	h	1.5 – 15
Number of rechargeable batteries contained		1
Type of rechargeable battery		Lithium-ion
Weight	g	240



Standard headlamp

I-VIEW headlamp

08

HOLEX Headlamp

08 1472 – LED headlamp with efficient COB LED for extensive illumination of the work area. Non-contact switching on and off thanks to sensor system; steplessly dimmable from 10 – 100%.

08 1493 – LED work headlamp with wide spread of light for optimum illumination of the entire work area. Non-contact switching on and off, thanks to sensor system with 2 lighting levels.

Supplied with:

08 1472 – Supplied with 3 pcs. batteries.

08 1493 – Supplied with USB charging cable.

Type		150	300
02A 08 1472	LED headlamp with battery	XXX	–
02A 08 1493	LED cordless headlamp	–	XXX
Illumination	lm	15 – 150	100
Illumination step 2	lm	–	300
Working life	h	6 – 60	6
Lighting life stage 2	h	–	2
Number of batteries contained		3	–
Battery type		Micro, AAA	–
Number of rechargeable batteries contained		–	1
Type of rechargeable battery		–	Lithium-ion
Weight	g	100	111

IP 54

08 1472

IP 65

08 1493

Batteries

08 1559 – High-quality branded **Lithium-metal** batteries with very high capacity and very low self-discharge rate. 10 year working life (smoke detectors, control units, etc.). Operating temperature range -40 °C to 60 °C.

08 1551–1554 – High-quality **alkaline batteries** have a **working life 2 to 3 times longer than,** and a **shelf life more than twice** that of zinc-carbon batteries.

08 1551/1552 – HOLEX batteries offer reliable and sustained energy output.

08 1553/1554 – High-performance branded X-Power alkaline batteries of outstanding quality with sustained energy output for demanding applications in power tools with high power consumption. Long shelf life of up to 7 years.

08 1561 Size LR3–LR20 – High-quality and high performance **VARTA LONGLIFE Power alkali manganese** battery for use in power tools with high power consumption. Quality **"Made in Germany"** (except for 6LR61). **Guaranteed shelf life 10 years.**

08 1551_LR3

08 1551_LR6

08 1551_LR14

08 1551_LR20

08 1551_6LR61

08 1553_LR3

08 1553_LR6

08 1553_LR14

08 1553_LR20

08 1553_6LR61

08 1561_LR3

08 1561_LR6

08 1561_LR14

08 1561_LR20

08 1561_6LR61

International size			LR3	LR6	LR14	LR20	6LR61
02A 08 1551	HOLEX	Alkaline-manganese batteries	XXX	XXX	XXX	XXX	XXX
02A 08 1552			XXX	XXX	–	–	–
08C 08 1553			XXX	XXX	XXX	XXX	XXX
08C 08 1554	ANSMANN		XXX	XXX	–	–	–
08C 08 1559		Lithium-metal batteries	–	–	–	–	–
08C 08 1561	VARTA CONSUMER BATTERIES	Alkaline-manganese batteries	XXX	XXX	XXX	XXX	XXX
Number of batteries contained (08 1551, 08 1553, 08 1561)			4	4	2	2	1
Number of batteries contained (08 1552, 08 1554)			20	20	–	–	–
Number of batteries contained (08 1559)			2	2	–	–	1
chemical composition (08 1551, 08 1552, 08 1553, 08 1554, 08 1561)			Alkaline manganese				
chemical composition (08 1559)			Lithium-metal	Lithium-metal	–	–	Lithium-metal
Battery designation (08 1551)			Micro, AAA	Mignon, AA	Baby, C	Mono, D	9 V block
Battery designation (08 1552, 08 1553, 08 1554, 08 1559, 08 1561)			Micro, AAA	Mignon, AA	Baby, C	Mono, D	9 V block
Nominal voltage	V		1.5	1.5	1.5	1.5	9

08 1552_LR3

08 1552_LR6

08 1554_LR3

08 1554_LR6

08 1559_LR3

08 1559_LR6

08 1559_6LR61

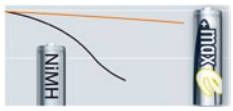
Special batteries

High quality special batteries.
Size 357 – Also for digital calipers.
Size LS14250 – Also for electronic locks

Battery type		LR41	LR43	LR44	357	13ZL	CR2016	CR2025	CR2032	CR1632	CR2430	CR2450
08 1560	Button cell / special battery	XXX	XXX	XXX	XXX	XXX	–	–	–	–	–	–
Number of batteries contained		1	1	1	1	6	1	1	1	1	1	1
chemical composition		Alkaline manganese	Alkaline manganese	Alkaline manganese	AgO round	Zinc-air	Lithi-um-metal	Lithi-um-metal	Lithi-um-metal	Lithi-um-metal	Lithi-um-metal	Lithi-um-metal
Battery designation		AG3	LR43	LR44	SR44	13ZL	CR2016	CR2025	CR2032	CR1632	CR2430	CR2450
Nominal voltage	V	1.5	1.5	1.5	1.5	1.4	3	3	3	3	3	3

Battery type		A23	A27	LR1	CR123A	SL760	LS14250
08 1560	Button cell / special battery	XXX	XXX	XXX	–	–	–
Number of batteries contained		1					
chemical composition		Alkaline manganese	Alkaline manganese	Alkaline manganese	Lithium-metal	Lithium-metal	Lithium-metal
Battery designation		A23	A27	LR1	CR123A	LS14500	LS14250
Nominal voltage	V	12	12	1.5	3	3.6	3.6

Rechargeable NiMH batteries



Rechargeable cells with **very high capacity** for long discharge times in non-polluting NiMH technology; rechargeable up to 1000 times.

08 1575 – New maxE battery technology. Supplied **pre-charged,** can be used for 1 year without recharging, **very low self-discharge-rate,** ideal for low-power devices. Maximum charging current 1400 mA.

08 1570_LR3 08 1570_LR6 08 1575_LR3 08 1575_LR6

International size		LR3	LR6	LR14	LR20	6LR61
08 1570	Set of NiMH rechargeable batteries	XXX	XXX	–	–	–
08 1575	Set of NiMH rechargeable batteries **pre-charged**	XXX	XXX	XXX	XXX	XXX
Number of rechargeable batteries contained		2	2	2	2	1
chemical composition		Nickel metal hydride				
Type of rechargeable battery		Micro, AAA	Mignon, AA	Baby, C	Mono, D	9 V block
International size		LR3	LR6	LR14	LR20	6LR61
Nominal voltage	V	1.2	1.2	1.2	1.2	8.4
Battery capacity (08 1570)	mAh	1100	2850	–	–	–
Battery capacity (08 1575)	mAh	800	2100	4500	8500	200

08 1575_LR14 08 1575_LR20 08 1575_6LR61

Li-ion battery cell

Li-ion battery cells with safety circuit. Very low self-discharge rate, and high energy efficiency. Protected against short circuit, overcharge, overload and deep discharge.

Capacitance	mAh	2600	3500
08 1574	Li-ion battery cell, rechargeable	–	–
Number of rechargeable batteries contained		1	
chemical composition		Lithium-ion	
International size		18650	
Nominal voltage	V	3.6	
Battery capacity	mAh	2600	3500

08 1574 _2600 08 1574_3500

Battery test device

Compact and user-friendly test device for checking all popular cells and batteries. Within 2 – 3 seconds the **actual energy content** of the cell is displayed in 10 % steps, together with the **cell voltage.**

Application: AAA, AA, C, D, 9 V, A23 (12 V), CR all types (Lithium button cells 3 V), LR all types (alkaline button cells), V all types (zinc-air button cells).

08 1592

08 1592	Battery test device Energy-Check LCD	XXX

Chargers for rechargeable NiMH, NiCd and Li-ion cells

Microprocessor-controlled charging and servicing stations for battery cells with **individual channel monitoring** and battery fault detection. Status display for each charging slot, automatic charging switch-off, overload protection and **trickle charging.** Input voltage 100–240 V.

Size 8PLUS – With **refresh mode** for reactivating "tired" batteries. The Energy 8 plus automatically determines the optimum charging current for the battery and charges it at up to 1000mA in a quick-charge process.

Size 4L–4ULTRA – With LC display for detailed monitoring of the charging process. Additional USB-A charging output 5 V, 1000 mA, mains plug (100 - 240 V).

Application:

Size 4ULTRA – **NiMH/NiCd battery charging points:** 1-4 × Micro AAA / Mignon AA or 1-3 × Baby C or 1-2 × Mono D.
Li-Ion battery charging points: 1-4 × 18650, 18500, 17670, 16340, 14500 etc. or 1-3 × 26650, 26500, 25500, 22650 or 1-2 × 3265.

Size 8PLUS – **NiMH/NiCd battery charging points:** 1-4 × Micro AAA / Mignon AA or 1-3 × Baby C or 1-2 × Mono D / 9V block.

Size 4L; 4.2PRO – **NiMH/NiCd battery charging points:** 1-4 × Micro AAA / Mignon AA or 1-3 × Baby C or 1-2 × Mono D.

_4Ultra

_4L

_4.2PRO

Type		4L	4.2PRO	4ULTRA	8PLUS
08C 08 1590	Battery charger	XXX	XXX	XXX	XXX
maximum charging current	A	0.45	1.8	2	1
Maximum number of charging points		4	4	4	8
Number of charging slots for USB		1	1	1	–
Length	mm	105	130	170	191
Width	mm	65	80	110	172
Height	mm	27	31	37.5	57

_8Plus

Inspection set

Perfectly matched inspection set, ideal for maintenance in places where access is difficult. The tools are packed in a robust case which can be washed down; with a zip fastener and loop for secure storage.

Number of tools		5
02A 08 1681	Inspection set	XXX
Supplied with: LED pen torch		1× No. 081461 size PEN
Claw retriever		1× No. 081610 size 500
Magnetic retriever		1× No. 081670 size 500
Telescopic inspection mirror		1× No. 081630 size 30
Tweezers with flat blunt nose, straight		1× No. 727550 size N
Storage in		Case 300×200 mm

08 1681

Inspection mirror set

08 1682 – 3-piece telescopic mirror set with break-proof mirror plates of polished stainless steel. All mirrors fitted with a 360° joint for places where access is difficult.

- The screw joint is locked so that the mirrors are securely attached to the telescope.
- Telescopes with anti-twist protection.
- Anti-slip handle material for secure handling.

08 1683 – The mirror can be changed quickly and easily using the quick-release fastener similar to a bit holder.

- Handle dip rubberised.
- Retainer with magnet and additional spring clamp.

08 1682

08 1683

Number of mirrors			3	2
02A 08 1682	HOLEX	Telescopic stainless steel mirror set	XXX	–
08C 08 1683		Telescopic inspection mirror set **with Quick Fix mounting**	–	XXX
Supplied with: 2× oval mirror			1× mirror size 65×95 mm 1× mirror size 30×45 mm Length without mirror 195-790 mm in each case	1× mirror size 45×30 mm 1× mirror size 69×46 mm each with a hexagonal connector
1× round mirror (08 1682)			Mirror ∅ 50 mm, length without mirror 195-790 mm	–
1× telescopic handle (08 1683)			–	Length 200 to 780 mm with hexagonal quick release fastener
Storage in			Case with mirror protection 121×299 mm	Case 210×86 mm

Claw retriever, inspection mirror

Claw retriever

With 3 claw jaws, which automatically grips parts using spring pressure. Jaws open to maximum 15 mm.
Size 170 – Rigid shank with pocket clip.
Size 500 – Flexible shank.

08 1610_170

08 1610_500

Length	mm	170	500
08C 08 1610	Claw retriever	XXX	XXX
Head ∅	mm	9	

Inspection mirror

Mirror with metal surround, chrome-plated shank.
08 1625 – Plastic frame, fully insulated handle.
08 1630 – With extendable telescopic shank. **Anti-twist,** large handle and robust joint.

08 1620

08 1625

08 1630_30

08 1630_43×65

Mirror dimensions	mm	14	20	30	43×65	50	83	23
08C 08 1620	Inspection mirror	–	–	–	–	–	–	XXX
08C 08 1625	Inspection mirror plastic	–	–	–	–	–	–	XXX
02A 08 1630	HOLEX Telescopic inspection mirror	XXX	XXX	XXX	XXX	XXX	XXX	–
Overall length (08 1620, 08 1625)	mm	–	–	–	–	–	–	270
Length without mirror (08 1630)	mm	270 – 640			270 – 980			–
Mirror ∅	mm	14	20	30	–	50	83	23
Length mirror (08 1630)	mm	–	–	–	65	–	–	–
Width of mirror (08 1630)	mm	–	–	–	43	–	–	–

Magnetic retriever

Blind hole magnets

Chrome-plated metal sleeve with permanent magnet. Rigid shank.
Size 5–11 – With plastic handle.

08 1640_1,6 + _3

08 1640_5–_11

Magnet ∅	mm	1,6	3	5	8	11
08C 08 1640	Blind hole magnet	XXX	XXX	XXX	XXX	XXX
Overall length	mm	65	90	135	150	180
Length of the magnet	mm	30	50	35	40	40

Telescopic magnetic retriever

Chrome-plated telescopic extractable shank. Handle with pocket clip, scriber under a protective cap.

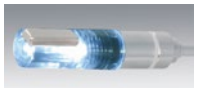
08 1650

08C 08 1650	Telescopic magnetic retriever	XXX
External ∅	mm	8
Overall length	mm	160 – 670
Magnet ∅	mm	6
Magnet retaining force	N	5

Telescopic magnetic holder with integral LED lamp

Chrome-plated, extendable telescopic shaft, handle with clip.
LED illumination integrated in the magnetic head, automatic switching on when extended; lighting life approx. 4 h.

Note: For spare batteries (3 required) see **No. 081560 size LR41.**



08 1665

08C 08 1665	Telescopic inspection lamp	XXX
Battery type		LR41
Overall length	mm	170 – 670
Head ∅	mm	11

Magnetic retriever, flexible

With permanent magnet. Flexible chrome-plated shank with permanent magnet, 2-component plastic handle.

08 1670_300

08 1670_1000

08 1670_3000

Magnet tensile force	g	300	500	1000	2000	3000
02A 08 1670	HOLEX Magnetic retriever flexible	XXX	XXX	XXX	XXX	XXX
External ∅	mm	7.5	8	12	15	19
Overall length	mm			520		
Magnet ∅	mm	5	6	10	13	17
Magnet retaining force	N	3	5	10	20	30

kurtz ersa Soldering irons

Tough industrial soldering irons with **Ersadur long–life soldering tips** (30 times the working life of conventional copper soldering tips). **Warm–up time 3 min.** (for size 300, approx. 5 min.). Power cable 1.5 m rubber cable (PVC for size 30). **With support stand** (not size 30).

Size 30 – Proven Ersa soldering iron with attachable support stand.
Size 150 – Powerful soldering iron for copper cables up to 6 mm² cross section.
Size 300 – The most powerful soldering iron with scale-resistant soldering tip (not Ersadur tip). Its high power makes it particularly suitable for sheet metal working, soldering to copper busbars, heating up branding irons, and for making containers and bodywork.

08 2100_30

08 2100_80-150

08 2100_300

Heating power	W	30	80	150	300
04C 08 2100	Multi-purpose soldering iron	XXX	XXX	XXX	XXX
Soldering tip width	mm	3.1	4.8	5.3	25
Heating power	W	30	80	150	300
Soldering tip temperature after 3 minutes	°C	380	410	450	470
suitable for copper cross sections up to	mm²	2.5	4	6	–
Weight without power lead	g	80	220	245	870

Powerful general-purpose soldering iron with a precisely regulated temperature sensor located directly below the internally heated soldering tip. The combination of this direct temperature measurement with the precise control electronics integrated in the handle enables the **most delicate soldering jobs** to be professionally done on sensitive electronic components **and also applications with very high thermal requirements.**

Application: For mobile use in the field of service, maintenance and repairs. The ERSA Multi-TC has the functionality of a large soldering station, but no galvanic separation.

Warm-up time 34 sec

08 2150_75

Heating power	W	75
04C 08 2150	Universal soldering iron Multi-TC with temperature control	XXX
Heating power	W	285
Warm-up time	s	approx. 34
Heating power	W	75
Control range of soldering tip temperature	°C	250 – 450
Weight without power lead	g	60

Unusually light soldering gun without transformer; with PTC heating element. **Warm-up time approx. 20 sec.** Periodic pressing of the trigger allows heat output to be matched to the heat requirements of the joint. High efficiency internally heated soldering tip. Power cable 1.5 m.

Application: Particularly useful for assembly and repair work, because of its **working range of 15 – 100 W** (used as standard soldering iron).

Warm-up time 20 sec.

08 2200_960ED

ERSA Type		960ED
04C 08 2200	Quick soldering iron Multi-Sprint	XXX
Soldering tip width	mm	3.2
Heating power	W	150
Heating power	W	75
Soldering tip temperature after 3 minutes	°C	350
Weight without power lead	g	100

kurtz ersa Gas soldering devices

Ergonomic gas soldering iron with **easy to use piezo ignition.** Requires commercially available butane gas (as for gas lighters).

Application: For maintenance and repair work, in particular where no power supply is available or the power has been switched off.

Supplied with: Chisel-shaped soldering tips 1.0, 2.4, 3.2, and 4.8 mm. Flame nozzle (up to maximum 1400 °C), hot gas nozzle (up to max. 700 °C), soldering tip, reflector plate for applying shrink sleeving, cleaning sponge and sponge holder, in a handy plastic case.

08 2250_75

ERSA Type		75	130
04C 08 2250	Gas soldering kit Independent	XXX	XXX
Soldering tip width	mm	1 – 4.8	
Warm-up time	s	approx. 46	approx. 50
Heating power steplessly adjustable	W	15 – 75	25 – 130
maximum soldering tip temperature	°C	580	
Operating life per gas filling	min	30 – 90	40 – 120
Weight of the gas-heated soldering iron	g	73	121

kurtz ersa De-soldering pump

General-purpose standard desoldering pump with plastic casing.

08 2302_1

		1
04C 08 2302	De-soldering pump	XXX

kurtz ersa Soldering stations

Size ANA60 – **Basic model** with outstanding cost / performance ratio.
Size PICO – Simple i-CON PICO operating concept, for entry-level users. Universal application.
Size NANO – Anti-static i-CON NANO microprocessor-controlled soldering station with high soldering heat output from an efficient high-power heating element. Solder tips are available with the ideal tip geometry for every soldering task.
Size ICON1 – **Multi-functional anti-static high performance soldering station** with large display, memory for calibration data, standby sensor, 3 power level settings, and shut-off function. Using the i-Set tool option, station settings can easily be downloaded on to a USB stick and transferred to other stations.

Application: For all professional electronics and electrical soldering applications.

08 2301

08 2301

Manufacturer's designation			ANA60	PICO	NANO	ICON1
04C 08 2300	Soldering station		XXX	–	–	–
04K 08 2301			–	XXX	XXX	XXX
Heating power		W	190	230	230	150
Warm-up time to 280 °C		s	approx. 60	approx. 9	approx. 9	approx. 9
Heating power		W	60	80	80	80
Control range of soldering tip temperature		°C	150 – 450			
Weight of soldering iron without power cable		g	60	30	30	30

Soldering fumes extraction

High extraction power – efficient filter performance – quiet operation. Filter the process air in 3 steps:

- Pre-filter for dust and larger particles.
- Combination filter for micro-particles.
- Activated carbon filter absorbs harmful gases.

The system is fitted using a suitable bench holder. Accessories such as extraction arms and nozzles can be found in the online shop under No. 082306 – 082313.

08 2304 – Extraction power is set on the system at the touch of a button, individually for each extraction arm. If the filter needs to be changed, this is indicated by visual and acoustic signals.

08 2303

08 2304

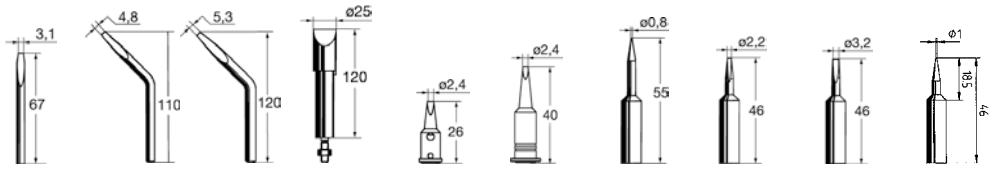
Number of filters/arms		1	2
04K 08 2303	Soldering fumes extraction **Easy Arm 1**	XXX	–
04K 08 2304	Soldering fumes extraction **Easy Arm 2**	–	XXX

Accessories

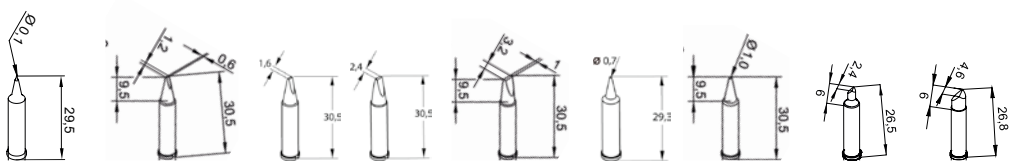
08 2365 – Solder wire with 3.5 % flux core containing none of the prohibited elements Pb, Cd, Cr_6, Hg. **Regulations effective since 01. 07. 2006** (melt temperature 217 ° C)

08 2365

Soldering wire ∅		mm	1	1,5
04C 08 2365	Lead-free soldering wire Sn96.5, Ag3.0, Cu0.5, roll of 250 g		XXX	XXX



Manufacturer's designation			32KD	82JD	152JD	302MZ	G072KN	G132KN	832SDLF	832CDLF	832EDLF	BDLF
04C 08 2400	Soldering tip		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Soldering tip width		mm	3.1	4.8	5.3	25	2.4	2.4	0.8	2.2	3.2	1
suitable for			082100 30	082100 80	082100 150	082100 300	082250 75	082250 130	082200; 082300	082200; 082300	082200; 082300	082150; 082200; 082300



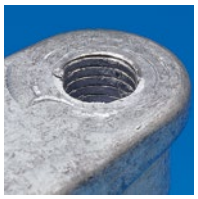
Manufacturer's designation			PDLF01	CDLF12	CDLF16	CDLF24	CDLF32	PDLF07	PDLF10	CDLF24A	CDLF46A
04K 08 2401	Soldering tip		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Soldering tip width		mm	2	1.2	1.6	2.4	3.2	0.7	1	1.6	1.8
suitable for			082301								

HELICOIL® Plus made by BÖLLHOFF Thread repair DIN 8140

High-strength HeliCoil®plus thread inserts for through bolts, of **stainless steel with high wear-resistance, low thread friction** in close tolerances, **high surface quality** as well as **corrosion** and **heat resistance.** The flexible construction allows an even distribution of load and tension forces and thus allows creation of very high quality **permanent** screw connections with **ideal force transfer** for all **working loads** (static, dynamic). Uncomplicated quick insertion, resulting in an internal thread that can be used from both ends.

Application: For economic **repair of damaged** or **worn threads** and as a design element for **thread reinforcement** in materials which have low shear strength (e.g. aluminium, aluminium-magnesium alloys).

Note:
- For suitable thread gauges for thread checking see No. 486000ff.
- Self-locking inserts, inserts with other dimensions and UNC/UNF thread inserts are available on request.



Thread repair sets

08 2800 – Complete repair set, for one each metric thread size in a plastic case.
08 2805 – HSS one-pass hand tap for through holes.
08 2807 – HSS machine taps, straight flutes, 4-turn lead chamfer for through holes or blind holes with deep-drilled tapping hole in tolerance class 6H.

Supplied with:

08 2800 –
- 1 HSS hand tap
- 1 insertion spindle.
- 1 plastic case L×W×H 180×165×45 mm (up to size M8) 245×225×50 mm (size M10 and above).
- 20 each (up to size M6) or 10 each (size M8 and above) stainless steel thread inserts for through bolts in each length (1×D / 1.5×D / 2×D).

08 2800 Size M2–M12 – 1 drill.
1 tang breaker.

Note: For TiCN coated HSS-E-PM machine taps see No. 133550 and No. 138200.

08 2800

Thread M (×pitch)	04D 08 2800 Thread repair set DIN 8140	04D 08 2805 Spare hand tap 6H	04D 08 2807 Machine tap 6H	Tapping hole ∅ mm	Number of thread inserts 08 2800
M2	XXX	XXX	–	2.1	60
M2,5	XXX	XXX	–	2.6	60
M3	XXX	XXX	–	3.2	60
M4	XXX	XXX	XXX	4.2	60
M5	XXX	XXX	XXX	5.2	60
M6	XXX	XXX	XXX	6.3	60
M8	XXX	XXX	XXX	8.4	30
M8×1	XXX	XXX	–	8.3	30
M10	XXX	XXX	XXX	10.5	30
M10×1	XXX	XXX	–	10.2	30
M12	XXX	XXX	XXX	12.5	30
M14	XXX	XXX	–	14.5	30
M16	XXX	XXX	–	16.5	30

08 2805

08 2807

Thread repair set

Thread repair set composed of various repair sets for metric ISO threads.

Size M2,5-M6 – **320 pieces:**
(20 each inserts 1×D; 1.5×D; 2×D – M2.5; M3; M4; M5; M6)
Size M5-M12 – **230 pieces:**
(20 each inserts 1×D; 1.5×D; 2×D - M5; M6)
(10 each inserts 1×D; 1.5×D; 2×D - M8; M10; M12)

Supplied with: Helicoil®plus thread inserts of various dimensions and lengths, 5 jobber drills, 5 HSS hand taps, 5 insertion spindles, 5 tang breakers, 1 plastic case (L×W×H) 420×340×120 mm.

Note: For TiCN coated HSS-E-PM machine taps see No. 133550 and No. 138200.

08 2820

Contents	04D 08 2820 Thread repair set	Number of inserts thread length 1×D	Number of inserts thread length 1.5×D	Number of inserts thread length 2×D
M2,5-M6	XXX	100	100	100
M5-M12	XXX	70	70	70

Threaded inserts

08 2808 – Insertion tool for HeliCoil®plus thread inserts.

08 2810–2818 – Metric threaded inserts of stainless steel wire, which resemble springs. Free-running thread, turn for turn, the drive tag is broken off at the notch (design fracture point) after installation. Optimised shape with innovative introduction zone that allows the insert to be attached and turned like a screw to insert it.

08 2808

08 2810

Thread type / size			M2	M2,5	M3	M4	M5	M6	M8	M8×1	M10	M10×1	M12	M14	M16
04D 08 2808	Insertion spindle		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
04D 08 2810	Thread insert set, 10 or 20 pieces	1×D	(XXX)	(XXX)	XXX	XXX	XXX	XXX	XXX	(XXX)	XXX	XXX	XXX	(XXX)	XXX
04D 08 2812		1.5×D	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
04D 08 2814		2×D	(XXX)	(XXX)	XXX	XXX	XXX	XXX	XXX	(XXX)	XXX	(XXX)	XXX	(XXX)	XXX
Set contents (08 2810, 08 2812, 08 2814)			20	20	20	20	20	20	10	10	10	10	10	10	10

Thread type / size			M3	M4	M5	M6	M8	M10	M12
04D 08 2818	Thread insert set, 100 pieces	1.5×D	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Set contents						100			

Universal thread repair tool

_4–13

_16–38

Universal thread repair tool for external threads.

- **Quick attachment** using the adjustment screw.
- Blade automatically adjusts to any thread lead.
- For cutting right-hand and left-hand threads to length **(take into account the direction of rotation!).**
- **Suitable for all types of thread** (60° flank angle).

for thread ∅		mm	4-13	16-38
04D 08 2855	Universal thread repair tool		XXX	XXX

Screw / nut extractor for right-hand threads

Made of tough chrome molybdenum steel. The sharp edges of the flutes bite into the jammed or broken screw / nut and bolt and allow it to be unscrewed. For use in combination with a ratchet, T-handle etc. Also suitable for round profiles or hexagon socket head screws.

08 2890

suitable for size across flats		mm	8	10	13	15	16	17	19	22	24
04D 08 2890	Screw / nut extractor		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
∅ drive output end			11.5	14.8	18.5	20.7	22.2	23.5	26	29.5	32
Length		mm	32	32	32	32	32	42	42	42	42
Square drive		inch	3/8	3/8	3/8	3/8	3/8	1/2	1/2	1/2	1/2
suitable for screws			M5	M6	M8	–	M10	M10	M12	M14	M16

Screw / nut extractor set

Set contents		5
04D 08 2892	Screw / nut extractor set **5 pieces**	XXX
Content: 5 screw extractors No. 082890		Size 10; 13; 17; 19; 24

08 2892

Take note of our extensive range of tools for drilling and thread machining – including for **manual use**.
You can find the appropriate tools for **drilling, countersinking, reaming,** and **thread machining** in the catalogue volume 1 (machining / clamping technology) as well as in the online shop.

HSS Mono drills
In Volume 1
Section 11
HSS drilling tools

Mono countersinking
In Volume 1
Section 15
Countersinking and deburring tool

Mono reaming
In Volume 1
Section 16
Reaming tools

Internal thread
In Volume 1
Section 13
Taps,
Fluteless taps,
Threaded milling cutters

External thread / accessories
In Volume 1
Section 14
Dies,
Thread cutting sets,
Holder tools

Screw extractor

Made of chrome vanadium steel. The sharp edges of the flutes dig into the drilled screw and allow it to be unscrewed.
With square drive for use with tap wrench etc.

Application:

08 2861 – **Suitable for both left-hand and right-hand threads.**
08 2860/2862 – For extraction of broken off screws with right-hand thread
(pre-drill the hole ∅ as listed in the table; turn the screw extractor anti-clockwise).

Note: UNC and UNF threads available on request.

08 2861

08 2860

08 2862

Type		1	2	3	4	5	6	7	8
04D 08 2861	RENNSTEIG Screw extractor **double-edged, with tip**	XXX	XXX	XXX	XXX	XXX	–	–	–
04D 08 2862	STAHLWILLE Screw extractor **with coarse flutes**	XXX	XXX	XXX	XXX	XXX	XXX	–	–
04D 08 2860	m•b PEDDINGHAUS Screw extractor **with fine flutes**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Pre-drill ∅ (08 2861)	mm	3.2	4.8	6.4	9.5	11.1	–	–	–
Pre-drill ∅ (08 2862)	mm	2	3	5	6.4	8	12	–	–
Pre-drill ∅ (08 2860)	mm	1.8	3.2	4.5	6.5	8.5	12	15	20
suitable for screws/bolts (08 2861)		M5 – M6	M8 – M10	M10 – M12	M12 – M16	M16 – M20	–	–	–
suitable for screws/bolts (08 2862)		M3 – M4	M5 – M7	M8	M10 – M12	M16	M18 – M22	–	–
suitable for screws/bolts (08 2860)		M3 – M4	M5 – M7	M8 – M10	M11 – M14	M16 – M18	M18 – M24	M24 – M33	M33 – M45
suitable for (08 2861)		hardened steel	hardened steel	hardened steel	hardened steel	hardened steel	–	–	–
suitable for (08 2862)		Aluminium; Brass; Steel	Aluminium; Brass; Steel	Aluminium; Brass; Steel	Aluminium; Brass; Steel	Aluminium; Brass; Steel	Aluminium; Brass; Steel	–	–
suitable for (08 2860)		Steel							
suitable for pipe spigots (couplings) (08 2862, 08 2860)	inch	–	–	–	–	1/4	3/8	1/2	3/4

Screw extractor sets

Supplied with:

08 2870 – 6 extractors No. 082862 size 1; 2; 3; 4; 5; 6.
08 2871 – 5 extractors No. 082861 size 1; 2; 3; 4; 5.
08 2872 – 6 extractors No. 082860 size 1; 2; 3; 4; 5; 6.
08 2874 – 6 extractors No. 082864 size 1; 2; 3; 4; 5; 6.

08 2870

08 2872

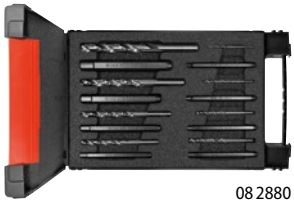
08 2871

08 2874

Type		5	6
04D 08 2871	RENNSTEIG Screw extractor set 5 pieces **double-edged**	XXX	–
04D 08 2870	STAHLWILLE Screw extractor set, 6 pieces, in a textile wallet **with coarse flutes**	–	XXX
04D 08 2872	m•b PEDDINGHAUS Screw extractor set, 6 pieces, in a box **with fine flutes**	–	XXX
04D 08 2874	Screw extractor set, 6 pieces, in a box **"Hi Trac"**	–	XXX

Sets in a case

08 2850


08 2880

for Thread type / size		M3-12	M3-20
04D 08 2850	Extractor set for hand taps, in a case	XXX	XXX
04D 08 2852	Extractor set for machine taps, in a case	XXX	XXX
Content: Fingers for hand taps (08 2850)		3 fingers M3 – M6; 4 fingers M8 – M12	3 fingers M3 – M6; 4 fingers M8 – M20
Fingers for machine taps (08 2852)		3 fingers M3 – M12	3 fingers M3 – M16; 4 fingers M20

Pre-drill with the drill supplied, then insert the screw extractor, push the ring spanner right down and extract the screw without tilting.
Extractors of tough chrome vanadium molybdenum steel, jobber drills of HSS, burnished.

Application: For extracting damaged or sheared-off screws with **right-hand or left-handed threads**, sizes M4 – M16.

04D 08 2880	wiha Screw extractor set, 16 pieces, with jobber drills in a metal case	XXX
Content:		8 screw extractors (hexagon 2; 2.5; 3; 4; 5; 6; 8; 10 mm), 8 jobber drills (∅ 2.3; 2.8; 3.4; 4.5; 5.7; 6.8; 9; 11 mm)

SONO SWISS® Ultrasonic cleaning baths with heating

Baths of drawn or welded stainless steel. Temperature control from 30 °C to 80 °C in 5 °C steps.

08 2922 – Modular devices with multi-frequency technology. Baths of duplex stainless steel, can be fitted with oil separator, pump filtration and additional side insulation. Can be extended with a flushing device and/or hot-air dryer.

08 2923 – Stand-alone units: PRESET – drawn stainless steel for storing frequent applications.

08 2924 – Bench-top device: DURA-T – welded DUPLEX stainless steel baths suitable for multi-shift operation.

08 2925 – Free-standing device: DURA-S– Multi-frequency device made from duplex stainless steel, short circuit-proof generator with power regulator

Application: For removal of oil, grease, grinding fluids, polishing fluids, paint residues, flux, oxide layers, carbon deposits, scale from nearly all surfaces and even from inaccessible places, whilst treating the component being cleaned with the utmost care. Use special power cleaners depending on the dirt and effectiveness required (from No. 082930). The component to be cleaned must be completely surrounded by cleaning fluid.

Supplied with: Ultrasonic cleaning bath with cover, without basket (No. 082926).

Note: Further sizes and types on request.
Component basket can be found under No. 082926 in the online shop.

Component basket
No. 08 2926

08 2923_30

08 2924_45

08 2925_140

Capacity	l	1	3	6	12	18	30	45	90	140	220
04E 08 2923	PRESET ultrasonic cleaning bath	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–	–
04E 08 2924	DURA-T ultrasonic cleaning bath	–	–	–	XXX	XXX	XXX	(XXX)	(XXX)	–	–
04E 08 2925	DURA-S ultrasonic cleaning bath	–	–	–	–	–	–	–	–	(XXX)	(XXX)
Item length	mm	206	300	355	355	386	570	600	700	700	800
Item width	mm	118	190	205	290	355	355	425	625	750	900
Item height	mm	178	220	270	320	320	320	467	467	800	800
Length of component basket	mm	172	191	246	240	267	443	455	550	530	630
Width of component basket	mm	66	95	106	181	241	238	265	465	450	600
Cleaning bath height	mm	60	97	150	200	200	200	300	300	550	550
Heating power	W	60	200	400	800	800	1200	1600	2000	7500	10000
Maximum ultrasonic power	W	240	320	600	800	800	1200	1600	3200	2400	3600
Nominal voltage	V	230	230	230	230	230	230	230	230	400	400
Weight	kg	2	2.8	4.8	7.3	8.7	11.2	25.5	42.5	80	110

Multi-stage system

08 2922_240

Capacity	l	60	150	240
04E 08 2922	Modular ultrasonic cleaning bath MOD	(XXX)	(XXX)	(XXX)
Item length	mm	725	800	1100
Item width	mm	562	570	580
Item height	mm		850	
Length of component basket	mm	460	555	770
Width of component basket	mm	275	460	470
Cleaning bath height	mm	240	340	435
Heating power	W	1700	4500	9000
Maximum ultrasonic power	W	3200	4000	8000
Nominal voltage	V	230	400	400
Weight	kg	60	70	90

SONO SWISS® Ultrasonic power cleaner

08 2931 – Suitable for metallic materials susceptible to corrosion, such as steel, cast iron and carbides.

08 2930/2932/2933/2934/2935/2936/2937/2938/2939 –
High-yield water-based cleaning concentrate (exception: T3 supplied in powdered form); specially developed for use in ultrasonic cleaning baths; biologically degradable.

Application: For ultrasonic cleaning baths (such as No. 082922; 082923; 082924; 082925).

Note: Other special cleaners and other container sizes available on request. 25-litre drums are available in the online shop.
Unavailable in some countries.

08 2935

Capacity l/kg		0,85	1	2,5	10
04E 08 2930	Ultrasonic power cleaner **T1**	–	–	–	(XXX)
04E 08 2932	Ultrasonic power cleaner **T2**	–	–	–	(XXX)
04E 08 2933	Ultrasonic power cleaner **T3**	–	–	–	–
04E 08 2934	Ultrasonic power cleaner **T4**	–	–	–	(XXX)
04E 08 2935	Ultrasonic power cleaner **T5**	–	–	–	(XXX)
04E 08 2936	Ultrasonic power cleaner **T6**	–	–	–	(XXX)
04E 08 2937	Ultrasonic power cleaner **T7**	–	–	(XXX)	(XXX)
04E 08 2938	Ultrasonic power cleaner **T8**	–	–	(XXX)	(XXX)
04E 08 2939	Ultrasonic power cleaner **T9**	–	–	(XXX)	(XXX)
04E 08 2931	Corrosion protection	–	–	–	–

SONO SWISS® Application of ultrasonic power cleaners - An overview

Product / size	Principal contamination	Principal surfaces	Characteristics	pH value	Dosage
T1 Steel and precious metal cleaner	Press oils, drawing greases, carbon black, scale, grinding residues, polishing residues, high performance coolants	Check **stainless steel,** steel and iron materials, **titanium and precious metals,** grey cast iron, non-ferrous metals, brass, glass and quartz! Not for aluminium or light metal	Liquid, emulsifying, free of silicates and phosphates, **alkaline**	13.0	3 – 6 %
T2 Multi-purpose cleaner	Oils, greases, carbon black, carbon deposits, scale, dust, fingerprints	Stainless steel, steel, iron, grey cast iron, aluminium and light alloys, brass, non-ferrous and precious metals, nickel, zinc, plastic, ceramics, glass, quartz, rubber	Liquid, mostly emulsifying, containing silicates and phosphates, **alkaline**	13.4	Ultrasonic 2 – 5 % without ultrasonic 5 – 10 %
T3 Power cleaner for steel and light metals	Scaly and resinous oils and greases, grinding residues, polishing residues, paint and varnish residues, wax	Stainless steel, steel, iron, grey cast iron, aluminium and light alloys, nickel, precious metals, zinc	In powder form, emulsifying, containing silicates and phosphates, **alkaline**	11.5 (1 %)	1 – 4 %
T4 Neutral cleaner	Grinding, lapping and polishing residues, oils, greases, dust, sweat	**All metals,** plastic, rubber, glass, ceramics. Check **magnesium** in advance	Liquid, emulsifying, free of silicates and phosphates, **neutral**	9.3	2 – 5 %
T5 Weak acid cleaner	**Oxide layers, rust,** lime scale, greases, oils	Aluminium, non-ferrous metals, stainless steel, plastic, glass, steel - be sure to check corrosion protection	Liquid, emulsifying, **acid**	1.6	1 – 5 %
T6 Strong acid cleaner	**Oxides, rust, strippable deposits,** lime scale, mineral contaminations	Stainless steel, carbide, non-ferrous and precious metals, brass, steel, and grey cast iron – be sure to check corrosion protection	Liquid, emulsifying, **acid**	< 1.0	1 – 10 %
T7 Weakly alkaline cleaner	Flux residues, light greases/oils, dust, fingerprints	Substrates for electronics and optics, electromechanical assemblies	**Liquid, mildly alkaline**	10.5 – 11	3 – 10 %
T8 Ammoniacal cleaner	Mineral and animal/plant oils, greases, lapping and polishing agents, traces of powder, oxides	Ferrous materials, brass, copper, precious metals, glass. Zinc and aluminium may be corroded!	**Liquid, ammoniacal**	10.5 – 11	3 – 10 %
T9 Strongly alkaline cleaner	Metal oxide and quartz fittings, lapping and polishing residues, scaled and resinous oils and greases, waxes, paint and varnish residues	Metal and ceramic surfaces, plastic and rubber surfaces, silicon wafers after they have been machined mechanically	**Liquid, alkaline**	12.4	3 – 5 %
AK Corrosion protection		Suitable for metallic materials susceptible to corrosion, such as steel, cast iron and carbides.	These materials are coated with a covering of a molecular thickness, which temporarily protects them against corrosion. Subsequent coatings (PVD, CVD) or hardening processes are unaffected.	9.0 – 9.5	0.05 – 0.5 % (with T2) 0.2 – 0.4 % alone

Garant GREENPLUS

Simply sustainable and environmentally friendly – cleaning and bonding.

Your path to products without hazard labels in technical chemistry.
GARANT GreenPlus, the real alternative to hazardous substances for protecting people and nature.

The products are marked with this icon in the catalogue.

