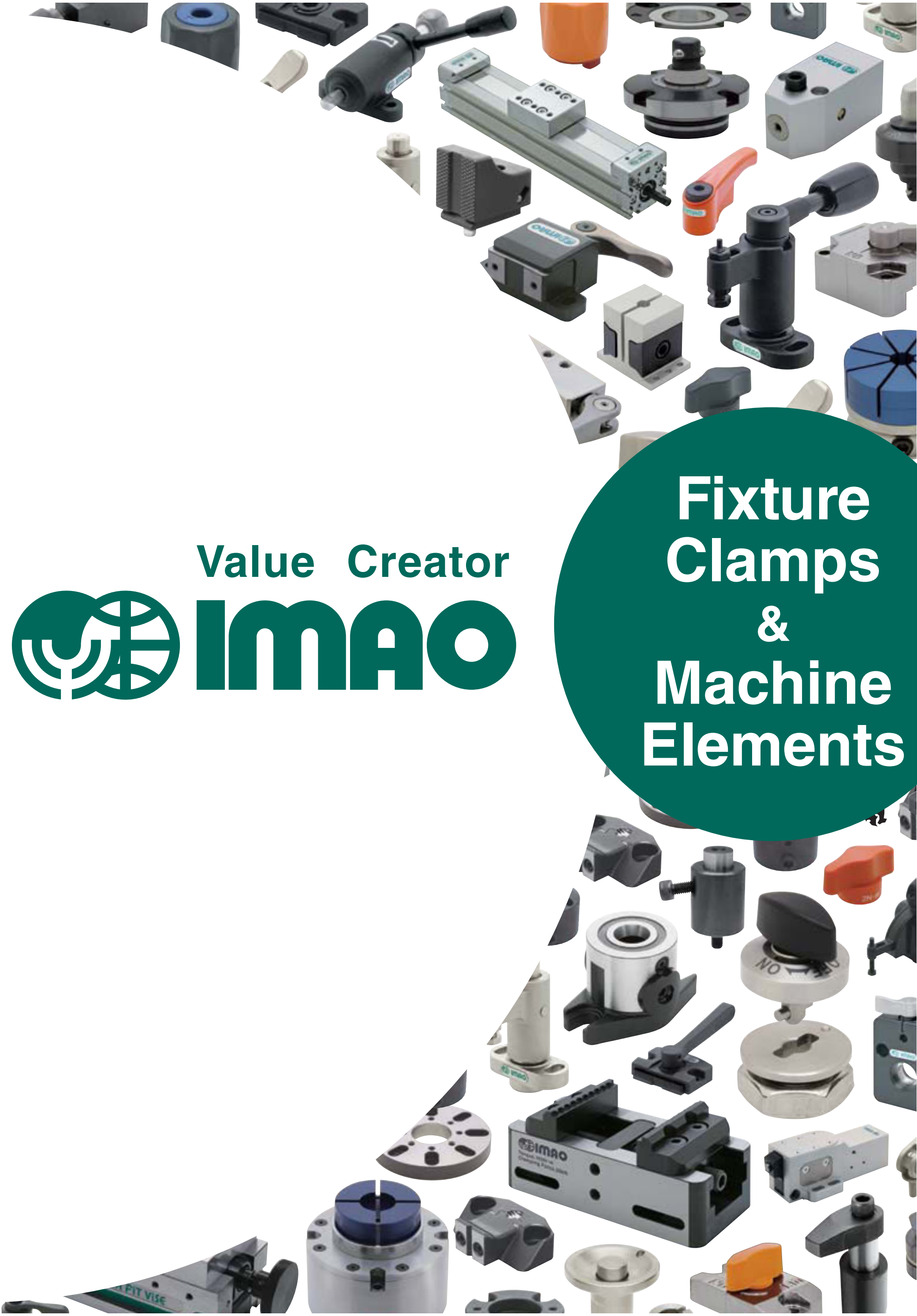
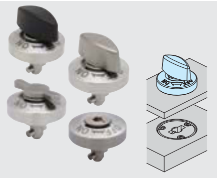
Value Creator

IMAO

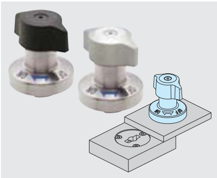


Fixture Clamps & Machine Elements

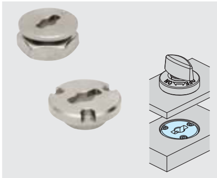
ONE-TOUCH FASTENERS



QUARTER-TURN CLAMPS

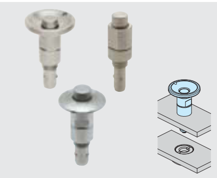


RETRACTABLE QUARTER-TURN CLAMPS

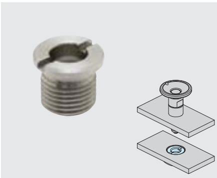


CAM RECEPTACLES

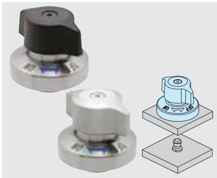
KNOB-LOCKING CLAMPS



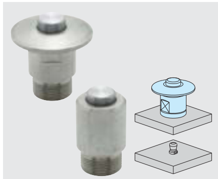
BUTTON-LOCKING PINS



BALL-LOCK RECEPTACLES

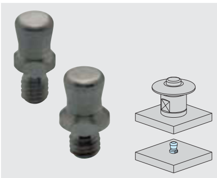


PIN HOLDING CLAMPS

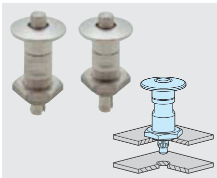


SNAP-IN CLAMPS

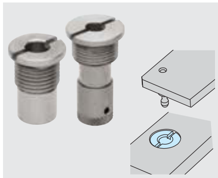
SPACERS



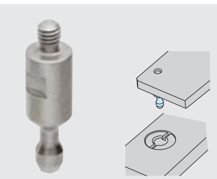
CLAMPING PINS



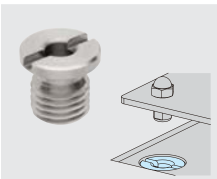
HOLE HOLDING CLAMPS



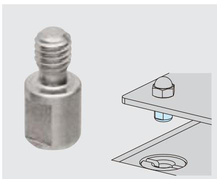
BALL-LOCK CLAMPING RECEPTACLES



BALL-LOCK CLAMPING PINS



MAGNET-LOCK CLAMPING RECEPTACLES



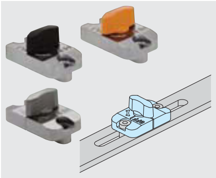
MAGNET-LOCK CLAMPING PINS

SHAFT COUPLING CLAMP

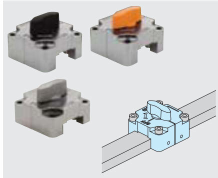
CAM RECEPTACLES

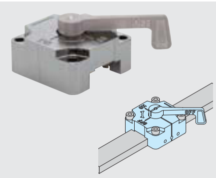
ONE-TOUCH SLIDING LOCKS

ONE-TOUCH SLIDING LOCKS


SLIDING LOCKS FOR SLOTTED HOLE

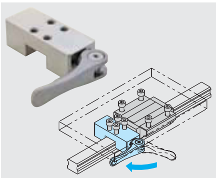

RISER PLATES FOR SLIDING LOCK


SLIDING LOCKS FOR SQUARE BAR

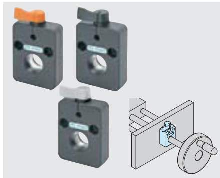

SLIDING LOCKS FOR SQUARE BAR WITH HANDLE


RISER PLATES FOR SLIDING LOCK

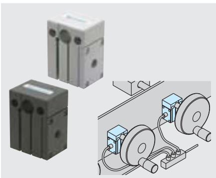
LINEAR-MOTION STOPPERS

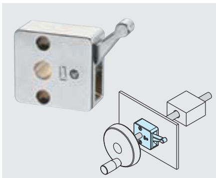

LINEAR-MOTION STOPPERS

ONE-TOUCH SPINDLE LOCKS


ONE-TOUCH SPINDLE LOCKS

QUICK SHAFT-LOCKING CLAMPS

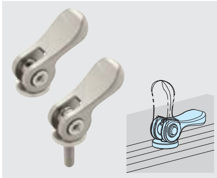

QUICK SHAFT-LOCKING CLAMPS (Pneumatic)


QUICK SHAFT-LOCKING CLAMPS

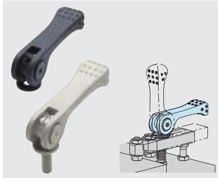
HANDLES & KNOBS

HANDLES

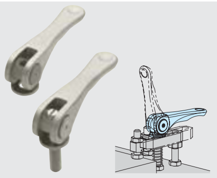
ADJUSTABLE-TORQUE HANDLES



COMPACT CAM HANDLES



CAM HANDLES



CAM HANDLES

KNOBS

ONE-TOUCH LOCKING KNOBS

POINTER PLATE

TORQUE LIMITING KNOBS

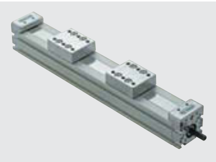
MECHANICAL LINEAR ACTUATORS

MECHANICAL LINEAR ACTUATORS

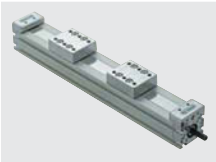
MECHANICAL LINEAR ACTUATORS
(Customized Stroke)

MECHANICAL LINEAR ACTUATORS
WITH ADJUSTABLE GEARBOX

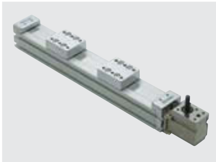
MECHANICAL LINEAR ACTUATORS
WITH ADJUSTABLE GEARBOX
(Customized Stroke)



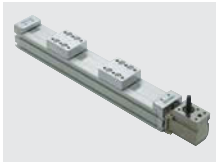
MECHANICAL LINEAR ACTUATORS
(Dual Carriage)



MECHANICAL LINEAR ACTUATORS
(Dual Carriage, Customized Stroke)



MECHANICAL LINEAR ACTUATORS
WITH ADJUSTABLE GEARBOX
(Dual Carriage)



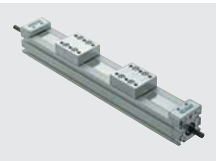
MECHANICAL LINEAR ACTUATORS
WITH ADJUSTABLE GEARBOX
(Dual Carriage, Customized Stroke)

MECHANICAL LINEAR ACTUATORS
(Synchro-Use)

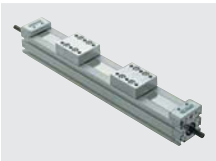
MECHANICAL LINEAR ACTUATORS
(Synchro-Use, Customized Stroke)

MECHANICAL LINEAR ACTUATORS
WITH ADJUSTABLE GEARBOX
(Synchro-Use)

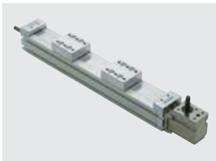
MECHANICAL LINEAR ACTUATORS
WITH ADJUSTABLE GEARBOX
(Synchro-Use, Customized Stroke)



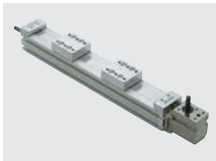
MECHANICAL LINEAR ACTUATORS
(Dual Carriage, Synchro-Use)



MECHANICAL LINEAR ACTUATORS
(Dual Carriage, Synchro-Use, Customized Stroke)



MECHANICAL LINEAR ACTUATORS
WITH ADJUSTABLE GEARBOX
(Dual Carriage, Synchro-Use)



MECHANICAL LINEAR ACTUATORS
WITH ADJUSTABLE GEARBOX
(Dual Carriage, Synchro-Use, Customized Stroke)

ONE-TOUCH SPINDLE
LOCKS

POSITIONING PLATE

DIGITAL POSITION
INDICATORS

ADAPTER SHAFTS

PLASTIC SOLID DISK HANDWHEEL

PLASTIC ANGLED-SPOKE HANDWHEELS

PLASTIC CRANK HANDLES

ALUMINUM FINGER WHEELS

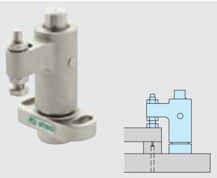
PLASTIC KNURLED KNOBS

PAIR OF STOPS

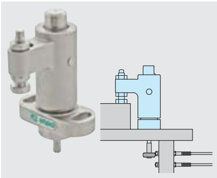
T-NUT

GROOVE COVER

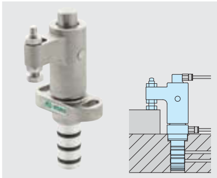
PNEUMATIC CLAMPS



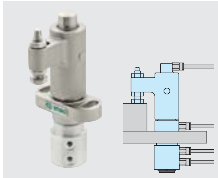
COMPACT PNEUMATIC SWING CLAMPS



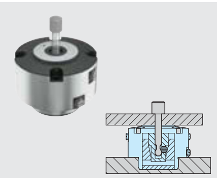
COMPACT PNEUMATIC SWING CLAMPS WITH ROD



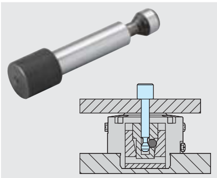
COMPACT PNEUMATIC SWING CLAMPS WITH DETECTING PORTS (Gasket Piping)



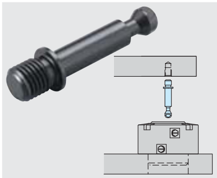
COMPACT PNEUMATIC SWING CLAMPS WITH DETECTING PORTS (Thread Piping)



PNEUMATIC PULL CLAMPS

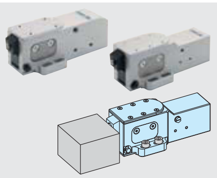


CLAMPING PINS

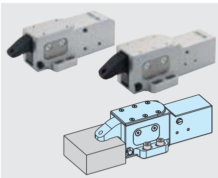


CLAMPING SCREWS

PNEUMATIC OD HOLDING CLAMPS



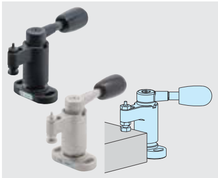
PNEUMATIC SIDE CLAMPS



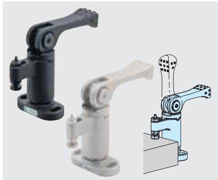
PNEUMATIC HOLD DOWN CLAMPS

ONE-TOUCH CLAMPS

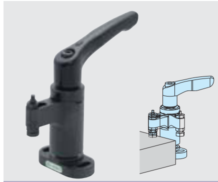
ONE-TOUCH CLAMPS



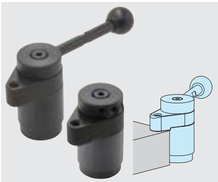
SWING CLAMPS



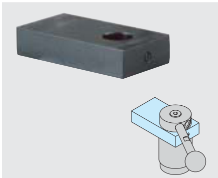
SWING CLAMPS
WITH CAM HANDLE



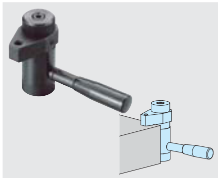
SWING CLAMPS
WITH ADJUSTABLE HANDLE



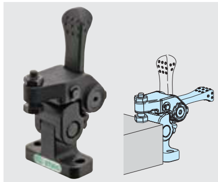
SWING CLAMPS (Standard)



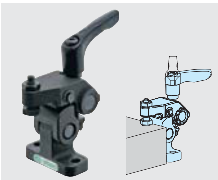
MACHINABLE CLAMP ARMS
FOR STANDARD SWING CLAMPS



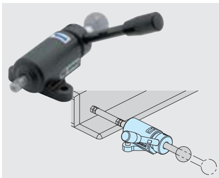
SWING CLAMPS (Heavy)



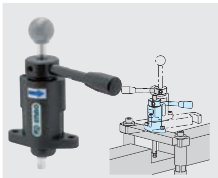
RETRACTABLE CLAMPS
WITH CAM HANDLE



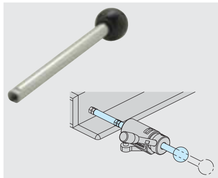
RETRACTABLE CLAMPS
WITH ADJUSTABLE HANDLE



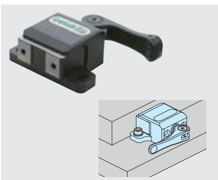
THRUST CLAMPS



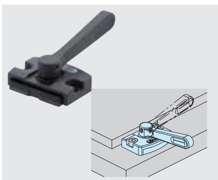
THRUST CLAMPS (Vertical)



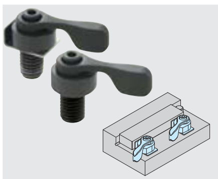
CLAMPING BARS



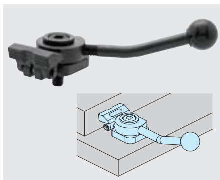
CAM EDGE CLAMPS



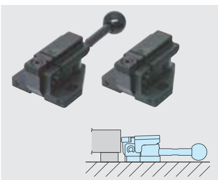
LOW-PROFILE
CAM EDGE CLAMPS



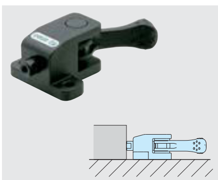
SPIRAL CAM CLAMPS



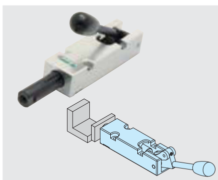
CAM EDGE CLAMPS



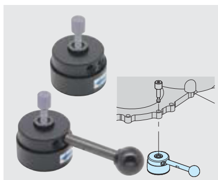
SIDE CLAMPS (Standard)



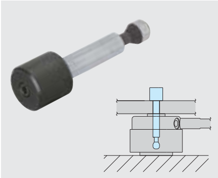
CAM PUSH CLAMPS

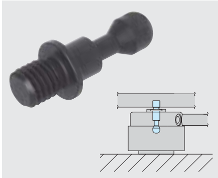


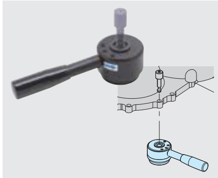
PRECISION THRUST
CLAMPS

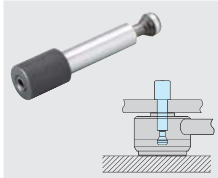


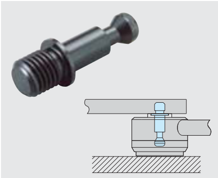
PULL CLAMPS (Standard)

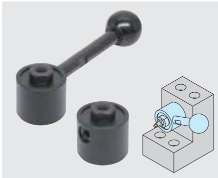

CLAMPING PINS (Standard)

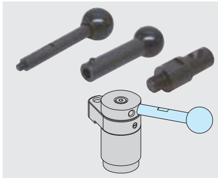

CLAMPING SCREWS (Standard)

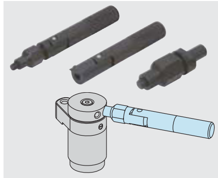

PULL CLAMPS (Heavy)


CLAMPING PINS (Heavy)


CLAMPING SCREWS (Heavy)

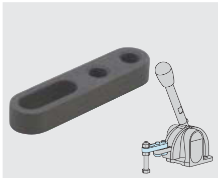

PUSH CLAMPS (Standard)


STANDARD HANDLES

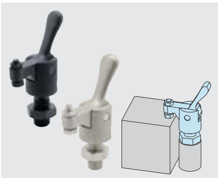

ADJUSTABLE-TORQUE HANDLES

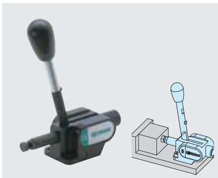
SNAP CLAMPS

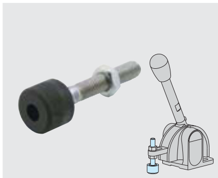

VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS

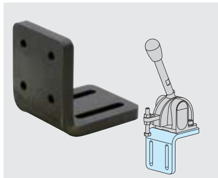

EXTENSION ARM


ANGLE ADAPTOR


VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS(Mini)

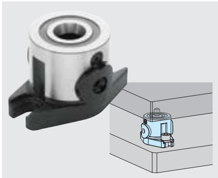

PUSH-PULL SNAP CLAMPS

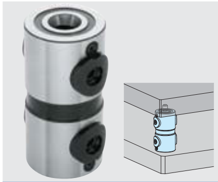

CLAMPING SPINDLES

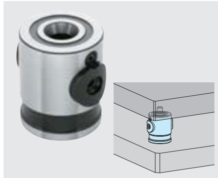

MOUNTING BRACKETS

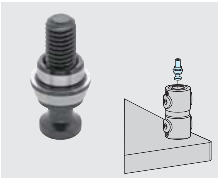
CLAMPS

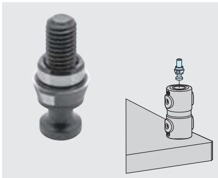
MODULAR PULL CLAMPING SYSTEM

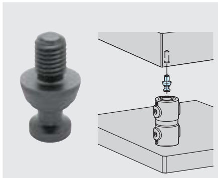

CLAMPING MODULES (Flanged)

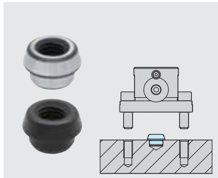

CLAMPING MODULES (Double)


CLAMPING MODULES (Single)

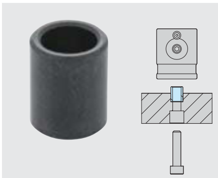

TAPERED CLAMPING SCREWS (Round)


TAPERED CLAMPING SCREWS (Diamond)

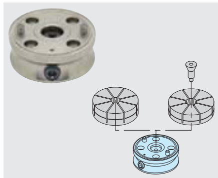

CLAMPING SCREWS

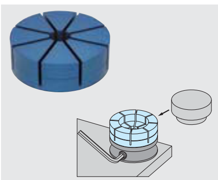

TAPERED BUSHINGS

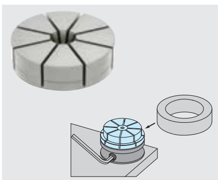

DOUBLE TAPERED CLAMPING PINS


LOCATING BUSHINGS

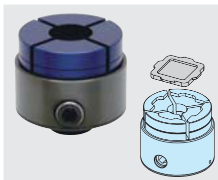
OD / ID CLAMPS

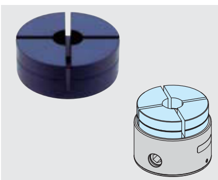

FORM HOLDING CLAMPS

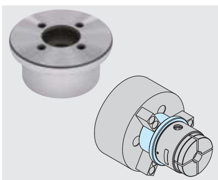

JAWS FOR EXTERNAL FORM HOLDING

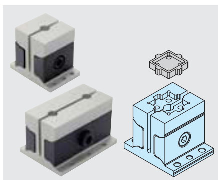

JAWS FOR INTERNAL FORM HOLDING

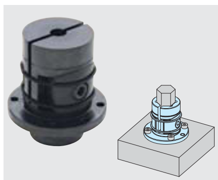

TAPERED SCREWS FOR INTERNAL FORM HOLDING


OD HOLDING CLAMPS

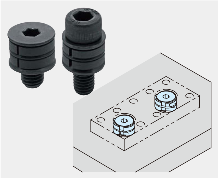

JAWS

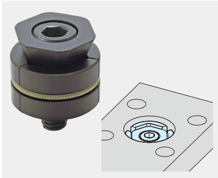

MOUNTING-ON-LATHE ADAPTERS

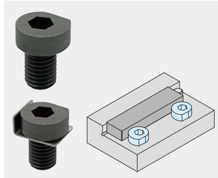

OD HOLDING CLAMPS (Wedge Style/Square)

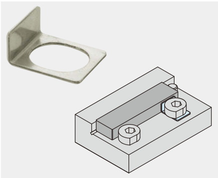

OD HOLDING CLAMPS (Wedge Style/Round)

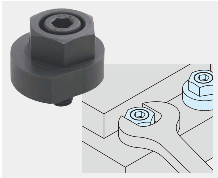
CLAMPS

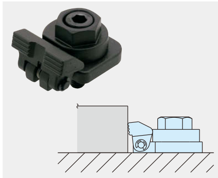

COMPACT ID HOLDING CLAMPS

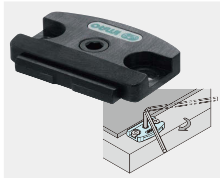

ID HOLDING CLAMPS

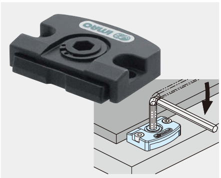

SPIRAL CAM CLAMPS

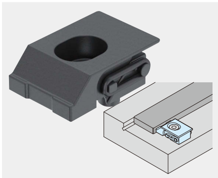

CLAMPING PLATES

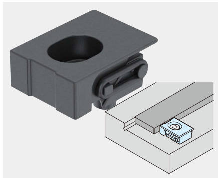

CAM CLAMPS

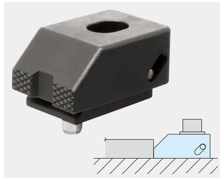

CAM EDGE CLAMPS

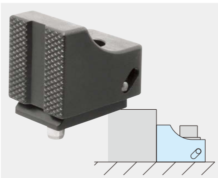

COMPACT LOW-PROFILE CAM EDGE CLAMPS

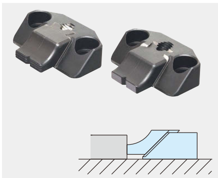

LOW-PROFILE CAM EDGE CLAMPS


COMPACT TOE CLAMPS


COMPACT SIDE CLAMPS


TOE CLAMPS


SIDE CLAMPS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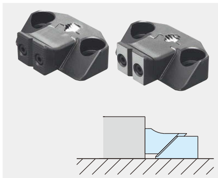
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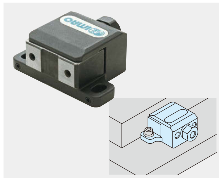
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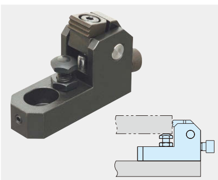
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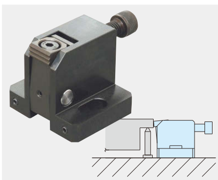
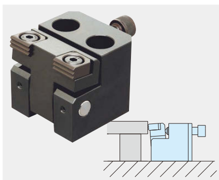
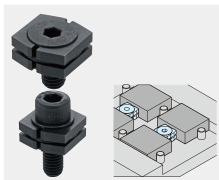
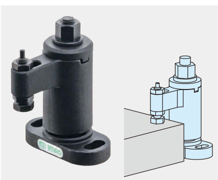
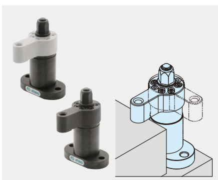
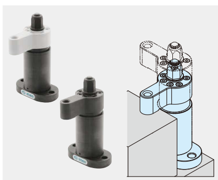

SIDE CLAMPS

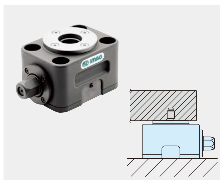

WIDE-JAW SIDE CLAMPS

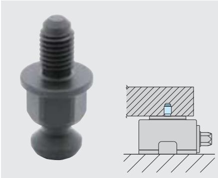

COMPACT WEDGE CLAMPS


SWING CLAMPS FOR TORQUE CONTROL

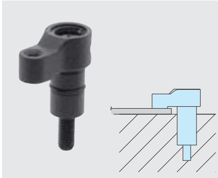

SWING CLAMPS (Quick-Acting)


SWING CLAMPS (Spiral-Acting)

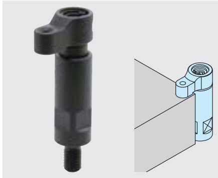

BLOCK PULL CLAMPS



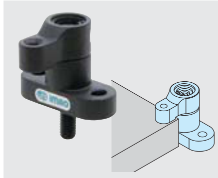
CLAMPING SCREWS
FOR BLOCK PULL CLAMPS



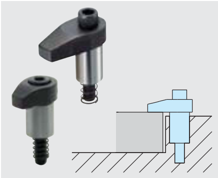
HOOK CLAMPS



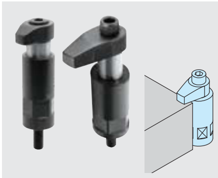
HOOK-CLAMP ASSEMBLIES



HOOK-CLAMP ASSEMBLIES
WITH FLANGED HOLDER



HOOK CLAMPS



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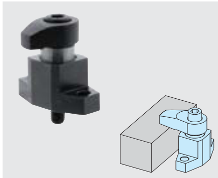
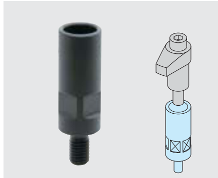
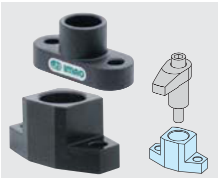


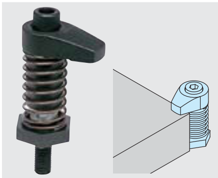
HOOK-CLAMP ASSEMBLIES
(Flanged)



HOOK-CLAMP HOLDERS

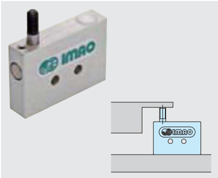


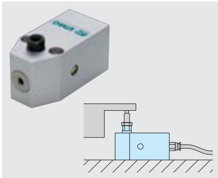
HOOK-CLAMP HOLDERS
(Flanged)

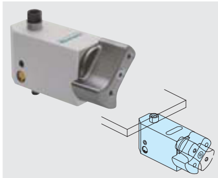


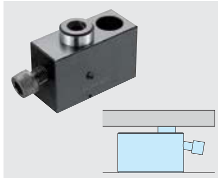
HOOK CLAMPS

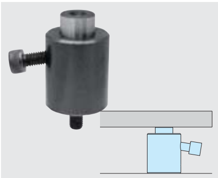
WORK SUPPORTS

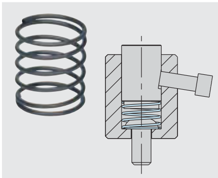

COMPACT PNEUMATIC WORK SUPPORTS

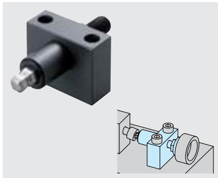

PNEUMATIC WORK SUPPORTS

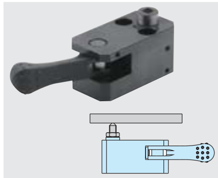

PRECISION WORK SUPPORT

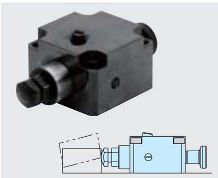

WORK SUPPORTS

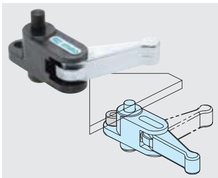

CYLINDRICAL WORK SUPPORTS

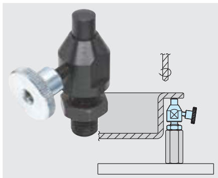

COIL SPRINGS FOR CYLINDRICAL WORK SUPPORTS


REMOTE-CONTROL UNITS


WORK SUPPORTS WITH CAM HANDLE

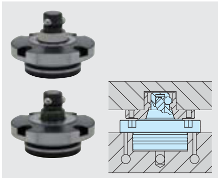

HORIZONTAL WORK SUPPORTS


COMPACT WORK SUPPORTS WITH CAM HANDLE

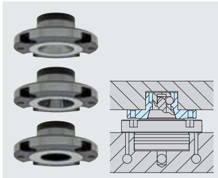

COMPACT WORK SUPPORTS

FIXTURE CHANGING SYSTEM

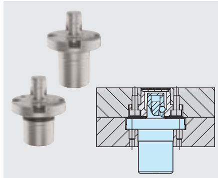
FLEX LOCATORS



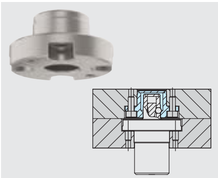
PNEUMATIC FLEX LOCATOR PINS



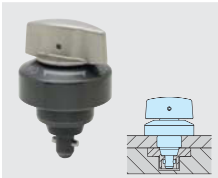
PNEUMATIC FLEX LOCATOR BUSHINGS



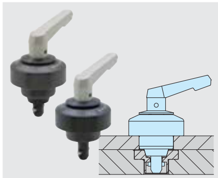
PNEUMATIC FLEX LOCATOR PINS



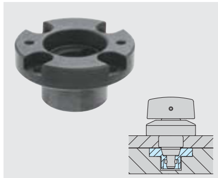
PNEUMATIC FLEX LOCATOR BUSHINGS



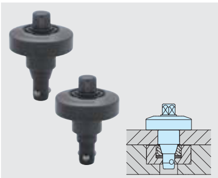
ONE-TOUCH FLEX LOCATOR CLAMPERS (Knob)



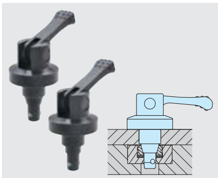
ONE-TOUCH FLEX LOCATOR CLAMPERS



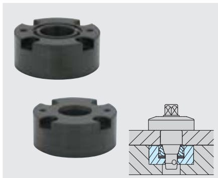
ONE-TOUCH FLEX LOCATOR BUSHINGS



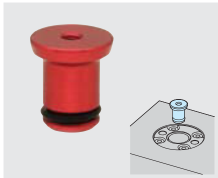
ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head)



ONE-TOUCH FLEX LOCATOR CLAMPERS (Cam Handle)

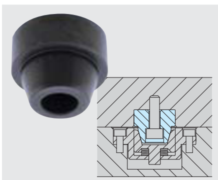


ONE-TOUCH FLEX LOCATOR BUSHINGS

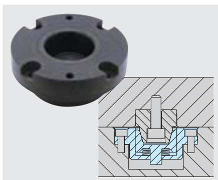


ONE-TOUCH FLEX LOCATOR PROTECTING COVERS

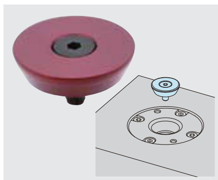
ADJUSTABLE-TORQUE WRENCHES



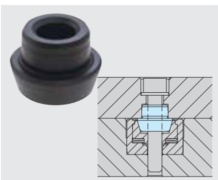
FLEX LOCATOR PINS



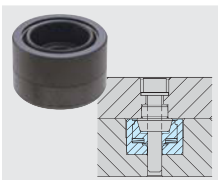
FLEX LOCATOR BUSHINGS (Blind)



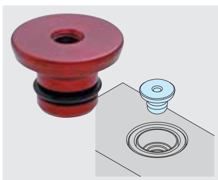
FLEX LOCATOR PROTECTING COVERS



FLEX LOCATOR PINS

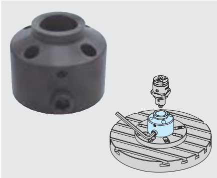


FLEX LOCATOR BUSHINGS (Through)

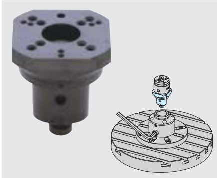


FLEX LOCATOR PROTECTING COVERS

QUICK ZERO SETTING DEVICE



BASE
(QUICK ZERO SETTING DEVICE)



HOLDER
(QUICK ZERO SETTING DEVICE)

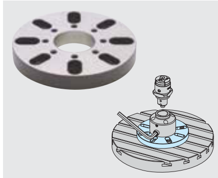
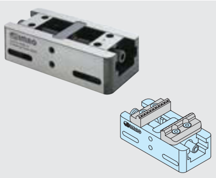
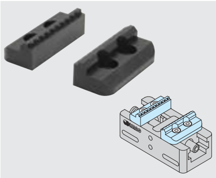


PLATE
(QUICK ZERO SETTING DEVICE)

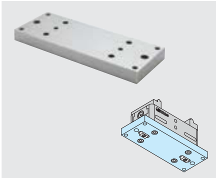
VISES



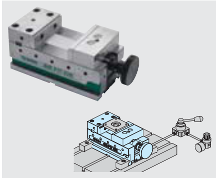
CENTERING CLAMP



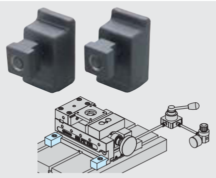
JAWS



BASE PLATE



COMPACT PNEUMATIC VISE



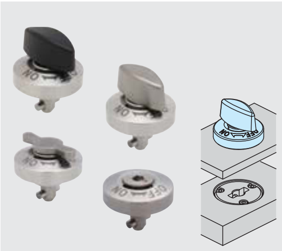
PAIR OF CLAMPS

PAIR OF POSITIONING KEYS

PAIR OF POSITIONING KEYS

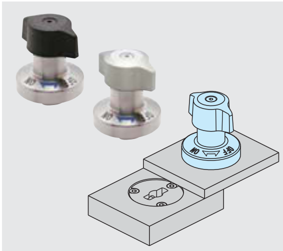
ONE-TOUCH FASTENERS

ONE-TOUCH FASTENERS



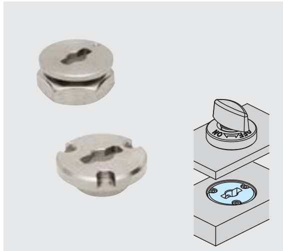
QUARTER-TURN CLAMPS

Part No. QCTH / QCTHL / QCTHH



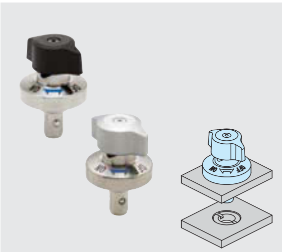
RETRACTABLE QUARTER-TURN CLAMPS

Part No. QCTHA



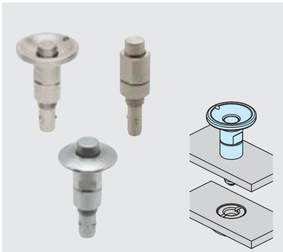
CAM RECEPTACLES

Part No. QCTH-N / QCTH-B



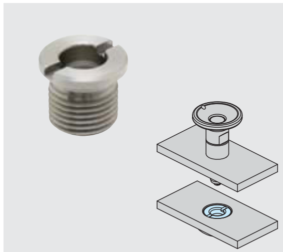
KNOB-LOCKING CLAMPS

Part No. QCWE



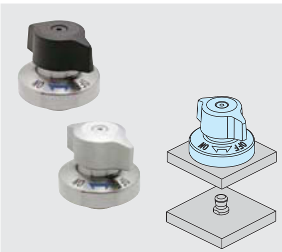
BUTTON-LOCKING PINS

Part No. QCBU / QCBUS



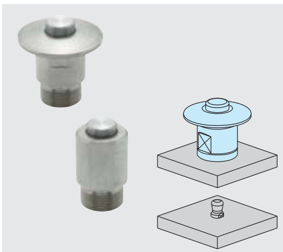
BALL-LOCK RECEPTACLES

Part No. QCBU-M



PIN HOLDING CLAMPS

Part No. QCPC

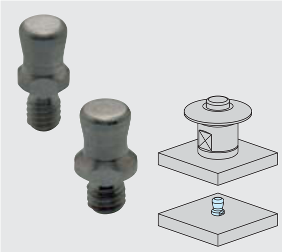


SNAP-IN CLAMPS

Part No. QCOW / QCOWS

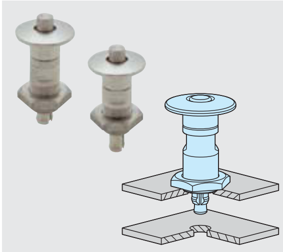
SPACERS

Part No. QCOW



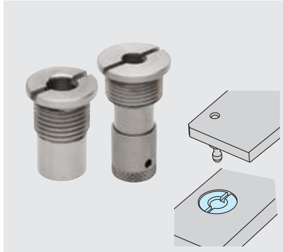
CLAMPING PINS

Part No. QCPC-M



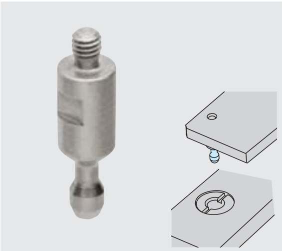
HOLE HOLDING CLAMPS

Part No. QCHC-N



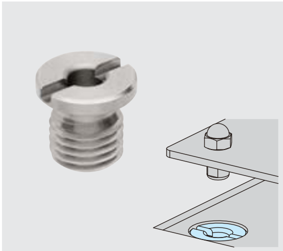
BALL-LOCK CLAMPING RECEPTACLES

Part No. QCBA / QCBAS



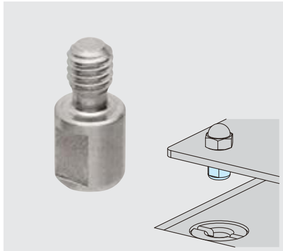
BALL-LOCK CLAMPING PINS

Part No. QCBA-M



MAGNET-LOCK CLAMPING RECEPTACLES

Part No. QCMA



MAGNET-LOCK CLAMPING PINS

Part No. QCMA-M

SHAFT COUPLING CLAMP

Part No. QCSJ

CAM RECEPTACLES

Part No. QCSJ-S / QCSJ-B

ONE-TOUCH FASTENERS

Screwless! Time Saving!

ONE-TOUCH FASTENERS

Alternatives To Screws

Screw

ONE-TOUCH FASTENERS

Easy! Secure!

Kaizen for Frequent Setups!

Quick fasteners alternative to screws for quick changeover with no tools!
One-Touch Fasteners slash setup time and provide secure locking with easy operation.

Lineup

QUARTER-TURN CLAMPS

Easy-to-read ON/OFF position

RETRACTABLE QUARTER-TURN CLAMPS

No interference by retractable shank

KNOB-LOCKING CLAMPS

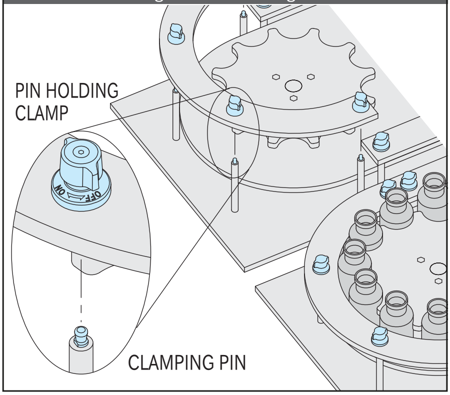
Secure clamping with wedge

BUTTON-LOCKING PINS

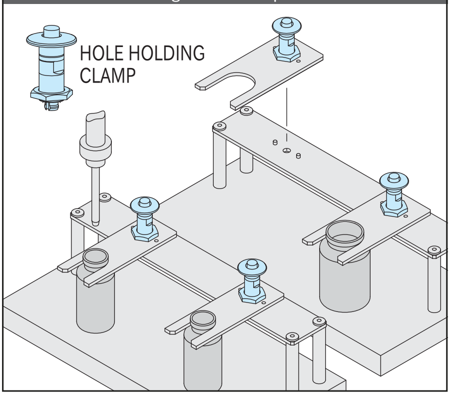
Securely locked upon releasing button

Application Example

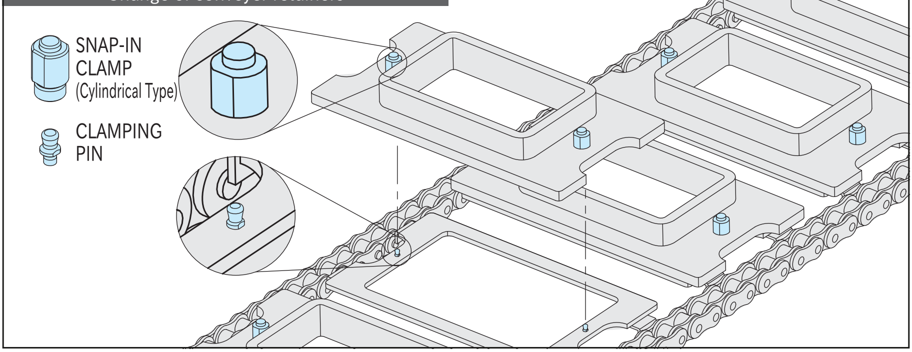
Change of star wheel guides



Change of holder plates

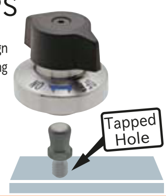


Change of conveyer retainers



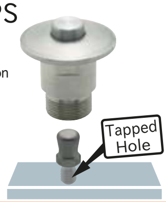
PIN HOLDING CLAMPS

Pin clamping design enables space-saving application



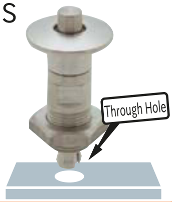
SNAP-IN CLAMPS

Quick & easy snap-in operation



HOLE HOLDING CLAMPS

No need for receptacle



BALL-LOCK CLAMPS

Compact & safety mechanical lock

MAGNET-LOCK CLAMP

Compact & instant magnetic attachment

SHAFT COUPLING CLAMP

Multipurpose coupling element

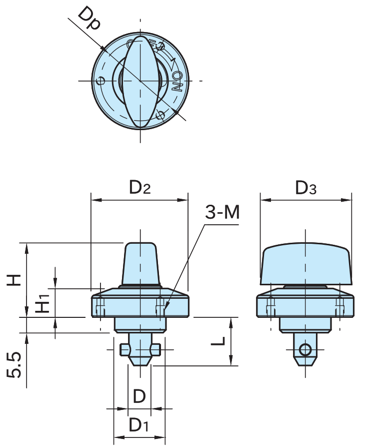
QCTH / QCTHL / QCTHH QUARTER-TURN CLAMPS

RoHS Stainless Steel

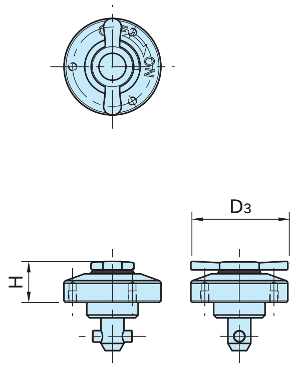
IMAO

★Key Point
Easy-to-read ON/OFF position

QCTH
(Plastic Knob)



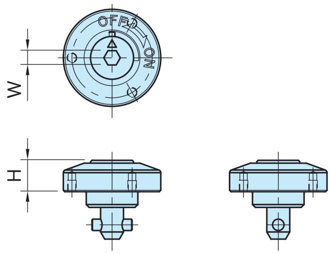
QCTH (Plastic Knob) **QCTH-S** (Metal Knob) **QCTH-SUS** (Stainless Steel)



QCTHL-S
(Low-height Knob)

QCTH-S
(Metal Knob)

QCTH-SUS
(Stainless Steel)



QCTHH
(Hex. Socket Head)

QCTHL-S
(Low-height Knob)

QCTHH
(Hex. Socket Head)

Type	Body	Shank	Pin	Knob	Spring
QCTH	SUS303 stainless steel	S45C steel Electroless nickel plated	SUS304 stainless steel	Polyamide (glass-fiber reinforced) Black	Equivalent to SWOSC-V steel
QCTH-S	SUS303 stainless steel	S45C steel Electroless nickel plated	SUS304 stainless steel	SCS13 stainless steel (Equivalent to SUS304)	Equivalent to SWOSC-V steel
QCTHL-S	SUS303 stainless steel	S45C steel Electroless nickel plated	SUS304 stainless steel	SCS13 stainless steel (Equivalent to SUS304)	Equivalent to SWOSC-V steel
QCTHH	SUS303 stainless steel	S45C steel Electroless nickel plated	SUS304 stainless steel	—	Equivalent to SWOSC-V steel
QCTH-SUS	SUS303 stainless steel	SUS303 stainless steel	SUS304 stainless steel	SCS13 stainless steel (Equivalent to SUS304)	SUS304 stainless steel

Size		Proper Plate Thickness	D $\left(^{-0.04}_{-0.08}\right)$	D_1 (h9)	D_2	L	H_1	M	Dp	Clamping Force (N)	Proper Cam Receptacles
QCTH QCTH-S QCTHL-S QCTH-SUS QCTHH	0525-10	6~10	5	14	25	15.5	6.5	M2×0.4 Depth 3	21	60	QCTH0525-N,QCTH0525-B QCTH0525-N-SUS,QCTH0525-B-SUS
	0834-14	6~14	8	18	34	17	10	M3×0.5 Depth 4	28	90	QCTH0834-N,QCTH0834-B QCTH0834-N-SUS,QCTH0834-B-SUS
	0834-20	12~20				23					

QCTH (Plastic Knob)				QCTH-S (Metal Knob)				QCTHL-S (Low-height Knob)			
Part Number	D_3	H	Weight (g)	Part Number	D_3	H	Weight (g)	Part Number	D_3	H	Weight (g)
QCTH0525-10	20	19	35	QCTH0525-10S	20	19	40	QCTHL0525-10S	25	11.5	35
QCTH0834-14	32	26	105	QCTH0834-14S	32	25.5	130	QCTHL0834-14S	34	15.5	80
QCTH0834-20			110	QCTH0834-20S			135	QCTHL0834-20S			85

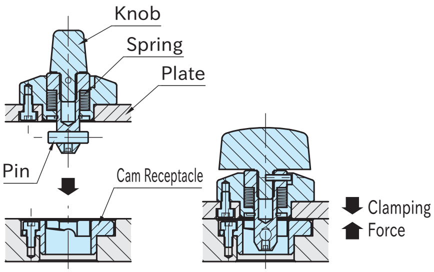
QCTH-SUS (Stainless Steel)				QCTHH (Hex. Socket Head)			
Part Number	D_3	H	Weight (g)	Part Number	H	W	Weight (g)
QCTH0525-10-SUS	20	19	40	QCTHH0525-10	8	4	30
QCTH0834-14-SUS	32	25.5	130	QCTHH0834-14	11	5	105
QCTH0834-20-SUS			135	QCTHH0834-20			110

Supplied With

QCTH QCTH-S QCTHL-S QCTH-SUS QCTHH 0525-10 : 3 of socket-head cap screws(stainless steel), M2×0.4-5L

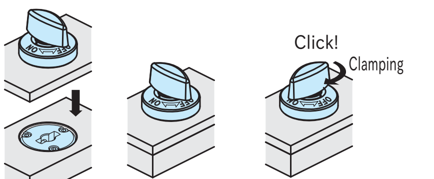
QCTH QCTH-S QCTHL-S QCTH-SUS QCTHH 0834-14、0834-20 : 3 of socket-head cap screws(stainless steel), M3×0.5-6L

Feature



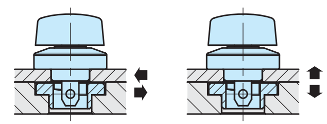
When the pin contacts the cam in the Cam Receptacle, the spring gets compressed to press down the plate.

How To Use



1. Ensure that the knob is positioned at the "OFF" mark.
2. Insert the Quarter-Turn Clamp.
3. Turn the knob to the "ON" mark for clamping. The knob clicks when it is clamped/unclamped. Note: For unclamping, follow back these steps.

Technical information



Shear Strength　　Tensile Strength

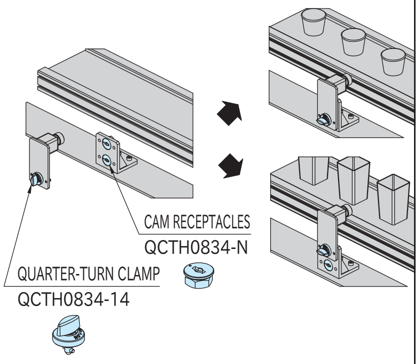
Part Number		Heatresistant Temperature(℃)	Shear Strength (N)	Tensile Strength (N)
QCTH	0525-10	130	1800	1200
	0834-14		3200	2600
	0834-20			
QCTH-S QCTHL-S QCTH-SUS QCTHH	0525-10	200	1800	1200
	0834-14		3200	2600
	0834-20			

QCTH-N / QCTH-B CAM RECEPTACLES

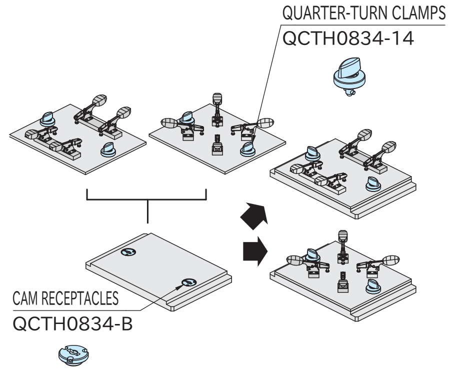
Continuing on Next Page

Application Example

Changes of camera positions



Changes of fixture plates



How To Install

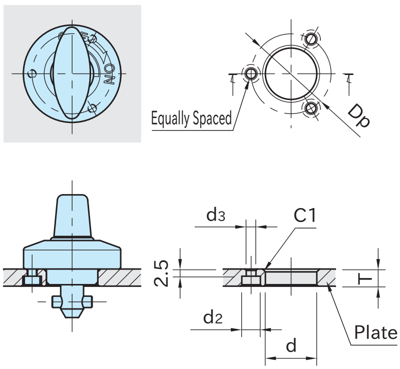


Figure A

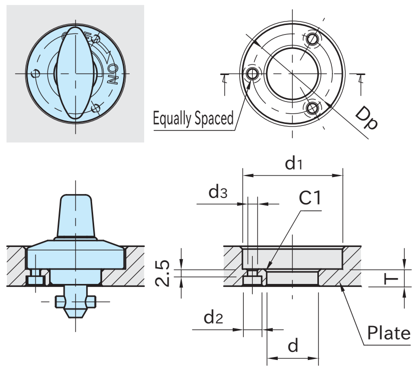
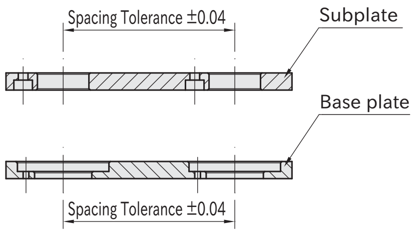


Figure B

Part Number		Proper Plate Thickness	Figure	d (+0.10 / +0.05)	d_1	T (±0.2)	d_2	d_3	Dp
QCTH QCTH-S QCTHL-S QCTH-SUS QCTHH	**0525-10**	6	A	14	—	6	4.4	2.4	21
		Over 6, 10 or less	B		26				
	0834-14	6	A	18	—		6.5	3.4	28
		Over 6, 14 or less	B		35				
	0834-20	12	A		—	12			
		Over 12, 20 or less	B		35				

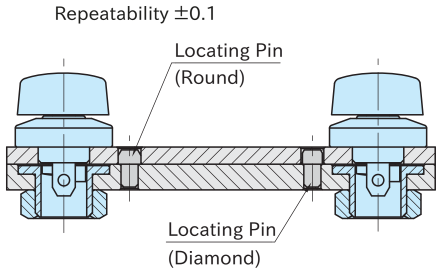
Accuracy

■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.04.

■Repeatability



For higher accurate locating, use locating pins.

Reference

"How To Install" of QCTH-N QCTH-B QCTH-N-SUS QCTH-B-SUS Cam Receptacles

QCTHA RETRACTABLE QUARTER-TURN CLAMPS

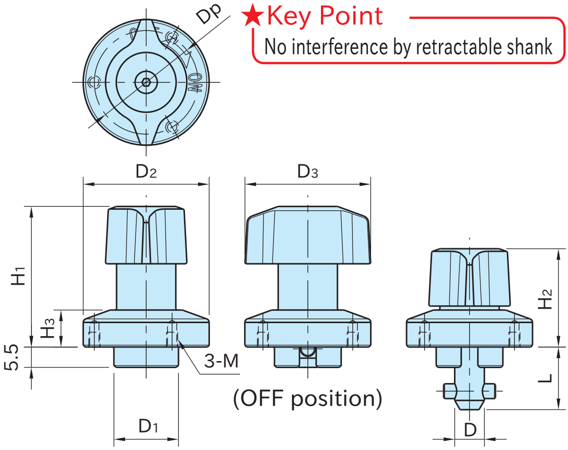
RoHS

IMAO

QCTHA (Plastic Knob) QCTHA-S (Metal Knob)
(OFF position)

QCTHA
(ON position)

★Key Point
No interference by retractable shank



(OFF position)

(ON position)

Type	Body/Shank	Pin	Knob	Spring	Coiled spring
QCTHA	S45C steel Electroless nickel plated	SUS304 stainless steel	Polyamide (glass-fiber reinforced) Black	SUS304WPB stainless steel	Equivalent to SWOSC-V steel
QCTHA-S	S45C steel Electroless nickel plated	SUS304 stainless steel	SCS13 stainless steel (Equivalent to SUS304)	SUS304WPB stainless steel	Equivalent to SWOSC-V steel

Size		Proper Plate Thickness	D $\left(\begin{smallmatrix}-0.04\\-0.08\end{smallmatrix}\right)$	D_1 (h9)	D_2	D_3	L	H_1	H_2	H_3	M	Dp	Clamping Force(N)	Proper Cam Receptacles
QCTHA QCTHA-S	0525-10	6~10	5	14	25	25	15.5	30	20	6.5	M2×0.4 Depth 3	21	60	QCTH0525-N,QCTH0525-B QCTH0525-N-SUS,QCTH0525-B-SUS
QCTHA QCTHA-S	0834-14	6~14	8	18	34	34	17	38	26.5	10	M3×0.5 Depth 4	28	90	QCTH0834-N,QCTH0834-B QCTH0834-N-SUS,QCTH0834-B-SUS

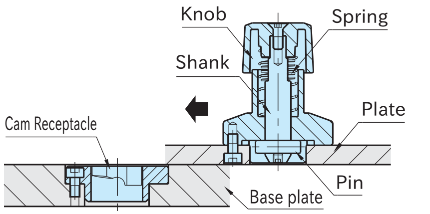
QCTHA (Plastic Knob)		QCTHA-S (Metal Knob)	
Part Number	Weight (g)	Part Number	Weight (g)
QCTHA0525-10	40	**QCTHA0525-10S**	50
QCTHA0834-14	100	**QCTHA0834-14S**	120

Supplied With

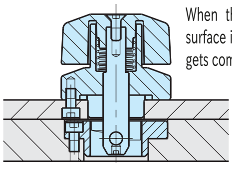
- QCTHA QCTH-S 0525-10: 3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCTHA QCTH-S 0834-14: 3 of socket-head cap screws(stainless steel), M3×0.5-6L

QCTH-N/QCTH-B Cam Receptacles

Feature

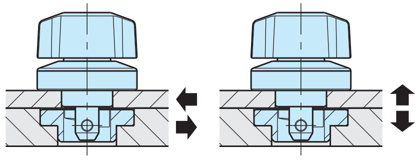


The shank retracts at the unclamping position to enable operations without interference with the base plate.



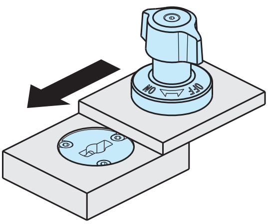
When the pin contacts along the cam surface in the Cam Receptacle, the spring gets compressed to press down the plate.

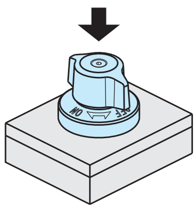
Technical Information

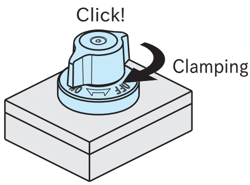


Part Number	Heatresistant Temperature(℃)	Shear Strength (N)	Tensile Strength (N)
QCTHA0525-10	130	1800	1200
QCTHA0834-14		3200	400
QCTHA0525-10S	200	1800	1200
QCTHA0834-14S		3200	400

How To Use



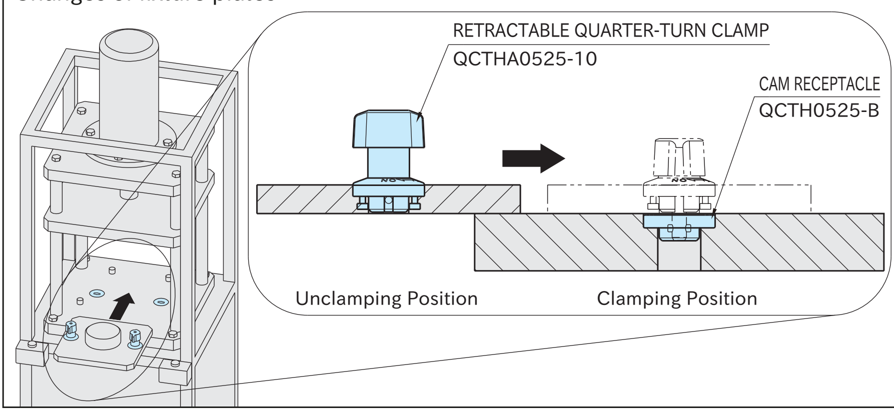




1. Ensure that the knob is positioned at the "OFF" mark and the shank is retracted.
2. Insert Retractable Quarter-Turn Clamp pressing the knob.
3. Turn the knob to the "ON" mark for clamping. The knob clicks when clamped.
Turning the knob to the "OFF" position, the shank returns automatically to the unclamping position by the spring.