Garant GREENPLUS Cleaning agents without hazard labels

08 8001 – The **flexible degreaser** for quick cleaning of oils, emulsions and greases. Reliably removes all common materials. Can be mixed up to 1:10.

08 8002 – The **acidic all-rounder** without hazard labels. Removes rust, lime scale and mineral contamination safely and gently. Can be mixed up to 1:10.

08 8004 – The **degreaser and finisher** for fast, daily removal of cutting and corrosion protection oils, light waxes, emulsions, sticky residues and other contamination. Meets the highest cleanliness requirements, especially before lacquering, coating and bonding. Drastic VOC reduction compared to conventional solvents.

08 8005 – **Cleans, protects and preserves stainless steel**, aluminium, non-ferrous metals and plastics. Removes dust, fingerprints and oils reliably and easily. Leaves behind a brilliant shine.

08 8006 – **Extreme degreasing power** through hybrid technology. Burnt-in contamination, special greases, oils, soot, rubber residue, bitumen, waxes and pastes are loosened using plant extracts and quickly removed from the surface using surfactant technology.

			500	20
1 L	08 8001	GARANT GreenPlus **Flex Cleaner**	–	–
1 L	08 8002	GARANT GreenPlus **Acid Cleaner**	–	–
1 L	08 8004	GARANT GreenPlus **Finisher**	–	–
1 L	08 8005	GARANT GreenPlus **Inox Care**	–	–
1 L	08 8006	GARANT GreenPlus **Power Force**	–	–
Contents		ml	500	20000

			20-30
suitable for can size		litres	
1 L	08 8010	GARANT GreenPlus **Can discharge valve**	XXX

100% recycled PET.
Can be refilled many times.

08 8010 | 08 8004_500 | 08 8004_20

Garant GREENPLUS Help for selecting the product

Item number	Product designation		Application: Manual cleaning	Application: Parts cleaning device	Application: Ultrasound	Materials: Steel/ stainless steel	Materials: Aluminium	Materials: Non-ferrous metals	Materials: Plastic	Materials: Painted surfaces	Materials: Galvanised surfaces	NSF category
08 8001	**Flex Cleaner**	The flexible degreaser for quick cleaning	■	■	■	■	■	■	■	■	■	A1
08 8002	**Acid Cleaner**	The acidic all-rounder without hazard labels	■	■	■	■	■	■	■	■	■	A3
08 8004	**Finisher**	The degreaser and finisher for quick cleaning	■			■	■	■	■	■	■	A1
08 8005	**Inox Care**	Cleans, protects and maintains all metals	■			■	■	■	■	■	■	A7, C1
08 8006	**Power Force**	Extreme degreaser due to hybrid technology	■	■	■	■	■	■	■	■	■	C1

■ *Suitable*
■ *fundamentally suitable, check for compatibility*
□ *unsuitable*

Garant GREENPLUS Weld spatter separation spray without hazard labels

Premium **2-in-1 welding anti-spatter fluid Clean & Weld** with cleaning function.
Effectively prevents spatter from sticking when carrying out MIG/MAG welding and laser cutting.
Thanks to its excellent wetting properties, can also be used as a cleaner before welding.

			500	20
1 L	08 8003	GARANT GreenPlus **Clean & Weld**	–	–
Contents		l	0.5	20

08 8003_500 | 08 8003_20

CRC Cleaner

Component cleaner and degreaser

08 3015 – Quick cleaner for brake, clutch and gearbox parts, also carburettor and fuel pumps.

08 3022 – **Powerful, deep-penetrating cleaner** with enhanced **application safety.** High breakdown strength of 43 kV, high flashpoint of 63°C. Ideal for **stubborn dirt** on mechanical components and on electric motors, control cabinets, transformers etc.

08 3027 – Powerful **industrial cleaner based on natural orange terpenes**. For universal use when cleaning oil, grease and oil from machine and equipment parts. Releases obstinate residues such as resin, tar, adhesives, and varnish residues. Pleasant smell.

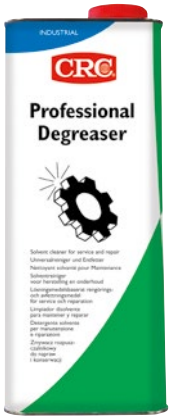
08 3095 – Highly effective mould cleaner for injection moulding. Solvent-based liquid cleaner fro removal of dirt and polymer residues.

- Quickly and effectively removes direct and deposits of all kinds.
- Effective at depths and for high release forces.
- Evaporates leaving no deposits.

08 3011/3014 – **High performance general purpose cleaner** and **degreaser** with wide range of effectiveness. Suitable for degreasing and removal of adhesive residues and resinous residues from metal surfaces. For cleaning tools, bolts, fittings, and also for pre-treatment of surfaces to be glued, quickly drying without residues.

Type			1000	500	
08E 08 3011	Universal cleaner **Professional Degreaser**	1000 ml	–	–	1
08E 08 3014		500 ml	–	–	12
08E 08 3015	Brake cleaner **Brakleen Pro**	500 ml	–	–	24
08E 08 3022	Safety cleaner **Lectra Clean II**	500 ml	–	–	12
08E 08 3027	Power cleaner **Citro Cleaner**	500 ml	–	–	12
08E 08 3095	Mould cleaner **Mould Clean**	500 ml	–	–	12

08 3014



08 3011

Surface and foam cleaner

08 3016 – Alkalis, **water-soluble cleaning concentrate** for general-purpose cleaning of large areas on machines, plant, floors, work surfaces, and conveyor belts. Active components are easily **biodegradable** surfactants. Approval NSF® A1 for foodstuffs.

08 3024 – **Cleaning and polishing foam** for stainless steel, chrome, aluminium and plastics. Removes all types of residues and leaves a water-repellent protective film (prevents fingerprints). Approval NSF® A7/C1 for foodstuffs.

08 3026 – Solvent-free, antistatic **special cleaner for TFT / LCD display screens** and for quick and gentle cleaning of casings, fittings, glass, and smooth metal surfaces. **The foam does not trickle down on vertical surfaces.** Approval NSF® K2 for foodstuffs.

08 3016

Contents		ml	5000	500	
08E 08 3016	Workshop and machine cleaner **Eco Complex Blue**	5000 ml	–	–	1
08E 08 3024	Stainless steel cleaner **Inox Kleen**	500 ml	–	–	12
08E 08 3026	Screen cleaner **Flatscreen cleaner**	500 ml	–	–	12
Version			Can	Spray can	

Special cleaner

08 3018 – **Contact cleaner spray** for electrical engineering and fine mechanical work. Quickly removes rust, oil, and grease - leaves no residues. Ideal for cleaning measuring devices, tools, switches, and sensors. Approval NSF® K2 for foodstuffs.

08 3112 – Thanks to its high spray pressure, the **Dust Clean PB compressed-gas cleaner** with convenient spray head effectively blows away dust and dirt from items such as office equipment and computers.

08 3113 – **Multi-Surface Citro COVKleen Spray** with citrus fragrance is suitable for commercial cleaning and disinfection of commonly used surfaces. It quickly and reliably removes dirt, oil, viruses, bacteria and germs from metal, stone, textiles and many plastics.

08 3395 – Label Off Super label remover for removing self-adhesive paper labels.
Removes self-adhesive paper labels from most surfaces in 2–3 minutes.
Approval NSF K3 for foodstuffs.

08 3113

Contents		ml	400	500	
08E 08 3113	Multi Surface Citro COVKleen		–	XXX	12
08E 08 3112	Compressed-gas cleaner		XXX	–	12
08E 08 3018	Contact cleaner		–	–	12
08E 08 3395	Label remover		–	–	12
Version			Spray can		

Anti-corrosion agent

Rust protection

08 3025 – **Cleaning and protective oil for metal surfaces.** Removes residues of dirt, **displaces moisture** and creates a thin protective film. Creates a uniform lustre on the surface. Contains no silicones, resins or acids. Approval NSF® H2 for foodstuffs.

08 3094 – Transparent waxy anti-corrosion agent for mould tools and metal surfaces of all kinds. Long-term protection for storage and transport.

08 3096 – **Corrosion protection wax** based on paraffinic mineral oils with corrosion protection additives. Offers special corrosion protection for transport (especially sea transport) and also long-term protection for tools, profiles, precision parts and machines. For use within the temperature range: -30 °C to 160 °C.

08 3025

08 3096

Type				500		Version
08E 08 3025	CRC	Protective oil **3-36**	500 ml	–	12	Spray can
08E 08 3094	CRC	Corrosion protection wax **Mould Protect**	500 ml	–	12	Spray can
08E 08 3096	WEKEM	Corrosion protection wax **WS 440**	500 ml	–	12	Spray can

Protective lacquers

08 3074

08 3078

Contents			ml	500		Version
08E 08 3071	CRC	High-gloss aluminium spray **Galva Shine**	500 ml	–	12	Spray can
08E 08 3072	CRC	Anti-rust primer **Zinc Primer**	500 ml	–	12	Spray can
08E 08 3093	CRC	Zinc coating repair spray **Galva Brite**	500 ml	–	12	Spray can
08E 08 3074	CRC	Zinc spray **Zinc**	500 ml	–	12	Spray can
08E 08 3077	CRC	Stainless steel spray **Inox 200**	500 ml	–	12	Spray can

2-in-1 anti-corrosion paints

Excellent long-term protection, short processing time. Combination of zinc phosphate primer and high-quality protective lacquers in specified RAL colours.

Colour				BLUE1	GREY1	GREY2	BLACK	SILVER	WHITE		Version
08E 08 3078	CRC	Zinc anti-corrosion spray **Galvacolor "2 in 1"**	500 ml	–	–	–	–	–	–	12	Spray can
RAL colour number				5005	7035	7016	9005	9006	9010		

CRC Separating agent

Welding anti-spatter fluid

Protect workpieces against weld spatter and keep nozzles free.

08 3083 – **Based on aqueous emulsion,** contains no solvents, non-flammable.

08 3084 – **Based on high-quality ester oils,** contains no water, quick-drying.

08 3084

Contents			ml	500		Version
08E 08 3083		Weld separation spray **Eco Bio Weld**	500 ml	–	12	Spray can
08E 08 3084		Weld separation spray **Easy Weld**	500 ml	–	12	Spray can

Moulded-part separating agent for processing plastics

08 3089

Contents			ml	500		Version
08E 08 3087		Wet film separating agent **NSR Multi**	500 ml	–	12	Spray can
08E 08 3088		Dry film separating agent **NSR Dry**	500 ml	–	12	Spray can
08E 08 3089		Wet film separating agent containing silicone **SR Multi**	500 ml	–	12	Spray can
08E 08 3091		Wet film separating agent **NSR Food**	500 ml	–	12	Spray can
08E 08 3092		Wet film separating agent containing silicone **SR Food**	500 ml	–	12	Spray can

Lubricant

Penetrating oil and lubricating oil

08 3052 – This **rust remover** penetrates into the smallest gaps in a flash; the powerful penetrating **capillary action** loosens bolts and mechanisms. Further **improved sliding properties, avoiding recurrence of seizing through the action of the MoS_2 additive.**

08 3054 – SILICONE IND is the versatile synthetic oil spray. The silicone oil creates a thin, water-repellent film which is highly compatible with plastic, rubber and varnishes. SILICONE IND refreshes plastic surfaces, protects rubber against icing up and is a highly effective separating agent. The product does not age and become sticky, and can be used between **-40°C and 200°C**.

08 3062 – Waterproof lubricant with **excellent adhesion.** Creates a long-term lubricant film.

08 3097 – Synthetic long-term lubricant, resistant to high temperatures.

08 3054

Contents			ml	500		Version
08E 08 3052	CRC	Rust remover **Rust Off Ind**	500 ml	–	12	Spray can
08E 08 3054	CRC	Silicone spray **Silicone Ind**	500 ml	–	12	Spray can
08E 08 3062	CRC	Tenacious lubricant **High Speed Chain Oil**	500 ml	–	12	Spray can
08E 08 3097	CRC	High-temperature oil **Ejector Lube**	500 ml	–	12	Spray can

Greases and pastes

08 3058 – **General-purpose spray-on grease, white**, with PTFE with excellent adhesion. Provides long-term protection and lubrication for moving parts and sliding surfaces (e.g. chains, ball bearings, hinges), even under heavy loadings (up to 120°C). Resistant to water and high pressure.

08 3068 – High-quality anti-seize thread and assembly paste based on high-quality **copper powder** in non-drip grease base. **Temperature-resistant from -30 °C to 1100 °C.**

08 3066/3069/3068 – **The paste prevents sticking, seizing, and corrosion.** Specially for parts and bolts, which are exposed to heat, high pressure or corrosive environments.

08 3066/3069 – **High temperature-resistant ceramic paste,** with an effective range from **–30 °C to 1400 °C.** Non-volatile, very good parting properties, **emulsion-resistant.**

08 3066

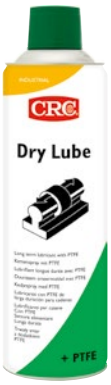
08 3068_500

08 3068_100

Contents			ml	30	100	500		Version
08E 08 3058	CRC	Spray-on grease **White Lithium Grease**	500 ml	–	–	–	12	Spray can
08E 08 3066	WEKEM	High temperature ceramic paste		XXX	–	–	12	Tube
08E 08 3069	CRC	Ceramic paste **Ceramic Paste**	500 ml	–	–	–	12	Spray can
08E 08 3068	CRC	Copper paste **Copper Paste**		–	–	–	12	–

Dry lubricant

Non-greasy smooth and dry lubricant with excellent anti-adhesion properties due to the formation of a PTFE coating**.** Free of oil and silicone.



08 3056

Contents			ml	500		Version
08E 08 3056	CRC	PTFE dry lubricant **Dry Lube**	500 ml	–	12	Spray can

CRC Testing equipment

08 3081 – **Cooling spray** with strong **cooling effect down to – -45 °C** using a coolant based on HFO, **non-flammable.** Evaporates leaving no residue. Assists trouble-shooting in electronics, for freeze-shrinking of small metal parts, for shock-freezing of rubber, plastic.

08 3086 – DVGW-tested **leak finder spray** for gas and compressed air systems for virtually all types of gas, even including oxygen systems. The water-based liquid forms clearly visible bubbles around the site of the leakage. DIN EN 14291. Classification NSF® P1.

08 2980–2982 – Non-destructive **CRICK** test system for visually inspecting defective places on metal and plastic surfaces in accordance with the DIN EN ISO 3452 penetrant test method.

08 3081

Contents		ml	500		Version	
08E 08 2980	Cleaning crack detection dye **CRICK 110**		XXX	12	Spray can	NEW
08E 08 2981	Red dye penetrant **CRICK 120 crack detection agent**		XXX	12	Spray can	NEW
08E 08 2982	Wet developer **CRICK 130 crack detection agent**		XXX	12	Spray can	NEW
08E 08 3081	Cooling spray **Minus 45**		–	12	Spray can	
08E 08 3086	Leak-search spray **Eco Leak Finder**		–	12	Spray can	

Universal oil spray and corrosion protection oil sprays

Application:

08 3042 – The 12.5 cm long VarioFlex spray tube is flexible and can be bent in all directions. Inaccessible corners can be reached quickly and easily. The spray jet is very fine and precisely controllable. But the capability to emit a spray mist is still available; simply fold the spray tube vertically downwards and click into place.

08 3047 – Maintains and protects all sorts of metals against corrosion, without sticking or gumming up.

08 3041/3044/3045 – Ideal for **servicing, maintenance and preservation** of all types of tools. Proven for tooling, chucks, measuring tools, grinding vices and for the protection of press tools in storage. Neutralises weak acids and perspiration and is very **gentle to the skin**. **Ecologically non-hazardous**, free of resins, offers unsurpassed versatility.

Note:	Not available in all countries. Express delivery not possible.

Contents		ml	200	400	350	5000		Version
08E 08 3041	General-purpose oil		–	–	–	–	1	Can
08E 08 3042			–	–	–	–	12	Spray can
08E 08 3044			–	–	–	–	20	Spray can
08E 08 3045			–	–	–	–	12	Spray can
08E 08 3047	Corrosion protection oil		–	–	–	–	12	Spray can
Spray head			Standard	Standard	Flexi Straw	–		

08 3041 08 3042 08 3045 08 3047

Multi-function oil

08 3048 – High-quality multi-function oil, silicone-free, does not gum up. With PTFE additive and "clever straw" spray technology. The mechanic's oil lubricates, releases, protects and displaces moisture. The PTFE lubrication additive ensures continuous protection against wear, high pressure stability and reliable lubrication even under extreme conditions. The product can be used between -50°C to 150°C.

08 3120/3121 – Multi-function oil with high creep effect protects metal surfaces against corrosion and displaces water and moisture. Releases dirt, rust and grease residues. Compatible with all types of metal and most types of rubber, plastics and coatings.

Note:	Not available in all countries. Express delivery not possible.

Contents		ml	500		Version
08E 08 3048	Multi-function oil **5-56 + PTFE**		–	12	Spray can
08E 08 3120	Multi-function oil **5-56**		XXX	12	Spray can
08E 08 3121	Multi-function oil **5-56 Pro Clever Straw**		XXX	12	Spray can
Spray head (08 3048)			Smart Straw		
Spray head (08 3120)			Standard		
Spray head (08 3121)			Clever Straw		

08 3120 08 3121 08 3048

Multi-function oil

WD-40 multi-function oil is proven world-wide, **almost completely odourless, uses non-polluting propellant,** is Teflon, resin, silicone, and acid-free.

Application:

08 3003 Size 400 – With flexible metal spray tube 18.5 cm for precise application. Can be used at all angles of inclination.

08 3005 – By wide-scale use **of the spray dispenser No. 083006 or No. 083509 – 083517** for economic application over large surfaces.

Note:	Approved by: **Rolls Royce, Daimler, Airbus, VW** amongst others. Not available in all countries. Express delivery not possible.

Contents		ml	400	5000		Version
08E 08 3000	Multi-purpose oil		–	–	12	Spray can
08E 08 3003			–	–	6	Spray can
08E 08 3004			–	–	6	Spray can
08E 08 3005			–	–	1	Can
Spray head (08 3000)			Standard	–		
Spray head (08 3003)			Flexi Straw	–		
Spray head (08 3004)			Smart Straw	–		

08 3003

08 3000

08 3004

Application: Pump atomiser, content 500 ml. Largely resistant to aggressive cleaners.

			Version	Capacity l
08E 08 3006	Spray dispenser capacity **500 ml**	XXX	Spray bottle	0.5

08 3006

08 3005

Garant GREENPLUS Anaerobic adhesives without hazard labels

Note: Clean the material to be machined in advance with cleaner without hazard labels No. 088004.

Thread locking

The use of thread-lockers prevents the screw fastenings from accidentally releasing and coming undone.
The single-component anaerobic thread-lockers are suitable for all thread types and forms.
Screw fastenings are sealed. Seizing is reliably prevented.

08 8060 – Type 2GP22, low strength. Medium viscosity. Ideal for easy-to-remove screw fastenings. For securing screws with fine threads.
08 8061 – Type 2GP43, medium strength. Seals and locks many types of screw fastenings. High resistance to vibrations. Quick curing on a high number of ferrous metals. Increased oil tolerance.
08 8062 – Type 2GP70, high-strength. For fixing studs, ball bearings and roller bearings which normally can no longer be released. For highly stressed screw fastenings.
08 8063 – Type 2GP90, medium strength. Reliable sealing of cast housing and weld seams. Also for subsequently securing and fixing small screws and cylindrical parts.

Application: **Low strength** – Can be undone with normal tools.
Medium strength – Can still be undone with normal tools.
High strength – Can be undone only with special tools or by heating (>150°C).

08 8060_50 08 8060_250

		50	250
01K 08 8060	Thread locking **2GP22**	XXX	XXX
Operating temperature range	°C	-55 – 180	
Functional strength to	h	3 – 6	
for thread size M to		M36	
Strength class		low strength	
minimum break-away torque	Nm	5.5 – 11.5	
Colour		violet	

		50	250
01K 08 8061	Thread locking **2GP43**	XXX	XXX
Operating temperature range	°C	-55 – 180	
Functional strength to	h	3 – 6	
for thread size M to		M36	
Strength class		medium strength	
minimum break-away torque	Nm	15 – 25	
Colour		blue	

		50	250
01K 08 8062	Thread locking **2GP70**	XXX	XXX
Operating temperature range	°C	-55 – 180	
Functional strength to	h	3 – 6	
for thread size M to		M20	
Strength class		high-strength	
minimum break-away torque	Nm	35 – 45	
Colour		green	

		50	250
01K 08 8063	Thread locking **2GP90**	XXX	XXX
Operating temperature range	°C	-55 – 180	
Functional strength to	h	5 – 8	
for thread size M to		M6	
Strength class		medium strength	
minimum break-away torque	Nm	10 – 15	
Colour		green	

Thread sealant

08 8064 – Type 5GP42. Sealant for workpieces with threads in hydraulic or pneumatic systems and connecting parts. Effective protection against oil, water, hydrocarbons and chemical products.
08 8065 – Type 5GP11. Seals against water, compressed air, gas, petrol, LPG, and chemical products. Thixotropic. PTFE additive allows easy disassembly. Specially for sealing conical/cylindrical pipe screw connections. When it has cured it creates an elastic coating.
08 8066 – Type 5GP77. Seals conical/cylindrical pipe thread fastenings up to R3 inch, e.g. gas piping systems. Heat-resistant.

08 8065_50 08 8065_250

		50	250
01K 08 8065	Thread sealant **5GP11**	XXX	XXX
01K 08 8064	Thread sealant **5GP42**	XXX	XXX
01K 08 8066	Thread sealant **5GP77**	XXX	XXX
Functional strength to (08 8065)	h	1 – 3	
Functional strength to (08 8064, 08 8066)	h	3 – 6	
for thread size M to (08 8065, 08 8066)		M80	
for thread size M to (08 8064)		M26	
minimum break-away torque (08 8065)	Nm	5 – 15	
minimum break-away torque (08 8064)	Nm	15 – 25	
minimum break-away torque (08 8066)	Nm	20 – 30	

Flat gasket sealant

08 8067 – Type 5GP74. For sealing flanges and surfaces. Quick-curing, slightly flexible sealant film.
08 8068 – Type 5GP73. Medium-strength thixotropic surface seal for sealing metallic threaded parts. Sealing of covers, flanges and surfaces. Quick-curing, slightly flexible sealant film.

08 8068_50 08 8068_250

		50	250
01K 08 8068	Flat gasket sealant **5GP73**	XXX	XXX
01K 08 8067	Flat gasket sealant **5GP74**	XXX	XXX
Operating temperature range	°C	-55 – 180	
Functional strength to	h	3 – 6	
Maximum gap size (08 8068)	mm	0.2	
Maximum gap size (08 8067)	mm	0.25	
Strength class		medium strength	
minimum break-away torque	Nm	10 – 20	

Joint connections

When using joining as a production technique, two or more components are connected through positive contact.
When using the adhesive, the full jointing face is used to establish a solid connection.
It allows for high force transfer and dynamic loads (high shear strength).

08 8069 – Type 6GP38. Quick-curing universal product with very high strength for static shear stresses and dynamic loads. For fixing gears, pulleys, rotor/shaft connections on electric motors.
08 8070 – Type 6GP48. Quick-curing heat-resistant product for fixing cylindrical joint connections. For fixing cylinder liners in engine blocks. Also suitable for fixing bearings in heating furnaces.
08 8071 – Type 6GP60. For repair of worn areas and restoring correct fits. Large gap size suitable. Cured product can be machined by drilling, milling or grinding.

			50	250
01K	08 8069	Joint connection **6GP38**	XXX	XXX
01K	08 8070	Joint connection **6GP48**	XXX	XXX
01K	08 8071	Joint connection **6GP60**	XXX	XXX
Operating temperature range		°C	-55 – 180	
Touch dry after		min	5 – 15	
Maximum gap size (08 8069)		mm	0.25	
Maximum gap size (08 8070)		mm	0.2	
Maximum gap size (08 8071)		mm	0.3	
Strength class			high-strength	

08 8069_50 08 8069_250

Garant GREENPLUS Thread-locking fluid without hazard labels

Securing and identification lacquer without hazard labels.
Protects components against third-party intervention. Protects against corrosion.

ml		50
01K 08 8072	Thread-locking fluid	XXX
Colour		red

08 8072

Thread locking

The use of thread-lockers prevents the screw fastenings from accidentally releasing and coming undone.
The single-component anaerobic adhesives are suitable for all thread types and forms. Screw fastenings are sealed. Seizing is reliably prevented.

Application: **Low strength** – can be undone with normal tools.
Medium strength – can still be undone with normal tools.
High strength – Can be undone only with special tools or by heating (>150 °C).

Size 222 – Low-strength, permits easy disassembly, suitable for all metals and passive materials.
Size 243 – Medium-strength, performs screw locking and sealing at the same time.
Size 270 – High-strength, for permanent screw fastenings, liquid.
Size 2701 – Ideal for use on passive surfaces such as high-alloy CrNi steels.
Size 290 – For small screws up to M6 and for locking screws after insertion.
Size 32-18 – Low-strength, easy disassembly, for all metals, carries no hazard labels.
Size 55-03 – Medium-strength, for use as screw locking and thread sealing up to 200 °C, also the passive materials, carries no hazard labels.
Size 70-14 – High-strength, for small screws up to M5 or for locking screw fastenings after they are made.
Size 83-05 – High-strength, for passive materials such high-alloy CrNi steels, for use also in thread sealing and making joints.
Size 83-54 – High-strength, for permanent screw fastenings up to 200 °C temperature range.

Manufacturer's designation			222	243	270	2701	290
04L 08 3301	LOCTITE Thread locking	50 ml	–	–	–	–	–
04L 08 3303		250 ml	–	–	–	–	–
Operating temperature range		°C	-55 – 150	-55 – 180	-55 – 180	-55 – 150	-55 – 150
Functional strength to		h	6	2	3	6	3
for thread size M to			M36	M36	M20	M20	M6
Strength class			low strength	medium strength	high-strength	high-strength	medium strength
minimum break-away torque		Nm	6	26	33	38	10
Colour			violet	blue	green	green	green

Manufacturer's designation			32-18	55-03	70-14	83-05	83-54
08G 08 3313	LOXEAL Thread locking	50 ml	XXX	XXX	–	–	–
08G 08 3314		250 ml	XXX	XXX	–	–	–
Operating temperature range		°C	-55 – 150	-55 – 200	-55 – 150	-55 – 200	-55 – 200
Functional strength to		h	3 – 6	1 – 3	2 – 3	2 – 3	2 – 3
for thread size M to			M12	M36	M5	M25	M20
Strength class			low strength	medium strength	high-strength	high-strength	high-strength
minimum break-away torque		Nm	6 – 10	18 – 23	10 – 25	25 – 35	25 – 35
Colour			violet	blue	green	green	green

Sealants for metals

These sealants replace hemp, sealing tapes, and pastes, they are resistant to gases, liquids, air, water, oils, hydrocarbons and many chemical products. **Complete surface contact** ensures a **100% seal.** Unscrewing, or correction of position during assembly can be performed using conventional tools at any time before the sealant hardens. No sealant residues to block filters and valves.

Thread sealant

08 3312 – Non-curing thread yarn, seals instantly, DVGW / KTW, WRC-approved.
Size GOLD – Particularly strong, leak-proof, resilient Teflon strip of the highest quality, for all types of threads. Suitable for propane, butane, natural gas, benzene, and fuels. Temperature range –240 to + 260 °C.

Application:

Size 55 – **Thread sealant yarn** for plastics and metal in heating systems and plumbing applications.
Size 511 – Suitable for metal threads up to M80 / R3.
Size 577 – Immediate effect, leak-proof against low forces, suitable for all metals.
Size 542 – **Fine thread sealant for hydraulic and pneumatic systems.**
Size 18-10 – Low-strength resilient pipe and thread sealant with PTFE, up to 2 inch threads.
Size 53-14 – Medium-strength hydraulic and pneumatic sealant, immediately leak-tight at low pressures, **carries no hazard labels**.
Size 58-11 – Medium-strength pipe and thread sealant, NSF-P1 approved, **carries no hazard labels**.
Size 86-55 – High-strength anaerobic thread sealant and adhesive. Slow-curing.

Note: Before applying sealant, clean the threads with general-purpose cleaner No. 083391 and No. 083392.

08 3312

Manufacturer ID			55
04L 08 3312	LOCTITE Thread sealant yarn	160 m	XXX
for thread size M to			M110
for imperial thread size		inch	4

Type			GOLD	FINE	COARSE
08G 08 3319	WEICEM Teflon sealing tape	12 m	XXX	XXX	XXX
for thread types			All	fine	coarse
Width		mm	12		
Thickness		mm	0.1		

08 3319

Manufacturer ID			18-10	53-14	58-11	86-55	511	577	542
04L 08 3321	LOCTITE Thread sealant	50 ml	–	–	–	–	–	–	–
08G 08 3322	LOXEAL Thread sealant	50 ml	–	XXX	XXX	–	–	–	–
Functional strength to		h	1 – 3	1 – 3	1 – 2	12 – 24	72	1	3
for thread size M to			M50	M20	M56	M50	M80	M80	M26
minimum break-away torque		Nm	6 – 11	8 – 12	18 – 24	15 – 35	6	33	15

Flat gasket sealant

Application:

Size 574 – For torsion-resistant metal flanges.
Size 5970 – Silicone. For use as a replacement for cork and paper gaskets.
Size 28-10 – Low-strength, very flexible, can be disassembled, bonds across gaps up to 0.3 mm.
Size 58-14 – Medium-strength, flexible, for general-purpose use, good ability to bond across gaps.

Note: Before applying sealant, clean the surfaces with general-purpose cleaner No. 083391 and No. 083392.

_574

_5970

Manufacturer ID			574	5970	28-10	58-14
04L 08 3331	LOCTITE Flat gasket sealant	50 ml	–	–	–	–
08G 08 3332	LOXEAL Flat gasket sealant	75 ml	–	–	–	–
08G 08 3334	LOXEAL Flat gasket sealant	250 ml	–	–	–	–
Operating temperature range		°C	-55 – 150	-55 – 200	-55 – 150	-55 – 150
Functional strength to		h	6	12	3 – 6	3 – 6
Maximum gap size		mm	0.25	0.25	0.3	0.5
Strength class			medium strength	low strength	low strength	medium strength
minimum break-away torque		Nm	6	7	4	5

_28-10

_58-14

08

Join

Jointing products for shaft-hub joints

When using joining as a production technique, two or more components are connected through positive contact. When using the adhesive, the full jointing face is used to establish a solid connection. It allows for high force transfer and dynamic loads (high shear strength).

Application:

Size 638 – High durability when subjected to dynamic, axial, and radial loads.
Size 648 – Universal jointing product, high temperature resistance. Preferred for bearings, shafts etc.
Size 82-33 – High-strength, for small gaps, even where some slight oily contamination is present. Ideal for securing bearings.
Size 83-21 – High-strength, quick-curing, mechanically tough, for bonding in and bonding on bearings, bushes and gear wheels. Viscosity 400 – 600 mPa·s.
Size 85-21 – High-strength, quick-curing, ideal for bonding in and bonding on bearings, bushes and gear wheels, permits larger production tolerances. Viscosity 2600 – 3400 mPa·s.

Note: Surfaces should first be treated with general-purpose cleaner No. 083391 and No. 083392.

08 3341_648

08 3341_638

08 3345_83-21

08 3345_85-21

Manufacturer ID			638	648	82-33	83-21	85-21
04L 08 3341	LOCTITE Jointing product	50 ml	–	–	–	–	–
04L 08 3343	LOCTITE Jointing product	250 ml	–	–	–	–	–
08G 08 3345	LOXEAL Jointing product	50 ml	–	–	–	–	–
Operating temperature range		°C	-75 – 180	-75 – 180	-55 – 150	-55 – 175	-55 – 150
Touch dry after		min	15	10	5 – 10	2 – 5	2 – 5
Maximum gap size		mm	0.25	0.15	0.1	0.15	0.2
Strength class			high-strength				

Peristaltic hand pump for 50 ml bottles

Manual metering device for screwing on to 50 ml bottles, operates in any position, non-drip, easy to control. Requires no electrical power or compressed air.

Application: Meters thread locking fluids and jointing fluids exactly from 0.01 to 0.4 ml. Unsuitable for instant adhesives and primers.

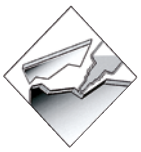
Suitable for container size		ml	50
04L 08 3344	LOCTITE Peristaltic hand pump with metering needle set		XXX

08 3344 _50

Instant adhesives

Universally applicable for bonding dissimilar materials. Quick curing and clean, nearly invisible joints. Hardens by atmospheric humidity.

Note: Not available in all countries. Express delivery not available.



Application:

Size 401 – Universal instant adhesive for virtually all materials such as plastics, elastomers, metals, preferably for **paper, cardboard, wood, leather** and **fabrics.**
Size 454 – Universal instant adhesive **gel.** Suitable for **virtually all materials.** Non-drip, ideal for applications on vertical surfaces or overhead.
Size 496 – Universal instant adhesive for nearly all materials. Very suitable for **metals.** In comparison to size 401 slightly higher strength but less temperature stability.

08 3351_401

08 3352_401

08 3352_454

08 3352_496

Manufacturer ID			401	454	496	
04L 08 3351	LOCTITE Instant adhesive	3 g	–	–	–	12
04L 08 3352	LOCTITE Instant adhesive	20 g	–	–	–	1
Dynamic viscosity		mPas	70 – 110	150 – 450	125	
Touch dry after (08 3351)		s	3 – 10	5 – 10	–	
Touch dry after (08 3352)		s	5 – 10	5 – 10	20 – 40	
Tensile shear strength		N/mm²	20	20.9	20 – 30	

Size UNI – for general purpose use, suitable for most plastics, metal and wood.
Size SLOW – slow-curing, high-strength and cap-filling ability, suitable for metal and hard plastics and all absorbent surfaces/ materials such as leather, wood, cord.
Size FAST – quick-curing, low viscosity, suitable for EPDM elastomers, solid rubber, foam rubber and plastic. Perfect for the production of O-rings

Type			UNI	SLOW	FAST
02A 08 3361	HOLEX Instant adhesive	20 g	–	–	–
Dynamic viscosity		mPas	95 – 200	600 – 1500	10 – 20
Touch dry after		s	5 – 40	20 – 50	10 – 30
Tensile shear strength		N/mm²	10 – 20	10 – 22	10 – 20

_UNI

_SLOW

_FAST

LOCTITE Cleaner, degreaser and activator spray

Cleaner and degreaser for parts, machines, and surfaces prior to adhesive application.

Size 7061 – **Solvent-based (acetone) universal cleaner** for removing paint, resin, and adhesives. Evaporates very quickly.

Size 7063 – **Solvent-based universal parts cleaner,** ideal for pre-treatment before application of adhesives and sealants; leaves no residue.

Size 7240 – Activator spray. For quick hardening of LOCTITE® products, even at low temperatures.

08 3391 08 3392 08 3393

Manufacturer's product number			7061	7063	7240	
04L 08 3391	Cleaner and degreaser spray	400 ml	–	–	–	10
04L 08 3392		400 ml	–	–	–	12
04L 08 3393	Activator spray blue-green	90 ml	–	–	–	12

3M Spray adhesive

Finger pressure is sufficient – bonding force for surfaces from paper to metal. 3M spray adhesives for industry are fast, practical and efficient assembly aids.

08 3397 08 3398 08 3399

Contents		ml	500
08M 08 3397	Spray adhesive **Foam bonding**		XXX
08M 08 3398	Spray adhesive **Multi-purpose adhesive**		XXX
08M 08 3399	Spray adhesive **PE, PP**		XXX

2-component adhesive and accessories

2-component adhesive

Tough resilient 2-component adhesive for quick and easy jointing, makes a permanent joint. Cures at room temperature.

Application:

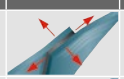
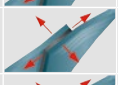
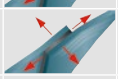
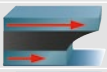
Size DP8405 – Use manual application gun No. 083373 size PISTOLE together with delivery piston No. 083375 size KOLBEN10 and mixing tubes No. 083375 size MIXER.

Size DP410; DP490; DP110; DP190; DP100PLUS – Use manual application gun No. 083373 size PISTOLE together with delivery piston No. 083375 size KOLBEN3 and mixing tubes No. 083383 size MIXER.

_DP490 _DP8405 _DP110

Manufacturer ID			NEW DP410	DP490	DP8405	DP110	NEW DP190	NEW DP100PLUS
08M 08 3374	3M 2-component adhesive		–	–	–	–	–	–
Processing time		s	8	90	240	8	5400	180
Operating temperature range		°C	-55 – 80	-55	-40	-55	-55 – 80	-55 – 80
Tensile shear strength		N/mm²	34	31	17	17	18	7
Colour			beige	black	green	translucent	grey	transparent
Capacity		g	50	50	45	50	50	50

3M 2-component product selection aid

Type	Static and dynamic loads	Adhesion of materials with a different dilatation	Surface energy high	Surface energy Medium	Surface energy low	Working time in min	Feature
DP410			++	+	–	12	For bonding medium to high-energy surfaces (e.g. carbon fibre, glass, nylon, powder-coated metals).
DP490			++	+	–	90	Outstanding resistance to impacts and heat (120°C), excellent ageing characteristics.
DP8405			++	++	–	4 – 6	Adheres to different surfaces, including most metals and many plastics.
DP110			++	+	–	8	For versatile bonding of metals, plastics, concrete, wood and composite materials.
DP190			++	+	–	90	For versatile bonding of metals, ceramics, wood, fibreboards, glass, rubber, and many plastics.
DP100 Plus			++	+	–	4	Exceptionally flexible 2-component epoxy resin adhesive with short processing time.

Tough resilient 2-component adhesive for quick and easy jointing, makes a permanent joint. Cures at room temperature.

Size 3430 – Quick-curing 5-minute epoxy is ideal for bonding transparent parts.

Size 3090 – 2-component cyanoacrylate with high gap-filling capability (up to 5 mm) and quick curing. **Suitable for applications overhead and on vertical surfaces.**

Size 9466 – Tough impact-resistant adhesive, high bonding strength on all materials. For applications that require a long working time and high strength.

08 3377 – Innovative HY 4090 **hybrid adhesive** with the **quick bonding** of superglues and the **strength and durability** of structural adhesives. High-strength adhesive bonds on many different materials such as metals, most plastics and elastomers. Up to 150 °C.

08 3371_3430 08 3371_3090 08 3372_9466

Manufacturer ID			3430	3090	9466	4090
04L 08 3371	LOCTITE	2-component adhesive	–	–	–	–
04L 08 3372	LOCTITE	2-component adhesive	–	–	–	–
04L 08 3377	LOCTITE	2-component hybrid adhesive	–	–	–	–
Processing time		s	240	90	3600	4
Operating temperature range		°C	-55 – 100	-20	-55	-40
Tensile shear strength		N/mm²	22	15.1	37	17
Colour			transparent	transparent	yellowish	yellowish
Capacity		g	24	10	50	50

08 3377_4090

Accessories

08 3375 Size MIXER – **Individual** mixing tubes for No. 083374 size DP8405.

Size KOLBEN3 – EPX delivery piston for No. 083374 size DP110; DP490; DP410; DP190 and DP100PLUS.

Size KOLBEN10 – EPX advance piston for No. 083374 size DP8405.

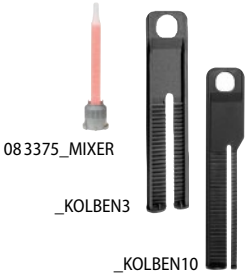
08 3383 Size MIXER – Mixing tubes, **36 pieces**, for 2-component adhesive No. 083374 size DP110; DP490; DP410; DP190 and DP100PLUS.

08 3376 Size MIXER – Mixing tube **set, 10 pieces,** length 100 mm.

08 3379 Size MIXER – Mixing tubes **set, 10 pieces**, for No. 083377 size 4090.

08 3373 Size PISTOLE – Manual application gun for 50 ml Loctite double cartridge.

Application: Metering and mixing of epoxy and other 2-component adhesives with manual metering mixing device.


08 3375_MIXER _KOLBEN3 _KOLBEN10

Version			MIXER	KOLBEN3	KOLBEN10
08M 08 3375	3M	2-component adhesive accessories	XXX	XXX	XXX
08M 08 3383	3M	2-component mixing nozzle **Set, 36 pieces**	XXX	–	–

Version			MIXER
04L 08 3376	LOCTITE	2-component adhesive accessories, mixing nozzle	XXX
04L 08 3379	LOCTITE	2-component mixing nozzle, hybrid	XXX

Version			PISTOLE
04L 08 3373	LOCTITE	Manual dispensing gun	XXX

08 3376_MIXER 08 3379_MIXER

08 3373_PISTOLE

WEKEM® 2-component epoxy liquid metal

08 3380 – Quick curing grey metal epoxy resin, suitable for mechanical machining **(sawing, drilling, milling, tapping).**

08 3382 – 2-component epoxy putty for steel with high pressure resistance. Outstanding resistance to aggressive chemicals. Highly suitable for machining after curing.

Note: Not available in all countries. Express delivery not possible.

			50	500
08G 08 3380		Liquid metal **2 pcs. 25 ml**	–	–
04L 08 3382		Liquid metal paste **2×250 g**	–	–
Operating temperature range		°C	-35 – 145	
Tensile shear strength		N/mm²	25	
Colour			grey	
Capacity		g	50	500

08 3382 08 3380

Note

Filling spatulas for working 2-component epoxy liquid metals can be found under No. 08 7670.

WEKEM® Silicone adhesives and sealants

High quality **1-component adhesive and sealant compound, based on MS polymer,** weather-resistant and UV-resistant.
Even adheres to moist substrates, permanently resilient, quick curing even at low temperatures.
Easy to work, can be painted over.

08 3482 08 3484

Colour			CLEAR	WHITE	GREY	BLACK	
08G 08 3482	MS polymer adhesive and sealant **Multiflex**	**290 ml**	–	–	–	–	**12**
08G 08 3484	MS polymer adhesive **Multiflex Strong**	**290 ml**	–	–	–	–	**12**
Colour			transparent	white	grey	black	

Silicone cartridges for gasketing, bonding, sealing, and compensation for tolerance and temperature differences.

08 3487 08 3490 08 3493 08 3495

Colour			CLEAR	WHITE	GREY	RED	BLACK
08G 08 3487	Silicone cartridge for industrial use, cures by neutral cross-linking	**310 ml**	–	–	–	–	–
08G 08 3490	Silicone cartridge for sanitary use, cures by acetic acid cross-linking	**310 ml**	–	–	–	–	–
08G 08 3493	High-temperature silicone tube	**80 ml**	–	–	–	–	–
08G 08 3495	High-temperature silicone cartridge	**310 ml**	–	–	–	–	–
Colour			transparent	white	grey	red	black

Which sealant for which area of application?	
08 3482/84	For virtually all materials such as metal, building materials, most plastics, wood, glass, enamels.
08 3487	All-round silicone, suitable for many applications, including natural stone.
08 3490	Especially for sanitary work and use outdoors. Equipped with fungicide.
08 3493/95	For boilers, central heating units, dryers, ideal as a deformable seal on motors, gearboxes.

Cartridge grease guns

08 3501 – Heavy-duty version with more powerful drive, stepless feed, and **patented non-drip function** (prevents dripping by pressure release). For 290 ml and 310 ml cartridges (e. g. No. 083482 – 083495).
08 3504/3508 – Innovative version with 2 sliding blocks enables twice as much force to be transferred from the squeeze grip to the push rod. For 290 ml and 310 ml cartridges (e.g. 083482 – 083495).

08 3501/04/08

			12	18	26	maximum press-out pressure kg	Transmission ratio
02A 08 3501		Cartridge gun **12:1**	XXX	–	–	250	12:1
02A 08 3504	HOLEX	Cartridge gun **18:1**	–	XXX	–	350	18:1
02A 08 3508		Cartridge gun **26:1**	–	–	XXX	450	26:1

08 3502 – **Fully enclosed** cartridge gun in a range with aluminium and transparent plastic tube, metering nozzle, and thrust plate. **Suitable for both cartridges and bags.**
08 3505 – Metering nozzle set for No. 083502.

08 3502
08 3505

02A 08 3502	HOLEX	Fully enclosed cartridge gun assortment, **4 pieces**	XXX
02A 08 3505		Metering nozzle set, **10 pieces**	XXX

08 3503 – ■ Push rod automatically returns to prevent drips.
■ Press-out speed is regulated electronically using a control wheel with 6 speed settings.
08 3507 – Sturdy **compressed-air cartridge gun** for quick and easy application, with a smooth uninterrupted flow. Direct-acting piston delivers compressed air directly to the cartridge piston (no dribbling). Suitable for all types of sealant.

Supplied with:
08 3503 – Supplied with 1 pc. M18 B2 battery pack, 1 pc. M12-18 C charger, tool case.

08 3507

08H 08 3507	Compressed-air cartridge gun	XXX

Type			C18PCG-310
03L 08 3503	Milwaukee	Cordless cartridge gun	XXX
Number of rechargeable batteries contained			1
Type of rechargeable battery			Lithium-ion
Battery capacity		Ah	2
Battery voltage		V	18
maximum press-out pressure		kg	459
suitable for cartridge size		g	310

08 3503

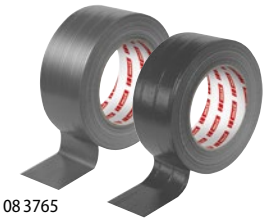
HOLEX Adhesive tapes

General-purpose adhesive tapes for numerous areas of application such as repairs, protection, wrapping up and packaging.

Fabric adhesive tapes

08 3773 – Double-sided adhesive tape (carpet tape) for permanent bonding.
08 3765–3768 – General-purpose product for repair work.
08 3767/3768 – UV-resistant, very good tear resistance and abrasion resistance.
08 3767–3773 – Good adhesive bonding, even on rough substrates.

Width×length			mm×m	48×50	38×25	50×50	50×25
02A 08 3765	Fabric adhesive tape	silver		XXX	–	–	–
02A 08 3766		black		XXX	–	–	–
02A 08 3767		red		–	XXX	–	–
02A 08 3768		olive green		–	–	XXX	–
02A 08 3773	Carpet tape	white		–	–	–	XXX
Type of adhesive tape				single-sided	single-sided	single-sided	double-sided
Adhesive				Synthetic rubber	Natural rubber	Natural rubber	Synthetic rubber
Thickness			mm	0.17	0.3	0.3	0.2


08 3765
08 3766

08 3767
08 3768

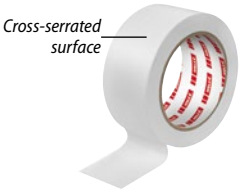
08 3773

PVC adhesive tapes

To protect smooth substrates such as wood, aluminium or glass.
08 3796 – Cross-serrated surface for easy and straight parting off.

Width×length			mm×m	50×33
02A 08 3791	PVC adhesive tape	white		XXX
02A 08 3792		blue		XXX
02A 08 3793		orange		XXX
02A 08 3794		red		XXX
02A 08 3795		yellow		XXX
02A 08 3796	PVC adhesive tape **Cross-serrated**	white		XXX
Adhesive				Natural rubber
Thickness (08 3791, 08 3792, 08 3793, 08 3794, 08 3795)			mm	0.13
Thickness (08 3796)			mm	0.16

08 3791
08 3792
08 3793
08 3794
08 3795

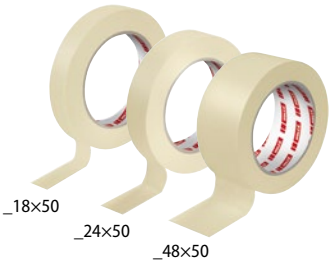


08 3796

Fine crepe tapes

Slightly creped tape for short-term masking of smooth substrates in indoor areas.

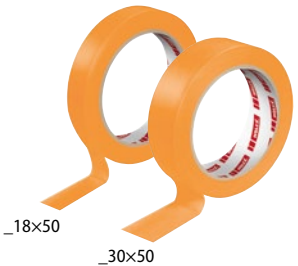
Width×length		mm×m	18×50	24×50	48×50
02A 08 3769	Fine crepe adhesive tape set, natural		XXX	XXX	XXX
Adhesive			Natural rubber		
Thickness		mm	0.14		
Number of adhesive tapes			12	9	5


_18×50
_24×50
_48×50

Precision adhesive tapes

For sharp edges to paint finishes on both smooth and rough substrates; UV-resistant.
- Thin standard masking tape of special paper (Washi).
- Good tack and good tear resistance.

Width×length		mm×m	18×50	30×50
02A 08 3772	Precision adhesive tape set		XXX	XXX
Adhesive			Acrylate	
Thickness		mm	0.08	
Number of adhesive tapes			12	8


_18×50
_30×50

Packaging tapes

PP packaging tape, **unrolls quietly**.
For sealing light and medium-heavy packages.

Width×length			mm×m	50×66
02A 08 3797	Packaging adhesive tape **6 pieces**	transparent		XXX
02A 08 3798		brown		XXX
Backing material				BOPP film
Thickness			mm	0.05
Number of adhesive tapes				6

08 3797
08 3798

Packaging adhesive tapes

Packaging tape and manual dispenser

General-purpose packaging tape, can be used with all commercially available manual dispensers, **unrolls quietly**.

08 3672 – **tesapack® 4120** is a high-quality PVC adhesive tape with a strong natural rubber adhesive component.

08 3673 – **tesapack® 4024** is a **virtually invisible** PP adhesive tape. Resistance to UV, ageing and temperature for an attractive appearance and longer shelf life.

08 3672_BEIGE

08 3672_CLEAR

08 3673_CLEAR

Colour		BEIGE	CLEAR
08M 08 3672	tesa Packaging tape **6-piece set**	XXX	XXX
08M 08 3673		–	XXX
Length	m	66	
Width	mm	50	
Thickness	mm	0.05	

08 3644 – The **environmentally compatible tesapack® paper ecoLogo® 57180** can be torn by hand and is made of 60% bio-based material.

08 3678/3679 – The **tesapack® Eco & Strong** is an **environmentally compatible** PP packaging tape of 100% recycled material.

08 3644

08 3678

08 3679

Width×length	mm×m		50×50	50×66
08M 08 3644	tesa Packaging tape	**Brown**	XXX	–
08M 08 3678		**Transparent**	–	XXX
08M 08 3679		**Brown**	–	XXX

tesa® 6400 is a **robust and professional manual dispenser** with manually adjustable roller braking. Covered knife (protects against injury) and soft rubber ergonomic handle.

Application: For dispensing adhesive tapes, maximum width 50 mm, maximum roll ∅ 140 mm.

08 3676

08M 08 3676	tesa Professional manual dispenser	XXX

Filament adhesive tape

3M™ 8954 is made of PP with **high-tensile glass fibre-reinforcement (across and along)** with very high tear resistance and abrasion resistance. **Suitable for packaging hazardous goods for transport!**

Application: For binding and securing, e.g. for securing pallets or products.

08 3666

width×length	mm×m	25×50	50×50
08M 08 3666	3M Filament adhesive tape	XXX	XXX
Thickness	mm	0.13	

3M Electric and insulating adhesive tapes

3M™ Temflex® 1500 is a **general-purpose soft PVC insulating tape.** Flame resistant. Self-extinguishing, good resistance to oil and solvents.

Colour			BLACK	BROWN	BLUE	GREY	Y/G	WHITE	RED	
08M 08 3652	Insulating tape	15 mm×10 m	XXX	XXX	XXX	XXX	XXX	XXX	XXX	10
08M 08 3654		19 mm×25 m	XXX	–	XXX	–	–	XXX	–	10
Thickness	mm		0.15							

08 3655 – The **3M Scotch® 23** is an ozone-resistant ethylene-propylene-rubber adhesive tape. It has outstanding dielectric characteristics, is ozone-resistant and is compatible with all cable sheathing materials.

08 3656/3657 – **3M Scotch® Super 88** and **Scotch® Super 33+** are particularly resilient and UV-resistant premium adhesive tapes with very good electrical characteristics and resistance to moisture, alkalis, many acids and solvents.

08 3655_19×9

08 3656_19×20

width×length	mm×m	19×6	19×20	19×33	19×9
08M 08 3655	Self-sealing insulating tape	–	–	–	XXX
08M 08 3656	Electrical insulating tape	XXX	XXX	XXX	–
08M 08 3657		–	XXX	–	–
Thickness (08 3655, 08 3656)	mm	0.18	0.18	0.18	0.76
Thickness (08 3657)	mm	–	0.22	–	–

Fabric adhesive tapes

tesa® 4662 duct tape bonds with excellent adhesive strength even on rough and dusty substrates. It is waterproof, supple and flexible. Ideal for sealing pipes and cables, and for applications on plasterwork and masonry. It can easily be torn by hand both across and along the tape.

width×length			mm×m	48×50
08M 08 3600	tesa	Fabric adhesive tape	silver	XXX
08M 08 3601			black	XXX
Adhesive				Natural rubber
Thickness			mm	0.23

08 3600 08 3601

tesa® 53799 exhibits very good adhesive strength even on rough substrates. It can be torn by hand easily and cleanly, is water-repellent, weather-resistant, resists heavy weights and is very supple. Thus it is ideal for a wide range of repair work and construction work, and also for packaging, bundling, bonding, etc.

08 3605_38×25 08 3605_50×50

width×length			mm×m	38×25	50×50
08M 08 3605	tesa	Fabric adhesive tape **stabilised**		XXX	XXX
Adhesive				Natural rubber	
Thickness			mm	0.31	

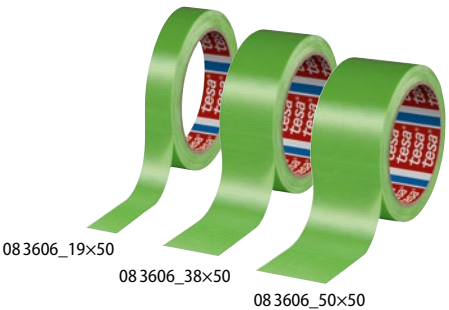
The **tesa® 4671** has a backing fabric of rayon, **is non-reflective**, **is fluorescent** and is suitable for virtually **any sort of application**. It can easily be torn by **hand**, can be **removed without leaving residues**, bonds to **rough surfaces** and **can be written on**.

08 3611 08 3612 08 3613 08 3614

08 3616 08 3617

Width×length			mm×m	38×25	50×25	
08M 08 3611	tesa	Fabric adhesive tape **Set, 4 pieces**	orange	XXX	–	1
08M 08 3612			yellow	XXX	–	1
08M 08 3613			pink	XXX	–	1
08M 08 3614			green	XXX	–	1
08M 08 3616		Fabric adhesive tape **Set, 3 pieces**	orange	–	XXX	1
08M 08 3617			pink	–	XXX	1
Type of adhesive tape				single-sided		
Adhesive				Natural rubber		

The **tesa® 4621** is a general-purpose fabric adhesive tape suitable for use outdoors. It can easily be torn by hand both across and along the tape. In addition it offers the tape can be gently **unrolled or rolled up**, is watertight and resistant to UV. It can be removed up to 8 weeks from application, leaving no residues.

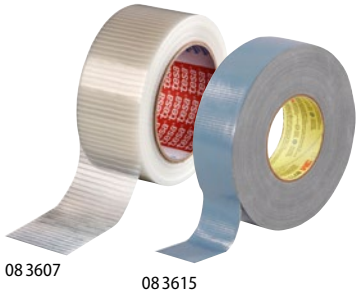


08 3606_19×50 08 3606_38×50 08 3606_50×50

Width×length			mm×m	19×50	38×50	50×50
08M 08 3606	tesa	Fabric adhesive tape	light green	XXX	XXX	XXX
Adhesive				Acrylate		
Thickness			mm	0.13		

08 3607 – The **tesa® 4665** is **UV-resistant** for 52 weeks and in addition is **weather-resistant**. It is thus ideal as an outdoor adhesive tape.

08 3615 – Due to its supple structure and **UV resistance** the **3M™ 8979** is suitable for permanent and temporary applications **indoors and outdoors**. In addition it is **water-repellent** and thus can also be used for **sealing**.



08 3607 08 3615

Width×length			mm×m	48×25	48×23
08M 08 3607	tesa	Fabric adhesive tape **UV-resistant**	transparent	XXX	–
08M 08 3615	3M		blue-grey	–	XXX
Adhesive				Synthetic rubber	Natural rubber
Thickness			mm	0.215	0.31

3M PVC masking and floor marking tapes

The 3M™ coloured marking and floor marking tapes are ideally suited for use in situations of building maintenance and for improving safety within the plant. The special structure of the coloured PVC adhesive tapes resists scratching, abrasion, weather and most chemicals. Easy to apply, very supple even on uneven surfaces.

Colour		CLEAR	BLUE	GREEN	ORANGE	RED	WHITE	YELLOW	BLACK	YB	WR
08M 08 3636	PVC adhesive tape	–	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
08M 08 3641	PVC adhesive tape **soft**	XXX	XXX	XXX	–	XXX	XXX	XXX	XXX	–	–
08M 08 3639	Floor marking tape **extra strong**	–	XXX	XXX	XXX	XXX	XXX	XXX	–	–	–
08M 08 3637	PVC warning marker tape	–	–	–	–	–	–	–	–	XXX	XXX
08M 08 3642	PVC warning marker tape – set of 24 pieces **heavy**	–	–	–	–	–	–	–	–	XXX	–
Adhesive (08 3636, 08 3637)		–	Natural rubber	Natural rubber	Natural rubber	Natural rubber	Natural rubber	Natural rubber	–	Natural rubber	Natural rubber
Adhesive (08 3641, 08 3639, 08 3642)		Vulcanised rubber	Vulcanised rubber	Vulcanised rubber	Vulcanised rubber	Vulcanised rubber	Vulcanised rubber	Vulcanised rubber	Vulcanised rubber	Vulcanised rubber	–
Colour		transparent	blue	green	orange	red	white	yellow	black	yellow black	white red
Length	m	33									
Width	mm	50									
Thickness (08 3636, 08 3637)	mm	–	0.125	0.125	0.125	0.125	0.125	0.125	–	0.125	0.125
Thickness (08 3641)	mm	0.13	0.13	0.13	–	0.13	0.13	0.13	0.13	–	–
Thickness (08 3639, 08 3642)	mm	–	0.79	0.79	0.79	0.79	0.79	0.79	–	0.14	–

3M Which tape for which application area?

Product	Manufacturer's ID	Use	Can be removed leaving no residues	Traffic/ loading	Application range
08 3641	471				Very supple, resistant to abrasion and resistant to many solvents.
08 3639	971				Withstands stresses due the fork-lift truck traffic and moving pallets around.
08 3636	764i				Suitable for coloured marking and floor markings in all non-critical applications.
08 3637	766i				Suitable for safety markings in all non-critical applications.
08 3673	767i				Suitable for safety markings in all non-critical applications.
08 3642	5702				Resistant to abrasion, scuffing, moisture and weather, with a long working life.

tesa Flat crepe and masking tapes

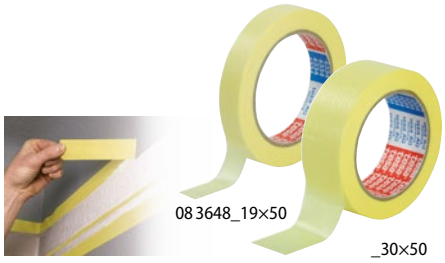
08 3645 – The **tesakrepp® 4329** is a **thin and flexible soft crepe paper masking tape**, with high wet abrasion resistance and **good paint and filler restraint**. Furthermore it is also suitable for general **masking and painting work** at temperatures up to + 70 °C.

08 3648 – **tesakrepp® 4334** has an extra thin and tear-resistant paper carrier. It offers good positioning capability and is suitable for up to 8 weeks outdoors, for high quality **puttying, painting, and varnishing work, giving sharp edges to paint and varnish**. It can be used on a wide variety of sensitive surfaces such as glass, aluminium, HPVC and wood.

08 3645_19×50 _25×50 _50×50

width×length	mm×m	19×50	25×50	50×50
08M 08 3645	Paper masking tape set	XXX	XXX	XXX
Adhesive		Natural rubber		
Thickness	mm	0.13		
Number of adhesive tapes		16	12	6

width×length	mm×m	19×50	30×50
08M 08 3648	Precision masking tape	XXX	XXX
Adhesive		Acrylate	
Thickness	mm	0.09	
Number of adhesive tapes		1	



08 3648_19×50 _30×50

Double-sided adhesive tapes

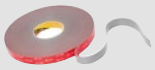
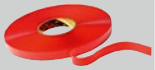
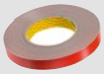
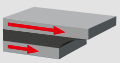
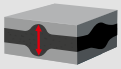
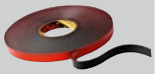
VHB adhesive tapes

Double-sided high-performance **adhesive tape** of pure acrylate adhesive (VHB) for permanently strong bonds.
High instant tack, high resistance to temperature, weather, UV and solvents.
Excellent sealing function, vibration-damping.

Note: Further 3M™ VHB™ tapes in different thicknesses and lengths are available on request.

Width×length			mm×m	19×3	19×8	19×11	19×33	19×5,5
08M 08 3781	3M	VHB™ adhesive tape	white	–	–	XXX	XXX	–
08M 08 3782			black	–	XXX	–	XXX	–
08M 08 3786			grey	XXX	–	XXX	XXX	–
08M 08 3787			transparent	–	–	XXX	XXX	–
08M 08 3788			grey	–	–	–	–	XXX
08M 08 3789			black	–	–	XXX	XXX	–
Thickness (08 3781, 08 3786, 08 3788, 08 3789)			mm	1.1	–	1.1	1.1	2.3
Thickness (08 3782)			mm	–	1.6	–	1.6	–
Thickness (08 3787)			mm	–	–	1	1	–

3M Which tape for which application area?

Product	Application area	Material expansion	Joint gap tolerances	Long-term temperature resistance to °C	Short-term temperature resistance to °C	Peel strength [N/cm]
08 3781	For low-energy plastics such as PP, TPO, TPE, composite materials Manufacturer's ID: **LSE**	max: 3.30 mm	max. 0.55 mm	100	150	44
 08 3786	For applications with **high operating temperatures,** such as before processing in a powder-coating line. Manufacturer's ID: **GPH**	max: 3.30 mm	max. 0.55 mm	150	230	37
 08 3787	For **transparent materials** such as glass, Perspex (PMMA), polycarbonate Manufacturer's ID: **4910**	max: 3.30 mm	max. 0.50 mm	90	150	26
 08 3788	For aluminium, stainless steel, galvanised steel, polycarbonate, ABS **resistant to plasticisers** Manufacturer's ID: **4911**	 max: 6.90 mm	 max. 1.15 mm	90	150	35
 08 3782 / 08 3789	For **powder-coated surfaces,** metal, glass, sealed wood, acrylic, polycarbonate, ABS Manufacturer's ID: **5952**	max: 3.30 mm	max. 0.55 mm	120	150	39

Double-sided adhesive tape

08 3625 – **3M™ 9195** is a double-sided acrylate adhesive tape (carpet tape) with different adhesive strengths on the two sides (strongly bonding / removable). After use, the bonded carpets can be removed again from solid floors or substrates, leaving no residues.

08 3628 – The **3M™ 9191** is a double-sided adhesive tape and is characterised by a **pressure-sensitive** synthetic rubber adhesive with high bonding strength and instant tack.

width×length			mm×m	50×25
08M 08 3625	3M	adhesive tape **removable**		XXX
08M 08 3628		adhesive tape		XXX
Thickness (08 3625)			mm	0.13
Thickness (08 3628)			mm	0.26

Double-sided adhesive tape with polyester carrier

The **3M™ 9088-200** is a thin double-sided adhesive tape with polyester carrier for a wide variety of assembly tasks.
It carries modified acrylate adhesive which bonds strongly to metal, paper, cardboard and many plastics.
The high transparency and temperature resistance, coupled with its good processing characteristics open up countless application possibilities.

width×length			mm×m	19×50
08M 08 3775	3M	Double-sided adhesive tape		XXX
Thickness			mm	0.2

Mirror adhesive tape

tesafix® 4952 is a double-sided PE foam adhesive tape with acrylate adhesive. Forms a permanent strong bond with high tack. High tensile and shear strength, resistant to high temperatures and ageing. Ideal for **attaching mirrors**.

Type			4952
08M 08 3783	tesa Mirror adhesive tape		XXX
Length		m	10
Width		mm	19
Thickness		mm	1.15

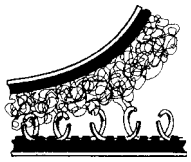
08 3783

3M Hook and loop fastening straps, reclosable

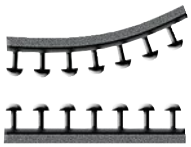
3M™ releasable fastening systems are the alternative to traditional joining methods such as screw fastenings, rivets, nails or clamps.

08 3691 – Hook and loop tape. A stable load-bearing press fastening is achieved by pressing the hook tape to the loop tape.

08 3690/3692–3697 – **DUAL-LOCK** for **enhanced tensile strength, quick and easy opening** due to simple peeling movement.



Hook and loop tape 08 3691



DUAL-LOCK™ 08 3692

Short roll blister packing (width 25mm)

Type			SJ354	SJ355	SJ356	SJ387	SJ352
08M 08 3691	Hook and loop tape		–	–	–	–	XXX
08M 08 3692	DUAL-LOCK™ pressure lock tape		XXX	XXX	XXX	XXX	–
Colour			black	black	translucent	black	black
Length		m	2.5	2.5	2.5	2.5	1.25

08 3692

Dispenser box (width 25mm)

Type			SJ354D	SJ356D	SJ457D	SJ355D	SJ352D
08M 08 3690	DUAL-LOCK™ pressure lock tape		XXX	XXX	XXX	–	–
08M 08 3696			–	–	–	XXX	–
08M 08 3691	Hook and loop tape		–	–	–	–	XXX
Colour			black	translucent	translucent	black	black
Length		m	5				

08 3690

Industrial pack (width 25mm)

Type			SJ3540	SJ3550	SJ3560	SJ3870	SJ4570
08M 08 3697	DUAL-LOCK™ pressure lock tape		XXX	XXX	XXX	XXX	XXX
Colour			black	black	transparent	black	translucent
Length		m	45.7	45.7	45.7	41	45.7

08 3697

3M Which tape for which application area?

Product	Application area	Seal lifetime	Holding force	Seal thickness	For indoor/ outdoor applications
_SJ352	For all **flexible materials.** Flexible and pliable.	5000 ×		3.6 mm +/– 15%	
_SJ3540	For many **plastics** (such as polypropylene, polyethylene, acrylic, polycarbonate and ABS) and **powder-coated surfaces.**	1000 ×		5.7 mm +/– 15%	
_SJ3550	For **aluminium,** stainless steel, galvanised steel, acrylic, polycarbonate and ABS.	1000 ×		5.7 mm +/– 15%	
_SJ3560	For **transparent materials** such as glass, Perspex (PMMA), polycarbonate.	1000 ×		5.7 mm +/– 15%	
_SJ3870	For **powder-coated surfaces, metal, glass,** sealed wood, acrylic, polycarbonate and ABS.	1000 ×		6.1 mm +/– 15%	
_SJ3540	For powder-coated surfaces, metal, glass, sealed wood, acrylic, polycarbonate and ABS. **Thin sealing thickness.**	150 ×		2.5 mm +/– 15%	

08

3M Repair and assembly adhesive tapes

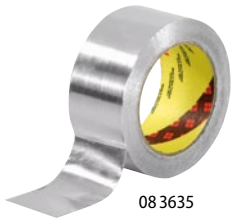
Aluminium adhesive tape

The soft aluminium adhesive tape is suitable for galvanising, provides strong reflection of heat and light and is resistant to weather and chemicals.

08 3634 – The **3M™ 425** can be removed almost completely without residues, and due to its suppleness is suitable for use on curved and uneven surfaces.

08 3635 – The **3M™ 431** exhibits outstanding sealing properties and provides good screening against moisture. It can be used without problems for long-term applications.

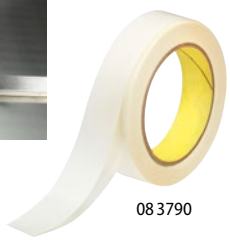
08 3634


08 3635

Width×length		mm×m	25×55	38×50	50×55
08M 08 3634	Aluminium adhesive tape		XXX	–	XXX
08M 08 3635			XXX	XXX	XXX
Adhesive			Acrylate		
Thickness		mm	0.12	0.09	0.09

High-density polyethylene slip tape

The **3M™ 5423** protects surfaces by virtue of its excellent resistance to abrasion. It creates a smooth surface which permits frictionless contact. There is no need for additional lubricants, which can so often be the source of problems. In addition it is **resistant to chemicals, transparent,** and with its protective paper it performs well in press tool processes.


08 3790

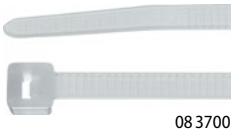
width×length		mm×m	19×16
08M 08 3790	Polyethylene slip tape		XXX
Thickness		mm	0.28

HellermannTyton Cable ties

08 3710 – Corrosion-resistant and non-magnetic cable ties of **non-rusting stainless steel.** Outstanding chemical resistance. Forked end to the tie.

08 3700/3705 – Strong cable ties of polyamide 6.6, with internal teeth, 100 ties per pack.

Application: Installation with gun or by hand for binding together and attaching cables, wires, and hoses.


08 3700

08 3705

08 3710

Width			mm	2,5	3,5	4,6	7,9
08M 08 3700	Cable tie set T-Tie, white	100 pieces		XXX	XXX	XXX	–
08M 08 3705	Cable tie set T-Tie, black	100 pieces		XXX	XXX	XXX	–
08M 08 3710	Cable tie set stainless steel	50 pieces		–	–	–	XXX
maximum bundle ∅			mm	22	50	81	150
Length			mm	100	150	300	500
Operating temperature range			°C	-40 – 85	-40 – 85	-40 – 85	-80 – 538

Releasable ties LR55 of polyamide 6.6 are easy to use. Minimum tension 244N. The external toothing leaves no imprint on delicate components.

08 3730

08 3730

Width			mm	4,8
08M 08 3730	Cable tie set LR55, releasable, red	25 pieces		XXX
maximum bundle ∅			mm	55

The Speedy Tie **releasable ties** of polyamide 6.6 with the patented quick release are easy to use and convenient to release. Minimum pull-out force 888 N; the end of the tie can be tucked into the tie head.

08 3740

08 3740

Width			mm	13
08M 08 3740	Universal pipe binders set SpeedyTie, yellow	5 pieces		XXX
maximum bundle ∅			mm	210

3M Barrier tape / warning tape

Non-adhesive marking tape of hard-wearing polyethylene film. Improved version 33 µm thick.

Application: For marking out hazard areas.

width×length		mm×m	70×100	
08M 08 3760	Barrier tape, red-white		XXX	24
Thickness		µm	33	

Industrial spray dispenser

Plastic container with high quality pump mechanism for light oils, washing agents, solvents, and cleaning agents; unsuitable for thinners and brush cleaners.

08 3509 – With adjustable plastic spray nozzle.
08 3510 – With adjustable brass spray nozzle.
08 3511 – With brass spray nozzle and ergonomic actuator handle.

08 3509 08 3510 08 3511

			Capacity l	Material of the spray nozzle
08H 08 3509	mato	XXX	0.75	Nylon
08H 08 3510	Industrial spray dispenser	XXX	0.75	Brass
08H 08 3511	EPOCA	XXX	0.63	Brass

Spray dispenser

High-quality plastic container. Handy mushroom shaped handle for pressure build-up. Adjustable **brass spray nozzle** – from spray mist to jet.

08 3512 – GARANT pressure sprayer, 1.5 litre liquid container with visible scale and stable base. Easy allocation due to common colouration of the spray head cover and the container.
Size VL1 – Spray head cover and liquid container in white colour.
Size VA1 – Spray head cover and liquid container in steel blue colour.
Size VS1 – Spray head cover and liquid container in black colour.
08 3515 – 2 nozzles of different **lengths, sprays in any position**, with Viton seal. With latching lever for continuous spray function.
08 3517 – Newly developed Viton seal, particularly resistant to chemicals.
08 3519 – With solvent-resistant Viton seal.

Application: Resistant to the following media:
Size VL1 – common **alkaline liquids and alcohols.**
Size VA1 – common **liquids** containing acids**.**
Size VS1 – common **liquids** containing solvents, hydrocarbons (brake cleaners), mineral oils and greases.
08 3515 – common liquids **containing solvents**, hydrocarbons (brake cleaner), mineral oils and greases.
Unsuitable for aggressive liquids which might attack the Viton seal.
08 3517 – common **liquids** containing solvents**.**
08 3519 – suitable for **aggressive solvents** such as acetone. **No acetone solvent mixtures.**

08 3512_VL1 08 3512_VA1 08 3512_VS1

08 3515_2 08 3517_1 08 3519_1

Type		VL1	VA1	VS1	2	1	Capacity l	maximum operating pressure bar
01A 08 3512	Garant Spray dispenser	XXX	XXX	XXX	–	–	1.5	3
08H 08 3515	EPOCA Pressure sprayer with 2 different nozzles	–	–	–	XXX	–	2	3
08G 08 3517	WEKEM Spray dispenser	–	–	–	–	XXX	1	3
08G 08 3519		–	–	–	–	XXX	1	3
Material of seal (08 3512, 08 3515, 08 3517)		EPDM	Viton	Viton	Viton	Viton		
Material of seal (08 3519)		–	–	–	–	EPDM		
Spray head material		PP	PP	PA	PA	PA		

mato Oil cans

08 3522 – **High-quality aluminium oiler** for professional use in all maintenance and service areas. **Sturdy brass double-action pump** with angled suction tube that can be turned. **Oil can be applied in any position.**

08 3523 – As No. 083522, but **container is of plastic (HDPE).**

Capacity		ml	300	500
08H 08 3522	Oil can, aluminium		XXX	XXX
08H 08 3523	Oil can, plastic		XXX	XXX
Base ∅		mm	85	

08 3522_300

08 3523_300

High-quality spray dispenser for professional use in all maintenance and service areas. High-quality nickel-plated double pump mechanism with angled, rotating suction tube, for atomising thin oils, paraffin and similar media.

Capacity		ml	300	500
08H 08 3537	Spray dispenser made of aluminium		XXX	XXX
08H 08 3521	Spray dispenser made of plastic		XXX	XXX

08 3537_300

08 3521_300

Machine oil spray can of sheet metal with rigid and flexible discharge tube. Sturdy brass pump, outlet can be unscrewed. Tube length 120 mm.

Capacity		ml	250	450
08H 08 3525	Machine oil can with 2 different discharge tubes		XXX	XXX
Container height		mm	140	
Base ∅		mm	73	88

08 3525_250

08 3525_450

Professional pressure oiler

Resilient, transparent plastic container with 3 exchangeable brass needle heads ∅ 0.25; 0.5, and 1 mm for precise application of very small or variable oil quantities.

08H 08 3528	Minimal quantity lubrication set with 3 needle heads		XXX
Capacity		cm^3	59

08 3528

Pressure oiler of polyethylene

Unbreakable flexible pressure oiler made from polythene, resistant to oils, acids and fuel, for all types of rust removers and oils.

Size 70 – Bellows oiler with pump-action suction for metered application of liquids, with captive protective cap on the discharge spout.

Size 80 – Leak-proof pocket oiler with rigid brass spout with leather seal, proof against rotary catch at the tip.

Capacity		ml	70	80
08H 08 3529	Small plastic bottle oiler		XXX	XXX
Container length		mm	55	40
Container width		mm	30	20
Container height		mm	55	70
Material of the discharge tube			Plastic	Brass

_70

_80

08 3532 – Unbreakable, flexible pressure oiler, of polyethylene with extendable brass discharge tube, rotary closure at the spout tip. Tube guide with adjusting nut.
Resistant to ethanol and isopropanol-based disinfectants.

08 3534 – Pressure oiler made from polyethylene.

Capacity		ml	125	250	500
08H 08 3532	Plastic oiler with discharge tube		XXX	XXX	XXX
08H 08 3534	mato Plastic oiler with plastic discharge tube		–	XXX	–
Overall height		mm	90	205	260
Overall height - tube extended (08 3532)		mm	220	285	345
Base ∅		mm	51	60	75

08 3532_125 _250 _500 08 3534_250

Top-up funnel

Funnel with removable outlet. Funnel ∅ 160 mm.

Size 1 – **Plastic funnel** with integral sieve of stainless steel and removable flexible outlet tube.
Size 4 – Additional flexible metal discharge, 90° flexibility.
Size 5 – **Plastic funnel** with integral sieve of stainless steel and removable angled outlet.

08 3541 Size 1; 5 – **Compatibility:**
foodstuffs-compatible, oil and acid-resistant, resistant to chemicals, resistant to petrol, fuel, kerosene and heating oil. Resistant also to salt water, brake fluid, ethanol and glycol, coolant and anti-freeze. Temperature resistance: -20 °C to 80 °C.
Size 3; 4 – **Funnel of galvanised steel** with integral sieve of brass, can be unscrewed, straight outlet of polyethylene for use even at low heights.

Type		1	3	4	5
08H 08 3541	Top-up funnel	XXX	XXX	XXX	XXX
Length of the discharge tube	mm	330	–	280	300

Plastic funnel set of polyethylene, **foodstuffs-compatible**, oil and acid-resistant, resistant to chemicals, resistant to petrol, fuel, kerosene and heating oil. Resistant also to salt water, brake fluid, ethanol and glycol, coolant and anti-freeze. Temperature resistance: -20 °C to 80 °C.
Resistant to ethanol and isopropanol-based disinfectants.

Supplied with: 1 funnel each of ∅ 50, 75, 100, 120, 150, and 160 mm.
Version 160 mm with additional integral sieve of stainless steel.

Number of funnels		6
08H 08 3542	Set of funnels	XXX
Material		Plastic

Measuring jugs

Measuring jug set of transparent polypropylene, resistant to oil and acid.
Scale with ml divisions, ergonomic handle, stackable.

Supplied with: 1 measuring jug 0.5 litre, scale division **10 ml.**
1 measuring jug 1.0 litre, scale division **10 ml.**
1 measuring jug 2.0litre, scale division **20 ml.**

Number of measuring jugs		3
08H 08 3543	mato Set of measuring jugs	XXX

Tin-plate pouring can with funnel-shaped discharge, stable base and handle.
Size 1/FLEX – With **flexible spout.**

Capacity	l	1	2	1/FLEX
08H 08 3546	mato Oil can	XXX	XXX	XXX

Fluid measuring can made of thick-walled, galvanised sheet metal with funnel-shaped and heat-resistant discharge and stable base. With inner measuring scale made of brass, with stable carrying handle and secure grip for spill-free pouring.

Capacity	l	5	10
08H 08 3547	Oil can	XXX	XXX

Plastic pouring cans of polyethylene

Plastic pouring cans with protective cover and screw-on flexible spout.
Free-standing design.
Liquid is optimally protected against dirt.
Resistant to ethanol and isopropanol-based disinfectants.

Capacity	l	1	3	5
08H 08 3548	Plastic pouring can	XXX	XXX	XXX

Professional grease guns

High-quality galvanised high-pressure grease gun **100% leak-tight.**
Application area: For areas with reduced lubrication requirement on vehicles and machines. For clean transport in tool boxes or in the storage compartment for on-board tool kits of vehicles or machines.
Delivery capability: max. 0.3 cm^3/stroke. Pressure: max. 250 bar.
Size 60–150 – suitable for medium-consistency greases (class 2) and high-viscosity oils.

08 3557_60

08 3557_62

08 3557_150

Contents		ml	60	62	150
08H 08 3557	Professional grease gun with nozzle		XXX	XXX	XXX
Overall length		mm	170	170	235
∅ press container		mm	30.5	30.5	40
Nozzle type			Universal	taper	General purpose / pointed

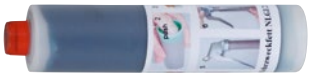
Versatile **professional grease gun with screw-in cartridge** of temperature-resistant and heat-resistant plastic. Visual level indication. **Quick, easy, and absolutely clean fitting and removal of grease cartridges.**
Suitable for medium-consistency grease(class 2) and high-viscosity oil.
Ideal for any toolbox and roller cabinet.

08 3558_1

08 3558_2

Type			1	2
08H 08 3558	Professional grease gun K100 with screw-in cartridge		XXX	XXX
Overall length		mm	228	234
∅ press container		mm	38	
Nozzle type			Universal	Pointed

Lithium soap grease to NLGI class 2.
Suitable for: Professional grease gun No. 083558.


08 3559

Type			UNI
08H 08 3559	Multi-purpose screw-in grease cartridge	**100 g**	XXX

Cordless grease guns

For filling with loose grease (contents up to 500 ml) or with cartridges (contents 400 g).
Suitable for greases up to NLGI 3.

08 3568 – With bleed valve. Grease gun length 355 mm, hose length 1219 mm.
08 3577 – Also suitable for 400 g Lube-Shuttle and 500 g screw cartridges.
08 3578 – With bleed valve. Grease gun length 355 mm, hose length 914 mm, universal nozzle.

Supplied with:

08 3568 – Charger, hose with angle coupling, carrying case.
08 3577 – Charger, high-pressure rubberised armoured hose, mounting pipe for 400 g Lube-Shuttle and Pull-Off cartridges. Adapter for 500 g screw cartridges, carrying case.
08 3578 – C12C quick charger, hose with universal coupling, carrying bag.

Note:
08 3577 – Suitable spare battery No. 083569 MAT18.
08 3568/3578 – For matching spare batteries and accessories see from No. 073814.

08 3577_S-LSP

08 3578_M12GG

08 3568_M18GG

Type			S-LSP	M12GG	M18GG
08H 08 3577	mato Cordless grease gun 400 bar		XXX	–	–
03L 08 3578	Milwaukee Cordless grease gun 562 bar		–	XXX	–
03L 08 3568			–	–	XXX
Number of rechargeable batteries contained			1		
Type of rechargeable battery			Lithium-ion		
Battery capacity		Ah	1.5	4	2
Battery voltage		V	18	12	18
Filling volume loose material		cm^3	500		
Hose connection thread			1/8 inch	M10×1	1/8 inch
suitable for cartridge size		g	400 – 500	400	400
suitable cartridge			083590 – 083593	083590	083590

mato Manual lever grease gun

High-quality **industrial specification** (no apparent lubrication) with stepless piston rod fixing. Can be refilled with loose grease (contents 500 cm³) or cartridge (contents 400 g).

08 3582 – Professional manual lever grease gun with short stroke system, **filling / bleed valve.**

Standard: **DIN 1283**

Supplied with:

08 3571 – Armoured hose, 4-jaw hydraulic push-on connector.

08 3582 – Safety **armoured rubber hose** ∅ 13 mm, 4-jaw hydraulic push-on connector.

08 3571

08H	**08 3571**	Manual lever grease gun	**400 g**	XXX
08H	**08 3572**	Manual lever grease gun **without accessories**	**400 g**	XXX
08H	**08 3582**	Manual lever grease gun Professional	**400 g**	XXX
	Working pressure		bar	400
	Test pressure		bar	800
	Hose connection thread		inch	R1/8

08 3582

mato Single-hand manual grease gun

TG500-S single-hand manual grease gun set for 400 g cartridges or loose grease (contents 500 cm³), with filling nipple and bleed nipple. 2 connections R 1/8 inch for horizontal and vertical use.