Application Example

Changes of fixture plates



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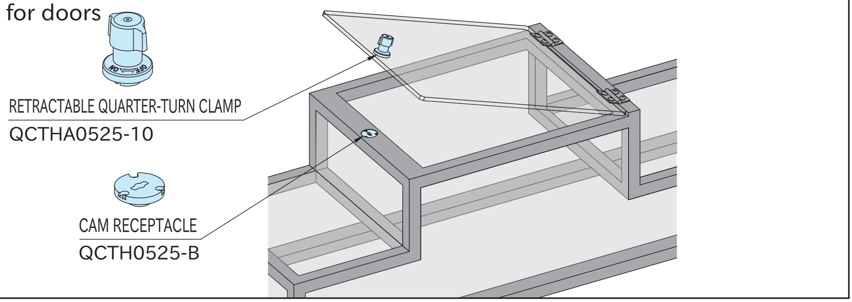
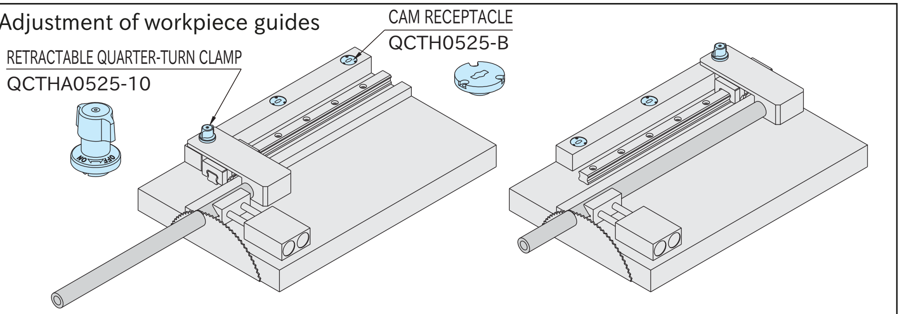
Application Example

Lock for doors



Adjustment of workpiece guides



How To Install

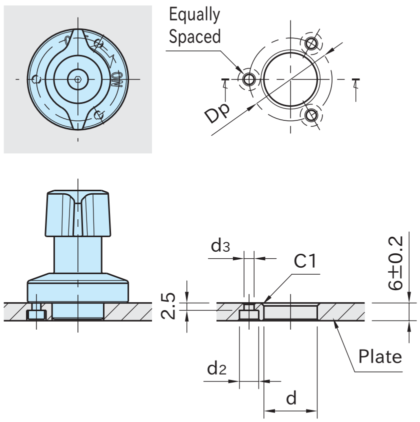


Figure A

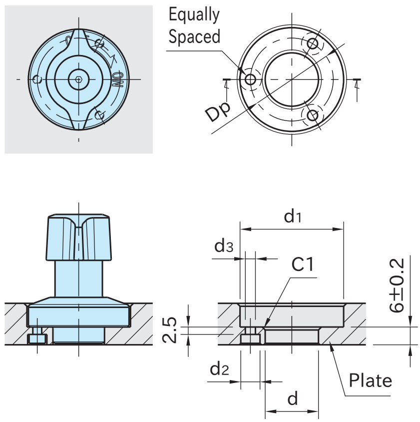
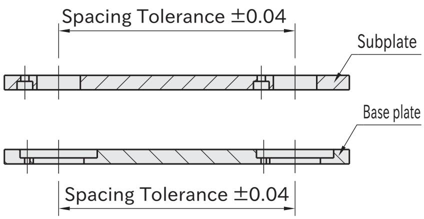


Figure B

Part Number		Proper Plate Thickness	Figure	d $\left(^{+0.10}_{+0.05}\right)$	d_1	d_2	d_3	Dp
QCTHA QCTHA-S	**0525-10**	6	A	14	—	4.4	2.4	21
		Over 6, 10 or less	B		26			
	0834-14	6	A	18	—	6.5	3.4	28
		Over 6, 14 or less	B		35			

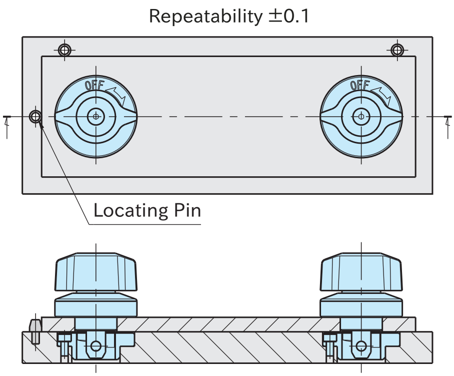
Accuracy

■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.04.

■Repeatability



For higher accurate locating, use locating components.

Reference

"How To Install" of QCTH-N QCTH-B QCTH-N-SUS QCTH-B-SUS Cam Receptacles

QCTH-N / QCTH-B CAM RECEPTACLES

RoHS | Stainless Steel | Electroless Nickel Plated

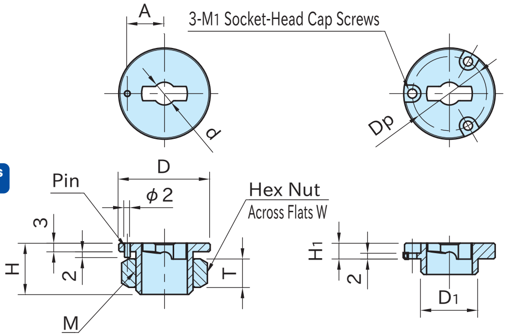
IMAO

QCTH-N
(Thin-Plate Mount)

QCTH-N-SUS
(Thin-Plate Mount, Stainless Steel)

QCTH-B
(Embedded Mount)

QCTH-B-SUS
(Embedded Mount, Stainless Steel)



QCTH-N QCTH-N-SUS
(Thin-Plate Mount)
(Thin-Plate Mount, Stainless Steel)

QCTH-B QCTH-B-SUS
(Embedded Mount)
(Embedded Mount, Stainless Steel)

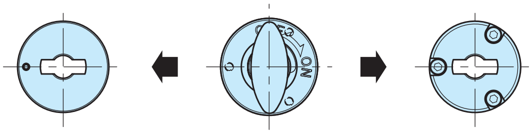
Type	Body	Nut
QCTH-N	SCM440 steel Electroless nickel plated	Stainless steel
QCTH-B		—
QCTH-N-SUS	SCS24 stainless steel (Equivalent to SUS630)	Stainless steel
QCTH-B-SUS		—

Part Number	Proper Plate Thickness		D		H	d (+0.08 / +0.04)	A (±0.1)	M	T	W	D1 (−0.04 / −0.08)	H1	M1	Dp	Weight (g)	Proper Quarter-Turn Clamps	
QCTH0525-N	Thin-Plate Mount	6~10	25	-0.04 -0.08	16	5	10.5	M14×1.5 (Fine Thread)	8	22	—	—	—	—	40	QCTH QCTH-S QCTHL-S QCTH-SUS QCTHH QCTHA QCTHA-S	0525-10
QCTH0525-N-SUS																	
QCTH0834-N		6~12	32		18	8	13	M20×1.5 (Fine Thread)	10	30					55		0834-14 0834-20
QCTH0834-N-SUS																	
QCTH0525-B	Embedded Mount	Over 10	25	—	9	5	—	—	—	—	14	4.5	M2	21	20		0525-10
QCTH0525-B-SUS																	
QCTH0834-B		Over 12	32		11	8					20	5.5	M3	26	35		0834-14 0834-20
QCTH0834-B-SUS																	

Supplied With

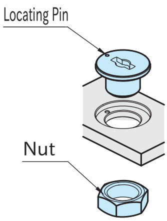
- QCTH0525-B QCTH0525-B-SUS : 3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCTH0834-B QCTH0834-B-SUS : 3 of socket-head cap screws(stainless steel), M3×0.5-6L

Installing Position

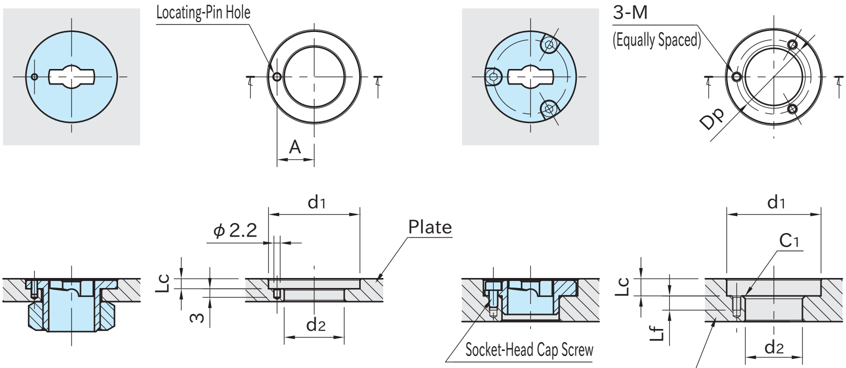


Cam Receptacle (Thin-Plate Mount) Quarter-Turn Clamp Cam Receptacle (Embedded Mount)

How To Install



Locate the Cam Receptacle with the locating pin and fasten it with the nut.



QCTH-N
(Thin-Plate Mount)

QCTH-B
(Embedded Mount)

Part Number	Proper Plate Thickness		d_1		d_2		A (±0.1)	Lc ($^{+0.10}_{0}$)	M	Lf	Dp
QCTH0525-N	Thin-Plate Mount	6~10	25	+0.10 +0.05	15	—	10.5	3.5	—	—	—
QCTH0525-N-SUS	Thin-Plate Mount	6~10	25	+0.10 +0.05	15	—	10.5	3.5	—	—	—
QCTH0834-N	Thin-Plate Mount	6~12	32	+0.10 +0.05	21	—	13	3.5	—	—	—
QCTH0834-N-SUS	Thin-Plate Mount	6~12	32	+0.10 +0.05	21	—	13	3.5	—	—	—
QCTH0525-B	Embedded Mount	Over 10	26	—	14	+0.10 +0.05	—	5	M2×0.4	4	21
QCTH0525-B-SUS	Embedded Mount	Over 10	26	—	14	+0.10 +0.05	—	5	M2×0.4	4	21
QCTH0834-B	Embedded Mount	Over 12	33	—	20	+0.10 +0.05	—	6	M3×0.5	5	26
QCTH0834-B-SUS	Embedded Mount	Over 12	33	—	20	+0.10 +0.05	—	6	M3×0.5	5	26

Reference

"Accuracy" of QCTHA QCTH QCTHL QCTHH Quarter-Turn Clamps

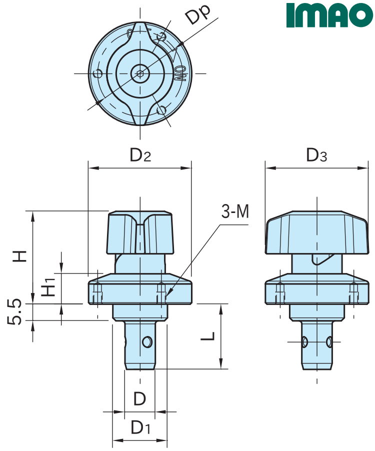
QCWE KNOB-LOCKING CLAMPS

RoHS | Stainless Steel | Electroless Nickel Plated

Wedge

IMAO

QCWE QCWE-S QCWE-SUS
(OFF position)



QCWE
(ON position)

★Key Point
Secure clamping with wedge

Type	Body	Shank	Knob	Ball	Spring
QCWE	S45C steel Electroless nickel plated	S45C steel Electroless nickel plated Quenced and tempered	Polyamide (glass-fiber reinforced) Black	SUS440C stainless steel Quenced and tempered	SUS304WPB stainless steel
QCWE-S			SCS13 stainless steel (Equivalent to SUS304)		
QCWE-SUS	SUS303 stainless steel	SUS420J2 stainless steel Quenched and tempered			

Size		Proper Plate Thickness	D $\left(^{-0.05}_{-0.10}\right)$	D_1 (h9)	D_2	D_3	L	H	H_1	M	Dp	Clamping Force(N)	Proper Receptacle
QCWE QCWE-S QCWE-SUS	0625-10	6~10	6	14	25	25	19.5	24.5	6.5	M2×0.4 Depth 3	21	30	QCBU0608-M12 QCBU0608-M12SUS
	1034-14	6~14	10	18	34	34	21.5	31	10	M3×0.5 Depth 4	28	50	QCBU1012-M16 QCBU1012-M16SUS
	1034-20	12~20					27.5						

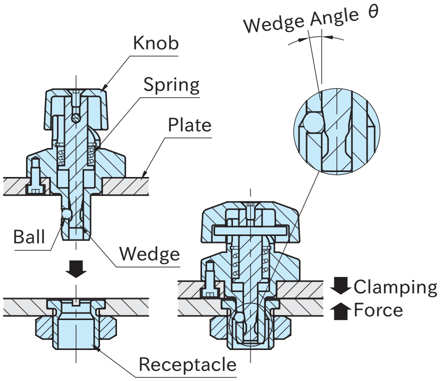
QCWE (Plastic Knob)		QCWE-S (Metal Knob)		QCWE-SUS (Stainless Steel)	
Part Number	Weight (g)	Part Number	Weight (g)	Part Number	Weight (g)
QCWE0625-10	40	**QCWE0625-10S**	50	**QCWE0625-10-SUS**	50
QCWE1034-14	95	**QCWE1034-14S**	120	**QCWE1034-14-SUS**	120
QCWE1034-20	100	**QCWE1034-20S**	130	**QCWE1034-20-SUS**	130

QCBU-M BALL-LOCK RECEPTACLES

Supplied With

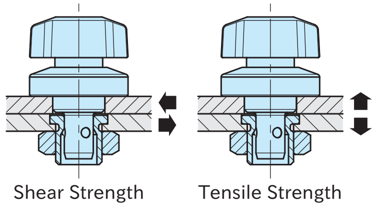
- QCWE QCWE-S QCWE-SUS 0625-10:
  3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCWE QCWE-S QCWE-SUS 1034-14、1034-20 :
  3 of socket-head cap screws(stainless steel), M3×0.5-6L

Feature



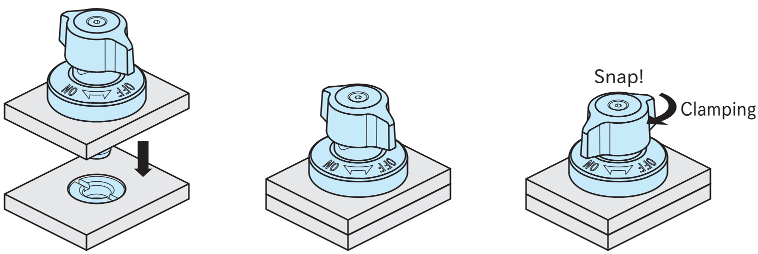
The wedge of the locking pin pushes out the ball onto the taper of the receptacle, for clamping of the two plates.

Technical Information



Size		Heatresistant Temperature(℃)	Shear Strength (N)	Tensile Strength (N)
QCWE	0625-10	130	3000	500
	1034-14		9000	1500
	1034-20			
QCWE-S / QCWE-SUS	0625-10	200	3000	500
	1034-14		9000	1500
	1034-20			

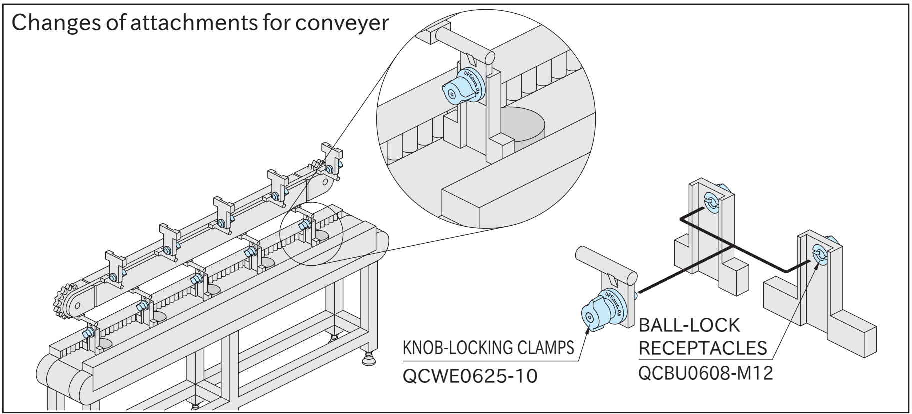
How To Use



1. Ensure that the knob is positioned at the "OFF" mark.
2. Insert the Knob-Locking Clamp.
3. Turn the knob to the "ON" mark for clamping. The knob turns lightly by spring force. Note: For unclamping, follow back these steps.

Application Example

Changes of attachments for conveyer



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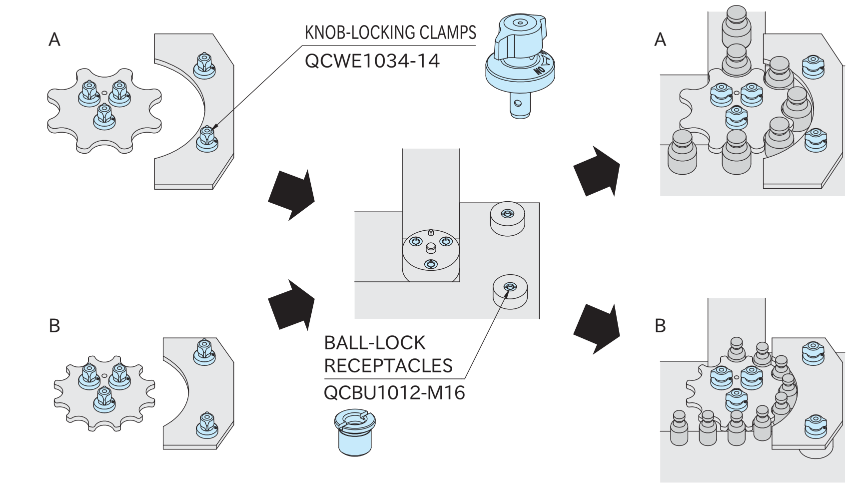
Application Example

Changes of star wheels and guide plates



How To Install

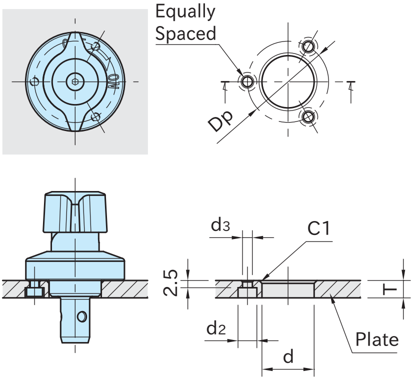


Figure A

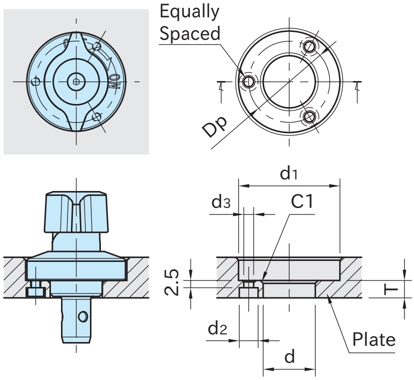
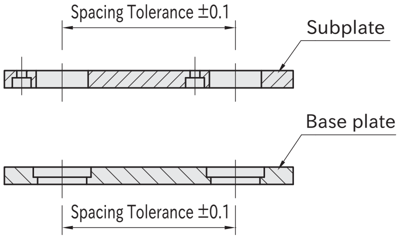


Figure B

Size		Proper Plate Thickness	Figure	d $\left({}^{+0.10}_{+0.05}\right)$	d_1	T (±0.2)	d_2	d_3	Dp
QCWE QCWE-S QCWE-SUS	0625-10	6	A	14	—	6	4.4	2.4	21
		Over 6, 10 or less	B		26				
	1034-14	6	A	18	—		6.5	3.4	28
		Over 6, 14 or less	B		35				
	1034-20	12	A		—	12			
		Over 12, 20 or less	B		35				

Accuracy

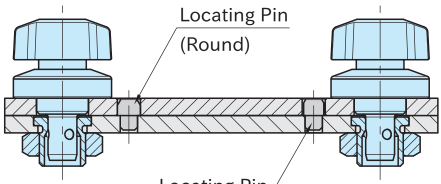
■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.1.

■Repeatability

Repeatability ±0.25



For higher accurate locating, use locating pins.

QCBU / QCBUS BUTTON-LOCKING PINS

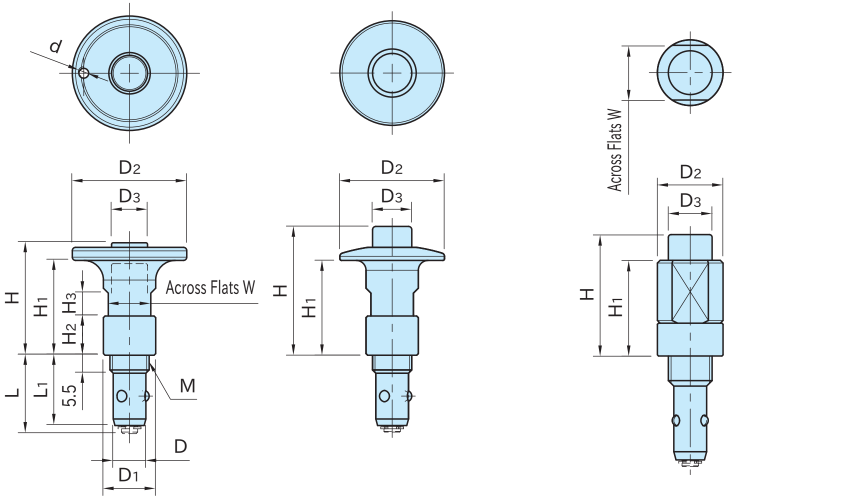
RoHS | Stainless Steel | Electroless Nickel Plated | Heat resistance: 180°C

IMAO

Wedge

★Key Point
Secure clamping with wedge

QCBU (Standard) | QCBU-SUS (Stainless Steel) | QCBUS (Cylindrical) | QCBUS-SUS (Cylindrical,Stainless Steel)



QCBU | QCBU-SUS | QCBUS | QCBUS-SUS

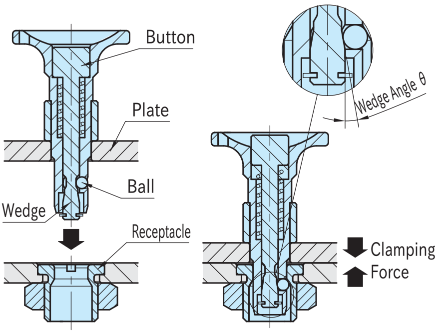
Part Number		Body	Button		Ball	Coiled Spring	Snap Ring	O-Ring
QCBU QCBUS	0608-10	S45C steel Electroless nickel plated	S45C steel	Electroless nickel plated Quenched and tempered	SUS440C stainless steel Quenched and tempered	SUS304WPB stainless steel	Stainless steel	FKM fluororubber
	1012-16							—
QCBU-SUS QCBUS-SUS	0608-10	SUS303 stainless steel	SUS420J2 stainless steel					FKM fluororubber
	1012-16							—

Part Number		Proper Plate Thickness	D ($^{-0.05}_{-0.10}$)	M	D_1	L	L_1	H_2	W	Clamping Force(N)	Proper Receptacles
QCBU QCBUS QCBU-SUS QCBUS-SUS	0608-10	6~10	6	M 8×1.25	12	21	19	6	10	30	QCBU0608-M12 QCBU0608-M12SUS
	1012-16	6~16	10	M12×1.5 (Fine Thread)	16	23.5	21.5	12	13	50	QCBU1012-M16 QCBU1012-M16SUS

QCBU (Standard)								QCBU-SUS (Stainless Steel)						
Part Number	D_2	D_3	H	H_1	H_3	d	Weight (g)	Part Number	D_2	D_3	H	H_1	H_3	Weight (g)
QCBU0608-10	25	8	22	18	5.5	—	30	QCBU0608-10-SUS	23	8	26	18	5.5	30
QCBU1012-16	35	11	34.5	29	7	3	75	QCBU1012-16-SUS	32	12	39.5	29	7	75

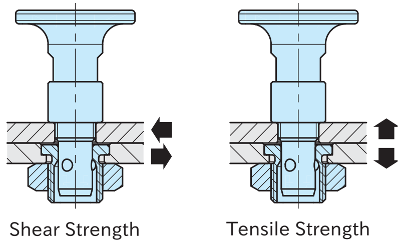
QCBUS (Cylindrical)							QCBUS-SUS (Cylindrical,Stainless Steel)						
Part Number	D_2	D_3	H	H_1	H_3	Weight (g)	Part Number	D_2	D_3	H	H_1	H_3	Weight (g)
QCBUS0608-10	12	8	22	17.5	11.5	30	QCBUS0608-10SUS	12	8	22	17.5	11.5	30
QCBUS1012-16	16	11	34.5	28	16	50	QCBUS1012-16SUS	16	11	34.5	28	16	50

Feature



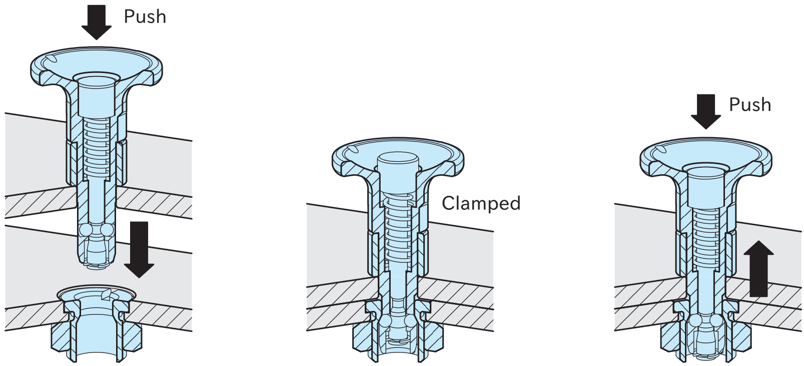
The wedge of the locking pin pushes out the ball onto the taper of the receptacle, for clamping of the two plates.

Technical Information



Part Number		Heatresistant Temperature (℃)	Shear Strength (N)	Tensile Strength (N)
QCBU QCBUS QCBU-SUS QCBUS-SUS	0608-10	180	3000	500
	1012-16		9000	1500

How To Use



1. Insert the pin pressing the button.
2. When the button is released,plates are clamped.
3. For removal, pull out the pin pressing the button.

QCBU-M	Ball-Lock Receptacles

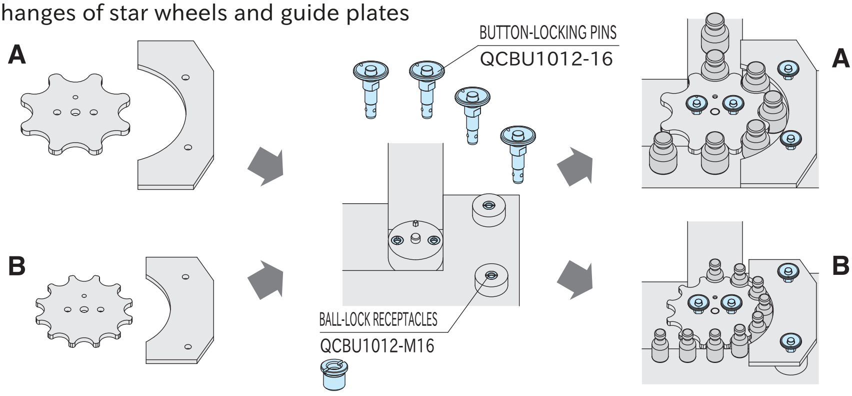
Note

For cylindrical types, prepare handles or knobs separately to facilitate the operation. Use of cylindrical type requires handles or knobs separately to operate the product properly.

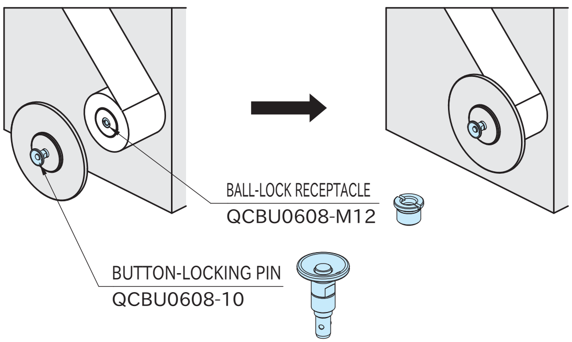
Continuing on Next Page

Application Example

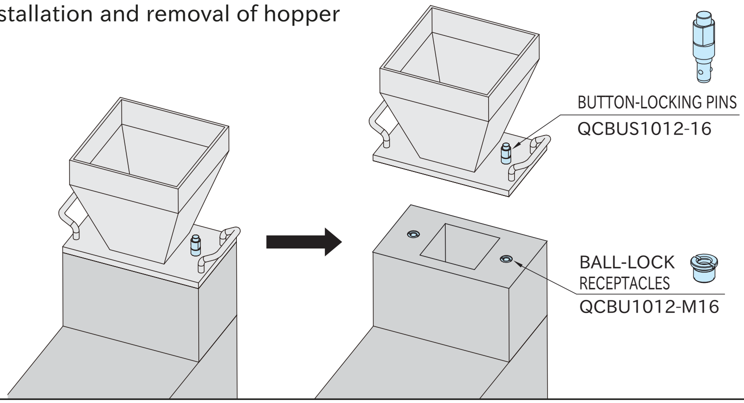
Changes of star wheels and guide plates



Installation and removal of stopper plate for rolls

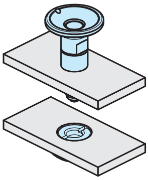


Installation and removal of hopper



How To Install

Fixed Installation



Part Number		Proper Plate Thickness	Figure	M	d2
QCBU QCBUS QCBU-SUS QCBUS-SUS	0608-10	6	A	M 8×1.25	—
		Over 6, 10 or less	B		13
	1012-16	6	A	M12×1.5 (Fine Thread)	—
		Over 6, 16 or less	B		17

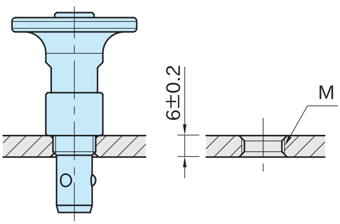


Figure A

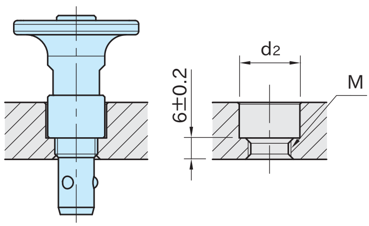
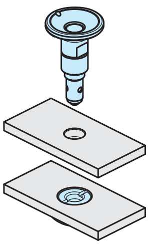


Figure B

Unfixed Installation (Except QCBUS QCBUS-SUS type)



Part Number		Proper Plate Thickness	Figure	d1 $\left(^{+0.1}_{0}\right)$	d2
QCBU QCBU-SUS	0608-10	6	C	8	—
		Over 6, 10 or less	D		13
	1012-16	6	C	12	—
		Over 6, 16 or less	D		17

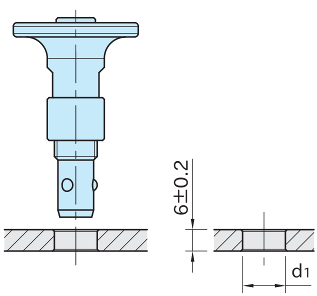


Figure C

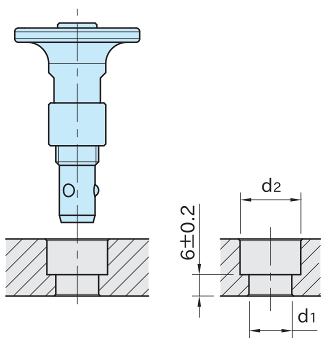
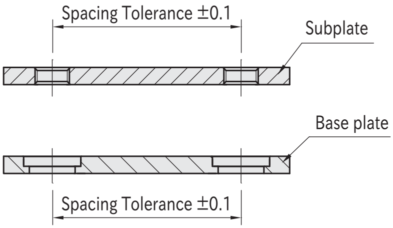


Figure D

Continuing on Next Page

Accuracy

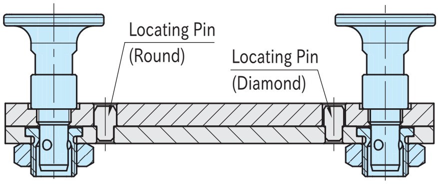
■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.1.

■Repeatability

Repeatability is ±0.25 for both fixed and unfixed installations.



For higher accurate locating, use locating pins.

Value Creator

IMAO

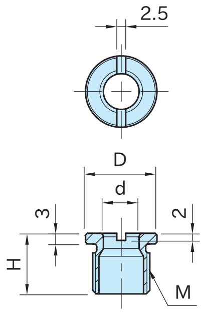
QCBU-M BALL-LOCK RECEPTACLES

RoHS | Stainless Steel | Electroless Nickel Plated | Heat resistance: 180°C

IMAO

QCBU-M

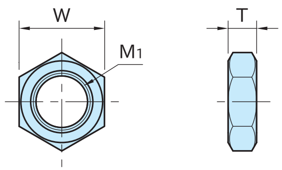
QCBU-M-SUS



Type	Body
QCBU-M	S45C steel Electroless nickel plated
QCBU-M-SUS	SUS303 stainless steel

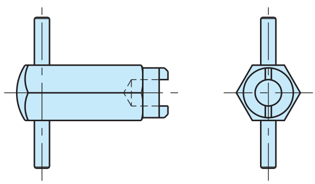
Part Number	Proper Plate Thickness	d (+0.4/+0.2)	D (h9)	M	H	Weight (g)	Proper Knob-Locking Clamps	Proper Button-Locking Pins
QCBU0608-M12	6 or more	6	16	M12×1.5 (Fine Thread)	15	9	QCWE0625-10 QCWE0625-10S QCWE0625-10-SUS	QCBU0608-10,QCBUS0608-10 QCBU0608-10-SUS QCBUS0608-10SUS
QCBU0608-M12SUS								
QCBU1012-M16		10	20	M16×1.5 (Fine Thread)	17	13	QCWE1034-14,QCWE1034-14S QCWE1034-20,QCWE1034-20S QCWE1034-14-SUS,QCWE1034-20-SUS	QCBU1012-16,QCBUS1012-16 QCBU1012-16-SUS QCBUS1012-16SUS
QCBU1012-M16SUS								

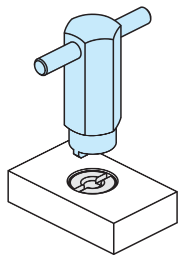
Order Separately Nut (Stainless Steel)



Part Number	M_1	T	W
NDX12-NUT-SUS	M12×1.5 (Fine Thread)	6	19
NDX16-NUT-SUS	M16×1.5 (Fine Thread)	8	24

Order Separately Installation Wrench





Part Number
PW16

Body
S45C steel Black oxide finish

How To Install

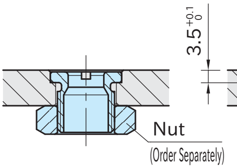


Figure A

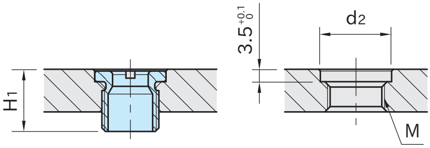
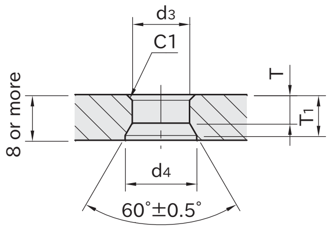


Figure B

Part Number		Proper Plate Thickness	Figure	M	d_1	d_2 $\binom{+0.10}{+0.05}$	H_1
QCBU-M QCBU-M-SUS	12	6~10	A	—	13	16	—
		Over 10	B	M12X1.5 (Fine Thread)	—		15.5
	16	6~10	A	—	17	20	—
		Over 10	B	M16X1.5 (Fine Thread)	—		17.5

Without Ball-Lock Receptacle

With additional work to plate of 8mm or more thickness, Button-Locking Pins and Knob-Locking Clamps can be used directly on the plate made of hard steel such as S45C.



Dimensions				Proper Knob-Locking		Proper Button-Locking Pins	
d_3 $\binom{+0.4}{+0.2}$	d_4	T (±0.1)	T_1				
6	8 or more	4.9	(6.6)	QCWE QCWE-S QCWE-SUS	0625-10	QCBU QCBU-SUS QCBUS QCBUS-SUS	0608-10
10	12.5 or more	5	(7.2)		1034-14 1034-20		1012-16

Reference

"Accuracy" of QCWE Knob-Locking Clamps
and QCBU QCBUS Button-Locking Pins

QCPC PIN HOLDING CLAMPS

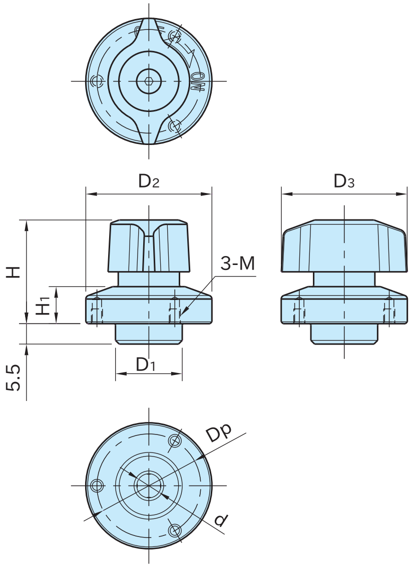
IMAO

RoHS | Stainless Steel | Electroless Nickel Plated

Wedge

QCPC QCPC-S QCPC-SUS
(OFF position)

QCPC
(ON position)



★Key Point
Pin clamping design enables space-saving application.

Type	Body	Knob	Ball	Spring
QCPC	S45C steel Electroless nickel plated	Polyamide (glass-fiber reinforced) Black	SUS440C stainless steel Quenched and tempered	SUS304WPB stainless steel
QCPC-S		SCS13 stainless steel (Equivalent to SUS304)		
QCPC-SUS	SUS303 stainless steel			

Size		Proper Plate Thickness	d $\binom{+0.4}{+0.2}$	D_1 (h9)	D_2	D_3	H	H_1	M	Dp	Clamping Force (N)	Proper Clamping Pins
QCPC QCPC-S QCPC-SUS	0625-10	6~10	6	14	25	25	23	6.5	M2×0.4 Depth 3	21	7	QCPC0625-M4-SUS
	0834-14	6~14	8	18	34	34	28	10	M3×0.5 Depth 4	28	9	QCPC0834-M5-SUS

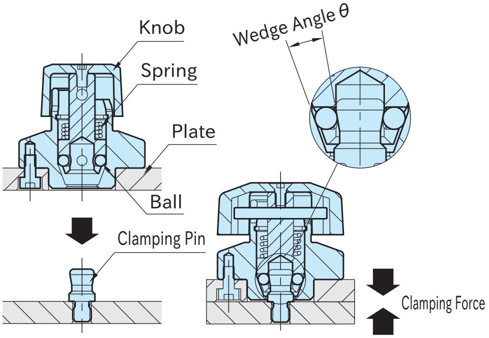
QCPC (Plastic Knob)		QCPC-S (Metal Knob)		QCPC-SUS (Stainless Steel)	
Part Number	Weight (g)	Part Number	Weight (g)	Part Number	Weight (g)
QCPC0625-10	35	**QCPC0625-10S**	45	**QCPC0625-10-SUS**	45
QCPC0834-14	85	**QCPC0834-14S**	105	**QCPC0834-14-SUS**	105

QCPC-M Clamping Pins

Supplied With

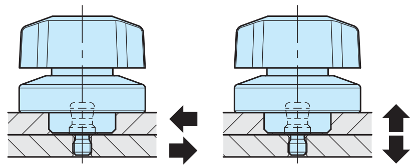
- QCPC QCPC-S QCPC-SUS 0625-10
  : 3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCPC QCPC-S QCPC-SUS 0834-14
  : 3 of socket-head cap screws(stainless steel), M3×0.5-6L

Feature



Four balls hold the Clamping Pin to pull the plate for clamping.

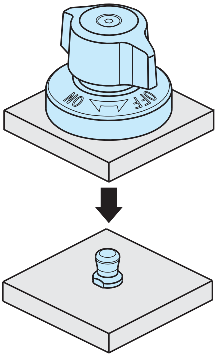
Technical Information



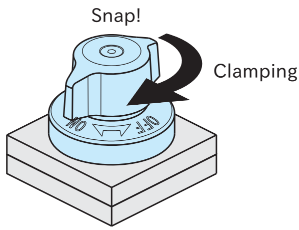
Shear Strength　Tensile Strength

Size		Heatresistant Temperature (℃)	Shear Strength (N)	Tensile Strength (N)
QCPC	0625-10	130	1100	250
	0834-14		1800	400
QCPC-S	0625-10	200	1100	250
QCPC-SUS	0834-14		1800	400

How To Use



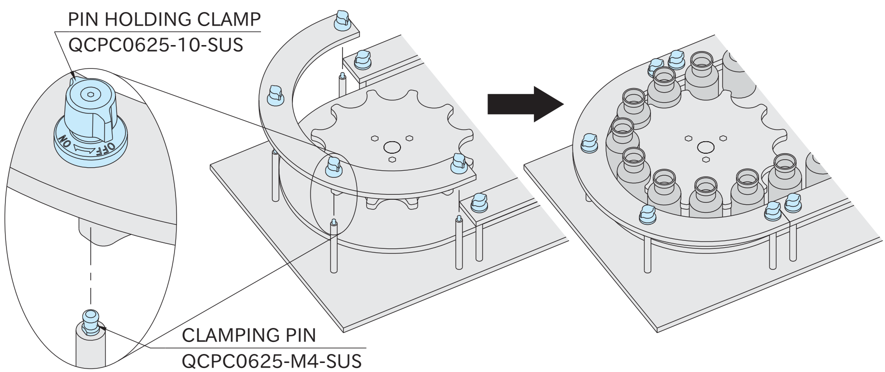
1. Ensure that the knob is positioned at the "OFF" mark and put Pin Holding Clamp over the Clamping Pin.



2. Turn the knob to the "ON" mark for clamping.
   Note: For unclamping, follow back these steps.

Application Example

Changes of guides around star wheels



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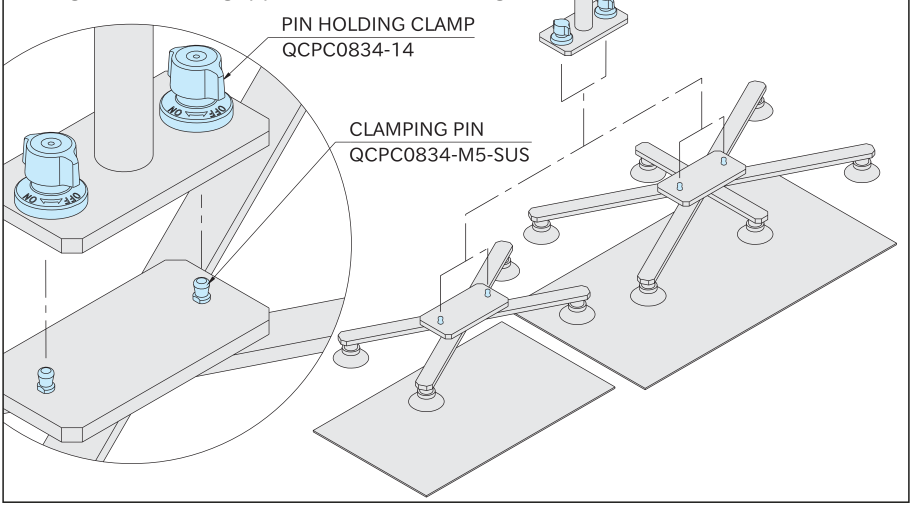
Application Example

Changes of suction grippers for wafer handling



How To Install

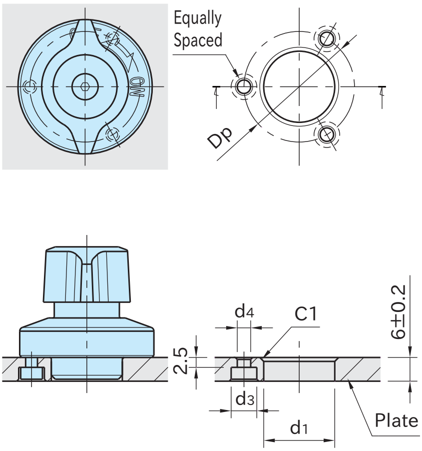


Figure A

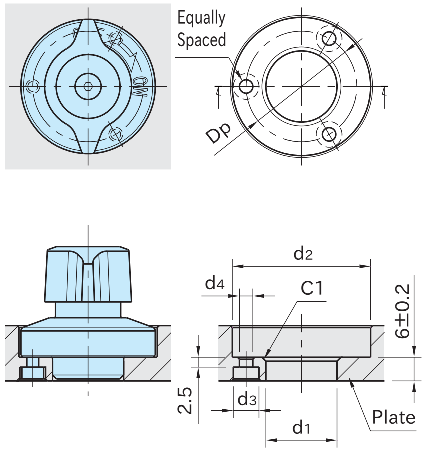
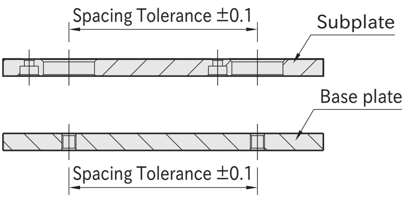


Figure B

Size		Proper Plate Thickness	Figure	d $\left(\begin{smallmatrix}+0.10\\+0.05\end{smallmatrix}\right)$	d_2	d_3	d_4	Dp
QCPC QCPC-S QCPC-SUS	**0625-10**	6	A	14	—	4.4	2.4	21
		Over 6, 10 or less	B		26			
	0834-14	6	A	18	—	6.5	3.4	28
		Over 6, 14 or less	B		35			

Accuracy

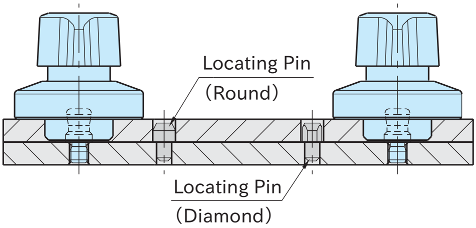
■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.1.

■Repeatability

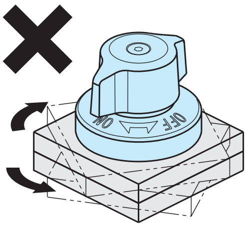
Repeatability ±0.25



For higher accurate locating, use locating pins.

Note

Rotation of either sub plate or base plate can get Pin Holding Clamp unclamped, when one pair of the clamp and the clamping pin is used. Prepare a stop in such application.



QCOW / QCOWS SNAP-IN CLAMPS

RoHS Stainless Steel Heat resistance: 180°C

IMAO

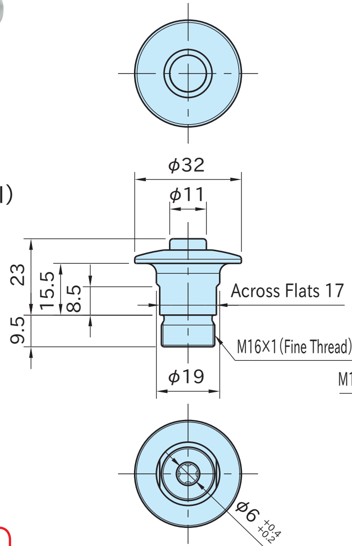
Wedge

Body/Button	Ball	Spring	O-Ring
SUS303 stainless steel	SUS440C stainless steel	SUS304WPB stainless steel	FKM Fluororubber

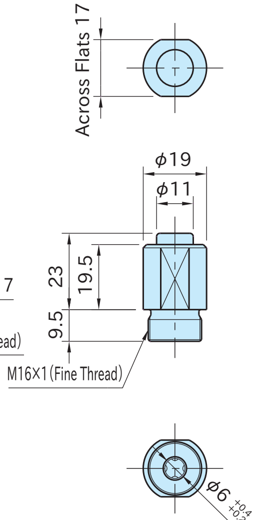
QCOW
(Stainless Steel)

QCOWS
(Cylindrical, Stainless Steel)

★Key Point
Quick & easy snap-in operation



QCOW
(Stainless Steel)



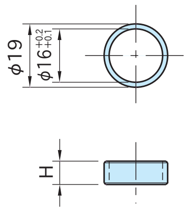
QCOWS
(Cylindrical, Stainless Steel)

Part Number	Proper Plate Thickness	Clamping Force (N)	Weight (g)	Proper Clamping Pin
QCOW 0616-10SUS	3~10	6	65	QCPC0625-M4-SUS
QCOWS0616-10SUS	3~27		50	

QCOW SPACERS

RoHS Stainless Steel Heat resistance: 180°C

IMAO

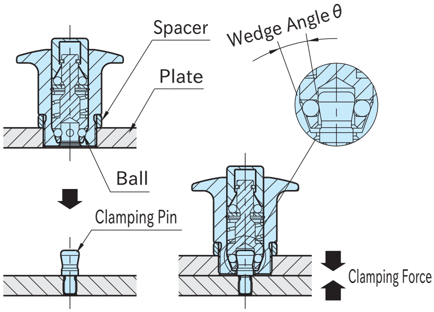


Spacer
SUS303 stainless steel

Part Number	Proper Plate Thickness	H (±0.05)	Weight (g)	Proper Snap-In Clamps
QCOW0616-04-SUS	6	4	2.5	QCOW0616-10SUS QCOWS0616-10SUS
QCOW0616-05-SUS	5	5	3	
QCOW0616-06-SUS	4	6	3.5	
QCOW0616-07-SUS	3	7	4	

QCPC-M CLAMPING PINS

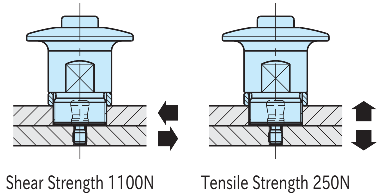
Feature



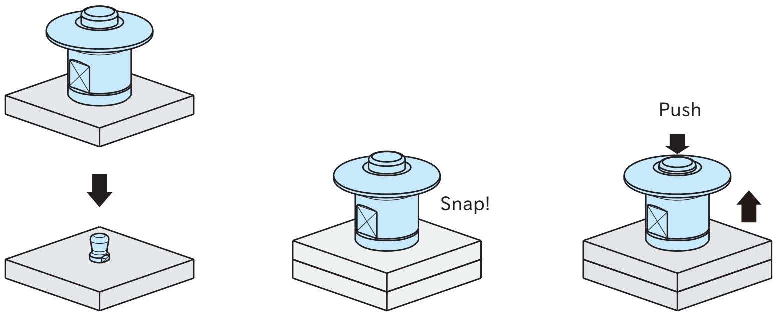
Four balls hold the Clamping Pin to pull the plate for clamping.

Technical Information

・Heatresistant Temperature 180℃
・Mechanical Strength



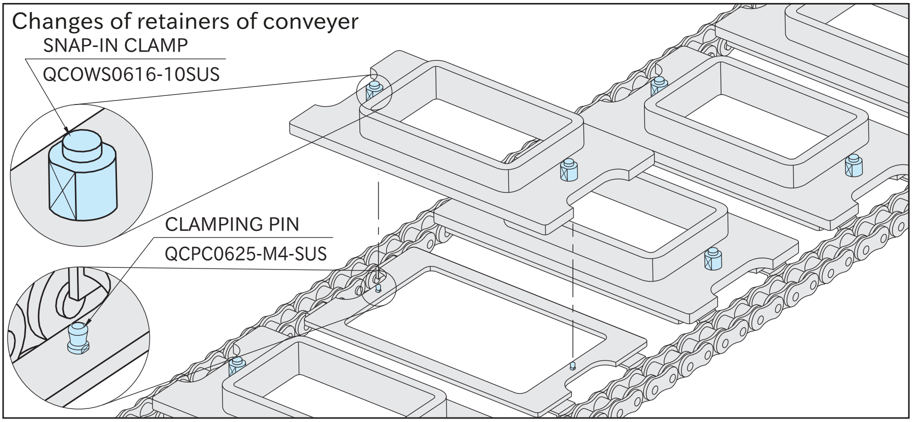
How To Use



1. Put Snap-In Clamp over the Clamping Pin. No need to push the button.
2. Clamped instantly as the pin is inserted.
3. For unclamping, push the button and pull the clamp.

Application Example

Changes of retainers of conveyer



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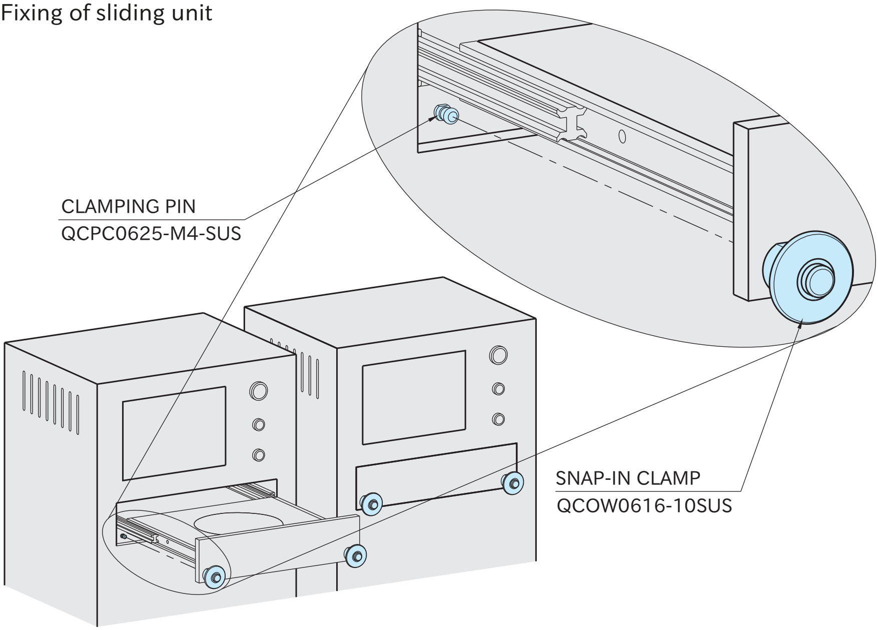
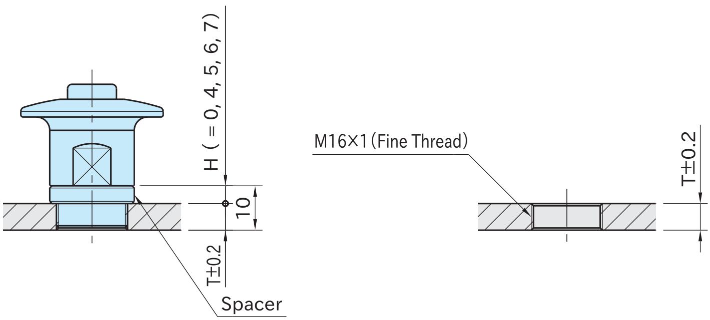
Application Example

Fixing of sliding unit

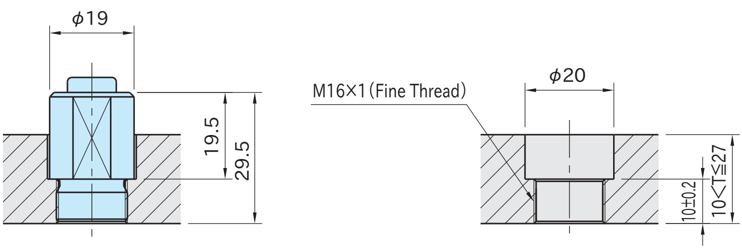


How To Install

For 3 to 10mm-thick plate

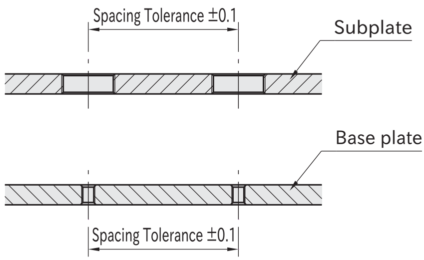


For over 10mm-thick plate



Accuracy

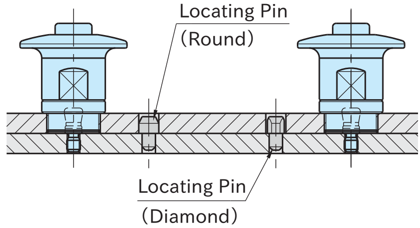
■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.1.

■Repeatability

Repeatability ±0.25

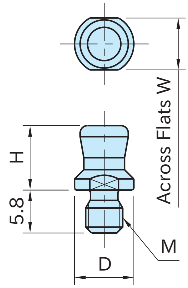


For higher accurate locating, use locating pins.

QCPC-M CLAMPING PINS

RoHS | Stainless Steel | Heat resistance: 180°C

IMAO



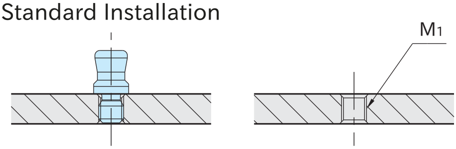
Body
SUS630 stainless steel

Part Number	D $\binom{-0.05}{-0.10}$	M	H	W	Weight (g)	Proper Pin Holding Clamps	Proper Snap-In Clamps
QCPC0625-M4-SUS	6	M4×0.7	7.6	5	2	QCPC0625-10 QCPC0625-10S QCPC0625-10-SUS	QCOW0616-10SUS QCOWS0616-10SUS
QCPC0834-M5-SUS	8	M5×0.8	8.7	7	3	QCPC0834-14 QCPC0834-14S QCPC0834-14-SUS	–

Note: Refer to the product pages of clamps for machining accuracy and repeatability.

How To Install

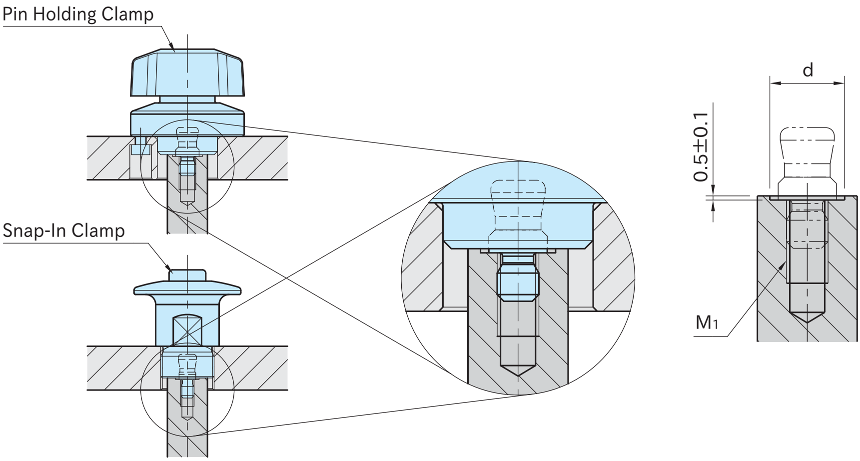
Standard Installation



Part Number	M_1	d
QCPC0625-M4-SUS	M4×0.7	7
QCPC0834-M5-SUS	M5×0.8	9

Space-Saving Installation

Prepare a counterbored hole with depth 0.5±0.1 on the surface where Clamping Pin to be mounted directly contacts with the bottom surface of the clamp.



Value Creator

QCHC-N HOLE HOLDING CLAMPS

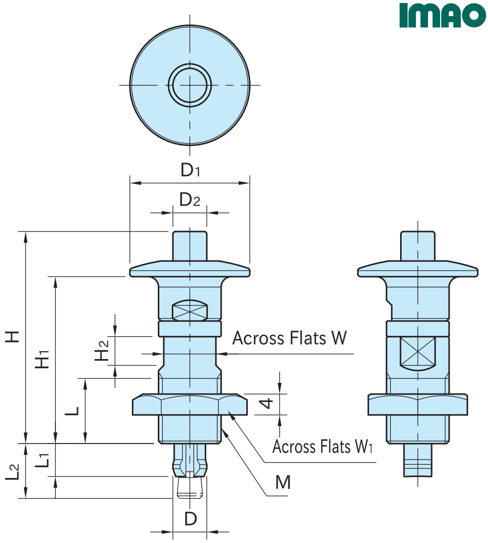
IMAO

RoHS | Stainless Steel | Heat resistance: 180°C

Wedge

QCHC-N-3

QCHC-N-6

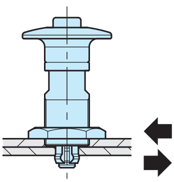


Part Number	Body/Nut	Spacer	Spring/Snap Ring
QCHC-N-3	SUS303 stainless steel	SUS303 stainless steel	SUS304WPB stainless steel
QCHC-N-6		–	

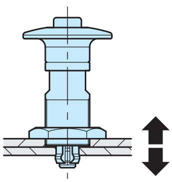
★Key Point
Receptacle is not required.