08H	**08 3579**	Single-hand grease gun TG 500 S with nozzle	**400 g**	XXX
	Working pressure		bar	300
	Hose connection thread		inch	R1/8

mato Lube-Shuttle® system grease gun

Quick, easy, and absolutely clean fitting and removing of grease cartridges without having to open the gun.

Type and remaining quantity of grease can be seen at a glance. **No need for bleeding!**

08 3563 – Manual lever grease gun for 500 g screw cartridge.

08 3581 – Manual lever grease gun for Lube-Shuttle system cartridges with galvanised grease container.

Supplied with: Armoured hose, 4-jaw hydraulic push-on connector.

08 3581

08 3563

08H	**08 3581**	Lube-Shuttle® system grease gun	**400 g**	XXX
08H	**08 3563**	Manual lever grease gun LS500	**500 g**	XXX
	Working pressure		bar	400
	Test pressure		bar	800
	Hose connection thread		inch	R1/8

mato Pneumatic grease guns

One-handed pneumatic grease guns, outstandingly well balanced. **Single-shot system for optimum grease management (1 cm³ / stroke),** pressure ratio 1:60.

08 3585 – Refilling with loose grease (contents: 500 cm³) or cartridges (contents: 400 g).
Suitable for greases up to NLGI 2.

08 3587 – Refilling with Lube-Shuttle® cartridges (contents: 400 g).
Suitable for greases up to NLGI class 3 and very low temperatures.

Supplied with: Rubberised armoured hose, 4-jaw hydraulic push-on connector.

08 3585

08 3587

08H	**08 3585**	Pneumatic grease gun	**400 g**	XXX
08H	**08 3587**	Lube-Shuttle® pneumatic grease gun	**400 g**	XXX
	Working pressure		bar	400
	Test pressure		bar	800
	Hose connection thread		inch	R1/8
	Operational range compressed air supply		bar	3 – 8

mato Grease gun assortment case

Content:

08 3701 –
- Assortment case with Lube-Shuttle® system grease gun.
- Connecting piece.
- Safety armoured rubber hose RH-30CC and 4-jaw hydraulic push-on connector.
- Nozzle tube E4024 with union nut for securely and easily screwing on to the grease gun.
- Nozzle tube with push-on connector SK16 with quick-change adaptor.
- Nozzle tube for cardan shafts F4020 with quick-change adaptor.
- Pointed and universal nozzle.

08 3702 –
- Assortment case with grease gun E500.
- Connecting piece.
- High-pressure armoured rubber hose RH-30CC.
- Nozzle tube E4024 with union nut for securely and easily screwing on to the grease gun.
- Nozzle tube with push-on connector SK16 with quick-change adaptor.
- Nozzle tube for cardan shafts F4020 with quick-change adaptor.
- Pointed and universal nozzle.

08 3701

08 3702

		SET1	SET2
08H 08 3701	Lubrication set **Lube-Shuttle®**	XXX	–
08H 08 3702	Lubrication set **E480**	–	XXX

mato Accessory for grease guns (R1/8 inch and M10 connection thread)

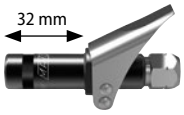
08 3594/3596 – **safeLOCK** for safe coupling and uncoupling up to more than 600 bar.

Suitable for:

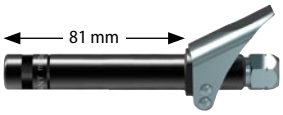
08 3588/3589/3594/3596 Size 1/8 – Grease guns No. 083571 / 083572 / 083581 / 083585 / 083587.

Size M10 – Grease guns with connection thread M10×1.

08 3583/3584/3586 Size 1/8 – Grease guns No. 083571; 083572; 083581; 083585; 083587.



08 3596_1/8



08 3594_M10

Connection thread		1/8	M10	Overall length mm
08H 08 3596	4-jaw hydraulic push-on connector **safeLOCK**	XXX	XXX	70
08H 08 3594	4-jaw hydraulic push-on connector **safeLOCK-L**	XXX	XXX	120.5
08H 08 3588	Armoured hose with push-on connector	XXX	XXX	300
08H 08 3589	4-jaw hydraulic push-on connector	XXX	XXX	36
08H 08 3583	Nozzle with universal connector	XXX	–	150
08H 08 3584	Nozzle with conical connector	XXX	–	150
08H 08 3586	Armoured hose with 4-jaw hydraulic push-on connector	XXX	XXX	300

08 3588

08 3589

08 3583

08 3584

08 3586

Lithium general-purpose grease for ball, roller, and plain bearings

Lithium general-purpose grease for ball, roller, and plain bearings.

Suitable for:

08 3590 – Grease guns No. 083571; 083572; 083579; 083582; 083585.

08 3592 – Grease guns No. 083581 and No. 083587.

08 3593 – Grease gun No. 083563.

Type			UNI	PLUS	∅ mm	Length mm
08H 08 3590	Multi-purpose grease cartridge for **Standard grease guns**	400 g	XXX	–	53	235
08H 08 3592	Multi-purpose grease cartridge for **Lube-Shuttle® grease guns**	400 g	XXX	–	53	262
08H 08 3593	Multi-purpose screwed cartridge for **LS500 grease guns**	500 g	XXX	–	60	240
Temperature range		°C	-30 – 120	-30 – 130		
Designation to DIN 51502			K2K-30	KP2K-30		

08 3590_UNI

08 3592_PLUS

Economical oil reservoir – „Schucotopf“

Shockproof, transparent plastic container for lubricating oil etc. (not for caustic solutions, acids and the like).
Supplied with: 2 brushes, 1 dirt trap, 1 bracket.

08H 08 3552	Economical oil reservoir **0.5 litres**	XXX

08 3552

Pack of lubrication brushes

		mm	9	14	22
08R 08 3555	Pack of lubrication brushes **10 pieces**		XXX	XXX	XXX
Brush length		mm	130	160	180

08 3555

Pneumatic lubrication device

Mobile compressed air lubrication unit with trolley for economic and reliable delivery of long-term greases. High delivery quantity, due to transmission ratio 1: 55, together with large diameter suction port and security lubrication hose. Suitable for oils and greases up to consistency class 2, including bio-greases (general-purpose greases).
Supplied with: Grease follower cover, steel dust protection cover, high-pressure grease guns and 4m hose.

Note: The lubrication system is self-lubricating and requires no additional pipe lubricators. The use of a pressure reducer with water separator is recommended.

suitable for container unit		kg	15/18	25	50
08H 08 4000	Mobile compressed air lubrication unit		(XXX)	(XXX)	(XXX)
Internal ∅ of container		mm	255 – 282	300 – 340	360 – 405
maximum delivery quantity		g/min	600		
maximum lubrication pressure		bar	400		
required compressed air pressure		bar	3 – 10		

08 4000

Grease gun filling device

Stable, wear-resistant grease gun filling device of steel with high suction intake capacity due to the long stroke and large suction and valve ports. Suitable for greases of consistency class 2 (including liquid greases). It takes 10 strokes to fill a 500 cm³ grease gun.

suitable for container unit		kg	15/18	25	50
08H 08 4010	Grease gun filling device		(XXX)	(XXX)	(XXX)
Internal ∅ of container		mm	255 – 282	300 – 335	340 – 393
Pumped volume		cm³/Hub	50		

08 4010

Barrel and container pumps

08 4355 – Handy barrel pump for pumping out cooling lubricant concentrates, hydraulic oil, engine oil, heating oil, and diesel. With 2 inch connection suitable for 60 litre and 200 litre barrels.
08 4356 – General-purpose hand pump for emptying containers of coolant concentrates, thinners, solvents, anti-freeze etc. Piston rod of stainless steel.

Suitable for:
08 4355 – No. 084241 size 200, No. 084260 size 200, No. 084265 size 200, No. 084270 size 200.
08 4356 – Cutting oils: No. 084210 size 20, No. 084220 size 20. High-performance coolant and grinding oil concentrates: No. 084241 size 20, No. 084260 size 20, No. 084265 size 20, No. 084270 size 20.

Supplied with:
08 4355 – Barrel pump, 1 m plastic hose with discharge spout, suction tube.
08 4356 – Container lift pump, 2 m plastic hose with discharge nozzle, 2.0 m PVC discharge hose with discharge nozzle, with connection adapter for containers with DIN 61 external thread.

Application example

08 4355

			Manufacturer's designation	Delivery per stroke l
08H 08 4355	Barrel pump	XXX	MZE-04	0.4
08H 08 4356	mato Container hand pump	XXX	KLP-C 25	0.95

Application example

08 4356

SCHOELLER INDUSTRIES Oil and chemical absorbent fleece

Oil and chemical absorbent fleece with **exceptional absorption capacity (up to 20 times its own weight), very low disposal costs because of greatly reduced waste.** The absorbent fleeces are 100 % polypropylene and are **suitable for virtually all chemicals.** Significant improvement of safety and cleanliness in operation, neither liquids nor granules are spread on the ground. **Colour code system for distinguishing the wipes by application.**
Items of size **OIL** take up only oil (e.g. separation of oil and water, or use outdoors).
Items of size **UNI** take up all liquids (e.g. oil, water, chemicals).

Reinforced wipes and rolls

Wipes and rolls with **tear-resistant reinforced double-layer structure** for heavy-duty use.
Suitable also for use on the floor. Lint-free.

08 4373/4375 – Individual wipes, perforated down the middle.
08 4377/4378 – On a roll, perforated across every 50 cm.

Area of application		OIL	UNI	maximum absorption volume l	Scope of supply pcs./box
08 4373	Absorbent fleece wipes, 0.4×0.5 m **10 pieces**	XXX	XXX	10.1	10
08 4375	Absorbent fleece wipes, 0.4×0.5 m **100 pieces**	XXX	XXX	101	100
08 4377	Absorbent fleece roll 0.4×40 m	XXX	XXX	162	2
08 4378	Absorbent fleece roll 0.8×40 m	XXX	XXX	162	1
Colour		blue	grey		

08 4373_OIL

08 4375_UNI

08 4377_OIL

08 4378_UNI

Leakage emergency kits

Emergency kit for dealing with leakages, with take-up capacity of 75 ltr.

Size OIL – Emergency kit, only for hydrocarbons.
Size UNI – Emergency kit for all liquids.

Supplied with: Plastic case with cover and pull-out handle, 35 first cloths HW 40 × 50 cm, 3 suction hoses Ø 7 cm × 1.20 m, 1 suction hose Ø 7 cm × 3 m, 2 cushions 40 × 40 cm, 10 wiper cloths, 3 disposal sacks, 1 pair of gloves.

Area of application		OIL	UNI
08 4379	Emergency kit **in a case**	(XXX)	(XXX)
Colour		blue	grey

08 4379_OIL

08 4379_UNI

Filled barriers and cushions

Barriers and cushions filled with flock.

08 4388 – Ideal for taking up larger amounts of liquids.
08 4385/4386 – Ideal for containing and taking up liquids around leakage points and in restricted areas. Liquids are held back securely.

Area of application		OIL	UNI	maximum absorption volume l	Scope of supply pcs./box
08 4385	Barrier 0.075×1.2 m	XXX	XXX	80	20
08 4386	Barrier 0.075×3.0 m	XXX	XXX	80	8
08 4388	Cushion 0.4×0.4 m	XXX	XXX	110	16
Colour		blue	grey		

08 4385_OIL

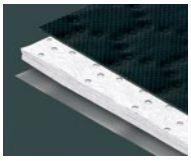
08 4385_UNI

08 4388_OIL

08 4388_UNI

Absorbent carpets

Absorbent carpet with **three-layer structure** and an **impervious non-slip film.**
Ideal for laying out in gangways and production areas, and as protection around machines.
The liquid that is held back is securely absorbed into the fleece. **100 % ground protection.**



Area of application		OIL	UNI	maximum absorption volume l	Scope of supply pcs./box
08 4390	Absorbent carpet 0.4×30 m	XXX	XXX	103	2
08 4391	Absorbent carpet 0.8×30 m	XXX	XXX	103	1
Colour		brown	black		

08 4391_OIL

08 4391_UNI

Cutting compound, cutting oil, cooling lubricant concentrate, and grinding oil

General-purpose lubrication stick solid and cutting compound soft

Cutting compound for spot application. Straightforward application(dip or apply). Adheres to the cutting edge and only becomes liquid in use; very good lubrication properties, very high pressure stability.

08 4120 – Lubrication stick for spot application.
08 4160 – Soft cutting compound.

Application: Multi-purpose compound for **tapping, reaming, milling, broaching, and sawing.** Indispensable when cutting **difficult materials** such as stainless and heat-resistant steels, nickel alloys, titanium, and similar alloys.

Chlorine-free, no hazardous material
08 4120

08 4160_120

08 4160_750

08 4120	Universal lubrication stick chlorine-free **300 g**	–	
Contents	g	120	750
08 4160	High performance cutting compound, chlorine-free	–	–

Cutting oil

08 4205 – Application by brush, spray can, spray bottle or lubrication system.
08 4205–4220 – Cutting oil for the most demanding applications. Recommended for mixing with normal mineral-based cutting oil (but not with water-soluble oils).
08 4210–4225 – Application by brush, spray can, spray bottle or lubrication system.

Application: Multi-purpose for **all machining operations** (turning, milling, drilling, tapping, reaming, broaching and sawing) and also for **forming**. Indispensable when cutting **difficult materials** such as stainless and heat-resistant steels, nickel alloys, titanium, and similar alloys. Ideal for **non-ferrous metals.**

08 4220 – **High viscosity product** based on mineral oil, very well suited for thread tapping, good adherence.
08 4225 – **Strongly clinging cutting oil foam** for spot application to the cutting zone. Contains no sulphur or mineral oils, can be precisely applied, and washed off with water.
08 4205/4210 – **Ideal when minimum lubrication is required,** due to being free of mineral oil.

08 4205_0,25

08 4210_0,5

08 4225_0,4

08 4210_0,3

08 4210_20

Contents	l	0,25	0,3	0,4	0,5	5	20
08 4205	High-performance cutting oil free of mineral oil **UV 80**	–	–	–	–	–	–
08 4210	High-performance cutting oil chlorine-free **Alpha 93**	–	–	–	XXX	XXX	XXX
08 4220	High-performance cutting oil high-viscosity, chlorine-free **DAR 50 Visco**	–	–	–	–	–	–
08 4225	High performance cutting oil foam, chlorine-free	–	–	–	–	–	–
Version		Spray bottle	Spray can	Spray can	Spray bottle	Can	Can

Cooling lubricant and grinding oil concentrate for mixing with water

Cooling lubricant for **demanding applications**, **free of hydrochlorous acid, formaldehyde and boric acid.** High-pressure additives prevent displacement of the lubricating film; it remains on the cutting tool in molecular concentrations even under the most severe loading.

08 4241 – High performance cooling lubricant concentrate, suitable for **internal coolant supply** (ICS) and high-pressure applications.
08 4260 – High performance coolant concentrate for the **most difficult high tensile materials** and difficult aluminium alloys and non-ferrous metals, free of amines.
08 4265 – HPC cooling lubricant concentrate based on esters, suitable for internal coolant supply and high-pressure applications, free of amines. Ensures cleanliness of machine tools and viewing screens.
08 4270 – High performance **grinding concentrate** transparent for a clear view when grinding a wide variety of materials. **Mixing ratio 1: 40** (2.5 %), refractometer value 2.0.

Advantage: Concentrates **protect against rust,** do not attack paintwork, and are **physiologically harmless,** as well as very **resistant to bacterial contamination,** and kind to the skin.

Note: Jokisch slide oils and machine bed oils are available on request. These are perfectly compatible with all other Jokisch products (no sticky residues) and can also be used as hydraulic and gear oils.

08 4241_200

08 4241_5

Contents	l	5	20	200
08 4241	High-performance coolant concentrate+sawing oil **CBF**	–	–	–
08 4260	High-performance coolant concentrate **Plus**	–	–	–
08 4265	High-performance coolant concentrate **HPC VEG**	–	–	–
08 4270	High-performance grinding oil concentrate	–	–	–

08 4260_20

ARIANA Accessories for the application of cutting oils and cooling lubricant concentrates

Application:

08 4310 – For all measurements to TRGS 611.

Content:

08 4310 – 100 pieces each of nitrite, nitrate, total hardness, pH test strips (made by Merck), empty spray bottles (3 pieces), and measuring jug for taking samples, **thermometer,** technical rules summary TRGS 611.

08 4310	Coolant testing case to TRGS 611	XXX
08 4311	Spare nitrite test strips **100 pieces**	XXX
08 4312	Spare nitrate test strips **100 pieces**	XXX
08 4313	Spare overall hardness test strips **100 pieces**	XXX
08 4314	Spare pH test strips **100 pieces**	XXX
08 4315	Spare pH-nitrite combination test strips **100 pieces**	XXX

08 4310

08 4311 08 4312 08 4313 08 4314 08 4315

ARIANA Refractometer

Size ANALOG – Measuring range: 0 to 32 %, adjustable eyepiece, adjustable measuring range.

Size DIGITAL –
- Measurement range: 0 to 50 %, resolution: 0.1% Brix
- Accuracy: 0.2% Brix, can be calibrated
- Automatic temperature compensation.

Application: For **quickly** and **precisely** determining the concentration of emulsions. Suitable only for water-miscible cooling lubricants.

Supplied with:

Size ANALOG – **Protective carrying bag, pipette,** and operating instructions.

Size DIGITAL – **Supplied with hard shell packaging, pipette,** instruction manual, 1× AAA batteries.

Note: Refer to the correction factors for the cooling lubricants! Multiply the grinding emulsion by e. g. a factor of 2.1 (size ANALOG, i.e. if 5 % is shown, the true value is 10.5 %)

Display		ANALOG	DIGITAL
08 4320	Portable refractometer	XXX	–
08 4321		–	XXX

08 4320_ANALOG

08 4321_DIGITAL

ARIANA Level display and overflow protection

08 4325 – Level display with float and volume scale.
For use with conventional 60 ltr and 210 ltr drums.
Suitable for cooling lubricant concentrate, emulsions, oils, antifreeze, heating oil and other liquid media.

08 4326 – Acoustic fill level monitoring with siren and light signal as overflow protection.
Monitoring of the maximum or minimum fill level.

Type		60/210	15
08 4325	Level display	XXX	–
08 4326	Overflow protection	–	XXX

08 4325

08 4326

System and glass cleaner

08 4340 – Micro-biocide system cleaner with anti-corrosive characteristics for maintenance of circulation systems and production systems.
Suitable for all steel alloys, non-ferrous alloys and aluminium alloys.

08 4343 – Glass cleaner for internal cleaning of viewing windows on machine tools and machining centres. Removes resinous cooling lubricants from viewing windows.
100 % free of tensides.

Note:

08 4340 – **Hazardous substance!** Available only in Germany.

Contents		litres	10	0,5	Version
08 4340	Grotanol FF1N system cleaner		–	–	Can
08 4343	OptiClean glass and windscreen cleaner	**500 ml**	–	–	Spray bottle
Version			Can	–	

08 4340

08 4343

ARIANA Cooling lubricant oxygenation pump

Pump for increasing the working life of cooling lubricants. Strongly recommended by trade associations. Suitable for continuous operation.

Application: For oxygenation of cooling lubricants. Up to 150 litres. Prevents the oil film from closing on the surface, thereby suppressing the growth of moulds and bacteria. Ideal in combination with belt skimmer No. 084360.

08 4364

08J	**08 4364**	Oxygenation pump	XXX
Body length		mm	153
Body width		mm	75
Body height		mm	82
Power consumption		A	0.38
Operating voltage		V	3 – 12
Air delivery		l/h	180

Accessories for the application of cutting oils and cooling lubricant concentrates

Speed-adjustable belt skimmer in low-hazard 12 V low voltage design (with mains adapter) for mobile use wherever it is needed. No tools required for fitting; a permanent magnet clamps it to the body of the machine.

Application: Oil belt skimmers are used to **skim off unwanted oils** and chip grit from cooling lubricants. This **eliminates bacterial build-up** effectively, increases the **life time** of the coolant significantly and reduces the resulting **smells and vapours.**

Application example

08 4360

Oil belt skimmer

08J	**08 4360**	Belt skimmer with mains adapter and magnetic clamp	XXX

ARIANA Swarf hook with protective shield

Sturdy swarf hook, conically tapered, plastic handle with protective shield ∅ 135 mm.

08 4500

Length without handle		mm	300	500
08J	**08 4500**	Swarf hook with protective shield	XXX	XXX

Magnetic swarf catcher

The integral permanent magnet attracts all magnetic swarf to its surface; overall length approx. 400 mm.

08 4521

Length		mm	400	
02A	**08 4521**	HOLEX Magnetic swarf catcher	XXX	

Magnetic filter

Magnetic filter for installation in the coolant and lubricant circuit of machine tools and systems.

Application: For reliable and environmentally-friendly separation of magnetically-conductive materials in coolant, lubricant, and heating circuits, e. g. in machine tools, recycling systems, and hydraulic systems. The contaminated core can be cleaned in seconds using a special scraper No. 084363. Filter material disposal is no longer required. Filter material disposal is no longer required. When the magnet is full an overflow valve opens to ensure continued flow – the flow cannot be blocked.

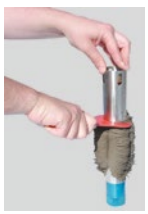
08 4362

maximum magnetic trapping capability		kg	1	2	4
08Q	**08 4362**	ECLIPSE MAGNETICS Micromag magnetic filter	XXX	XXX	XXX
Manufacturer's designation			MM5	MM10	MM20
External ∅		mm	105	125	135
External height		mm	190	315	605
BSP connection thread		inch	1	1	1.1/2
Weight		kg	3.2	5.2	9.5

Tool for quick cleaning of Micromag magnetic filter cores.

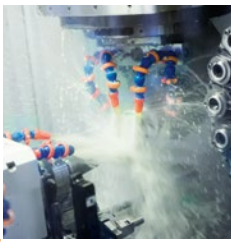
Suitable for: No. 084362 all sizes.

08 4363


Application example

08Q	**08 4363**	ECLIPSE MAGNETICS Micromag scraper	XXX

ARIANA Flexible coolant hose system 1/4 inch and 1/2 inch



Plastic hose system for coolants and air. Operating pressure up to max. 6 bar, with clamps size CLAMP up to 60 bar.

- **Compatible** with almost all popular systems without adaptors.
- **Modular plug-in system,** can be combined individually using the assembly pliers.
  - 08 4400 – ■ Rate of flow: approx. 15 litres/min. (1/4 inch), largest outer ∅ **17 mm.**
  - 08 4420 – ■ Rate of flow: approx. 28 litres/min. (1/2 inch), largest outer ∅ **26 mm.**

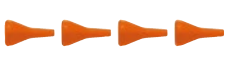
Application:

Size CLAMP – For permanent reliable process **fixing** of existing systems **up to 60 bar.**

Note:

08 4420 – 3/8 inch - version available on request.

Type	08J 08 4400 Hose system 1/4 inch	Supplied with:
SET	XXX	2 hose modules each 16 cm (= 32 cm); 3 round nozzles internal ∅ = 1.6 / 3.2 / 6.4 mm; 1 flat nozzle 27 mm wide; 1 threaded connector 1/8 inch (∅ 9.7 mm); 1 threaded connector 1/4 inch (∅ 13 mm)
MODUL	XXX	2 pipe segments each 16 cm (2×10 individual components = 32 cm)
CLAMP	XXX	11 clamps
RD	XXX	2 each round nozzles with internal ∅:: 1.6 / 3.2 / 6.4 mm
FD	XXX	1 each flat nozzle 27 mm and 32 mm wide
FL27	XXX	2 flat nozzles 27 mm wide
Y	XXX	2 Y-piece junctions
H	XXX	1 each shut-off valve with and without internal thread
GA	XXX	2 NPT threaded connectors 1/8 inch (9.7mm); 2 NPT threaded connectors 1/4 inch (13mm)
ZANGE	XXX	Assembly pliers, plastic
RD1,6	XXX	4 round nozzles with internal ∅ 1.6 mm
RD3,2	XXX	4 round nozzles with internal ∅ 3.2 mm
RD6,4	XXX	4 round nozzles with internal ∅ 6.4 mm

Type	08J 08 4420 Hose system 1/2 inch	Supplied with:	
SET	XXX	2 hose modules each 15 cm (= 30 cm); 3 round nozzles internal ∅ = 6.4 / 9.5 / 12.7 mm; 1 flat nozzle 35 mm wide; 1 threaded connector 3/8 inch (∅ 16.7 mm); 1 threaded connector 1/2 inch (∅ 20.7 mm)	
MODUL	XXX	2 pipe segments each 15 cm (2×5 individual components = 30 cm)	
CLAMP	XXX	11 clamps	
RD	XXX	2 each round nozzles with internal ∅:: 6.4 / 9.5 / 12.7 mm	
FD	XXX	1 each flat nozzles 35 + 63 mm wide	
FL35	XXX	2 flat nozzles 35 mm wide	
YR	XXX	2 Y-piece junctions and 2 reducers from 1/2 inch to 1/4 inch	
H	XXX	1 each shut-off valve with and without internal thread	
GA	XXX	2 NPT threaded connectors 3/8 inch (16.7mm); 2 NPT threaded connectors 1/2 inch (20.7mm)	
ZANGE	XXX	Assembly pliers, plastic	
RD6,4	XXX	4 round nozzles with internal ∅ 6.4 mm	
RD9,5	XXX	4 round nozzles with internal ∅ 9.5 mm	
RD12,7	XXX	4 round nozzles with internal ∅ 12.7 mm	

Cold and hot air gun

For pin-point **heating or cooling** of metal and plastic parts on machine tools by means of compressed air. Air temperature range from –30 °C to 60 °C. Compressed air connection 3/8 inch, coolant hose 1/2 inch.

08 4440

08J 08 4440	Cold and hot air gun	XXX

ARIANA Coolant hose system kits

Content:

Size 1/2 – 6 hose segments
1 pair of assembly pliers, plastic
1 Y-piece 1 shut-off valve
1 each of flat nozzle 8-hole, 35 mm, 50 mm
1 each of round nozzle ∅ 6.4 mm, ∅ 9.5 mm, ∅ 12.7 mm
1 each of threaded connector 3/8 inch and 1/2 inch
1 non-return valve 1/2 inch
1 case with foam inlay

Size 1/4 – 6 hose segments
1 pair of assembly pliers, plastic
1 Y-piece
1 shut-off valve
1 each of flat nozzle, 16-hole, 27 mm and 32 mm.
1 each of round nozzle ∅ 1.6 mm, ∅ 3.2 mm, ∅ 6.4 mm
1 each of threaded connector 1/4 inch and 1/8 inch
1 non-return valve 1/4 inch
1 case with foam inlay

08 4430

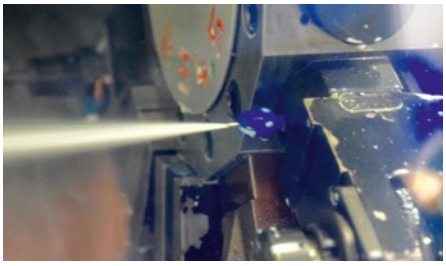
Internal ∅		inch	1/2	1/4
08J 08 4430	Coolant hose system kit including case		XXX	XXX

ARIANA High pressure nozzles for cooling lubricants

High-pressure nozzle for up to 90 bar High-pressure cooling and pivoting range of 70°, up to 110°. Housing of high quality plastic granules.

- For space-saving insertion in the existing hose system.
- Nozzle with 360° rotation.
- Various pipe lengths.

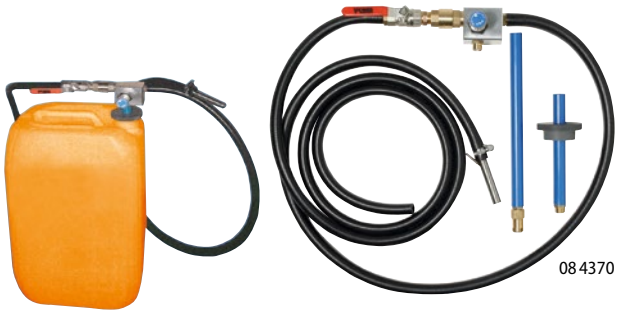
Application: **For retrofitting** into the existing system. Quick cutting when machining at high speeds thanks to high-pressure cooling.



Tube length		mm	1	6	12,5	31
08J 08 4435	High pressure nozzle **1/8 inch external thread**		XXX	XXX	XXX	XXX
08J 08 4436	High pressure nozzle **1/4 inch external thread**		XXX	XXX	XXX	XXX
Internal ∅ nozzle		mm	2			

ARIANA Can / drum mixer for emulsions

The mixer with the **universal screw fastening set** fits all commercially-available jerrycans and drums. A needle valve allows the **mixing ratio to be set precisely.** High repetition accuracy, mixing volume up to 370 l/h, connections 1/2 inch (water feed and mixer outlet), 3/8 inch (concentrate inlet). With safety non-return valve.



08 4370

08J 08 4370	Mixer for cooling lubricant emulsion	XXX

ARIANA Maintenance system for cooling lubricants

Advantage:

- Simultaneously removes tramp oils and solids.
- Works independently using the bypass principle, without the need for staff.
- Stops the formation of odours and the risk of infection.
- Longer service life for lubricants and tools.
- Lower disposal costs.

08 4365

		1000
08J 08 4365	Maintenance system	XXX

Marking

Mechanical universal marker

Refillable marker for weather-resistant and UV-resistant marking.
Abrasion-resistant, ideal for use on smooth, rough, rusty or dirty surfaces.
Supplied with: 1 body, 12 leads (Ø 3 mm).

08 5010_R

Writing colour		W	R	Y	BL
08W 08 5010	MARKAL Universal marker set **13 pieces**	XXX	XXX	XXX	XXX
Writing colour		white	red	yellow	black

Automatic clutch pencil

08 5012 – Deep hole marker with a thin, **extra long tip (45 mm) for inaccessible places**.
Tip, body and retainer clip are made of metal and therefore very sturdy.
Integral lead sharpener permits drawing continuous and precise lines.
Easily replaceable leads.

Application:

08 5012 – For marking deep-lying surfaces and in attachment holes.
Suitable for steel, iron, stone, tiles, ceramics, glass, and plastic.
Size 096263 – Yellow and red suitable for dusty, rough, smooth, greasy, damp, and dark surfaces.

Supplied with:

Size 096260 – Deep hole marker Trades-Marker-Dry with 1 piece graphite lead.
Size 096262 – 6 graphite leads.
Size 096263 – 2 graphite leads, 2 red leads, 2 yellow leads.
Size 096265 – 6 red leads.
Size 096266 – 6 yellow leads.

08 5012

08 5013_096262

08 5013_096263

08 5013_092625

08 5013_096266

Type		096260	
08W 08 5012	MARKAL Deep hole marker	XXX	1

Type		096262	096263	096265	096266
08W 08 5013	MARKAL Spare leads pack of 6, Ø 2.8 mm	XXX	XXX	XXX	XXX

Carpenter's pencils

High-quality design, oval, length 240 mm, unsharpened, painted red, multi-purpose, in boxes of 12.

08 5015

08W 08 5015	MARKAL Carpenter's pencils set **12 pieces**	XXX

Marking crayon and white industrial chalk

08 5020 – High-quality white industrial chalk wrapped in paper. 12-piece set in a carton.
08 5030 – Pointed hexagonal chalk marking stick. The inscription is permanent
but can easily be removed with conventional cleaning agents.
Ø×length 12×110 mm 12-piece set in a carton.

Application:

08 5030 – For marking a wide variety of materials such as metal (hot / cold), plastic, leather, paper, wood etc. Not for use on extremely smooth surfaces such as glass.

08 5020 _W

08 5030_R

Writing colour		W	R	Y	B
08W 08 5020	MARKAL White industrial chalk set **12 pieces**	XXX	–	–	–
08W 08 5030	MARKAL Marking crayon set **12 pieces**	XXX	XXX	XXX	XXX
Writing colour		white	red	yellow	blue

Suitable for: No. 085030.

08W 08 5035	MARKAL Holder for marking crayon	XXX

08 5035

Welder's pencil and soapstone crayon

08 5060 – Welder's pencils leave markings that are resistant to welding torches and, unlike soapstone, are abrasion-resistant and do not burn off. Ideal for marking fine lines during metal preparation and metal fabrication. For making visible markings when welding.

08 5065 – Specially for heat-resistant marking of metal.

08 5060_R

08 5060_S

Writing colour			R	S	W
08W 08 5060	MARKAL	Welder's pencil set **12 pieces**	XXX	XXX	–
08W 08 5065	MARKAL	Soapstone crayon set **50 pieces**	–	–	XXX
Writing colour			red	silver	white

08 5065_W

Solid coloured crayons for hot and cold surfaces

08 5080 – Solid coloured crayon B® Paintstik ensures permanent, clearly visible markings on rough, rusty, oily or dirty surfaces. Can even be used under water.

08 5085 – Solid coloured crayon H® Paintstik for hot surfaces and industrial use.
High-temperature metal marker for marking on hot surfaces between 100 °C and 600 °C.
Ideal for permanent marking of coils, plates, castings and forgings.
Will not run, burn, peel off or crack.

08 5080 _W

08 5080_Y

Type			W	Y
08W 08 5080	MARKAL	Universal coloured crayon set **12 pieces**	XXX	XXX
08W 08 5085	MARKAL	High-temperature coloured crayon set **144 pieces**	XXX	XXX
Writing colour			white	yellow

08 5085 _W

08 5085 _Y

Quick-drying solid coloured crayon in a twist-up holder

Solid coloured crayon Quik Stik® in a handy twist-up holder of plastic.
Ideal for fine line markings on smooth or rough surfaces. Temperature-resistant up to 200 °C.

Application: Quick-drying (5 – 7 minutes), intense markings on practically all surfaces.
Resistant to UV and water.

08 5090_Y

08 5095_R

Writing colour			W	R	Y	BL	
08W 08 5090	MARKAL	Quik Stik® mini solid coloured crayon in a twist-up holder	XXX	XXX	XXX	XXX	12
08W 08 5095	MARKAL	Quik Stik® solid coloured crayon in a twist-up holder	XXX	XXX	XXX	XXX	12
Writing colour			white	red	yellow	black	

Permanent marker / deep hole marker

08 5130 – edding 3000, round point, line thickness approx. 1.5 – 3 mm.
08 5131 – edding 11, round point, line thickness approx. 1.5 – 3 mm. One-hand operation.
08 5133 – edding 3300, wedge point, line thickness approx. 1 – 5 mm.
08 5140 – edding 400, round point, line thickness approx. 1 mm.
08 5145 – edding 8404, **Aerospace Marker**, line thickness approx 0.75 mm, low-odour, light-resistant, round point, **for low-corrosion marking** of metals and precious metals. To standard ABP 9-3323, class A.

Application: For marking on almost all materials, even metal, glass, plastic.

08 5130_R

08 5131_R

08 5133_B

08 5140_BL

08 5145_BL

Writing colour			R	BL	B	GR	
08W 08 5130	edding	Permanent marker	XXX	XXX	XXX	XXX	10
08W 08 5131			XXX	XXX	XXX	XXX	10
08W 08 5133			XXX	XXX	XXX	XXX	10
08W 08 5140			XXX	XXX	XXX	XXX	10
08W 08 5145			–	XXX	–	–	10
Writing colour			red	black	blue	green	

08 5146 – edding 3000, permanent marker with round point, line thickness approx. 1.5-3 mm, waterproof and abrasion-resistant.
08 5147 – edding 8407, **cable marker** with fine round point, line thickness approx 0.3 mm, waterproof.

Application:
08 5146 – For marking almost all materials, such as paper, cardboard, metal, glass, plastic.
08 5147 – For marking on almost all materials, even metal, glass, plastic.

Supplied with:
08 5146 – 1 pen each in light green, grey, ochre, turquoise, olive green, light orange, s teel blue, dark brown, carmine red and red violet.
08 5147 – 1× black, red, blue, green each.

08 5147_SET
08 5146_SET

Type			SET
08W 08 5146	edding	Permanent marker set, edding 3000 **10 pieces**	XXX
08W 08 5147		Permanent marker set **4 pieces**	XXX

08 5152_BL

08 5154_B

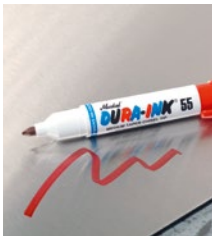
08 5156_BL

08 5158_B

08 5152 – Dura-Ink® 5 deep hole marker with extended micro-point. 1 mm wide round point. Ideal for marking in inaccessible places such as drilled holes or retaining clips.
08 5154 – Dura-Ink® 15 with round point, line thickness 1.5 – 3 mm.
08 5156 – Dura-Ink® 20 with retractable point, line thickness 1.5 – 3 mm.
08 5158 – Dura-Ink® 55 with wedge point, line thickness 1.5 – 4.5 mm.

Application: For marking a wide variety of materials such as metal, plastic, wood, etc.

Writing colour			B	R	BL	
08W 08 5152	MARKAL	Dura-Ink® 5 deep hole marker	XXX	XXX	XXX	12
08W 08 5154		Dura-Ink® 15 permanent marker	XXX	XXX	XXX	12
08W 08 5156		Dura-Ink® 20 permanent marker	–	XXX	XXX	12
08W 08 5158		Dura-Ink® 55 permanent marker	XXX	XXX	XXX	12
Writing colour			blue	red	black	



08 5158_R

08 5152_BL

Permanent paint markers

08 5159 – The quick-drying abrasion-resistant durable paint permits immediate further processing and thus **reduces unproductive waiting time**. Furthermore the paint is **free of xylol** and thus reduces the health risks.
08 5168 – Extra fine tips. Line thickness approx. 0.8 mm.
08 5171 – Quick-drying, water-based **Paint-Riter™** paint marker for long-lasting, wear-resistant and weather-resistant markings. Low VOC and low odour.
08 5160/5171/5162/5165/5167/5169 – For marking widths 2 – 4 mm.
08 5160–5169 – **Odourless paint,** round tip. Resistant to UV and water.

Application:

08 5159 – The marking is heat resistant up to 100 °C (212 °F).
08 5160 – For writing on and marking all clean surfaces.
08 5162 – Ideal for marking on oily, coated and cold surfaces. "IMDS registered".
08 5165 – Ideal for use on stainless steel or superalloys. Low chloride and halogen values in the lacquer. Certified to EDF PMUC.
08 5167 – For marking even on dark and clean surfaces.
08 5168 – Heat resistant up to 400°C (white up to 1000°C).
08 5169 – Quick-drying paint for temperatures up to 1000 °C.

08 5159_W

08 5160_Y

08 5171

08 5162

08 5165

08 5167

08 5168

08 5169

Writing colour			W	R	Y	BL	B	GR	OR	P	
02A 08 5159	HOLEX	Paint marker	XXX	XXX	XXX	XXX	–	–	–	–	12
08W 08 5160	MARKAL	Paint marker SL100	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	12
08W 08 5171	MARKAL	Paint-Riter™ paint marker	XXX	XXX	XXX	XXX	–	–	–	–	12
08W 08 5162	MARKAL	PRO-LINE® HP paint marker	XXX	XXX	XXX	XXX	XXX	XXX	–	–	12
08W 08 5165	MARKAL	VAPM® INOX paint marker	XXX	XXX	XXX	XXX	–	–	–	–	12
08W 08 5167	edding	Paint marker 750	XXX	XXX	XXX	XXX	XXX	XXX	–	–	10
08W 08 5168	edding	Paint marker 780	XXX	XXX	–	XXX	XXX	XXX	–	–	10
08W 08 5169	MARKAL	PRO-LINE® HT paint marker	XXX	–	XXX	XXX	XXX	–	–	–	12
Writing colour			white	red	yellow	black	blue	green	orange	pink	

Odourless lacquer marker, wedge point from 5 to 14 mm line thickness, waterproof, weather-resistant and UV-resistant.
Application: Ideal for marking on oily and greasy surfaces.

08 5175_R

Writing colour			W	R	Y	BL	
08W 08 5175	MARKAL	Paint marker PRO-MAX	XXX	XXX	XXX	XXX	6
Writing colour			white	red	yellow	black	

Non-permanent paint markers

Chalk water-based marking ink. Round point for 2 – 4 mm wide markings. UV-resistant.
Size Y; GR; P; OR – Fluorescent pigments, especially vibrant colours with high brightness.
Application: The markings can simply be wiped off with water, leaving no trace or residues.

08 5170_Y

08 5170_R

Writing colour			W	R	Y	BL	B	GR	P	OR	
08W 08 5170	MARKAL	Non-permanent marker SL130	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	12
Writing colour			white	red	yellow	black	blue	green	pink	orange	

Tube marker with ball tip

08 5178 – **Tube marker** with **3 mm steel ball tip.**
Thick ink. Temperature-resistant up to **200 °C.**

08 5180/5185 – **Tube marker** with **3 mm steel ball tip.**
Thick ink. Temperature-resistant up to **200 °C.**

Application:

08 5178 – Ideal for use on stainless steel or superalloys. Low chloride and halogen values. Resistant to weathering, water and UV.

08 5180 – When marking, press downwards on the workpiece (so the steel ball opens) and maintain light pressure on the tube (for an even flow of ink).

08 5178_W

08 5180_BL

Writing colour				W	R	Y	BL	B	GR	
08W 08 5178	MARKAL	Tube marker, stainless steel		–	–	–	–	–	–	10
08W 08 5180	MARKAL	Multi-purpose tube marker	50 ml	–	–	–	–	–	–	10
Writing colour				white	red	yellow	black	blue	green	

08W 08 5185	MARKAL	Pack of multi-purpose tube markers, white, red, yellow **3 pieces**	50 ml	–
Writing colour				red; white; yellow

08 5185

Thread locking marker

Maximum visibility **security lacquer** for quick and easy visual checking during safety inspections or changes to original settings.
Facilitates recognition of any adjustment movements.
Temperature-resistant up to 200 °C.
Extension tip: The handy 4 steps allow the tip to be easily extended to the desired length to achieve the desired marking line width. Easy to use, simply screw the tip on to the head of the tube. The extension tip extends the tube tip by 3 cm for effortless marking in places where access is difficult.

Application: Outstanding adhesion to a wide variety of surfaces.
Ideal for use on connectors, pins, nuts and assemblies after they have been set to the correct tension or position.

08 5188

Writing colour				W	R	Y	OR	BL
08W 08 5188	MARKAL	Security Check thread locking marker	50 ml	XXX	XXX	XXX	XXX	XXX
Writing colour				white	red	yellow	orange	black

Security lacquer

Security lacquer for detection of tampering.

Application: Blue protective lacquer for detection of unauthorised access.
For fittings, pins, nuts, casing fastenings.
Good bonding, no corrosive effects, can be used even outdoors.

08 3394

Manufacturer ID				7414
04L 08 3394	LOCTITE	Security lacquer tube	50 ml	–
Writing colour				blue

Fluorescent marker spray

Waterproof and colour-fast marker spray with good adhesion on a wide variety of substrates, even on damp surfaces. 360° valve permits spraying in any position.
Easily visible because of the fluorescent composition. Dries quickly in approx. 5 minutes.
Persistence depending on the substrate, use and exposure to UV radiation: 9 – 12 months.
The cap colour indicates the spray colour.

Application: Spot and area marking from any position.
For temporary marking work.

Marking colour				B	F	Y	GR	OR	R	V	DY	BL	W
08E 08 5191	Marker spray **MARKER PAINT**		500 ml	–	–	–	–	–	–	–	–	–	–
Marking colour				blue	fuchsia	bright yellow	green	orange	red	violet	matt yellow	black	white

Marking inks, solvents, and engineer's blue

08 5388 – Engineer's blue for checking the surface quality.
08 5381–5388 – Ready for use, quick drying, will not flake.

Application:
08 5381–5385 – For marking workpieces in preparation for machining. Also for labelling forgings and castings. For scribers see from No. 458300 onwards.

Note: Not available in all countries. Express delivery not possible.

08 5382

08 5381

08 5385

08 5388

08 5391

Colour			BLUE	RED
08W 08 5382	Marking out spray	400 ml	–	–
08W 08 5381	Marking ink – fluid	500 ml	–	–
08W 08 5385	Marking pen		XXX	–
08W 08 5388	Engineer's blue – tube	80 ml	XXX	–
Colour			blue	red

Content		ml	400
08W 08 5391	Solvent	400 ml	–

PRYOR Interchangeable numeral and letter punch set with type holder

High precision punch holder for quick and efficient marking with **several letters and numbers at the same time.**

Application: For punching into materials (e.g. identification plates, tools, machine parts etc.) with **strengths up to 1200 N/mm².**

Supplied with:
100 stamp types
12 spacers (font height 5 mm: 6 pieces)
1 pair of tweezers
1 hexagon L-wrench
1 holder
in a plastic box.

Spare part: Individual type punches can be ordered under No. 085481 stating the desired font size / type (e. g. No. 085481 size 3/E).

Character height		mm	1,5	2	2,5	3	4	5
08W 08 5480	Interchangeable numeral and letter punch set normal script 0 - 9 and A - Z		XXX	XXX	XXX	XXX	XXX	XXX
Length of punch holder		mm	20	29	29	29	39	39
Length of punch type		mm	15.87	19.05	19.05	19.05	19.05	19.05
Width of punch type		mm	1.6	2	2.5	3.2	4	4.8
Height of punch type		mm	3.2	6.4	6.4	6.4	8	8
Number of punch types that can be used			12	14	12	9	9	8

Each set includes the following types						
AAA	BB	CC	DD	EEEE	FF	GG
HH	III	JJ	KK	LLL	MM	NNN
000	PP	Q	RRR	SSS	TT	UUU
V	WW	XX	Y	Z	&	//
– –	. .	, ,	1111	2222	333	4444
555	666	777	888	999	000	

HW Pickardt eK Hand punch holders

High-precision punching tool for signatures of numeric sequences. Designed for very heady duty use. With pin locking. All parts chemically nickel-plated. Wheels with 11 segments = engraving 0 – 9 and blank. Packed in a plastic box.

Size 5–10 – **Safety impact cap** reduces the risk of accidents and protects the body.

Application: For variable numbering of materials with **strengths up to 1500 N/mm².**

Note: Other punch holder versions, e. g. with automatic numeric advance or other font heights, are available on request.

Safety impact cap size 5 – 10

08 5471_3

Character height		mm	2	3	4	5	6	8	10
08W 08 5471	Hand punch holder		(XXX)	XXX	XXX	XXX	XXX	(XXX)	(XXX)
Number of positions			8	8	8	8	8	6	6
Imprint width		mm	23	23	23	30	30	35	35
Wheel width = character width		mm	3	3	3	4	4	6	6

HW Pickardt eK Punch wheels

Highest quality due to CNC engraving and punch head tempering. Easy to use due to visible engraving and spark eroded strike areas. Wheel width = script height + 3 mm.

Application: Handy method for punching variable texts into materials with **strengths up to 1200 N/mm².**

Note: Letter punch wheels (3 wheels) or wheels with special characters are available on request.

Character height		mm	2	3	4	5	6
08W 08 5465	Punch wheel 0 – 9		(XXX)	XXX	XXX	XXX	XXX
Mounting hole ∅		mm			10		
Punch wheel outside ∅		mm			78		

Numeral and letter punch sets, DIN 7353

Made of hard and tough steel with particularly precise machine engraving and depth tolerance; accurately centred. Calibrated shank, through hardened. Striking head enhancement for safe working. Supplied in a plastic case.

08 5405–5442 – **High performance precision punches,** chemically nickel-plated, very long service life.

08 5405/5425/5430/5442 – **Normal script;** i. e. the punched character can be read directly on the component.

08 5420/5440 – **Mirror script;** i.e. the punched character appears laterally reversed on the component (for die making).

08 5425/5442 – **Low stress Dotstress hand punches** with a rounded nose, so that the material surface is exposed to lower stress when the punch is struck

08 5445/5455 – High quality, burnished surface.

Application: For punching into materials with a **strength up to 1200 N/mm².**

Spare part:

08 5405–5442 – Individual number punches under No. 085411 size font height/number, e. g. No. 085411 size 3/1.
Individual letter punches under No. 085431 size font height/character, e.g. No. 085431 size 3/A.

Note: Other hand and machine punches of all types, such as punches with a company's logo etc., are available on request.

08 5430

08 5405

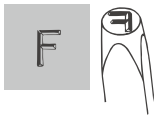
08 5455

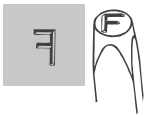
08 5445

08 5442

08 5425

Engraved, as seen


Normal script imprint


Mirror script imprint

Dotstress engraving, punched, plan view

Example of special punches

Character font and size (punched).

Character height		mm	1	2	3	4	5	6	8	10
08W 08 5405	PRYOR	Numeral punch set, 10 pieces **Normal script 0 – 9**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
08W 08 5420	PRYOR	Numeral punch set, 10 pieces **Mirror script 0 – 9**	–	XXX	XXX	XXX	XXX	XXX	–	–
08W 08 5425	PRYOR	Set of numeric punches, 10 pieces **Dotstress 0 – 9**	–	–	XXX	XXX	XXX	XXX	–	–
08W 08 5430	PRYOR	Numeral letter punch set, 27 pieces **Normal script A – Z, &**	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
08W 08 5440	PRYOR	Numeral letter punch set, 27 pieces **Mirror script A – Z, &**	–	XXX	XXX	XXX	XXX	XXX	–	–
08W 08 5442	PRYOR	Set of alphabetic punches, 26 pieces **Dotstress A – Z**	–	–	XXX	XXX	XXX	XXX	–	–
02A 08 5445	HOLEX	Numeral punch set, 10 pieces **Normal script 0 – 9**	–	–	XXX	XXX	XXX	XXX	–	–
02A 08 5455	HOLEX	Numeral letter punch set, 27 pieces **Normal script A – Z, &**	–	–	XXX	XXX	XXX	XXX	–	–
overall length (08 5405, 08 5420, 08 5430, 08 5440, 08 5442, 08 5445, 08 5455)		mm	63.5	63.5	63.5	70	70	70	89	89
overall length (08 5425)		mm	–	–	63.5	70	70	89	–	–
Shank thickness (08 5405, 08 5420, 08 5430, 08 5440, 08 5442, 08 5445, 08 5455)			6.35	6.35	6.35	9.5	9.5	9.5	12.7	14.3
Shank thickness (08 5425)			–	–	6.35	9.5	9.5	12.7	–	–

PRYOR Punch holder

Ergonomics and the **high-grip surface** of the holder permit a **comfortable** and secure grip. Suitable for all Hoffmann numeric punches and alphabetic punches.

08 5475

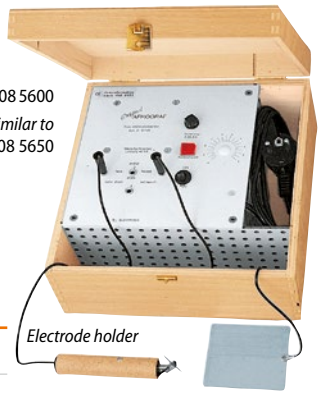
Type		GRIP
08W 08 5475	Punch holder	XXX

Electric etching pencils

08 5600 – For **inscribing all electrically conductive metals.**
08 5650 – For **inscribing metal and wood.** Operating temperature adjustable.
08 5600/5650 – AC transformer 230 Volt/ 40 VA for **6 different weights of script.**

Supplied with:
08 5650 – Additionally 1 wood burning inscriber with 3 hot loops.
08 5600/5650 – 1 holder with 3 electrodes, opposite polarity plate; in wooden case.

Note:
08 5600/5650 – Not for use on electronic devices.



08 5600
similar to
08 5650

Electric application of lettering to metals *(6 different font heights).*

Scriber, opposite polarity plate

Electrode holder

Opposite polarity plate

08U	08 5600	Electric etching pencil for inscribing metal	XXX
08U	08 5650	Electric etching pencil for inscribing metal and wood	XXX
08Q	08 5610	Separate electrode holder for inscribing metal	XXX
08Q	08 5620	Tungsten electrodes set, 10 pieces ∅ 1.2×25 mm	XXX
08Q	08 5630	Separate wood marking scriber (only for system No. 085650)	(XXX)
08Q	08 5640	Hot loops set, 10 pieces	(XXX)

08 5620
Set of tungsten electrodes

08 5630 *Wood scriber*

08 5640

Electrical engraving pencil

Plastic housing moulded to the shape of the hand, electrical drive on the oscillating armature principle (230 Volt, 50/60 Hz); double insulated and maintenance-free.
The stroke length (impact force) can be steplessly adjusted and exactly set up to a maximum of 3 mm.

Application: For neat freehand marking and identification, as well as engraving all types of metal, max. HR60, glass, plastic, stone, wood, leather etc.

Supplied with: Includes
1 diamond stylus No. 085705, 1 carbide stylus No. 085706, 2 modelling points, adapter for points, 1 plastic wallet.

Note: Accessories available on request.

08 5701

08U	08 5701	MARKAL Electrical engraving pencil	XXX

Mini engraving tool

For simple engraving on many different surfaces, such as metal, glass, ceramic.

Supplied with: Case, 2 AAA (LR3) batteries, L-wrench.

Length		mm	150	20
08Q	08 5725	Mini engraving tool	XXX	–
08Q	08 5726	Spare engraving points set, 2 pieces	–	XXX
Diamond point ∅		mm	1	–
Tool shank ∅ (08 5725)		mm	2.35	–
Spindle speed (08 5725)		rpm	12000	–

08 5725

DYMO Desk label printer LabelWriter 450

Easy to use desk unit for **quick** (51 labels per minute) and **uncomplicated creation** of address, dispatch, file, name, CD/DVD, and many other labels.
Pin-sharp **direct thermal printing**. Resolution 600×300 dpi.

- For labels up to maximum 58 mm width.
- Compatible with **PC and Mac, USB port,** can print address labels directly from Office programmes.
- Printing and generating all popular **barcodes and QR codes,** special characters and graphics files with **300 dpi resolution.**

Supplied with: With mains adapter, USB cable, software CD, starter roll of labels 28×89 mm.

08 5505

Type		LW450
08U	08 5505	Label printer LabelWriter	XXX

Labels

Label width×label height		mm	25×54	28×89	36×89	54×101
08Q	08 5565	Address label set, white	XXX	XXX	XXX	–
08Q	08 5567	Dispatch label set, white	–	–	–	XXX
Number of labels per roll			500	130	260	220
Number of rolls			1	2	2	1

08 5565_28×89

08 5567_54×101

DYMO Labelling machines / tape cartridges

Robust portable labelling machines for fast and simple production of self-adhesive plastic labels. Permanent thermal transfer printing.
Adjustable tape advance and reverse. Power supply from rechargeable **Li-ion battery**, mains charger. Simple text generation with quick-access buttons.

Size LM280 – Standard LabelManager™ 280 for office and home use with additional editing facilities on PC / Mac via USB port.
Size LM420P – Slim-line printer with **ABC keyboard** and large 4-line display with background lighting and print preview. USB port.
Size LM500TS – **With full-colour touch screen,** also prints graphics, barcodes, and logos with 300 dpi resolution. Profiles for up to 5 users. **USB interface.**
08 5500 Size 4200; 5200 – **Robust industrial label printer** for easy labelling of cables, control panels, shelves etc.
Direct access buttons for frequently-used electro-technical symbols.

Supplied with:
Size LM500TS – LabelManager 500TS labelling machine, battery pack Li-ion charging adapter, USB cable.
Size 4200 – **Without battery and mains adapter.**
Size 5200 – Labelling machine incl. lithium-ion battery and power supply unit.
1× nylon tape cartridge, white 19 mm × 3.5 m, 1× industrial vinyl label, white 12 mm × 5.5 m.

_LM280 _LM360D _LM420P LM500TS _4200 _5200

Type		LM280	LM280F	LM360D	LM420P	LM500TS	4200	5200
08U 08 5500	Labelling machine	XXX	(XXX)	XXX	XXX	XXX	XXX	XXX
suitable tape cartridge		D1	D1	D1	D1	D1	RHINO	RHINO
Type		D1	D1	D1	D1	LM500TS	RHINO	RHINO
available tape widths	mm	6; 9; 12	6; 9; 12	6; 9; 12; 19	6; 9; 12; 19	6; 9; 12; 19; 24	6; 9; 12; 19	9; 12; 19
maximum character height	mm	8.1	8.1	14.9	14.9	22	13	13
Number of font sizes		3	3	7	7	25	7	7
Number of font widths		2	2	3	8	2	2	2
Number of lettering styles		6	6	7	12	32	5	4
Number of visible characters in the display		2×14	2×14	2×14	4×30	–	11	2×14
Number of available characters/symbols		220	220	221	325	325	50	100
Number of text lines		2	2	2	1 – 4	1 – 5	1 – 4	1-4
Keyboard layout		QWERTY	AZERTY	QWERTZ	ABC	QWERTZ	QWERTZ	ABC
Special features		USB	USB	–	USB	USB / barcode	Label storage	Label storage
Length	mm	206	206	150	215	190	181	64
Width	mm	108	108	197	104	165	127	124
Height	mm	41	41	71	57	95	62	234

Tape cartridges

08 5517 – Flexible vinyl tape, permanent adhesion even at tight radii.
08 5509/5510 – **Industrial vinyl label** resistant to moisture, extreme temperatures, UV radiation.
08 5515/5516 – **Highly flexible** nylon strip, **permanently adhesive** even to **small radii** and **rough surfaces.**
08 5517/5515/5516/5520/5530/5540/5550/5560 – Waterproof, **removable D1 tape cartridges.**

Note: other labels can be found in the online shop.

08 5517

Type		T	W	Y	R		Type
NEW 08Q 08 5509	Printer ribbon cartridge **9 mm × 5.5 m vinyl**	–	XXX	–	–	1	RHINO
08Q 08 5517	Printer ribbon cartridge **12 mm×5.5 m vinyl**	–	XXX	–	–	5	RHINO
NEW 08Q 08 5510	Printer ribbon cartridge **19 mm×5.5 m vinyl**	–	XXX	–	–	1	RHINO
08Q 08 5515	Printer ribbon cartridge **12 mm×3.5 m nylon**	–	XXX	–	–	1	RHINO
08Q 08 5516	Printer ribbon cartridge **19 mm×3.5 m nylon**	–	XXX	–	–	5	D1
08Q 08 5520	Printer ribbon cartridge **12 mm×7 m polyester**	XXX	XXX	XXX	XXX	5	D1
08Q 08 5530	Printer ribbon cartridge **6 mm×7 m polyester**	–	XXX	–	–	5	D1
08Q 08 5540	Printer ribbon cartridge **9 mm×7 m polyester**	–	XXX	XXX	–	5	D1
08Q 08 5550	Printer ribbon cartridge **19 mm×7 m polyester**	XXX	XXX	XXX	XXX	5	D1
08Q 08 5560	Printer ribbon cartridge **24 mm×7 m polyester**	–	XXX	XXX	XXX	5	D1
Print colour		black					
Tape colour		transparent	white	yellow	red		

CNC needle markers

Hand marking system

For permanent identification, marking, lettering of batch and series production parts of different materials (steel, stainless steel, aluminium, copper, brass, plastics, tool steel, hardened steels up to 62 HRC, etc.).

- Powerful electro-magnetic marking needle drive.
- Simple intuitive software with password protection.
- High-resolution colour display.
- Marking preview for reliable marking.
- Unbreakable housing.
- Interfaces: USB-A, USB-B and Ethernet.
- Font: Dot matrix in a 5×7 or 9×13 grid, font height 1.0 – 10.0 mm and larger.
- Fonts for character heights greater than 10.0 mm on request.
- High-quality double linear guides for precise marking results.
- **Round parts can be marked** radially and axially, and also in an arc of a circle.

Extremely handy, 100% mobile **cordless manual marking system** with integral keyboard and high-resolution LC colour display.

08 5757 – Marking field: 65 × 30 mm.

08 5759 – Marking field: 85 × 45 mm.

- More stable guidance system.
- Extra strong attachment magnet (optional).

Supplied with: Tool kit, solid carbide marking needle 90° adjustment bracket with non-slip coating, setting gauge, and carrying case, **2×18 V Li-ion rechargeable batteries**, charger.

Note:

08 5757 – Optionally available: Magnetic holder plate No. 085758 65/30, pillar support No. 085783 MINI.

08 5759 – Optionally available: Magnetic holder plate No. 085758 120/45, attachment magnet No. 085779 120/45, pillar support No. 085783 MINI.

08 5757

08 5759_2×4

Battery capacity	Ah	2×2	2×4	2×5,2	2×8	maximum marker field width mm	maximum marker field height mm
04F 08 5757	FlyMarker® mini 65/30 needle marker **Cordless**	(XXX)	–	(XXX)	–	65	30
04F 08 5759	FlyMarker® mini 85/45 needle marker plus **Cordless**	–	(XXX)	–	–	85	45
Battery capacity	Ah	2	4	5.2	8		
Nominal voltage	V	18					
Weight including rechargeable battery	kg	2.4	3.2	2.7	3.6		

Benchtop marker system

Size STATION – Benchtop marker system with:

- capacitive touch screen
- toggle lever for quick change of workpiece
- electromagnetic drive
- switchable LED lighting of the marking area
- cable track guide for the electronics cable
- laser pointer for simulation of the marking process
- 30 adjustable impact forces
- integrated software

08 5756

Type		STATION
04F 08 5756	Benchtop marker system mini 120/100 Station Touch	(XXX)
Interface		Digimatic interface; Ethernet
Character height	mm	1 – 99.9
maximum marker field width	mm	120
maximum marker field height	mm	100
Power supply		Mains-powered
Nominal voltage	V	230

Accessories

Note: Further accessories for the FlyMarker mini can be found in the online shop.

Angle of the marking needle tip	Degrees	60	90	110
04F 08 5790	Marking needle for FlyMarker®	XXX	XXX	XXX
Material to be marked		Plastics	Universal	up to 62 HRC, scaled

Padlocks

Solid lever action security lock, housing **weatherproof galvanised.**

Size 394 – With brass keyhole cover.

Supplied with: Padlock with 2 keys.

Type		393	394
08 5822	Padlock galvanised **individual keys**	XXX	XXX
Body ∅	mm	45	
Hoop ∅	mm	6.5	

08 5822_393 08 5822_394

TSA / combination lock, combination can be set individually. **Permits TSA check by the customs authorities to be performed without damage (TSA = Travel Sentry Approved).**

Body ∅	mm	30
08 5825	TSA / combination lock	XXX
Hoop ∅	mm	3.5
Number of number rings		3

08 5825

08 5830 – Solid brass body. **Number combinations can be selected individually.**

Size 50 – The combination lock has **four number rings** which can be set, and has an additional security feature: It must first be released using a key before the code can be input.

Body ∅	mm	20	30	40	50
08 5830	Combination lock	XXX	XXX	XXX	–
08 5831		–	–	–	XXX
08 5832		–	–	–	XXX
Hoop ∅	mm	3.2	5	6.5	8
Number of number rings		3	3	4	4

08 5830_20 08 5830_40 08 5831_50 08 5832_50

Solid brass body, rust-free precision lock mechanism, steel shackle hardened and chrome-plated, double locked.
The 217 carat range is not available in special versions.

Supplied with:

08 5850 – Padlock with 2 keys.

08 5855 – Padlock with 6 keys.

Body ∅	mm	30	40	50
08 5850	Precision cylinder lock **individual keys**	XXX	XXX	XXX
08 5855		–	XXX	–
Series		217 carat		
Hoop ∅	mm	5	6	8

08 5850_30 08 5855_40

Solid brass bodies with hardened steel shackle.

08 5866 – With extra tall shackle.

Supplied with:

08 5865 – 4 padlocks with 1 key each.

08 5860/5866 – Padlock with 2 keys.

Body ∅	mm	30	40	50
08 5860	Cylinder lock standard quality **individual keys**	XXX	XXX	XXX
08 5865	Cylinder lock set **4 pieces per set, shared keys**	XXX	XXX	–
08 5866	Cylinder lock with tall shackle **individual keys**	XXX	XXX	–
Hoop ∅	mm	5	6	7
Internal height of shackle (08 5866)	mm	45	65	–

08 5860_30 08 5865 08 5866_30

Solid brass body, rust-free precision lock mechanism, steel shackle hardened and chrome-plated, double locked. The 116 Profi range is available on request in the following special versions: Locks according to a sample pattern or locking, with master key system and additional keys.

08 5875/5876 – With extra tall shackle.

Supplied with: Padlock with 2 keys.

Body ∅	mm	30	40	50
08 5870	Precision cylinder lock **shared keys**	XXX	XXX	XXX
08 5875	Precision cylinder lock with tall shackle **individual keys**	XXX	XXX	–
08 5876	Precision cylinder lock with tall shackle **shared keys**	XXX	XXX	–
Series		116 Profi		
Hoop ∅ (08 5870, 08 5875)	mm	5	6	8
Internal height of shackle (08 5875)	mm	45	60	–
Internal height of shackle (08 5876)	mm	45	60	–

08 5870_40 08 5875_30 08 5876_30

Padlocks

Padlock with rustproof precision lock mechanism, hardened steel shackle, chrome-plated and double lever mechanism.

08 5880 – Solid brass body.
08 5882 – Solid brass body with tall shackle.
08 5890 – Solid stainless steel body, non-rusting.

Function: **Individual keys** means each key can open and close only **one** lock or cylinder, i.e. the key is unique.

Supplied with: Padlock with 3 keys.

08 5880

08 5882

Body ∅			mm	30	40	50
02A 08 5880		Cylinder lock **individual keys**		XXX	XXX	XXX
02A 08 5882	HOLEX	Cylinder lock with tall shackle **individual keys**		XXX	XXX	–
02A 08 5890		Cylinder lock **individual keys**		XXX	XXX	XXX
Hoop ∅			mm	5	6	8

08 5890

Body ∅			mm	30	40	50
08Q 08 5868	BURG WÄCHTER	ALUTITAN padlock **individual keys**		XXX	XXX	XXX
Hoop ∅			mm	5	6.5	8

08 5868

Solid brass body. **Number combinations can be selected individually.**

08 5885_30 08 5885_40

Body ∅			mm	30	40
02A 08 5885	HOLEX	Combination lock		XXX	XXX
Hoop ∅			mm	5	6.4

Padlocks with cylinder insert

Precision padlock, brass body nickel-plated, shackle made of hardened steel, chrome-plated, and double locked. With integrated lock barrel No. 950050 (not for No. 085816) for individual configuration / integration into your existing DOM locking system. Can be individually fitted using lock barrel No. 950050 to suit your requirements.

Note: For individually configurable lock barrels see No. 950050 and No. 950072, **group 95 in the Workstations and Storage catalogue volume 3.**

08 5812

08 5814

Body ∅		mm	45
08Q 08 5812	Precision cylinder lock **with lock barrel, shared key**		XXX
08Q 08 5814	Precision cylinder lock **with lock barrel, individual keys**		XXX
08Q 08 5816	Precision cylinder lock **without lock barrel**		XXX
Hoop ∅		mm	6

CityLine home safe, security class B

CityLine portable safe, **security class B** to VDMA 24992 (1995) **depth A4 files.** Double-skin wall with double-skin door. Fire-resistant material to DIN 4102-A1, VdS-approved, ECB-certified to EN 1300 class B.

Size C310K; C340K – With high-security **twin tumbler lock**.

Size C310E; C340E – With SECUTRONIC **electronic combination lock** including batteries, tamperproof. Graphics display with touch keyboard.

Application: For anchoring to the wall or floor.

Note: Other safes in different sizes and degrees of security are available on request.

08 5802_C310K

08 5802_C310E

08 5802_C340K

08 5802_C340E

Type designation		C310K	C310E	C340K	C340E
08P 08 5802	CityLine home safe	XXX	XXX	XXX	(XXX)
Lock type		High-security double-bit lock	electronic numeric code lock	High-security double-bit lock	electronic numeric code lock
External height	mm	278	278	528	528
Width external	mm	402	402	435	435
External depth	mm	376	376	382	382
Internal height	mm	209	209	440	440
Width internal	mm	336	336	350	350
Internal depth	mm	294	294	292	292
Contents	l	20.6	20.6	45.3	45.3
Weight	kg	30	30	49	49

Magnetic container

08 5904 – Plastic container with powerful permanent magnet. **Ideally suited for placing as a lubricant pot in a CNC machine.**

08 5905 – Stainless steel container with powerful permanent magnets.

08 5906 – Plastic container with powerful permanent magnets. Special shape for use on vertical walls.

Application: For safe storage of small components, tools, fasteners etc. **Magnetisable small components are stored safely, even in the upright position.**

08 5904

08 5905_150

08 5905 _240×140

08 5905 _360×160

08 5906 _110

08 5906 _150

Container ∅ or length×width	mm	75	110	150	240×140	360×160
02A 08 5904	Plastic magnetic lubricant pot	XXX	–	–	–	–
02A 08 5905	Stainless steel magnetic container	–	–	XXX	XXX	XXX
02A 08 5906	Plastic magnetic container	–	XXX	XXX	–	–
Number of magnets per container		1	1	1	2	3

Magnetic broom

For easy removal of metal chips from the floor. Adjustable telescopic handle up to length 1050 mm.

08 5909

Width	mm	385	620
08Q 08 5909	Magnetic broom	XXX	XXX

Flat magnets without thread, ferrite

Shielded flat magnets with magnetic core made of **hard ferrite.**

08 5910 – ■ Galvanised surface.
■ **Temperature-resistant up to maximum 120 °C.**
08 5912 – ■ Plastic surface.
■ **Temperature-resistant at room temperature.**

Application: For clamping, assembling, incorporation by pressing in / gluing and fixing / holding.

Note:
08 5912 – Other imprints (such as a customer logo) available on request at an additional charge.

08 5910

08 5912
Pack of 4

∅		mm	10	13	16	20	25	32	40	50	63	80
080 08 5910	Flat magnet without thread	Ferrite	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
080 08 5912	Organiser magnet set 4 pieces, printed	Ferrite	–	–	–	–	XXX	XXX	–	–	–	–
Nominal clamping force		N	4	10	18	30	40	80	125	220	350	600
Height		mm	4.5	4.5	4.5	6	7	7	8	10	14	18

Flat magnets with threaded socket, ferrite

■ Shielded flat magnet made of **hard ferrite with insert nut.**
■ Galvanised surface.
■ **Temperature-resistant up to maximum 120 °C.**

Application: For clamping, assembling, incorporation by screw fastening.

Note: Screw-in hooks with external thread under No. 085921.

08 5915

∅		mm	10	13	16	20	25	32	40	50	63	80	100
080 08 5915	Flat magnet with internal thread	Ferrite	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Nominal clamping force		N	4	10	18	30	40	80	125	220	350	600	900
Height		mm	4.5	4.5	4.5	6	7	7	8	10	14	18	22
Height with thread		mm	11.5	11.5	11.5	13	15	15	18	22	30	34	42
Thread		mm	M3	M3	M3	M3	M4	M4	M5	M6	M8	M10	M12

Flat magnets with/without threaded socket, $SmCo_5$ / Neodymium

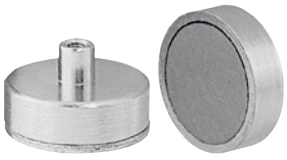
■ Shielded flat magnet **with 3 to 6 times the clamping force compared to hard ferrite magnets.**

08 5920/5922 – ■ **Temperature-resistant up to maximum 200 °C.**
■ Galvanised surface, magnetic core made of samarium-cobalt ($SmCo_5$).
08 5923/5924 – ■ **Temperature-resistant up to maximum 80 °C.**
■ Galvanised surface, magnetic core made of neodymium.

Application: For clamping, assembling, incorporation by pressing in, gluing or encapsulating.

Note:
08 5922/5924 – Screw-in hooks with external thread under No. 085921.

08 5920


08 5922

∅		mm	6	8	10	13	16	20	25	32
080 08 5920	Flat magnet without thread	$SmCo_5$	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
080 08 5922	Flat magnet with internal thread	$SmCo_5$	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
080 08 5923	Flat magnet without thread	Neodymium	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
080 08 5924	Flat magnet with internal thread	Neodymium	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Nominal clamping force (08 5920, 08 5922)		N	5	11	20	40	60	90	150	220
Nominal clamping force (08 5923, 08 5924)		N	5	13	25	60	95	140	200	350
Height		mm	4.5	4.5	4.5	4.5	4.5	6	7	7
			11.5	11.5			11.5	13		
Thread (08 5922, 08 5924)		mm	M3	M3	M3	M3	M4	M4	M4	M5

Flat magnets with hole, Neodymium

■ **Temperature-resistant up to maximum 80 °C.**
■ Galvanised surface, magnetic core made of neodymium.

Application: For clamping, assembling, incorporation by screw fastening.

08 5932

∅		mm	10	13	16	20	25	32	40	48
080 08 5932	Flat magnet with bore	Neodymium	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Nominal clamping force		N	13	30	75	105	160	310	500	870
Bore ∅		mm	3	3	3.5	4.5	4.5	5.5	5.5	8.5
Height		mm	4.5	4.5	4.5	6	7	7	8	11.5

Screw-in hook

Suitable for: No. 085915; 085922; 085924.

08 5921

Thread		M3	M4	M5	M6
080 08 5921	Screw-in hook set with external thread **10 pieces**	XXX	XXX	XXX	XXX

Rubberised flat magnet with thread, Neodymium

- Shielded flat magnet **with 3 to 6 times the clamping force compared to hard ferrite magnets.**
- Corrosion resistance and surface protection due to the rubberised surface.
- Rubberisation increases the lateral holding forces.
- Neodymium magnetic core.

Application: On painted surfaces, will not scratch or slip.

∅		mm	22	43	66	88
08Q 08 5926	Flat magnet 2-part set with threaded stud	Neodymium	XXX	XXX	XXX	XXX
Nominal clamping force		N	50	85	180	420
Height		mm	6	6	8.5	8.5
Height with thread		mm	12.5	21	23.5	23.5
Thread		mm	M4	M6	M8	M8

08 5926

Note: Screw-in hooks with external thread under No. 085921.

∅		mm	22	43	66	88
08Q 08 5927	Flat magnet 2-part set with threaded socket	Neodymium	XXX	XXX	XXX	XXX
Nominal clamping force		N	50	85	180	420
Height		mm	6	6	8.5	8.5
Height with thread		mm	11	10.5	15	17
Thread		mm	M4	M4	M5	M8

08 5927

Note: Screw-in hooks with external thread under No. 085921.

∅		mm	22	43	66	88
08Q 08 5931	Flat magnet 2-part set with threaded socket **flat**	Neodymium	XXX	XXX	XXX	XXX
Nominal clamping force		N	50	85	180	420
Height		mm	6	6	8.5	8.5
Height with thread		mm	6	6	8.5	8.5
Thread		mm	M4	M4	M5	M8

08 5931

Cylindrical magnets with toleranced dimensions, AlNiCo

- Shielded bar magnet with **magnetic core of AlNiCo.**
- **Fit tolerance** on the external ∅ **h6.**
- **Temperature-resistant up to maximum 220 °C.**

Application: For clamping, assembling, incorporation by pressing in, gluing or encapsulating.

08 5925

∅		mm	6	8	10	13	16	20	25	32	40	50
08Q 08 5925	Deep pot holding magnet with toleranced dimensions	AlNiCo	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Nominal clamping force		N	2	3	5	10	15	35	80	150	200	350
Height		mm	10	12	16	18	20	25	30	35	45	50
maximum shortening dimension rear		mm	2	3	6	7	5	6	5	3	5	2

Cylindrical magnets with toleranced dimensions, $SmCo_5$ / Neodymium

- Shielded cylindrical magnets with **3 to 6 times the clamping force of hard ferrite magnets.**
- **Fit tolerance** on the external ∅ **h6.**

08 5928 –
- **Temperature-resistant up to maximum 200 °C.**
- Magnetic core made of samarium-cobalt ($SmCo_5$).

08 5929 –
- **Temperature-resistant up to maximum 80 °C.**
- Magnetic core made of neodymium.

08 5928

Application: For clamping, assembling, incorporation by pressing in, gluing or encapsulating.

∅		mm	6	8	10	13	16	20	25	32
08Q 08 5928	Deep pot holding magnet with toleranced dimensions	$SmCo_5$	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
08Q 08 5929		Neodymium	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Nominal clamping force (08 5928)		N	8	22	40	60	125	230	400	600
Nominal clamping force (08 5929)		N	10	25	45	70	150	280	450	700
Height		mm	20	20	20	20	20	25	35	40
maximum shortening dimension rear		mm	10	10	8	6	2	6	7	5

HOLEX Strong magnet, AlCo Max

- Strong, bridge-shaped magnet.
- With hole for fixing the magnet. (sizes 35 and 41 with 2 holes).
- Magnetic material temperature-resistant up to maximum 550 °C.

Application: For holding, lifting or sorting small iron parts or for installation in electrical relays, measuring instruments etc.

Remove the keeper plate before use.

08 5934

Overall height		mm	20	25	30	35	41	54
02A 08 5934	Strong magnet with keeper plate	AlNiCo	XXX	XXX	XXX	XXX	XXX	XXX
Nominal clamping force		N	45	90	118	235	370	470
Single-pole width		mm	20	25.4	28.6	44	57	82
Single-pole depth		mm	8	9.5	11	11	15	20

HOLEX Cylindrical magnets, AlCo Max III

- Cylindrical form, notch marking of polarity.
- Magnetic material temperature-resistant up to maximum 550 °C (paint finish 100 °C).
- Bar magnets can be extended by lining them up together.

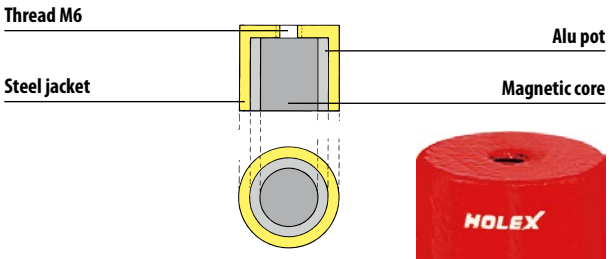
08 5936

∅×Length			mm	6×20	8×25	10×30
02A 08 5936	Cylindrical magnet **Set 2 pieces**	AlNiCo		XXX	XXX	XXX

HOLEX Pot magnets, AlCo Max III

- Machining the steel jacket will not impair magnet performance.
- Magnetic force directed downwards as cased in an aluminium ring.
- Tapped hole in the magnet top face, for fastening.
- Magnetic material temperature-resistant up to maximum 220 °C.

Application: Incorporation in jigs, for holding or lifting.



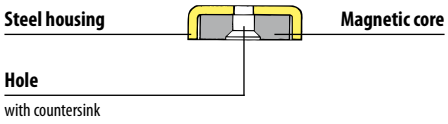
Remove the keeper plate before use.

∅			mm	17	21	27	35
02A 08 5940	Pot magnet with keeper plate	AlNiCo		XXX	XXX	XXX	XXX
Nominal clamping force			N	26.5	40	61	147
Height			mm	16	19	25	30
Tapped attachment hole in the magnet head			mm	M6			

HOLEX Flat pot magnets, AlCo Max III

- Flat magnet in a protective steel jacket.
- Magnet fixed from below via countersunk hole.
- Magnetic material temperature-resistant up to maximum °C (size 19 up to 100 °C).

Application: Jigs and fixtures.



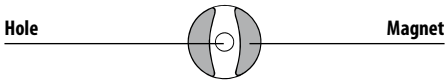
Remove the keeper plate before use.

∅			mm	19	29	38
02A 08 5944	Flat pot magnet with keeper plate	AlNiCo		XXX	XXX	XXX
Nominal clamping force			N	30	50	130
Attachment hole ∅			mm	4.5	5.2	5.2
Height			mm	7.5	8.7	10.35

HOLEX Button magnets, AlCo Max III

- Round magnet with split adhesion surface and bore.
- Magnetic material temperature-resistant up to maximum 550 °C.

Application:
- For use with dial gauges.
- Fixing of small metal objects.



Remove the keeper plate before use.

∅			mm	13	19	25	32
02A 08 5946	Button magnet with keeper plate	AlNiCo		XXX	XXX	XXX	XXX
Nominal clamping force			N	7	19	34	48
Attachment hole ∅			mm	4.4	4.8	4.8	7.1
Height			mm	9.5	12.7	15.9	25.4

ECLIPSE MAGNETICS Magnetic clamp, welding aid

Adjustable magnetic clamp — Ferrite magnet

Jaws **adjustable from 25° to 280°.** Most common angles 90°, 60°, 45°, and 30° are marked for quick reference.

Application: For precise holding of steel plates and pipes during welding and assembly operations.

08 5950

Type				952
08Q 08 5950	Adjustable magnetic clamp	Ferrite		XXX
Nominal clamping force			N	200
Height			mm	200
Length			mm	195
Width			mm	11
Weight			kg	0.49

Adjustable magnetic clamp for heavy-duty applications — Ferrite magnet

The arms of the jaw can be fixed to any **angle between 45° and 90°.**

Application: Aid for clamping larger components during welding and assembly operations.

Type			974
080 08 5952	Adjustable magnetic clamp **heavy-duty**	**Ferrite**	XXX
Nominal clamping force		N	400
Height		mm	140
Length		mm	140
Width		mm	35
Weight		kg	1.4

08 5952_974

Magnetic clamp with fixed 90° angle — Ferrite magnet

Angular tolerance ± 0.05 / 100 mm.

Size 973 – With two additional pressure levers.

Application: For clamping components at a fixed angle of 90° and for preparing welding and assembly operations.

Type			971	972	973
080 08 5954	Magnetic clamp with 90° (fixed)	**Ferrite**	XXX	XXX	XXX
Nominal clamping force		N	400	750	2000
Height		mm	140	225	300
Length		mm	140	225	300
Width		mm	35	22	35
Weight		kg	1.4	2.2	4.7

08 5954_971
08 5954_972
08 5954_973

Magnetic welding clamp

Welding clamp, adjustable to **30°, 60° and 90°**.

Size IOWCC – The set consists of 2 pieces of welding clamps (internal / external angle) of length 75 mm and 125 mm.

Application: Aid for positioning, fixing and holding components during fabrication work.

Type			IOWCC	IOWCL
080 08 5955	Welding clamps, internal / external angle		XXX	XXX
Nominal clamping force		N	90; 150	180
Length		mm	75; 125	165
Width		mm	52; 85	110
Weight		kg	0.13; 0.4	0.8

08 5955_IOWCC

Magnetic holder — Alcomax magnet

Steplessly adjustable magnetic force. The clamp has **6 magnetic faces:**
3 flat and 3 "Vee-form", set at an angle of 120°.

Application: For powerful, fixed support of flat and round components (pipe ∅ up to 76 mm) in a variety of angular positions.

Type			925
080 08 5956	Magnetic holder	**AlNiCo**	XXX
maximum nominal clamping force		N	1000
Height		mm	140
Length		mm	108
Width		mm	108
Weight		kg	5.7

08 5956_925

Switchable welding aid

Holds workpieces at angles of 45° and 90°. Temperature-resistant up to maximum 180 °C. Ideal for round and rectangular hollow section, and also for angle material and flat material.

Type			QHCSS	QHCSL
080 08 5957	Switchable welding aid		XXX	XXX
Nominal clamping force		N	400	750
Height		mm	95	130
Length		mm	111	152
Width		mm	29	35
Weight		kg	0.7	1.4

08 5957_QHCSL

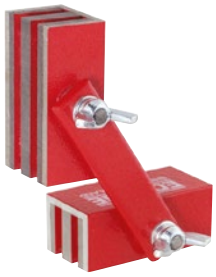
Permanent magnetic links

Magnetic blocks can be fixed at **any angle.**

08 5960 – Temperature-resistant up to maximum 220 °C, 1 magnetic face.
08 5962 – Temperature-resistant up to maximum 100 °C, 3 magnetic faces.