Part Number	Proper Base Plate Thickness	Proper Plate Thickness	D	M	D_1	D_2	H	L	H_1	L_1	L_2	H_2	W	W_1	Clamping Force(N)	Weight (g)
QCHC0612N-3-SUS	3	3~ 8	6.5	M12×1 (Fine Thread)	23	6.5	40	12.5	32	6.5	10.5	5.5	10	19	3	41
QCHC0612N-6-SUS	6						37		29	9.5	13.5					40
QCHC0816N-3-SUS	3	3~12	8.5	M16×1 (Fine Thread)	32	10	51	16.5	41.5	6.5	11	7	14	24	6	88
QCHC0816N-6-SUS	6						48		38.5	9.5	14					86

Technical Information



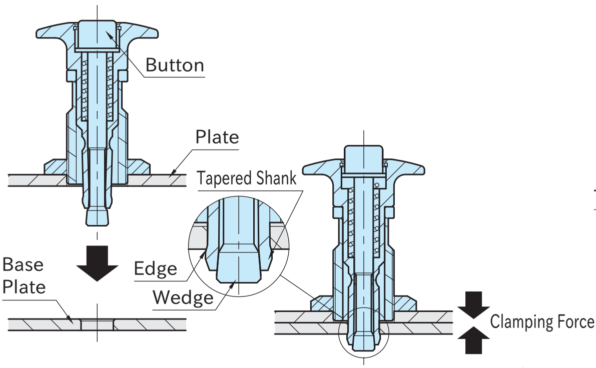
Shear Strength



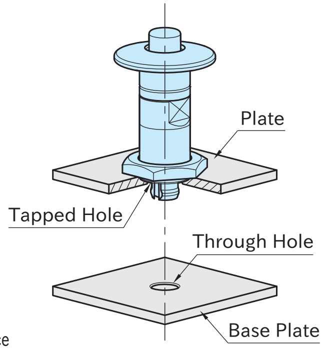
Tensile Strength

Part Number	Heat Resistant Temperature (℃)	Shear Strength (N)	Tensile Strength (N)
QCHC0612N-3-SUS	180	200	150
QCHC0612N-6-SUS			
QCHC0816N-3-SUS		400	300
QCHC0816N-6-SUS			

Feature

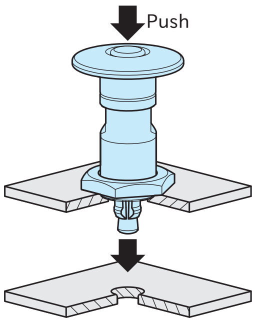


The tapered shank expanded by the wedge pushes out the edge of the hole on the base plate, and the two plates are clamped.

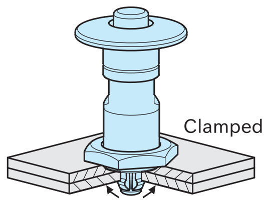


Just a tapped hole and a through hole are required.

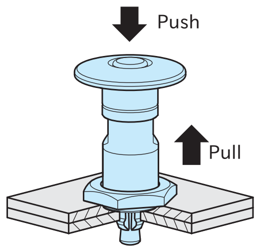
How To Use



1. Insert Hole Holding Clamp pressing the button.



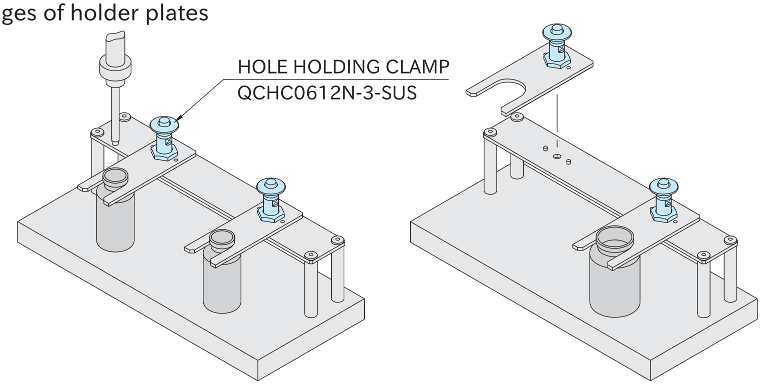
2. The slitted part on the shank expands once the but ton is released, and the plate is clamped.



3. For unclamping, push the button and pull the clamp.

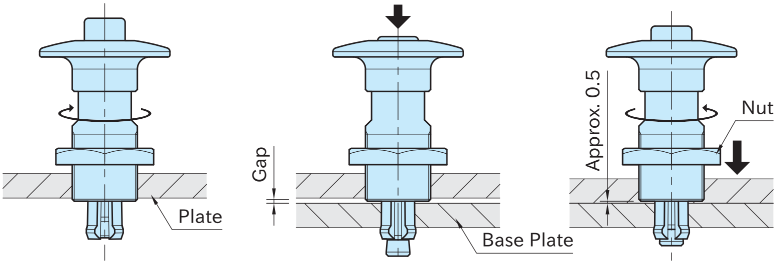
Application Example

Changes of holder plates



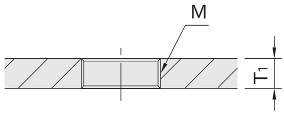
Continuing on Next Page

How To Install



1. Screw Hole Holding Clamp into the plate until the end of threaded part comes out of the plate.
2. Insert the clamp pushing the button.
3. Adjust the clamp until the both plates get contacted, and then lock the clamp with the nut.

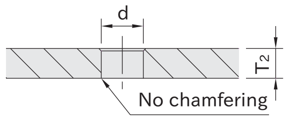
■Mounting Hole on Plate



Part Number	M	T_1
QCHC0612N	M12×1 (Fine Thread)	3～ 8
QCHC0816N	M16×1 (Fine Thread)	3～12

■Mounting Hole on Baseplate

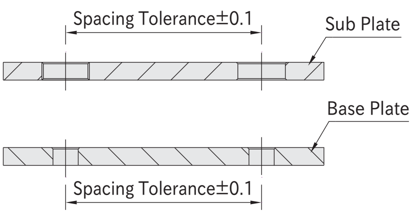
Use hard metals such as stainless steels for the base plate.



Part Number	d (±0.1)	T_2
QCHC0612N-3-SUS	6.5	3
QCHC0612N-6-SUS		6
QCHC0816N-3-SUS	8.5	3
QCHC0816N-6-SUS		6

Accuracy

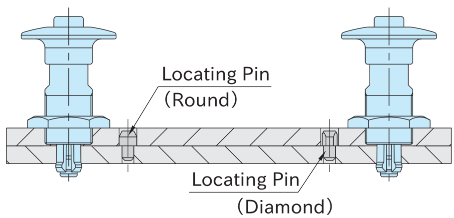
■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.1.

■Repeatability

Repeatability ±0.25



For higher accurate locating, use locating pins.

Value Creator
IMAO

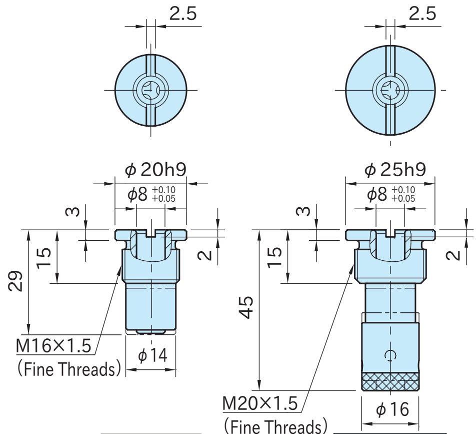
QCBA / QCBAS BALL-LOCK CLAMPING RECEPTACLES

RoHS | Electroless Nickel Plated | Heat resistance: 180°C

IMAO

QCBA0816 (Standard)   QCBAS0820 (Safety Lock)

Type	Body/Collar	Balls	Coiled Spring	Locking Knob
QCBA0816	S45C steel Electroless nickel plated	SUS440C stainless steel Quenched and tempered	SUS304WPB stainless steel	—
QCBAS0820	S45C steel Electroless nickel plated	SUS440C stainless steel Quenched and tempered	SUS304WPB stainless steel	S45C steel Electroless nickel plated



QCBA0816 (Standard)   QCBAS0820 (Safety Lock)

QCBA0816 (Standard)

Part Number	Clamping Force (N)	Weight (g)
QCBA0816A	7	30
QCBA0816B	15	30

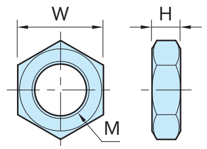
QCBAS0820 (Safety Lock)

Part Number	Clamping Force (N)	Weight (g)
QCBAS0820A	7	65
QCBAS0820B	15	65

Related Product

PW Plunger Wrench

Order Separately Nut (Stainless Steel)

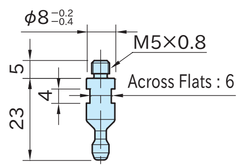


Part Number	M (Fine Threads)	H	W	Proper Ball-Lock Clamping Receptacles
NDX16-NUT-SUS	M16×1.5	8	24	QCBA0816
NDX20-NUT-SUS	M20×1.5	10	30	QCBAS0820

QCBA-M BALL-LOCK CLAMPING PINS

RoHS | Electroless Nickel Plated | Heat resistance: 180°C

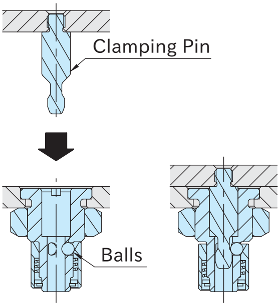
IMAO



Body
S45C steel Quenched and tempered Electroless nickel plated

Part Number	Weight (g)
QCBA0816-M5	7

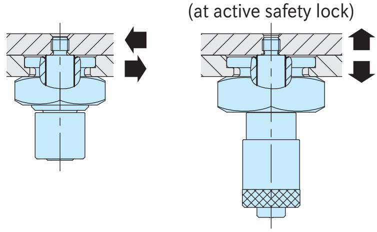
Feature



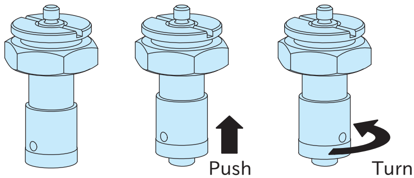
The 3 balls pull in the clamping pin.

Technical Information

- Heat resistance 180℃
- Mechanical Strength

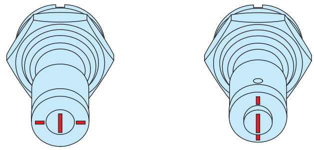


How To Operate Safety Lock



Turn in the arrowhead direction pushing the locking knob.
Note: To release the safety lock, follow the steps back.

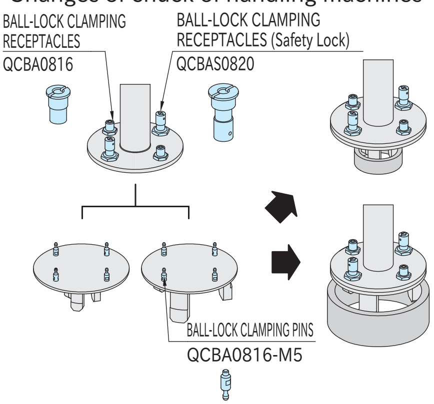
How To Check Safety Lock



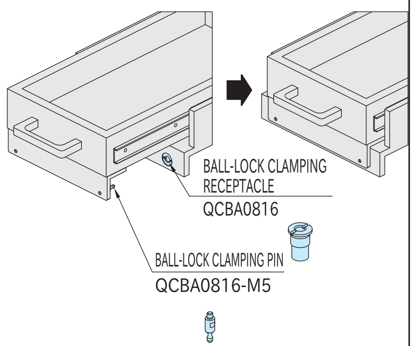
When the mark lines on the end of the locking knob are aligned, the safety lock is active.

Application Example

Changes of chuck of handling machines



End fixing of sliding uints



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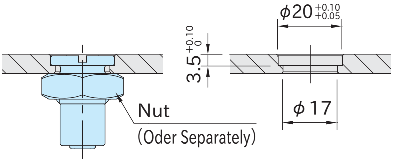
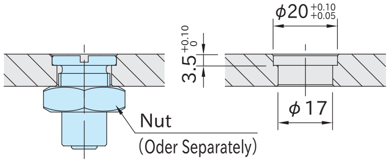
How To Install (Standard)

For installation in a subplate of thickness ranging from 6mm to 10mm, use a nut for fastening.

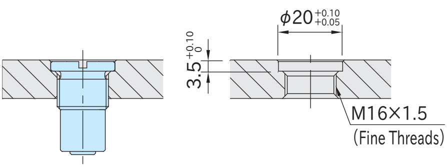


6mm

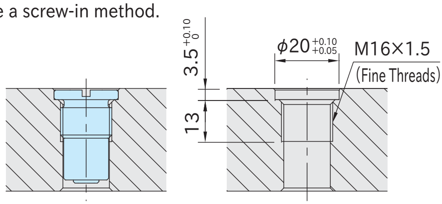


10mm

For installation in a subplate of thickness over 10mm, use a screw-in method.



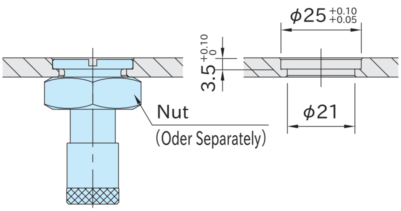
Installation in a subplate



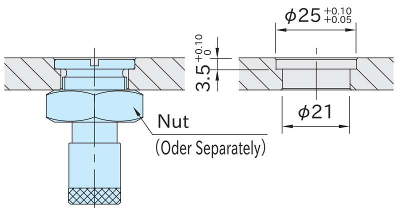
Installation in a block

How To Install (Safety Lock)

For installation in a subplate of thickness ranging from 6mm to 10mm, use a nut for fastening.

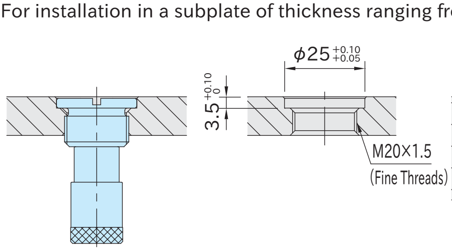


6mm

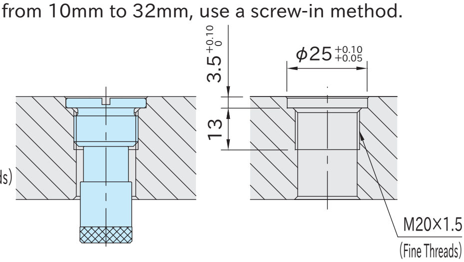


10mm

For installation in a subplate of thickness ranging from 10mm to 32mm, use a screw-in method.



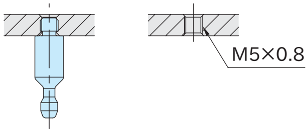
Installation in a subplate



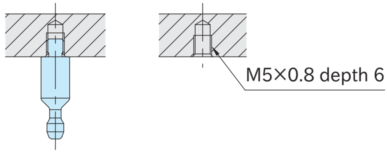
Installation in a block

How To Install (Ball-Lock Clamping Pins)

Plate thickness should be 6mm or more.



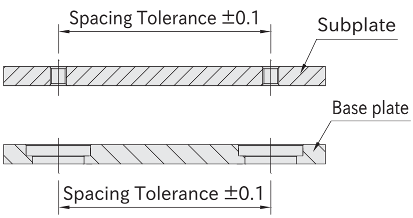
6mm Plate



Over 6mm Plate

Accuracy

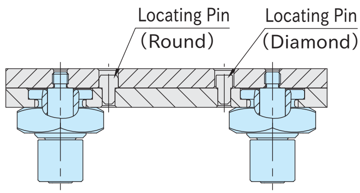
■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.1.

■Repeatability

Repeatability ±0.25

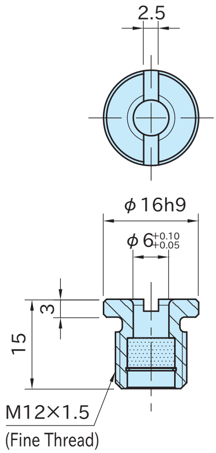


For higher accurate locating, use locating pins.

QCMA MAGNET-LOCK CLAMPING RECEPTACLE

RoHS Stainless Steel

IMAO



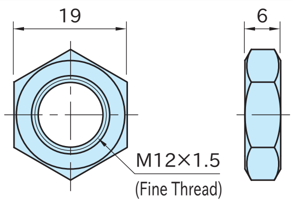
Body	Magnet
SUS304 stainless steel	Neodymium

Part Number	Clamping Force (N)	Weight (g)
QCMA0612A	7	12

Related Product

PW Plunger Wrench

Order Separately Nut (Stainless Steel)

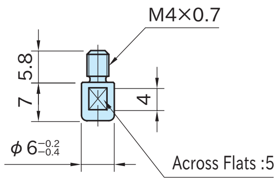


Part Number
NDX12-NUT-SUS

QCMA-M MAGNET-LOCK CLAMPING PIN

RoHS Electroless Nickel Plated

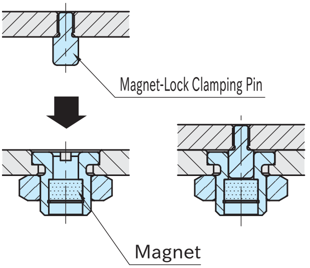
IMAO



Body
S45C steel Electroless nickel plated

Part Number	Weight (g)
QCMA0612-M4	2

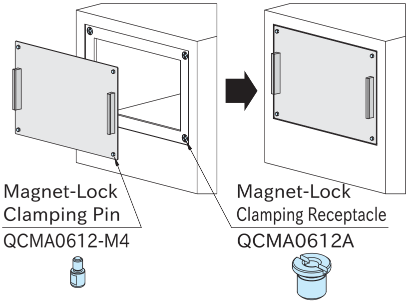
Feature



The magnet pulls in the clamping pin.

Application Example

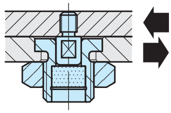
Installation/removal of maintenance cover plate of machines



Technical Information

- Heat resistance 80℃
- Mechanical Strength

Shear Strength 900N



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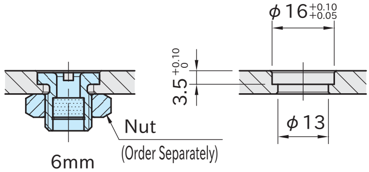
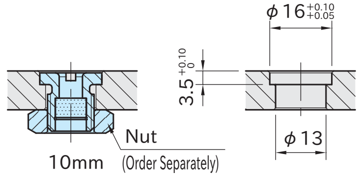
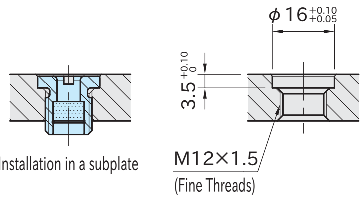
How To Install Magnet-Lock Clamping Receptacle

For installation in a subplate of thickness ranging from 6mm to 10mm, use a nut for fastening.

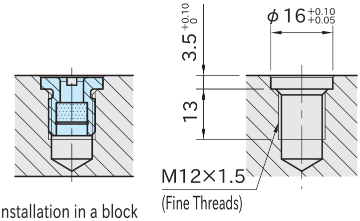




For installation in a subplate of thickness over 10mm, use a screw-in method.



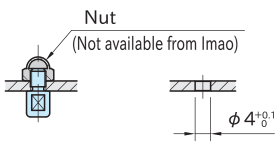
Installation in a subplate



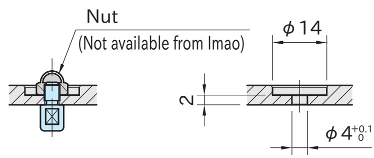
Installation in a block

How To Install Magnet-Lock Clamping Pin

For installation in a subplate of thickness ranging from 2mm to 6mm, use a nut for fastening.

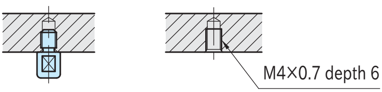


Installation in a plate of thickness ranging from 2 to 2.6mm.



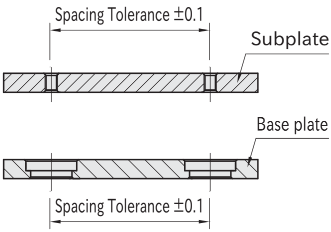
Installation in subplates of thickness ranging from over 2.6mm to 6mm.

For installation in a subplate of thickness over 6mm, use a screw-in method.



Accuracy

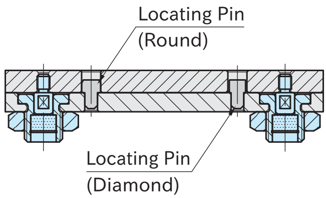
■Machining Accuracy



Spacing tolerance on both the subplate and the base plate should be ±0.1.

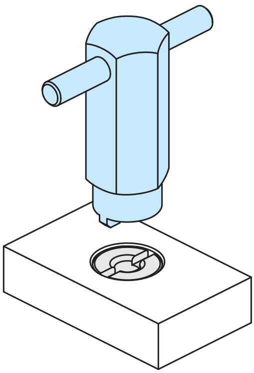
■Repeatability

Repeatability ±0.25



For higher accurate locating, use locating pins.

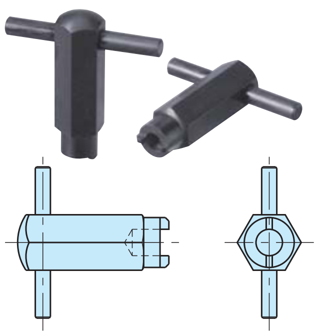
Installation Wrench



Use this wrench for instalation and removal of the parts below.

- QCBU-M QCBU-M-SUS BALL-LOCK RECEPTACLES
- QCBA QCBAS BALL-LOCK CLAMPING RECEPTACLES
- QCMA MAGNET-LOCK CLAMPING RECEPTACLE

Order Separately



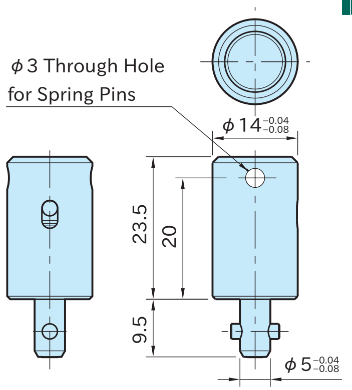
Part Number
PW16

Body
S45C Steel Black oxide finish

QCSJ SHAFT COUPLING CLAMP

RoHS | Electroless Nickel Plated | Heat resistance: 200°C

IMAO



★Key Point
Multipurpose coupling element

Part Number	Clamping Force(N)	Weight(g)
QCSJ0514A	30	25

Body/Shank	Pin	Spring
S45C steel Electroless nickel plated	SUS304 stainless steel	SUS304-CSP stainless steel

Note

Spring pins are not supplied.

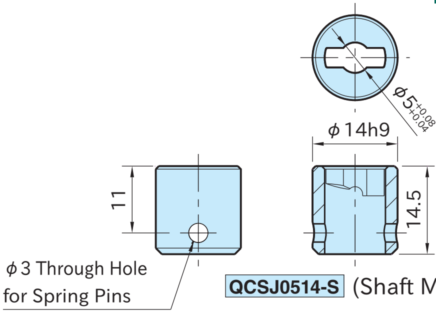
QCSJ-S / QCSJ-B CAM RECEPTACLES

RoHS | Electroless Nickel Plated

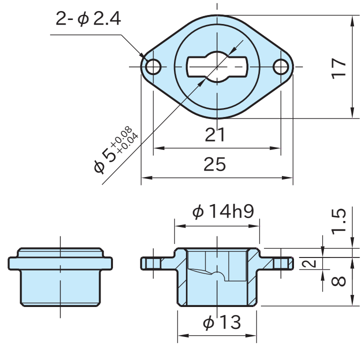
IMAO

QCSJ0514-S
(Shaft Mount)

QCSJ0514-B
(Plate Mount)



QCSJ0514-S (Shaft Mount)



QCSJ0514-B (Plate Mount)

Body
SCM440 steel Quenched and tempered Electroless nickel plated

Part Number	Weight(g)
QCSJ0514-S	10
QCSJ0514-B	8

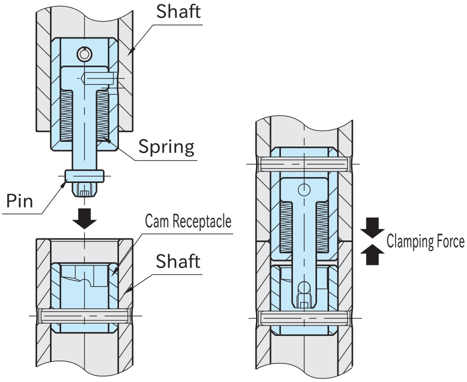
Supplied With

QCSJ0514-B: 2 of socket-head cap screws (stainless steel), M2×0.4-5L

Note

Spring pins to mount QCSJ0514-S are not supplied.

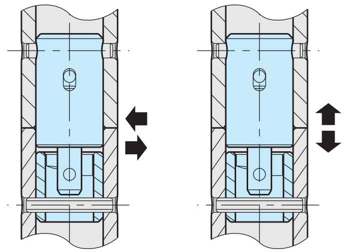
Feature



When the pin contacts along the cam surface in Cam Receptacle, the spring gets compressed to clamp the shafts.

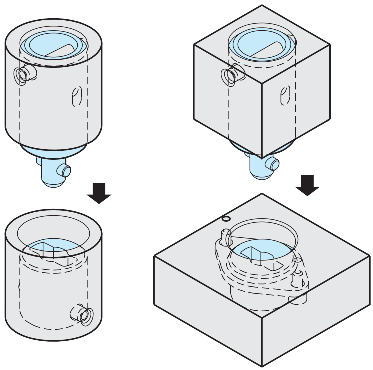
Technical Information

- Heatresistant Temperature 200℃
- Mechanical Strength

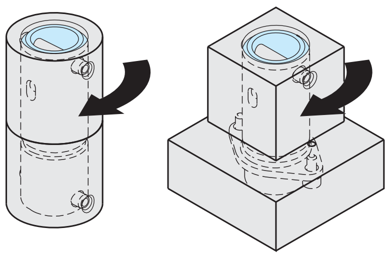


Shear Strength 1800N Tensile Strength 1200N

How To Use



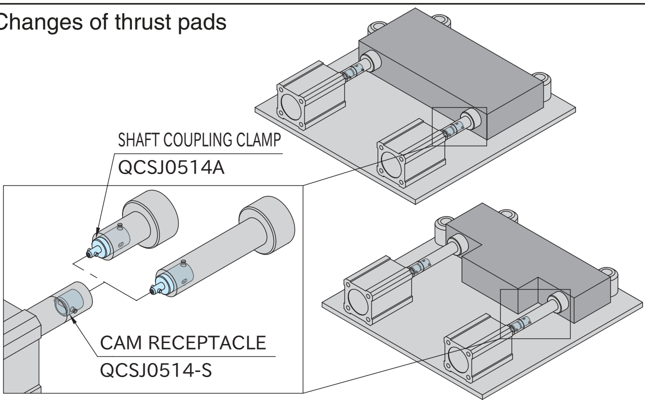
1. Insert the shaft into the keyway of Cam Receptacle.



2. Turn the shaft or block for 90˚to clamp.
   The element clicks when clamped.
   For unclamping, follow back these steps.

Application Example

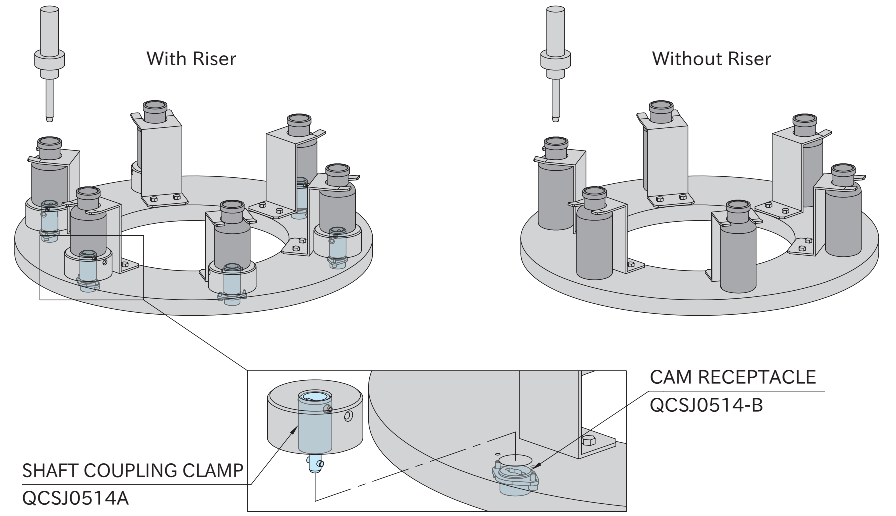
Changes of thrust pads



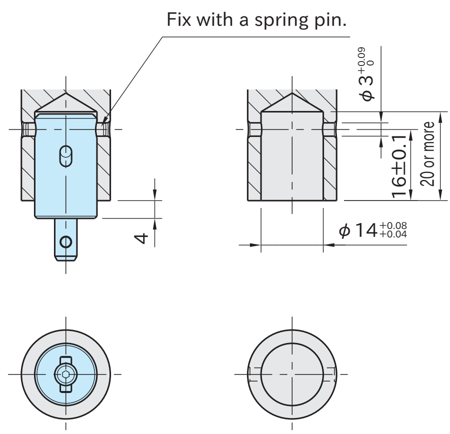
Continuing on Next Page

Application Example

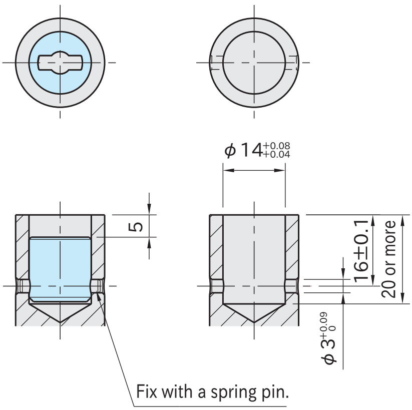
Changes of riser



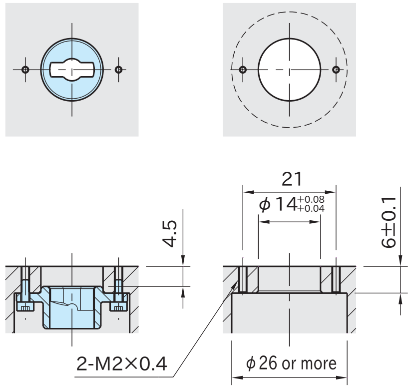
How To Install Shaft Coupling Clamp



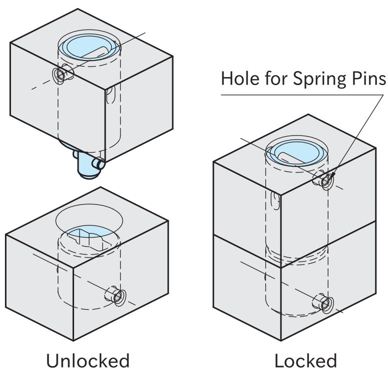
How To Install Cam Receptacle(Shaft Mount)



How To Install Cam Receptacle(Plate Mount)



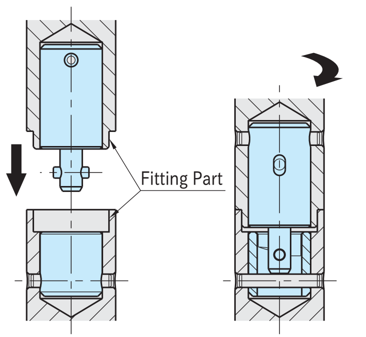
Note



Pay attention to the direction of holes for spring pins.

Repeatability

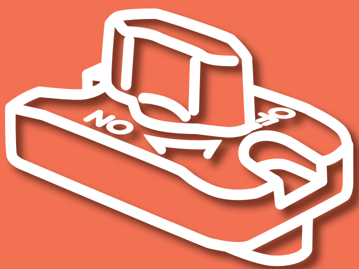
Repeatability ±0.08



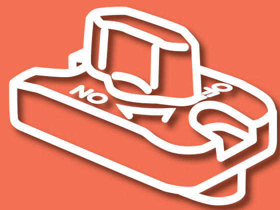
Prepare male and female fittings for higher accurate locating.

Value Creator

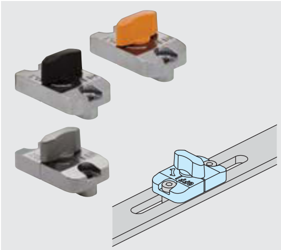
ONE-TOUCH SLIDING LOCKS



ONE-TOUCH SLIDING LOCKS



ONE-TOUCH SLIDING LOCKS

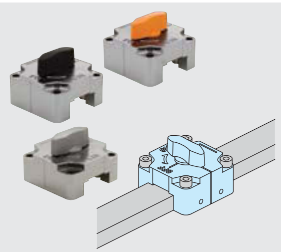


SLIDING LOCKS FOR SLOTTED HOLE

Part No. QCSL

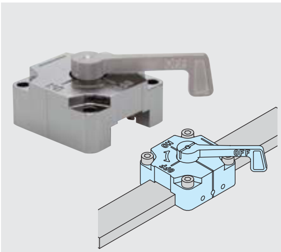
RISER PLATES FOR SLIDING LOCK

Part No. QCSLSP



SLIDING LOCKS FOR SQUARE BAR

Part No. QCSQ



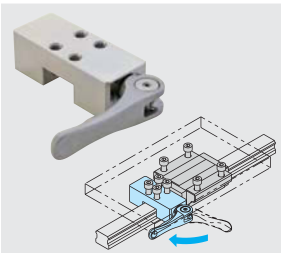
SLIDING LOCKS FOR SQUARE BAR WITH HANDLE

Part No. QCSQ-L

RISER PLATES FOR SLIDING LOCK

Part No. QCSQSP

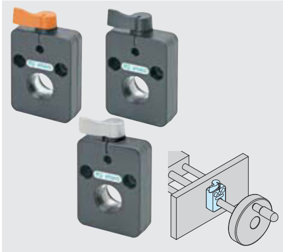
LINEAR-MOTION STOPPERS



LINEAR-MOTION STOPPERS

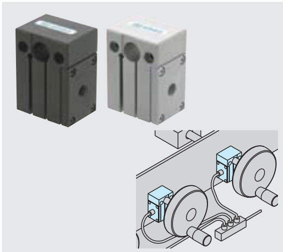
Part No. LSM

ONE-TOUCH SPINDLE LOCKS

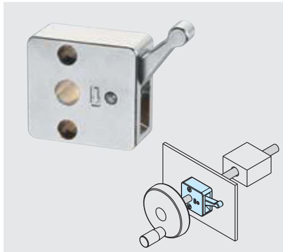


ONE-TOUCH SPINDLE LOCKS
Part No. QCSPL

QUICK SHAFT-LOCKING CLAMPS



QUICK SHAFT-LOCKING CLAMPS (Pneumatic)
Part No. QSCA

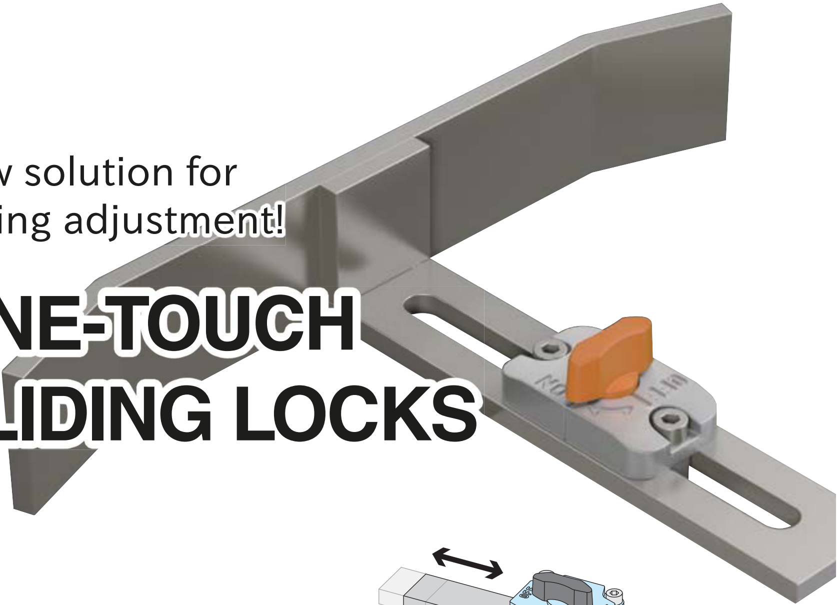


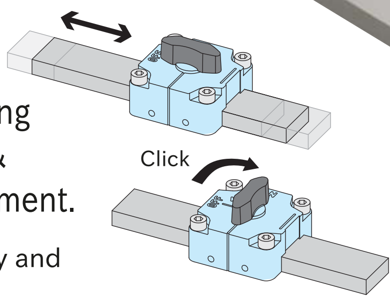
QUICK SHAFT-LOCKING CLAMPS
Part No. QSC

ONE-TOUCH SLIDING LOCKS

New solution for sliding adjustment!

ONE-TOUCH SLIDING LOCKS

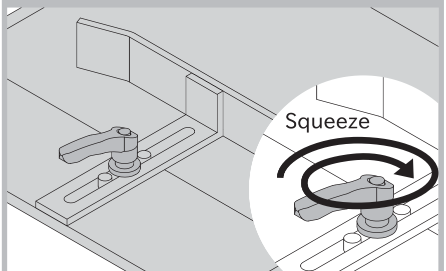




One-touch Sliding Lock is a fixing component that enables easy & secure locking in sliding adjustment.

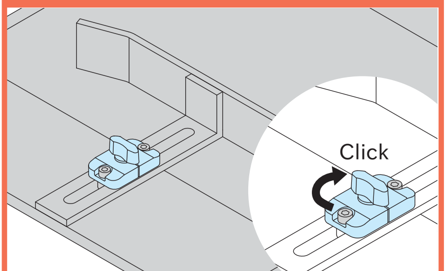
This dramatically improves reliability and safety in set-ups of various devices.

Conventional Method



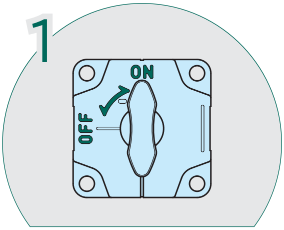
Required to tighten by main force to prevent misalignment.

IMAO Method



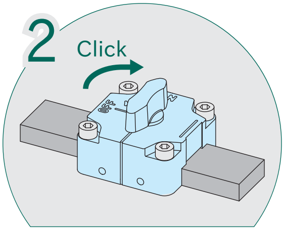
Prevents misalignment with easy operation!

Feature



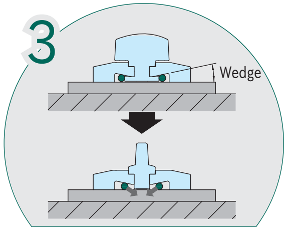
High Visibility

Easy-to-read ON/OFF position



Leveling of Operation

The knob clicks when it is locked/unlocked.

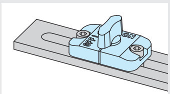


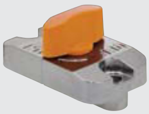
Secure Locking

Secure locking with wedge structure.

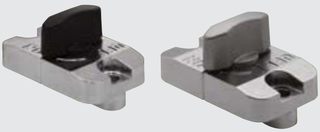
Lineup

Sliding Locks for Slotted Hole

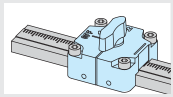




Plastic knob is available in black or orange.
Metal knob is resistant to damage.



Sliding Locks for Square Bar



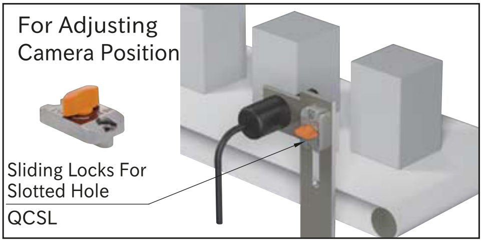
Can be used with commercially-available square bars

Knob is available in plastic or metal.

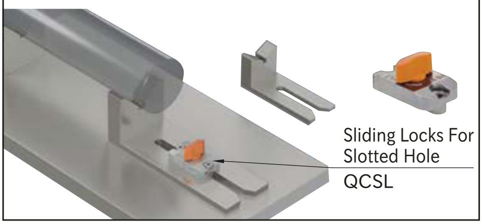
Handle is accessible from the side even in tight space.

Application

For Adjusting Camera Position



For Adjusting Workpiece Guide



For Adjusting Stamp Base Position

QCSL SLIDING LOCKS FOR SLOTTED HOLE

RoHS

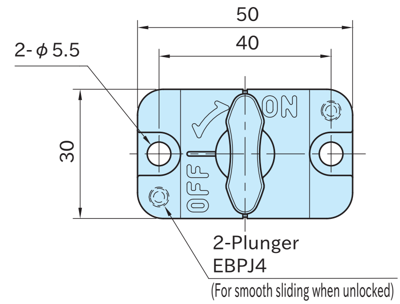
IMAO

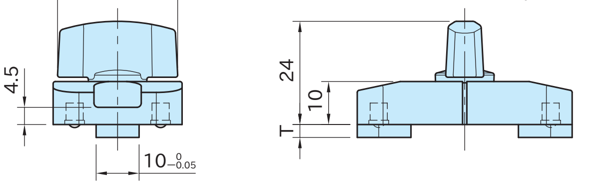
Type	Body	Knob	Shafts / Wedge	Ball Plunger
QCSL-OG QCSL-BK	Die-cast zinc Chrome plated	Polyamide (glass-fiber reinforced)	Stainless steel	Polyacetal
QCSL-S		SCS13 stainless steel (Equivalent to SUS304)		

QCSL-OG
(Plastic Knob,Orange)

QCSL-BK
(Plastic Knob,Black)

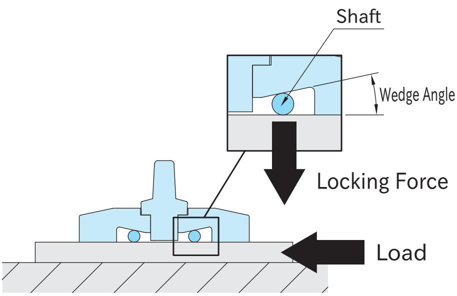
QCSL-S
(Metal Knob)

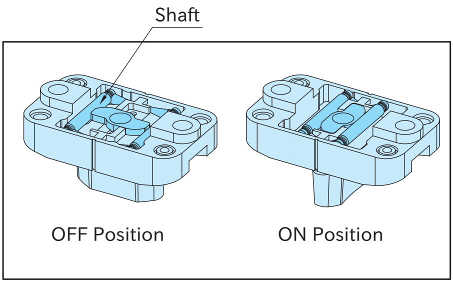




■Locking Mechanism

The shafts are locked being pushed into the wedged spaces when sliding load is applied in horizontal direction.

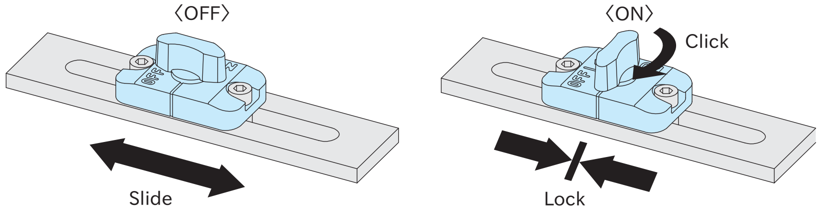




QCSL-OG (Plastic Knob, Orange)		QCSL-BK (Plastic Knob, Black)		QCSL-S (Metal Knob)		T
Part Number	Weight(g)	Part Number	Weight(g)	Part Number	Weight(g)	$\left(^{+0.2}_{0}\right)$
QCSL1003-OG	80	**QCSL1003-BK**	80	**QCSL1003-S**	95	3
QCSL1006-OG	80	**QCSL1006-BK**	80	**QCSL1006-S**	95	6

How To Use

■Operating Instructions

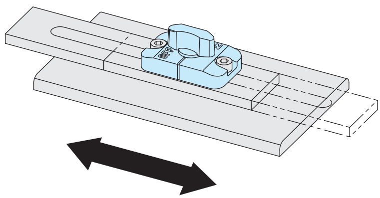


The slide is locked when the knob is at “ON” position.

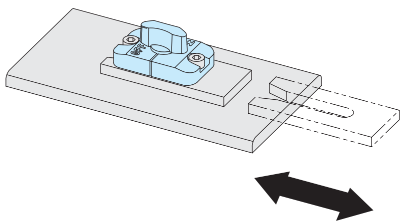
■Usage Instructions

* Refer to the “Note” for safety use.

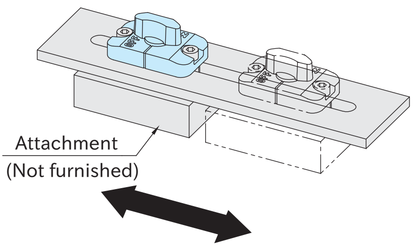
1. Slide the steel bar.



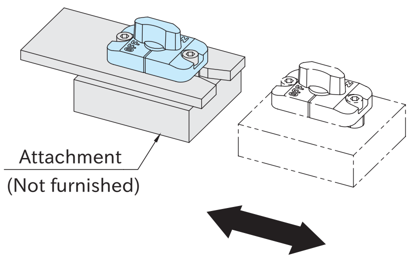
2. Attach/remove the steel bar.



3. Slide the Sliding Locks For Slotted Hole.



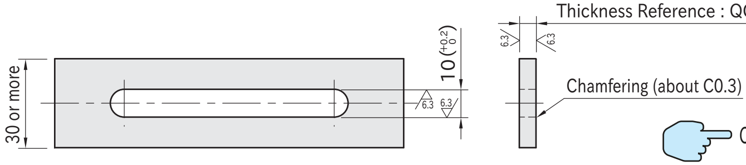
4. Attach/remove the Sliding Locks For Slotted Hole.



■Steel Bar Materials

- Usable Materials: Flat bar (JIS h14 grade) made of SS400, S45C or SUS304 etc.
- Machining of slotted hole: Recommended tolerance of the slotted hole to prevent chattering is shown as below.
  For more accurate sliding, machine the slotted hole to fit the dimension of 10mm(-0.05 to 0) on the bottom of Sliding Locks. Remove the burr around the slotted hole to ensure secure locking.

Thickness Reference : QCSLSP “How To Use”



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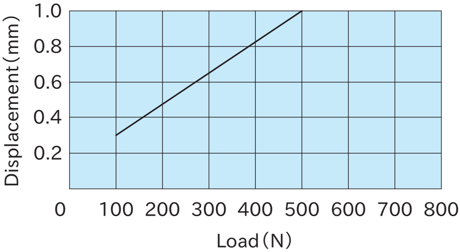
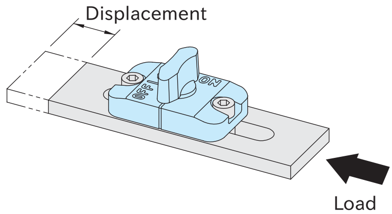
Performance Curve

■The displacement of steel bar by axial load (Static load from single direction)





Note: The above data is for a flat bar made of SUS304 stainless steel, SS400 steel and S45C steel.
Using an aluminum flat bar, the surface will be scratched or dent by applied load.

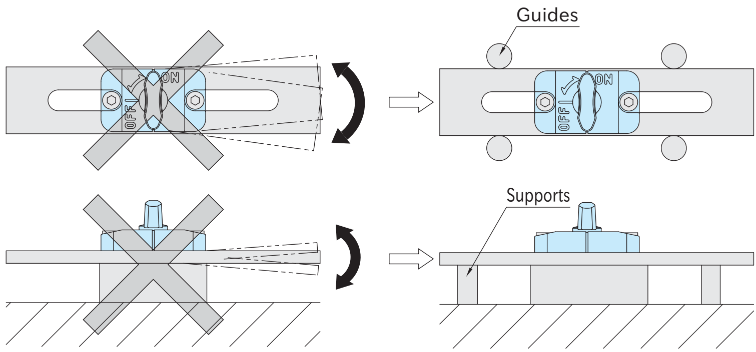
Technical Information

・Heat resistance : Up to 90℃
・Rated load : Up to 500N

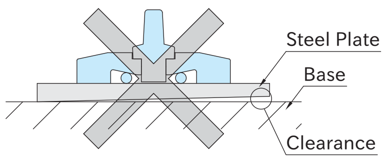
Note

The following conditions may cause displacement increasing or misalignment.

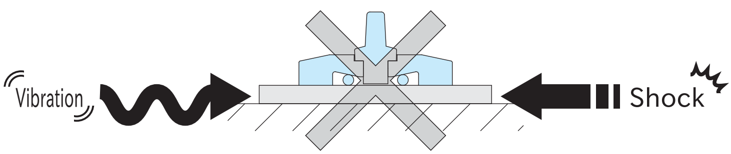
1. Use under slippage or chattering caused by vertical or horizontal loads



2. Use with a clearance between the steel bar and the base when the Sliding Locks at "ON" position.



3. Use under excess shock or vibration

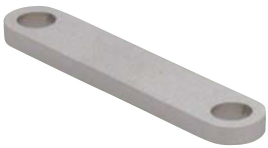


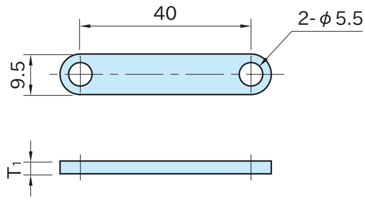
QCSLSP RISER PLATES FOR SLIDING LOCK

RoHS

IMAO

Body
SUS304 stainless steel



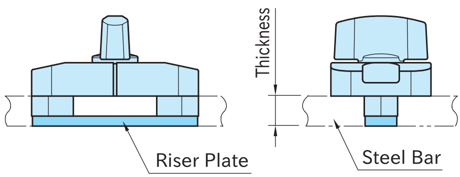


Part Number	T_1 (±0.1)	Weight (g)
QCSLSP1002	2	6
QCSLSP1003	3	10

How To Use

■How to Use Riser Plate

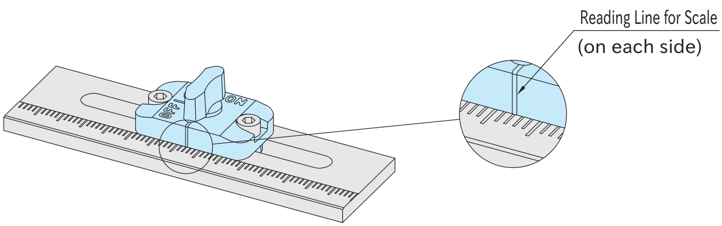
Can be used for various steel thicknesses by attaching the Riser Plates (to be ordered separately).



Type		Part No. of Riser Plates	Thickness of Steel Bar(h14)(mm)
QCSL	**1003**	—	$3(^{0}_{-0.25})$
		QCSLSP1002	$5(^{0}_{-0.3})$
	1006	—	$6(^{0}_{-0.3})$
		QCSLSP1002	$8(^{0}_{-0.36})$
		QCSLSP1003	$9(^{0}_{-0.36})$

■How to Use Scale Plate

・You can read the scale with the line on the body of Sliding Lock.
・ES1N Scale Plate is separately available.



QCSQ SLIDING LOCKS FOR SQUARE BAR

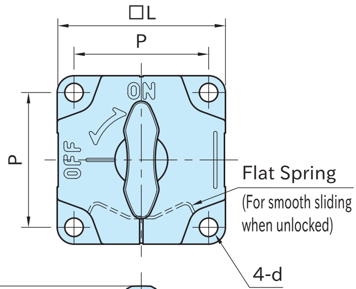
RoHS

IMAO

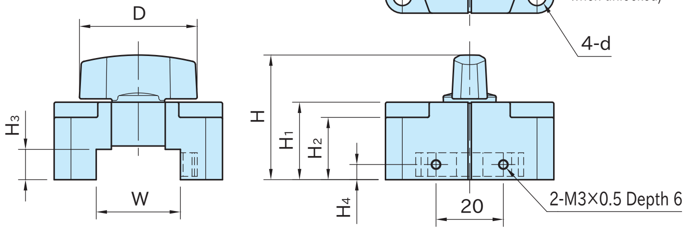
Type	Body	Knob	Shafts / Wedge	Flat Spring
QCSQ-OG QCSQ-BK	Die-cast zinc Chrome plated	Polyamide (glass-fiber reinforced)	Stainless steel	C519P phosphor bronze
QCSQ-S		SCS13 stainless steel (Equivalent to SUS304)		

QCSQ-OG
(Plastic Knob,Orange)

QCSQ-BK
(Plastic Knob,Black)

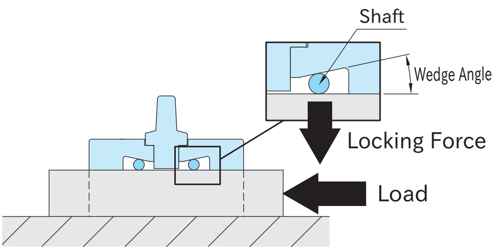


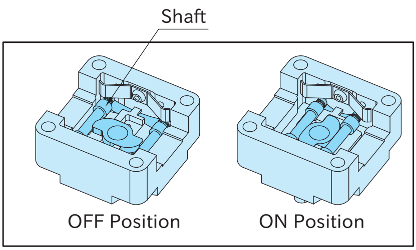
QCSQ-S
(Metal Knob)



■Locking Mechanism

The shafts are locked being pushed into the wedged spaces when sliding load is applied in horizontal direction.





Size		L	H	W $\left(^{+0.05}_{0}\right)$	H3 $\left(^{+0.2}_{0}\right)$	D	H1	H2	H4	P	d
QCSQ-OG QCSQ-BK QCSQ-S	1212	40	36	12	12	28	22	18.5	6	32	4.5
	1616		40	16	16		26	22.5	8		
	2509	50	37	25	9	35	23	18.5	4.5	40	5.5
	2512		40		12		26	21.5	6		
	3212			32							
	3216		44		16		30	25.5	8		

QCSQ-OG (Plastic Knob, Orange)		QCSQ-BK (Plastic Knob, Black)		QCSQ-S (Metal Knob)	
Part Number	Weight (g)	Part Number	Weight (g)	Part Number	Weight (g)
QCSQ1212-OG	130	**QCSQ1212-BK**	130	**QCSQ1212-S**	145
QCSQ1616-OG	150	**QCSQ1616-BK**	150	**QCSQ1616-S**	165
QCSQ2509-OG	220	**QCSQ2509-BK**	220	**QCSQ2509-S**	245
QCSQ2512-OG	240	**QCSQ2512-BK**	240	**QCSQ2512-S**	265
QCSQ3212-OG	220	**QCSQ3212-BK**	220	**QCSQ3212-S**	245
QCSQ3216-OG	240	**QCSQ3216-BK**	240	**QCSQ3216-S**	265

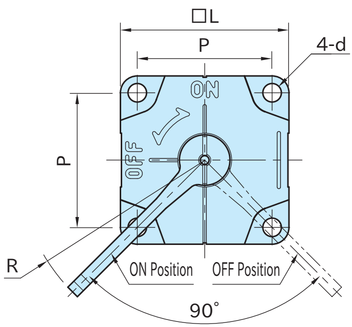
QCSQ-L

SLIDING LOCKS FOR SQUARE BAR WITH HANDLE

RoHS

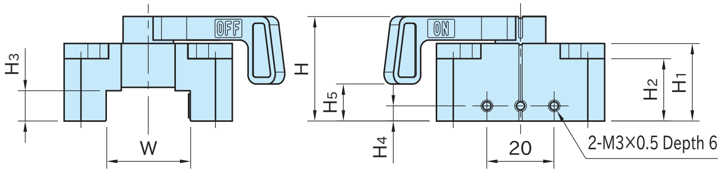
IMAO

Body	Handle	Shafts / Wedge	Flat Spring
Die-cast zinc Chrome plated	SCS13 stainless steel (Equivalent to SUS304)	Stainless steel	C519P phosphor bronze



★Key Point

The handle is accessible from the side even in tight spaces.

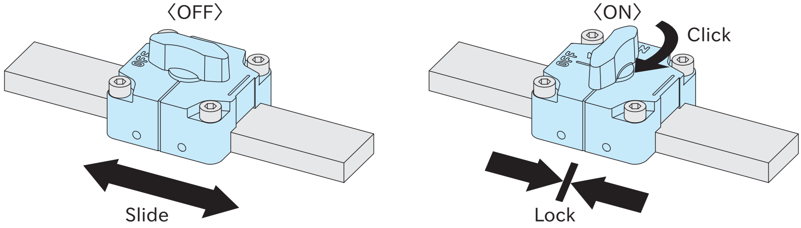


Part Number	L	H	W $\left(^{+0.05}_{0}\right)$	H_3 $\left(^{+0.2}_{0}\right)$	H_1	H_2	H_4	R	H_5	P	d	Weight (g)
QCSQ1212-L	40	29	12	12	22	18.5	6	46	11	32	4.5	150
QCSQ1616-L		33	16	16	26	22.5	8		15			160
QCSQ2509-L	50	31	25	9	23	18.5	4.5	55.5	11	40	5.5	250
QCSQ2512-L		34		12	26	21.5	6		14			260
QCSQ3212-L			32									250
QCSQ3216-L		38		16	30	25.5	8		18			270

Continuing on Next Page

How To Use

■Operating Instructions

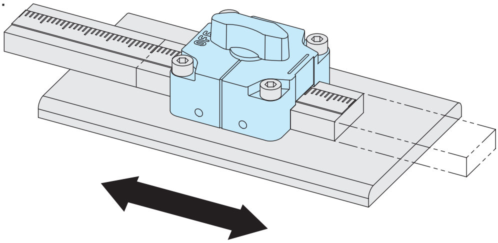


The slide is locked when the knob is at “ON” position.

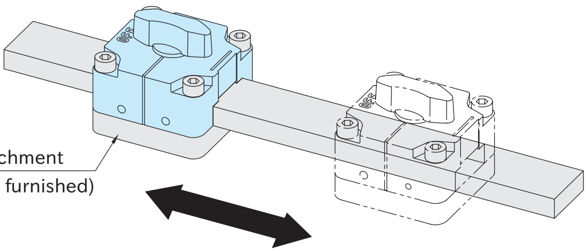
■Usage Instructions

* Refer to the “Note” for safety use.

1. Slide the steel bar.

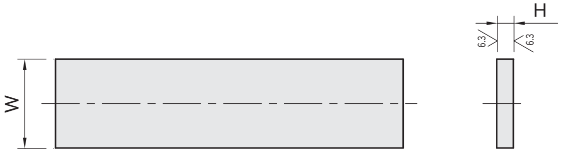


2. Slide the Sliding Locks For Square Bar.



■Steel Bar Materials

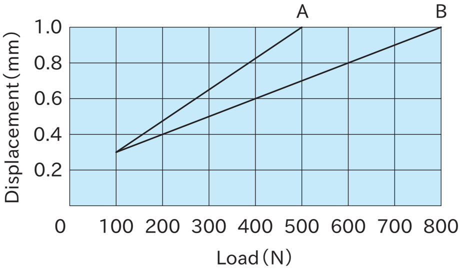
Usable Materials: Flat bar (JIS h14 grade) made of SS400, S45C or SUS304 etc.



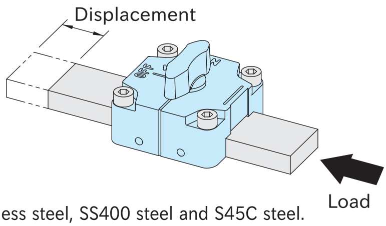
Size		W	H
QCSQ	1212	$12\,(^{0}_{-0.43})$	$12\,(^{0}_{-0.43})$
	1616	$16\,(^{0}_{-0.43})$	$16\,(^{0}_{-0.43})$
	2509	$25\,(^{0}_{-0.52})$	$9\,(^{0}_{-0.36})$
	2512		$12\,(^{0}_{-0.43})$
	3212	$32\,(^{0}_{-0.62})$	
	3216		$16\,(^{0}_{-0.43})$

Performance Curve

■The displacement of steel bar by axial load (Static load from single direction)



A: QCSQ 1212,1616
B: QCSQ 2509,2512
QCSQ 3212,3216



Note: The above data is for a flat bar made of SUS304 stainless steel, SS400 steel and S45C steel.
Using an aluminum flat bar, the surface will be scratched or dent by applied load.

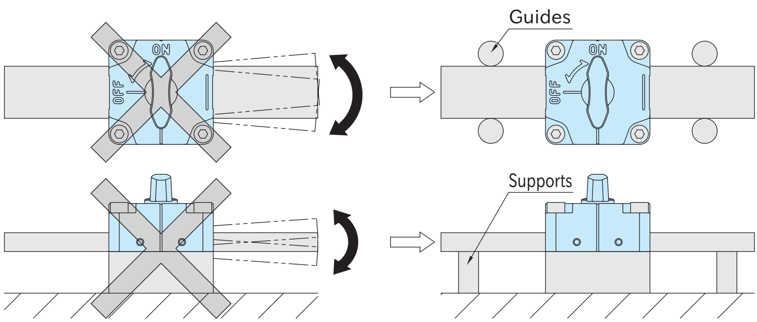
Technical Information

・Heat resistance : Up to 90℃
・Rated load : QCSQ 1212,1616 : 500N
QCSQ 2509,2512,3212,3216 : Up to 800N

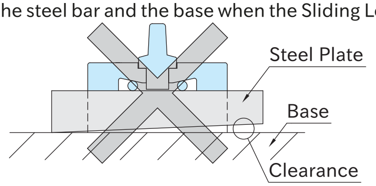
Note

The following conditions may cause displacement increasing or misalignment.

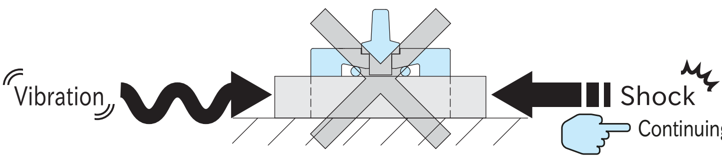
1. Use under slippage or chattering caused by vertical or horizontal loads



2. Use with a clearance between the steel bar and the base when the Sliding Locks at "ON" position.



3. Use under excess shock or vibration



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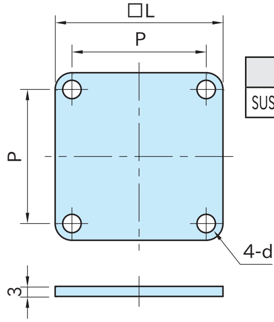
QCSQSP RISER PLATES FOR SLIDING LOCK

RoHS

IMAO



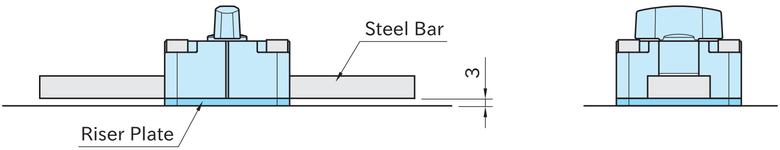
Body
SUS304 stainless steel

Part Number	L	d	P	Weight (g)
QCSQSP4003	40	4.5	32	35
QCSQSP5003	50	5.5	40	55

How To Use

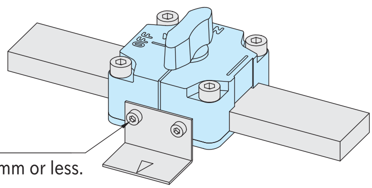
■How to Use Riser Plate

Riser Plates (to be ordered separately) can lift the steel bar to create a clearance between the steel bar and the base.



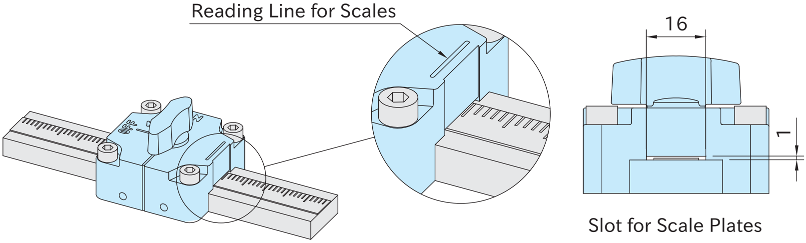
■How to Use Tapped Holes on Side Surface

Can be used with attachments such as pointer plates and brackets.



■How to Use Scale Plate

・Scale plate can be put on the steel bar.
Note: Fit scale plate inside the slot in the figure below.
Putting scale plate outside the slot cause interference between scale plate and Sliding Lock, and this may cause failure.
・ES1N Scale Plate is separately available.



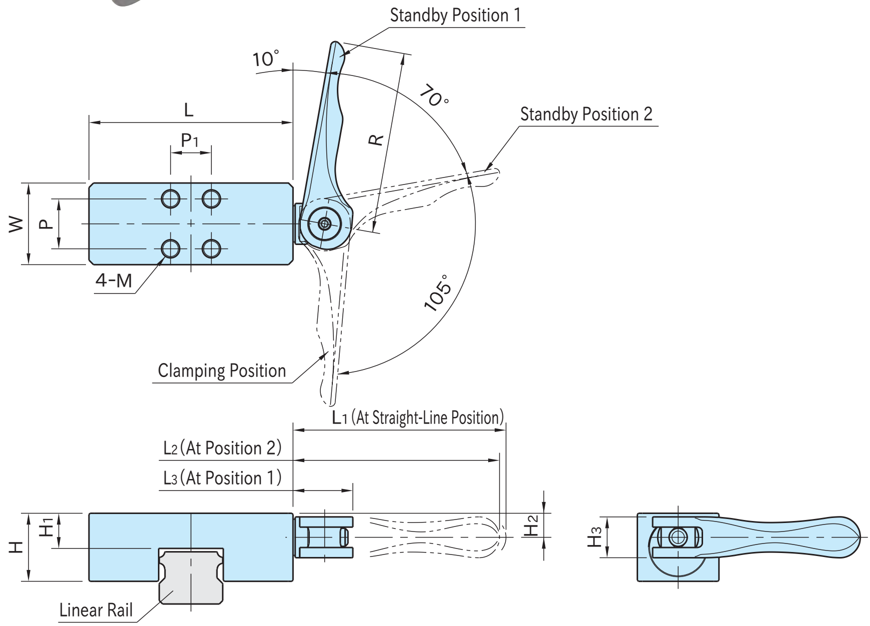
Value Creator
IMAO

LSM LINEAR-MOTION STOPPERS

RoHS Electroless Nickel Plated

IMAO

Body	Handle	Ring Nut / Spacer	Push Bar
S45C steel Electroless nickel plated	SCM440 steel Quenched and tempered Electroless nickel plated	SCM435 steel Quenched and tempered Electroless nickel plated	S45C steel

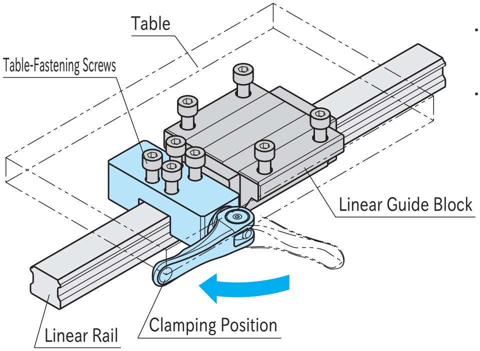


Part Number	Linear-Rail Width (Nominal)	L	W	H	H_1	R	H_3	H_2	L_1	L_2	L_3	M
LSM-20	20	63	26	22	11.5	63	14	7.8	76	73	23	M5×0.8 Depth 10
LSM-25	25	70	30	24	13.5			9.5				M6×1 Depth 12
LSM-30	30	90	36	30	15.5	80	18	10.6	95	92	27	M8×1.25 Depth 14
LSM-35	35	100	38	34	18.5			13.4				

Part Number	P	P_1	Handle Operating Load (N)	Holding Force (N)	Weight (g)
LSM-20	16	13	40	150	283
LSM-25	18	15			376
LSM-30	22	18	50	250	729
LSM-35	24	24			932

How To Use

Turning the handle to the clamping position allows clamping the linear rail.

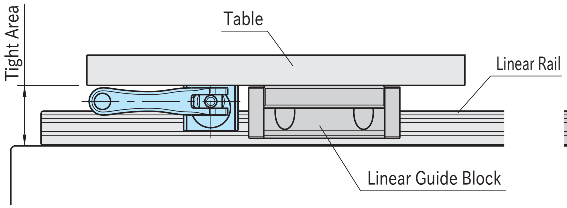


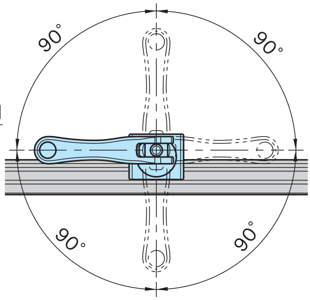
Note

- Unless the handle is turned to the clamping position, the engineered full clamping force can not be distributed.
- When the friction factor is extremely small due to oil or the like applied on the linear rail, the holding force can decrease.
- When a heavy impact load is applied, slippage can occur due to impact strength.

Feature

- Locks positively through simple operation.
- Always provides constant clamping force due to clamping with built-in spring.
- Can be operated in tight areas as shown below, due to no need of space for handle swivel.
- The handle can be changed in orientation every 90°.





■Suitable Linear Guides

Manufacturer		Type
THK	SHS	SHS-C / SHS-LC、 SHS-V / SHS-LV
	SSR	SSR-XW / SSR-XWM、 SSR-XV / SSR-XVM、 SSR-XTB
	HSR	HSR-A / HSR-AM / HSR-LA / HSR-LAM、 HSR-B / HSR-BM / HSR-LB / HSR-LBM、 HSR-CA / HSR-CAM / HSR-HA / HSR-HAM、 HSR-CB / HSR-CBM / HSR-HB / HSR-HBM
	SR	SR-W / SR-WM / SR-V / SR-VM、 SR-TB / SR-TBM / SR-SB / SR-SBM
IKO	LWE	LWEC / LWE / LWEG / LWEC…SL / LWE…SL / LWEG…SL、 LWE…Q
	LWET	LWETC / LWET / LWETG / LWETC…SL / LWET…SL / LWETG…SL、 LWET…Q
	LWES	LWESC / LWES / LWESG / LWESC…SL / LWES…SL / LWESG…SL、 LWES…Q
	LWH	LWH…B / LWHG / LWH…SL / LWH…M
	LWHT	LWHT…B / LWHTG / LWHT…SL / LWHT…M
	LWHS	LWHS…B / LWHSG / LWHS…SL / LWHS…M

*) For use on other linear guides than above, contact us.
*) Note that Linear-Motion Stoppers are not products by manufacturers of linear guides, and any of such manufacturers are not liable or compensate for any trouble that may be caused by use of our Linear-Motion Stoppers.

QCSPL ONE-TOUCH SPINDLE LOCKS

RoHS

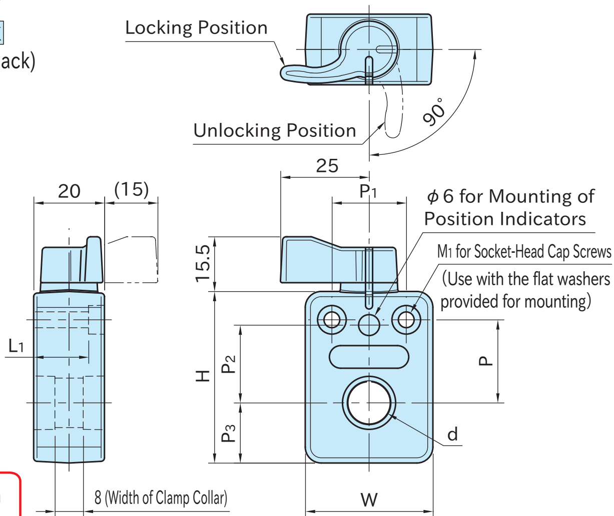
IMAO

QCSPL-OG
(Plastic knob,Orange)

QCSPL-BK
(Plastic knob,Black)

QCSPL-S
(Metal knob)

Type	Housing	Knob	Clamp Collar
QCSPL-OG QCSPL-BK	Polyamide (glass-fiber reinforced) Black	Polyamide (glass-fiber reinforced)	SUS630 stainless steel
QCSPL-S		SCS13 stainless steel (Equivalent to SUS304)	



★Key Point
Secure locking of spindles with one-touch action!

Plastic Knob Part Number Orange	Plastic Knob Part Number Black	Weight (g)	Metal Knob Part Number	Weight (g)	d	W	H	M1	L1	P	P1	P2	P3	Suitable shaft dia.(h7) *)
QCSPL0408-OG	QCSPL0408-BK	50	QCSPL0408-S	70	8	36	48.5	M4	14	23.5	21	22	17	ϕ 8
QCSPL0410-OG	QCSPL0410-BK		QCSPL0410-S		10									ϕ10
QCSPL0412-OG	QCSPL0412-BK		QCSPL0412-S		12									ϕ12
QCSPL0414-OG	QCSPL0414-BK		QCSPL0414-S		14									ϕ14
QCSPL0912-OG	QCSPL0912-BK	100	QCSPL0912-S	120	12	51	69	M5	12.5	17	34	30	26	ϕ12
QCSPL0915-OG	QCSPL0915-BK		QCSPL0915-S		15									ϕ15
QCSPL0916-OG	QCSPL0916-BK		QCSPL0916-S		16									ϕ16
QCSPL0920-OG	QCSPL0920-BK		QCSPL0920-S		20									ϕ20

*) Using shafts with tolerances other than h7 may decrease the allowable holding torque or allowable sliding load.

Supplied With

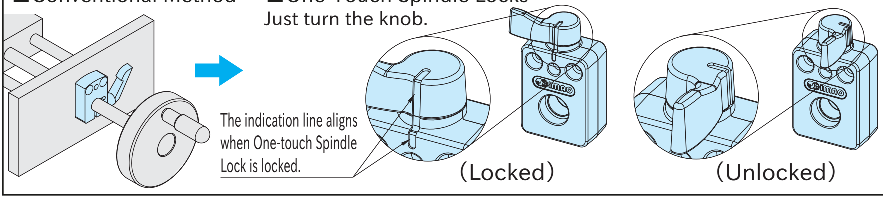
2 of Flat round washer(Stainless Steel)

Feature

・One-touch Spindle Locks enable quick and secure locking of shafts with one click of the knob.
・When One-touch Spindle Lock is operated, the knob clicks and the shaft is locked with a steady force. This provides reliable locking of shafts.
・The knob position and the indication line clearly indicate lock/unlock position.

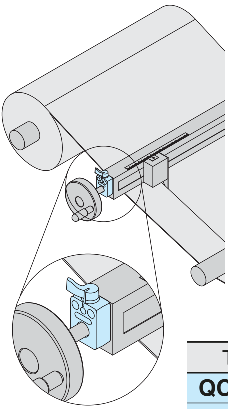
■Conventional Method ■One-Touch Spindle Locks

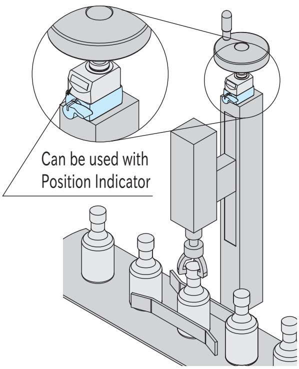
Just turn the knob.



How To Use

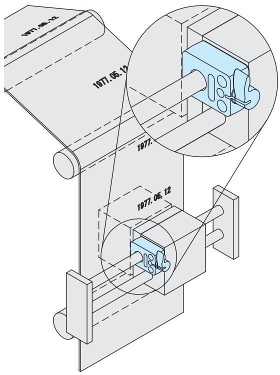
For locking of spindle





Types	Suitable position indicators
QCSPL04	SDP-04
QCSPL09	SDP-09-N

For locking of sliding shaft

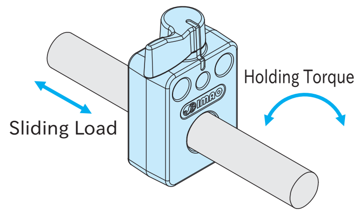


Note: To mount position indicators to One-touch Spindle Locks, use a rubber cushion supplied with position indicators.

Technical Information

One-touch Spindle Locks can fix both revolving and sliding of shafts.

Part Numbers		Allowable Holding Torque (N·m)	Allowable Sliding Load (N)
QCSPL-OG / QCSPL-BK / QCSPL-S	**0408**	3	400
	0410		
	0412	4	
	0414		
	0912	5	500
	0915		
	0916	6	
	0920		



Note: The above information is for cold finished S45C steel bars with tolerance h7. Use this only as a guide.

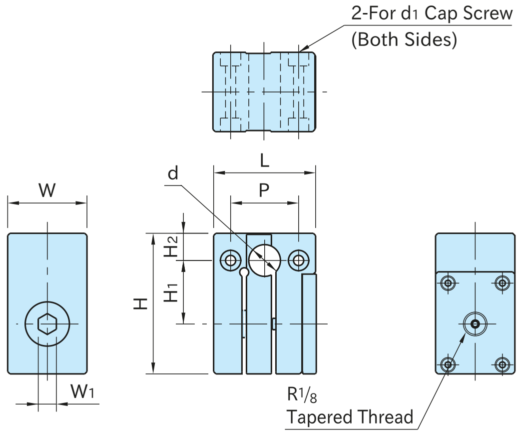
Note

・Allowable tightening torque for mounting screws
QCSPL 04 Size: 1.5 N·m, QCSPL 09 Size: 3.0 N·m
Note: Tightening with torque greater than the allowable tightening torque may cause failure by deformation of the body.
・This product cannot be used as bearings or guides for shafts.
・Shafts may slip in environments where shocks or vibrations are present.

QSCA QUICK SHAFT-LOCKING CLAMPS (Pneumatic)

RoHS

IMAO



★One Point
Clamping by spring pressure / Unclamping by air pressure

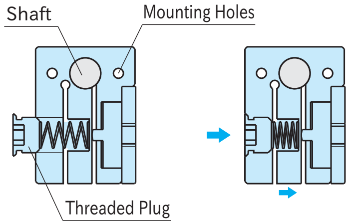
Body / Cover Plate	O-Ring
A5052 aluminum alloy Sand blasting finish Anodized N:Natural, B:Black	Nitrile rubber

Part Number		d	H_2	L	W	H	d_1	P	W_1	H_1
Natural	Black									
QSCA10-N	QSCA10-B	10	12	45	35	62	M4 Counterbore depth 4.5	30	8	28
QSCA12-N	QSCA12-B	12								
QSCA14-N	QSCA14-B	14								
QSCA15-N	QSCA15-B	15	19	58	40	80	M5 Counterbore depth 5.5	35	10	35
QSCA16-N	QSCA16-B	16								
QSCA20-N	QSCA20-B	20								

Part Number		Holding Torque (N·m)	Sliding Load (N)	Weight (g)	Shaft Dia. (h6-h9)
Natural	Black				
QSCA10-N	QSCA10-B	1	150	230	ϕ10
QSCA12-N	QSCA12-B	1.2			ϕ12
QSCA14-N	QSCA14-B	1.4		225	ϕ14
QSCA15-N	QSCA15-B	2.2	200	450	ϕ15
QSCA16-N	QSCA16-B	2.4			ϕ16
QSCA20-N	QSCA20-B	2.6		440	ϕ20

How To Use

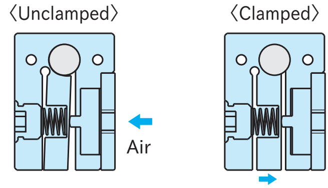
■How to Install



Slide the clamp over the shaft at the unclamped mode, and then fix the body using the 2 mounting holes.

Screwing the plug completely into the hole allows locking the shaft.

■How to Operate



Supplying air allows compressing the spring to get the shaft unlocked.

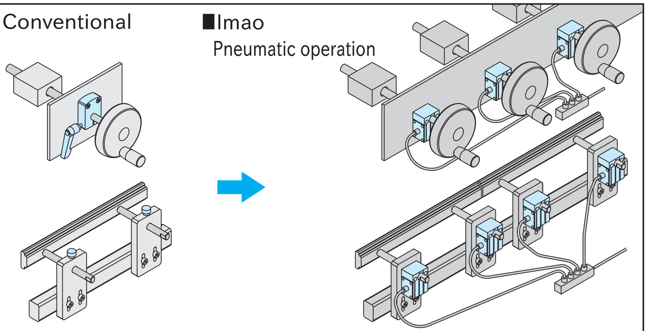
Releasing the air allows getting the spring to work to lock the shaft.

Feature

・Air pressure to be applied : 0.5 - 0.7MPa
Recommended to use with a three-way valve.
・The mechanism of spring-pressure clamping and air-pressure unclamping prevents shaft-locking force from getting lowered.
・Connecting air plumbing to multiple Quick Shaft-Locking Clamps installed allows doing clamping/unclamping in one operation.

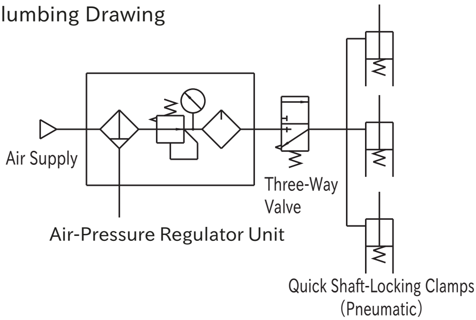
■Conventional

■Imao
Pneumatic operation



Simultaneous control of multiple clamps is possible.

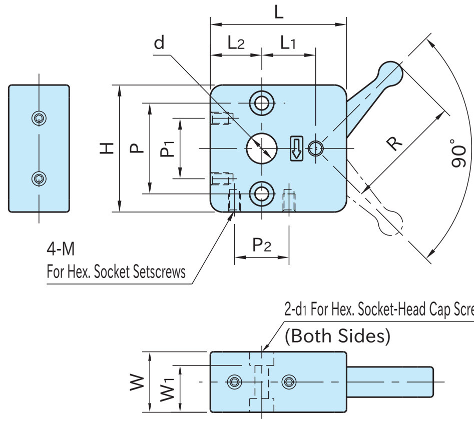
Plumbing Drawing



QSC QUICK SHAFT-LOCKING CLAMPS

RoHS

IMAO



Body / Handle	Locking Block	Flat Spring
Die cast zinc Chrome plated finish	CAC402 cast bronze	SUS304 stainless steel

Part Number	d	L_2	L	W	H	R	L_1	d_1	W_1	P	M	P_1	P_2
QSC10S	10	17	45	20	42	39	17.6	M4	15.5	30	M4×0.7 Depth 6	20	18
QSC12S	12						18.8						
QSC14S	14						19.9						
QSC15L	15	20	55	26	50	50	24.1	M5	20.5	35	M5×0.8 Depth 8	20	20
QSC16L	16						24.7						
QSC20L	20						27						

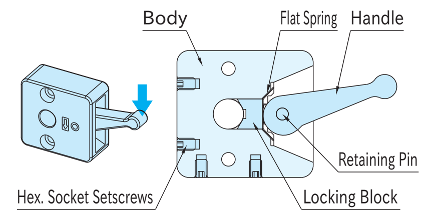
Part Number	Weight (g)	Shaft Dia. (h9)
QSC10S	228	ϕ10
QSC12S	224	ϕ12
QSC14S	220	ϕ14
QSC15L	428	ϕ15
QSC16L	418	ϕ16
QSC20L	359	ϕ20

Supplied With

Four hex. socket setscrews

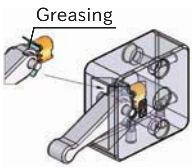
How To Use

- As the handle is turned down, it pushes the locking block toward the shaft for clamping. When the handle is released, the flat spring allows the locking block to be returned to the original position.
- Both faces can be used for installation. Two sides with two tapped holes can also be used for installation(remove the setscrews).



Note

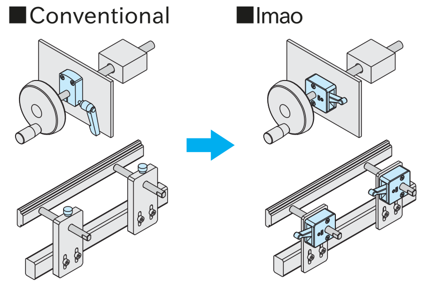
Do not give hammer taps to the handle or extend the handle with a pipe or the like for easier clamping, to avoid any damage.



Dimensions between the shaft-hole center and the sides are not precise. When installing a Quick Shaft-Locking Clamp using tapped holes provided on two sides, make position adjustments using a bracket, shim or the like to prevent conflicts between the shaft hole and a shaft. It is recommended that the cam section be greased periodically(every about 30,000 cycles) for stable holding torque and sliding load.

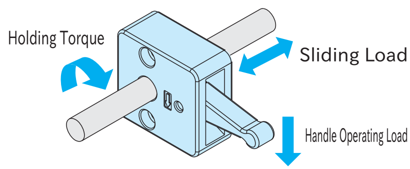
Feature

- Designed to positively lock a lead screw or slide shaft with ease.
- Ideal especially in applications where position adjustments are often made, due to better workability than conventional holding methods using adjustable handles or knobs.
- Can also be used in limited space due to no need of space for handle's large swing.



Technical Information

Part Number	Handle Operating Load (N)	Holding Torque (N·m)	Sliding Load (N)
QSC10S	80	2	220
QSC12S		3	
QSC14S		3.5	
QSC15L		4.5	
QSC16L		5.5	
QSC20L		6.5	



Value Creator
IMAO

HANDLES & KNOBS

HANDLES

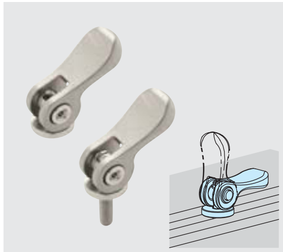
KNOBS

HANDLES & KNOBS

HANDLES

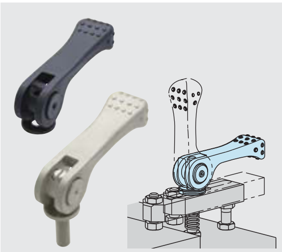
ADJUSTABLE-TORQUE HANDLES

Part No. ATCL



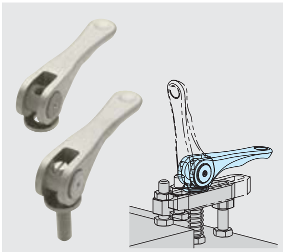
COMPACT CAM HANDLES

Part No. QLCCS



CAM HANDLES

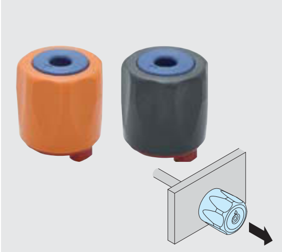
Part No. QLCA



CAM HANDLES

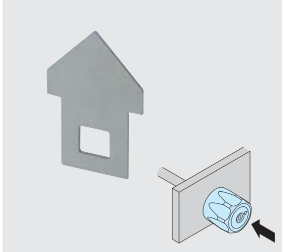
Part No. QLCL

KNOBS



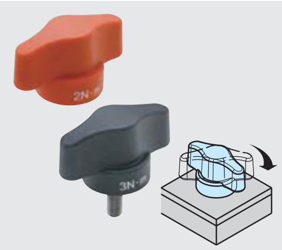
ONE-TOUCH LOCKING KNOBS

Part No. OTLK



POINTER PLATE

Part No. OTLK-A



TORQUE LIMITING KNOBS

Part No. CTK

ATCL ADJUSTABLE-TORQUE HANDLES

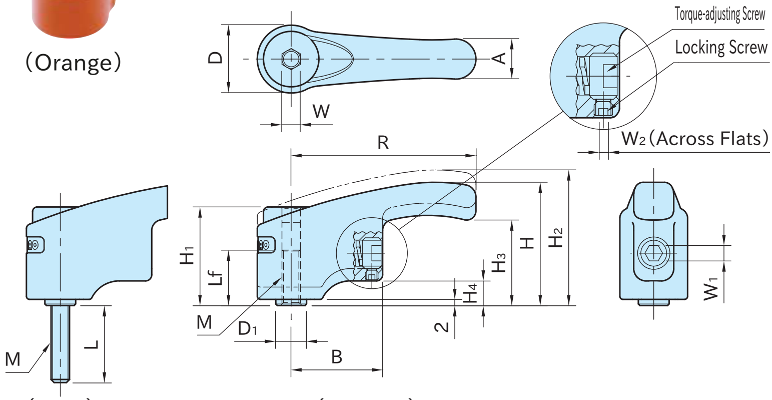
RoHS

IMAO

(Orange)

(Black)

Handle	Ratchet	Stud
SCM440 steel Quenched and tempered Painted Black, Orange	SCM415 steel Carburized-hardened Black oxide finished	SCM435 steel Quenched and tempered Black oxide finished



(Stud) (Tapped)

Type/Size	R	M	H	D	H_1	H_2	D_1	H_3	H_4	A	B	W	W_1	W_2	Teeth	Torque Range (N·m)	Tightening Force(kN) *)
ATCL 6	60	M 6×1	40	22	32	44	10	27.5	8	13	30	6	5	2	12	1~3.5	0.8~2.9
ATCL 8	75	M 8×1.25	48	26	38	52.5	13	33	9	15	37	8	6	2.5		2~5.4	1.3~3.4
ATCL10	90	M10×1.5	57	32	45	62.5	16	39.5	10.5	18	39	10				3~8	1.5~4

*) Use this tightening force information as an indication. (Tightening Force(kN) = Torque(N·m) / {0.2×d(mm)} d: nominal screw diameter)

■Tapped

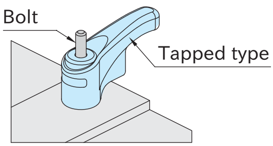
Part Number		Lf	Weight (g)
Black	Orange		
ATCL 6-BK	**ATCL 6-OG**	18	160
ATCL 8-BK	**ATCL 8-OG**	22	270
ATCL10-BK	**ATCL10-OG**	25	445

■Stud

Part Number		L	Weight (g)
Black	Orange		
ATCL 6×15-BK	**ATCL 6×15-OG**	15	167
ATCL 6×20-BK	**ATCL 6×20-OG**	20	168
ATCL 6×25-BK	**ATCL 6×25-OG**	25	169
ATCL 6×30-BK	**ATCL 6×30-OG**	30	170
ATCL 8×20-BK	**ATCL 8×20-OG**	20	282
ATCL 8×25-BK	**ATCL 8×25-OG**	25	284
ATCL 8×30-BK	**ATCL 8×30-OG**	30	286
ATCL 8×40-BK	**ATCL 8×40-OG**	40	290
ATCL10×20-BK	**ATCL10×20-OG**	20	464
ATCL10×25-BK	**ATCL10×25-OG**	25	467
ATCL10×30-BK	**ATCL10×30-OG**	30	470
ATCL10×40-BK	**ATCL10×40-OG**	40	475

Feature

- The handle is adjustable.
- Handle that allows setting a desired tightening torque.
- When the desired torque is reached, the handle clicks to indicate completed tightening.
- Tapped type has a through hole that can be used with bolts.

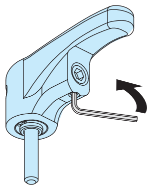


How To Use

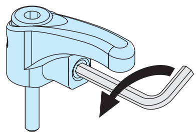
1. Lift the handle to disengage the teeth from the locking element.
2. Turn the handle to a desired position.
3. When the handle is released, the return spring automatically engages the teeth again for further tightening. The handle can be positioned every 30 degrees.
4. Turn the handle to clamp. The handle clicks to indicate completed tightening at desired tightening torque.

How To Set Torque

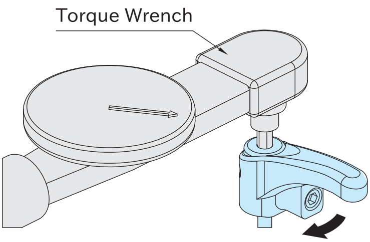
The preset torque is roughly its maximum tightening torque.



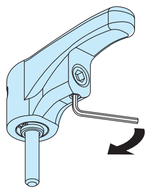
1. Loosen the locking screw by inserting a hex. wrench into the underside of the body.



2. Adjust the torque by turning the torque-adjusting screw in the side of the body.



3. Measure the torque with a torque wrench.
- Connect a torque wrench to the Adjustable-Torque Handle.
- Apply a load in the tightening direction, and fine adjust the depth of torque-adjusting screw to reach the desired torque when the handle clicks.



4. When the desired torque is reached, tighten the locking screw.

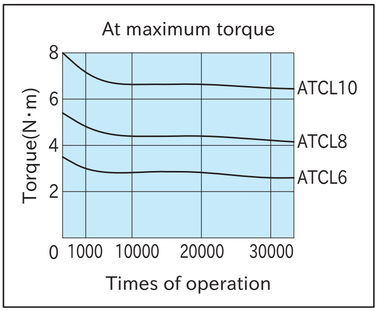
Related Product

CTK Torque Limiting Knobs

Torque Performance

- For initial several thousand operations, the tightening torque decreases.(See the graph below.) Measure the torque regularly, and fine adjust the depth of torque-adjusting screw when needed.
- The tightening torque can vary. (Max.±15%) Not recommended for applications where precise tightening torque is required.

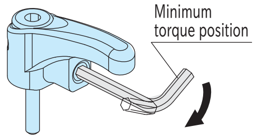
Torque Performance Graph



Note

Adjust the torque-adjusting screw within the torque range. Do not overtighten or overloosen the screw.

■Guide for Torque Adjusting



Size	Rotation
ATCL 6	3/4
ATCL 8	1
ATCL10	3/4

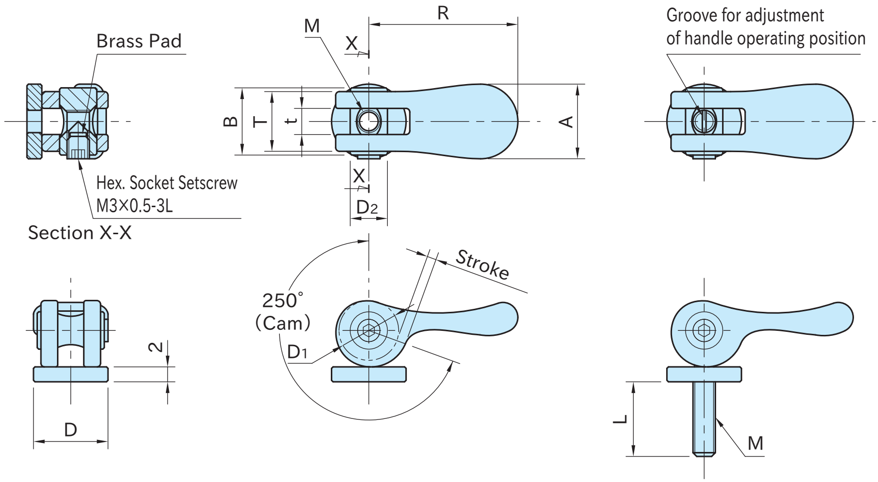
- To reach approx. the min torque, loosen the torque adjusting screw to the same end surface level of the body, then tighten it until you feel light touch of stop. (Ensure that the torque adjusting screw does not protrude from the body when loosening it.)
- To reach approx. the max torque, rotate the torque adjusting screw depending on the above table from the approx. min torque as instructed previously.

QLCCS COMPACT CAM HANDLES

RoHS Stainless Steel

★Key Point
Easy clamping and unclamping.

Handle	Ring Nut / Stud	Washer
SCS13 stainless steel (Equivalent to SUS304)	SUS303 stainless steel	SUS304 stainless steel



(Tapped) (Stud)

Size		D_1	R	A	D	M	T	t	B	D_2
QLCCS	03	8	20	10	10	M3×0.5	8	3.5	9	5
	04	10	25	13	12	M4×0.7	10	4.5	11	6
	05	12	32	16	14	M5×0.8	12	5.5	13	8

Size		Clamping Stroke	Allowable Operating Load (N)	Clamping Force (N)	Clamping Mechanism
QLCCS	03	1.2	30	400	Spiral Cam Cam Angle : 4°
	04	1.5	40	500	
	05	1.8	50	700	

QLCCS (Tapped)

Part Number	Weight (g)
QLCCS-03	7
QLCCS-04	13
QLCCS-05	23

QLCCS (Stud)

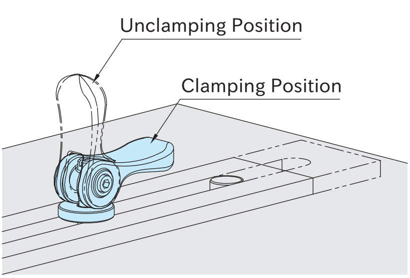
Part Number	L	Weight (g)
QLCCS-03×10	10	8
QLCCS-03×15	15	
QLCCS-04×15	15	16
QLCCS-04×20	20	
QLCCS-04×30	30	17
QLCCS-04×40	40	18
QLCCS-05×20	20	28
QLCCS-05×30	30	30
QLCCS-05×40	40	31
QLCCS-05×50	50	33

Feature

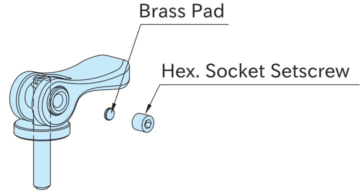
The handle position of Stud-type Compact Cam Handles can be set to a desired direction.

How To Use

■Application Example

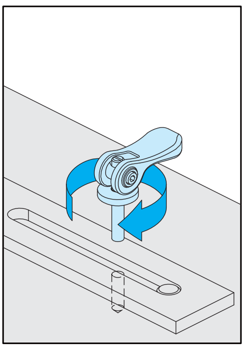


■Fixing the Cam Handle

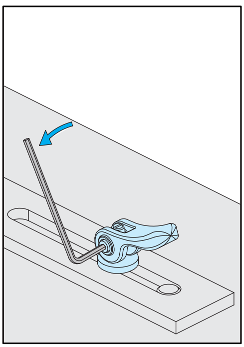


Use a brass pad and a hex. socket setscrew included to fix the handle.

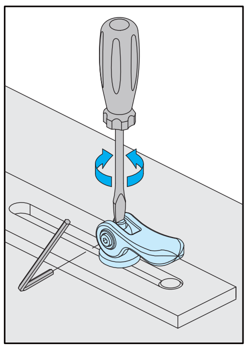
■How to Mount Stud-type Cam Handles



1. Fix the stud to the handle with a brass pad and a hex socket setscrew and screw the Compact Cam Handle to the counterpart.



2. Turn the handle to a desired direction and loosen the setscrew.



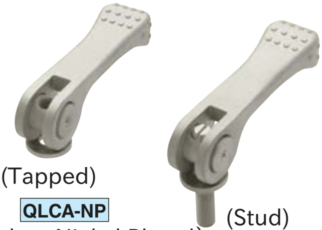
3. With a flathead screwdriver, adjust the handle to a desired clamping height and the load to fold the handle. Then fix the stud with the setscrew.

QLCA CAM HANDLES

RoHS Electroless Nickel Plated

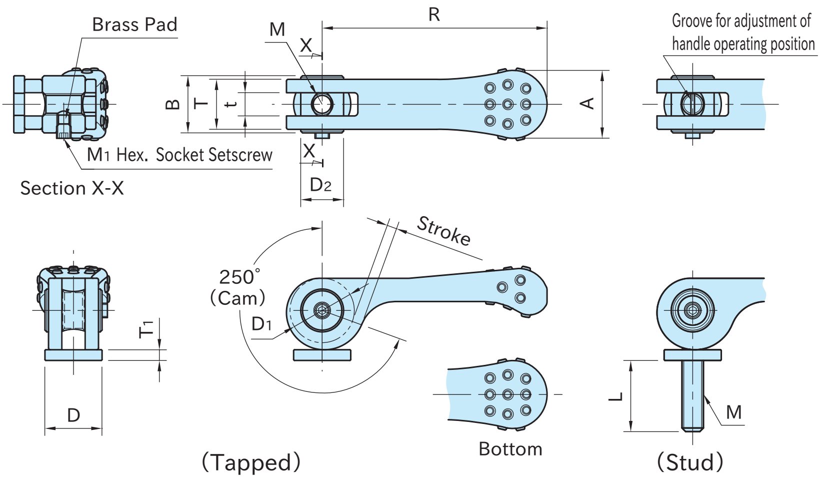
IMAO

(Tapped) QLCA (Stud)
(Black Oxide Finish)



(Tapped) QLCA-NP (Stud)
(Electroless Nickel Plated)

Style	Handle	Ring Nut / Washer	Stud
QLCA	SCM440 steel Quenched and tempered Black Oxide Finish	S45C steel Quenched and tempered Black Oxide Finish	SCM435 steel Quenched and tempered Black Oxide Finish
QLCA-NP	SCM440 steel Quenched and tempered Electroless Nickel Plated	S45C steel Quenched and tempered Electroless Nickel Plated	SCM435 steel Quenched and tempered Electroless Nickel Plated



Size		D1	R	A	D	T1	M	T	t	B	D2	M1
QLCA QLCA-NP	04	12	40	14	12	2	M 4×0.7	10	4.5	12	8	M3×0.5-3L
	05	15	50	16	14		M 5×0.8	12	5.5	14	10	
	06	18	63	19	16	3	M 6×1	14	6.5	16	12	M4×0.7-4L
	08	22	80	24	20		M 8×1.25	18	9	20	15	
	10	28	100	30	25	5	M10×1.5	23	11	25	18	M5×0.8-5L

Size		Clamping Stroke	Allowable Operating Load (N)	Clamping Force (kN)	Clamping Mechanism
QLCA QLCA-NP	04	1.8	80	0.9	Spiral Cam Cam Angle : 4°
	05	2.3	100	1.3	
	06	2.7	150	2.4	
	08	3.3	200	3.6	
	10	4.3	300	4.8	

QLCA QLCA-NP (Tapped)

Black Oxide Finish Part Number	Electroless Nickel Plated Part Number	Weight (g)
QLCA-04	**QLCA-04-NP**	26
QLCA-05	**QLCA-05-NP**	46
QLCA-06	**QLCA-06-NP**	80
QLCA-08	**QLCA-08-NP**	154
QLCA-10	**QLCA-10-NP**	318

QLCA QLCA-NP (Stud)

Black Oxide Finish Part Number	Electroless Nickel Plated Part Number	L	Weight (g)
QLCA-04×15	**QLCA-04×15-NP**	15	28
QLCA-04×20	**QLCA-04×20-NP**	20	29
QLCA-04×30	**QLCA-04×30-NP**	30	30
QLCA-04×40	**QLCA-04×40-NP**	40	31
QLCA-05×20	**QLCA-05×20-NP**	20	51
QLCA-05×30	**QLCA-05×30-NP**	30	52
QLCA-05×40	**QLCA-05×40-NP**	40	54
QLCA-05×50	**QLCA-05×50-NP**	50	55
QLCA-06×20	**QLCA-06×20-NP**	20	89
QLCA-06×30	**QLCA-06×30-NP**	30	91
QLCA-06×40	**QLCA-06×40-NP**	40	93
QLCA-06×50	**QLCA-06×50-NP**	50	96
QLCA-08×25	**QLCA-08×25-NP**	25	176
QLCA-08×30	**QLCA-08×30-NP**	30	178
QLCA-08×40	**QLCA-08×40-NP**	40	182
QLCA-08×50	**QLCA-08×50-NP**	50	186
QLCA-10×25	**QLCA-10×25-NP**	25	351
QLCA-10×30	**QLCA-10×30-NP**	30	354
QLCA-10×40	**QLCA-10×40-NP**	40	360
QLCA-10×50	**QLCA-10×50-NP**	50	366

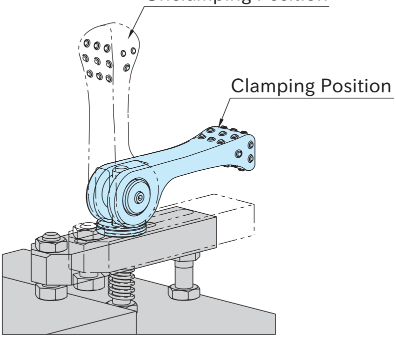
Feature

The handle position of Stud-type Cam Handles can be set to a desired direction.

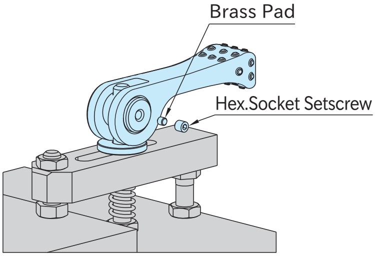
Continuing on Next Page

How To Use

■Application Example

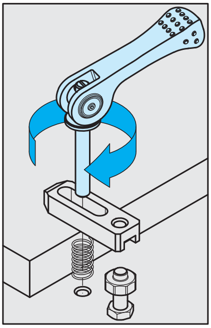


■Fixing the Cam Handle

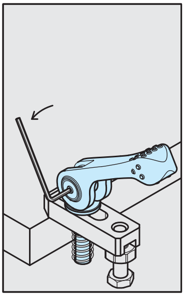


Use a brass pad and a hex. socket setscrew included.

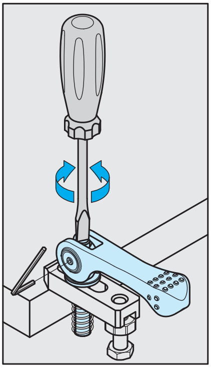
■How to Mount Stud-type Cam Handles



1. Fix the stud to the handle with a brass pad and a hex socket setscrew and screw the Cam Handle to the counterpart.



2. Turn the handle to a desired direction and loosen the setscrew.



3. With a flathead screwdriver, adjust the handle to a desired clamping height and the load to fold the handle. Then fix the stud with the setscrew.

Value Creator
IMAO

QLCL CAM HANDLES

RoHS Electroless Nickel Plated

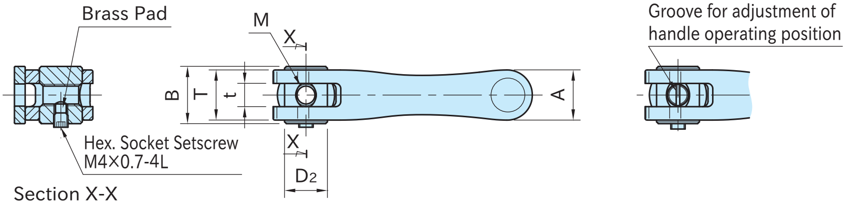
IMAO

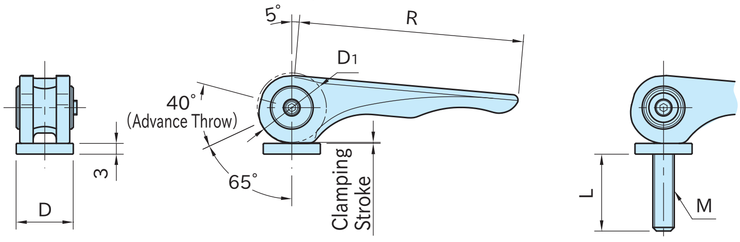

(Tapped)


(Stud)

★Key Point
Easy clamping and unclamping.
Handle clicks at clamping end.

Handle	Ring Nut / Washer	Stud
SCM440 steel Quenched and tempered Electroless nickel plated	S45C steel Quenched and tempered Electroless nickel plated	SCM435 steel Quenched and tempered Electroless nickel plated





(Tapped)
(Stud)

Type		D1	R	A	D	M	T	t	B	D2	Clamping Stroke
QLCL-NP	06	19.4	63	14	16	M6×1	14	6.5	16	12	0.3
	08	23.2	80	18	20	M8×1.25	18	9	20	15	0.4

Type		Advance Stroke	Allowable Operating Load (N)	Clamping Force (kN)	Clamping Mechanism
QLCL-NP	06	0.8	40	0.7	Spiral Cam Cam Angle : 2°
	08		50	1.4	

QLCL-NP (Tapped)

Part Number	Weight (g)
QLCL-06-NP	64
QLCL-08-NP	121

QLCL-NP (Stud)

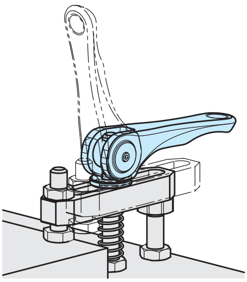
Part Number	L	Weight (g)
QLCL-06×20-NP	22	72
QLCL-06×30-NP	32	75
QLCL-06×40-NP	42	77
QLCL-06×50-NP	52	79
QLCL-08×25-NP	27	139
QLCL-08×30-NP	32	141
QLCL-08×40-NP	42	145
QLCL-08×50-NP	52	149

Feature

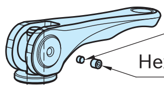
- By its unique cam design, the handle clicks at clamping end.
- Compared to conventional cam handles, this product has higher resistance against vibration.
- The handle position of Stud-type Cam Handles can be set to a desired direction.

How To Use

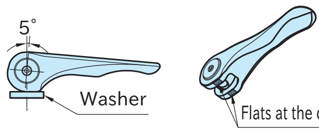
■Application Example



■Fixing the Cam Handle

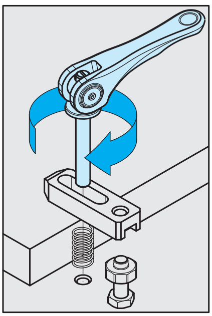


Use a brass pad and a hex. socket setscrew included to fix the handle.

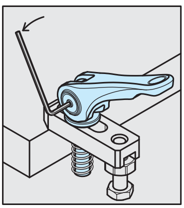


Note: Top surface of washer and flats at the cam end should align at the clamping position.

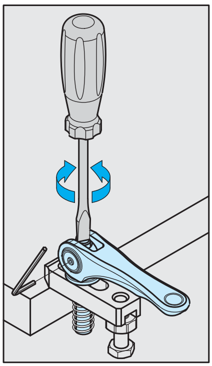
■Mounting Stud-type Cam Handles



1.Fix the stud to the handle with a brass pad and a hex socket setscrew and screw the Cam Handle to the counterpart.



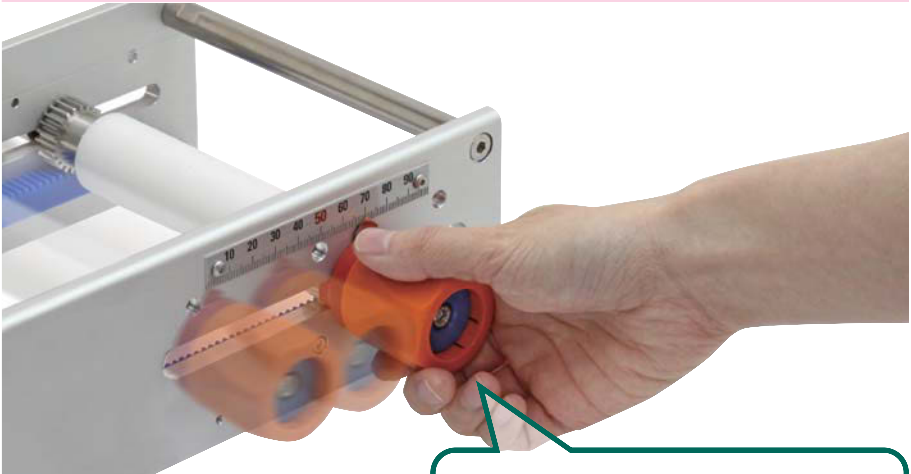
2.Turn the handle to a desired direction and loosen the setscrew.



3.With a flathead screwdriver, adjust the handle to a desired clamping height and the load to fold the handle. Then fix the stud with the setscrew.

Value Creator
IMAO

ONE-TOUCH LOCKING KNOBS



Can lock the spindle rotation in one action. Ideal for fixing rack and pinion axis or leadscrew axis.

INNOVATIVE Knob!

Adjustment & Locking at a time!

ONE-TOUCH LOCKING KNOBS

<Locked>
(Position adjusted)

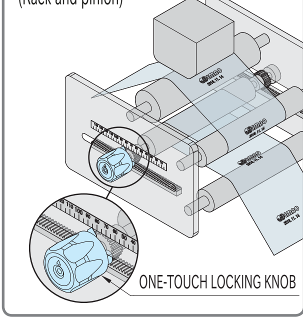
Blue= Safety to operate machine

<Unlocked>
(Position adjustable)

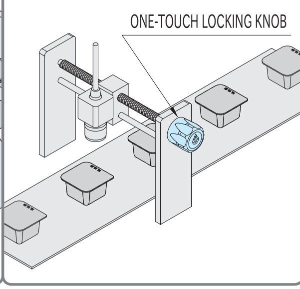
Red= Caution to opearate machine

Application Example

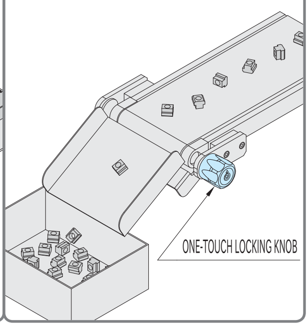
Adjsutment of film tension in printing machine (Rack and pinion)



Changes of camera position (Leadscrew)



Changes of shooter angle



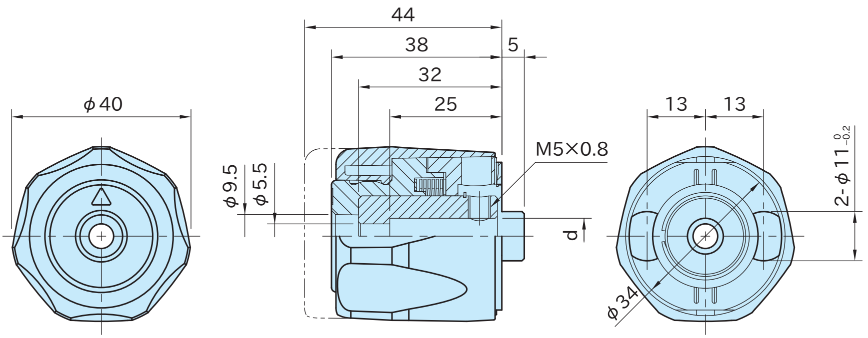
OTLK ONE-TOUCH LOCKING KNOBS

RoHS

IMAO

★Key Point
Secure locking of spindle with one-touch action!

Housing	Boss	Base	Insert
Polyamide (glass-fiber reinforced) Black, Orange	Polyamide (glass-fiber reinforced) Blue	Polyamide (glass-fiber reinforced) Red	SUS304 stainless steel



Part Number		d (H7)	Weight (g)
Black	Orange		
OTLK4008-BK	OTLK4008-OG	8	95
OTLK4010-BK	OTLK4010-OG	10	90

Supplied With

- 1 pc. of M5×15 Stainless-Steel Socket-Head Cap Screw
- 1 pc. of M5×5 Stainless-Steel Cup-Point Socket-Head Setscrew with Locking Agent

Feature

- OTLK enables one-touch locking and unlocking of spindle.
- Locking and unlocking of spindle can be perceived with click.
- Red and blue colors indicate whether spindle is locked or unlocked.

Red indicates caution to operate machine.

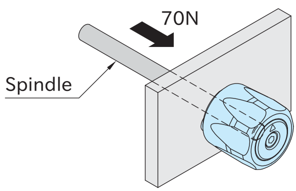
〈Unlocked〉

Blue indicates safety to operate machine.

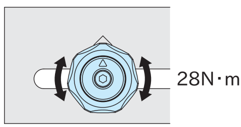
〈Locked〉

Technical Information

- OTLK has 50 teeth inside and it engages at every 7.2°(＝360°/ 50).
- OTLK pulls the spindle by the inner spring with 70N force to prevent chattering of the spindle.
  Note: The spindle should be fully inserted into the knob for 25mm.

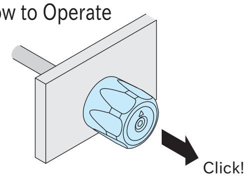


- Allowable moment at locking position: 28N･m (Safety Factor＝5)

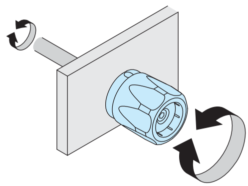


How To Use

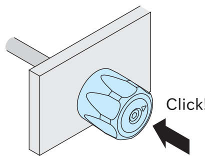
■How to Operate



By pulling the housing until it clicks, the teeth of the knob disengage from the base.

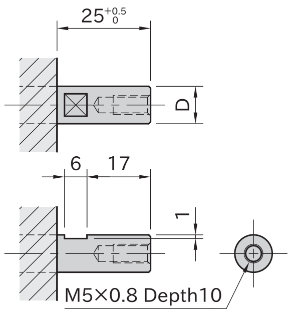


Turn OTLK to rotate the spindle.



By pushing the housing until it clicks, the teeth engage again and lock the rotation of the spindle.

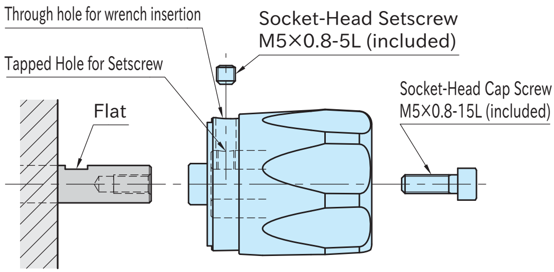
■Mounting Spindle Dimension



Size	D (g6)
OTLK4008	8
OTLK4010	10

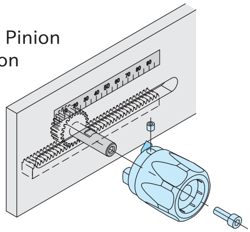
■How to Install

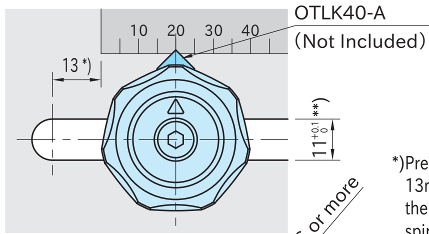
1. Pull the housing and align the through hole on the base and the tapped hole on the insert.
2. Align the flat and the tapped hole on the insert and then mount to the spindle.
3. Fix OTLK temporarily using M5×0.8-15L socket-head cap screw included.
4. Fix OTLK to the spindle temporarily using a setscrew included.
5. Tighten M5×0.8-15L socket-head cap screw fully.
6. Tighten the setscrew fully.

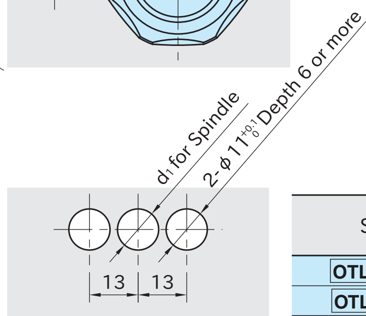


■Mounting Hole Dimension

Rack and Pinion Application



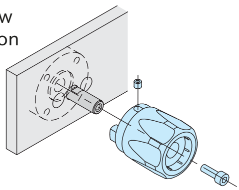




*)Prepare clearance of 13mm or more from the end of a required spindle stroke.

**)Recommended surface roughness is 1.6 for the inner surface of the slotted hole.

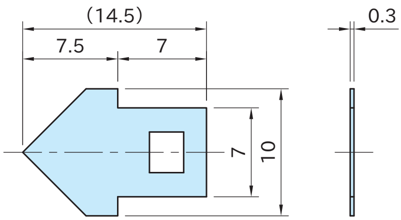
Leadscrew Application



Size	d_1
OTLK4008	9
OTLK4010	11

OTLK-A POINTER PLATE

RoHS

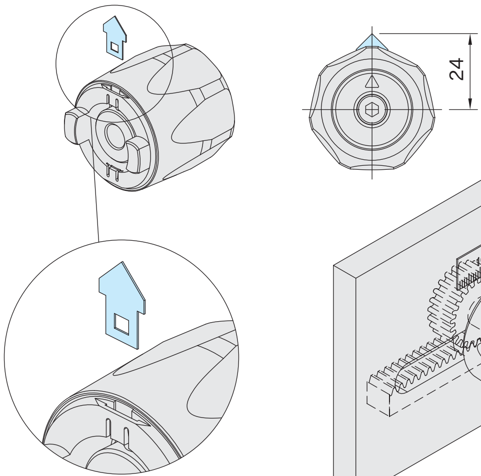


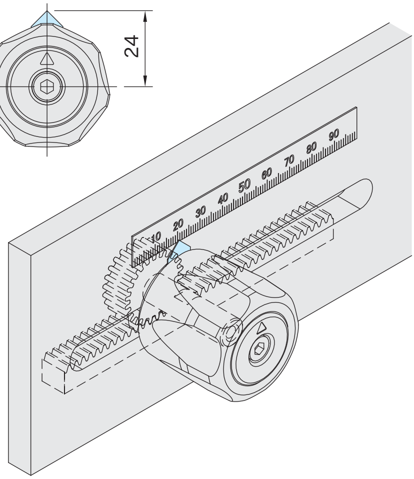
Body
SUS304 stainless steel

Part Number	Weight (g)
OTLK40-A	21

How To Use

- Use with scale plate for reading graduations in radial feeding applications such as rack and pinion.
- Insert Pointer Plate to the slot on the base component of One-Touch Locking Knobs.





Value Creator
IMAO

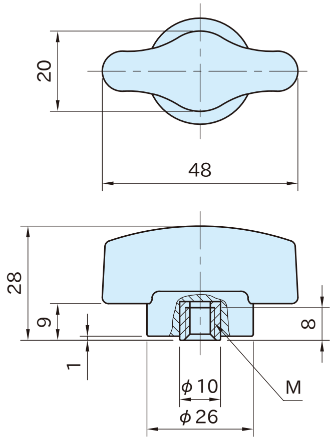
CTK TORQUE LIMITING KNOBS

RoHS

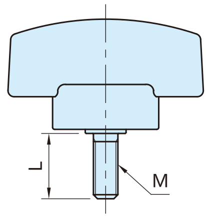
IMAO

(Tapped)

(Stud)



(Tapped)



(Stud)

Knob	Insert
Polyamide (glass-fiber reinforced) Black matte Orange matte	S45C steel Electroless nickel plated

★Key Point

Tightening end is detectable by sound and touch of a click.