08Q				
08 5960	Adjustable magnetic link **1 face magnetic**	AlNiCo	XXX	
08 5962	Adjustable magnetic link **3 faces magnetic**	Ferrite	XXX	
	maximum nominal clamping force	N	120	
	Length single block	mm	60	
	Single block width	mm	29	
	Single block height	mm	25	

08 5960



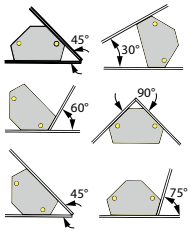
08 5962

Permanent multiple magnetic clamp

Ferrite magnet

Offering angles of **30°, 45°, 60°, 75°**and **90°**. Temperature-resistant up to maximum 180 °C.

08Q				
08 5964	Multiple magnetic clamp	Ferrite	XXX	
	maximum nominal clamping force	N	100	
	Bore ∅	mm	5	
	Height	mm	65	
	Length	mm	100.5	
	Thickness	mm	12	
	Weight	kg	0.3	



08 5964

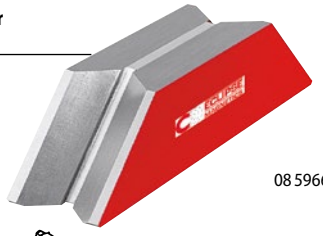
Permanent magnetic mitre clamp

Ferrite magnet

All side faces including Vees are magnetic. The **Vee faces are suitable for round material**.
Temperature-resistant up to maximum 200 °C.

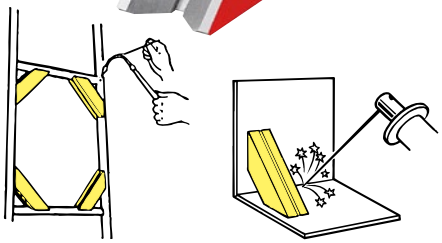
Application: For powerful rigid support of round components (pipe ∅ up to 76 mm) in a variety of angular positions.

Vee face suitable for round material.



08 5966

08Q				
08 5966	Magnetic mitre clamp	Ferrite	XXX	
	maximum nominal clamping force	N	680	
	Height	mm	45	
	Length	mm	184	
	Thickness	mm	43	
	Weight	kg	1.65	



ECLIPSE MAGNETICS „Hold fast“ – pot magnets, AlCo Max III

To lift the magnet from the component via a press release spindle. With 2 tapped holes M8 for fixing brackets.

	∅	mm	44	55	70
08Q 08 5968	“Hold fast” pot magnet	AlNiCo	XXX	XXX	XXX
	Nominal clamping force	N	200	400	880
	Magnet body height	mm	44.5	49.2	64.5
	Weight	kg	0.6	1	2

Remove the keeper plate before use.

ECLIPSE MAGNETICS Magnetic lifter for sheets/plates, ferrite

Strong permanent ferrite magnet in aluminium housing. With quick-release mechanism for releasing the sheet/plate.

Application: For safe transport of metal sheets and steel plates.

08 5970

	Type		964
08Q 08 5970	Magnetic lifter for sheets/plates	Ferrite	XXX
	maximum clamping force along the axis	N	1700
	maximum clamping force 90° to the axis	N	340
	Height	mm	38
	Length	mm	118
	Width	mm	98
	Weight	kg	2.8

Bohle Suction lifter

08 6200 – Bridge handle for one-hand operation, for quick and efficient work.
08 6201 – Veribor® **2-head plastic suction lifter**. Improved grip area made of non-slip rubber prevents slipping of the hand when carrying. With proven toggle lever technology.
08 6202 – Veribor® **pump suction lifter** made of plastic. Integrated pump tappet for quick and easy operation. With vacuum safety display with yellow ring on the pump tappet.
08 6203 – With proven toggle lever technology.
08 6200/6203 – Veribor® suction lifter made from sturdy aluminium, with rubber vacuum cups for a long working life.

Application: For lifting materials with smooth, grease-free, and air-tight surface finishes.

Note:
08 6200/6203 – Suction lifter should be released for storage, so that the rubber cups do not deform permanently.

08 6200_1

08 6201_2

08 6203_3

08 6203_2

08 6202_1

Type		1	2	3
08 6200	Suction lifter, aluminium	XXX	–	–
08 6201	Suction lifter, plastic	–	XXX	–
08 6203	Suction lifter, aluminium	–	XXX	XXX
Suction head ∅	mm		120	
maximum load capacity	kg	30	60	100

Type		1
08 6202	Pump suction lifter, plastic	XXX
Suction head ∅	mm	210
maximum load capacity	kg	120

Girder clamp and sheet metal grip

Girder clamp for attaching to T-girders or H-profile girders. Approved for the **transport of personnel**. Girder clamps act as the **attachment point** for hoists, diverter rollers or work platforms.

08 6026

Load capacity		t	1	2
08 6026	Tractel CORSO™ girder clamp		XXX	XXX
Manufacturer's designation			LT-1B	LT-2B
Weight		kg	4.8	5.6

The gripper is opened and closed using the locking lever. The safety lock prevents the gripper from slipping from the material being transported, even without pulling load.

Application: For the vertical transport of individual sheet metals and switching panels, profiles, and steel constructions.

Note: **The surface hardness of the material being transported must be less than HRC 30! The weight of the load to be lifted must not be less than 10 % of the given lifting capacity.** Further sizes and types on request.

08 6032

Safe working load		t	1,5	2	3	4	6
08 6032	Yale Sheet metal gripper TBL plus		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Gripping range		mm	0 – 20	0 – 32	0 – 32	0 – 32	0 – 50
Weight		kg	3	9.3	9.3	11.2	20.6

Tractel Hand-operated winches and hoists

Multi-purpose hoist with additional basic accessories consisting of lever tube, 20 m rope with tip and grommet, wound on to a manual reel.

Note: Further multi-purpose hoists (e. g. "Jockey") and accessories available on request.

08 6021

Safe working load		t	0,8	1,6	3,2
08 6021	Multi-purpose hoist with basic accessories		(XXX)	XXX	XXX
Manufacturer's designation			T 508D	T 516D	T 532D
Lever tube weight		kg	1	2.4	2.4
Multi-purpose hoist weight		kg	6.6	13.5	24

All-purpose chain lever hoists for lifting, drawing, and securing

All-purpose devices AL, chain lever hoists (aluminium)

Sturdy construction of high-tensile **aluminium alloy** in compact design with low net weight. Smooth-running **chain release.**

Application: Primarily for **mobile use,** where no great lifting forces are required.

Safe working load		t	0,25	0,5	0,75	1,5	3
08Y 08 6012	Yale	AL all-purpose hoist with round steel link chain	–	–	(XXX)	(XXX)	(XXX)
08Y 08 6013		BRAVO™ aluminium lever hoist	XXX	XXX	–	–	–
Standard lifting height		m	1.5				
Number of chains			1				
Safe working load		kg	250	500	750	1500	3000
Weight		kg	2.3	3.3	6.4	1.5	18

other lifting heights available

08 6012 08 6013_0,5

All-purpose chain lever hoists

Hoist with **sheet steel casing,** extremely low weight, with **chain release as standard, low height, rotatable** bearing, forged hook.

08 6014 – Exceptionally compact hoist (installed length 240 mm).

6015 0,25; 086015 0,5; ; 08 0,25; 0,5 – "Yalehandy" all-purpose hoist.

Size 0,8; 1,6 – "PT" all-purpose hoist.

Application: Versatile hoist for use even under the most difficult conditions.

Note:

08 6014 – **Hoists with overload protection (slip clutch) available on request.**

08 6015 – **Devices with overload protection (slip clutch) on request for item No. 086015 size 0.8 and 1.6.**

Safe working load		t	0,25	0,5	0,8	1,6
08Y 08 6014		Chain lever hoist BRAVO™ with round steel link chain	XXX	–	–	–
08Y 08 6015	Yale	Lever hoist with round steel link chain	XXX	XXX	XXX	XXX
minimum length between hooks		mm	240	282	290	330
Standard lifting height		m	1.5			
Number of chains			1			
Safe working load		kg	250	500	800	1600
Weight		kg	2.4	2.8	5.5	9.6

08 6014_0.25 08 6015_0.5 „Handy" 08 6015_1.6 „PT"

All-purpose lever hoists UNO plus A

Robust construction made of sheet steel in compact design. Smooth-running **chain release.** Chain guides for trouble-free chain running.

Application: Standard, handy all-purpose hoist for versatile applications.

Safe working load		t	0,75	1,5	3
08Y 08 6017	Yale	UNO plus A lever hoist with round steel link chain	XXX	XXX	XXX
Standard lifting height		m	1.5		
Number of chains			1		
Safe working load		kg	750	1500	3000
Weight		kg	6.3	9.2	16.9

08 6017

All-purpose hoist ERGO 360

Hoist with **ERGO aluminium hand lever and integrated, non-slip folding handle.** Permits various different working positions and non-tiring work by changing the grip position. Up to 30% less lever force. Ergonomic product design for optimum safety. Folding handle locks and can be folded in both directions. Suitable for carrying the hoist.

Application: All-purpose device for intensive, versatile applications.

Lifting capacity		t	0,75	1,5	3
08Y 08 6018	Yale	ERGO360 all-purpose device with folding handle	XXX	XXX	XXX
Standard lifting height		m	1.5		
Number of chains			1		
Safe working load		kg	750	1500	3000
Weight		kg	6.6	9.5	16.8

Fold-out handle

08 6018

Spur-gear block and tackle

Each spur-gear block and tackle is factory overload-tested and supplied with a user manual and test certificate.
All-steel construction. Needle bearings and ball bearings on all rotating parts. Automatic load pressure brake. 360° rotating forged hook.

Note: **Lifting capacity up to 20 tons, chain box and overload protection available on request.**

08 6019

08 6020_1

Safe working load		t	0,25	0,5	1	2
08 6019	Tralift	Spur-gear block and tackle Tralift™	XXX	–	–	–
08 6020	Yale	Spur-gear block and tackle VS III	XXX	XXX	XXX	(XXX)
Lifting force at nominal load (08 6019)		daN	11	–	–	–
Lifting force at nominal load (08 6020)		daN	20	21	24	29
Standard lifting height		m	3			
Number of chains			1	1	1	2
Safe working load		kg	250	500	1000	2000
Weight (08 6019)		kg	3.2	–	–	–
Weight (08 6020)		kg	3.9	9	11.5	17.3

Yale Spur-gear block and tackle Yalelift 360°

Each spur-gear block and tackle is factory overload-tested and supplied with a user manual and test certificate.
The 360° rotatable manual chain guide permits operation from all positions. Designed for heavy-duty use. Satisfies the latest European safety regulations. The user is no longer forced to work in the hazardous area of the load.

Note: **Lifting capacity up to 20 tons, chain box and overload protection available on request.**

08 6025

Safe working load		t	0,5	1	3	5
08 6025		Spur-gear block and tackle Yalelift 360°	(XXX)	(XXX)	(XXX)	(XXX)
Lifting force at nominal load		daN	21	30	38	44
Standard lifting height		m	3			
Number of chains			1	1	1	2
Safe working load		kg	500	1000	3000	5000
Weight		kg	9	13	29	38

Yale Electric chain hoists CPV/CPVF VEGO

Electric chain hoist with **lifting hook** in robust and reliable design. The integral **end-of-travel switch** for the highest and lowest hook positions protects the clutch, motor, and housing and extends their working life. Drive group 1 Am, 50 % duty cycle at one speed, standard operating voltage (400 V / 50 Hz). Enhanced operating safety due to 42 V contactor controls, encapsulated control switches to Index of Protection IP65, motors to IP55.

08 6036 – with two speeds (precision lifting)

Note: Versions with 2 speeds (precision lifting) and other lifting heights, power traverse, chain box and 230 V power supply available on request.

08 6035_0,5-8

Type			0,25-8	0,5-4	0,5-8	1-4	1-8	2-4
08 6035		Electric chain hoist CPV VEGO	–	–	(XXX)	(XXX)	(XXX)	(XXX)
08 6036		Electric chain hoist CPVF VEGO	(XXX)	(XXX)	–	–	–	–
Lifting speed		m/min	2; 8	1; 4	8	4	8	4
Standard lifting height		m	3					
Number of chains			1	2	1	2	1	2
Safe working load		kg	250	500	500	1000	1000	2000
Weight		kg	25	26	27	29	59	64

Lashing straps, load straps, and securing straps, EN 1492, 12195

Lashing straps, load straps, and securing straps

08 6105/6205 – Specially designed friction lock to prevent slipping; wide opening and high clamping force.
08 6120/6220 – Extra-strong low-stretch polyester straps with durable PU coating (EN 12195-2). Strong, corrosion–resistant ratchet and end hooks, easy to use.

Application: For **lashing down, securing**, and **holding together** components in the workshop and during transport.

Note: Lashing straps are not colour-coded. Colours may vary.

Length		m	2	5
Z80 08 6105	Yale	1-piece lashing strap with friction lock, set of 2 pieces	XXX	XXX
Z80 08 6205		1-piece lashing strap with friction lock, set of 2 pieces	XXX	XXX
maximum lashing force LC		daN	300	
Strap width		mm	25	

08 6105

08 6205

Length		m	2	4	6
Z80 08 6110	Yale	1-piece lashing strap with ratchet	XXX	XXX	XXX
Z80 08 6210		1-piece lashing strap with ratchet	XXX	XXX	XXX
maximum lashing force LC		daN	800		
Pre-load force when tightened manually (50 daN)		daN	160		
Strap width		mm	25		

08 6110

08 6210

Length		m	6	8
Z80 08 6115	Yale	1-piece lashing strap with ratchet	XXX	XXX
Z80 08 6215		1-piece lashing strap with ratchet	XXX	XXX
maximum lashing force LC		daN	1000	
Pre-load force when tightened manually (50 daN)		daN	180	
Strap width		mm	35	

08 6115

08 6215

Length		m	6	8	10
Z80 08 6120	Yale	2-piece lashing strap with ratchet and end hook	XXX	XXX	XXX
Z80 08 6220		2-piece lashing strap with ratchet and end hook	XXX	XXX	XXX
maximum lashing force LC		daN	1000	2000	2000
Pre-load force when tightened manually (50 daN)		daN	180	210	210
Strap width		mm	35	50	50

08 6120

08 6220

Automatic load strap

Lashing straps with ratchet and handy automatic roll-up function. Tested to EN 12195-2.

- For quick and easy securing of loads.
- Steplessly extendable and retractable.
- Simple rolling up at the touch of a button.
- Hard-wearing strap of polyester.

08 6132 – Width 25 mm, with 2 plastic-coated S-hooks, length 3 m.
08 6134 – Width 50 mm, with 2 end hooks, length 3 m.

Length		m	3
Z80 08 6132	Yale	Automatic lashing strap 25 mm	XXX
Z80 08 6134		Automatic lashing strap 50 mm	XXX
maximum lashing force LC (08 6132)		daN	300
maximum lashing force LC (08 6134)		daN	750
Strap width (08 6132)		mm	25
Strap width (08 6134)		mm	50

08 6132

08 6134

Round slings, lifting straps and accessories

Lifting slings

Extremely hard wearing lifting slings (Euro-slings EN 1492-1 to form B2).
With reinforced spliced (crane) loops at the two free ends.
Application: For lifting large parts, easy to attach and to release the load.

08 6170

Length			m	2	3	4	5	Strap width mm	Safe working load direct lift kg	Safe working load looped kg	Safe working load < 7° kg	Safe working load 7° – 45° kg	Safe working load 45° – 60° kg
Z80 08 6170	Yale	Lifting sling violet 1000 kg, two-layer		XXX	XXX	XXX	XXX	30	1000	800	2000	1400	1000
Z80 08 6271				XXX	XXX	XXX	XXX	30	1000	800	2000	1400	1000
Z80 08 6172	Yale	Lifting sling green 2000 kg, two-layer		XXX	XXX	XXX	XXX	60	2000	1600	4000	2800	2000
Z80 08 6272				XXX	XXX	XXX	XXX	60	2000	1600	4000	2800	2000
Z80 08 6174	Yale	Lifting sling yellow 3000 kg, two-layer		XXX	XXX	XXX	XXX	90	3000	2400	6000	4200	3000
Z80 08 6274				XXX	XXX	XXX	XXX	90	3000	2400	6000	4200	3000

Round slings / lifting slings

Extremely wear-resistant round lifting slings (EN 1492-2) with seamless, single-layer sleeving.
Application: For lifting and transporting components.

Note: Available up to the following lift ratings: 150 t (polyester), 180 t (Dyneema).

08 6160

Usable length			m	0,5	1	1,5	2	3	4	5	6	Sling width mm	Safe working load direct lift kg	Safe working load looped kg	Safe working load < 7° kg	Safe working load 7° – 45° kg	Safe working load 45° – 60° kg
Z80 08 6140	Yale	Round sling violet 1000 kg		–	XXX	XXX	XXX	XXX	–	–	–	46	1000	800	2000	1400	1000
Z80 08 6240				XXX	XXX	XXX	XXX	XXX	–	–	–	46	1000	1000	2000	1400	1020
Z80 08 6150	Yale	Round sling green 2000 kg		–	XXX	XXX	XXX	XXX	XXX	–	–	46	2000	1600	4000	2800	2000
Z80 08 6255				XXX	XXX	XXX	XXX	XXX	XXX	–	–	48	2000	1600	4000	2800	2000
Z80 08 6160	Yale	Round sling yellow 3000 kg		–	XXX	XXX	XXX	XXX	XXX	–	–	60	3000	2400	6000	4200	3000
Z80 08 6260				XXX	XXX	XXX	XXX	XXX	XXX	–	–	54	3000	2400	6000	4200	3000
Z80 08 6275		Round sling red 5000 kg		–	(XXX)	(XXX)	(XXX)	XXX	XXX	XXX	–	72	5000	4000	10000	7000	5000
Z80 08 6280		Round sling blue 8000 kg		–	(XXX)	(XXX)	(XXX)	(XXX)	XXX	XXX	XXX	90	8000	6400	16000	11200	8000
Z80 08 6285		Round sling, orange, 10,000 kg		–	(XXX)	(XXX)	(XXX)	(XXX)	XXX	XXX	XXX	91	10000	8000	20000	14000	10000
Circumference			m	1	2	3	4	6	8	10	12						

MILLER by Honeywell SKYLOTEC Industry-born. Sports-driven.

Safety harness system

Safety harnesses can be found in our new catalogue Volume **„Personal protective equipment“** from No. 09 8106.

Edge protector for lashing straps

Strong profile edge protector safeguards the load and protects the lashing straps.

For belt width		mm	70
08 6178	Yale Edge protector for lashing straps		XXX
Stock length		mm	135×170

08 6178

Abrasion protection for straps and slings

08 6180 – Abrasion protection, for sliding over straps and slings, length 4×250 mm.
Not suitable for protection against cutting!

08 6290 – Dyneema® edge protection pad, very flexible, extremely resistant to cutting and abrasion.

Application:

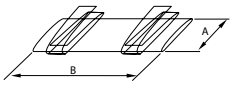
08 6290 – In combination with round slings and lifting slings.

08 6180

Width A		mm	35	50
08 6180	Yale Protective sleeve set 4 pieces, slideable		XXX	XXX
Length		mm	4×250	

Dyneema® is a registered trademark of Royal DSM N. V.

Width A		mm	65	75	100
08 6290	ULTRAPROTECT edge protection pad **with hook-and-loop fastener**		XXX	XXX	XXX
Dimension B		mm	200	200	300
suitable for WLL lifting straps		kg	1000	2000	3000
suitable for WLL round slings		kg	1000 – 3000	4000 – 6000	8000 – 10000



08 6290

Chain hooks, quality class 8

Chain hooks with H-stamp (approval of the German trade association).
High-strength chain hook with fork-head hook with black painted chain.

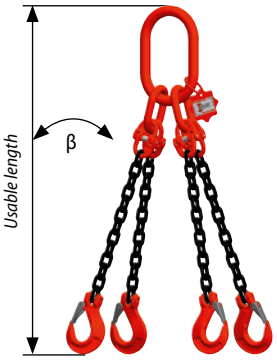
Size A1–A5 – Chain hooks, **can be shortened.** The length of the chain can be reduced using the shortening hook with fork head.

Note: Other sizes and versions (e. g. safety locking hooks) available on request.

Fork head shortening element

08 6425

08 6438_A1



08 6448_1

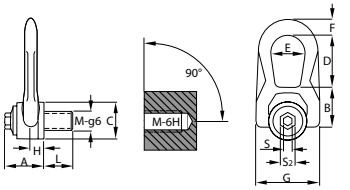
Chain hooks / chain hooks that can be shortened

Usable length	m	1	2	3	4	5	A1	A2	A3	A4	A5	Chain ∅ mm	Safe working load WLL β = 0° kg	Safe working load WLL β = 0° - 45° kg	Safe working load WLL β = 45° - 60° kg
08 6415	Chain hook **1-chain**	XXX	XXX	(XXX)	(XXX)	(XXX)	XXX	(XXX)	(XXX)	(XXX)	(XXX)	6	1120	–	–
08 6416		XXX	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	8	2000	–	–
08 6417		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	10	3150	–	–
08 6418		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	13	5300	–	–
08 6425	Chain hook **2-chain**	XXX	XXX	(XXX)	(XXX)	(XXX)	XXX	XXX	(XXX)	(XXX)	(XXX)	6	–	1600	1120
08 6426		XXX	XXX	(XXX)	(XXX)	(XXX)	XXX	XXX	(XXX)	(XXX)	(XXX)	8	–	2800	2000
08 6427		(XXX)	XXX	(XXX)	(XXX)	(XXX)	(XXX)	XXX	(XXX)	(XXX)	(XXX)	10	–	4250	3150
08 6428		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	13	–	7500	5300
08 6435	Chain hook **3-chain**	XXX	(XXX)	(XXX)	(XXX)	(XXX)	XXX	(XXX)	(XXX)	(XXX)	(XXX)	6	–	2360	1700
08 6436		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	8	–	4250	3000
08 6437		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	10	–	6700	4750
08 6438		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	13	–	11200	8000
08 6445	Chain hook **4-chain**	XXX	XXX	(XXX)	(XXX)	(XXX)	XXX	XXX	(XXX)	(XXX)	(XXX)	6	–	2360	1700
08 6446		(XXX)	XXX	(XXX)	(XXX)	(XXX)	(XXX)	XXX	(XXX)	(XXX)	(XXX)	8	–	4250	3000
08 6447		(XXX)	XXX	(XXX)	(XXX)	(XXX)	(XXX)	XXX	(XXX)	(XXX)	(XXX)	10	–	6700	4750
08 6448		(XXX)	XXX	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	13	–	11200	8000

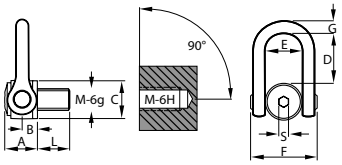
CODIPRO Screw-on attachment eye to EN 1677-1, quality class 8

Compact, high-strength attachment eye for screwing in. Rotates 360° , pivots 180° .

Note:	SF 5:1 = Safety Factor 5. SF 4:1 = Safety Factor 4.



08 6452



08 6453

Thread ∅	08Y 08 6452 DSR attachment eye	Lifting capacity WLL SF 5:1	Lifting capacity WLL SF 4:1	L	S	A	B	C	D	E	F	G
		t	t	mm	mm	mm	mm	mm	mm	mm	mm	mm
M6×1	XXX	0.15	0.2	15	8	33	30	30	38	27	14	53
M8×1,25	XXX	0.4	0.5	15	8	33	30	30	38	27	14	53
M10×1,5	XXX	0.7	0.9	18	8	33	30	30	38	27	14	53
M12×1,75	XXX	1.05	1.3	21	8	33	30	30	38	27	14	53
M14×2	(XXX)	1.4	1.8	23	8	45	40	45	53	38	17	76
M16×2	XXX	2	2.3	27	8	45	40	45	53	38	17	76
M18×2,5	(XXX)	2.3	2.3	27	8	45	40	45	53	38	17	76
M20×2,5	XXX	2.5	2.5	30	8	45	40	45	53	38	17	76
M22×2,5	(XXX)	3.5	4.5	33	14	62	55	60	83	55	25	115
M24×3	XXX	4.4	5.5	36	14	62	55	60	83	55	25	115
M27×3	(XXX)	5.7	6	40	14	62	55	60	83	55	25	115
M30×3,5	XXX	6	6.3	45	14	62	55	60	83	55	25	115

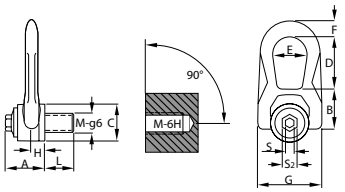
Thread ∅	08Y 08 6453 DSS attachment eye	Lifting capacity WLL SF 5:1	Lifting capacity WLL SF 4:1	L	S	A	B	C	D	E	F	G
		t	t	mm	mm	mm	mm	mm	mm	mm	mm	mm
M30×3,5	(XXX)	7.7	8.5	45	19	61	31	70	104	73	149	33
M33×3,5	(XXX)	8.5	10.5	50	19	61	31	70	104	73	149	33
M36×4	(XXX)	11	12	54	19	61	31	70	104	73	149	33
M42×4,5	(XXX)	13	15	63	19	61	31	70	104	73	149	33
M45×4,5	(XXX)	14.5	16	63	19	61	31	70	104	73	149	33
M48×5	(XXX)	17	20	68	19	79	38	90	125	91	182	45
M56×5,5	(XXX)	22	25	78	19	79	38	90	125	91	182	45

CODIPRO Screw-on attachment eye to EN 1677-1, quality class 8

Compact, high-strength steel Quick Lift DSR attachment eye for screwing in. Rotates 360°, pivots 180°. Time saving of up to 80% compared with screwing in a traditional attachment eye (DSR vs. Quick Lift DSR). **Can be rotated under load.** Easy to use as the system is purely mechanical. Maintenance-free, safe and reliable. The Quick Lift DSR can be fastened in the internal thread in seconds by pressing in the screw head. This is a purely mechanical process based on actuating a spring.

Note:	SF 5:1 = Safety Factor 5.

08 6454



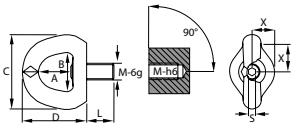
Thread ∅	08Y 08 6454 Attachment eye **Quick Lift DSR**	Lifting capacity WLL SF 5:1	L	S	A	B	C	D	E	F	G
		t	mm	mm	mm	mm	mm	mm	mm	mm	mm
M8×1,25	XXX	0.25	17.5	18	31	30	30	38	27	14	53
M10×1,5	XXX	0.4	19.5	18	31	30	30	38	27	14	53
M12×1,75	XXX	0.65	23	27	40	40	45	53	38	17	76
M14×2	XXX	0.7	23	27	40	40	45	53	38	17	76
M16×2	XXX	1.05	27	27	40	40	45	53	38	17	76
M20×2,5	XXX	1.7	30	40	55	55	60	83	55	25	115
M24×3	XXX	2.5	36	40	55	55	60	83	55	25	115

Swivel eye bolts, quality class 8

High-strength swivel eye bolts, can be rotated through 360°, painted red.

Note: **SF 5:1 = Safety Factor 5.**
SF 4:1 = Safety Factor 4.

Thread ∅	08Y 08 6467 Swivel eye bolt SEB	Lifting capacity WLL SF 5:1	Lifting capacity WLL SF 4:1	L	x	A	B	C	D
		t	t	mm	mm	mm	mm	mm	mm
M8	XXX	0.4	0.5	14	20	30	34	60	57
M10	XXX	0.5	0.7	17	20	30	34	60	57
M12	XXX	0.8	0.9	21	20	30	34	60	57
M16	XXX	1.4	1.8	27	35	38	45	88	80
M20	XXX	2	2.7	30	35	38	45	88	80
M24	XXX	3.2	3.8	36	35	38	45	88	80
M30	XXX	5.5	6.3	45	50	58	70	115	106

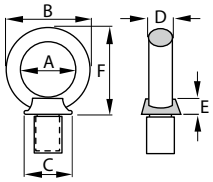


Eye bolts / nuts to EN 1677-1, high-strength, quality class 8

High-strength eye bolt / nut, red paint finish, **safety factor 4.**

Note: Do not place a load on the eye bolt / nut at 90° to the screw thread axis!
SF 4:1 = Safety Factor 4.

Thread ∅	08Y 08 6472 Eye bolt	08Y 08 6477 Eye nut	Lifting capacity WLL SF 4:1	A	B	C	D	E	F	Thread length 08 6472
			t	mm	mm	mm	mm	mm	mm	mm
M6	XXX	XXX	0.4	25	45	25	10	10	45	13
M8	XXX	XXX	0.8	25	45	25	10	10	45	13
M10	XXX	XXX	1	25	45	25	10	10	45	17
M12	XXX	XXX	1.6	35	63	35	14	14	62	21
M16	XXX	XXX	4	35	63	35	14	14	62	27
M20	XXX	XXX	6	50	90	50	20	20	90	30
M24	XXX	XXX	8	50	90	50	20	20	90	36
M30	XXX	XXX	12	60	108	65	24	24	109	45
M36	(XXX)	–	16	70	126	75	28	26	128	54
M42	(XXX)	–	24	80	144	85	32	30	147	63
M48	(XXX)	–	32	90	166	100	38	35	168	68

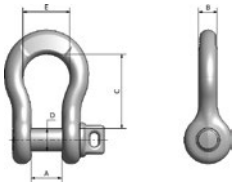


Shackle, quality class 8

Welded shackle with locking screw of high-tensile steel, galvanised surface, **safety factor 6.**

Note: **SF 6:1 = Safety Factor 6.**

Lifting capacity WLL SF 6:1	08Y 08 6482 Shackle	A	B	C	D	E
t		mm	mm	mm	mm	mm
0,5	XXX	12	6	29	8	20
0,75	XXX	14	8	31	10	21
1	XXX	17	10	37	11	26
2	XXX	21	13	48	16	33
4,75	XXX	32	19	71	22	51
8,5	XXX	43	25	95	29	68
12	XXX	52	32	119	35	82
17	(XXX)	61	38	148	42	98
25	(XXX)	73	45	177	51	127

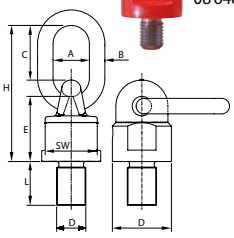


Hoist ring, quality class 8

Screw-on, 360° rotating attachment point for lifting heavy loads, ball-bearing mounted, 100 % crack detection tested, **certified by the DGUV, safety factor 4** in all directions.

Note: **SF 4:1 = Safety Factor 4.**

Thread ∅	08Y 08 6486 Hoist ring	Lifting capacity WLL SF 4:1	A	B	C	D	E	H
		t	mm	mm	mm	mm	mm	mm
M16	XXX	1.12	30	13	46	38	50	105
M20	XXX	2	34	16	57	50	61	131
M24	XXX	3.15	40	18	70	58	68	153
M30	XXX	5.3	45	22	65	75	80	165



Manually operated Neodymium permanent magnets for lifting

Compact, robust design with neodymium permanent magnets. Optimum performance even with large air gaps, no stray fields. Certified break-away force (see **test certificate**).

- 08 5985 – Magnetic field strength ideal for safe lifting of **thin** sheets and steel plates.
- 08 5990 – Fully encapsulated compact and lightweight lifting magnet with safety-locking mechanism. Solid construction with easy action on/off switch. Magnet adhesion surface with 2 longitudinal poles.
- 08 5992 – Sturdy and compact lifting magnet with low overall weight and with safety-locking mechanism. Ergonomic clamping lever permits easy action on/off switching.
- 08 5995 – Easy-action operating handle with safety catch for the switch mechanism. The safety plate permits an advance check of the load to be lifted, guarantees a safety factor of 3:1.

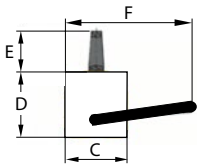
Application: For safe handling and transporting of flat and round materials (No. 085990; 085992; 085995) or of thin flat materials (No. 085985).
For steel or cast iron parts, plates, rods or pipes. For use in warehouses, foundries / steelworks, storage of steel, tool-making, and production areas.

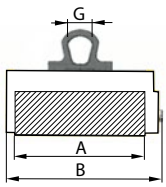
08 5985

08 5990

08 5992

08 5995





maximum loading capacity (10 mm)	08P 08 5985 ECLIPSE MAGNETICS Lifting magnet for thin materials TP	maximum length flat	A	B	C	D	E	F	G	maximum safe working load for flat material thickness 10 mm	maximum safe working load for flat material thickness 8 mm	maximum safe working load for flat material thickness 6 mm	maximum safe working load for flat material thickness 5 mm	Weight
kg		mm	mm	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg	kg
200	XXX	1500	150	202	100	74	51	181	40	200	150	100	75	8
400	XXX	2000	300	352	100	74	51	181	40	400	300	200	150	15

maximum loading capacity (level)	08P 08 5990 SAV Lifting magnet	maximum Ø round	maximum length flat	minimum material wall thickness, flat	minimum material wall thickness, round	A	B	C	D	E	F	G	maximum lifting capacity flat	maximum lifting capacity round	Weight
kg		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	kg	kg
150	XXX	100	2500	2	2	93	155	60	70	50	162	26	150	65	2.6
300	XXX	200	2500	4	4	152	214	100	99	81	231	40	300	150	10
600	XXX	270	2500	6	6	246	300	120	99	81	241	49	600	300	20
1200	XXX	300	3500	10	10	305	359	140	125	112	315	72	1200	600	40
2000	XXX	350	3500	15	15	480	477	165	161	112	499	80	2000	1000	90

maximum loading capacity (level)	08P 08 5992 ECLIPSE MAGNETICS Lifting magnet LM	maximum Ø round	maximum length flat	minimum material wall thickness, flat	minimum material wall thickness, round	A	B	C	D	E	F	G	maximum lifting capacity flat	maximum lifting capacity round	Weight
kg		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	kg	kg
125	XXX	250	1500	20	13	110	150	76	62	54	150	26	125	50	4.5
250	XXX	300	1500	25	17	165	200	90	72	76	210	40	250	100	8.5
500	XXX	400	1500	30	20	225	243	106	88	103	281	49	500	200	17.5
1000	XXX	450	1500	45	30	325	365	136	103	113	391	72	1000	400	36.5
2000	XXX	600	2000	70	47	400	526	186	132	170	483	80	2000	800	79

maximum loading capacity (level)	08P 08 5995 ECLIPSE MAGNETICS Lifting magnet UL Plus	maximum Ø round	maximum length flat	minimum material wall thickness, flat	minimum material wall thickness, round	A	B	C	D	E	F	G	minimum lifting capacity flat	maximum lifting capacity flat	maximum lifting capacity round	Weight
kg		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	kg	kg	kg
125	XXX	200	1500	20	40	101	155	69	74	64	152	26	4	125	50	4
250	XXX	300	1500	25	60	155	214	92	96	94	218	40	11	250	100	11
500	XXX	400	1500	30	60	224	300	122	128	123	266	49	10	500	200	27
1000	XXX	450	1500	45	75	260	359	176	174	140	391	72	–	1000	400	63
2000	(XXX)	600	2000	70	100	368	477	233	227	195	493	80	–	2000	800	157

EFFBE Machine supports, machine mounts

Anti-vibration systems for machines. The decoupling of machines and equipment, which are sensitive to vibration, improves process reliability and accuracy. The inserted elastomers damp body noise, vibration and impacts, and ensure optimum production results with reduced noise levels. All mounts are easy to fit and have levelling adjustment.

Note:	For higher loads and special applications further mounts are available on request. Air support pads available in the online shop under No. 086003 size SLM1 – SLM12.

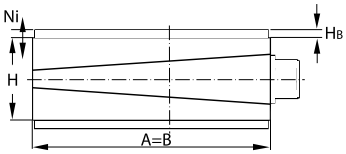
Precision levelling pad

Levelling pad, holds a set level, with **non-slip coating**. Levelling is performed with a wedge actuated by a fine pitch adjusting screw.

Application: For machines without fastening possibility and for machines which require specially stiff mounting.

Note:	Screw-through levelling pads available on request.

08 6001

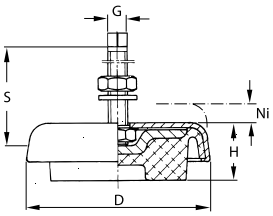


maximum load capacity	daN (kg)	2800	10000
08Y 08 6001	KE precision levelling pad	XXX	XXX
Height H	mm	40	46
Length A	mm	115	200
Width B	mm	115	200
Coating H_W	mm	5	
maximum levelling range (height adjustment Ni)	mm	±4	

Universal machine mount with levelling adjustment

Elastomer metal machine mount in compact design with integrated levelling system using central adjustment screw.

Application: For setting up machines without anchoring to the floor.



maximum load capacity	daN (kg)	480	1200	3000
08Y 08 6002	Machine mount with height adjustment LM	XXX	XXX	XXX
∅ D	mm	80	120	160
Height H	mm	25	32	35
Thread ∅ G		M10	M12	M16×1.5
Screw length S	mm	80	90	100
maximum levelling range (height adjustment Ni)	mm	15	20	20
permissible static load	daN	600	2000	4000
maximum load capacity, lathes and surface grinding machines	kg	220	420	1000
maximum load capacity, milling machines	kg	300	600	1500
maximum load capacity, press brakes	kg	450	1000	2000

08 6002_480

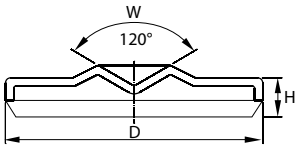
Machine mount without levelling adjustment

Elastomer metal machine mount in compact design, non-slip with angular compensation.

Application: For setting up machines without anchoring to the floor. Height adjustment requires the use of an (external) adjuster on the machine.

08 6004

maximum load capacity	daN (kg)	850	2000
08Y 08 6004	HPRSF machine mount	XXX	XXX
∅ D	mm	80	100
Height H	mm	17	19
Angular compensation W	degrees	120	



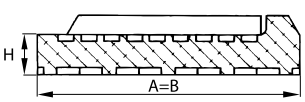
Universal bearing plates

Oil-resistant, non-ageing elastomer body, non-slip. Shore hardness (A) CR 80.

Application: For setting up machines and equipment for which machine mounts and levelling pads are inappropriate. Bearing plates can be cut to size as required.

08 6006

maximum load capacity	daN (kg)	750	1500
08Y 08 6006	Elastomer bearing plate EPA	XXX	XXX
Height H	mm	13	
Length A	mm	70	100
Width B	mm	70	100



Yale Hydraulic range 700 bar

All components and attachments satisfy **metric standard ranges**, which considerably simplifies assembly, service, and the procurement of spare parts.
100 % compatibility with all commercially-available 700 bar hydraulic systems.

Note:	**Closed systems are pre-mounted ex works, filled and air bled.**

Hydraulic hand pumps 700 bar

2-stage hand pump **with rapid movement setting** (except size 1/0.7).
The switch from first to second stage is performed automatically.
With pressure limiting valves adjustable in the range 0 – 700 bar.
All-metal construction with fine-adjustment release valve, bleeding and filling screw and a carrying eye on the operating handle.

Supplied with: Filled with oil, without manometer.

08 6050

Number of steps / Tank volume	litres	1/0,7	2/0,7	2/2	2/4
08Y **08 6050**	Hydraulic hand pump HPS	(XXX)	(XXX)	(XXX)	(XXX)
Number of pressure stages		1	2	2	2
Delivery quantity per no-load stroke (1st stage)	ml	–	11	11	11
Delivery quantity per load stroke (2nd stage)	ml			2	
usable tank volume	ml	700	700	2000	4000
Weight	kg	7	7	10	13

Universal cylinder, single acting, with spring return

Universal cylinders are characterised by extremely **good side load capability,** they are fitted with spring return and have only one hose connection.

Application: For all compression operations where high force has to be developed in a confined space. Ideal for use in jigs and workshop presses thanks to the fitting of metric threaded securing points as standard. **Can be used at any angle.**

Supplied with: Supplied with 3/8 NPT pressure connection. Equipment is supplied ready to use, including connection sleeve, hardened steel load piece (head) and securing thread **without** connection hoses and adaptors.

Note:	For hydraulic hand pump see No. 086050, hydraulic hose No. 086081, pressure gauge No. 086087.

08 6060

Pressure / Stroke	t / mm	5/75	10/50	10/100	10/150	10/250	15/350	23/250	50/160
08Y **08 6060**	Universal cylinder YS	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Lifting height	mm	75	50	100	150	250	350	250	160
Oil volume	ml	53	73	146	218	363	744	830	1135
Cylinder external ∅	mm	42	57	57	57	57	67	85	125
Length retracted	mm	157	125	178	250	352	472	376	285
maximum compressive force	kN	50	100	100	100	100	150	230	500
Weight	kg	1.5	2.1	2.8	4.1	5.5	10	13.5	24

Hollow piston cylinder, single acting, with spring return

Due to their **central through hole**, these cylinders are suitable for applications where a high tensile force has to be exerted via a **threaded spindle**, quick-release connection.

Application: **Pre-loading** of anchor fastenings, **pressing bearings, axles, and shafts in and out**, **pulling off** gear wheels and pulleys, and pulling or moving heavy fabrications.

Supplied with: Supplied with 3/8 NPT pressure connection. Equipment is supplied ready to use, including connection sleeve, hardened steel load piece (head) and securing thread **without** connection hoses and adaptors.

Note: Hydraulic hand pump see No. 086050,hydraulic hose No. 086081.