Type	M	Torque (N·m) *)	Tightening Force (kN) **)
CTK48-5-2	M5×0.8	2	2
CTK48-5-3		3	3
CTK48-6-2	M6×1	2	1.7
CTK48-6-3		3	2.5

*) Torque can vary ±15% (Max).

**) Use these values only as a guide. <Tightening force (kN) = Torque(N·m)/{0.2×d(mm)} d:Nominal diameter of the stud>

■Tapped

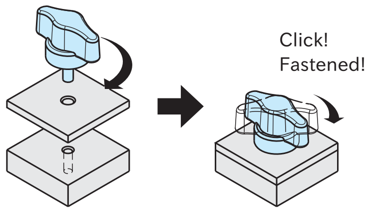
Part Number		Weight (g)
Black	Orange	
CTK48-5-2BK	CTK48-5-2OG	35
CTK48-5-3BK	CTK48-5-3OG	36
CTK48-6-2BK	CTK48-6-2OG	34
CTK48-6-3BK	CTK48-6-3OG	35

■Stud

Part Number		L	Weight (g)
Black	Orange		
CTK48-5×10-2BK	CTK48-5×10-2OG	10	37
CTK48-5×10-3BK	CTK48-5×10-3OG		38
CTK48-5×16-2BK	CTK48-5×16-2OG	16	38
CTK48-5×16-3BK	CTK48-5×16-3OG		39
CTK48-6×16-2BK	CTK48-6×16-2OG	16	39
CTK48-6×16-3BK	CTK48-6×16-3OG		40
CTK48-6×25-2BK	CTK48-6×25-2OG	25	41
CTK48-6×25-3BK	CTK48-6×25-3OG		42

Feature

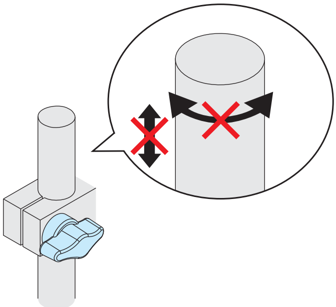
・Can be tightened with the specified torque.
・The spring and the balls inside provide a touch of click when the knob reaches to the specified torque at the tightening end.
・The knob can keep rotated to the desired position after reaching to the specified torque.



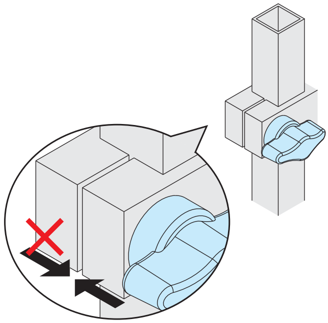
Technical Information

Working temperature : Between 0℃ and 80 ℃

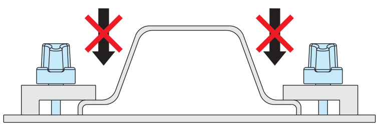
How To Use



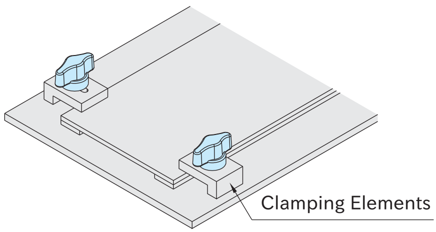
Prevent rotation or slippage.



Prevent deformation or scratch.



Prevent deformation of workpiece.



Can be used with clamping elements.

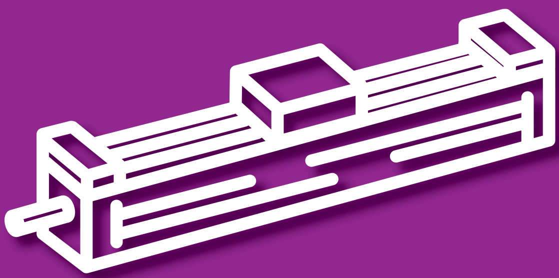
Related Product

ATCL Adjustable-Torque Handles

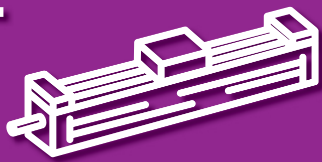
Value Creator

IMAO

MECHANICAL LINEAR ACTUATORS



MECHANICAL LINEAR ACTUATORS



MECHANICAL LINEAR ACTUATORS

Part No. MAU5040SS

MECHANICAL LINEAR ACTUATORS (Customized Stroke)

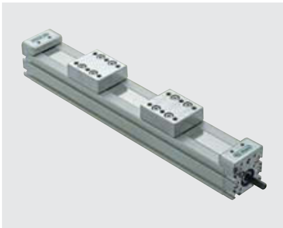
Part No. MAUX5040SS

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX

Part No. MAG5040SS

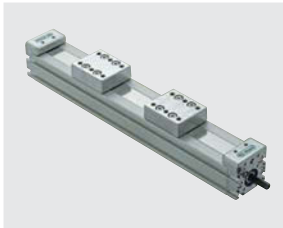
MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Customized Stroke)

Part No. MAGX5040SS



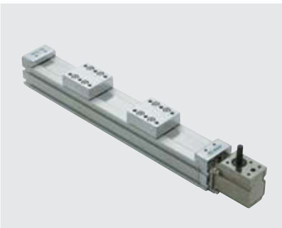
MECHANICAL LINEAR ACTUATORS (Dual Carriage)

Part No. MAU5040SW



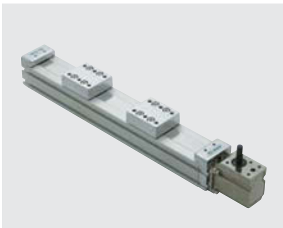
MECHANICAL LINEAR ACTUATORS (Dual Carriage, Customized Stroke)

Part No. MAUX5040SW



MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Dual Carriage)

Part No. MAG5040SW



MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Dual Carriage, Customized Stroke)

Part No. MAGX5040SW

MECHANICAL LINEAR ACTUATORS (Synchro-Use)

Part No. MAU5040DS

MECHANICAL LINEAR ACTUATORS (Synchro-Use, Customized Stroke)

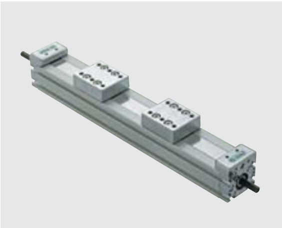
Part No. MAUX5040DS

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Synchro-Use)

Part No. MAG5040DS

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Synchro-Use, Customized Stroke)

Part No. MAGX5040DS

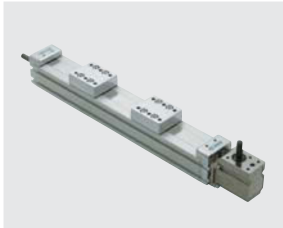


MECHANICAL LINEAR ACTUATORS (Dual Carriage, Synchro-Use)

Part No. MAU5040DW

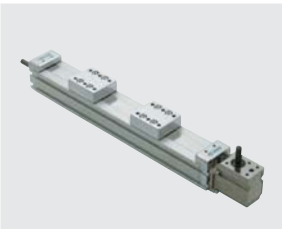
MECHANICAL LINEAR ACTUATORS (Dual Carriage, Synchro-Use, Customized Stroke)

Part No. MAUX5040DW



MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Dual Carriage, Synchro-Use)

Part No. MAG5040DW



MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Dual Carriage, Synchro-Use, Customized Stroke)

Part No. MAGX5040DW

ONE-TOUCH SPINDLE LOCKS

Part No. QCSPL

POSITIONING PLATE

Part No. MAU5040-PS01

DIGITAL POSITION INDICATORS

Part No. SDP-04

ADAPTER SHAFTS

Part No. MAU5040-SH

PLASTIC SOLID DISK HANDWHEEL

Part No. EDHN-M

MECHANICAL LINEAR ACTUATORS

PLASTIC ANGLED-SPOKE HANDWHEELS

Part No. TWN-M

PLASTIC CRANK HANDLES

Part No. BCHN-M

ALUMINUM FINGER WHEELS

Part No. AH-R-M / AHRS-R-M

PLASTIC KNURLED KNOBS

Part No. GH-N

PAIR OF STOPS

Part No. MAU5040-ST02

NUTS

Part No. L5-TST

GROOVE COVER

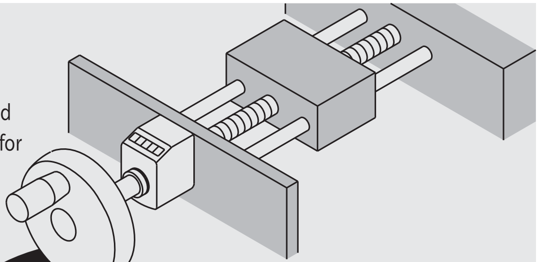
Part No. L5-GVC2000N

Value Creator

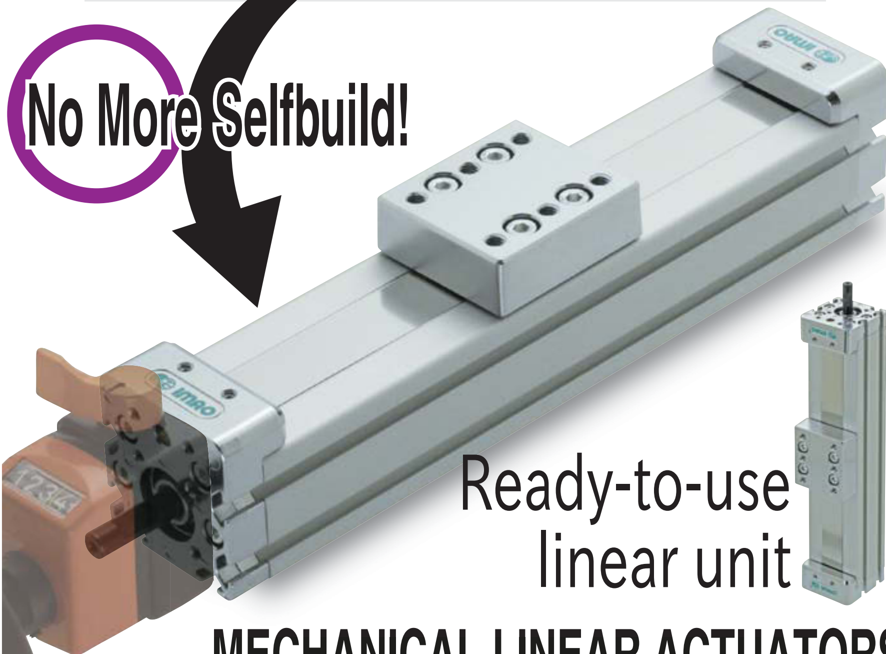
MECHANICAL LINEAR ACTUATORS

Conventional

Linear Actuators required to design and select required parts for self-production.



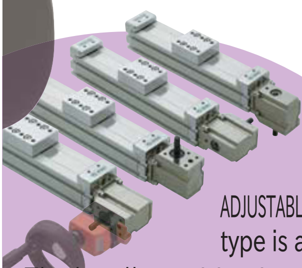
No More Selfbuild!



Ready-to-use linear unit

MECHANICAL LINEAR ACTUATORS

No Part Selection | **No Designing** | **No Assembly**



ADJUSTABLE GEARBOX type is available.

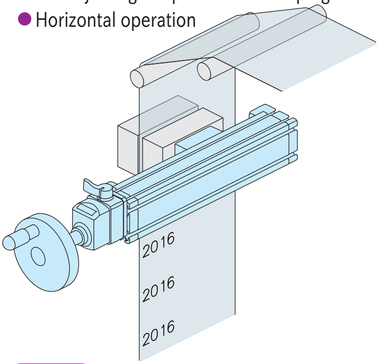
The handle position is adjustable!

IMAO's pre-assembled Linear Unit can be used with simple manual adjustments without complex processes of parts selection, design and assembly.
The internal parts are protected from dust by its aluminum profile body and dustproof sheet.

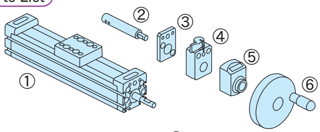
Application Example

Printing Machine

- For adjusting the position of stamping rest
- Horizontal operation



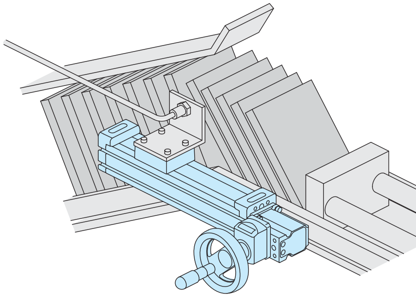
Parts List



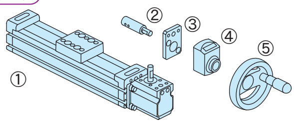
① MAU5040SS	② MAU5040-SH
③ MAU5040-PS01	④ QCSPL
⑤ SDP-04	⑥ EDHN-M

Material Feeder

- For adjusting the sensor position
- Horizontal operation with converted handle position



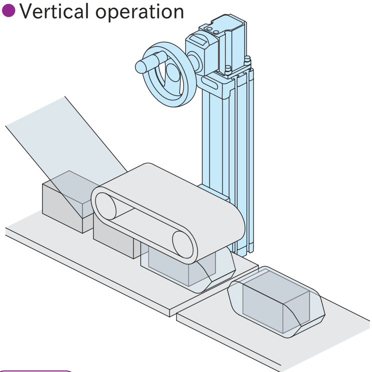
Parts List



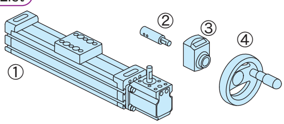
① MAG5040SS	② MAU5040-SH
③ MAU5040-PS01	④ SDP-04
⑤ TWN-M	

Packaging Machine

- For adjusting the position of holder belt
- Vertical operation



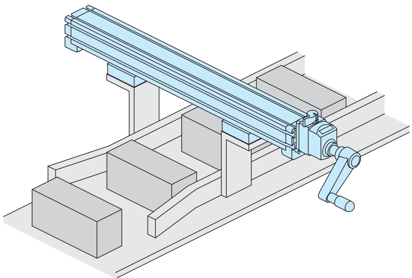
Parts List



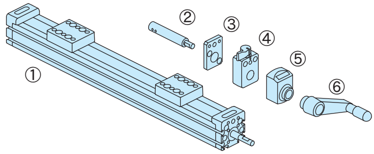
① MAG5040SS	② MAU5040-SH
③ SDP-04	④ TWN-M

Conveyer

- For adjusting the width of guides
- Horizontal operation with two carriages at downside



Parts List

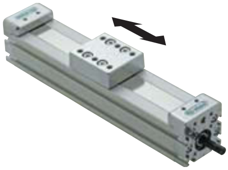


① MAU5040SW	② MAU5040-SH
③ MAU5040-PS01	④ QCSPL
⑤ SDP-04	⑥ BCHN-M

Lineup

MECHANICAL LINEAR ACTUATORS CCW CW

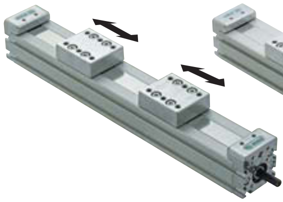
Carriage moves along with rotation of the shaft.



MECHANICAL LINEAR ACTUATORS
- CUSTOMIZED STROKE
- WITH ADJUSTABLE GEARBOX
- WITH ADJUSTABLE GEARBOX (Customized Stroke)

MECHANICAL LINEAR ACTUATORS (Dual Carriage) CW

Carriages move towards the center or opposite directions along with the rotation of the shaft.

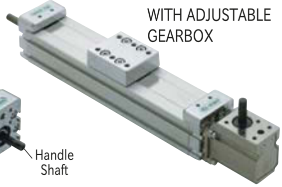


MECHANICAL LINEAR ACTUATORS (Dual Carriage)
- CUSTOMIZED STROKE
- WITH ADJUSTABLE GEARBOX
- WITH ADJUSTABLE GEARBOX (Customized Stroke)

MECHANICAL LINEAR ACTUATORS (Synchro-Use)

CCW CW WITH Handle Shaft WITHOUT Handle Shaft

The actuators can be used in pairs connected at shafts.

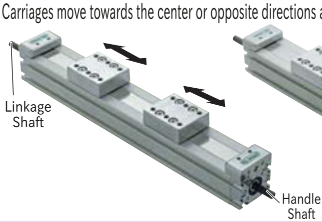


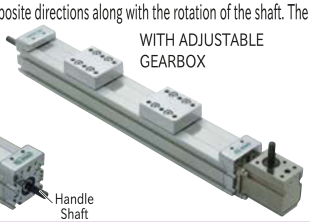
MECHANICAL LINEAR ACTUATORS (Synchro-Use)
- CUSTOMIZED STROKE
- WITH ADJUSTABLE GEARBOX
- WITH ADJUSTABLE GEARBOX (Customized Stroke)

MECHANICAL LINEAR ACTUATORS (Dual Carriage, Synchro-Use)

CW WITH Handle Shaft WITHOUT Handle Shaft

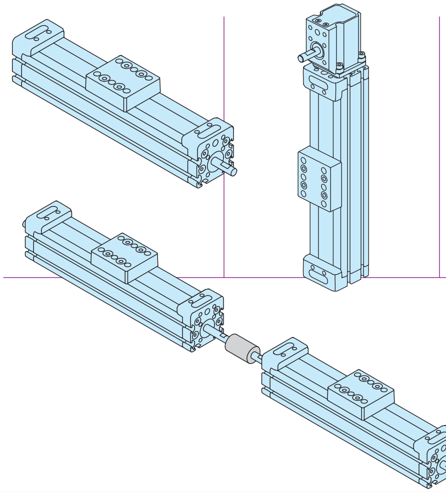
Carriages move towards the center or opposite directions along with the rotation of the shaft. The actuators can be used in pairs connected at shafts.



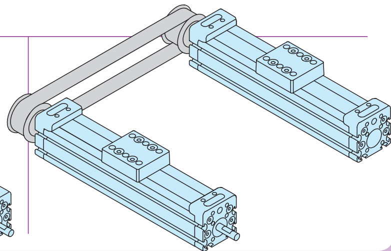


MECHANICAL LINEAR ACTUATORS (Dual Carriage, Synchro-Use)
- CUSTOMIZED STROKE
- WITH ADJUSTABLE GEARBOX
- WITH ADJUSTABLE GEARBOX (Customized Stroke)

Universal Usage



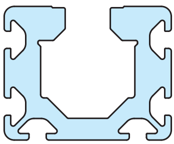
The universal design enables to approach in many different usages.



Feature

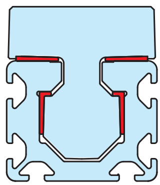
High Rigidity

Due to the optimized construction of the aluminum body, it is highly rigid enough to provide stable slide and easy mount by T-slots on 3-sides.



High Durability

The abrasion resistance and self- lubricating material of sliding parts give the unit a longer lifetime against the load of up and down or sideways.



Related Product

Related accessories are also available from us.

ONE-TOUCH SPINDLE LOCKS

Secure locking of spindles with one-touch action!

DIGITAL POSITION INDICATORS

HANDWHEELS

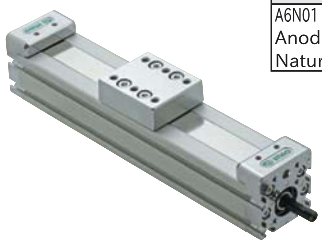
Dedicated handwheels are available.

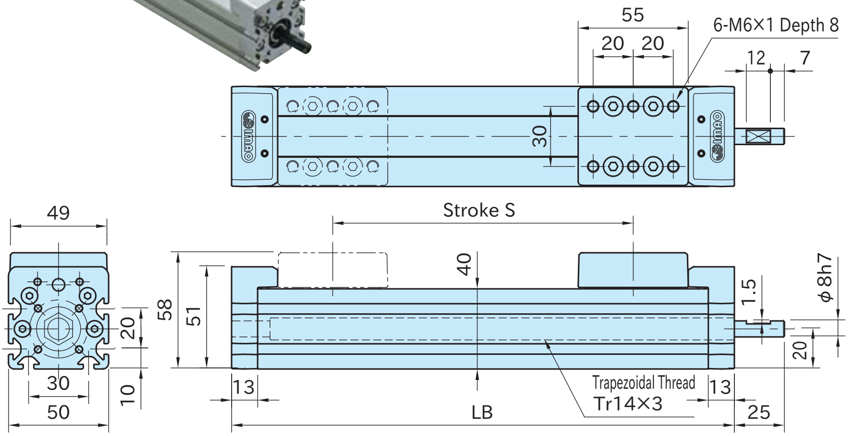
MAU5040SS MECHANICAL LINEAR ACTUATORS

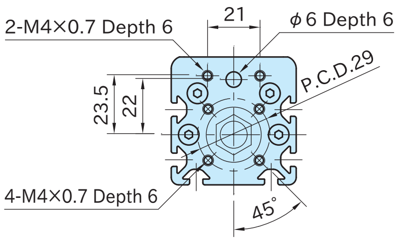
RoHS

IMAO

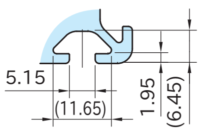
Body	Carriage End Plates	Shaft	Trapezoidal Nut	Screw	Dustproof Sheet
A6N01 aluminum Anodized Natural	ZDC2 die-cast zinc Chrome plated	S45C steel Black oxide finish	CAC902 copper alloy	SCM435 steel Trivalent chromate	SUS304H stainless steel







Dimensions of End Plate (Both ends)



Dimensions of 6 Slots

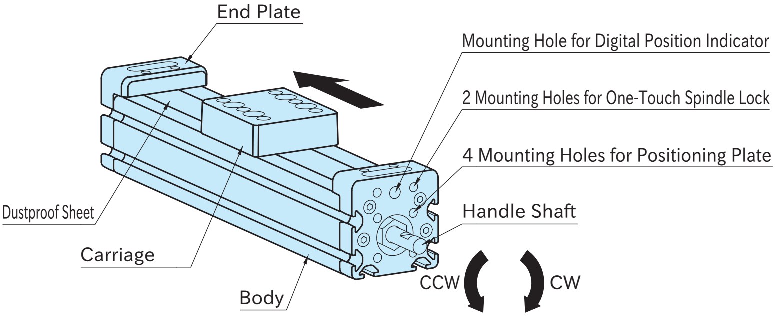
Part Number	Rotative Direction	S	LB	Weight (kg)
MAU5040SS-100R	CW	100	200	1.5
MAU5040SS-100L	CCW			
MAU5040SS-150R	CW	150	250	1.7
MAU5040SS-150L	CCW			
MAU5040SS-200R	CW	200	300	1.9
MAU5040SS-200L	CCW			
MAU5040SS-250R	CW	250	350	2.1
MAU5040SS-250L	CCW			
MAU5040SS-300R	CW	300	400	2.3
MAU5040SS-300L	CCW			

Related Product

Choose the optional elements for your needs.

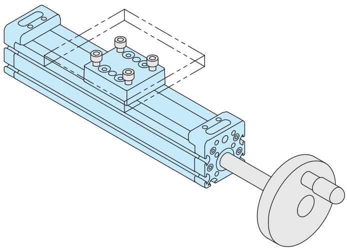
- One-Touch Spindle Locks
- Positioning Plate
- Digital Position Indicators
- Adapter Shafts
- Handwheels
- Pair of Stops
- T-Slot Nuts
- Groove Cover
- For actuators with customized stroke, see MAUX5040SS.

How To Use

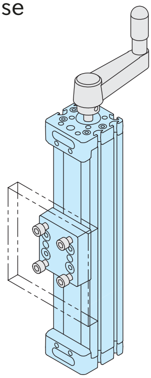


・MAU5040SS-R : Carriage moves toward the arrow direction by turning the Handle Shaft clockwise.
・MAU5040SS-L : Carriage moves toward the arrow direction by turning the Handle Shaft counterclockwise.
・Carriage moves 3mm per rotation of the Handle Shaft.

■Horizontal Use



■Vertical Use



Reference

Technical Information of Mechanical Linear Actuators

MAUX5040SS MECHANICAL LINEAR ACTUATORS (Customized Stroke)

On Request RoHS

IMAO

Ordering Example

MAUX5040SS-AL 170
Part Number   Stroke S

Feature

・The stroke of MAU5040SS is customizable.
・For ordering, specify the stroke.

Note

Body length : LB = Stroke S + 100mm

Part Number		S (by 10mm)	Delivery Time
MAUX5040SS-A	R(CW) L(CCW)	160~290	15 Working Days
MAUX5040SS-B		310~500	
MAUX5040SS-C		510~700	

Reference

Technical Information of Mechanical Linear Actuators

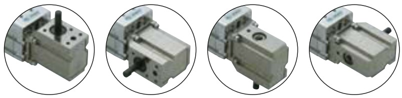
MAG5040SS

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX

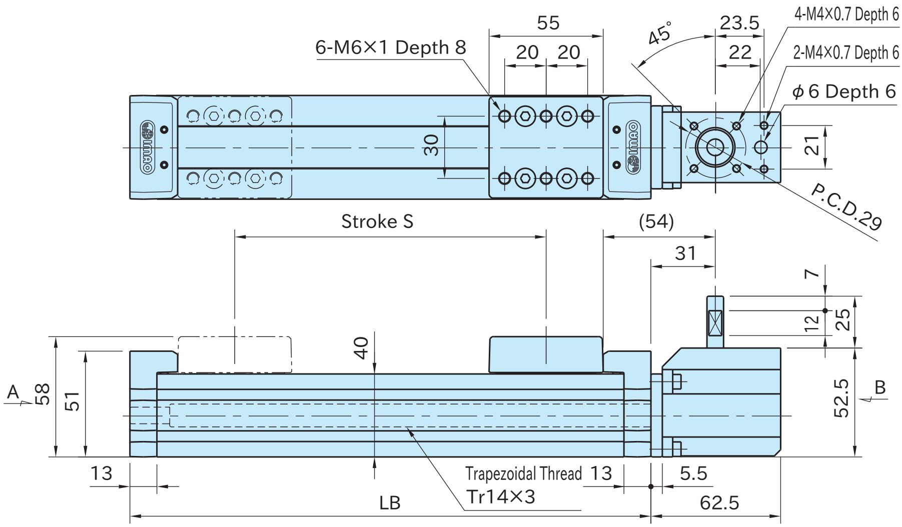
On Request RoHS

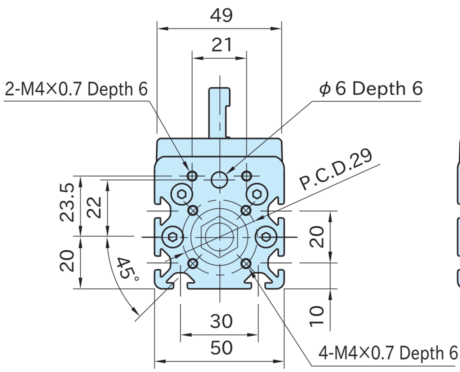
IMAO

Body	Carriage/End Plates	Shaft	Trapezoidal Nut
A6N01 aluminum Anodized Natural	ZDC2 die-cast zinc Chrome plated	S45C steel Black oxide finish	CAC902 copper alloy
Screw	**Dustproof Sheet**	**Gearbox**	
SCM435 steel Trivalent chromate	SUS304H stainless steel	S45C steel Electroless nickel plated	

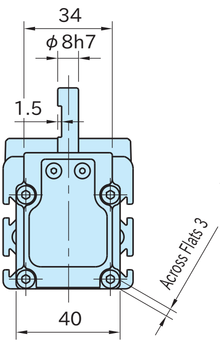


Gearbox can be positioned at every 90 degree.

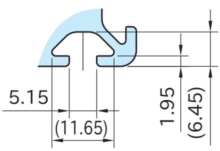




VIEW:A



VIEW:B



Dimensions of 6 slots

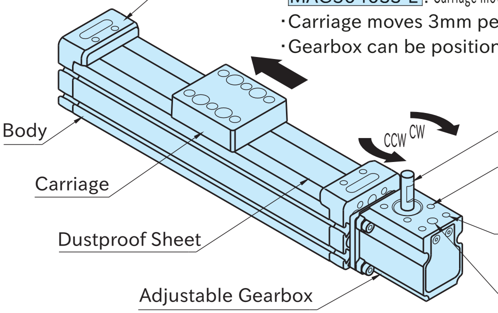
Part Number	Rotative Direction	S	LB	Weight(kg)	Delivery Time
MAG5040SS-100R	CW	100	200	2.0	10 Working Days
MAG5040SS-100L	CCW				
MAG5040SS-150R	CW	150	250	2.2	
MAG5040SS-150L	CCW				
MAG5040SS-200R	CW	200	300	2.4	
MAG5040SS-200L	CCW				
MAG5040SS-250R	CW	250	350	2.6	
MAG5040SS-250L	CCW				
MAG5040SS-300R	CW	300	400	2.8	
MAG5040SS-300L	CCW				

Related Product

Choose the optional elements for your needs.

- One-Touch Spindle Locks
- Positioning Plate
- Digital Position Indicators
- Adapter Shafts
- Handwheels
- Pair of Stops
- T-Slot Nuts
- Groove Cover
- For actuators with customized stroke, see MAGX5040SS.

How To Use



- MAG5040SS-R: Carriage moves toward the arrow direction by turning the shaft clockwise.
- MAG5040SS-L: Carriage moves toward the arrow direction by turning the shaft counterclockwise.
- Carriage moves 3mm per rotation of the shaft.
- Gearbox can be positioned at every 90 degree.

Note

The gearbox will be delivered with mounted to Mechanical Linear Actuators in the orientation as in the figure above.

Reference

- How To Change Gearbox Position
- Dimensions of Gearbox
- Technical Information of Mechanical Linear Actuators

MAGX5040SS MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Customized Stroke)

On Request RoHS

IMAO

Feature

- The stroke length of MAG5040SS is customizable.
- For ordering, specify the stroke.

Note

Body length : LB = Stroke S+100mm

Ordering Example

MAGX5040SS-AL 170

Part Number / Stroke S

Part Number		S Desired Length (by 10mm)	Delivery Time
MAGX5040SS-A	R(CW) L(CCW)	160～290	15 Working Days
MAGX5040SS-B		310～500	
MAGX5040SS-C		510～700	

Reference

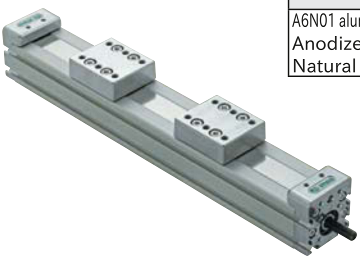
- How To Change Gearbox Position
- Dimensions of Gearbox
- Technical Information of Mechanical Linear Actuators

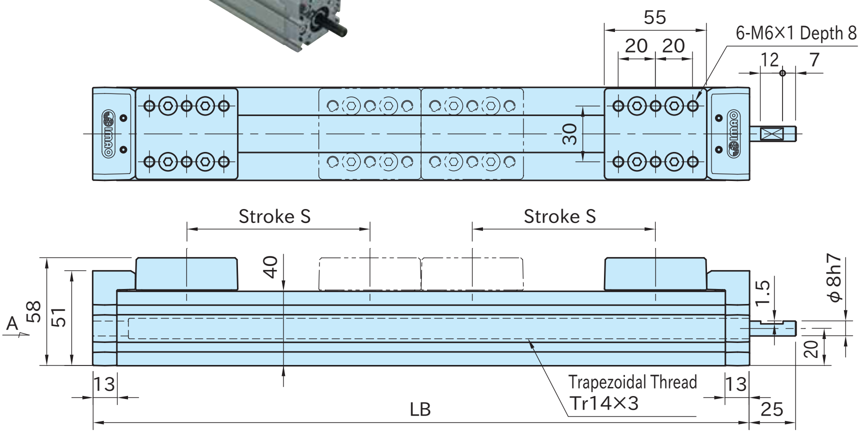
MAU5040SW MECHANICAL LINEAR ACTUATORS (Dual Carriage)

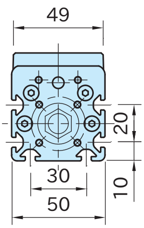
RoHS

IMAO

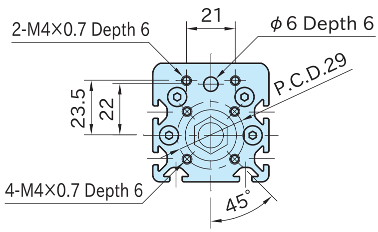
Body	Carriage End Plates	Shaft	Trapezoidal Nut	Screw	Dustproof Sheet
A6N01 aluminum Anodized Natural	ZDC2 die-cast zinc Chrome plated	S45C steel Black oxide finish	CAC902 copper alloy	SCM435 steel Trivalent chromate	SUS304H stainless steel



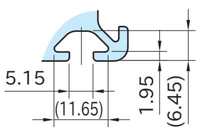




VIEW:A



Dimensions of End Plate (Both ends)



Dimensions of 6 Slots

Part Number	S	LB	Weight (kg)
MAU5040SW-100	100	355	2.4
MAU5040SW-150	150	455	2.8

Reference

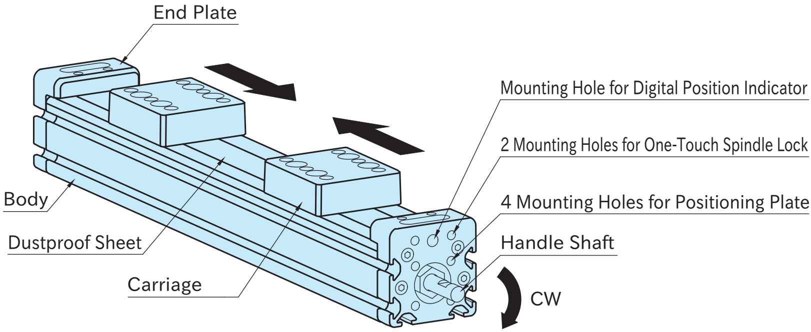
Technical Information of Mechanical Linear Actuators

Related Product

Choose the optional elements for your needs.

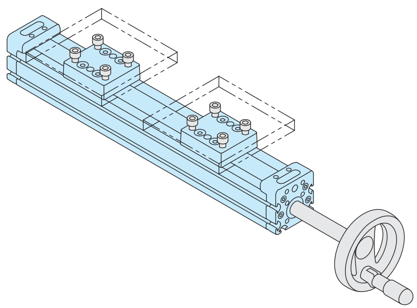
・One-Touch Spindle Locks
・Positioning Plate
・Digital Position Indicators
・Adapter Shafts
・Handwheels
・Pair of Stops
・T-Slot Nuts
・Groove Cover
・For actuators with customized stroke, see MAUX5040SW.

How To Use

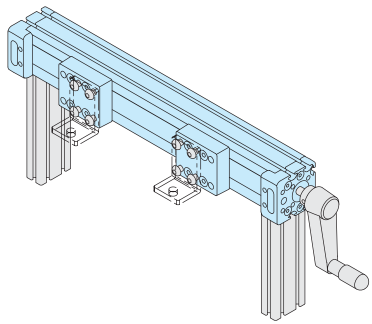


・Two carriages move toward the arrow directions by turning the Handle Shaft clockwise.
・Two carriages move against the arrow directions by turning the Handle Shaft counterclockwise.
・Pitch between two carriages increases or decreases 6mm per rotation of the Handle Shaft.

■Horizontal Use 1



■Horizontal Use 2



MAUX5040SW MECHANICAL LINEAR ACTUATORS (Dual Carriage, Customized Stroke)

On Request RoHS

IMAO

Ordering Example

MAUX5040SW-B **240**
Part Number Stroke S

Feature

・The stroke of MAU5040SW is customizable.
・For ordering, specify the stroke.

Note

Body length : LB = Stroke S × 2 + 155mm

Reference

Technical Information of Mechanical Linear Actuators

Part Number	S (by 10mm)	Delivery Time
MAUX5040SW-A	160~220	15 Working Days
MAUX5040SW-B	230~280	
MAUX5040SW-C	290~340	

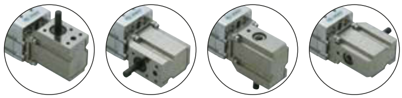
MAG5040SW

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Dual Carriage)

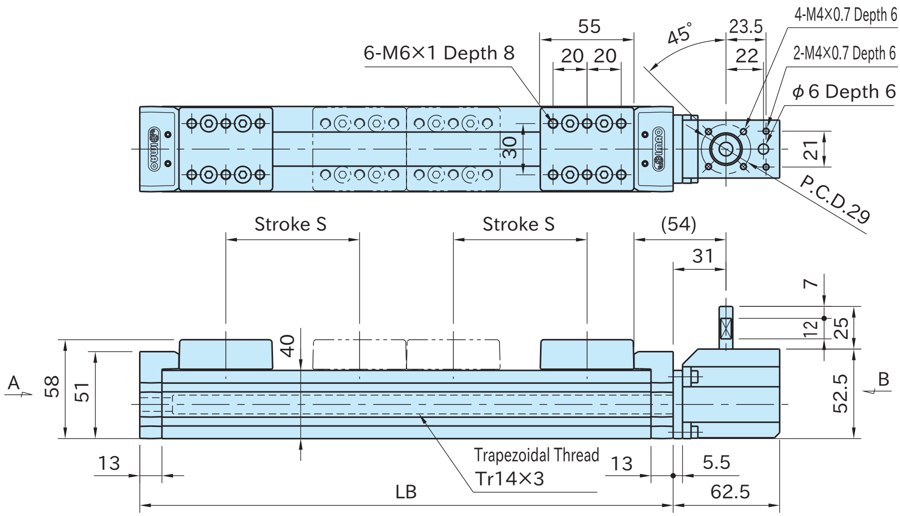
On Request RoHS

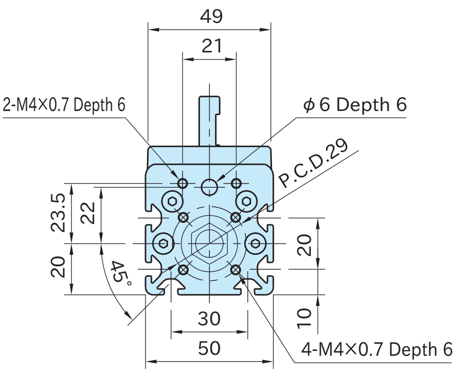
IMAO

Body	Carriage/End Plates	Shaft	Trapezoidal Nut
A6N01 aluminum Anodized Natural	ZDC2 die-cast zinc Chrome plated	S45C steel Black oxide finish	CAC902 copper alloy
Screw	**Dustproof Sheet**	**Gearbox**	
SCM435 steel Trivalent chromate	SUS304H stainless steel	S45C steel Electroless nickel plated	

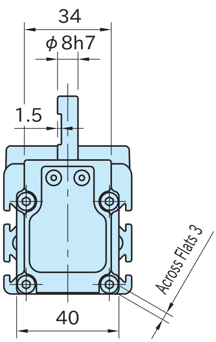


Gearbox can be positioned at every 90 degree.

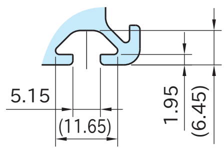




VIEW:A



VIEW:B



Dimensions of 6 slots

Part Number	S	LB	Weight(kg)	Delivery Time
MAG5040SW-100	100	355	2.9	10 Working Days
MAG5040SW-150	150	455	3.3	

Related Product

Choose the optional elements for your needs.
- One-Touch Spindle Locks
- Positioning Plate
- Digital Position Indicators
- Adapter Shafts
- Handwheels
- Pair of Stops
- T-Slot Nuts
- Groove Cover
- For actuators with customized stroke, see MAGX5040SW.

Note

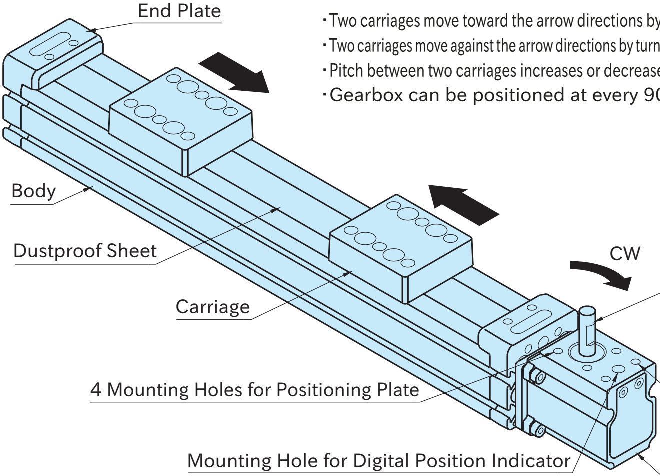
The gearbox will be delivered with mounted to Mechanical Linear Actuators in the orientation as in the figure below.

Reference

- How To Change Gearbox Position
- Dimensions of Gearbox
- Technical Information of Mechanical Linear Actuators

How To Use

- Two carriages move toward the arrow directions by turning Handle Shaft clockwise.
- Two carriages move against the arrow directions by turning Handle Shaft counterclockwise.
- Pitch between two carriages increases or decreases 6mm per rotation of the shaft.
- Gearbox can be positioned at every 90 degree.



MAGX5040SW

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Dual Carriage, Customized Stroke)

On Request RoHS

IMAO

Ordering Example

MAGX5040SW-B **240**

Part Number — Stroke S

Feature

- The stroke length of MAG5040SW is customizable.
- For ordering, specify the stroke.

Note

Body length : LB = Stroke S×2+155mm

Part Number	S Desired Stroke (by 10mm)	Delivery Time
MAGX5040SW-A	160～220	15 Working Days
MAGX5040SW-B	230～280	
MAGX5040SW-C	290～340	

Reference

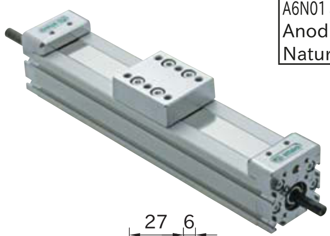
- How To Change Gearbox Position
- Dimensions of Gearbox
- Technical Information of Mechanical Linear Actuators

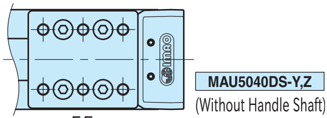
MAU5040DS MECHANICAL LINEAR ACTUATORS (Synchro-Use)

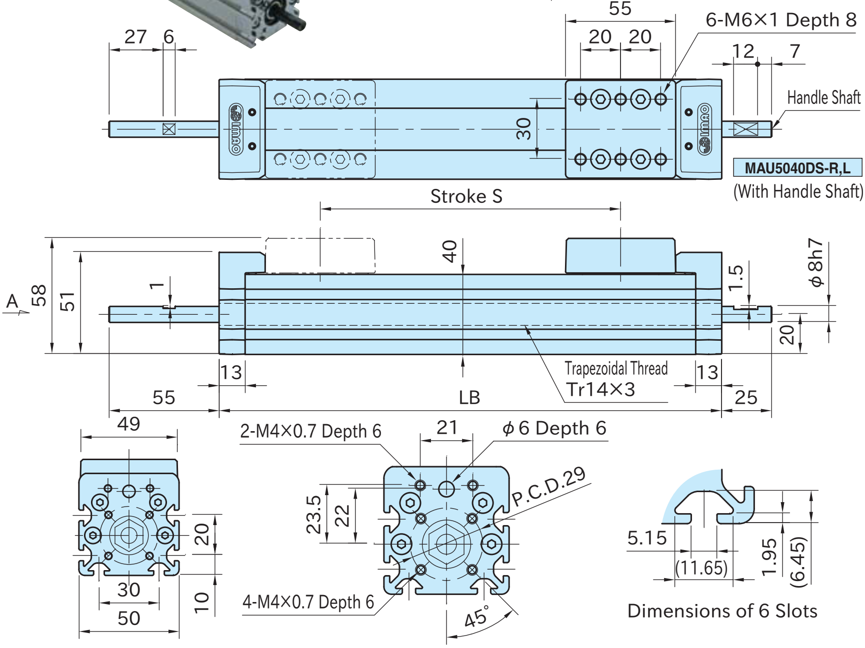
On Request RoHS

IMAO

Body	Carriage End Plates	Shaft	Trapezoidal Nut	Screw	Dustproof Sheet
A6N01 aluminum Anodized Natural	ZDC2 die-cast zinc Chrome plated	S45C steel Black oxide finish	CAC902 copper alloy	SCM435 steel Trivalent chromate	SUS304H stainless steel







VIEW:A

Dimensions of 6 Slots

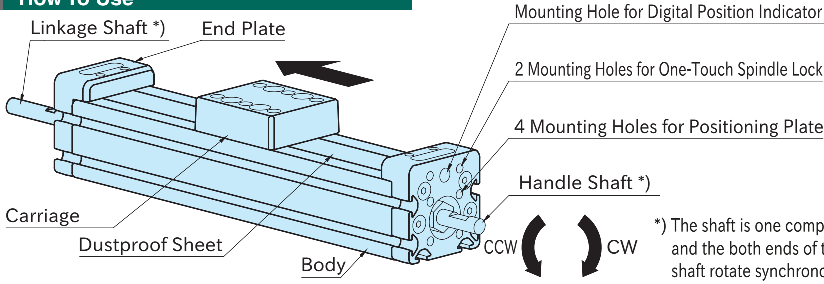
Dimensions of End Plate (Both ends)

Part Number		Rotative Direction	S	LB	Weight (kg)	Delivery Time
With Handle Shaft	Without Handle Shaft					
MAU5040DS-100R	MAU5040DS-100Y	CW	100	200	1.5	10 Working Days
MAU5040DS-100L	MAU5040DS-100Z	CCW				
MAU5040DS-150R	MAU5040DS-150Y	CW	150	250	1.7	
MAU5040DS-150L	MAU5040DS-150Z	CCW				
MAU5040DS-200R	MAU5040DS-200Y	CW	200	300	1.9	
MAU5040DS-200L	MAU5040DS-200Z	CCW				
MAU5040DS-250R	MAU5040DS-250Y	CW	250	350	2.1	
MAU5040DS-250L	MAU5040DS-250Z	CCW				
MAU5040DS-300R	MAU5040DS-300Y	CW	300	400	2.3	
MAU5040DS-300L	MAU5040DS-300Z	CCW				

Reference

Technical Information of Mechanical Linear Actuators

How To Use

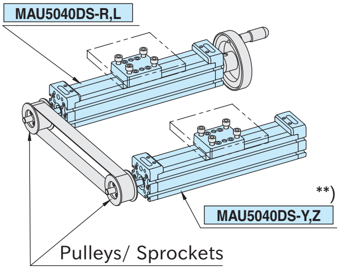


*) The shaft is one component and the both ends of the shaft rotate synchronously.

- MAU5040DS-R,Y :Carriage moves toward the arrow direction by turning the Handle Shaft clockwise.
- MAU5040DS-L,Z :Carriage moves toward the arrow direction by turning the Handle Shaft counterclockwise.
- Carriage moves 3mm per rotation of the Handle Shaft.

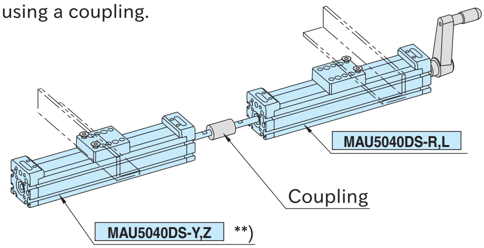
■Parallel Use

Attach pulleys or sprockets to Linkage Shafts and align the carriages for movement in synchronization.



■Serial Use

Connect two Linkage Shafts using a coupling.



**) MAU5040DS-Y,Z comes without Handle Shaft.

Related Product

Choose the optional elements for your needs.

- One-Touch Spindle Locks
- Positioning Plate
- Digital Position Indicators
- Adapter Shafts
- Handwheels
- Pair of Stops
- T-Slot Nuts
- Groove Cover
- For actuators with customized stroke, see MAUX5040DS .

MAUX5040DS MECHANICAL LINEAR ACTUATORS (Synchro-Use, Customized Stroke)

On Request RoHS

IMAO

Ordering Example

MAUX5040DS-BR 450

Part Number Stroke S

Feature

- The stroke of MAU5040DS is customizable.
- For ordering, specify the stroke.

Note

Body length : LB = Stroke S + 100mm

Part Number			S(by 10mm)	Delivery Time
MAUX5040DS-A	R(CW, With Handle Shaft) L(CCW, With Handle Shaft)	Y(CW, Without Handle Shaft) Z(CCW, Without Handle Shaft)	160~290	15 Working Days
MAUX5040DS-B			310~500	
MAUX5040DS-C			510~700	

Reference

Technical Information of Mechanical Linear Actuators

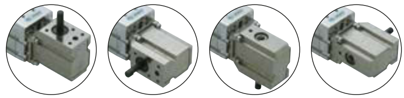
MAG5040DS

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Synchro-Use)

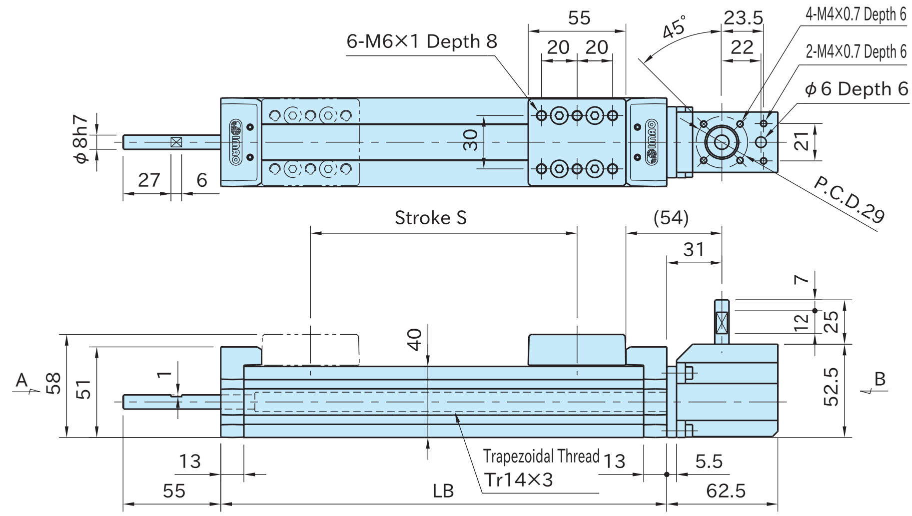
On Request RoHS

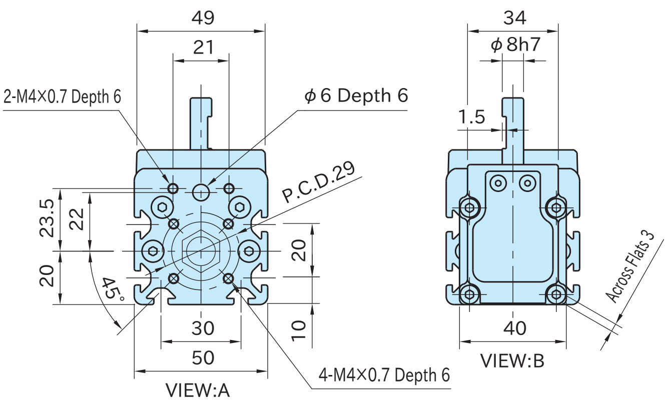
IMAO

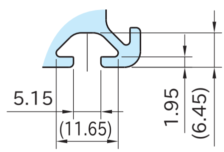
Body	Carriage/End Plates	Shaft	Trapezoidal Nut
A6N01 aluminum Anodized Natural	ZDC2 die-cast zinc Chrome plated	S45C steel Black oxide finish	CAC902 copper alloy
Screw	**Dustproof Sheet**	**Gearbox**	
SCM435 steel Trivalent chromate	SUS304H stainless steel	S45C steel Electroless nickel plated	



Gearbox can be positioned at every 90 degree.







Dimensions of 6 slots

Part Number	Rotative Direction	S	LB	Weight(kg)	Delivery Time
MAG5040DS-100R	CW	100	200	2.0	10 Working Days
MAG5040DS-100L	CCW				
MAG5040DS-150R	CW	150	250	2.2	
MAG5040DS-150L	CCW				
MAG5040DS-200R	CW	200	300	2.4	
MAG5040DS-200L	CCW				
MAG5040DS-250R	CW	250	350	2.6	
MAG5040DS-250L	CCW				
MAG5040DS-300R	CW	300	400	2.8	
MAG5040DS-300L	CCW				

Related Product

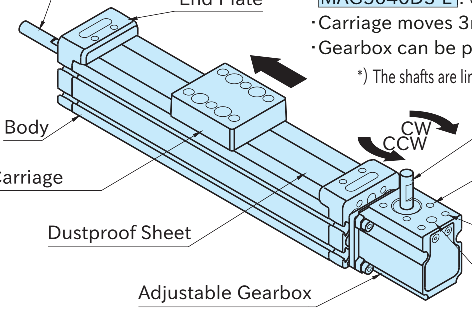
Choose the optional elements for your needs.

- One-Touch Spindle Locks
- Positioning Plate
- Digital Position Indicators
- Adapter Shafts
- Handwheels
- Pair of Stops
- T-Slot Nuts
- Groove Cover
- For actuators with customized stroke, see MAGX5040DS.

How To Use

- MAG5040DS-R: Carriage moves toward the arrow direction by turning Handle Shaft clockwise.
- MAG5040DS-L: Carriage moves toward the arrow direction by turning Handle Shaft counterclockwise.
- Carriage moves 3mm per rotation of Handle Shaft.
- Gearbox can be positioned at every 90 degree.

*) The shafts are linked and the both ends of the shaft rotate synchronously.



Note

The gearbox will be delivered with mounted to Mechanical Linear Actuators in the orientation as in the figure above.

Reference

- How To Change Gearbox Position
- Dimensions of Gearbox
- Technical Information of Mechanical Linear Actuators

MAGX5040DS

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Synchro-Use, Customized Stroke)

On Request RoHS

IMAO

Feature

- The stroke length of MAG5040DS is customizable.
- For ordering, specify the stroke.

Ordering Example

MAGX5040DS-BR **450**

Part Number Stroke S

Note

Body length : LB = Stroke S+100mm

Part Number		S Desired Stroke (by 10mm)	Delivery Time
MAGX5040DS-A	R(CW) L(CCW)	160～290	15 Working Days
MAGX5040DS-B		310～500	
MAGX5040DS-C		510～700	

Reference

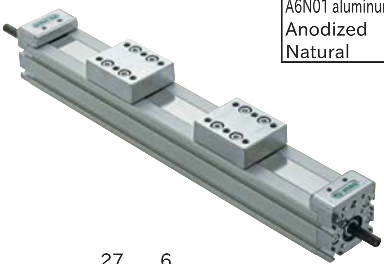
- How To Change Gearbox Position
- Dimensions of Gearbox
- Technical Information of Mechanical Linear Actuators

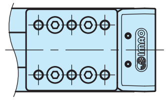
MAU5040DW MECHANICAL LINEAR ACTUATORS (Dual Carriage, Synchro-Use)

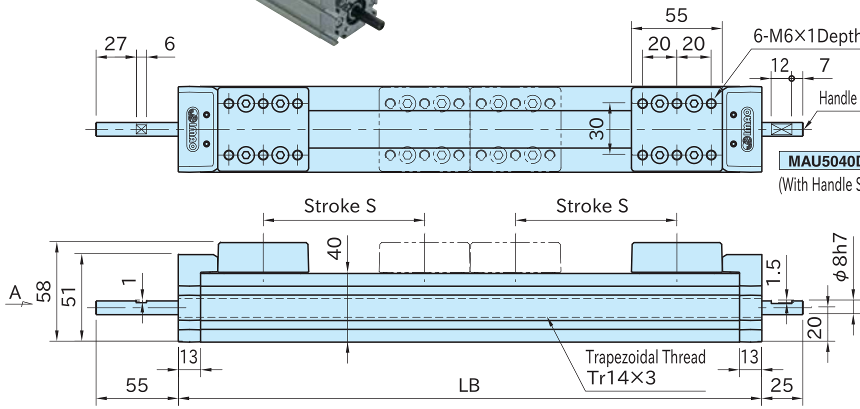
On Request RoHS

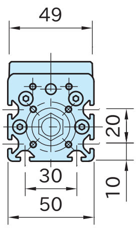
IMAO

Body	Carriage End Plates	Shaft	Trapezoidal Nut	Screw	Dustproof Sheet
A6N01 aluminum Anodized Natural	ZDC2 die-cast zinc Chrome plated	S45C steel Black oxide finish	CAC902 copper alloy	SCM435 steel Trivalent chromate	SUS304H stainless steel

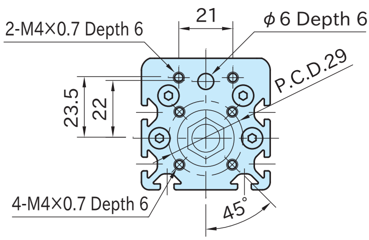




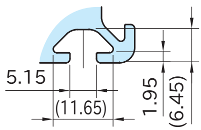




VIEW:A



Dimensions of End Plate (Both ends)



Dimensions of 6 Slots

Part Number		S	LB	Weight (kg)	Delivery Time
With Handle Shaft	Without Handle Shaft				
MAU5040DW-100	MAU5040DW-100Y	100	355	2.4	10 Working Days
MAU5040DW-150	MAU5040DW-150Y	150	455	2.8	

Reference

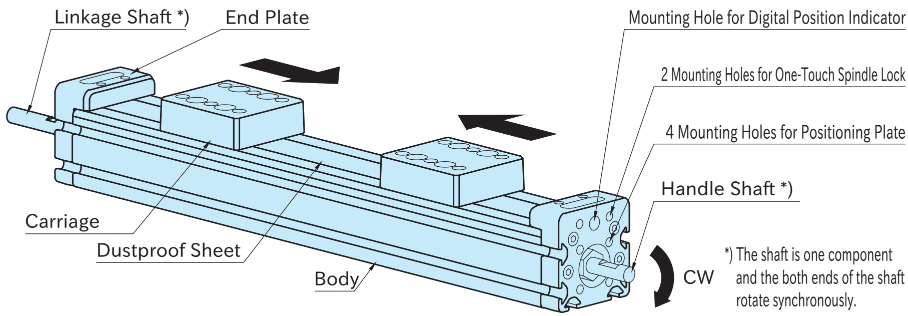
Technical Information of Mechanical Linear Actuators

Related Product

Choose the optional elements for your needs.

- One-Touch Spindle Locks
- Positioning Plate
- Digital Position Indicators
- Adapter Shafts
- Handwheels
- Pair of Stops
- T-Slot Nuts
- Groove Cover
- For actuators with customized stroke, see MAUX5040DW.

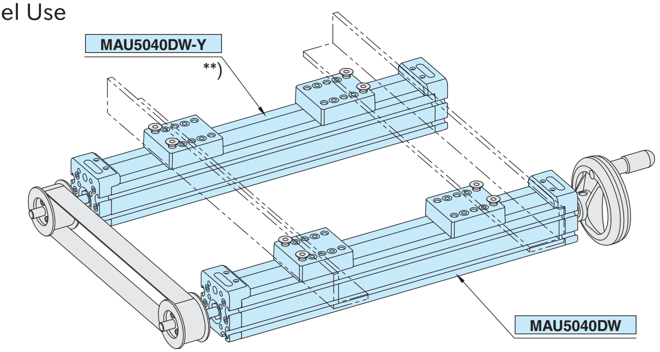
How To Use



*) The shaft is one component and the both ends of the shaft rotate synchronously.

・Two carriages move toward the arrow directions by turning the Handle Shaft clockwise.
・Two carriages move against the arrow directions by turning the Handle Shaft counterclockwise.
・Pitch between two carriages increases or decreases 6mm per rotation of the Handle Shaft.

■Parallel Use



**) MAU5040DW-Y comes without Handle Shaft.

MAUX5040DW MECHANICAL LINEAR ACTUATORS (Dual Carriage, Synchro-Use, Customized Stroke)

On Request RoHS

IMAO

Ordering Example

MAUX5040DW-CY 290

Part Number Stroke S

Feature

・The stroke of MAU5040DW is customizable.
・For ordering, specify the stroke.

Note

Body length : LB = Stroke S × 2 + 155mm

Part Number		S (by 10mm)	Delivery Time
MAUX5040DW-A	(With Handle Shaft) Y (Without Handle Shaft)	160～220	15 Working Days
MAUX5040DW-B		230～280	
MAUX5040DW-C		290～340	

Reference

Technical Information of Mechanical Linear Actuators

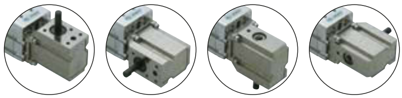
MAG5040DW

MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Dual Carriage, Synchro-Use)

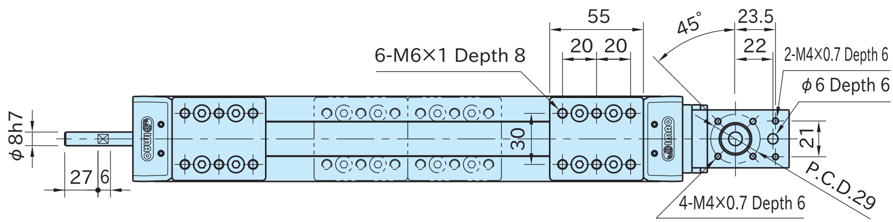
On Request RoHS

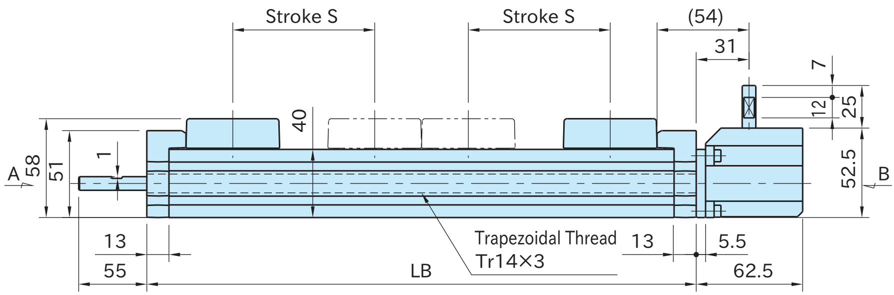
IMAO

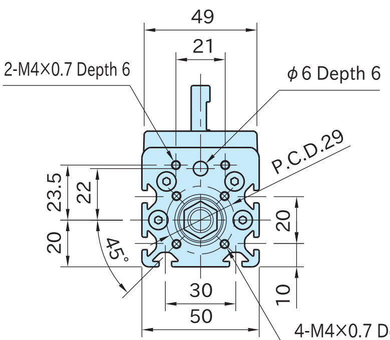
Body	Carriage/End Plates	Shaft	Trapezoidal Nut
A6N01 aluminum Anodized Natural	ZDC2 die-cast zinc Chrome plated	S45C steel Black oxide finish	CAC902 copper alloy
Screw	**Dustproof Sheet**	**Gearbox**	
SCM435 steel Trivalent chromate	SUS304H stainless steel	S45C steel Electroless nickel plated	



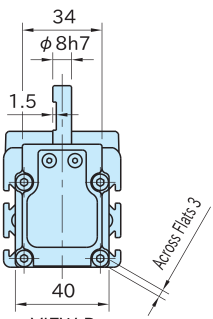
Gearbox can be positioned at every 90 degree.



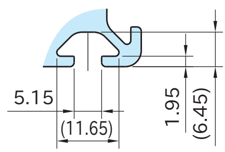




VIEW:A



VIEW:B



Dimensions of 6 slots

Part Number	S	LB	Weight (kg)	Delivery Time
MAG5040DW-100	100	355	2.9	10 Working Days
MAG5040DW-150	150	455	3.3	

Note

The gearbox will be delivered with mounted to Mechanical Linear Actuators in the orientation as in the figure below.

Reference

- How To Change Gearbox Position
- Dimensions of Gearbox
- Technical Information of Mechanical Linear Actuators

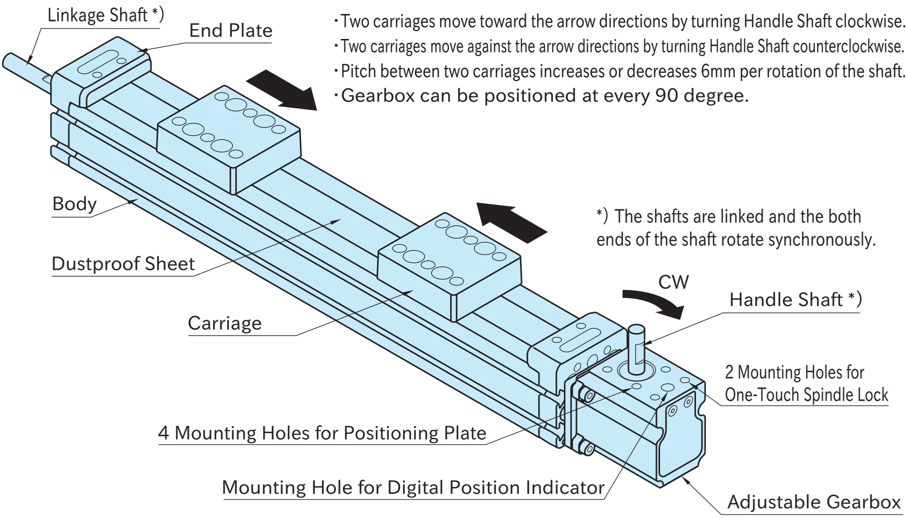
Related Product

Choose the optional elements for your needs.

- One-Touch Spindle Locks
- Positioning Plate
- Digital Position Indicators
- Adapter Shafts
- Handwheels
- Pair of Stops
- T-Slot Nuts
- Groove Cover
- For actuators with customized stroke, see MAGX5040DW.

How To Use

- Two carriages move toward the arrow directions by turning Handle Shaft clockwise.
- Two carriages move against the arrow directions by turning Handle Shaft counterclockwise.
- Pitch between two carriages increases or decreases 6mm per rotation of the shaft.
- Gearbox can be positioned at every 90 degree.



*) The shafts are linked and the both ends of the shaft rotate synchronously.

MAGX5040DW MECHANICAL LINEAR ACTUATORS WITH ADJUSTABLE GEARBOX (Dual Carriage, Synchro-Use, Customized Stroke)

On Request RoHS

IMAO

Ordering Example

MAGX5040DW-C 290

Part Number — Stroke S

Feature

- The stroke length of MAG5040DW is customizable.
- For ordering, specify the stroke.

Note

Body length : LB = Stroke S×2+155mm

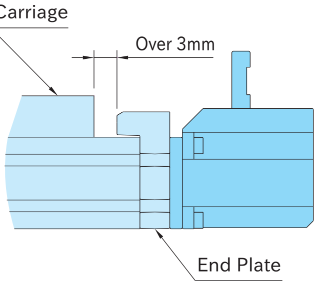
Part Number	S Desired Stroke (by 10mm)	Delivery Time
MAGX5040DW-A	160～220	15 Working Days
MAGX5040DW-B	230～280	
MAGX5040DW-C	290～340	

Reference

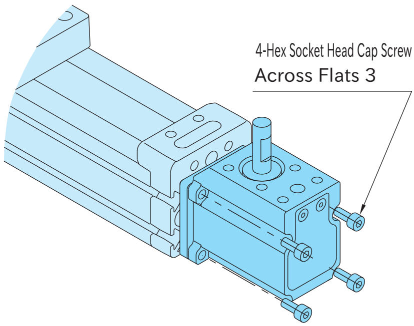
- How To Change Gearbox Position
- Dimensions of Gearbox
- Technical Information of Mechanical Linear Actuators

How To Change Gearbox Position

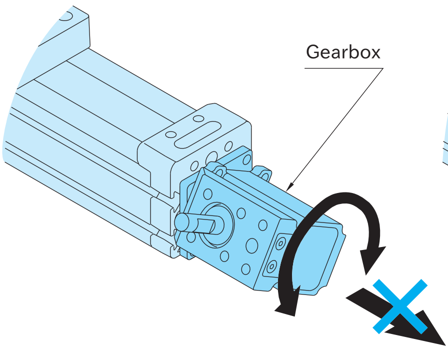
① The clearance between carriage and end plate should be 3mm at least.



② Remove four hex socket head cap screws attached to the gearbox.

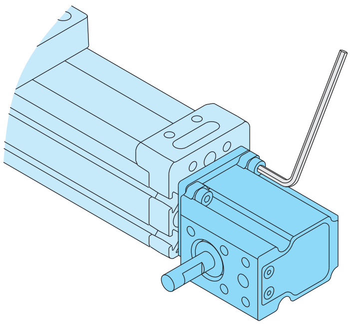


③ The gearbox is free to rotate and change the position at every 90 degree.



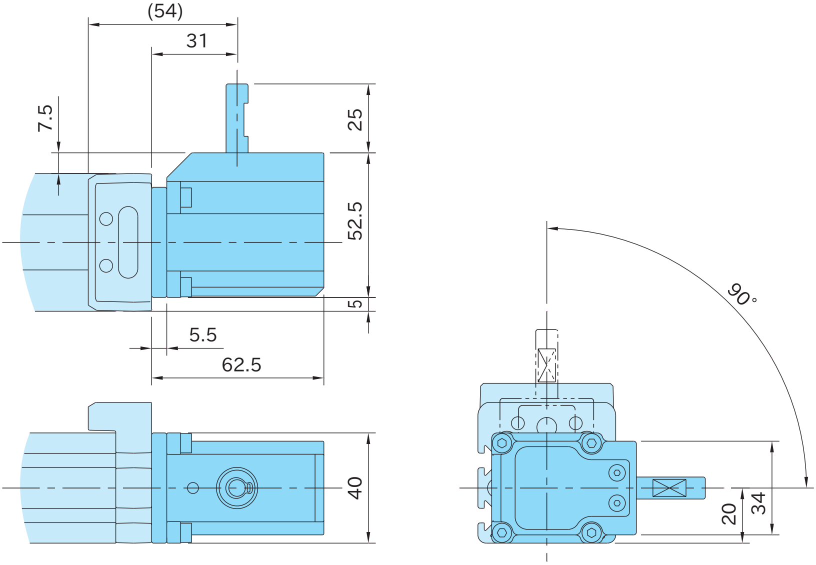
Note: Do not pull the gearbox to the axial direction.

④ Fix the gearbox at the desired position with four hex socket head cap screws.

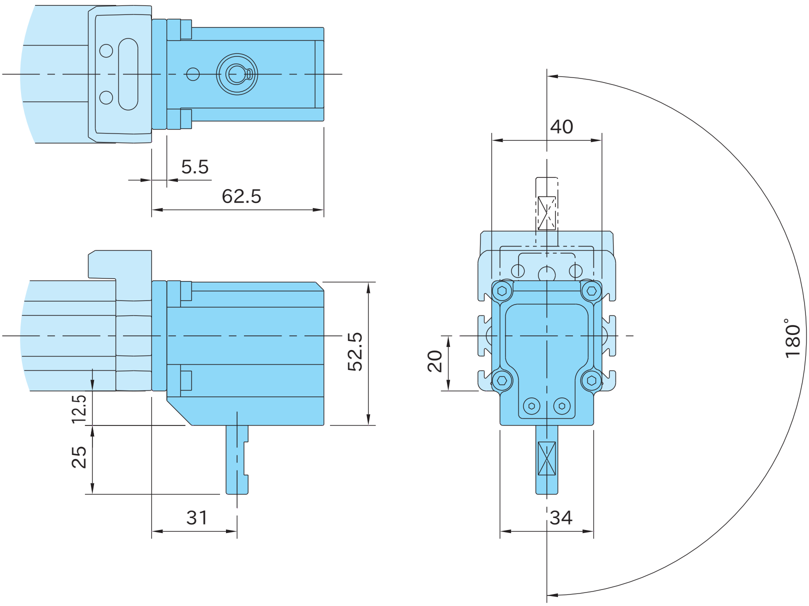


Dimensions of Gearbox

■Dimensions of Gearbox at 90 degrees rotation
(For dimensions of Gearbox at 270 degrees, invert the drawing below.)



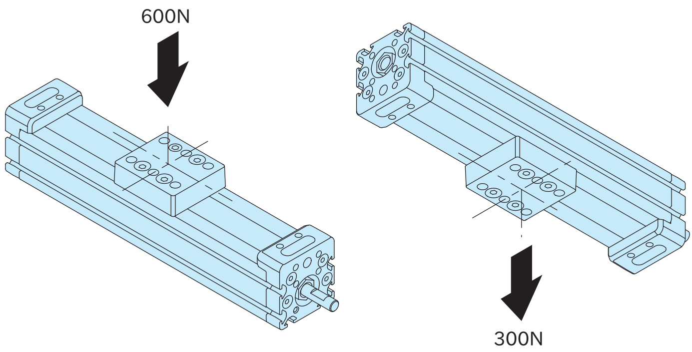
■Dimensions of Gearbox at 180 degrees rotation



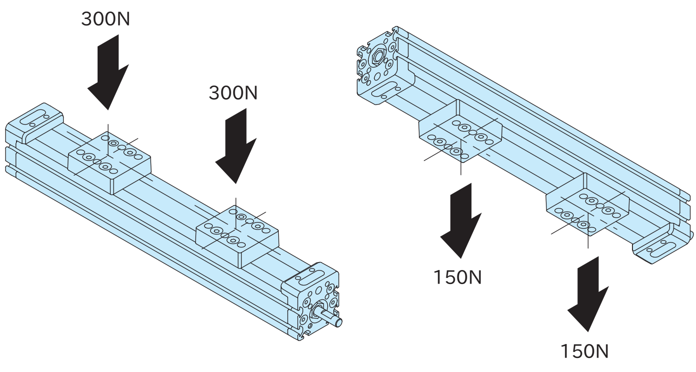
Technical Information of Mechanical Linear Actuators

Allowable Load

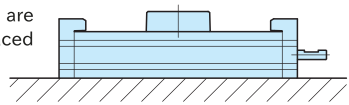
MAU5040SS
MAU5040DS
MAG5040SS
MAG5040DS



MAU5040SW
MAU5040DW
MAG5040SW
MAG5040DW



Note: The values above are for Actuators placed on a flat surface.



Allowable Moment

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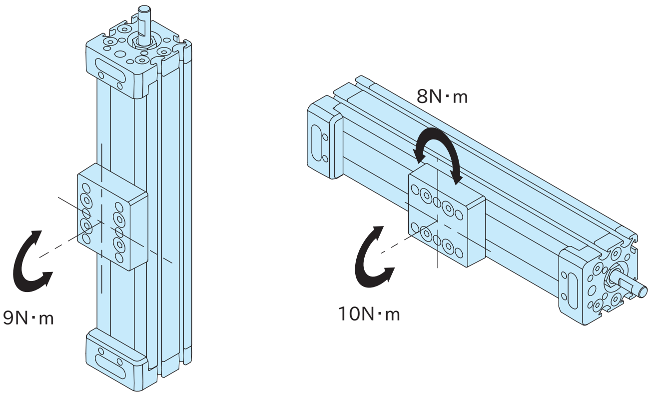
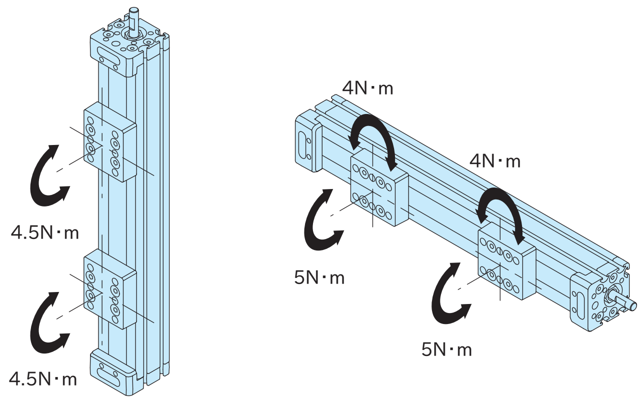
MAU5040DS

MAG5040SS
MAG5040DS</td>
<td>
</td>
</tr>
<tr>
<td>MAU5040SW
MAU5040DW

MAG5040SW
MAG5040DW</td>
<td>
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</tr>
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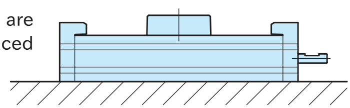
Note: The values above are for Actuators placed on a flat surface.



Allowable Rotation Speed

Allowable rotation speed must be within 250min^{-1} when Actuators are operated automatically.

QCSPL ONE-TOUCH SPINDLE LOCKS

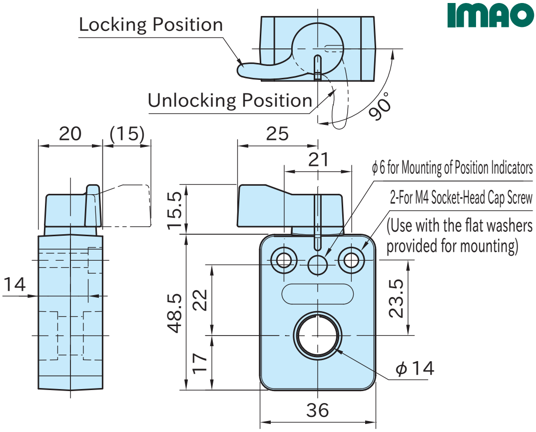
RoHS

IMAO

QCSPL-OG
(Plastic knob, Orange)

QCSPL-BK
(Plastic knob, Black)

QCSPL-S
(Metal knob)



★Key Point
Secure locking of spindles with one-touch action!

Type	Housing	Knob	Clamp Collar
QCSPL-OG QCSPL-BK	Polyamide plastic (glass-fiber reinforced) Black matte	Polyamide plastic (glass-fiber reinforced)	SUS630 stainless steel
QCSPL-S		SCS13 stainless steel (Equivalent to SUS304)	

Plastic Knob			Metal Knob		Allowable Holding Torque(N·m)	Suitable shaft dia. (h7)
Part Number		Weight (g)	Part Number	Weight (g)		
Orange	Black					
QCSPL0414-OG	QCSPL0414-BK	50	QCSPL0414-S	70	4	ϕ 14

Feature

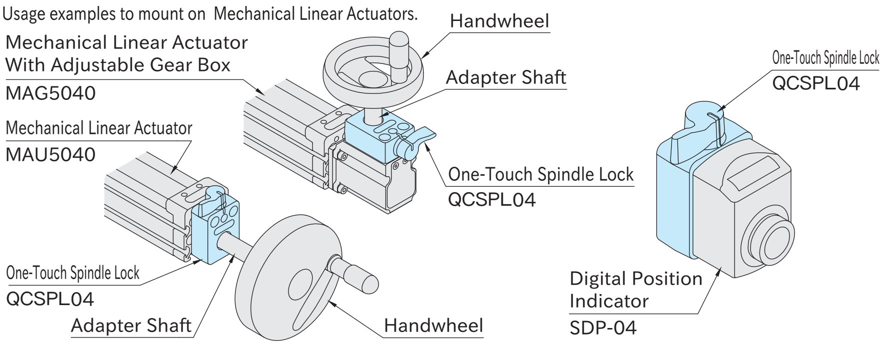
- One-touch Spindle Locks enable quick and secure locking of shafts with one click of the knob.
- When One-touch Spindle Lock is operated, the knob clicks and the shaft is locked with a steady force. This provides reliable locking of shafts.

Supplied With

2 of Flat round washer (Stainless Steel)

How To Use

Usage examples to mount on Mechanical Linear Actuators.



Reference

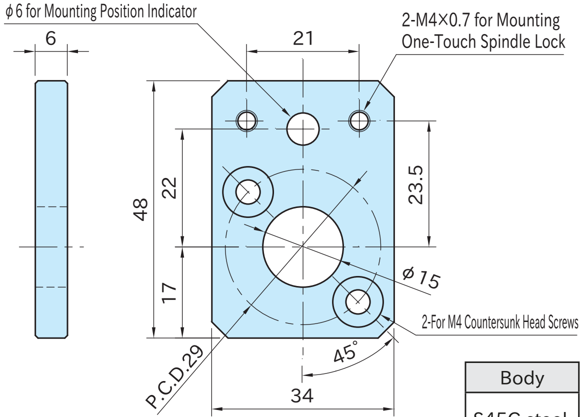
Please refer to another QCSPL page for further information.

Note

Allowable Tightening Torque for Mounting Screws is 1.5N·m.
Note: Tightening with torque greater than the allowable tightening torque may cause failure by deformation of the body.

MAU5040-PS01 POSITIONING PLATE

RoHS



Body
S45C steel Chrome plated

Part Number	Weight (g)
MAU5040-PS01	63

Feature

Enables to change the orientation of One-Touch Spindle Locks and Digital Position Indicators for every 90 degrees.

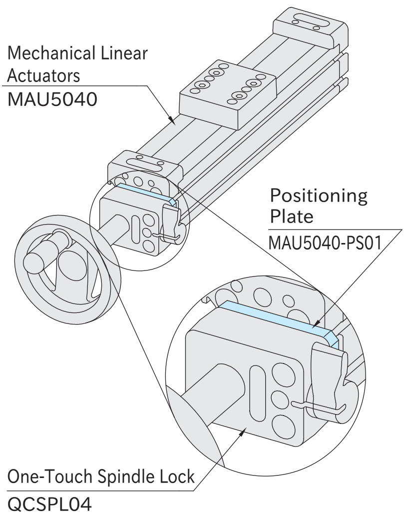
Supplied With

2 of M4×0.7-10L Hex Socket Countersunk Head Screw

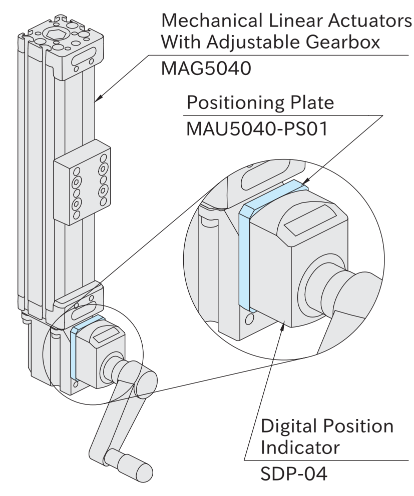
How To Use

Mount Positioning Plate to the End Plate of actuators with the included hex-socket countersunk head screws.

■For rotating One-Touch Spindle Lock



■For rotating Digital Position Indicator



SDP-04 DIGITAL POSITION INDICATORS

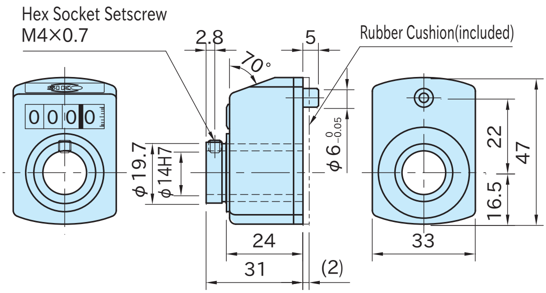
RoHS

SIKO

SDP-04H

SDP-04F

SDP-04V



Housing
Polyamide (nylon6) plastic Orange

Feature

・Easy to read the feed amount of Mechanical Linear Actuator.
・Display figure height : 6mm

Supplied With

One rubber cusion

Techcnical Information

Working temperature : Up to 80℃

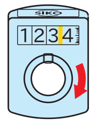
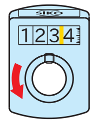
Reference

Please refer to another SDP-04 page for further information at our website.

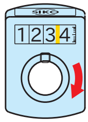
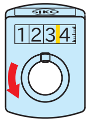
Note

・Ensure that the start-up revolustion speed is 1/3 or less of the allowable revolution speed.
・Do not give rapid acculeration or sudden stop.
・These position indicators can not be used in applications where the shaft moves in axial direction.

Window Position		
Style H	Style F	Style V
		
To install on shaft at lower eye level	Window is visual at eye level	Install on vertical shaft

Rotative Direction	
R	L
	
CW Forward Counting CCW Backward Counting	CCW Forward Counting CW Backward Counting

Display Example		
 0000 Yellow Line	 0001	 9999
Yellow Line indicates decimal point.	Count up from "0000".	Count down from "0000".

Type	Window Style	Rotative Direction	Spindle Thread Pitch Per Rotation	Allowable Rotation Speed (min^{-1})	Weight (g)	Proper Mechanical Linear Actuators *)
SDP-04	 H F V	R  L 	3B 0030 **)	500	50	MAU5040*S MAUX5040*S MAG5040*S MAGX5040*S
			6B 0060 ***)	250		MAU5040*W MAUX5040*W MAG5040*W MAGX5040*W

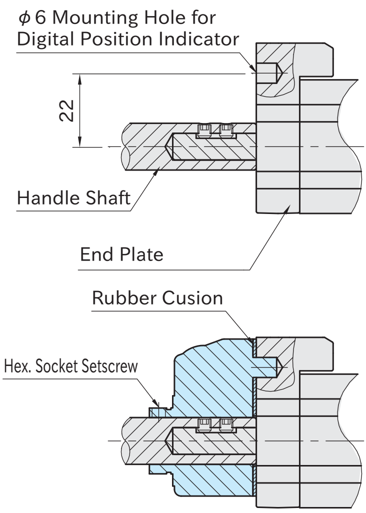
*)Mechanical Linear Actuator uses Tr14x3 Trapezoidal Thread (Pitch 3mm).
**) MAU5040*S · MAUX5040*S · MAG5040*S · MAGX5040*S Carriage moves 3mm per rotation of the Handle Shaft.
***) MAU5040*W · MAUX5040*W · MAG5040*W · MAGX5040*W Pitch between two carriages increases or decreases 6mm per rotation of the shaft.

Ordering Example

SDP-04 H L - 3B

H: Window Style
L: Rotative Direction
3B: Spindle Thread Pitch After 1st Revolution

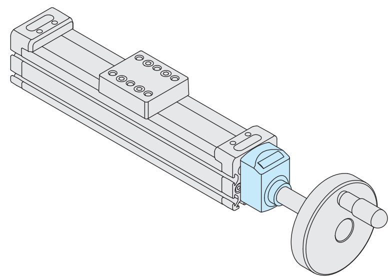
How To Install



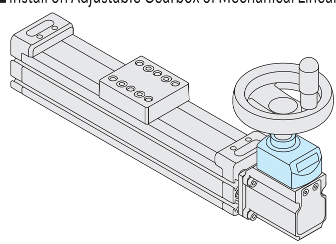
Stick the rubber cushion to the back of the indicator, slide the indicator onto the shaft to the end plate. Then tighten the included setscrew.

How To Use

■Install on Mechanical Linear Actuator



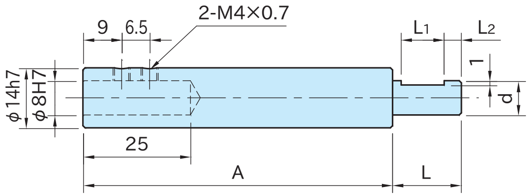
■Install on Adjustable Gearbox of Mechanical Linear Actuator



MAU5040-SH ADAPTER SHAFTS

RoHS

IMAO



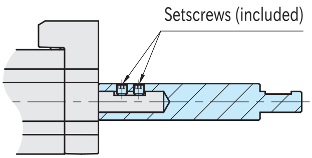
Part Number	d (h8)	A	L	L1	L2	Weight (g)
MAU5040-SH08-42	8	42	16	10	4	46
MAU5040-SH08-62		62				70
MAU5040-SH10-42	10	42				50
MAU5040-SH10-62		62				74
MAU5040-SH12-42	12	42	20	12	6	57
MAU5040-SH12-62		62				82

Body
S45C steel Black oxide finish

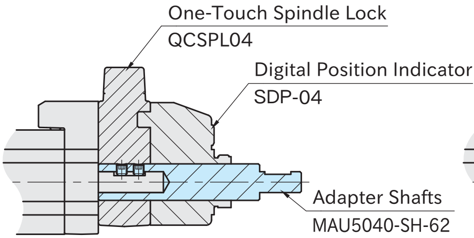
How To Use

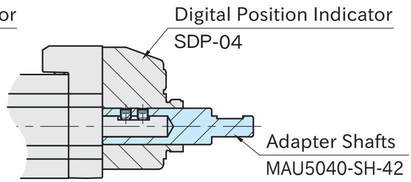
■How To Fix

Fix the Adaptor Shaft using setscrews included to the Handle Shaft of Actuators.



■Application Example





Note

To produce an adapter shaft at customers, we recommend to follow the specifications below.

<For use with One-Touch Spindle Locks>
O.D. of Shaft: ϕ14h7 Surface Roughness: 6.3

<For use with Digital Position Indicators>
O.D. of Shaft: ϕ14h9 Surface Roughness: 6.3

Supplied With

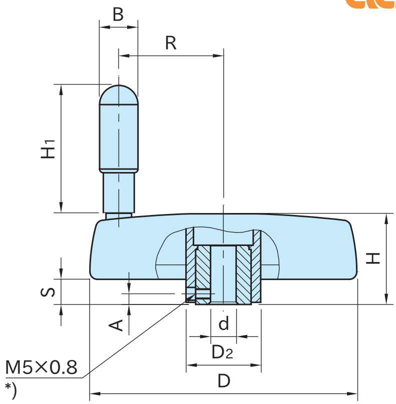
2 of M4×0.7-4L Hex Socket Setscrew

EDHN-M PLASTIC SOLID DISK HANDWHEEL

On Request RoHS

EDHN-R-M
(With Revolving Handle)

EDHN-F-M
(With Revolving Fold-Away Handle)



Handwheel	Hub	Center cap	Handle
Polypropylene Black matte	SUM24L steel Black oxide finish	Polyacetal plastic Light gray (Only for EDHN80F-M Polypropylene Black matte)	Polyamide Black matte

EDHN-R-M (With Revolving Handle)

Part Number	D	d (H7)	H	D_2	S	A	B	H_1	R	Weight (g)	Delivery Time
EDHN 80R-M	83	8	29	26	9	5	15.5	45	30.5	106	2 Working days **)
EDHN100R-M	102	10	34	30	10		18	60	39	174	
EDHN125R-M	125	12	39.5	35	11	6			49	270	

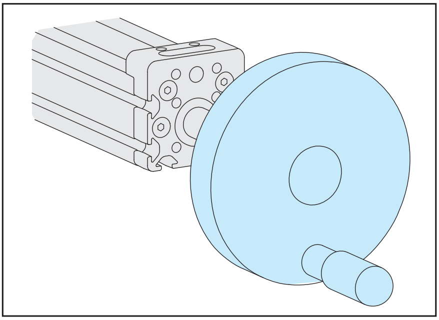
EDHN-F-M (With Revolving Fold-Away Handle)

Part Number	D	d (H7)	H	D_2	S	A	B	H_1	R	Weight (g)	Delivery Time
EDHN 80F-M	83	8	38	25	18.5	9	15.5	45	28	133	2 Working days **)
EDHN100F-M	102	10	34	30	10	5			39	170	
EDHN125F-M	125	12	39.5	35	11	6	18	60	49	307	

Note

*) These are machined handwheels of EDHN-R , EDHN-F to add the hole for setscrew. For further information, please refer to the catalog pages at our website.

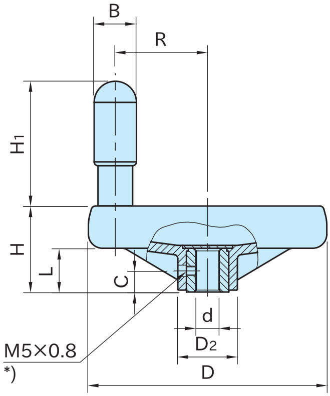
**) Ordering 11 pcs or more, please ask us for the delivery time.

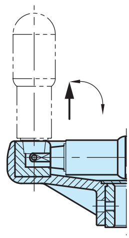


TWN-M PLASTIC ANGLED-SPOKE HANDWHEELS

On Request RoHS

elesa





TWN-M
(With Revolving Handle)

TWN-F-M
(With Revolving Fold-Away Handle)

Handlwheel	Hub	Center Cap	Handle
Polypropylene plastic Black matte	SUM24L steel Black oxide finish	A3104 aluminum Silver matte	Polyamide plastic Black matte

TWN-M (With Revolving Handle)

Part Number	D	d (H7)	H	D_2	L	C	B	H_1	R	Weight (g)	Delivery Time
TWN 80-M	80	8	35	25	17	8	15.5	45	29	104	2 Working Days **)
TWN100-M	99	10	37	25.5			18	60	37	145	
TWN125-M	125	12	44	31	22	11	22	65	48	245	

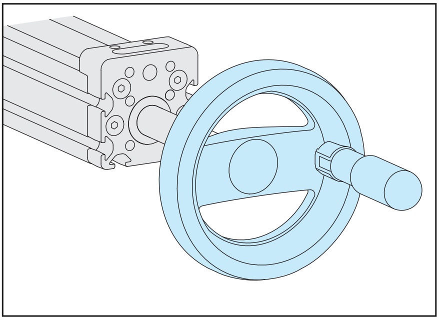
TWN-F-M (With Revolving Fold-Away Handle)

Part Number	D	d (H7)	H	D_2	L	C	B	H_1	R	Weight (g)	Delivery Time
TWN 80F-M	80	8	35	25	17	8	15.5	45	29	102	2 Working Days **)
TWN100F-M	99	10	37	25.5			18	60	37	163	
TWN125F-M	125	12	44	31	22	11	22	65	48	230	

Note

*) These are machined handwheels of TWN , TWN-F to add the hole for setscrew. For further information, please refer to the catalog pages at our website.

**) Ordering 11 pcs or more, please ask us for the delivery time.

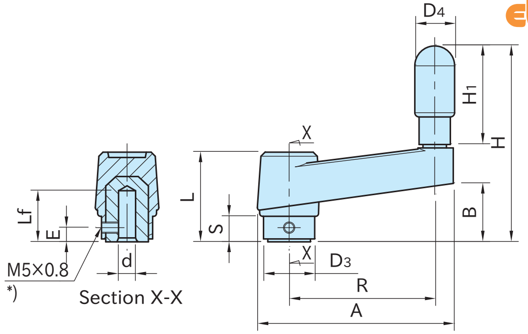


BCHN-M PLASTIC CRANK HANDLES

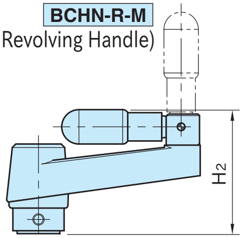
On Request RoHS

BCHN-R-M
(With Revolving Handle)

BCHN-F-M
(With Revolving Fold-Away Handle)



BCHN-R-M
(With Revolving Handle)



BCHN-F-M
(With Revolving Fold-Away Handle)

elesa

Crank	Hub	Handle
Polyamide plastic (Glass-fiber reinforced) Black matte	SUM22L steel Black oxide finish	Polyamide plastic Black matte

BCHN-R-M (With Revolving Handle)

Part Number	R	d (H9)	Lf	A	H	D3	L	S	E	B	D4	H1	Weight (g)	Delivery Time
BCHN 64R-M	64	8	20	86	78	20	31.5	9	5	17.5	15.5	45	82	2 Working days **)
BCHN 80R-M	80	10	25	106	99	24	37	11	6	23.5	18	60	118	
BCHN100R-M	100	12	24	128	106		40.5	10	5	25	22	65	190	

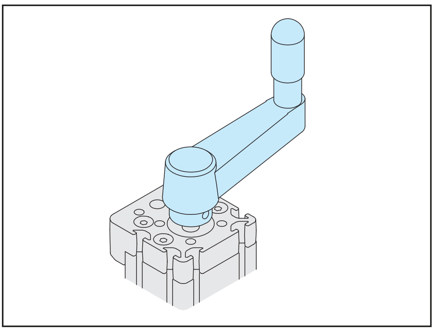
BCHN-F-M (With Revolving Fold-Away Handle)

Part Number	R	d (H9)	Lf	A	H	H2	D3	L	S	E	B	D4	H1	Weight (g)	Delivery Time
BCHN 64F-M	64	8	20	86	91	47	20	31.5	9	5	17.5	15.5	45	89	2 Working days **)
BCHN 80F-M	80	10	25	106	111	53.5	24	37	11	6	23.5	18	60	130	
BCHN100F-M	100	12	24	128	124	59.5		40.5	10	5	25	22	65	200	

Note

*) These are machined handles of BCHN-R, BCHN-F to add the hole for setscrew.
For further information, please refer to the catalog pages at our website.

**) Ordering 11 pcs or more, please ask us for the delivery time.



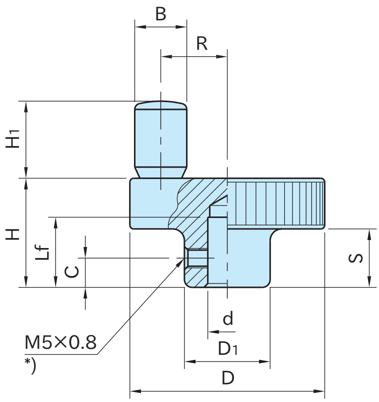
AH-R-M / AHRS-R-M ALUMINUM FINGER WHEELS

On Request RoHS

IMAO

AH-R-M
(Without Handle)

AHRS-R-M
(With Revolving Handle)



Type	Handwheel	Handle
AH-R-M	A5056 aluminum Anodized Black	–
AHRS-R-M		Polyamide Black matte

AH-R-M (Without Handle)

Part Number	D	d (H8)	Lf	H	D_1	S	C	Weight (g)	Delivery Time
AH50R-M	50	10	18	28	22	15	8	90	2 Working days **)
AH63R-M	63	12	22	32	27	18	9	150	

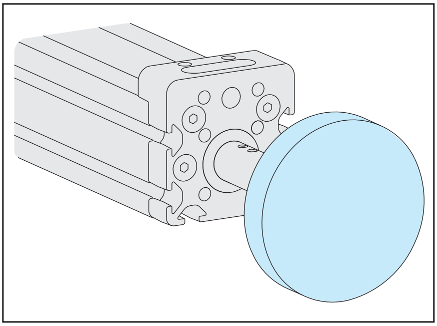
AHRS-R-M (With Revolving Handle)

Part Number	D	d (H8)	Lf	H	D_1	S	C	B	H_1	R	Weight (g)	Delivery Time
AHRS50R-M	50	10	18	28	22	15	8	13.5	20	17	100	2 Working days **)
AHRS63R-M	63	12	22	32	27	18	9			23	160	

Note

*) These are machined finger wheels of AH-R, AHRS-R to add the hole for setscrew.
For further information, please refer to the catalog pages at our website.

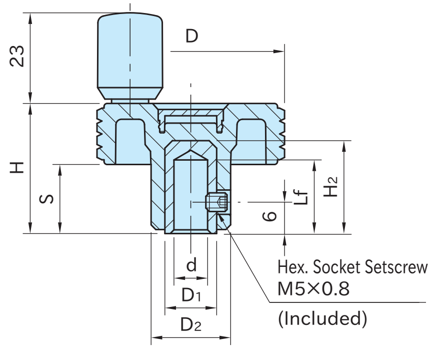
**) Ordering 11 pcs or more, please ask us for the delivery time.



GH-N PLASTIC KNURLED KNOBS

RoHS

elesa

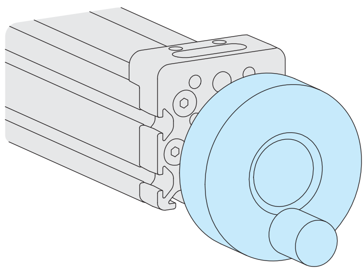


Knob	Handle	Hub	Center Cap
Polypropylene Black matte	Polyamide Black matte	Brass (Low cadmium)	Polyamide Black matte

Part Number	D	d (H9)	H	D_2	D_1	H_2	Lf	S	Weight (g)
GH60N	61	8	39	23	15	25	20	18.5	65
GH70N	70	10	42	24	16	30	25	20.5	73

Reference

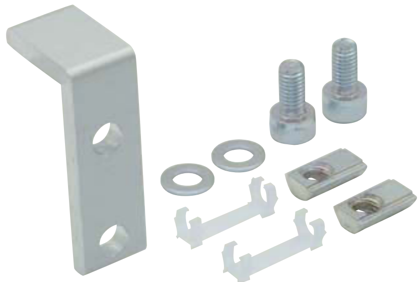
Please refer to another GH-N page for further information at our website.

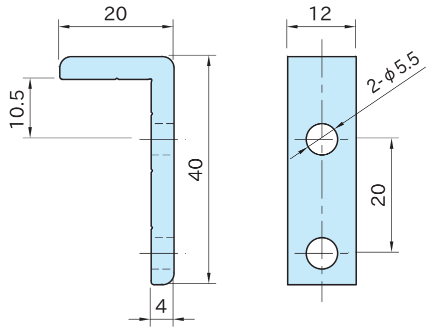


MAU5040-ST01 PAIR OF STOPS

RoHS

IMAO





Part Number	Weight (g)
MAU5040-ST01	20

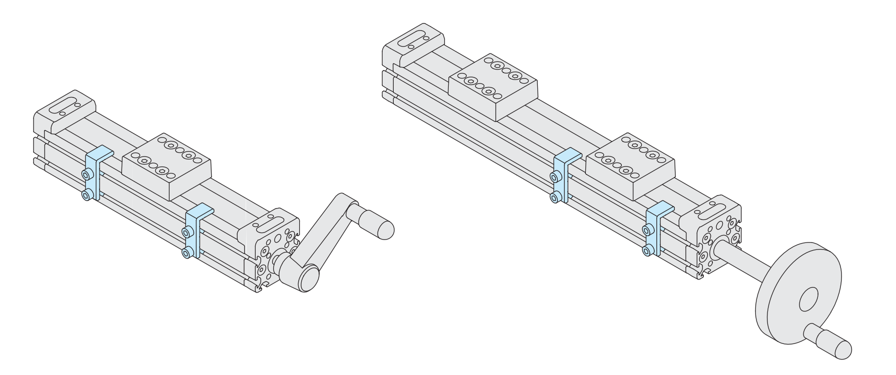
Supplied With

- 2 of M5×0.8-10L Hex-Socket Head Cap Screw
- 2 of round washer for M5 screws
- 2 of M5 T-Slot Nut
- 2 of Nut Holder

Body
Equivalent to A6N01 aluminum Anodized Natural color

How To Use

For limiting the travel of Carriages on Actuators.



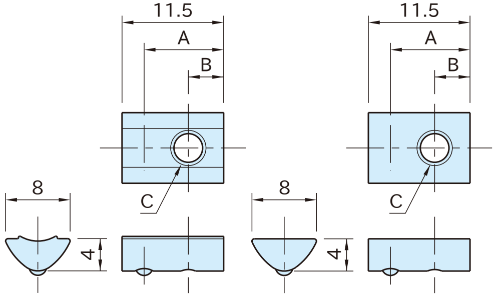
Note

- Stops can be misaligned by shock or load from Carriages of Actuators.
- The surfaces inside the mounting holes and the both cut ends are not anodized.

L5-TST T-NUT

RoHS Stainless Steel

item



L5-TST
(Steel)

L5-TST-SUS
(Stainless steel)

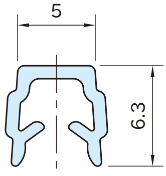
Part Number	A	B	C	Weight (g)
L5-TST3	8	3	M3×0.5	2
L5-TST4			M4×0.7	
L5-TST5	9	4	M5×0.8	
L5-TST4-SUS	8	3	M4×0.7	
L5-TST5-SUS	9	4	M5×0.8	

Type	Body
L5-TST	Steel Galvanized trivalent chromate treated
L5-TST-SUS	Stainless steel

L5-GVC2000N GROOVE COVER

RoHS

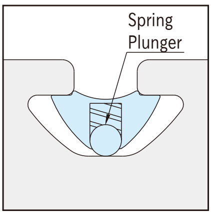
item



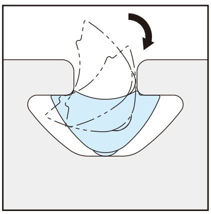
Body
PP Polypropylene plastic (Include Thermoplastic elastomer)

Part Number	Weight (g)
L5-GVC2000N	27

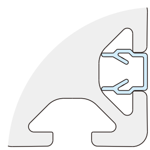
How To Use



Insert the nut into the groove. The spring plunger prevents the nut move freely inside the groove.



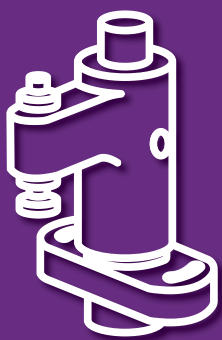
The nut can be inserted from any position on groove.



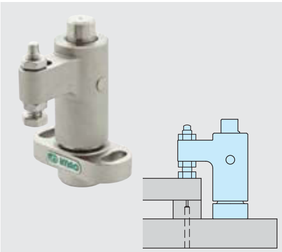
Use the groove cover for unused groove on profile body.

Value Creator
IMAO

PNEUMATIC CLAMPS

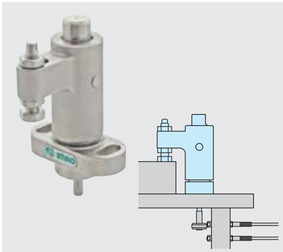


PNEUMATIC CLAMPS



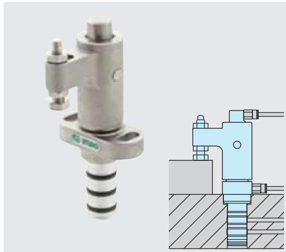
COMPACT PNEUMATIC SWING CLAMPS

Part No. AMWSW-W



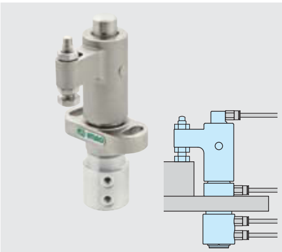
COMPACT PNEUMATIC SWING CLAMPS WITH ROD

Part No. AMWSW-W-D



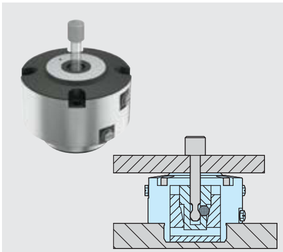
COMPACT PNEUMATIC SWING CLAMPS WITH DETECTING PORTS (Gasket Piping)

Part No. AMWSW-W-AG



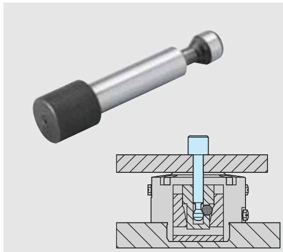
COMPACT PNEUMATIC SWING CLAMPS WITH DETECTING PORTS (Thread Piping)

Part No. AMWSW-W-AC



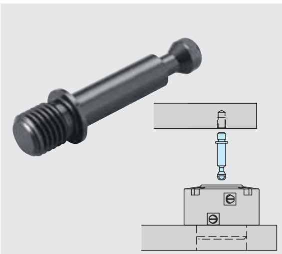
PNEUMATIC PULL CLAMPS

Part No. AMWPD-W



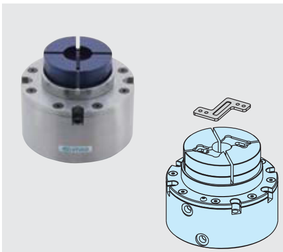
CLAMPING PINS

Part No. AMWPD-X



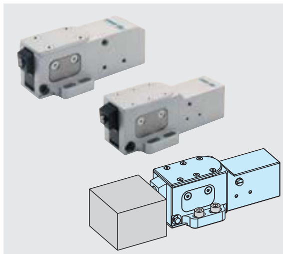
CLAMPING SCREWS

Part No. AMWPD-M



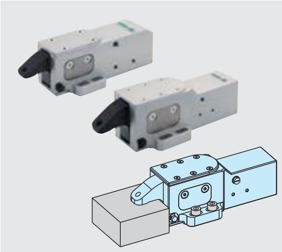
PNEUMATIC OD HOLDING CLAMPS

Part No. AMCH-W



PNEUMATIC SIDE CLAMPS

Part No. AMWS-W



PNEUMATIC HOLD DOWN CLAMPS

Part No. AMWD-W

AIR ASSISTED CLAMPS

New Ideas
for Automated Clamps
!

AIR ASSISTED CLAMPS

[Mechanical + Air = Hybrid]

AIR ASSISTED CLAMPS are IMAO's automated clamps that satisfy needs for much more efficiency and automation in production. Our original mechanical clamp technology in combination with air provides 7 types of hybrid clamps including 72 part numbers.
With our own know-how as a clamping tools manufacturer, we unitized the clamping devices to support making compact automated fixtures.

Feature

Provide 2 advantages with Mechanical + Air Mechanism

Work-friendly

Greater efficiency by automation.
Pneumatic clamping and unclamping improves work efficiency compared to manual operations. Simultaneous controls or remote-operations are possible. Productivity and work efficiency are increased by automation.

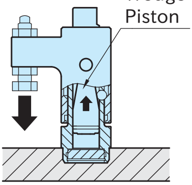
Design-friendly

Unitized to compact design.
Conventional systematic pneumatic clamps required several components of such as cylinders, hooks and guides. IMAO's AIR ASSISTED CLAMPS are unitized our own know-how to a compact design and provide high design-efficiency in fixturing.

PNEUMATIC CLAMPS

COMPACT PNEUMATIC SWING CLAMPS

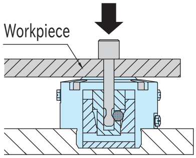
High clamping force with small body



Wedge mechanism provides high holding capacity.

PNEUMATIC PULL CLAMPS

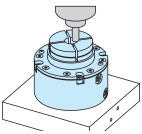
Clamping workpiece with through hole allows multi-surface machining.



Wedge mechanism provides high clamping force.

PNEUMATIC OD HOLDING CLAMPS

Ideal for irregular-shaped or small workpieces.

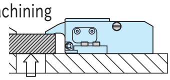


Machine the jaw to custom fit a workpiece.

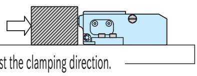
PNEUMATIC HOLD DOWN CLAMPS
PNEUMATIC SIDE CLAMPS

High resistance against counter force

[PNEUMATIC HOLD DOWN CLAMPS]
Perfect for machining a workpiece from bottom.



[PNEUMATIC SIDE CLAMPS]
Perfect for holding a workpiece with counter force against the clamping direction.



More air-assisted products!

COMPACT PNEUMATIC WORK SUPPORTS

PNEUMATIC WORK SUPPORTS

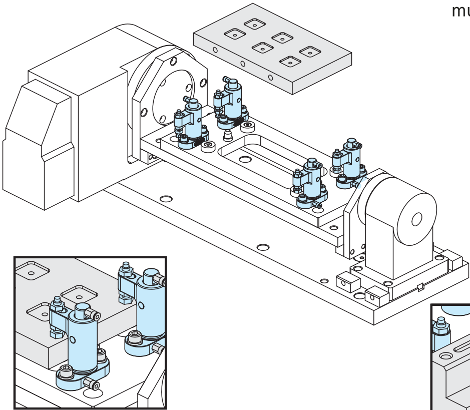
PNEUMATIC FLEX LOCATORS

APPLICATION EXAMPLE for AIR ASSISTED CLAMPS

COMPACT PNEUMATIC SWING CLAMPS

Vertical machining center + NC rotary table

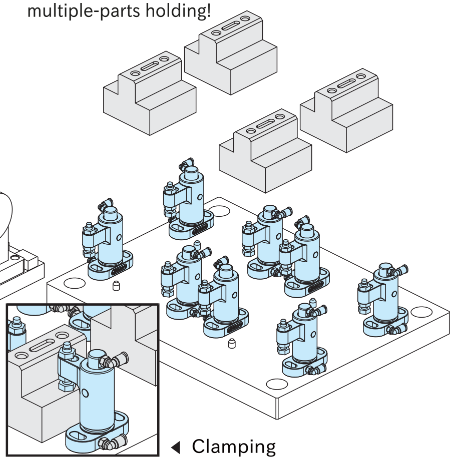
Wedge style locking provides machining from 4 sides!



▲ Clamping

Vertical machining center

Small body provides high productivity by multiple-parts holding!



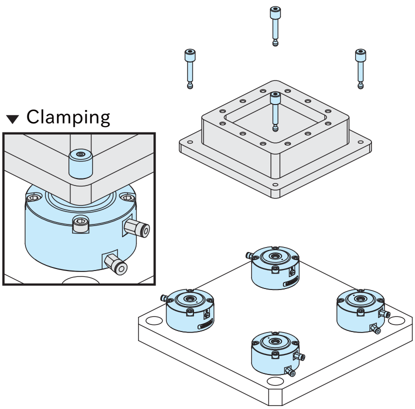
◀ Clamping

PNEUMATIC PULL CLAMPS

Assembling line

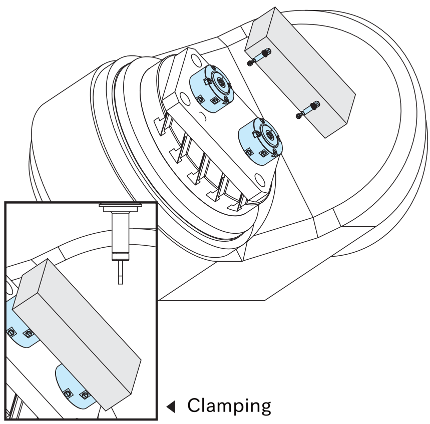
Easy workpiece loading without screw provides shorter setup time.
Stable clamping force offers accurate machining!

▼ Clamping



5-axis machining center

Clamping and holding with wedge mechanism enables 5-sides machining!

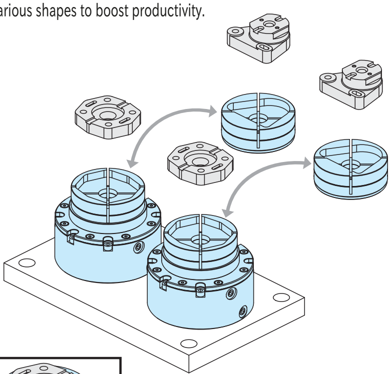


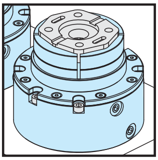
◀ Clamping

PNEUMATIC OD HOLDING CLAMPS

Vertical machining center

Machinable jaws allow clamping workpieces of various shapes to boost productivity.



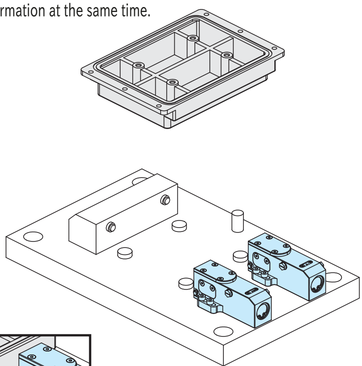


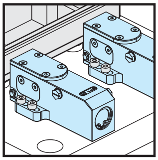
◀ Clamping

PNEUMATIC SIDE CLAMPS

Vertical machining center

Securely clamp the workpiece with adequate clamping force and prevent workpiece lifting and deformation at the same time.



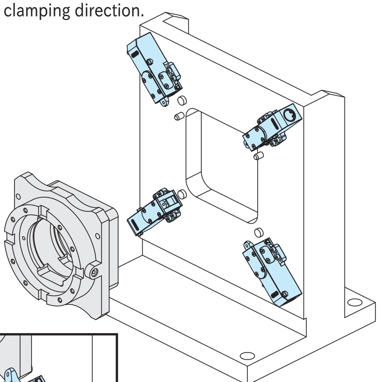


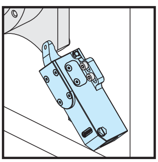
◀ Clamping

PNEUMATIC HOLD DOWN CLAMPS

Horizontal machining center

Wedge mechanism provides secure holding even with counterforce against the clamping direction.





◀ Clamping

COMPACT PNEUMATIC SWING CLAMPS

COMPACT PNEUMATIC SWING CLAMPS

In addition to IMAO's long selling swing clamps, we provide the new Pneumatic Swing Clamps!

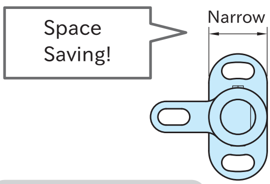
High Holding Capacity
(Double of clamping force at 0.5MPa)

Standard With Rod With Detecting Ports

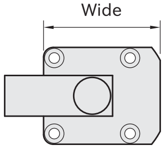
Gasket piping Thread piping

Feature 1 Compact Design

IMAO Method

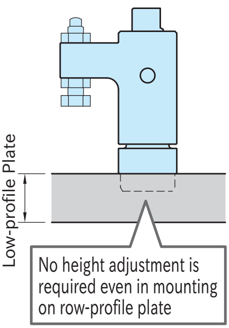


Conventional Method

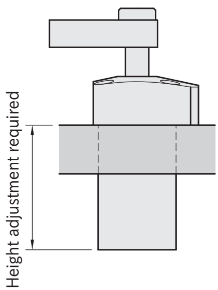


Feature 2 Easy Mounting

IMAO Method



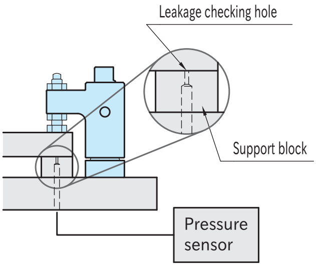
Conventional Method



Application Example

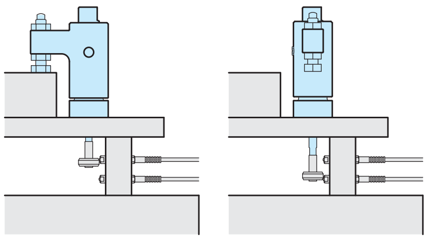
Standard, Air leakage cheking

Pressure sensor detects the clamping/unclamping conditions by preparing air leakage checking hole.



With Rod

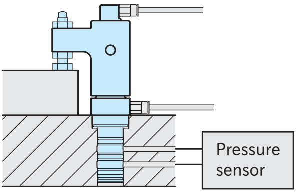
Clamping/unclamping conditions can be detected by switch.



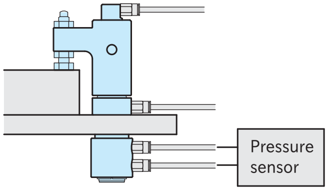
With Detecting Ports

Using with pressure sensors, clamping/unclamping conditions can be detected.

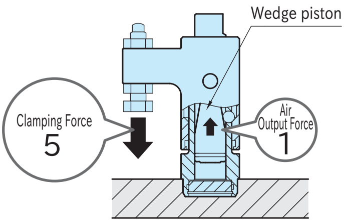
(Gasket piping)



(Thread piping)

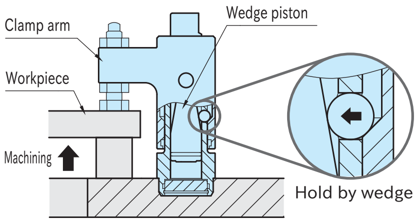


Feature 3 High Clamping Force



Wedge mechanism generates approx. 5 times clamping force of the same size of air cylinder.

Feature 4 High Holding Capacity (Double of clamping force)



The clamp arm stays still against reaction force due to wedge mecanism.

AMWSW-W COMPACT PNEUMATIC SWING CLAMPS

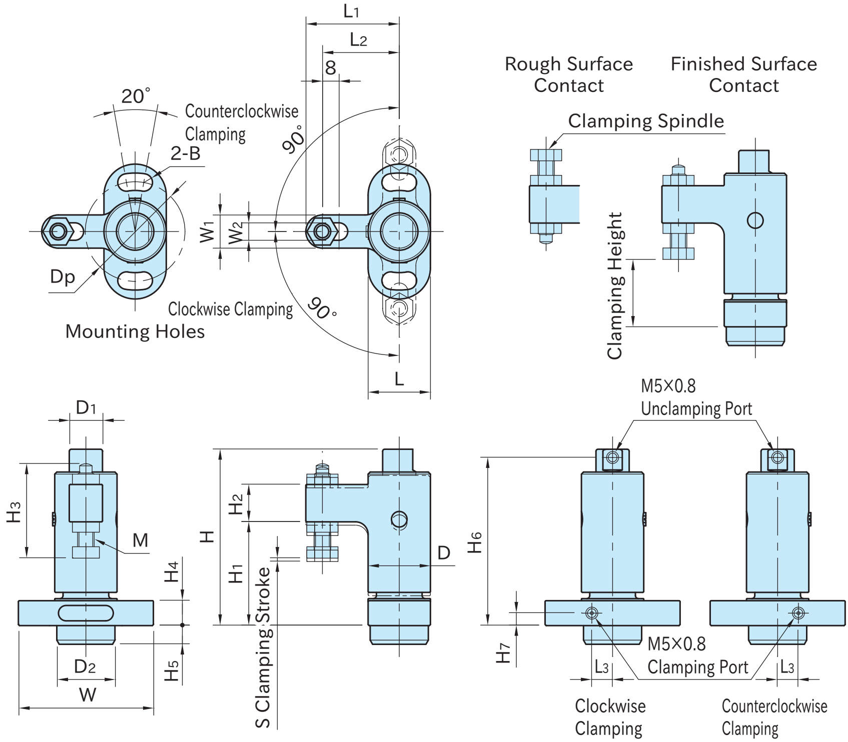
RoHS Electroless Nickel Plated

IMAO

Body / Clamp Arm / Piston	Clamping Spindle
SCM440 steel Electroless nickel plated	S45C steel Quenched and tempered Electroless nickel plated

★Key Point

Compact design!