08 6070

Pressure / Stroke		t / mm	12/40	12/75	21/50	21/150	33/150
08Y 08 6070	Hollow piston cylinder YCS		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Lifting height		mm	40	75	50	150	150
Oil volume		ml	71	132	153	458	716
Cylinder external ∅		mm	70	70	100	100	114
Through hole ∅		mm	20	20	27	27	33
Length retracted		mm	142	195	173	335	343
maximum compressive force		kN	120	120	214	214	335
Weight		kg	3.5	4.5	8.5	15	21

Hydraulic hose, HHC

With hydraulic coupling No. 086085 size M1 (cylinder end) and screw-in connectors 3/8-NPT (pump end). External ∅ 14 mm; internal ∅ 6.3 mm (nominal bore); bursting pressure 2800 bar; minimum bending radius R = 100 mm.

08 6081 – Delivered only with a complete hydraulic system (pump, cylinder, hose) ex works with factory fitting, filling, and air bleeding.

M1 hose end with plug-in connector (cylinder end).

08 6080 / 08 6081

Length		m	1	2	3	6
08Y 08 6080	Spare hydraulic hose HHC		XXX	XXX	XXX	XXX
08Y 08 6081	Hydraulic hose HHC with factory fitting / filling		(XXX)	(XXX)	(XXX)	(XXX)

Hydraulic screw connectors

For versatile connections to hydraulic components.

Supplied with: Supplied with 3/8 NPT pressure connection. Equipment is supplied ready to use, including connection sleeve, hardened steel load piece (head) and securing thread **without** connection hoses and adaptors.

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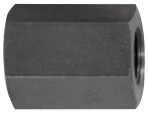

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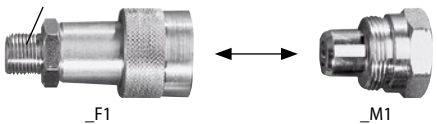
Yale No.		1	5	7	16
08Y 08 6082	Hydraulic screw connector FY	(XXX)	(XXX)	(XXX)	(XXX)
Shape		Double nipple	T-piece	Connection	Adapter
Hydraulic connection 1	inch	3/8	3/8	3/8	3/8
Hydraulic connection 2	inch	3/8	3/8	3/8	M18×1.5

Hydraulic couplings / pressure gauges

For connecting and disconnecting hydraulic cylinders and other components. The clamping nut requires only to be hand-tight, because the connection is self-sealing. In the disconnected condition the inner balls seal the openings, so that no oil can escape. The coupling sleeve is provided with a rubber dust-seal cap.
Coupling sleeves are always supplied with hydraulic cylinders.

Note: **Hydraulic hoses (No. 086080 and 086081) are supplied with coupling plugs.**

3/8-NPT external



_F1 _M1

Format		F1	M1
08Y 08 6085	Hydraulic coupling	XXX	XXX
Shape		Coupling sleeve (F)	Coupling plug
Hydraulic connection	inch	3/8-NPT	3/8-NPT
suitable for		Hose end	Cylinder end

08 6087

The kit comprises the connection block and the suitable glycerine-damped pressure gauge. Oil connection thread 3/8-NPT internal / external. Technical data: ∅ 63 mm; quality class 1.6 %.

Application: The pressure gauge kit is suitable for all manual pumps No. 086050.

Display range		bar	0-1000
08Y 08 6087	Manometer kit GYA-63		XXX

Yale Transport chassis elements

Maintenance-free chassis components for transporting medium-weight loads. The abrasion-resistant nylon wheels with anti-slip rubber coating can be fitted individually or as an entire system.

08 6007 – Version with two captive ball bearings for each fixed wheel.

08 6008 – Version with four freely rotating castor wheels.

08 6007_2,5

08 6007_6

08 6008_1

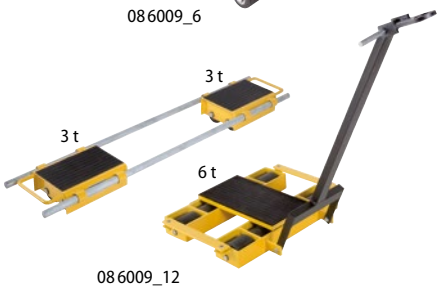
Safe working load	t	1	2,5	6
08Y 08 6007	Chassis element and transport roller type LF **fixed wheels**	–	XXX	XXX
08Y 08 6008	Chassis element and transport roller type LFL **castor wheels**	XXX	–	–
Manufacturer's designation		LFL-1-4	LF-2.5	LF-6
Height	mm	120	100	100
Length	mm	430	275	415
Width	mm	340	120	210
Weight	kg	14	4	12

Three-point heavy load chassis elements for transporting medium-weight loads. With a towbar and a rear chassis element. The two identical rear chassis elements have adjustable connecting rods. Overall load capacity is distributed 50:50 between the front and rear chassis elements.

Supplied with: Three chassis elements, two connecting bars, one towbar.

08 6009_6

Safe working load	t	6	12
08Y 08 6009	Three-point chassis system type LX, with towbar **manoeuvrable**	XXX	(XXX)
Manufacturer's designation		LX-6	LX-12
Front loading area height	mm	115	
Front loading area length	mm	185	400
Width front loading area	mm	150	220
Rear adjustment range from – to	mm	500 – 1400	
Weight	kg	45	80



08 6009_12

Yale DIN steel jack

Geared jack with lifting toe.
Automatic load pressure brake holds the load securely at the desired height.
Steel jack type SJ **with** ratchet crank, satisfies UVV.

Standard: **DIN 7355**

08 6040

Safe working load	t	1,5	3	5
08Y 08 6040	Steel jack SJ	(XXX)	(XXX)	(XXX)
Construction height	mm	725	735	730
Lifting height	mm	1085	1095	1080
Weight	kg	17	20	27

Yale Hydraulic bottle jacks

Robust design with large baseplate for stability, with pressure limiter. Easy-action pump handle with connection for valve control. Head face grooved and can additionally be drilled out for tapping in the centre.

08 6045

Safe working load	t	2	4	6	8	12	20
08Y 08 6045	Hydraulic bottle jack JH	XXX	XXX	XXX	(XXX)	(XXX)	(XXX)
smallest height	mm	181	205	219	225	240	240
Lifting height	mm	115	126	130	152	153	153

Yale Machine lifter with lifting claw

Machine lifter with compact dimensions, the load can be lifted both with the lifting claw and also with the lifting head. High stability, the pump lever can be turned through 270° (not size 2).

_2

_5

_10

_15

Safe working load	t	2	5	10	15
08Y 08 6046	Machine lifter with lifting claw YAM	XXX	XXX	(XXX)	(XXX)
Length	mm	180	257	280	321
Width	mm	125	182	240	258
Height	mm	235	290	325	344
Lifting height	mm	113	120	145	140
Claw length	mm	50	57	60	60
Claw width	mm	50	75	100	110
minimum insertion height	mm	16	26	33	33
automatic spring retraction		no	yes	yes	no
Weight	kg	8	19	38	53

GECHTER Hand lever toggle presses

Sturdy, hollow cast body with large base. Base with 4 holes for attachment to workbench etc. The press tool carriage runs without play on dovetail guides and is adjustable for height. Additionally the press stroke (ram stroke) can also be set by an adjusting screw to give the desired vertical lift. The table has a 10 mm T-slot for attaching clamps.

Size 12; 16 – The lever bolt can be moved to give varying forces and different stroke lengths (see table).

Colour: Light grey RAL 7035.

Application: For embossing, riveting, upsetting, and punching as well as for bending, compressing, and pressing in bushes etc.

Note: Hand lever presses with air support available in the online shop under No. 086761.

08 6760_12

Type		2,5	5	12	16
08V 08 6760	Hand lever toggle press	XXX	XXX	XXX	XXX
Force for long stroke	kN	–	–	16	24
Force for short stroke	kN	8	14	20	32
Stroke length long	mm	0 – 42	0 – 40	0 – 45	0 – 58
Stroke length short	mm	–	–	0 – 25	0 – 25
Throat	mm	90	90	120	160
Installation height	mm	70 – 190	70 – 195	75 – 240	100 – 320
Mounting hole in the slide ram	mm	10 H 7	10 H 7	10 H 7	15 H 7
Table width	mm	150	180	200	325
Table depth	mm	100	110	170	230
T-slot to DIN 650		1 pc. size 10	1 pc. size 10	1 pc. size 10	2 pcs. size 10
Height without hand lever	mm	320	420	500	710
Footprint width	mm	150	180	180	300
Footprint depth	mm	200	240	310	420
Weight	kg	11.5	20	32	79

GECHTER Travel stop for hand lever toggle presses

Travel stop for quick and easy fitting to hand lever toggle presses (No. 086760).

Application: Where exact embossing, bending, riveting, and cutting work is required, the travel stop ensures that the press ram reaches precisely the bottom of its stroke (i. e. the operator knows he has to push the ram through to the stop).

- **Process and quality monitoring.**
- **Minimises operator error.**

A travel stop is fitted to the press

08 6770

Type		2,5	5	12	16
08V 08 6770	Travel stop	XXX	XXX	XXX	XXX

Arbor presses

Sturdy, hollow cast body of special cast iron with large base. Base with mounting holes for attaching to the support (workbench / subframe No. 086795). Rack and pinion slide ram of wear-resistant steel for the heaviest duties. Precise operation due to hardened and polished rack and pinion slide ram with long guides. Rotating table with four different recesses for the support of different workpieces. Slide ram actuation by lever arm.

Size 3B – Includes handwheel and ratchet. **Including retainer and retraction springs.**

Colour: Light grey RAL 7035.

Application: For pressing in and pressing out sleeves, ball bearings, arbors, pins, bolts etc. Also for broaching work as well as use of simple cutting and stamping tools.

08 6790_0–_3A

08 6790_3B

Type		0	1	2	3A	3B
08V 08 6790	Arbor press	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
maximum pressure delivery	kN	5.11	6.57	8.1	8.95	7.62
Slide bar ∅	mm	28	36	42	48	48
Throat to slide ram centre	mm	100	104	164	230	230
maximum slide ram stroke	mm	110	200	300	400	400
Cast body height	mm	260	400	545	700	700
for workpiece ∅ up to	mm	180	200	320	450	450
Slit width of the support table	mm	10/15/20/25	10/15/22/30	15/25/35/50	25/45/65/85	25/45/65/85
Footprint width	mm	130	172	198	250	250
Footprint depth	mm	195	277	358	480	480
Weight	kg	11	25	45	92	100

Suitable for: Arbor presses No. 086790 sizes 2, 3A, and 3B.

08V 08 6795	Stand for arbor press	(XXX)
Height	mm	755
Width	mm	510
Depth	mm	524
Number of storage compartments		2
Weight	kg	55

08 6795

Paintbrushes

Brush – painting

Pure **black Chinese bristle**, 90% tops, unpainted wooden handle.

08 7000

08 7010

08 7030

∅ mm		20	25	30	35	40	50	60	65	75	80	
08R 08 7000	Professional round brush **for high-quality paintwork**	XXX	XXX	XXX	XXX	–	–	–	–	–	–	12
08R 08 7010	Professional flat brush **for solvent-based media**	XXX	–	XXX	–	XXX	XXX	XXX	–	–	XXX	12
08R 08 7030	Professional radiator brush **for high-quality paintwork**	–	XXX	–	XXX	–	XXX	–	XXX	XXX	–	12

Brush – all-rounder for varnishing and painting

Artificial bristles mix, unpainted wooden handle.

08 7003

08 7021

∅ mm		20	25	30	35	40	50	60	80	
08R 08 7003	Universal ring brush **for water-based media**	XXX	XXX	XXX	XXX	–	–	–	–	12
08R 08 7021	All-rounder flat brush **for water-based media**	–	–	XXX	–	XXX	XXX	XXX	XXX	12

Brush – wall, ceiling, & façade paints

Surface covering brush of PBT natural bristles mix, graduated, vulcanised. Natural bristles: approx. 70 % tops, 2× cooked, bristle length 61 mm.

08 7082

08R 08 7082	Professional surface covering brush, 100×30 mm	XXX	1

NEW

Ring brush, "No Loss", tight, extremely sturdy PET plastic bristles prevent bristle loss.

08 7073

∅ mm		20	25	30	35	40	45	
08R 08 7073	Ring brush	XXX	XXX	XXX	XXX	XXX	XXX	24

Brush – industrial & one-off applications

Brush for industry and simple work. Pale Chinese bristle.

08 7005

08 7025

08 7035

∅ mm		20	25	30	35	40	50	60	
08R 08 7005	Industrial round brush	XXX	–	XXX	–	–	–	–	12
08R 08 7025	Industrial flat brush	–	–	XXX	–	XXX	XXX	XXX	12
08R 08 7035	Industrial radiator brush	–	XXX	–	XXX	–	XXX	XXX	24

Brush – special applications

08R 08 7070	Paint stripping brush, nylon bristles, ∅ 35 mm	XXX	12
08R 08 7071	Lining-out brush, pale Chinese bristle, size 8, ∅ 4 mm	XXX	12

Other brushes and accessories for special applications can be found in the online shop.

08 7070

08 7071

Paint rollers and accessories

Roller – painting

Length cm		5	10	12	18		Pile height mm
08R 08 7135	Polyester roller for water-based paints and glazes	XXX	XXX	XXX	XXX	10	5
08R 08 7150	Foam roller for paints and glazes	–	–	XXX	–	10	–
08R 08 7155	Foam roller for sealants and adhesives	XXX	XXX	–	–	10	–

08 7135

08 7150

08 7155

Roller – wall, ceiling and façade paints

08 7156 – Planotex Q4 for a fine finish on all smooth substrates of the Q4 class, such as plasterboard and fine plaster.

08 7157 – Polytron black line roller for structure-free finish for all smooth surfaces with highly pigmented colours.

08 7110/7115 – Duotex universal roller for slightly structured to rough surfaces, high area coverage.

08 7110

08 7115

Length cm		5	10	25	27		Pile height mm
08R 08 7110	Durotex paint roller	–	–	XXX	XXX	10	18
08R 08 7115		XXX	XXX	–	–	10	13
08R 08 7156	Planotex Q4 paint roller	–	–	XXX	–	12	15
08R 08 7157	Polytron paint roller	–	–	XXX	–	12	12

08 7156

08 7157

Roller – coatings (2 component, epoxy resin, sealants, liquid plastics)

08 7158 – For high-quality coatings on wood and steel, especially parquet lacquers, oils, water-based acrylic and PU paints.

08 7140/7145 – **Textured nylon,** tough and solvent-resistant, for synthetic resin-based paints, anti-corrosion paints, epoxy, and 2-component paints.

08 7140

08 7145

Length cm		10	25		Pile height mm
08R 08 7140	Paint roller for solvent-based paints and glazes	XXX	XXX	10	13
08R 08 7145		XXX	XXX	10	6
08R 08 7158	Varnish parquet sealing roller	XXX	XXX	10	9

08 7158

suitable for roller length cm		5-7	10-12	18-20	25-27	
08R 08 7165	Spindle for rollers, galvanised steel rod	XXX	XXX	XXX	XXX	10

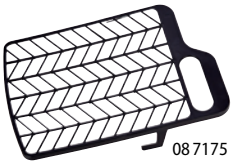
08 7165_5-7

08 7165_18-20

Type		15-27	33-34	
08R 08 7170	Paint tray, plastic	XXX	XXX	20

08 7170

Type		11×20	27×29	
08R 08 7175	Roller scraper, plastic	XXX	XXX	20


08 7175

Width m		0,55	1,4	2,4	Length m	Film thickness µm	Use on substrates	can be removed without leaving a mark up to d
08R 08 7202	Covering film with crepe tape	XXX	–	–	33	9	smooth, slightly rough for interior	7
08R 08 7205	Covering film with fabric tape	XXX	XXX	XXX	20	9	rough, for indoors and outdoors	21
		5	5	3				

08 7202_0.55

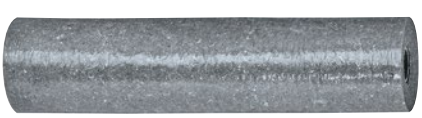
08 7205_2.4

width×length m		4×5	4×12,5	Colour
08R 08 7212	Tarpaulin HDPE, 10 µm	XXX	XXX	transparent
08R 08 7215	Tarpaulin LDPE, 30 µm	XXX	XXX	transparent

08 7212

08 7223

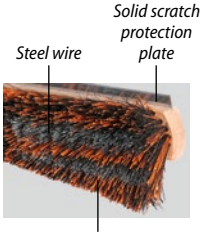
Width×length m		1×10	1×50	1×25	Weight per unit area g/m²	Colour
08R 08 7223	Absorbent fleece cover, self-adhesive	–	–	XXX	130	white
08R 08 7225	Absorbent fleece cover, non-slip	XXX	XXX	–	220	grey


08 7225

Nölle PROFI BRUSH Industrial indoor and outdoor brooms

08 7510 – Wooden head with hole for handle ∅ 24 mm. For smooth floors and fine dirt.
08 7515 – Wooden head with hole for handle ∅ 24 mm. Strong black vegetable fibre, water-resistant, for coarser dirt.
08 7520 – Wooden head with hole for handle ∅ 24 mm. For coarse dirt, water-resistant, extremely durable.
Size 800 – With screw-on heavy metal handle holder.
08 7526 – **X-bristles,** with screw-on universal broom handle socket for handle ∅ from 22 – 28 mm for universal use.
08 7528 – Wooden head with hole for handle ∅ 24 mm. For medium-coarse and coarse dirt, water-resistant.
08 7530 – Saddle wood with hole for handle ∅ 24 mm, fully fitted. For coarse dirt. **Natural coconut fibre**.
08 7531 – Wooden head with hole for handle ∅ 24 mm. Improved brushing performance. New long-life **Poly-Kokos®** material.
08 7532 – Flat wood **with scratch protection plate** and handle holder for handle ∅ 28 mm. For very coarse dirt and **metal chips.**

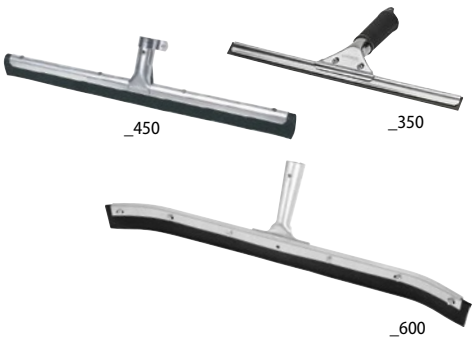
Length		mm	400	600	800
08R 08 7510	Industrial floor broom **Good quality mixture**		XXX	XXX	–
08R 08 7515	Industrial floor broom **Arenga**		XXX	XXX	–
08R 08 7520	Industrial floor broom **Elastomer**		XXX	XXX	XXX
08R 08 7528	Industrial floor broom **Arenga-elastomer mixture**		XXX	XXX	XXX
08R 08 7530	Industrial floor broom **Natural coconut fibre**		XXX	XXX	–
08R 08 7531	Industrial floor broom **Polymer coconut fibre®**		XXX	XXX	–
08R 08 7526	Industrial floor broom **Elastomer**		XXX	–	–
08R 08 7532	Industrial yard broom **Arenga-elastomer-steel wire mixture**		XXX	–	–



08 7526

Nölle PROFI BRUSH Rubber wiper / water squeegee

Size 450 – Galvanised metal frame. Double synthetic foam rubber strips (synthetic rubber lip No. 087506 size 450).
Size 600 – Professional water squeegee, curved galvanised metal frame. With 5 mm hard rubber lip for water, slush, sludge, snow, shards, sawdust, etc.
Size 350 – Professional window-wiper, **stainless steel**, non-slip handle, replaceable rubber lip.



Length		mm	350	450	600
08R 08 7505	Rubber wiper / water squeegee		XXX	XXX	XXX
suitable for handle ∅		mm	–	24	28

Nölle PROFI BRUSH Broom handles / device handles, broom handle holders

Wooden handle with round head, sanded smooth.
Available only in Germany, Austria and Switzerland.
Size 24 – Broom handle of specially stiff and robust hardwood.
Size 28 – Round head with taper. Suitable for hole for handle ∅ 24 mm and handle holder ∅ 28 mm.

08 7535_24

08 7535_28

Handle ∅		mm	24	28
08R 08 7535	Broom / device handles set **10 pieces**		XXX	XXX

Handle ∅		mm	24
08R 08 7537	Telescopic shaft for length adjustment		XXX

suitable for handle ∅		mm	24-28
08R 08 7539	Universal broom handle holder		XXX

08 7537
For use with brooms only in combination with No. 08 7539.

08 7539

Nölle PROFI BRUSH Workbench hand brushes

Straight wooden body with rounded edges to the handle. Brush area approx 150×40 mm, bristle length 70/60 mm.

Length		mm	280	420
08R 08 7552	Workbench hand brushes **Natural coconut fibre**		XXX	XXX
08R 08 7553	Workbench hand brushes **Polymer coconut fibre®**		XXX	XXX
08R 08 7554	Workbench hand brushes **Good quality mixture**		XXX	–
08R 08 7556	Workbench hand brushes **Arenga-elastomer mixture**		XXX	XXX

Workbench dustpan

08 7568 – Metal, painted black, slim design with wooden handle.
08 7570 – Metal, hot dip galvanised, standard model with wooden handle.
08 7572 – Stainless steel, lightweight model with rubber lip.
08 7574 – Professional dustpan of stainless steel, **sheet metal thickness 0.8 mm.**

08 7568 08 7570

				Overall length mm	Length of dustpan mm	Width of dustpan mm
08R 08 7568		Workshop dustpan, narrow	XXX	395	170	105
08R 08 7570	Nölle PROFI BRUSH	Workshop dustpan	XXX	420	230	230
08R 08 7572		Workbench dustpan, stainless steel	XXX	380	230	230
08R 08 7574		Professional dustpan, stainless steel, **0.8 mm sheet metal thickness**	XXX	460	250	230

08 7572 08 7574

Nölle PROFI BRUSH Metal buckets and builder's buckets

08 7580 – Metal bucket, galvanised metal handle and wooden grip.
08 7582 – Plastic bucket, sturdy version.
With measurement markings and heavy metal handle.

08 7580_10 08 7582_20

Contents	l	10	12	20
08R 08 7580	Bucket, metal galvanised	XXX	–	–
08R 08 7582	Builder's bucket, plastic	–	XXX	XXX

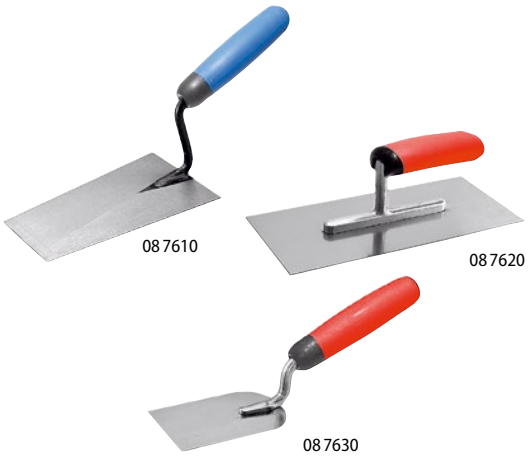
Plaster mixing bowl

Rubber mixing bowl (soft rubber), conical shape.

maximum ∅	mm	125
08R 08 7680	Plaster mixing bowl	XXX

Trowels

Flexible blade of **stainless** steel, Comfort-Soft Handle®.
08 7620 – Cast aluminium spine with 4 welded pins.



08 7610 08 7620 08 7630

Length	mm	180	Length mm	Width mm	Thickness mm
08R 08 7610	Brick trowel, rustproof	XXX	180	120	1.2

			Length mm	Width mm	Thickness mm
08R 08 7620	Plasterer's trowel, rustproof	XXX	280	130	0.7

Width	mm	60	Length mm	Width mm	Thickness mm
08R 08 7630	Trowel, rustproof	XXX	100	60	0.8

Paint scraper

08 7650 – Flexible blade of **rust-proof** steel strip, flat-oval wooden handle.
08 7652 – Flexible blade of **stainless** steel, plastic handle with soft grip.

08 7650 08 7652 08 7660

Width	mm	30	40	50	60	80	100
08R 08 7650	Scraper, wooden handle	XXX	XXX	XXX	XXX	XXX	XXX
08R 08 7652	Scraper, stainless, plastic handle	–	XXX	–	XXX	–	–

Number of scrapers in the set		4
08R 08 7660	Japanese scraper set	XXX
Supplied with: 1 each Japanese scraper of width		50 ; 80 ; 100 ; 120 mm

			Width mm
08R 08 7670	Filling spatula	XXX	24

08 7670

3M High performance cleaning and polishing cloths

With **patented polyester and nylon fibre combination**. The grease and dirt absorption is up to 100 times higher than with conventional cleaning cloths. Washable at up to 95 °C; size 360×320 mm; can be used with and without cleaning chemicals. Suitable for dry, moist or wet cleaning.

Application:

Size BLUE – Extremely economical **cleaning** of all surfaces. Ideal for optical equipment and for intermediate cleaning of ground surfaces.

Size YELLOW – For **cleaning and polishing work** on all surfaces such as chromium, stainless steel, plastic, glass etc. Very high liquid absorbency. Ideal for varnished surfaces. Leaves polished surfaces free of lint and streaks, without creating micro-scratches on the surface.

_BLUE

_YELLOW

Colour		BLUE	YELLOW	
08M 08 9190	Cleaning cloth	XXX	XXX	5
Colour		blue	yellow	
Version		High-performance cleaning cloth	Premium polishing cloth	

SCHWEIZER Optics cleaning set

Special very soft lint-free dry cloth together with a gentle cleaning solution for all lenses and magnifying glasses, of glass or plastic.

49A 08 9199	Optics cleaning set	–

Cleaning wipes dispensers and accessories

08 9160 Size F1 – Stable **floor stand** with rollers, metal frame.

Size W1 – Stable **wall-mounted holder** including fastening materials.

Size W2 – Robust **inside roll dispenser** of impact resistant plastic. Dispenses individual wipes.

Size W4 – Hygienic **individual wipe dispenser.** One wipe with every pull.

Size W8 – Small and handy **wall dispenser**, designed for small spaces and quick removal of individual cloths.

08 9161 – **Rubbish bag holder** with sturdy baseplate for attachment to paper roll holder No. 089160 size F1. **Secure mounting for all commercially-available rubbish bags** (120 litres), No. 089175. Supplied without rubbish bag.

08 9160 Size F1; W1 – For paper rolls with sleeve Ø 71 - 73 mm. Maximum width 43 cm.

Ideal for flexible workstations – place the mobile dispenser where you need it.

089160_F1

089161_F1

089161_F1 supplied without paper roll holder, paper roll and rubbish bag.

089160_W1

089160_W2

089160 _W4

089160_W8

Manufacturer's designation			F1	W1	W2	W4	W8
08T 08 9160	TORK	Performance **Paper roll holder / dispenser**	XXX	XXX	XXX	XXX	XXX
08T 08 9161		Performance **Rubbish bag holder**	XXX	–	–	–	–

Rubbish bags, PE, capacity 120 litre, size 700×1100 mm, thickness 0.07 mm, colour blue.

08T 08 9175	Rubbish bags 120 litre, **roll of 25 bags**	XXX

089175

Wiping cloths and cleaning wipes

Wide range of special wipes for wiping and cleaning.
Each wipe has been designed for a specific task.
With the appropriate hygienic dispenser, you obtain an efficient system.

Wiping

Using the correct wiping cloth will enable you to mop up leaked or spilled liquids much more efficiently and effectively and wipe away dirt and dust. Your hands are protected against contamination and heat.
Wiping cloths available as a roll or as individual cloths.

The right wipe for every application

		Strong	High absorbency	Oil + Water	Low-linting
For simple wiping tasks, 2-layer	08 9101 08 9103	●○○○○	●●○○○	●●○○○	●●●●○
For heavy wiping tasks, 2-layer	NEW 2x 750 08 9130 2x 750 08 9125 1x 1000 08 9105	●○○○○	●●●○○	●●○○○	●●●●○
For extra heavy wiping tasks, 2-layer	NEW 2x 500 08 9131 NEW 1x 1000 08 9132	●●○○○	●●●●○	●●●●○	●●●●●
For challenging wiping tasks, 3-layer	08 9126 1x 750 08 9127	●●●○○	●●●●●	●●●●●	●●●●●
Allrounder for wiping and cleaning tasks	NEW 2x 350 08 9136	●●●○○	●●●●●	●●●●●	●●●●○

			W	Width mm	Length mm	suitable for holder / dispenser
08T 08 9101	TORK	Standard paper wipes, set **2-part set**	XXX	230	350	W1, W2
08T 08 9103			XXX	370	340	F1, W1
08T 08 9105		Industrial paper wipes	XXX	370	340	F1, W1
08T 08 9125		Strong multi-purpose paper wipes, set **2-part set**	XXX	235	340	F1, W1, W2
08T 08 9130		Strong multi-purpose paper wipes, set **2-piece (blue)**	XXX	235	340	W1, W2
08T 08 9131		Extra strong multi-purpose paper wipes	XXX	235	340	W1, W2
08T 08 9132		Extra strong multi-purpose paper wipes (blue)	XXX	370	340	W1
08T 08 9126		Extra strong industrial paper wipes, set **5-part set**	XXX	385	325	W4
08T 08 9127		Extra strong industrial paper wipes	XXX	370	340	F1, W1

08 9197 – **Industrial wipers** for metal surfaces, double-sided, with **micro-dots** on one side to move the dirt and a smooth surface on the other side for wiping down. Low-linting, kind to the skin, satisfy the requirements of the Cosmetics Directive EC 1223/2009, gentle to surfaces, good absorbency.

08 9198 – Use for cleaning hands, tools, and surfaces. For removal of general dirt, oils, greases, oil and water paints, semi-hardened wet sealants (acrylic and silicone), expanding PU foams and more.

			1	Perfora-tions	Width mm	Length mm	suitable for holder / dispenser
08J 08 9197	SCHOELLER INDUSTRIES	Moist industrial wiping cloths	XXX	80	200	220	Dispenser bucket
08J 08 9198		Moist bamboo wipes	XXX	25	20	25	Dispenser bucket

08 9197

08 9198

Cleaning wipes

Cleaning refers to the process of removing stains/spots and contamination from surfaces, machines or tools using wipes which are used either dry or with water, solvents or cleaning agents.

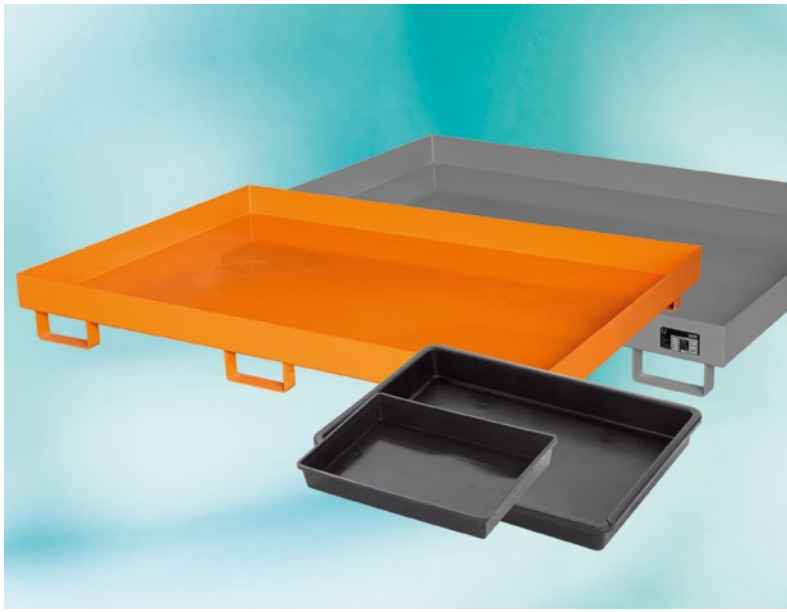
Cleaning

The right wipe for every application.

	Strong	Flexible	Solvent compatible	Removes oil	Low-linting
Low-linting cleaning wipes	●●●○○	●●●●●	●●●●●	●●●○○	●●●●●
Extra low-linting industrial cleaning wipes	●●●○○	●●○○○	●●●●●	●●○○○	●●●●●
Standard cleaning wipes	●●●○○	●●●●●	●●●●○	●●●●○	●●●○○
Industrial cleaning wipes	●●●○○	●●●●○	●●●●○	●●●●●	●●●○○
Extra strong cleaning wipes	●●●●○	●●●○○	●●●●○	●●●●●	●●●○○
Extra strong industrial cleaning wipes	●●●●○	●●○○○	●●●●○	●●●●●	●●●○○
Moist cleaning wipes	●●●●○	●●●●○	–	–	●●●○○

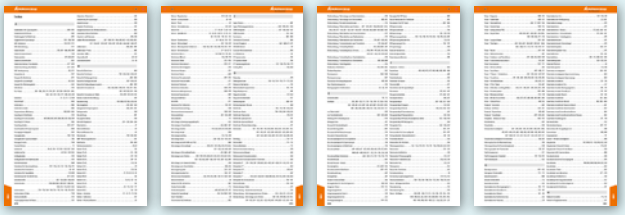
08 9134 08 9135 08 9180 08 9137 08 9184 08 9181 08 9182 08 9145 08 9146 08 9185 08 9148 08 9183 08 9196 08 9133

		R	Perforations	Width mm	Length mm	suitable for holder / dispenser
08T 08 9134	Extra low-linting cleaning wipes, set **8-part set**	XXX	8×75	300	385	Small pack
08T 08 9135	Extra low-linting cleaning wipes	XXX	500	275	360	F1, W1
08T 08 9180	Low-lintingcleaning wipes set	–	4×200	165	300	W1
08T 08 9137	Low-linting industrial cleaning wipes, set **5-part set**	XXX	5×80	324	390	W4
08T 08 9184	Cleaning wipes	XXX	400	320	380	W1, W2, W3
08T 08 9181	Industrial cleaning wipes	XXX	390	320	380	W1, W2, W3
08T 08 9182		XXX	8×55	385	320	W8
08T 08 9145		XXX	280	355	430	Handy box
08T 08 9146		XXX	950	430	380	F1, W1
08T 08 9185	Extra strong cleaning wipes	XXX	200×50	355	430	W7
08T 08 9148	Extra strong industrial cleaning wipes	XXX	160	320	380	F1, W1, W2
08T 08 9183		XXX	5×65	355	430	W4
08T 08 9196	Moist surface cleaning wipes	–	58	270	270	Dispenser bucket
08T 08 9133	Moist surface cleaning wipes refill	–	58	270	270	Dispenser bucket



CLEANING AND ORGANISING AT WORK

For more innovative and practical collection systems, cleaning systems and storage systems see our new catalogue volume 3 – **Workstations and Storage.**



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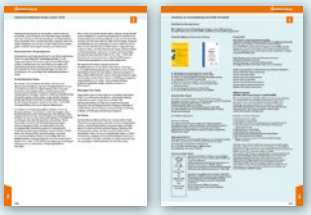

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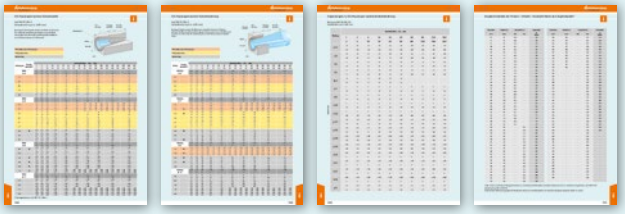

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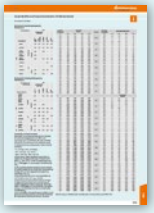

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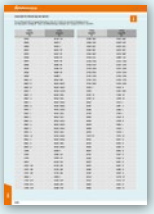

Changed catalogue numbers, numbers and sizes that differ from catalogue 51 1200

Fax templates,
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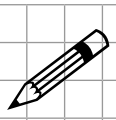


Notes on the statutory framework and commercial ethics

Certified environmental protection.

**We protect our environment and save our resources.
Therefore we are certified to ISO 14001 for Environmental Management.**

Protect the environment, conserve resources.

- TÜV-certified power management to ISO 5001*.
- TÜV-certified environmental management to ISO 14001*.
- Environmentally and socially responsible production conditions worldwide.
- Longevity due to highest product quality.
- Optimised packaging, logistics, and transport concepts.
- Implementation of state-of-the-art energy concepts in business buildings.
- Responsible handling of hazardous substances.
- CO_2 neutral letter posting with Deutsche Post GOGREEN.

Hazardous substances / REACH

We provide you with safety data sheets with information on the substances contained in the products, so as to comply with the requirements of the REACH regulations (**R**egistration, **E**valuation, **A**uthorisation of **CH**emicals): Directive (EC) No. 2008/1272.
Our product range contains no Substances of Very High Concern (SVHC).
You can download the safety data sheets from the **Download** area on our website:

www.hoffmann-group.com

Information on deliveries:

For some products we are prevented by law from offering express delivery (by air freight) outside Germany.
These products are indicated by a special note in the catalogue.
Certain products can currently not be delivered to some countries in Europe.

Electrical equipment (ElectroG)

Electrical equipment can be returned to us when it is not used any more.
We will dispose of the appliances properly or recycle them according to the statutory provisions.
We are registered on the **E**lektro-**A**ltgeräte-**R**egister **(EAR)** for handling end-of-life electrical devices.
Our WEEE registration number is: DE 53879614

Batteries and rechargeable batteries (BattG)

Pb:
Battery contains lead
Cd:
Battery contains cadmium
Hg:
Battery contains mercury

You can return old batteries to us at any time.
We will undertake the environmentally friendly recycling of the materials.
We are registered as manufacturer number 21002002 in the register held by the Federal German Environment Agency.
We are registered as user contract number 110002 1806 with the Common Acceptance of Returned Batteries System (GRS) foundation.

The directive 2006/66/EU creates a statutory duty to issue instructions: When old batteries cease to be used they must be delivered to an appropriate collection point.
You can also return old batteries to the place from which they were purchased.
The crossed-out wheelie bin means: Batteries must not be disposed of in unsorted domestic waste.

Packaging Act (VerpackG)

Under the German Packaging Act (VerpackG) we participate in the dual waste separation system and we are registered on the packaging register LUCID under the number DE3394933750264.
We restrict the volume of packaging to what ever is really necessary and we promote re-usable materials.

Hazardous substances

Polycyclic aromatic hydrocarbons

Polycyclic aromatic hydrocarbons (PAH) are hazardous substances.
In collaboration with the TÜV-Süd, we test that our products are free from toxins. In doing so we commit ourselves voluntarily to the strict limits that are also used for the award of the TÜV-tested safety kitemark (TÜV-GS).
Thus we ensure that our products can be used without any reservations.

RoHS (**R**estriction **o**f the use of certain **H**azardous **S**ubstances) directive 2015/863/EC and 2011/65.
Our products conform with the RoHS directive.
We comply with the current statutory regulations.

Moreover, we comply with the following regulations:
Directive 2012/19/EC (WEEE).
Directive 2003/11/EC (flame retardants).
Directive 2017/1000/EC (PFOS).
Directive 2012/607/EC (packaging wood).
Directive 2009/251/EC (dimethyl fumarate).
Directive 2009/1005/EC (ozone layer).

Ethical trade: SA 8000, UN Global Compact, and ISO 26000

For decades, Hoffmann employees have been visiting suppliers at their works. This is part of our pattern of regular supplier evaluations.
As part of our compliance with the international standard SA 8000 in respect of conditions of employment and working conditions, we assess suppliers in this respect.
The SA 8000 standard is based on the conventions of the "International Labour Organisation (ILO)", the "Universal Declaration of Human Rights" and the "UN Convention on the Rights of Children".

We require that our suppliers comply with the following:

- Employment of children is not allowed.
- Forced labour is not allowed.
- Health and Safety at the workplace must be guaranteed.
- The right of employees to organise and bargain collectively must be guaranteed.
- Discrimination is not allowed.
- Punitive measures are not allowed.
- Compliance with the working hours regulations is ensured.
- Laws on minimum wages must be complied with.
- Management systems must effectively ensure compliance with these conditions.

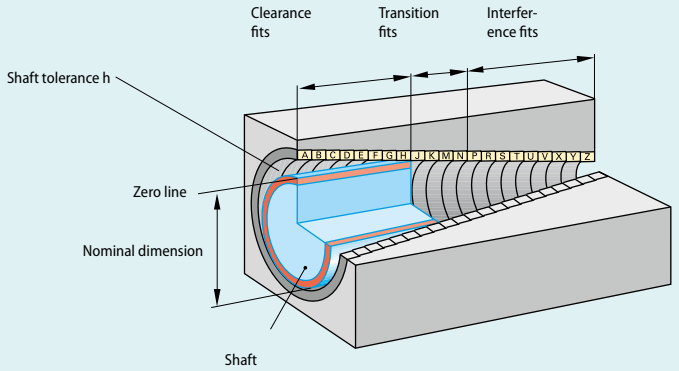
The UN Global Compact additionally includes commitments to protecting the environment and combating corruption. We are concerned to show social responsibility and to monitor our suppliers closely to see they do the same.
Furthermore we comply with ISO 26000 guidelines.
These guidelines give information on how socially responsible behaviour in respect of strategies, systems, procedures and processes can be incorporated in an organisation. We also comply with the Dodd-Frank Act (conflict materials) and we have agreed this with our suppliers. We ensure that all our German companies comply with the regulations regarding the minimum wage, and that our subcontractors also comply insofar as the regulations apply to them.

* Does not apply for all subsidiaries/partners of the Hoffmann Group.

ISO system of standardised fits for shafts

(see DIN ISO 286-2)
Size limits in µm (= 0.001 mm).

In the standardised shaft system, all shafts are given h tolerances. The largest dimension of a shaft is taken as both the zero line and the nominal size. The smallest dimension is smaller than the nominal size by the amount of the tolerance.