Part Number	Clamping Direction	Clamping Height *)				S	L_2	L_1	W	L	H_4	B	Dp	H	D	W_1	W_2	H_2	H_1
		Finished Surface Contact		Rough Surface Contact															
		Min.	Max.	Min.	Max.														
AMWSW16R-W	CW	32.5	39	33.5	40	1.2	37	45	65	30	12	8.4	48	85	30	16	8.4	18	50
AMWSW16L-W	CCW																		
AMWSW20R-W	CW	41.5	51	44	53.5	1.6	45	55	85	40	15	10.5	64	106	40	20	10.4	22	65
AMWSW20L-W	CCW																		

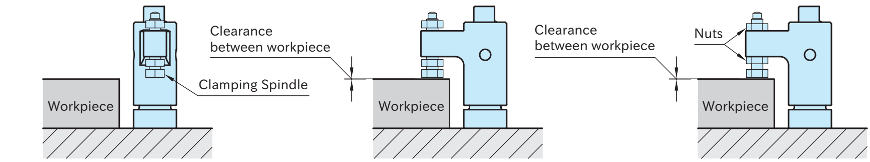
Part Number	M	H_3	D_1	D_2	H_5	L_3	H_6	H_7	Operating Air Pressure (MPa)	Clampig Force (kN) **)	Holding Capacity (kN) **)	Weight (g)
AMWSW16R-W	M 8×1.25	45.5	16	28	9	10	81	6	0.3~0.7	0.4	0.8	500
AMWSW16L-W												
AMWSW20R-W	M10×1.5	57	22	35	11	13	101	8		0.65	1.3	1120
AMWSW20L-W												

*) Clamping height can be adjusted within this range.
**) The clamping force and the holding capacity above are at 0.5 MPa.

How To Use

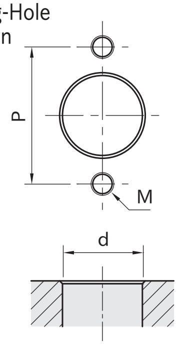
■Setting Clearance between Workpiece

A clearance between clamping spindle and workpiece should be roughly half of the clamping stroke.
The clamp arm swings horizontally.
Follow the steps below to adjust the clamping spindle to create proper clearance.



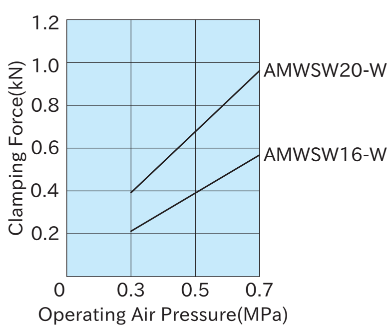
1. Apply air to the unclamping port with an air blow gun to move the clamp to unclamping position.
2. Rotate the arm manually to straight direction, and create an appropriate clearance to the workpiece. Putting a feeler gauge between the workpiece and the clamping spindle facilitates this setting.
3. Fix the clamping spindle with nuts.

■Mounting-Hole Dimension



Part No.	d $\left(^{+0.2}_{0}\right)$	M	P
AMWSW16-W	28	M 8×1.25	48
AMWSW20-W	35	M10×1.5	64

Performance Curve

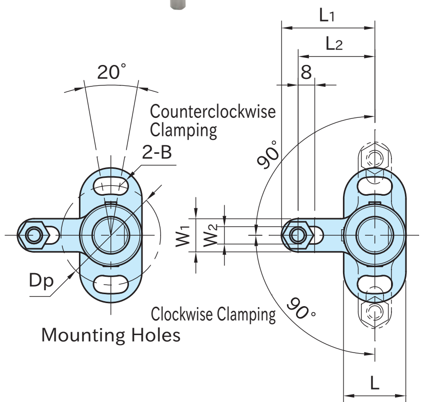


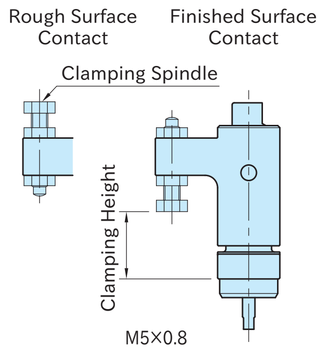
AMWSW-W-D COMPACT PNEUMATIC SWING CLAMPS WITH ROD

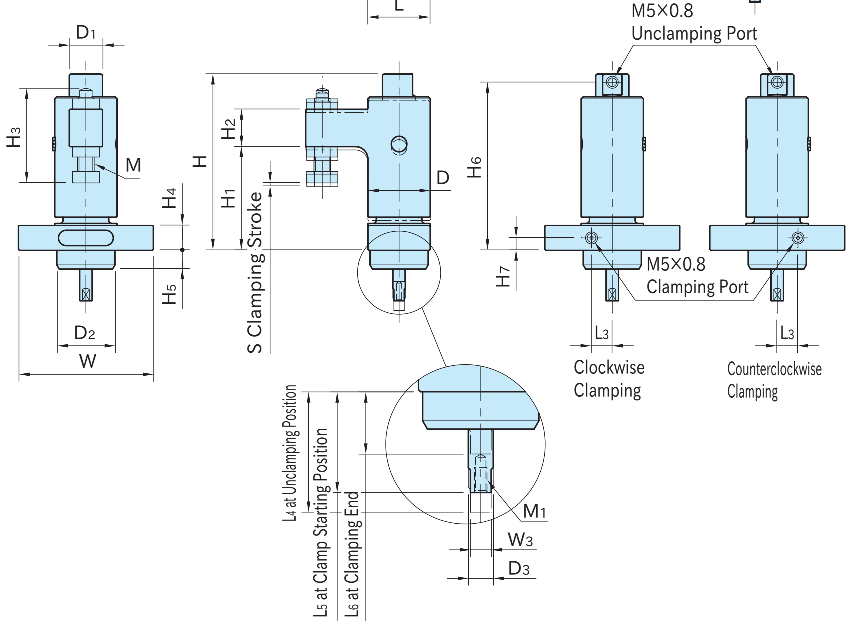
RoHS Electroless Nickel Plated

★Key Point
Compact design!

Body / Clamp Arm / Piston	Rod	Clamping Spindle
SCM440 steel Electroless nickel plated	S45C steel Electroless nickel plated	S45C steel Quenched and tempered Electroless nickel plated







Part Number	Clamping Direction	Clamping Height *) Finished Surface Contact Min.	Max.	Rough Surface Contact Min.	Max.	S	L2	L1	W	L	H4	B	Dp	H	D	W1	W2	H2	H1	M
AMWSW16R-W-D	CW	32.5	39	33.5	40	1.2	37	45	65	30	12	8.4	48	85	30	16	8.4	18	50	M 8×1.25
AMWSW16L-W-D	CCW																			
AMWSW20R-W-D	CW	41.5	51	44	53.5	1.6	45	55	85	40	15	10.5	64	106	40	20	10.4	22	65	M10×1.5
AMWSW20L-W-D	CCW																			

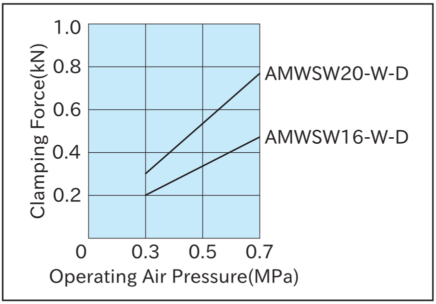
Part Number	H3	D1	D2	H5	L3	H6	H7	L4	L5	L6	M1	D3	W3	Operating Air Pressure(MPa)	Clamping Force(kN) **)	Holding Capacity(kN) **)	Weight (g)
AMWSW16R-W-D	45.5	16	28	9	10	81	6	29	24	17	M3×0.5 Depth 6	6	5	0.3~0.7	0.35	0.7	510
AMWSW16L-W-D																	
AMWSW20R-W-D	57	22	35	11	13	101	8	35	29	19.5	M4×0.7 Depth 8	8	7		0.55	1.1	1130
AMWSW20L-W-D																	

*) Clamping height can be adjusted within this range.
**) The clamping force and the holding capacity above are at 0.5 MPa.

Feature

The rod on the bottom of the clamp can be used for detecting clamping/unclamping with switches.

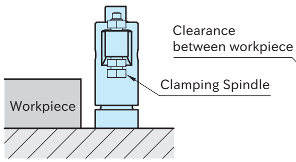
Performance Curve



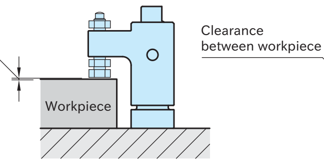
How To Use

■Setting Clearance between Workpiece

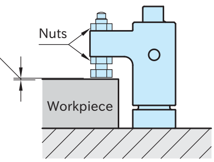
A clearance between clamping spindle and workpiece should be roughly half of the clamping stroke. The clamp arm swings horizontally. Follow the steps below to adjust the clamping spindle to create proper clearance.



1. Apply air to the unclamping port with an air blow gun to move the clamp to unclamping position.

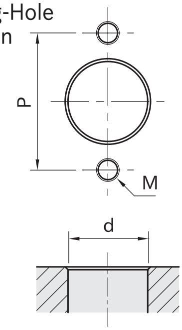


2. Rotate the arm manually to straight direction, and create an appropriate clearance to the workpiece. Putting a feeler gauge between the workpiece and the clamping spindle facilitates this setting.



3. Fix the clamping spindle with nuts.

■Mounting-Hole Dimension



Part No.	d (+0.2 / 0)	M	P
AMWSW16-W-D	28	M 8×1.25	48
AMWSW20-W-D	35	M10×1.5	64

AMWSW-W-AG

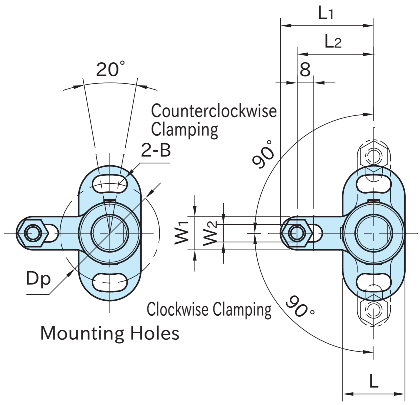
COMPACT PNEUMATIC SWING CLAMPS WITH DETECTING PORTS (Gasket Piping)

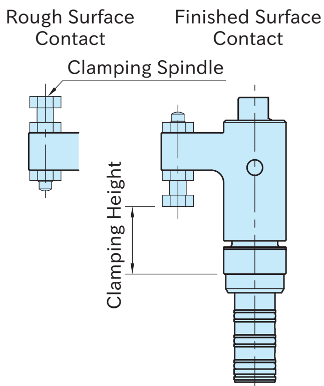
RoHS Electroless Nickel Plated

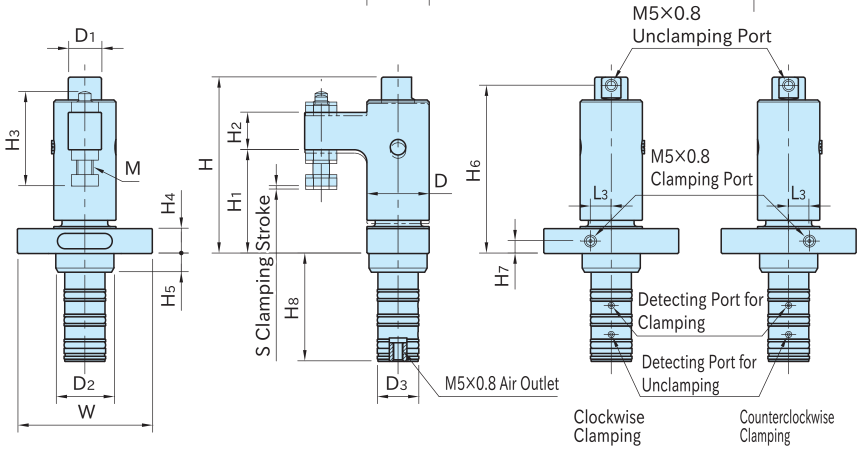
IMAO

★Key Point
Compact design!

Body / Clamp Arm/ Piston	Holder	Clamping Spindle
SCM440 steel Electroless nickel plated	A5056 aluminum Anodized	S45C steel Quenched and tempered Electroless nickel plated







Part Number	Clamping Direction	Clamping Height *) Finished Surface Contact Min.	Finished Surface Contact Max.	Rough Surface Contact Min.	Rough Surface Contact Max.	S	L_2	L_1	W	L	H_4	B	Dp	H	D	W_1	W_2	H_2	H_1
AMWSW16R-W-AG	CW	32.5	39	33.5	40	1.2	37	45	65	30	12	8.4	48	85	30	16	8.4	18	50
AMWSW16L-W-AG	CCW																		
AMWSW20R-W-AG	CW	41.5	51	44	53.5	1.6	45	55	85	40	15	10.5	64	106	40	20	10.4	22	65
AMWSW20L-W-AG	CCW																		

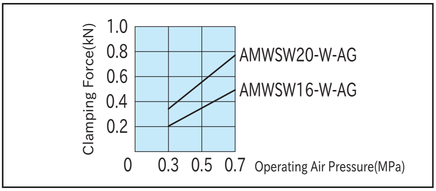
Part Number	M	H_3	D_1	D_2	H_5	L_3	H_6	H_7	H_8	D_3	Operating Air Pressure(MPa)	Clamping Force(kN) **)	Holding Capacity(kN) **)	Weight (g)
AMWSW16R-W-AG	M 8×1.25	45.5	16	28	9	10	81	6	52	20	0.3~0.7	0.35	0.7	540
AMWSW16L-W-AG														
AMWSW20R-W-AG	M10×1.5	57	22	35	11	13	101	8	62	25		0.55	1.1	1180
AMWSW20L-W-AG														

*) Clamping height can be adjusted within this range. **) The clamping force and the holding capacity above are at 0.5 MPa.

Feature

Using with pressure sensors, clamping/unclamping conditions can be detected.

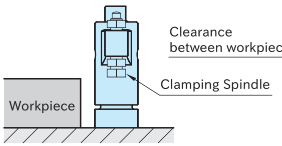
Performance Curve

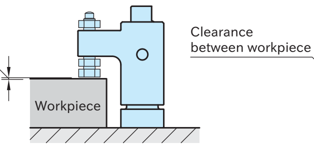


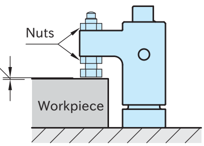
How To Use

■Setting Clearance between Workpiece

A clearance between clamping spindle and workpiece should be roughly half of the clamping stroke. The clamp arm swings horizontally. Follow the steps below to adjust the clamping spindle to create proper clearance.

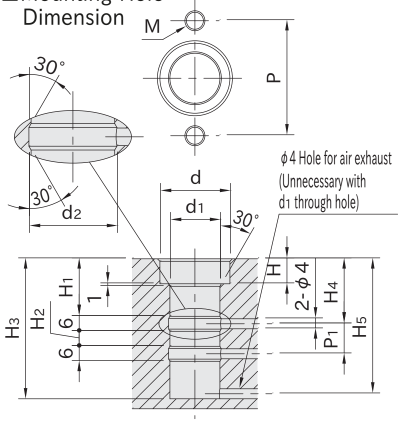






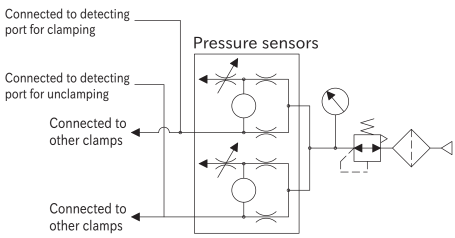
1. Apply air to the unclamping port with an air blow gun to move the clamp to unclamping position.
2. Rotate the arm manually to straight direction, and create an appropriate clearance to the workpiece. Putting a feeler gauge between the workpiece and the clamping spindle facilitates this setting.
3. Fix the clamping spindle with nuts.

■Mounting-Hole Dimension



■Connection with Pressure Sensors

To check clamping/unclamping conditions, pressure sensor is required. Please contact us for the detail.



Part No.	d ($^{+0.2}_{0}$)	H	d_1 (H8)	H_1	H_2	d_2	H_3	P_1	H_4	H_5	M	P
AMWSW16-W-AG	28	10	20	23	6	21	56 or more	12	26	54	M 8×1.25	48
AMWSW20-W-AG	35	12	25	29	10	26	66 or more	16	32	64	M10×1.5	64

AMWSW-W-AC

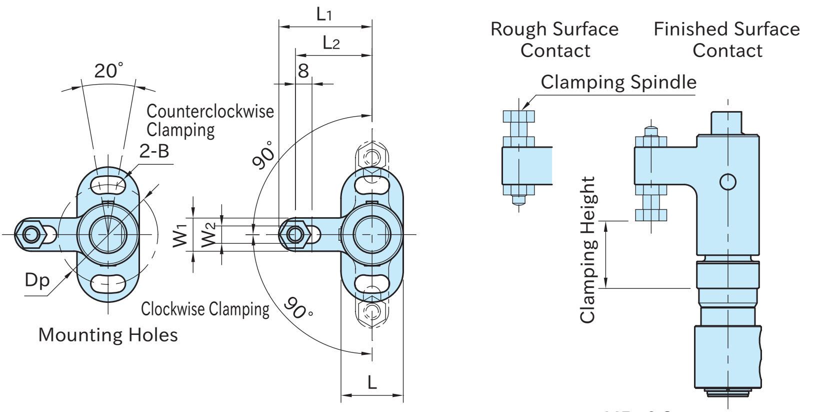
COMPACT PNEUMATIC SWING CLAMPS WITH DETECTING PORTS (Thread Piping)

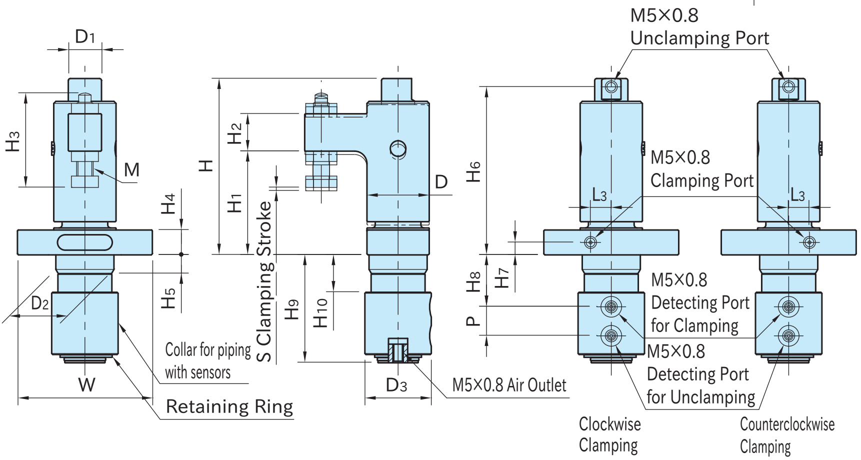
RoHS Electroless Nickel Plated

IMAO

★Key Point
Compact design!

Body / Clamp Arm / Piston	Collar	Clamping Spindle
SCM440 steel Electroless nickel plated	A5056 aluminum Anodized	S45C steel Quenched and tempered Electroless nickel plated





Part Number	Clamping Direction	Clamping Height *)				S	L_2	L_1	W	L	H_4	B	Dp	H	D	W_1	W_2	H_2	H_1
		Finished Surface Contact		Rough Surface Contact															
		Min.	Max.	Min.	Max.														
AMWSW16R-W-AC	CW	32.5	39	33.5	40	1.2	37	45	65	30	12	8.4	48	85	30	16	8.4	18	50
AMWSW16L-W-AC	CCW																		
AMWSW20R-W-AC	CW	41.5	51	44	53.5	1.6	45	55	85	40	15	10.5	64	106	40	20	10.4	22	65
AMWSW20L-W-AC	CCW																		

Part Number	M	H_3	D_1	D_2	H_5	L_3	H_6	H_7	H_8	P	H_9	D_3	H_{10}	Operating Air Pressure (MPa)	Clamping Force (kN) **)	Holding Capacity (kN) **)	Weight (g)
AMWSW16R-W-AC	M 8×1.25	45.5	16	28	9	10	81	6	25	14	52	32	18	0.3~0.7	0.35	0.7	580
AMWSW16L-W-AC																	
AMWSW20R-W-AC	M10×1.5	57	22	35	11	13	101	8	31	18	62	38	24		0.55	1.1	1240
AMWSW20L-W-AC																	

*) Clamping height can be adjusted within this range.
**) The clamping force and the holding capacity above are at 0.5 MPa.

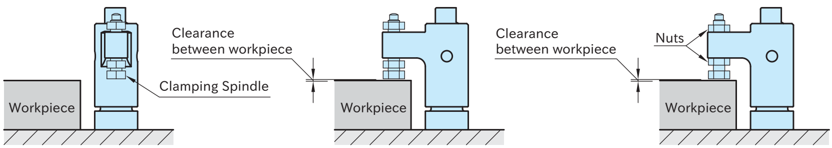
Feature

Using with pressure sensors, clamping/unclamping conditions can be detected.

How To Use

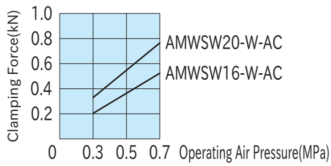
■Setting Clearance between Workpiece

A clearance between clamping spindle and workpiece should be roughly half of the clamping stroke.The clamp arm swings horizontally. Follow the steps below to adjust the clamping spindle to create proper clearance.

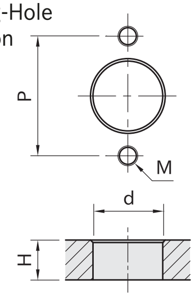


1. Apply air to the unclamping port with an air blow gun to move the clamp to unclamping position.
2. Rotate the arm manually to straight direction, and create an appropriate clearance to the workpiece. Putting a feeler gauge between the workpiece and the clamping spindle facilitates this setting.
3. Fix the clamping spindle with nuts.

Performance Curve



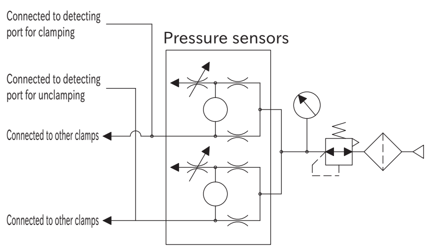
■Mounting-Hole Dimension



Part No.	d $\left(^{+0.2}_{0}\right)$	M	P	H
AMWSW16-W-AC	28	M 8×1.25	48	16 or less
AMWSW20-W-AC	35	M10×1.5	64	22 or less

■Connection with Pressure Sensors

To check clamping/unclamping conditions, pressure sensor is required. Please contact us for the detail.



Note

Attach the collar and the retaining ring to the product by yourself.
The collar rotates for 360°freely. Set the collar to your desired position.

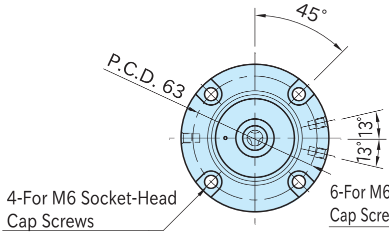
AMWPD-W PNEUMATIC PULL CLAMPS

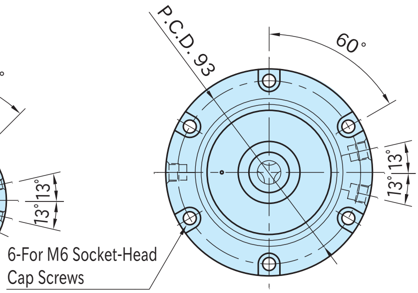
RoHS

IMAO

★Key Point
High clamping force by wedge mechanism.

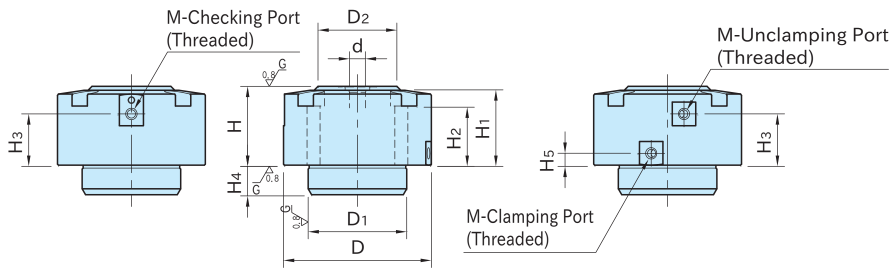
Body	Cylinder
S45C steel Induction hardened (top surface) Black oxide finished Precision ground	SCM440 steel ISONITE treated

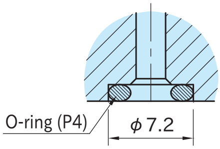




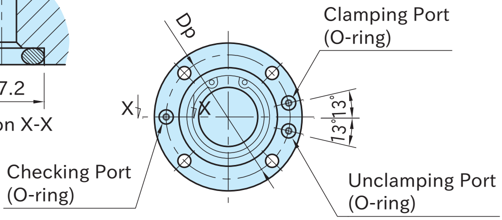
AMWPD40-W

AMWPD63-W





Section X-X



Part Number	d (F7)	D_2	H (±0.01)	D	H_1	D_1 (g6)	H_4	H_2	Dp *)	M	H_3	H_5
AMWPD40-W	8	40	40	75	38	50	15	30	63	M5×0.8	26	6
AMWPD63-W	12	63	50	105	47	75	19	35	88	Rc1/8	31	10

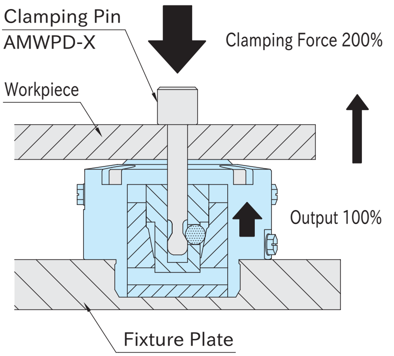
Part Number	Furnished O-ring	Operating Air Pressure (MPa)	Clamping Force (kN) **)	Weight (kg)
AMWPD40-W	P4	0.3~1.0	1	1.3
AMWPD63-W			2.5	3.2

*) The dimensions above are for ports with o-ring.
**) The clamping forces above are at 0.5 MPa.

Feature

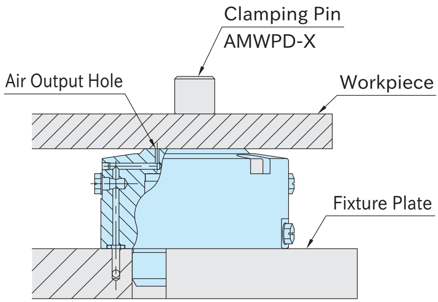
■High Clamping Force

- Wedge mechanism increases clamping force to 200% compared to the air cylinder of the same size.
- When the air pressure is lowered by such as an air leakage, wedge mechanism prevents prompt lowering of the clamping force.



■Checking Hole

Can check if the workpiece is clamped properly by applying air through the checking hole.

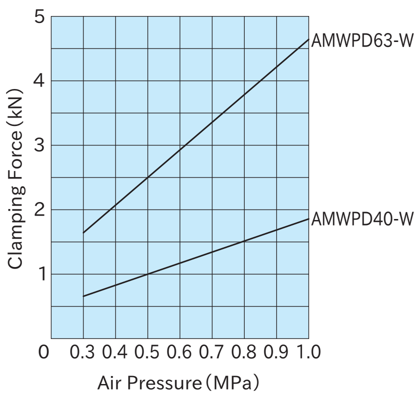


Technical Information

■Allowable Counterforce (Per Clamp)

Part Number	Max. load(N)
AMWPD40-W	Clamping force × 2
AMWPD63-W	

Performance Curve

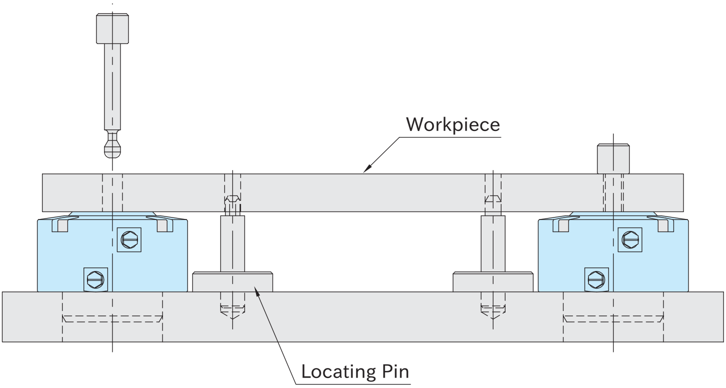


Continuing on Next Page

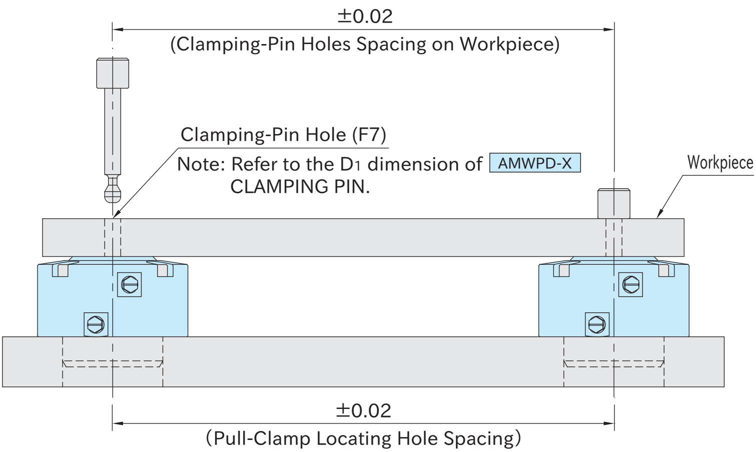
How To Use

■How to Locate Workpiece

1. Basic Method



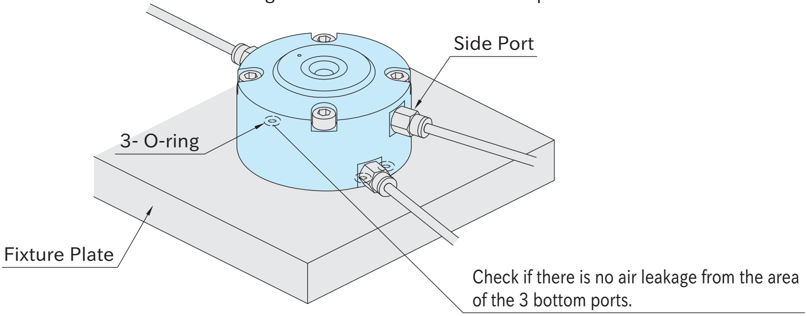
2. Method for clamping and locating at a time
Locating Accuracy ±0.08



■How to Install

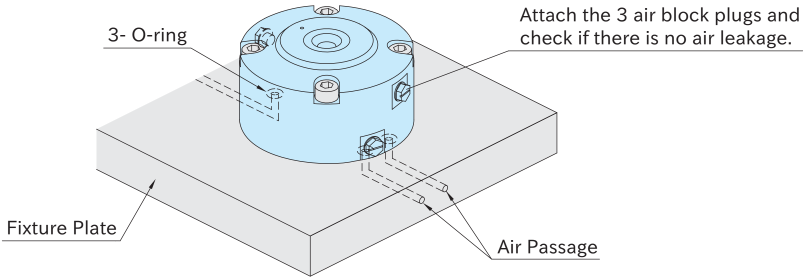
1.With Side Ports

・Attach the furnished o-rings to the bottom ports.
・Plate surface must be flat(6.3)to get the bottom ports sealed up.
・Check if there is no air leakage from the area of the bottom ports.

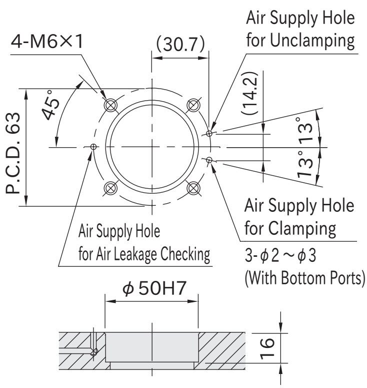


2.With Bottom Ports

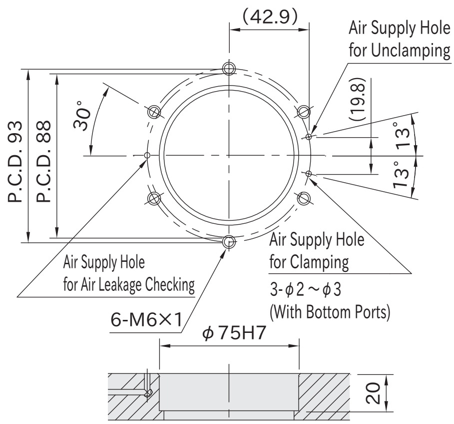
・Attach the furnished o-rings to the bottom ports.
・Plate surface must be flat(6.3)to get the bottom ports sealed up.
・Refer to the figure below for the hole details.
・Ensure that the furnished air block plugs are attached to the side ports.



■Hole Preparation



AMWPD40-W

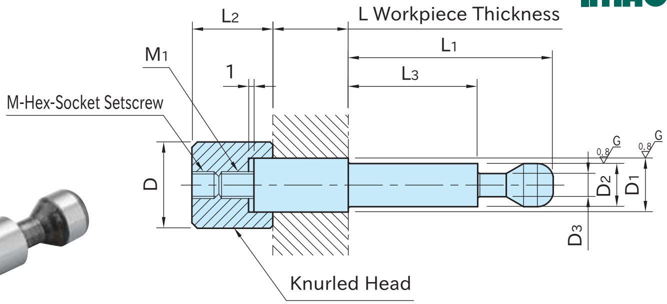


AMWPD63-W

AMWPD-X CLAMPING PINS

On Request RoHS

IMAO



Note: L dimension is adjustable by ±1mm to fit actual workpiece thickness.

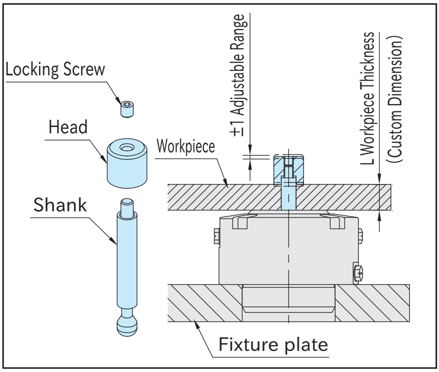
Shank	Head
SCM435 steel Induction hardened (taper seat) Precision ground	S45C steel Quenched and tempered Black oxide finish

Part Number	D_2 (f7)	D_1 (f7)	L *) (By 0.1mm)	D	L_2	L_1	L_3	D_3	M
AMWPD40- 8-(L Dim. in mm)	8	8	4≦L≦64	16	15	38	24	4.3	M5×0.8 -5L
AMWPD40-10-(L Dim. in mm)		10							
AMWPD63-12-(L Dim. in mm)	12	12	0<L≦90	18	23	48	31.5	6.5	M8×1.25-8L
AMWPD63-16-(L Dim. in mm)		16		24					

Part Number	M_1	Proper Pull Clamps	Weight (g)
AMWPD40- 8-(L Dim. in mm)	M5×0.8	AMWPD40-W	min. 30~max. 60
AMWPD40-10-(L Dim. in mm)			min. 31~max. 77
AMWPD63-12-(L Dim. in mm)	M8×1.25	AMWPD63-W	min. 70~max.160
AMWPD63-16-(L Dim. in mm)			min.175~max.265

*) For ordering, specify workpiece thickness.

How To Use



Note

The length of L dimension should be decided depending on the workpiece thickness.

■Ordering Example

AMWPD40-8 - 10.5

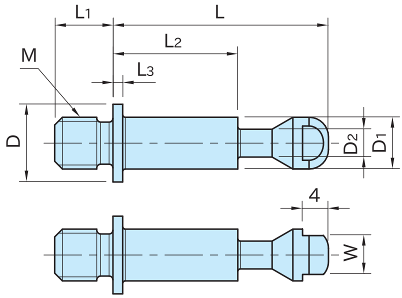
Shank Size　　L Dim.

AMWPD40-8 for 10.5mm thickness workpiece.

AMWPD-M CLAMPING SCREWS

RoHS

IMAO

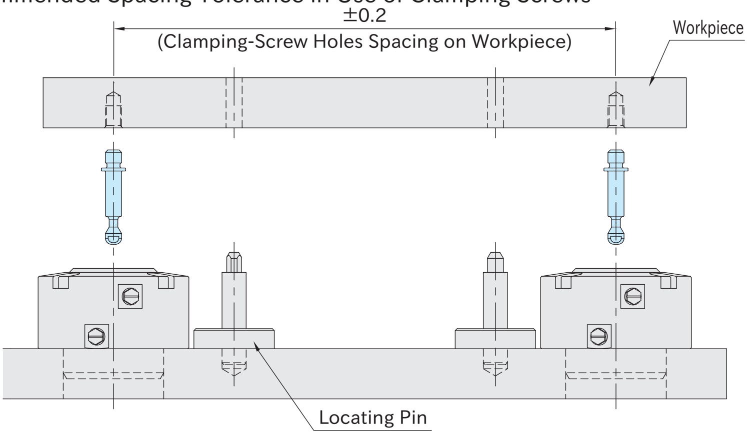


Body
SCM435 steel Quenched and tempered Black oxide finish

Part Number	D_1	M	L_1	L	D	L_2	L_3	D_2	W	Proper Pull Clamps	Weight (g)
AMWPD40-M 8	8	M 8×1.25	9	38	12	24	1.5	4.3	6	AMWPD40-W	16
AMWPD40-M10		M10×1.5	11								20
AMWPD63-M12	12	M12×1.75	13	48	20	31.5	2	6.5	10	AMWPD63-W	50
AMWPD63-M16		M16×2	17								64

How To Use

■Recommended Spacing Tolerance in Use of Clamping Screws



Note

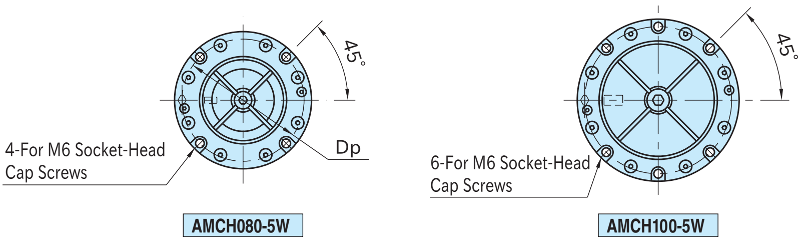
Cutom Clamping Screws (different screw thread sizes) are available on request.

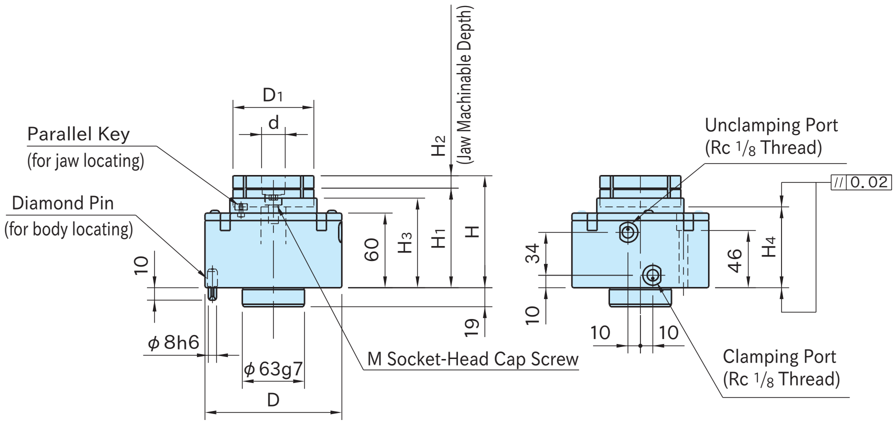
AMCH-W PNEUMATIC OD HOLDING CLAMPS

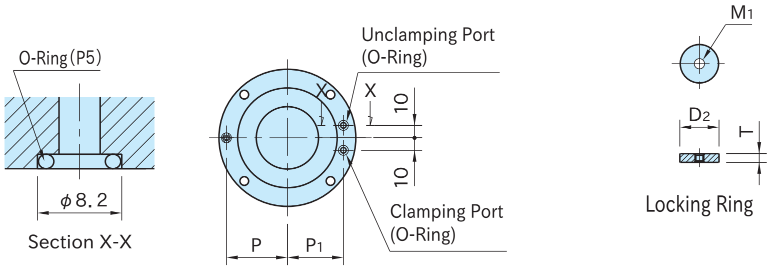
RoHS | Electroless Nickel Plated

IMAO

Body	Jaw
S45C steel Electroless nickel plated	A7075 aluminum Anodized Blue







Part Number	D_1	d	H	H_2	D	H_1	H_3	H_4 (±0.02)	Dp	P (±0.02)	P_1	M	M_1
AMCH080-5W	65	19	90	10	110	80	72	65	98	49	45	M 8×1.25-15L	M4×0.7
AMCH100-5W	90	23	100	15	130	85	74	66	118	59	55	M10×1.5 -20L	M5×0.8

Part Number	D_2	T	Furnished O-Ring	Operating Air Pressure(MPa) *)	Clamping Force (kN) **)	Weight (kg)
AMCH080-5W	18	4	P5	0.5	4	4.2
AMCH100-5W	22	6			6	6

*) Operating air pressure range: 0.45 - 0.55 MPa.
**) The clamping forces above are at 0.5 MPa.

Supplied With

- 1 of locking ring
- 2 of O-Ring
- 1 of diamond pin

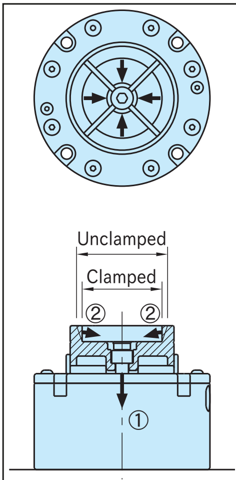
Technical Information

- Workpiece locating repeatability : ±0.03
- Jaw locating repeatability : ±0.02

Note

- Do not actuate clamping without a workpiece inserted to avoid damage and deformation.
- Do not machine the jaw beyond the machinable area.
- Changeable Jaws CP121 are available.

Feature



①When air is applied to the clamping port, the central bottom part of the jaw is pulled down.

②At the same time the 4 jaw sections tilt toward the center to clamp the circumference of a workpiece.

- The diaphragm clamping mechanism allows securely clamping a workpiece with 4 jaw sections.
- Different irregularly-shaped workpieces can be clamped.
- 0.15mm clamping stroke of each jaw section is perfect for clamping of lost-wax parts, die-cast parts, extruded parts, solid-drawn parts, prefinished parts, etc.

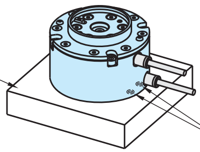
Continuing on Next Page

How To Use

■Body Installing

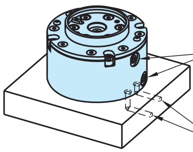
With Side Ports

- Attach the furnished o-rings to the bottom ports.
- Plate surface must be flat (6.3) to get the bottom ports sealed up.
- Check if there is no air leakage from the area of the bottom ports.

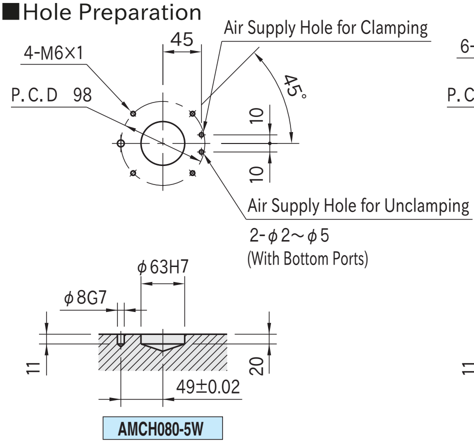


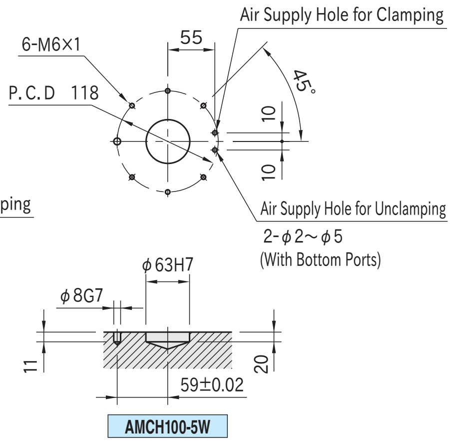
With Bottom Ports

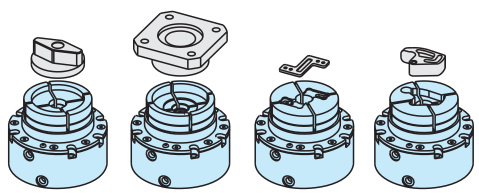
- Attach the furnished o-rings to the bottom ports.
- Plate surface must be flat (6.3) to get the bottom ports sealed up.
- Refer to the figure below for the hole positions for ports.
- Ensure that the furnished air block plugs are attached to the side ports.



■Hole Preparation





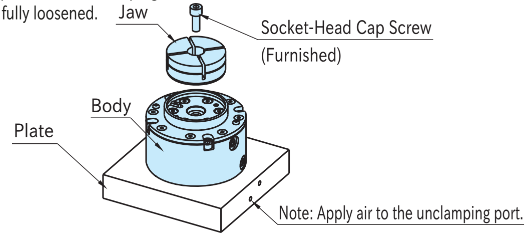


- Machinable jaws allow clamping workpieces of various shapes.
- Ideal way to hold workpieces for machining on small-size machining centers, tapping centers, small-size 5-axis machines, CNC rotary tables, etc.

Changeable Jaws CP121 are available.

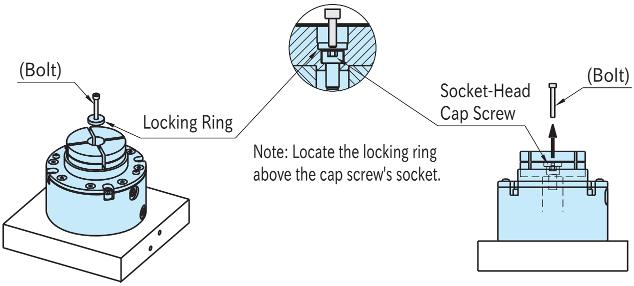
■Jaw Setting

At jaw installation, ensure that air is applied to the unclamping port and the socket-head cap screw is fully loosened.

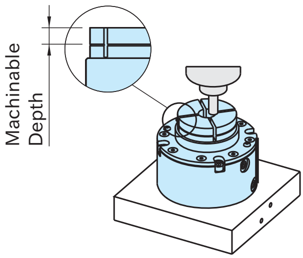


■Jaw Machining

1. Set the locking ring in the jaw.
   (using a bolt facilitates setting)
2. Apply air to the clamping port to clamp the locking ring.
   (After clamping, remove the bolt from the locking ring.)

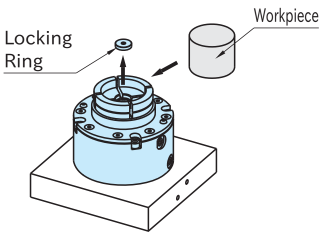


3. Machine the jaw to custom fit a workpiece.



■Workpiece Setting

1. After machining apply air to the unclamping port to take out the locking ring.
2. Mount a workpiece and then apply air to the clamping port for clamping.



AMWS-W PNEUMATIC SIDE CLAMPS

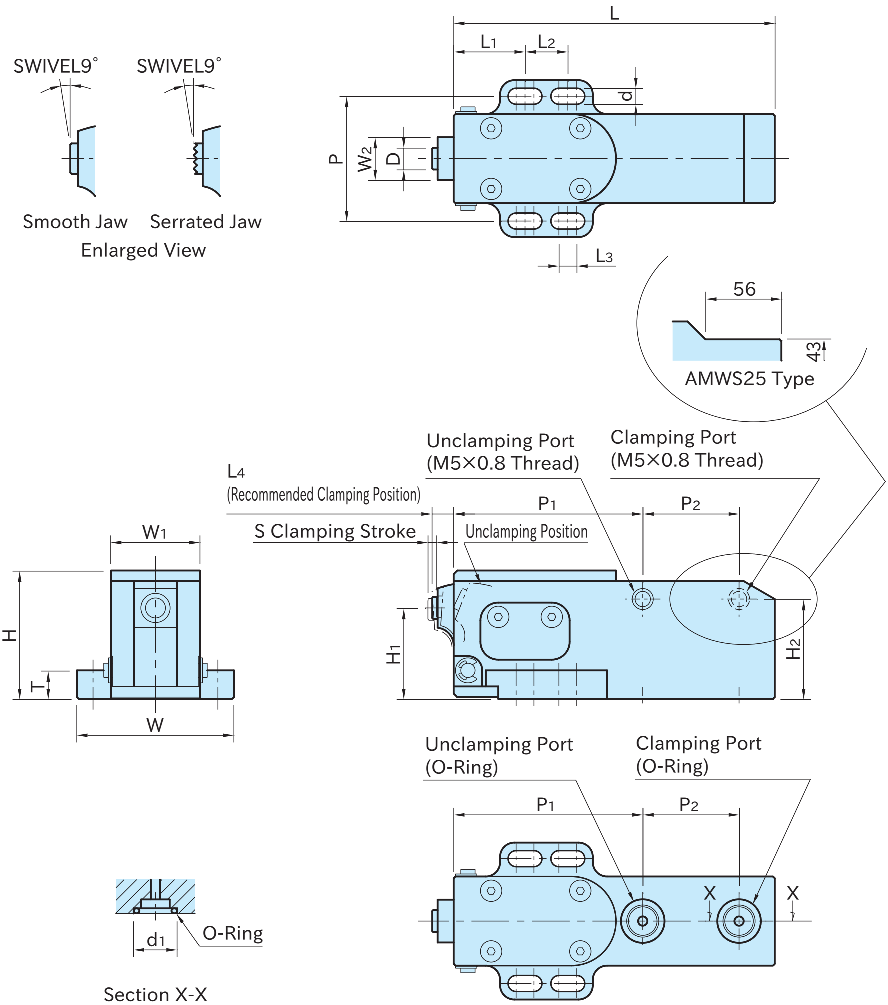
RoHS

IMAO

AMWS16-W

AMWS25-W

Body	Clamp Arm	Jaw
A5052 aluminum Anodized	SCM415 steel Carburized-hardened	SKH51 steel Quenched & tempered



Part Number	Jaw Type	D	H_1	L_4	S	L	W_1	H	W	T	d	L_1	L_2
AMWS16F-W	Smooth	6	25.5	6	2	90	25	36	44	8	4.5	20	12
AMWS16S-W	Serrated												
AMWS25F-W	Smooth	8.5	39.5	12	3	135	40	54	65	12	6.5	30	20
AMWS25S-W	Serrated												

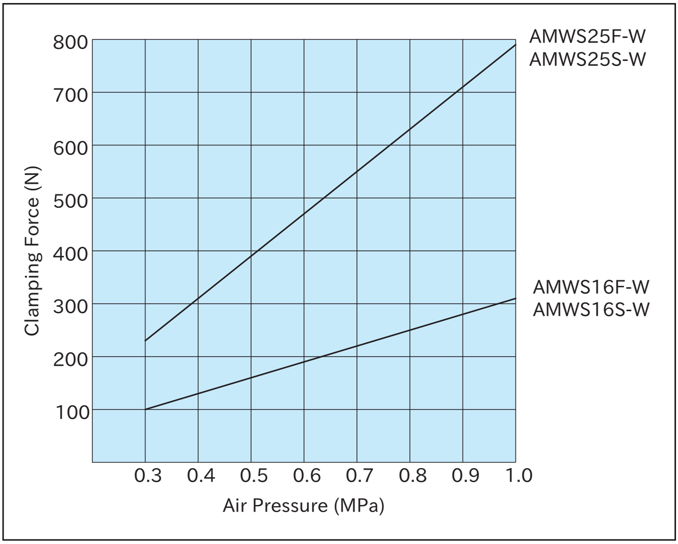
Part Number	L_3	P	d_1	P_1	P_2	H_2	W_2	Operating Air Pressure(MPa)	Clamping Force (N) *)	Furnished O-Ring	Weight (g)
AMWS16F-W	5	35	12.2	53	27	28	12	0.3~1.0	160	P 9	240
AMWS16S-W											
AMWS25F-W	8	53	18	84	38	33	18		390	P14	800
AMWS25S-W											

*) The clamping forces above are at 0.5 MPa.

Supplied With

2 of O-Ring

Performance Curve



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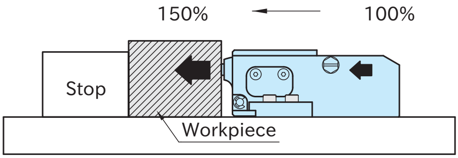
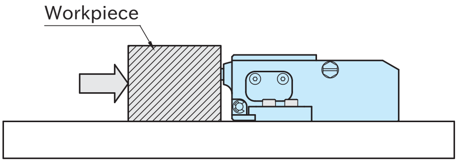
Feature

・Wedge mechanism increases clamping force by 150% compared to the air cylinder of the same size.



・Wedge mechanism prevents the clamp arm from being pushed back by counterforce.
・When the air pressure is lowered by such as an air leakage, wedge mechanism prevents prompt lowering of the clamping force.
Note: With a lowered air pressure, the clamping force may be lowered by excessive vibration.



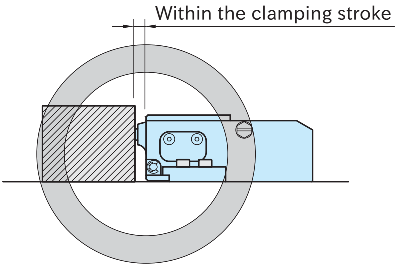
Allowable Counterforce (Per Clamp)

Type	Allowable Force (kN)
AMWS16-W	1.1
AMWS25-W	2.4

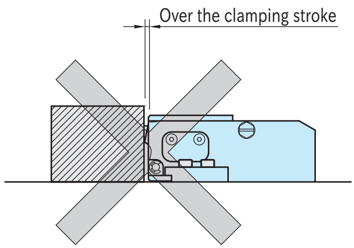
Wedge mechanism provides secure holding even with counterforce against the clamping direction.

Note

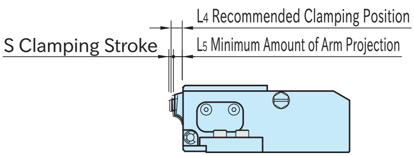
Use the clamp within the clamping stroke.



The wedge mechanism works to clamp the workpiece securely.



The wedge mechanism does not work.

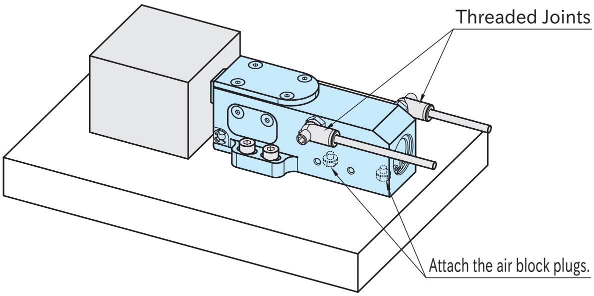


Type	S	L_4	L_5
AMWS16-W	2	6	5
AMWS25-W	3	12	10.5

How To Use

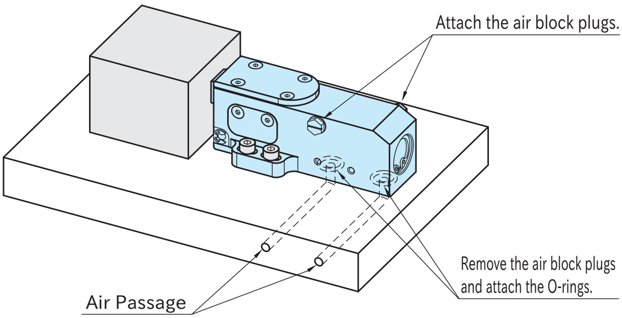
■With Side Ports

・Ensure that the furnished air block plugs are attached to the bottom ports.
・Remove the air block plugs on the side ports and connect the piping.
・Refer to the figure below for the hole preparation.

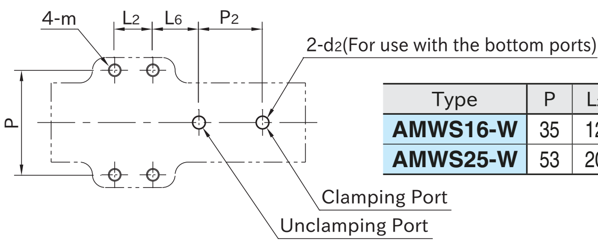


■With Bottom Ports

・Ensure that the furnished air block plugs are attached to the side ports.
・Remove the air block plugs on the bottom ports and attach O-rings (included) to it.
・Plate surface must be flat (6.3 ▽) to get the bottom ports sealed up.
・Refer to the figure below for the hole preparation.



■Hole Preparation



Type	P	L_2	L_6	P_2	m	d_2
AMWS16-W	35	12	21	27	M4×0.7	ϕ2～ϕ4
AMWS25-W	53	20	34	38	M6×1	ϕ2～ϕ6

AMWD-W PNEUMATIC HOLD DOWN CLAMPS

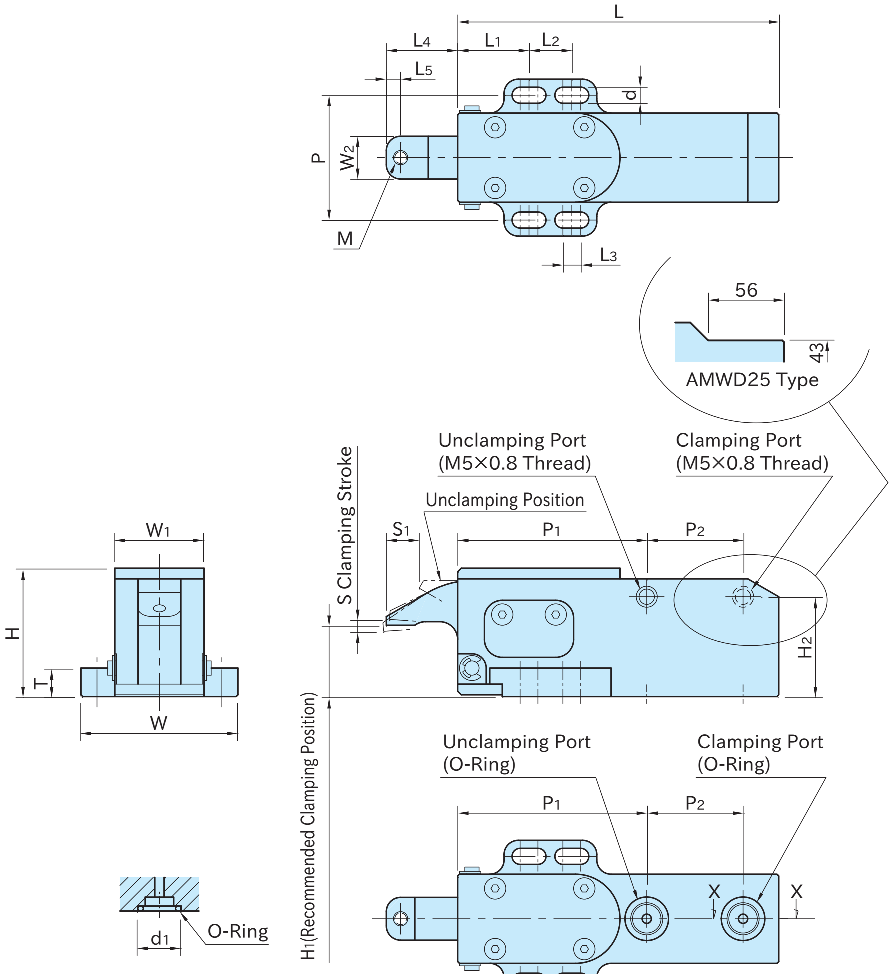
RoHS

IMAO

AMWD16-W

AMWD25-W

Body	Clamp Arm
A5052 aluminum Anodized	SCM415 steel Carburized-hardened



Section X-X

Part Number	W_2	L_4	M	L_5	H_1	S	S_1	L	W_1	H	W	T	d	L_1	L_2	L_3
AMWD16-W	12	20	M4×0.7	4	20	2	9	90	25	36	44	8	4.5	20	12	5
AMWD25-W	18	32	M6×1	6	30	3	15	135	40	54	65	12	6.5	30	20	8

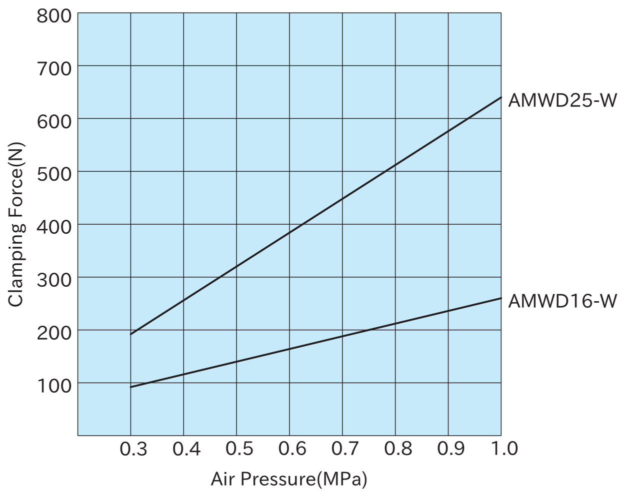
Part Number	P	d_1	P_1	P_2	H_2	Operating Air Pressure(MPa)	Clamping Force (N) *)	Furnished O-Ring	Weight (g)
AMWD16-W	35	12.2	53	27	28	0.3~1.0	140	P 9	250
AMWD25-W	53	18	84	38	33		320	P14	830

*) The clamping forces above are at 0.5 MPa.