Interference fit (press fit)
Transition fit
Clearance fit

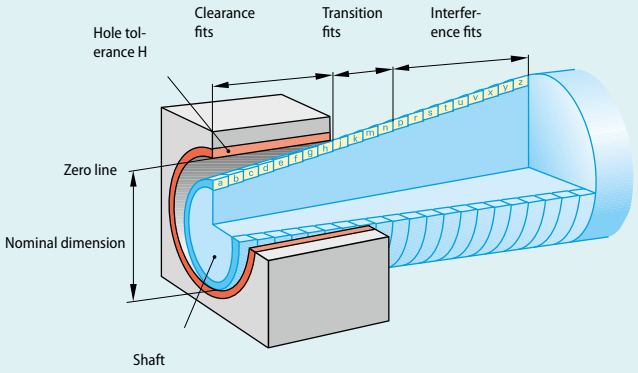
Holes	Preferred fit*)	Nominal dimension over . . . to . . . mm																			
		1	3	6	10	14	18	24	30	40	50	65	80	100	120	140	160	180	200	225	
		3	6	10	14	18	24	30	40	50	65	80	100	120	140	160	180	200	225	250	
Shaft h 5		0	0	0	0		0		0		0		0		0			0			
		-4	-5	-6	-8		-9		-11		-13		-15		-18			-20			
P 6		-6	-9	-12	-15		-18		-21		-26		-30		-36			-41			
		-12	-17	-21	-26		-31		-37		-45		-52		-61			-70			
N 6		-4	-5	-7	-9		-11		-12		-14		-16		-20			-22			
		-10	-13	-16	-20		-24		-28		-33		-38		-45			-51			
M 6		-2	-1	-3	-4		-4		-4		-5		-6		-8			-8			
		-8	-9	-12	-15		-17		-20		-24		-28		-33			-37			
J 6		+2	+5	+5	+6		+8		+10		+13		+16		+18			+22			
		-4	-3	-4	-5		-5		-6		-6		-6		-7			-7			
H 6		+6	+8	+9	+11		+13		+16		+19		+22		+25			+29			
		0	0	0	0		0		0		0		0		0			0			
Shaft h 6		0	0	0	0		0		0		0		0		0			0			
		-6	-8	-9	-11		-13		-16		-19		-22		-25			-29			
S 7		-14	-15	-17	-21		-27		-34		-42	-48	-58	-66	-77	-85	-93	-105	-113	-123	
		-24	-27	-32	-39		-48		-59		-72	-78	-93	-101	-117	-125	-133	-151	-159	-169	
R 7		-10	-11	-13	-16		-20		-25		-30	-32	-38	-41	-48	-50	-53	-60	-63	-67	
		-20	-23	-28	-34		-41		-50		-60	-62	-73	-76	-88	-90	-93	-106	-109	-113	
N 7		-4	-4	-4	-5		-7		-8		-9		-10		-12			-14			
		-14	-16	-19	-23		-28		-33		-39		-45		-52			-60			
M 7		-2	0	0	0		0		0		0		0		0			0			
		-12	-12	-15	-18		-21		-25		-30		-35		-40			-46			
K 7		0	+3	+5	+6		+6		+7		+9		+10		+12			+13			
		-10	-9	-10	-12		-15		-18		-21		-25		-28			-33			
J 7		+4	+6	+8	+10		+12		+14		+18		+22		+26			+30			
		-6	-6	-7	-8		-9		-11		-12		-13		-14			-16			
H 7	●	+10	+12	+15	+18		+21		+25		+30		+35		+40			+46			
		0	0	0	0		0		0		0		0		0			0			
G 7		+12	+16	+20	+24		+28		+34		+40		+47		+54			+61			
		+2	+4	+5	+6		+7		+9		+10		+12		+14			+15			
F 7		+16	+22	+28	+34		+41		+50		+60		+71		+83			+96			
		+6	+10	+13	+16		+20		+25		+30		+36		+43			+50			
Shaft h 9		0	0	0	0		0		0		0		0		0			0			
		-25	-30	-36	-43		-52		-62		-74		-87		-100			-115			
H 8	●	+14	+18	+22	+27		+33		+39		+46		+54		+63			+72			
		0	0	0	0		0		0		0		0		0			0			
H 11		+60	+75	+90	+110		+130		+160		+190		+220		+250			+290			
		0	0	0	0		0		0		0		0		0			0			
F 8	●	+20	+28	+35	+43		+53		+64		+76		+90		+106			+122			
		+6	+10	+13	+16		+20		+25		+30		+36		+43			+50			
E 9	●	+39	+50	+61	+75		+92		+112		+134		+159		+185			+215			
		+14	+20	+25	+32		+40		+50		+60		+72		+85			+100			
D 10	●	+60	+78	+98	+120		+149		+180		+220		+260		+305			+355			
		+20	+330	+40	+50		+65		+80		+100		+120		+145			+170			
C 11	●	+120	+145	+170	+205		+240		+280	+290	+330	+340	+390	+400	+450	+460	+480	+530	+550	+570	
		+60	+70	+80	+95		+110		+110	+130	+140	+150	+170	+180	+200	+210	+230	+240	+260	+280	
Shaft h 11		0	0	0	0		0		0		0		0		0			0			
		-60	-75	-90	-110		-130		-160		-190		-220		-250			-290			
H 11		+60	+75	+90	+110		+130		+160		+190		+220		+250			+290			
		0	0	0	0		0		0		0		0		0			0			
D 11		+80	+105	+130	+160		+195		+240		+290		+340		+395			+460			
		+20	+30	+40	+50		+65		+80		+100		+120		+145			+170			
C 11		+120	+145	+170	+205		+240		+280	+290	+330	+340	+390	+400	+450	+460	+480	+530	+550	+570	
		+60	+70	+80	+95		+110		+120	+130	+140	+150	+170	+180	+200	+210	+230	+240	+260	+280	
A 11		+330	+345	+370	+400		+430		+470	+480	+530	+550	+600	+630	+710	+770	+830	+950	+1030	+1110	
		+270	+270	+280	+290		+300		+310	+320	+340	+360	+380	+410	+460	+520	+580	+660	+740	+820	

*) Preferred fits to DIN 7157, series 1.

ISO system of standardised fits for holes

(see DIN ISO 286-2)
Limit dimensions in µm (= 0.001 mm).

In this system, all holes are produced with a standard H tolerance. The smallest dimension is taken as both the zero line and the nominal size. The largest dimension is larger than the zero line by the amount of the tolerance.



Interference fit (press fit)
Transition fit
Clearance fit

Shafts	Preferred fit*)	Nominal dimension over . . . to . . . mm																		
		1 3	3 6	6 10	10 14	14 18	18 24	24 30	30 40	40 50	50 65	65 80	80 100	100 120	120 140	140 160	160 180	180 200	200 225	225 250
Hole H 6		+6 0	+8 0	+9 0	+11 0		+13 0		+16 0		+19 0		+22 0		+25 0			+29 0		
p 5		+10 +6	+17 +12	+21 +15	+26 +18		+31 +22		+37 +26		+45 +32		+52 +37		+61 +43			+70 +50		
n 5		+8 +4	+13 +18	+16 +10	+20 +12		+24 +15		+28 +17		+33 +20		+38 +23		+45 +27			+51 +31		
k 6		+6 0	+9 +1	+10 +1	+12 +1		+15 +2		+18 +2		+21 +2		+25 +3		+28 +3			+33 +4		
j 6		+4 -2	+6 -2	+7 -2	+8 -3		+9 -4		+11 -5		+12 -7		+13 -9		+14 -11			+16 -13		
h 5		0 -4	0 -5	0 -6	0 -8		0 -9		0 -11		0 -13		0 -15		0 -18			0 -20		
Hole H 7		+10 0	+12 0	+15 0	+18 0		+21 0		+25 0		+30 0		+35 0		+40 0			+46 0		
s 6		+20 +14	+27 +19	+32 +23	+39 +28		+48 +35		+59 +43		+72 +53	+78 +59	+93 +71	+101 +79	+117 +92	+125 +100	+133 +108	+151 +122	+159 +130	+169 +140
r 6	●	+16 +10	+23 +15	+28 +19	+34 +23		+41 +28		+50 +34		+60 +41	+62 +43	+73 +51	+76 +54	+88 +63	+90 +65	+93 +68	+106 +77	+109 +80	+113 +84
n 6	●	+10 +4	+16 +8	+19 +10	+23 +12		+28 +15		+33 +17		+39 +20		+45 +23		+52 +27			+60 +31		
m 6		+8 +2	+12 +4	+15 +6	+18 +7		+21 +8		+25 +9		+30 +11		+35 +13		+40 +15			+46 +17		
k 6		+6 0	+9 +1	+10 +1	+12 +1		+15 +2		+18 +2		+21 +2		+25 +3		+28 +3			+33 +4		
j 6		+4 -2	+6 -2	+7 -2	+8 -3		+9 -4		+11 -5		+12 -7		+13 -9		+14 -11			+16 -13		
h 6	●	0 -6	0 -8	0 -9	0 -11		0 -13		0 -16		0 -19		0 -22		0 -25			0 -29		
g 6		-2 -8	-4 -12	-5 -14	-6 -17		-7 -20		-9 -25		-10 -29		-12 -34		-14 -39			-15 -44		
r 7	●	-6 -16	-10 -22	-13 -28	-16 -34		-20 -41		-25 -50		-30 -60		-36 -71		-43 -83			-50 -96		
Hole H 8		+14 0	+18 0	+22 0	+27 0		+33 0		+39 0		+46 0		+54 0		+63 0			+72 0		
x 8	●	+34 +20	+46 +28	+56 +34	+67 +40	+72 +45	+87 +54	+97 +64	+119 +70	+136 +97	+168 +122	+192 +146	+232 +178	+264 +210	+311 +248	+343 +280	+373 +310	+422 +350	+457 +385	+497 +425
u 8	●	+32 +18	+41 +23	+50 +28	+60 +33	+60 +33	+74 +41	+81 +48	+99 +60	+109 +70	+133 +87	+148 +102	+178 +124	+198 +144	+233 +170	+253 +190	+273 +210	+308 +236	+330 +258	+356 +284
h 9	●	0 -25	0 -30	0 -36	0 -43		0 -52		0 -62		0 -74		0 -87		0 -100			0 -115		
f 7	●	-6 -16	-10 -22	-13 -28	-16 -34		-20 -41		-25 -50		-30 -60		-36 -71		-43 -83			-50 -96		
d 9		-20 -45	-30 -60	-40 -76	-50 -93		-65 -117		-80 -142		-100 -174		-120 -207		-145 -245			-170 -285		
Hole H 11		+60 0	+75 0	-90 0	+110 0		+130 0		+160 0		+190 0		+220 0		+250 0			+290 0		
h 9		0 -25	0 -30	0 -36	0 -43		0 -52		0 -62		0 -74		0 -87		0 -100			0 -115		
h 11		0 -60	0 -75	0 -90	0 -110		0 -130		0 -160		0 -190		0 -220		0 -250			0 -290		
d 9		-20 -45	-30 -60	-40 -76	-50 -93		-65 -117		-80 -142		-100 -174		-120 -207		-145 -245			-170 -285		
c 11		-60 -120	-70 -145	-80 -170	-95 -205		-110 -240		-120 -280	-130 -290	-140 -330	-150 -340	-170 -390	-180 -400	-200 -450	-210 -460	-230 -480	-240 -530	-260 -550	-280 -570
a 11		-270 -330	-270 -345	-280 -370	-290 -400		-300 -430		-310 -470	-320 -480	-340 -530	-360 -550	-380 -600	-410 -630	-460 -710	-520 -770	-580 -830	-660 -950	-740 -1030	-820 -1110

Supplement to ISO system of standardised fits for holes

(Extract from DIN 7160, DIN 7161)
Size limits in µm (= 0.001 mm).

External sizes

Shafts	Nominal size over ... to ... mm									
	1 3	3 6	6 10	10 18	18 30	30 50	50 80	80 120	120 180	180 250
d 11	- 20 - 80	- 30 - 105	- 40 - 130	- 50 - 160	- 65 - 195	- 80 - 240	- 100 - 290	- 120 - 340	- 145 - 395	- 170 - 460
e 8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89	- 60 - 106	- 72 - 126	- 85 - 148	- 100 - 172
f 8	- 6 - 20	- 10 - 28	- 13 - 35	- 16 - 43	- 20 - 53	- 25 - 64	- 30 - 76	- 36 - 90	- 43 - 106	- 50 - 122
f 9	- 6 - 31	- 10 - 40	- 13 - 49	- 16 - 59	- 20 - 72	- 25 - 87	- 30 - 104	- 36 - 123	- 43 - 143	- 50 - 165
fg 6	- 4 - 10	- 6 - 14	- 8 - 17	- 10 - 21	- 12 - 25	- 15 - 31				
h 7	0 - 10	0 - 12	0 - 15	0 - 18	0 - 21	0 - 25	0 - 30	0 - 35	0 - 40	0 - 46
h 8	0 - 14	0 - 18	0 - 22	0 - 27	0 - 33	0 - 39	0 - 46	0 - 54	0 - 63	0 - 72
h 10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84	0 - 100	0 - 120	0 - 140	0 - 160	0 - 185
h 12	0 - 100	0 - 120	0 - 150	0 - 180	0 - 210	0 - 250	0 - 300	0 - 350	0 - 400	0 - 460
js 11	+ 30 - 30	+ 38 - 38	+ 45 - 45	+ 55 - 55	+ 65 - 65	+ 80 - 80	+ 95 - 95	+ 110 - 110	+ 125 - 125	+ 145 - 145
js 12	+ 50 - 50	+ 60 - 60	+ 75 - 75	+ 90 - 90	+ 105 - 105	+ 125 - 125	+ 150 - 150	+ 175 - 175	+ 200 - 200	+ 230 - 230
js 14	+ 125 - 125	+ 150 - 150	+ 180 - 180	+ 215 - 215	+ 260 - 260	+ 310 - 310	+ 370 - 370	+ 435 - 435	+ 500 - 500	+ 575 - 575
js 16	+ 300 - 300	+ 375 - 375	+ 450 - 450	+ 550 - 550	+ 650 - 650	+ 800 - 800	+ 950 - 950	+ 1100 - 1100	+ 1250 - 1250	+ 1450 - 1450
k 10	+ 40 0	+ 48 0	+ 58 0	+ 70 0	+ 84 0	+ 100 0	+ 120 0	+ 140 0	+ 160 0	+ 180 0
k 11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
k 12	+ 90 0	+ 120 0	+ 150 0	+ 180 0	+ 210 0	+ 250 0	+ 300 0	+ 350 0	+ 400 0	+ 460 0
k 16	+ 600 0	+ 750 0	+ 900 0	+ 1100 0	+ 1300 0	+ 1600 0	+ 1900 0	+ 2200 0	+ 2500 0	+ 2900 0
p 6	+ 12 + 6	+ 20 + 12	+ 24 + 15	+ 29 + 18	+ 35 + 22	+ 42 + 26	+ 51 + 32	+ 59 + 37	+ 68 + 43	+ 79 + 50

Comparison table of Vickers / Brinell / Rockwell hardness and tensile strength[1)]

Vickers hardness	Brinell hardness 2)	Rockwell hardness 3)		Tensile strength
HV 10	HB 30	HRB	HRC	σB N/mm2
85	81	41.0	-	270
91	87	49.0	-	290
97	92	53.4	-	310
100	95	56.2	-	320
107	101	60.2	-	340
113	107	63.4	-	360
118	112	66.0	-	380
121	116	67.4	-	390
128	122	70.4	-	410
132	125	71.8	-	420
138	131	74.1	-	440
143	136	76.2	-	460
147	140	77.5	-	470
153	146	79.7	-	490
157	149	80.7	-	500
163	154	82.5	-	520
168	160	84.5	-	540
172	163	85.4	-	550
178	169	86.8	-	570
184	175	88.0	-	590
187	178	88.7	-	600
193	184	90.2	-	620
200	190	91.5	-	640
205	195	92.5	-	660
208	198	93.2	-	670
212	291	93.7	-	680
222	211	95.4	-	710
225	214	96.0	-	720
228	217	96.4	-	730
233	222	97.2	-	750
236	225	-	19.2	760
243	231	-	21.0	780
250	238	-	22.2	800
255	242	-	23.1	820
258	245	-	23.7	830
265	252	-	24.8	850
272	258	-	25.8	870
275	261	-	26.4	880
280	266	-	27.1	900
287	273	-	28.0	920
293	278	-	28.8	940
295	280	-	29.7	950
302	287	-	30.0	970
308	293	-	30.8	990
314	299	-	31.5	1010
323	307	-	32.5	1040
336	319	-	33.9	1080
345	328	-	34.9	1110
355	338	-	36.0	1140

Vickers hardness	Brinell hardness 2)	Rockwell hardness 3)		Tensile strength
HV 10	HB 30	HRB	HRC	σB N/mm2
364	346	-	37.1	1170
373	355	-	38.1	1200
383	364	-	39.1	1230
391	372	-	39.9	1260
400	380	-	40.8	1290
410	390	-	41.8	1320
420	399	-	42.7	1350
429	408	-	43.4	1380
437	415	-	44.2	1410
443	421	-	44.7	1430
452	430	-	45.4	1460
455	-	-	45.7	1470
464	-	-	46.4	1500
473	-	-	47.1	1530
481	-	-	47.8	1560
489	-	-	48.3	1590
500	-	-	49.1	1630
509	-	-	49.7	1660
520	-	-	50.5	1700
528	-	-	51.0	1730
536	-	-	51.4	1760
547	-	-	52.1	1800
556	-	-	52.7	1830
567	-	-	53.4	1870
575	-	-	53.9	1900
586	-	-	54.4	1940
596	-	-	55.0	1980
607	-	-	55.6	2020
615	-	-	56.0	2050
629	-	-	56.7	2100
639	-	-	57.2	2140
650	-	-	57.8	2180
670	-	-	58.0	-
680	-	-	58.5	-
690	-	-	59.0	-
700	-	-	59.5	-
720	-	-	60.4	-
740	-	-	61.2	-
760	-	-	62.0	-
780	-	-	62.8	-
800	-	-	63.6	-
820	-	-	64.3	-
840	-	-	65.0	-
860	-	-	65.7	-
880	-	-	66.3	-
900	-	-	66.9	-
920	-	-	67.5	-
940	-	-	68.0	-

1) All hardness values are determined using different hardness tests for different materials and are hence only approximately comparable; to DIN 50150.
2) Calculation based on: HD = 0.95×HV.
3) Rockwell hardnesses shown as a decimal value are only to be used for interpolation and the end result rounded up or down to a whole number.

Comparison table spanner size (A) / thread of Torx® and Torx Plus® screws

The dimension A is the same for Torx® (designation T or TX) and Torx Plus® (designation IP).

Torx internal drive

Designation	A mm	metric screws
TX 5	1.42	- M 1.8
TX 6	1.67	M 2
TX 7	1.99	M 2
TX 8	2.31	M 2.5
TX 9	2.50	M 3
TX 10	2.74	M 3 - M 3.5
TX 15	3.27	M 3.5 - M 4
TX 20	3.86	M 4 - M5

Designation	A mm	metric screws
TX 25	4.43	M 4.5 - M5
TX 27	4.99	M 4.5 - M5 - M6
TX 30	5.52	M 6 - M 7
TX 40	6.65	M 7 - M 8
TX 45	7.82	M 8 - M 10
TX 50	8.83	M 10
TX 55	11.22	M 12
TX 60	13.25	M 14

A

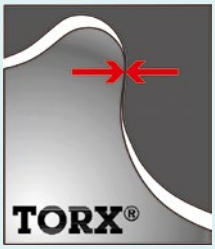
Torx external drive

Designation	A mm	metric screws	Grub screws
E 4	3.86	M 3	M 5
E 5	4.75	M 4	M 6
E 6	5.74	M 4. M 5	M 7
E 7	6.20	-	M 8
E 8	7.52	M 5. M 6	M 10
E 10	9.42	M 6. M 8	M 12
E 12	11.70	M 8. M 10	M 14
E 14	12.90	M 10. M 12	M 16
E 16	14.71	-	M 20
E 18	16.64	M 12. M 14	-
E 20	18.41	M 14. M 16	M 24

Torx®/ Torx Plus®

Torx Plus® is a further development of the Torx® profile.
The larger contact surfaces of Torx Plus® tools and the Torx Plus® screw as well as the improved angle of drive force enable higher torques and extend the working life of the tool and screw.
Torx Plus® tools cannot be used on Torx® screws.

Tool



Screw

Tool

Screw

Torx® and Torx Plus® are the registered trademarks of Acument Intellectual Properties, LLC, an Acument Global Technologies, Inc. company.

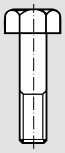
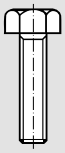
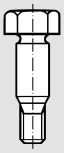
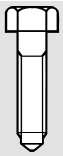
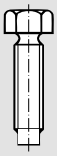
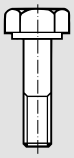
Conversion table inches to millimetres

inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
1/16	1.588	1/8	3.175	7/32	5.556	3/8	9.525	9/16	14.288	7/8	22.225
5/64	1.984	9/64	3.572	1/4	6.350	7/16	11.113	5/8	15.875	1	25.400
3/32	2.381	5/32	3.969	9/32	7.144	1/2	12.700	3/4	19.050		

Width across flats of hexagon socket screws

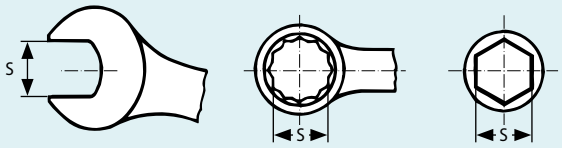
Drive size ⬣ mm	0.7	0.9	1.3	1.5	2	2.5	3	4	5	6	7	8	10	12	14	17	19	22	24	27	32	36
DIN EN ISO 4762	-	-	M 1.4	M 1.6 M 2	M 2.5	M 3	M 4	M 5	M 6	M 8	-	M 10	M 12	M 14	M 16 M 18	M 20 M 22	M 24 M 27	M 30	M 33	M 36	M 42	M 48
DIN 6912 (with pilot pin)	-	-	-	-	-	-	M 4	M 5	M 6	M 8	-	M 10	M 12	M 14	M 16 M 18	M 20	-	-	-	-	-	-
DIN 7984	-	-	-	-	M 3	M 4	M 5	M 6	M 8	-	M 10	M 12	M 14	M 16 M 18	M 20 M 22	M 24	-	-	-	-	-	-
DIN EN ISO 10642	-	-	-	-	M 3	M 4	M 5	M 6	M 8	M 10	-	M 12	M 14 M 16	M 18 M 20	M 22 M 24	-	-	-	-	-	-	-
DIN EN ISO 4026 / 4029 DIN EN ISO 4027 DIN EN ISO 4028	M 1.4 M 1.6 M 1.8	M 2	M 2.5	M 3	M 4	M 5	M 6	M 8	M 10	M 12 M 14	-	M 16	M 18 M 20	M 22 M 24	-	-	-	-	-	-	-	-

Width across flats of screws and nuts

Standard range			With small hexagon		With large hexagon		Wood screws	
 DIN EN ISO 4016 4014 8765	 DIN EN ISO 4018 4017 8676	 DIN 609 610 7968	 DIN 561	 DIN 564	 DIN EN 14399		DIN 571	
DIN EN ISO 24036 4034 4032 10513 10512 10511	DIN 917 1587 986	DIN 935			DIN EN 14399			
Threads	⬣ mm	Threads	⬣ mm		Threads	⬣ mm	∅	⬣ mm
M 1.6	3.2							
M 2	4							
M 2.5	5							
M 3	5.5							
M 4	7						**4**	7
M 5	8						**5**	8
M 6	10	**M 6**	8				**6**	10
M 8	13	**M 8**	10				**8**	13
M 10	16 (17)	**M 10**	13				**10**	17
M 12	18 (19)	**M 12**	17		**M 12**	22	**12**	19
M 14	21 (22)							
M 16	24	**M 16**	19		**M 16**	27	**16**	24
M 18	27							
M 20	30	**M 20**	24		**M 20**	32	**20**	30
M 22	34 (32)				**M 22**	36		
M 24	36	**M 24**	30		**M 24**	41		
M 27	41				**M 27**	46		
M 30	46	**M 30**	36		**M 30**	50		
M 33	50							
M 36	55	**M 36**	46		**M 36**	60		
M 39	60							
M 42	65	**M 42**	55					
M 45	70							
M 48	75	**M 48**	65					
M 52	80							

Tolerances for width across flats

Extract from DIN ISO 691.



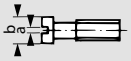
Width across flats in mm S			Width across flats in mm S			Width across flats in mm S		
Nominal dimension	minimum	maximum	Nominal dimension	minimum	maximum	Nominal dimension	minimum	maximum
3.2*	3.22	3.28	**17***	17.05	17.30	**46***	46.10	46.60
3.5	3.52	3.60	**18***	18.05	18.30	**50***	50.10	50.60
4*	4.02	4.12	**19***	19.06	19.36	**55***	55.12	55.72
4.5	4.52	4.62	**20***	20.06	20.36	**60***	60.12	60.72
5*	5.02	5.12	**21***	21.06	21.36	**65***	65.12	65.72
5.5*	5.52	5.62	**22***	22.06	22.36	**70***	70.12	70.72
6*	6.03	6.15	**23***	23.06	23.36	**75***	75.15	75.85
7*	7.03	7.15	**24***	24.06	24.36	**80***	80.15	80.85
8*	8.03	8.15	**25***	25.06	25.36	**85***	85.15	85.85
9*	9.03	9.15	**26***	26.08	26.48	**90***	90.15	90.85
10*	10.04	10.19	**27***	27.08	27.48	**95***	95.15	95.85
11*	11.04	11.19	**28***	28.08	28.48	**100***	100.15	100.85
12*	12.04	12.24	**30***	30.08	30.48	**105***	105.20	106.00
13*	13.04	13.24	**32***	32.08	32.48	**110***	110.20	111.00
14*	14.05	14.27	**34***	34.10	34.60	**115***	115.20	116.00
15*	15.05	15.27	**36***	36.10	36.60	**120***	120.20	121.00
16*	16.05	16.27	**41***	41.10	41.60			

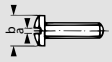
The widths marked * comply with International Standards.

Table of screw slot sizes / screwdriver blades DIN 5264 / ISO 2380-2

1. Threaded screws

Manual screwdrivers

Size			M 1.2	M 1.4	M 1.6	M 1.8	M 2	M 2.5	M 3	M 3.5	M 4	M 5	M 6	M 8	M 10
DIN EN ISO 1207		a)	0.3	0.3	0.4	0.4	0.5	0.6	0.8	1	1.2	1.2	1.6	2	2.5
		b)	2.3	2.6	3	3.4	3.8	4.5	5.5	6	7	8.5	10	13	16
Screwdriver tip		mm	2×0.3		2.5×0.4		3×0.5 (3.5×0.5)	3.5×0.6 (4×0.6)	4×0.8 (5.5×0.8)	5.5×1	6.5×1.2 (8×1.2)	8×1.2	10×1.6	12×2	14×2.5

Size			M 1.2	M 1.4	M 1.6	M 1.8	M 2	M 2.5	M 3	M 3.5	M 4	M 5	M 6	M 8	M 10
DIN EN ISO 1580		a)	-	-	-	-	-	-	0.8	1	1.2	1.2	1.6	2	2.5
		b)	-	-	-	-	-	-	6	7	8	10	12	16	20
Screwdriver tip		mm	-	-	-	-	-	-	4×0.8 (5.5×0.8)	5.5×1 (6.5×1)	8×1.2		10×1.6	12×2	14×2.5

Size			M 1.2	M 1.4	M 1.6	M 1.8	M 2	M 2.5	M 3	M 3.5	M 4	M 5	M 6	M 8	M 10
DIN EN ISO 2009 DIN EN ISO 2010		a)	0.3	0.3	0.4	0.4	0.5	0.6	0.8	0.8	1	1.2	1.6	2	2.5
		b)	2.3	2.6	3	3.4	3.8	4.7	5.6	6.5	7.5	9.2	11	14.5	18
Screwdriver tip		mm	2×0.3		2.5×0.4		3×0.5 (3.5×0.5)	3.5×0.6 (4×0.6)	4×0.8 (5.5×0.8)		5.5×1	8×1.2	10×1.6	12×2	14×2.5

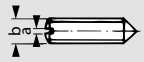
2. Sheet metal screws

Size		Ø mm	2.2	2.9	3.5	3.9	4.2	4.8	5.5	6.3
DIN EN ISO 1481		a)	0.6	0.8	1	1	1.2	1.2	1.6	1.6
		b)	4.2	5.6	6.9	7.5	8.2	9.5	10.8	12.5
Screwdriver tip		mm	3.5×0.6 (4×0.6)	4×0.8 (5.5×0.8)	5.5×1 (6.5×1)		8×1.2		10×1.6	

Size		Ø mm	2.2	2.9	3.5	3.9	4.2	4.8	5.5	6.3
DIN EN ISO 1482		a)	0.5	0.8	1	1	1.2	1.2	1.6	1.6
		b)	4.3	5.5	7.3	7.5	8.4	9.5	10.8	12.4
Screwdriver tip		mm	3.5×0.5 (3.5×0.5)	4×0.8 (5.5×0.8)	5.5×1 (6.5×1)		6.5×1.2 (8×1.2)		10×1.6	

Size		Ø mm	2.2	2.9	3.5	3.9	4.2	4.8	5.5	6.3
DIN EN ISO 1483		a)	0.5	0.8	1	1	1.2	1.2	1.6	1.6
		b)	4.3	5.5	7.3	7.5	8.2	9.5	10.8	12.4
Screwdriver tip		mm	3.5×0.5 (3.5×0.5)	4×0.8 (5.5×0.8)	5.5×1 (6.5×1)		6.5×1.2 (8×1.2)		10×1.6	

3. Grub screws

Size			M 2.5	M 3	M 3.5	M 4	M 5	M 6	M 8	M 10	M 12
ISO 7435, DIN EN ISO 2342		a)	0.4	0.4	0.4	0.6	0.8	1	1.2	1.6	2
		b)	2.5	3	3.5	4	5	6	8	10	12
Screwdriver tip		mm	2×0.4		2.5×0.4	3×0.6	4×0.8	5×1.0	6.5×1.2	8×1.6	

Blade widths shown in brackets ( ) meet the VSM standard.
The 45° chamfer on the screwdriver tip allows wider blades to be used on countersunk screws and raised head screws.

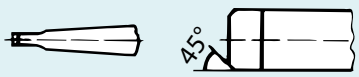
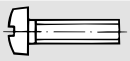
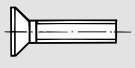
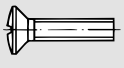


Table of cross-head screw slots / screwdriver blades to DIN ISO 8764

1. Threaded screws

Size		M 1.6	M 1.8	M 2	M 2.5	M 3	M 3.5	M 4	M 5	M 6	M 8	M 10
DIN EN ISO 7045		0			1			2		3	4	
		Size designation for cross-head slots										
DIN EN ISO 7046		0			1			2		3	4	
DIN EN ISO 7047		Size designation for cross-head slots										

2. Sheet metal screws

Size	Ø mm	2.2	2.9	3.5	3.9	4.2	4.8	5.5	6.3
DIN EN ISO 7049		1		2				3	
DIN EN ISO 7050		Size designation for cross-head slots							
DIN EN ISO 7051									

3. Wood screws

Size	Ø mm	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
DIN 7996		0	1			2				3		4
DIN 7997		Size designation for cross-head slots										
DIN 7995												

Clamping forces and torques

For metric screws.

Indicative coefficient of friction of thread µ (minimum values).

Screw thread / Nut thread				Steel, blackened or Zn phosphated: pressed rolled	Steel, blackened or Zn phosphated: turned cut	Steel, blackened or Zn phosphated: ground	Steel: ground, 6 µ	Steel: galvanized, 6 µ
Steel	rolled		slightly oiled	0.14	0.10	0.16	0.10	0.10
Steel	ground		slightly oiled	0.16	0.10	0.16	0.10	0.10
Steel	rolled ground	Zn phosphate	slightly oiled	0.14		0.10		
Steel	turned ground	Zn phosphate	slightly oiled	0.10				
Steel	turned ground		slightly oiled	0.10		0.10	0.10	0.10
Steel	cadmium plated	µ	slightly oiled				0.14	
Steel	galvanised	µ	slightly oiled					0.10
Steel	cadmium plated	µ	dry	0.10		0.10	0.14	
Steel	galvanised	µ	dry	0.10		0.10		0.14

Indicative coefficient of friction under head µ (minimum values).

Screw head or nut / Workpiece surface				Steel, blackened or Zn phosphated: extruded	Steel, blackened or Zn phosphated: turned	Steel, blackened or Zn phosphated: ground	Steel: cadmium plated, 6 µ	Steel: galvanized, 6 µ
Steel	planed milled turned		slightly oiled	0.10		0.10	0.10	0.10
Steel	planed milled turned	Zn phosphate	slightly oiled	0.10				
Steel	ground	Zn phosphate	slightly oiled	0.14		0.10		
Steel	ground		slightly oiled	0.16	0.10	0.16	0.10	0.10
Steel	cadmium plated	µ	slightly oiled	0.10	0.10	0.10	0.14	
Steel	galvanised	µ	slightly oiled	0.10	0.10	0.10		0.16
Steel	cadmium plated	µ	dry	0.10		0.10	0.16	
Steel	galvanised	µ	dry	0.10		0.10		
GG	planed milled turned		slightly oiled	0.10		0.10	0.10	0.10
GTS	ground		slightly oiled	0.16	0.10	0.16	0.10	0.10

Clamping forces and clamping torques

Clamping forces Fsp and clamping torques Msp for screws with metric coarse pitch threads to **DIN 13** , and head contact dimensions **to DIN 6912, DIN 7984, DIN 7990, DIN EN ISO 4762, DIN EN ISO 4014, DIN EN ISO 24032.**

The table values Fsp and Msp are based on the SI unit N (Newton).

1 N = 0.102 kP, 1 Ncm = 0.102 kPcm,

1 Nm = 0.102 kPm, 1 kp = 9.81 N,

1 kPcm = 9.81 cNm, 1 kPm = 9.81 Nm.

The clamping forces Fsp shown in the left-hand table generate a screw extension 90% of the elastic limit $\sigma_{0.2}$ **(DIN 267 sheet. 3)** by means of the comparative tension σ_{red1} in conjunction with the relevant thread friction factor µ.

The clamping force table shows which screw size and tensile grade is required to achieve the specified assembly force F_M (Fsp ≥ F_M).

The clamping torques Msp are calculated from the clamping forces Fsp, assuming µ = µK = μ_{tot1} .

The clamping torque Msp required to achieve 90% of the elastic limit of a screw of given dimensions and grade is found in the right-hand table, depending on the under-head coefficient of friction (μ_K), which is taken to be the same as the thread coefficient of friction.

The nominal torque used in practice should be the clamping torque Msp value shown in the table less half the spread of the intended torque wrench.

Coefficient of friction of thread µ	Clamping force Fsp (N) 6.9	8.8	10.9	12.9	Threads	Under head coefficient of friction μ_K	Clamping torque Msp (cNm) 6.9	8.8	10.9	12.9
0.10	475	565	795	955		0.10	12.5	14.5	21	25
0.14	440	520	730	875	BM 1.6	0.14	15	18	25	30
0.16	420	495	700	840		0.16	16	19	27	32
0.10	560	665	935	1120		0.10	15.5	18.5	26	31
0.14	520	610	860	1030	M 1.7	0.14	19	22	31	38
0.16	495	585	825	990		0.16	20	24	34	40
0.10	790	940	1320	1590		0.10	26	30	43	51
0.14	730	865	1210	1460	M 2	0.14	31	37	52	62
0.16	700	825	1160	1400		0.16	34	40	56	67
0.10	1140	1350	1900	2280		0.10	41	49	69	83
0.14	1050	1250	1750	2100	M 2.3	0.14	51	60	84	101
0.16	1010	1190	1680	2020		0.16	54	65	91	109
0.10	1320	1570	2210	2650		0.10	52	62	88	105
0.14	1220	1450	2030	2440	M 2.5	0.14	64	76	107	128
0.16	1170	1380	1950	2340		0.16	69	82	115	138
0.10	1460	1730	2440	2930		0.10	59	70	99	119
0.14	1350	1600	2250	2700	M 2.6	0.14	73	86	121	145
0.16	1290	1530	2150	2580		0.16	78	93	130	156
0.10	2020	2390	3370	4040		0.10	92	109	154	185
0.14	1860	2210	3110	3730	M 3	0.14	113	134	189	225
0.16	1790	2120	2980	3580		0.16	122	145	205	242
0.10	2710	3210	4520	5420		0.10	142	168	235	285
0.14	2500	2960	4170	5000	M 3.5	0.14	173	205	290	345
0.16	2400	2840	4000	4790		0.16	187	220	310	375
0.10	3500	4150	5830	7000		0.10	210	250	350	425
0.14	3230	3830	5380	6460	M 4	0.14	260	305	430	515
0.16	3100	3670	5160	6160		0.16	280	330	465	555
0.10	5720	6780	9540	11450		0.10	415	490	690	830
0.14	5280	6260	8810	10550	M 5	0.14	510	605	850	1020
0.16	5070	6010	8450	10150		0.16	550	650	915	1100
							Clamping torques Msp (Nm)			
0.10	8080	9570	13450	16150		0.10	7.1	8.5	12	14.5
0.14	7450	8830	12400	14900	M 6	0.14	8.7	10.5	14.5	17.5
0.16	7150	8470	11900	14300		0.16	9.4	11	15.5	19
0.10	11800	14000	19650	23600		0.10	11.5	14	19.5	23
0.14	10900	12950	18200	21800	M 7	0.14	14.5	17	24	29
0.16	10450	12400	17450	20900		0.16	15.5	18.5	26	31
0.10	14800	17550	24700	29600		0.10	17	20	29	34
0.14	13700	16200	22800	27400	M 8	0.14	21	25	35	42
0.16	13150	15550	21900	26300		0.16	23	27	38	46
0.10	23600	27900	39300	47200		0.10	34	41	57	69
0.14	21800	25800	36300	43600	M 10	0.14	42	50	71	85
0.16	20900	24800	34900	41800		0.16	46	54	76	92
0.10	34400	40700	57300	68700		0.10	59	70	99	119
0.14	31800	37700	53000	63500	M 12	0.14	73	87	122	147
0.16	30500	36100	50800	61000		0.16	79	94	132	159
0.10	47200	55900	78600	94300		0.10	94	112	157	189
0.14	43600	51700	72700	87300	M 14	0.14	117	138	195	235
0.16	41900	49600	69800	83800		0.16	126	150	210	250
0.10	64800	76800	108000	129500		0.10	144	170	240	285
0.14	60100	71200	100000	120000	M 16	0.14	179	210	300	360
0.16	57700	68400	96100	115500		0.16	194	230	325	385
0.10	78900	93500	131500	157500		0.10	199	235	330	395
0.14	73000	86500	121500	146000	M 18	0.14	245	290	410	490
0.16	70100	83000	117000	140000		0.16	265	315	445	530
0.10	101500	120000	169000	202500		0.10	280	330	465	560
0.14	93900	111000	156500	187500	M 20	0.14	350	410	580	695
0.16	90100	107000	150000	180500		0.16	375	445	625	755
0.10	126500	150000	211000	253000		0.10	375	445	625	755
0.14	117500	139000	195500	235000	M 22	0.14	470	555	785	940
0.16	112500	133500	188000	225000		0.16	510	605	850	1020
0.10	146000	173000	243000	292000		0.10	480	570	800	965
0.14	135000	160000	225000	270000	M 24	0.14	560	710	1000	1200
0.16	130000	154000	216000	260000		0.16	650	770	1080	1300
0.10	192000	227000	320000	384000		0.10	710	840	1180	1420
0.14	178000	211000	297000	356000	M 27	0.14	890	1050	1480	1780
0.16	171000	203000	285000	342000		0.16	965	1140	1610	1930
0.10	233000	276000	385000	466000		0.10	965	1140	1610	1930
0.14	216000	256000	361000	433000	M 30	0.14	1200	1430	2010	2410
0.16	208000	246000	346000	416000		0.16	1310	1550	2180	2610
0.10	291000	34400	484000	581000		0.10	1300	1540	2170	2600
0.14	270000	320000	450000	539000	M 33	0.14	1630	1940	2720	3270
0.16	259000	307000	432000	518000		0.16	1770	2100	2950	3540
0.10	341000	404000	568000	682000		0.10	1680	1990	2790	3350
0.14	216000	375000	527000	633000	M 36	0.14	2100	2490	3500	4200
0.16	304000	360000	507000	608000		0.16	2300	2700	3790	4550
0.10	410000	485000	663000	819000		0.10	2170	2570	3610	4330
0.14	380000	451000	634000	761000	M 39	0.14	2720	3220	4540	5440
0.16	366000	433000	610000	731000		0.16	2960	3500	4930	5910

Calculation of table values and instructions for use according to VDI 2230.

Changed catalogue numbers

The following number listing gives an overview of catalogue numbers which have changed from catalogue 51 to catalogue 52 – Hand tools and Metrology. Valid from 01 August 2021 to 31 July 2022.

Catalogue Issue 51 old	Catalogue Issue 52 new
415195	**415196**
467555	**467555** SOFT
473005	**473005** 1ACII
484407	**484409**
456000 300x175	**456000** 300x180
456200 300x175	**456200** 300x180
479606 300	**479606** 300L
479608 60	**479608** 60L
541460	**541460** 8
541470	**541470** 5
541510	**541510** 10

Catalogue Issue 51 old	Catalogue Issue 52 new
541550	**541550** 10
580900	**580900** 300
567990 147	**567990** 150
635150	**635150** 3/8
635155	**635155** 3/8
650650	**650650** 46
651650	**651650** 60
676235 18	**676235** 19
728041 AM25/36	**728041** AM25/35
728085	**728085** AV6220
762800 250	**762800** 260

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