Supplied With

2 of O-Ring

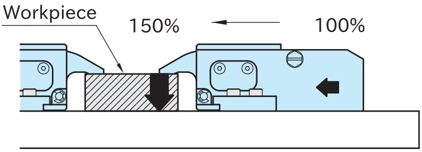
Performance Curve



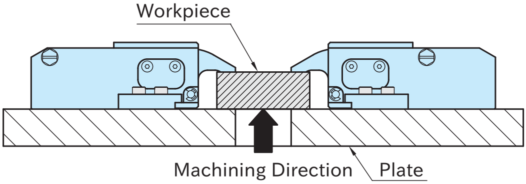
Continuing on Next Page

Feature

・Wedge mechanism increases clamping force by 150% compared to the air cylinder of the same size.



・Wedge mechanism prevents the clamp arm from being pushed back by counterforce.
・When the air pressure is lowered by such as an air leakage, wedge mechanism prevents prompt lowering of the clamping force.
Note: With a lowered air pressure, the clamping force may be lowered by excessive vibration.



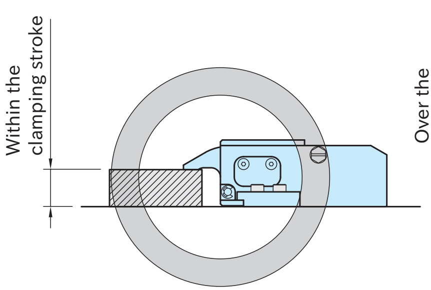
Allowable Counterforce (Per Clamp)

Part Number	Allowable Force (kN)
AMWD16-W	1
AMWD25-W	2.2

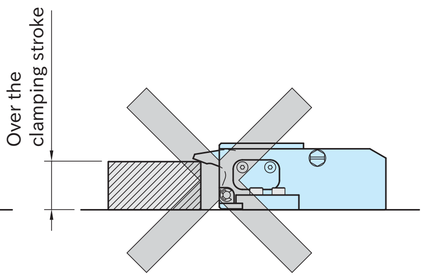
Perfect for machining a workpiece from the counterside.

Note

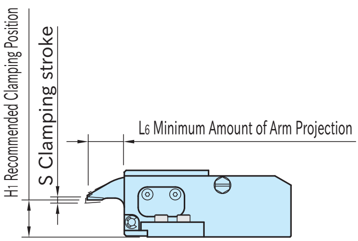
Use the clamp within the clamping stroke.



The wedge mechanism works to clamp the workpiece securely.



The wedge mechanism does not work.

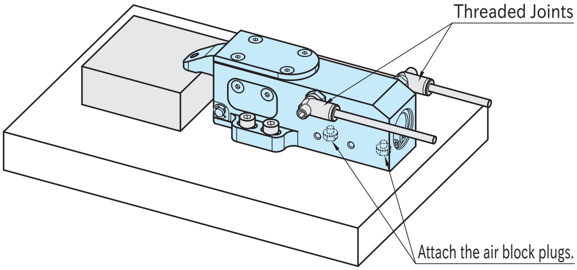


Part Number	S	H_1	L_6
AMWD16-W	2	20	19
AMWD25-W	3	30	30.5

How To Use

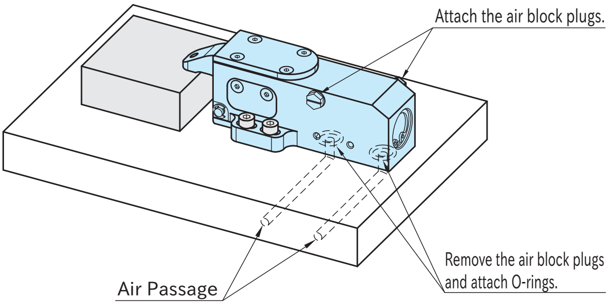
■With Side Ports

・Ensure that the furnished air block plugs are attached to the bottom ports.
・Remove the air block plugs on the side ports and connect the piping.
・Refer to the figure below for the hole preparation.

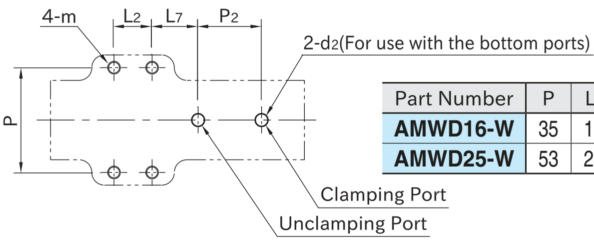


■With Bottom Ports

・Ensure that the furnished air block plugs are attached to the side ports.
・Remove the air block plugs on the bottom ports and attach O-rings (included) to it.
・Plate surface must be flat (6.3) to get the bottom ports sealed up.
・Refer to the figure below for the hole preparation.



■Hole Preparation



Part Number	P	L_2	L_7	P_2	m	d_2
AMWD16-W	35	12	21	27	M4×0.7	ϕ2~ϕ4
AMWD25-W	53	20	34	38	M6×1	ϕ2~ϕ6

Value Creator
IMAO

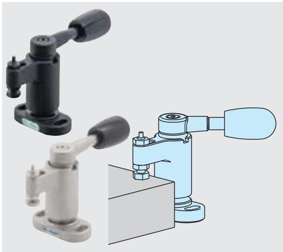
ONE-TOUCH CLAMPS

ONE-TOUCH CLAMPS

SNAP CLAMPS

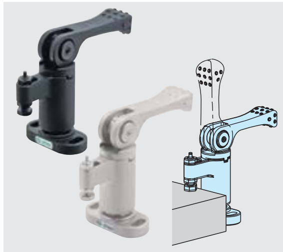
ONE-TOUCH CLAMPS

ONE-TOUCH CLAMPS



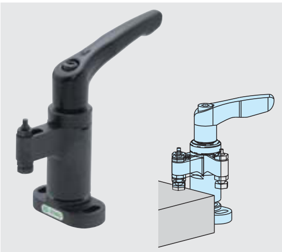
SWING CLAMPS

Part No. QLSWC



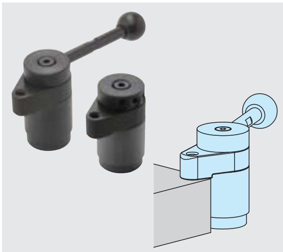
SWING CLAMPS WITH CAM HANDLE

Part No. QLSWC



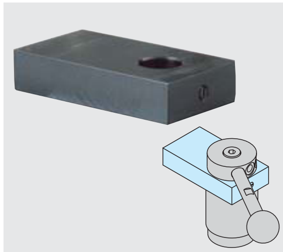
SWING CLAMPS WITH ADJUSTABLE HANDLE

Part No. QLSWC



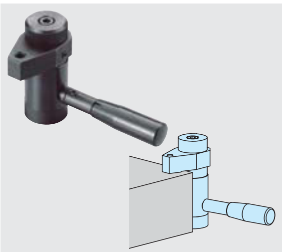
SWING CLAMPS (Standard)

Part No. QLSW



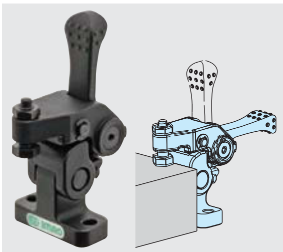
MACHINABLE CLAMP ARMS FOR STANDARD SWING CLAMPS

Part No. QLSW-SH



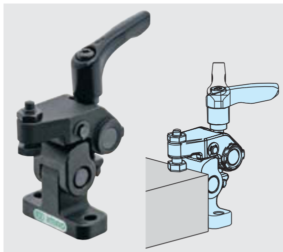
SWING CLAMPS (Heavy)

Part No. QLSWH



RETRACTABLE CLAMPS WITH CAM HANDLE

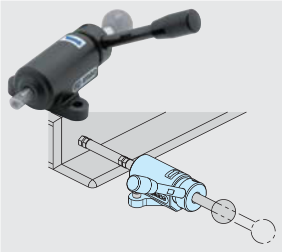
Part No. QLRE



RETRACTABLE CLAMPS WITH ADJUSTABLE HANDLE

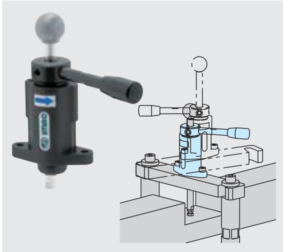
Part No. QLRE

ONE-TOUCH CLAMPS



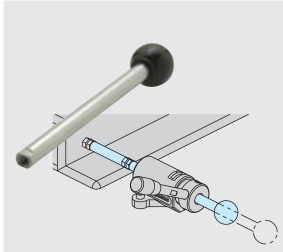
THRUST CLAMPS

Part No. QLRC



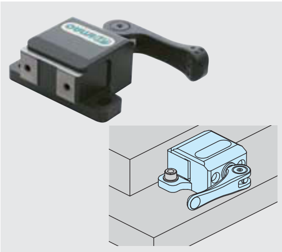
THRUST CLAMPS (Vertical)

Part No. QLRCF



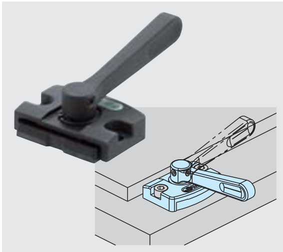
CLAMPING BARS

Part No. QLRCS



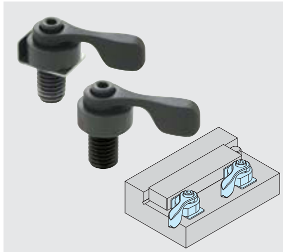
CAM EDGE CLAMPS

Part No. QLSCH



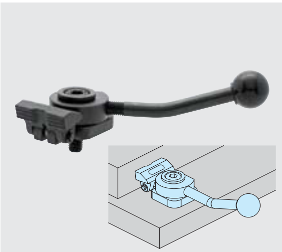
LOW-PROFILE
CAM EDGE CLAMPS

Part No. QLSCL-R



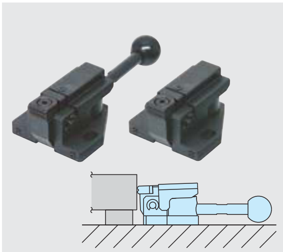
SPIRAL CAM CLAMPS

Part No. CP135-L



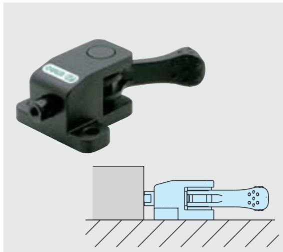
CAM EDGE CLAMPS

Part No. QLSC



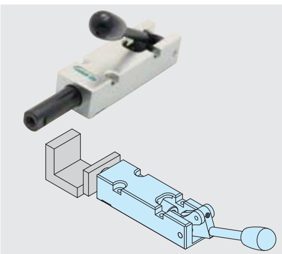
SIDE CLAMPS (Standard)

Part No. QLSC



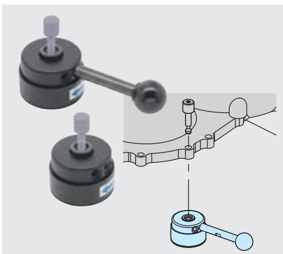
CAM PUSH CLAMPS

Part No. QLCP



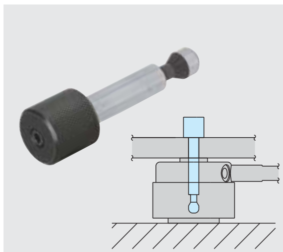
PRECISION THRUST
CLAMPS

Part No. QLPCT



PULL CLAMPS (Standard)

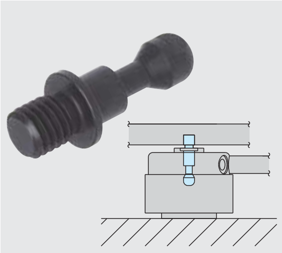
Part No. QLPD



CLAMPING PINS
(Standard)

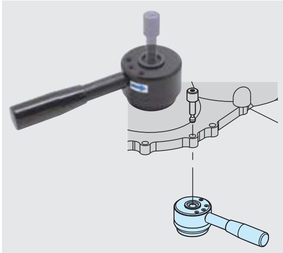
Part No. QLPD-X

ONE-TOUCH CLAMPS



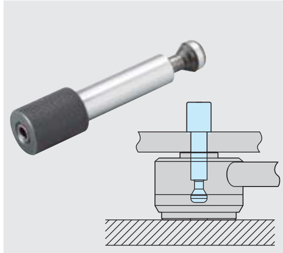
CLAMPING SCREWS (Standard)

Part No. QLPD-M



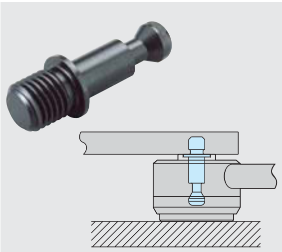
PULL CLAMPS (Heavy)

Part No. QLPDH



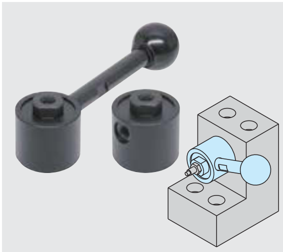
CLAMPING PINS (Heavy)

Part No. QLPDH-X



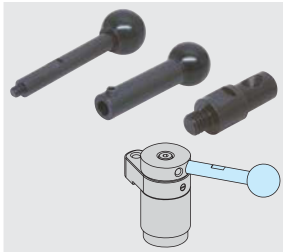
CLAMPING SCREWS (Heavy)

Part No. QLPDH-M



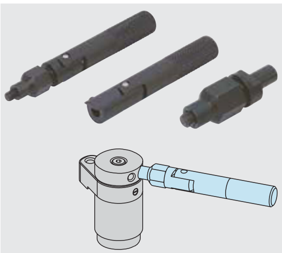
PUSH CLAMPS (Standard)

Part No. QLPU



STANDARD HANDLES

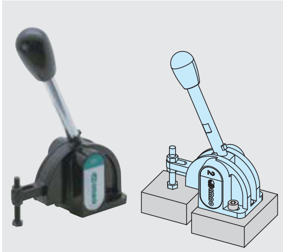
Part No. QLSL



ADJUSTABLE-TORQUE HANDLES

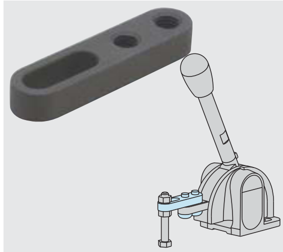
Part No. QLTL

SNAP CLAMPS



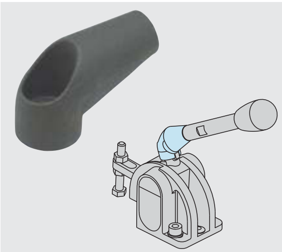
VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS

Part No. QLSND



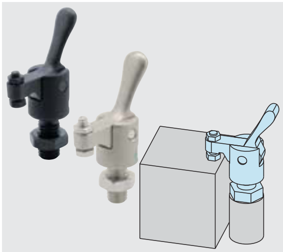
EXTENSION ARM

Part No. QLSND-EX20



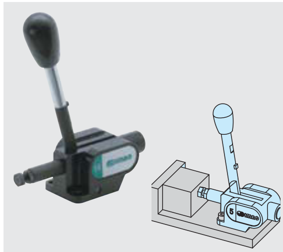
ANGLE ADAPTOR

Part No. QLSND-AN10



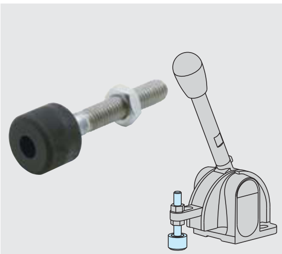
VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS(Mini)

Part No. QLSNDM



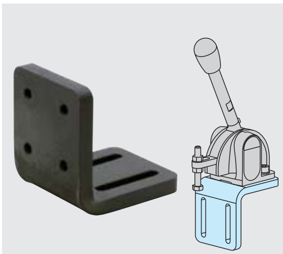
PUSH-PULL SNAP CLAMPS

Part No. QLSNS



CLAMPING SPINDLES

Part No. UB



MOUNTING BRACKETS

Part No. QLSN-B

ONE-TOUCH CLAMPS

Any Tools Needed? No Need!
Just Turn the Handle!

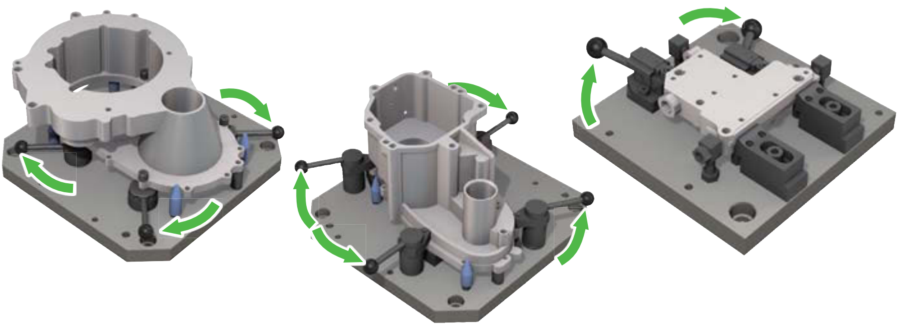
Good Design
GOOD DESIGN AWARD 2006

ONE-TOUCH CLAMPS
for Better Efficiency and Lower Costs

Quick Manual Clamps with No Tools

Imao One-Touch Clamps allow clamping and unclamping the workpiece just by turning the handle, without any tools. This one-touch feature helps to slash workpiece loading/unloading time, for drastic setup time reduction and increased productivity.

Application Example



This extended line of One-Touch Clamps covers a wide range of clamping applications for small parts, and aluminum, zinc, cast-iron or steel parts.

Push-Down


SWING CLAMPS


SWING CLAMPS WITH CAM HANDLE


SWING CLAMPS WITH ADJUSTABLE HANDLE


SWING CLAMPS


SWING CLAMPS (Heavy)


RETRACTABLE CLAMPS WITH CAM HANDLE


RETRACTABLE CLAMPS WITH ADJUSTABLE HANDLE


THRUST CLAMPS (Vertical)

Side-Push


THRUST CLAMPS


CAM EDGE CLAMPS


LOW-PROFILE CAM EDGE CLAMPS


SPIRAL CAM CLAMPS


CAM EDGE CLAMPS


SIDE CLAMPS


CAM PUSH CLAMPS


PRECISION THRUST CLAMPS

Pull-Down


PULL CLAMPS


PULL CLAMPS (Heavy)

Push-Up


PUSH CLAMPS

QLSWC SWING CLAMPS

RoHS | Electroless Nickel Plated

IMAO

(Black Oxide Finish)

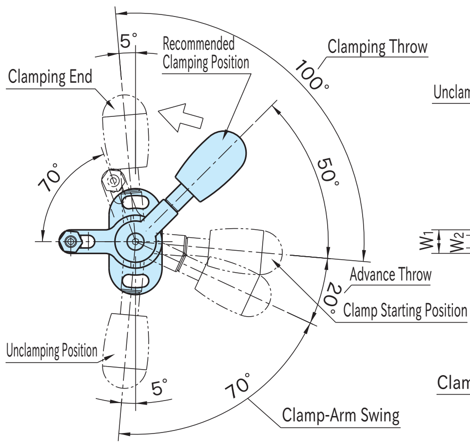
(Electroless Nickel Plated)

On Request

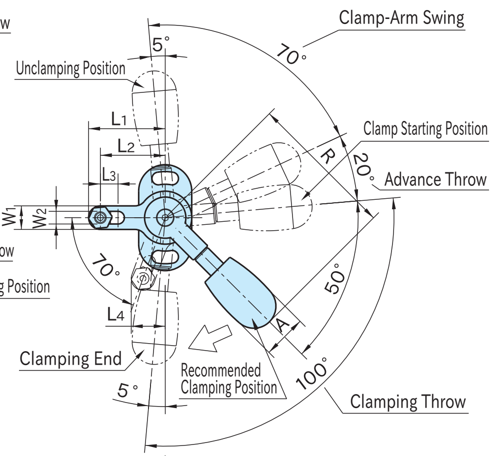
GOOD DESIGN

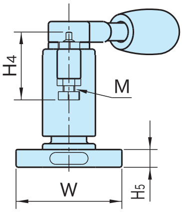
Type	Body/Handle/Clamping Spindle	Arm	Cam Shaft	Knob
QLSWC	S45C steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish	SCM415 steel Quenched and tempered Black oxide finish	Phenolic plastic Black
QLSWC-NP	S45C steel Quenched and tempered Electroless nickel plated	SCM440 steel Quenched and tempered Electroless nickel plated	SCM415 steel Quenched and tempered Electroless nickel plated	

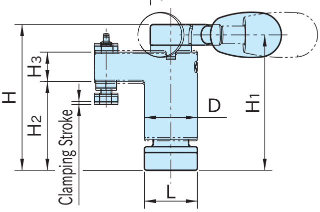
Counterclockwise Clamping

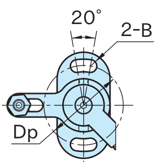


Clockwise Clamping



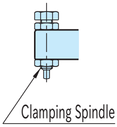




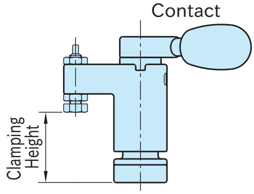


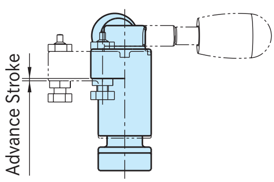
Mounting Holes

Rough Surface Contact



Finished Surface Contact





Part Number	Clamping Direction	Clamping Height *)				Clamping Stroke	Advance Stroke	L_2	L_3	L_1	L_4	W	L	H_5	B
		Finished Surface Contact		Rough Surface Contact											
		Min.	Max.	Min.	Max.										
QLSWC100R	CW	22.8 (22.3~23.3)	24.8 (24.3~25.3)	22.4 (21.9~22.9)	24.4 (23.9~24.9)	1	0.8	22	6	26	11.5	36	18	6	4.3
QLSWC100L	CCW														
QLSWC150R	CW	31.3 (30.6~32)	33.3 (32.6~34)	32.2 (31.5~32.9)	34.2 (33.5~34.9)	1.4	1.1	30	8	35	15.3	45	23	8	5.3
QLSWC150L	CCW														
QLSWC200R	CW	32.5 (31.7~33.2)	39 (38.2~39.7)	33.5 (32.7~34.2)	40 (39.2~40.7)	1.5	1.4	37		45	20.7	65	30	12	8.4
QLSWC200L	CCW														
QLSWC300R	CW	36.5 (35.5~37.4)	46 (45~46.9)	39 (38~39.9)	48.5 (47.5~49.4)	1.9	1.7	45		55	25.4	85	40	15	10.5
QLSWC300L	CCW														

Part Number	Dp	H	D	W_1	W_2	H_3	H_2	M	H_4	R	A	H_1	Allowable Operating Load (N) **)	Clamping Force (kN)	Clamping Mechanism
QLSWC100R	27	49	18	8	4.3	10	30	M 4×0.7	22.8	50	15	45.8	100	1.1	Spiral Cam Cam Angle: 5°
QLSWC100L															
QLSWC150R	34	66	23	10	5.3	14	40	M 5×0.8	28.5	63	20	61.3	150	1.8	
QLSWC150L															
QLSWC200R	48	82	30	16	8.4	18	50	M 8×1.25	45.5	80	26	76.5	200	2.2	Spiral Cam Cam Angle: 4°
QLSWC200L															
QLSWC300R	64	100	40	20	10.4	22	60	M10×1.5	57	100	33	93	300	3.5	
QLSWC300L															

QLSWC (Black oxide finish)

Part Number	Weight (g)
QLSWC100R	112
QLSWC100L	
QLSWC150R	250
QLSWC150L	
QLSWC200R	570
QLSWC200L	
QLSWC300R	1200
QLSWC300L	

QLSWC-NP (Electroless nickel)

On Request

Part Number	Weight (g)
QLSWC100R-NP	112
QLSWC100L-NP	
QLSWC150R-NP	250
QLSWC150L-NP	
QLSWC200R-NP	570
QLSWC200L-NP	
QLSWC300R-NP	1200
QLSWC300L-NP	

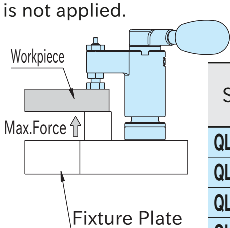
*) Clamping height can be adjusted. The parenthesised values denote clamping height range.

**) Allowable load to operate the handle.

Technical Information

■Allowable Loads in Machining of Workpiece Bottom

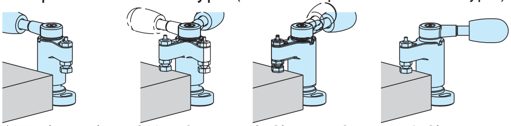
Ensure that any force more than stated below is not applied.



Series	Allowable Force To Workpiece Bottom (Per Clamp)
QLSWC100	max.2.3kN
QLSWC150	max.3.6kN
QLSWC200	max.3.7kN
QLSWC300	max.5.6kN

How To Use

■Operation of CW Type (Invert the operation for CCW type.)



1. Unclamped
Load or unload a part.

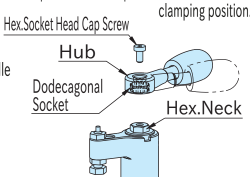
2. Arm Swing
Turn the handle to set the clamp arm in position.

3. Clamping Setup
Continue turning the handle to set the spindle close to the part.

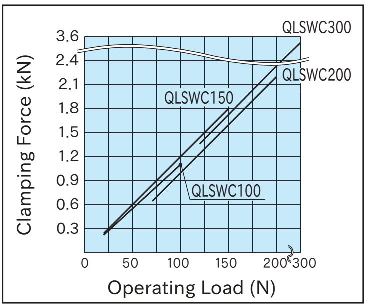
4. Clamping
Turn the handle to the recommended clamping position.

■How to Change Handle Position

The dodecagonal socket in the hub of the handle allows changing the handle position by 30°.



Performance Curve



QLSWC SWING CLAMPS WITH CAM HANDLE

RoHS | Electroless Nickel Plated

(Black Oxide Finish)

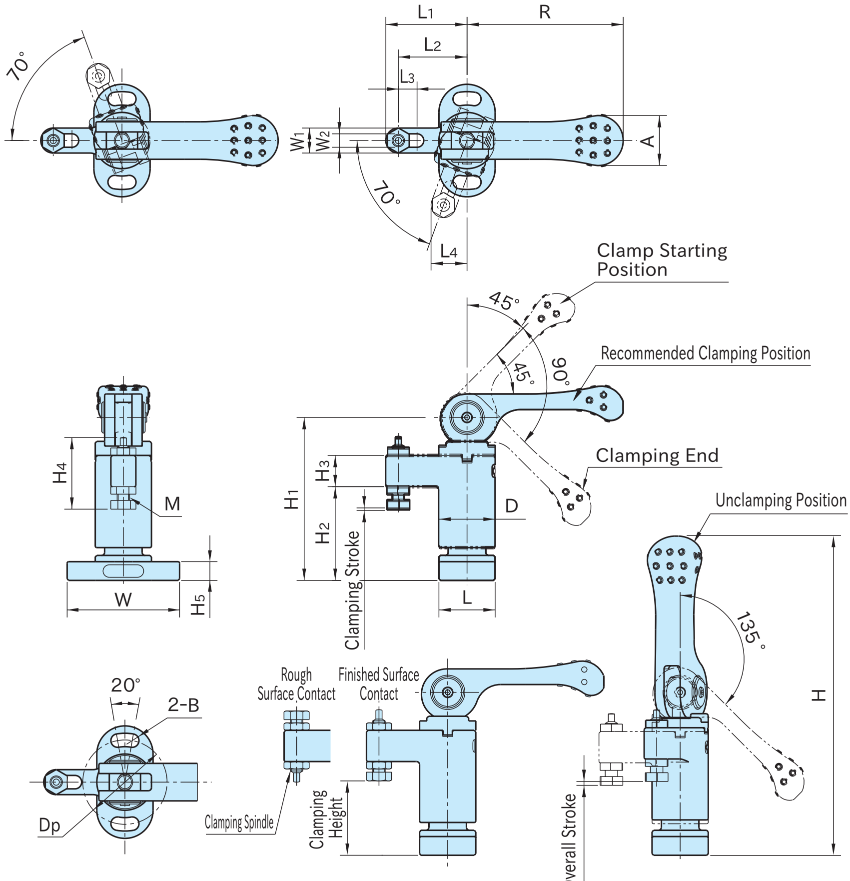
(Electroless Nickel Plated)

On Request

Style	Body/Washer/Clamping Spindle	Arm/Handle
QLSWC	S45C steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish
QLSWC-NP	S45C steel Quenched and tempered Electroless nickel plated	SCM440 steel Quenched and tempered Electroless nickel plated

Counterclockwise Clamping

Clockwise Clamping



Mounting Holes

Part Number	Clamping Direction	Clamping Height *)				Clamping Stroke	Overall Stroke	L_2	L_3	L_1	L_4	W	L	H_5	B
		Finished Surface Contact		Rough Surface Contact											
		Min.	Max.	Min.	Max.										
QLSWC100VR	CW	22.8 (22.4~23.2)	24.8 (24.4~25.2)	22.4 (22~22.8)	24.4 (24~24.8)	0.8	1.2	22	6	26	11.5	36	18	6	4.3
QLSWC100VL	CCW														
QLSWC150VR	CW	31.3 (30.8~31.8)	33.3 (32.8~33.8)	32.2 (31.7~32.7)	34.2 (33.7~34.7)	1	1.5	30	8	35	15.3	45	23	8	5.3
QLSWC150VL	CCW														
QLSWC200VR	CW	32.5 (31.9~33.1)	39 (38.4~39.6)	33.5 (32.9~34.1)	40 (39.4~40.6)	1.2	1.8	37		45	20.7	65	30	12	8.4
QLSWC200VL	CCW														
QLSWC300VR	CW	36.5 (35.7~37.2)	46 (45.2~46.7)	39 (38.2~39.7)	48.5 (47.7~49.2)	1.5	2.3	45		55	25.4	85	40	15	10.5
QLSWC300VL	CCW														

*) Clamping height can be adjusted. The parenthesized values denotes clamping height range.

Part Number	Dp	H	D	W_1	W_2	H_3	H_2	M	H_4	R	A	H_1	Cam Handles Part Number	Allowable Operating Load (N) **)	Clamping Force (kN)	Clamping Mechanism
QLSWC100VR	27	102	18	8	4.3	10	30	M 4X0.7	22.8	50	16	52	QLCA-05	100	0.8	Spiral Cam Cam Angle: 4°
QLSWC100VL																
QLSWC150VR	34	131	23	10	5.3	14	40	M 5X0.8	28.5	63	19	68	QLCA-06	150	1.5	
QLSWC150VL																
QLSWC200VR	48	167	30	16	8.4	18	50	M 8X1.25	45.5	80	24	87	QLCA-08	200	2.1	
QLSWC200VL																
QLSWC300VR	64	207	40	20	10.4	22	60	M10X1.5	57	100	30	107	QLCA-10	300	2.8	
QLSWC300VL																

**) Allowable load to operate the handle

QLSWC (Black Oxide Finish)

Part Number	Weight (g)
QLSWC100VR	134
QLSWC100VL	
QLSWC150VR	272
QLSWC150VL	
QLSWC200VR	625
QLSWC200VL	
QLSWC300VR	1340
QLSWC300VL	

QLSWC-NP (Electroless Nickel Plated)

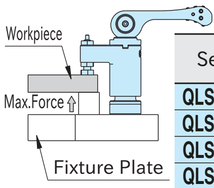
On Request

Part Number	Weight (g)
QLSWC100VR-NP	134
QLSWC100VL-NP	
QLSWC150VR-NP	272
QLSWC150VL-NP	
QLSWC200VR-NP	625
QLSWC200VL-NP	
QLSWC300VR-NP	1340
QLSWC300VL-NP	

Technical Data

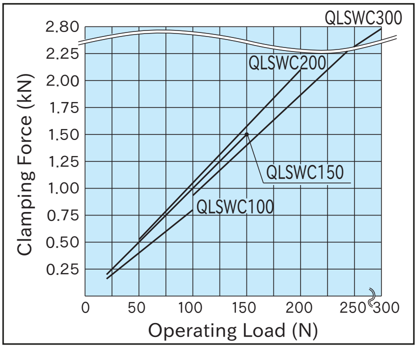
■Allowable Loads in Machining of Workpiece Bottom

Ensure that any force more than stated below is not applied.



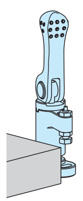
Series	Allowable Force To Workpiece Bottom (Per Clamp)
QLSWC100	max.2.3kN
QLSWC150	max.3.6kN
QLSWC200	max.3.7kN
QLSWC300	max.5.6kN

Performance Curve

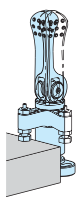


How To Use

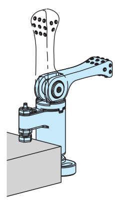
■Operation of CW Type (Invert the operation for CCW type.)



1. Unclamped
Load or unload a workpiece.



2. Arm Swing
Turn the handle to set the clamp arm in position.



3. Clamping
Set the handle down to clamp the workpiece.

QLSWC SWING CLAMPS WITH ADJUSTABLE HANDLE

RoHS

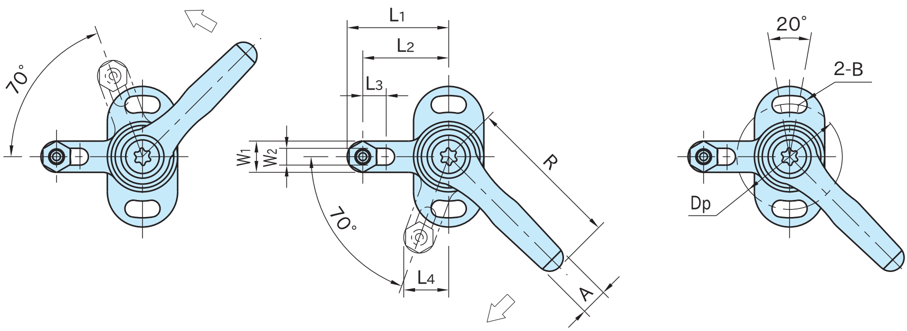
IMAO

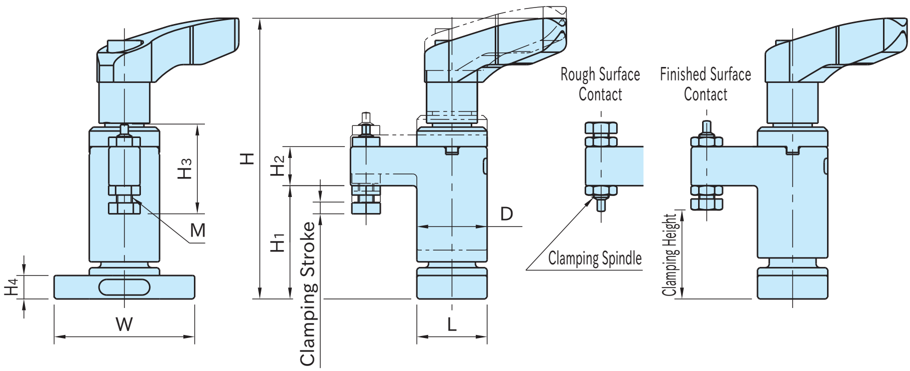
Base/Washer/Clamping Spindle	Body	Handle
S45C steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish	ZDC1 die cast zinc Coated with paint Black

- Clamp worked by a screw-locking mechanism which allows providing longer clamping stroke and greater clamping force than a cam-locking mechanism.
- Operated by an adjustable handle that allows for flexible handle positioning.

Counterclockwise Clamping

Clockwise Clamping





Part Number	Clamping Direction	Clamping Height *) Finished Surface Contact Min.	Finished Surface Contact Max.	Rough Surface Contact Min.	Rough Surface Contact Max.	Clamping Stroke	L_2	L_3	L_1	L_4	W	L	H_4	B	Dp
QLSWC-0618KR QLSWC-0618KL	CW CCW	21.8 (21.8~24.8)	23.8 (23.8~26.8)	21.4 (21.4~24.4)	23.4 (23.4~26.4)	3	22	6	26	11.5	36	18	6	4.3	27
QLSWC-0823KR QLSWC-0823KL	CW CCW	30.3 (30.3~34.3)	32.3 (32.3~36.3)	31.2 (31.2~35.2)	33.2 (33.2~37.2)	4	30	8	35	15.3	45	23	8	5.3	34
QLSWC-1030KR QLSWC-1030KL	CW CCW	30.5 (30.5~34.5)	37 (37~41)	31.5 (31.5~35.5)	38 (38~42)		37		45	20.7	65	30	12	8.4	48
QLSWC-1240KR QLSWC-1240KL	CW CCW	34.5 (34.5~39.5)	44 (44~49)	37 (37~42)	46.5 (46.5~51.5)	5	45		55	25.4	85	40	15	10.5	64

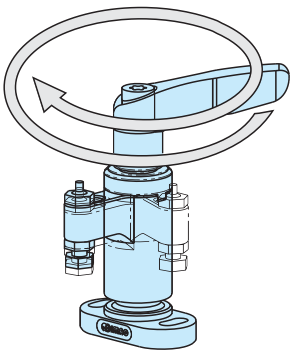
*) Clamping height can be adjusted. The parenthesised values denote clamping height range.

Part Number	H	D	W_1	W_2	H_2	H_1	M	R	A	H_3	Adjustable Handles **)	Allowable Operating Load (N) ***)	Clamping Force (kN)	Weight (g)
QLSWC-0618KR QLSWC-0618KL	71.9	18	8	4.3	10	29	M 4×0.7	40	7	22.8	FKF 6-BR	170	2	121
QLSWC-0823KR QLSWC-0823KL	97.3	23	10	5.3	14	39	M 5×0.8	65	9.5	28.5	FKF 8-BR		3.2	276
QLSWC-1030KR QLSWC-1030KL	122.3	30	16	8.4	18	48	M 8×1.25	80	11	45.5	FKF10-BR	350	4.5	600
QLSWC-1240KR QLSWC-1240KL	145.7	40	20	10.4	22	58	M10×1.5	95	13	57	FKF12-BR	410	6	1225

**) Studs are bonded with FKF handles.
***) Allowable load to operate the handle.

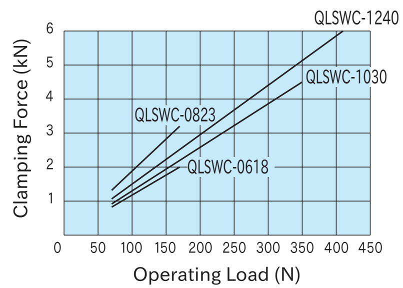
How To Use

- Turning the handle allows the clamp arm to swing for clamping.
- Lifting the handle allows the handle to be disengaged from the teeth of the locking element and then be turned to a desired position.



Note: The above indicates the handle operation of CW type. Invert the operation for CCW type.

Performance Curve



QLSWC SWING CLAMPS FOR TORQUE CONTROL

Stronger type without handle is available.

QLSW SWING CLAMPS (Standard)

IMAO

RoHS

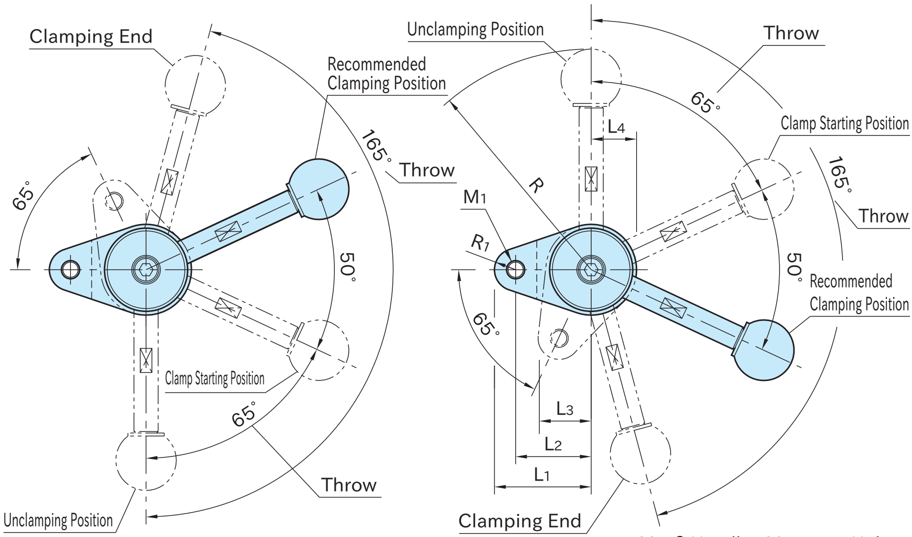
With Handle

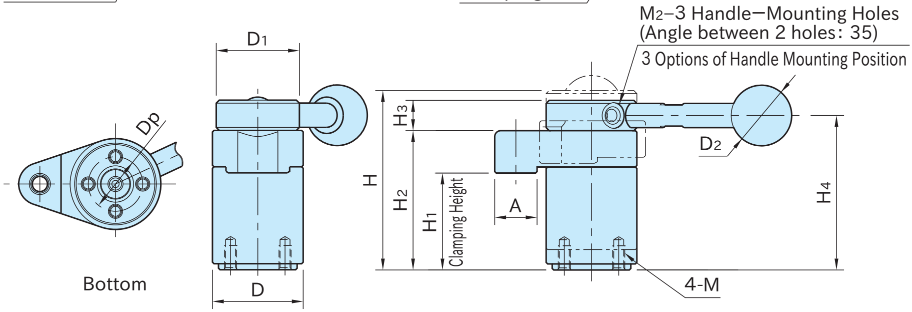
Without Handle

Body / Shaft	Clamp Arm / Adaptor Head	Handle	Ball Knob
SCM440 steel Quenched and tempered Black oxide finish	S45C steel Quenched and tempered Black oxide finish	S45C steel Black oxide finish	ABS resin Black

Counterclockwise Clamping

Clockwise Clamping





Size/Type	Clamping Direction	H_1	A	R_1	M_1	L_2	L_1	L_3	D	M	Dp
QLSW150R	CW	32 *)	14	7	M6×1	25	32	17.5	30	M4×0.7 Depth 8	18
QLSW150L	CCW										
QLSW200R	CW	45 **)	16	8	M8×1.25	32	40	21.5	40	M6×1 Depth 12	25
QLSW200L	CCW										

*) Actual clamping height: 31.4 to 32.6 (clamping stroke: 1.2)
**) Actual clamping height: 44.1 to 45.9 (clamping stroke: 1.8)

Size/Type	H	D_1	H_3	H_2	M_2	H_4	L_4	Clamping Force (kN)	Clamping Mechanism
QLSW150R	57.5	30	10	46	M5×0.8	51	15	0.8	Spiral Cam Cam Angle: 4°
QLSW150L									
QLSW200R	78.1	38	13	63	M6×1	69.5	20	1.2	
QLSW200L									

■With Handle

Part Number	R	D_2	Allowable Operating Load (N) ***)	Weight (g)
QLSW150R	73	20	150	320
QLSW150L				
QLSW200R	107	25	200	710
QLSW200L				

***) Allowable load to operate the handle

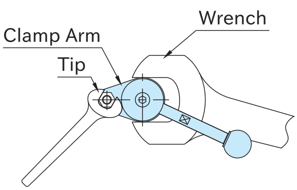
■Without Handle

Part Number	Weight (g)
QLSW150NR	295
QLSW150NL	
QLSW200NR	660
QLSW200NL	

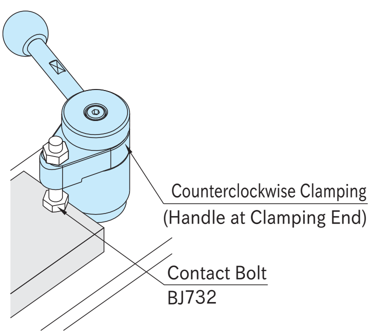
Note : The handle must be ordered separately.
・ QLSL STANDARD HANDLES
・ QLTL ADJUSTABLE-TORQUE HANDLES

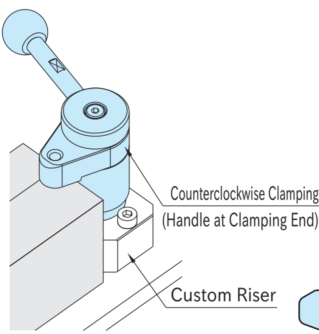
■Tip Installation

When installing a tip on the clamp arm, lock the clamp arm using a wrench to prevent the clamp from receiving any torque.



How To Use



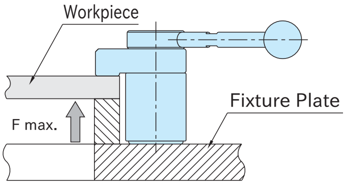


Continuing to next page

Technical Infomation

■Allowable Loads in Machining of Workpiece Bottom

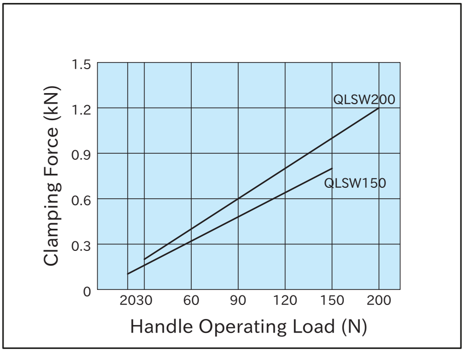
Type	Allowable Force To Workpiece Bottom (Per Clamp)
QLSW150	max. 2.1kN
QLSW200	max. 2.7kN



Performance Curve

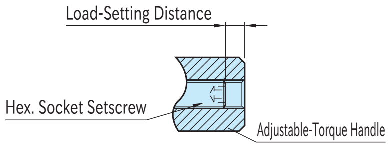
■QLSL STANDARD HANDLES

⚠ The performance curves shown below do not denote the guaranteed performance.

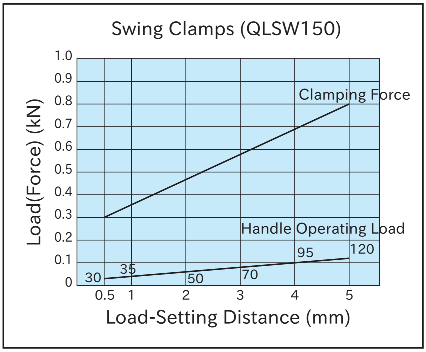


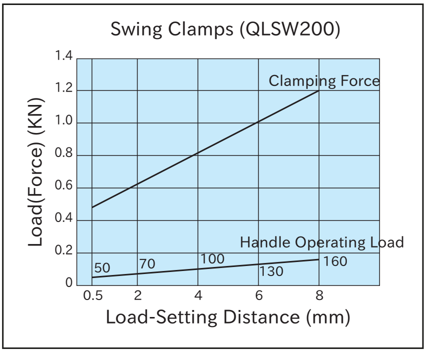
■QLTL ADJUSTABLE-TORQUE HANDLES

Use a force gauge when measuring handle-operating loads.



⚠ The performance curves shown below do not denote the guaranteed performance.





Clamp Arm

■Custom Clamp Arm

Recommeded Dimensions

Type	L_5 (Max.) *)	L_6	W	H_6	L_7	d (F8)	R_2	B	H_7	M_3	C
QLSW150	45	15	30	12	32	10	11	1.5	5	M4×0.7	C5
QLSW200	55	20	40	16	42	16	15	2	6	M5×0.8	C8

*) See page QLSW-SH clamping force vs. clamp - arm length

■Installation / Removal

To install a clamp arm,

1. Fit it onto the shaft getting the stop pin received in the stop-pin slot provided on the clamp-arm bottom.
2. Place the adaptor head onto the shaft getting the shaft fitted into the shaft-receiving pocket in the adaptor head, and then lock the adaptor head using a hex. socket head cap screw.
3. Tighten the ball plungers inside the clamp arm.

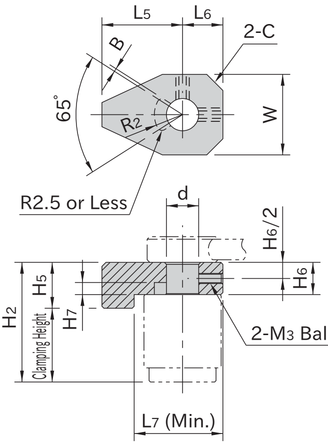
To remove the clamp arm, follow the above steps back.

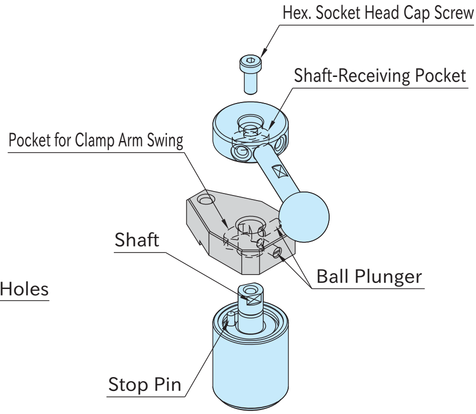
How to Determine H_5 Dimensions

Type	H_2	H_5
QLSW150	46	46−Clamping Height
QLSW200	63	63−Clamping Height

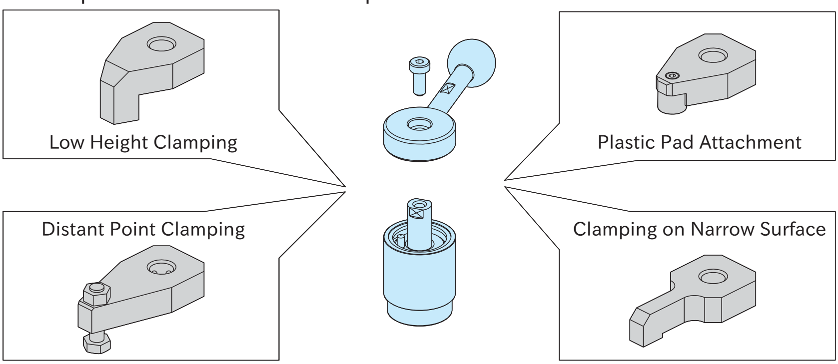
Ball Plunger

Type	Part Number
QLSW150	LBSTH4
QLSW200	LBSTH5





■Clamp Arm Customization Examples

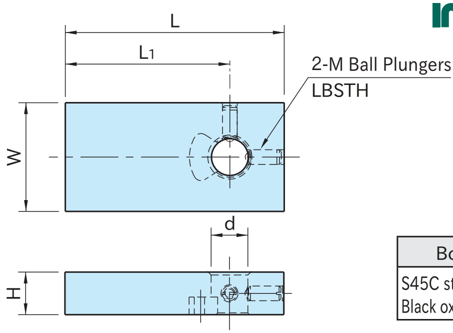


QLSW-SH

MACHINABLE CLAMP ARMS FOR STANDARD SWING CLAMPS

IMAO

RoHS

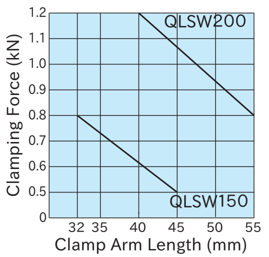


Body
S45C steel Black oxide finish

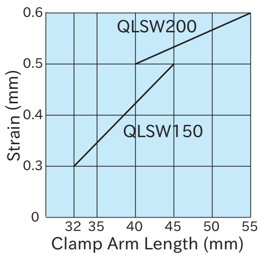
Part Number	L	W	H	d (F8)	L_1	M	Allowable Weight of Clamping Tip (g) *)	Weight (g)	Swing Clamps
QLSW150-SH	60	30	12	10	45	M4	100	150	QLSW150Series
QLSW200-SH	75	40	16	16	55	M5		330	QLSW200Series

*) A clamping tip to mount on the end of the clamp arm must not weigh over 100g.

■Clamp Arm Length Vs. Clamping Force



■Clamp Arm Length Vs. Strain During Clamping



Notes:
- Clamp arm length denotes L_1 dimensions below.
- Clamping force and strain during clamping denote values gained when the max. allowable load is applied to the handle.

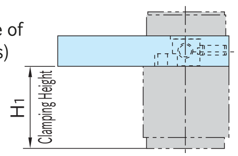
Note

Use within smaller clamping stroke when the clamp arm becomes longer than standard one.

How To Use

- Use for QLSW clamp arm customization
- Machine to your clamping requirements

(Clamping Height in Use of Machinable Clamp Arms)



Part Number	H_1
QLSW150-SH	34 **)
QLSW200-SH	47 ***)

**) Actual clamping height: 33.4 to 34.6 (clamping stroke: 1.2)
***) Actual clamping height: 46.1 to 47.9 (clamping stroke: 1.8)

Value Creator
IMAO

QLSWH SWING CLAMPS (Heavy)

RoHS

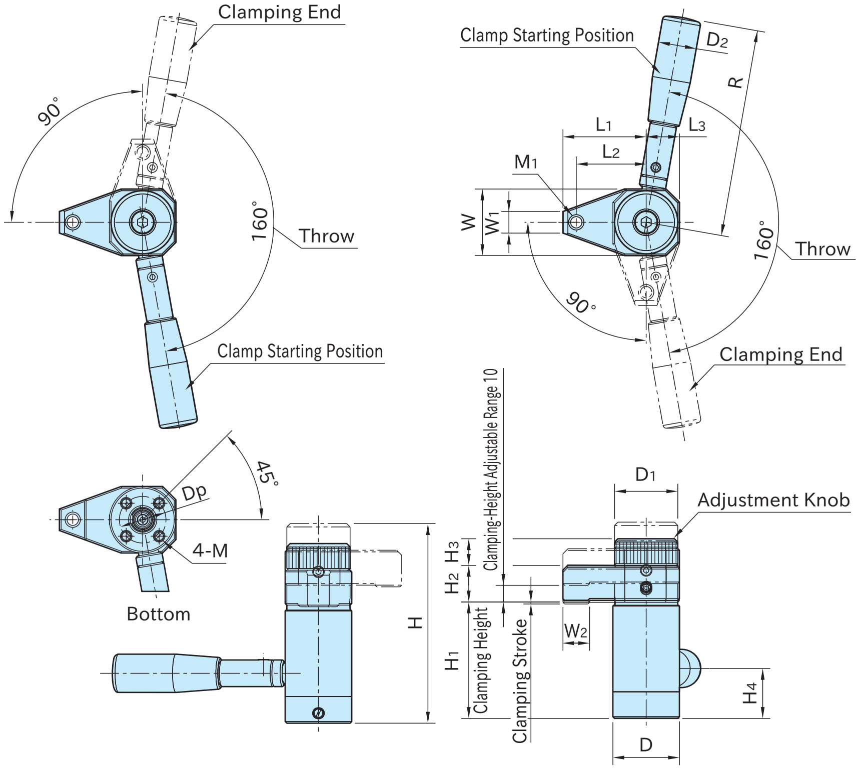
IMAO

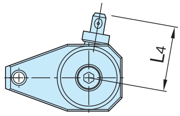
Clamp that works in two steps :
adjusting clamping position with the adjustment knob, and tightening the clamp arm with the handle

Body/Cam/Handle	Bolt	Clamp Arm/Holder/ Handle Shank	Adjustment Knob	Handle
SCM440 steel Quenched and tempered Black oxide finish	SCM435 steel Quenched and tempered Black oxide finish	S45C steel Quenched and tempered Black oxide finish	S45C steel Black oxide finish	Phenolic plastic Black

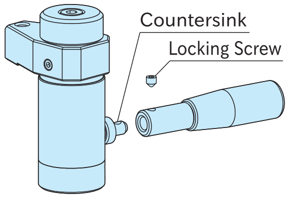
Counterclockwise Clamping

Clockwise Clamping





When Handle Is Removed



The handle can be removed by loosening the locking screw. To keep the handle mounted permanently, make sure that the locking screw is fully tightened.

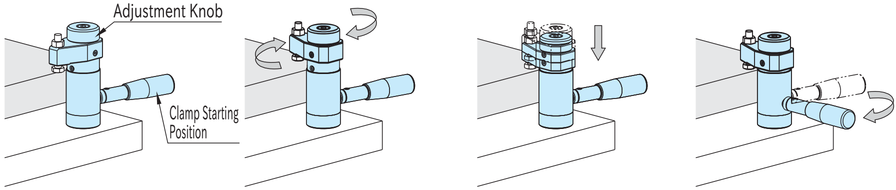
Part Number	Clamping Direction	Clamping Stroke	H_1 Clamping Height	W_1	W_2	M_1	L_2	L_1	L_3	D	M	Dp	H
QLSWH400R	CW	1.2	70~80	13	16	M 8×1.25	42	50	20	40	M6×1 Depth 12	28	120
QLSWH400L	CCW												
QLSWH500R	CW	1.6	80~90	18	24	M12×1.75	48	60	25	50	M8×1.25 Depth 16	35	137
QLSWH500L	CCW												

Part Number	W	H_2	D_1	H_3	R	D_2	H_4	L_4	Allowable Operating Load (N) *)	Clamping Force (kN)	Clamping Mechanism	Weight (kg)
QLSWH400R	40	22	38	16	125	23	30	39	600	3.5	Spiral Cam Cam Angle: 2°	1.1
QLSWH400L												
QLSWH500R	50	25	48	20	160	28	38	47		6		2
QLSWH500L												

*) Allowable load to operate the handle

How To Use

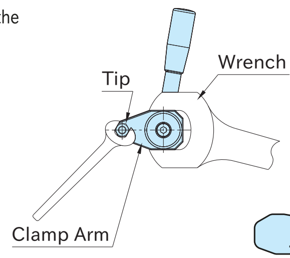
■Operation of CW Type (Invert the operation for CCW type.)



1. Load a workpiece.
2. Turn the adjustment knob for the clamp arm to rotate 90˚.
3. Continue turning the adjustment knob for the clamp arm to go down against the workpiece, for temporary clamping.
4. Turn the handle for full clamping. (For unclamping, follow the above steps back)

■Tip Installation

When installing a tip on the clamp arm, lock the clamp arm using a wrench to prevent it from receiving any torque.



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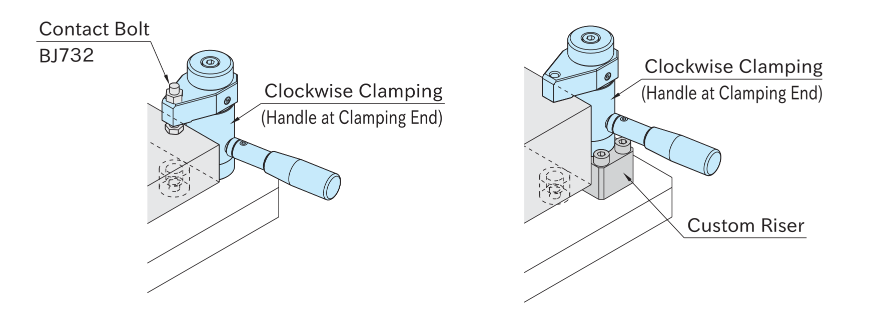
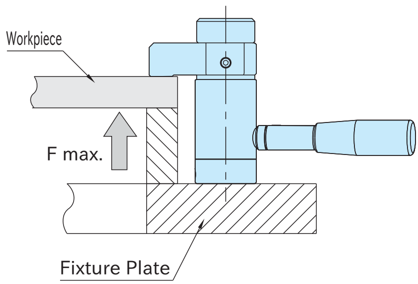
Application Example



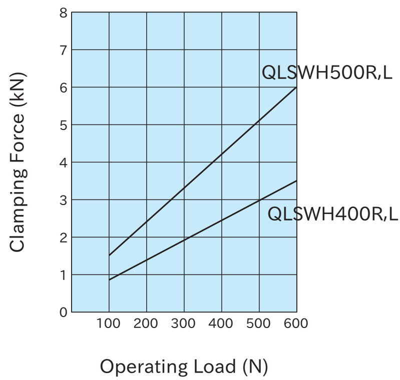
Technical Information

■Allowable Loads in Machining of Workpiece Bottom



Type	Allowable Force To Workpiece Bottom (Per Clamp)
QLSWH400	max. 8kN
QLSWH500	max.14kN

Performance Curve



■Custom Clamp Arm

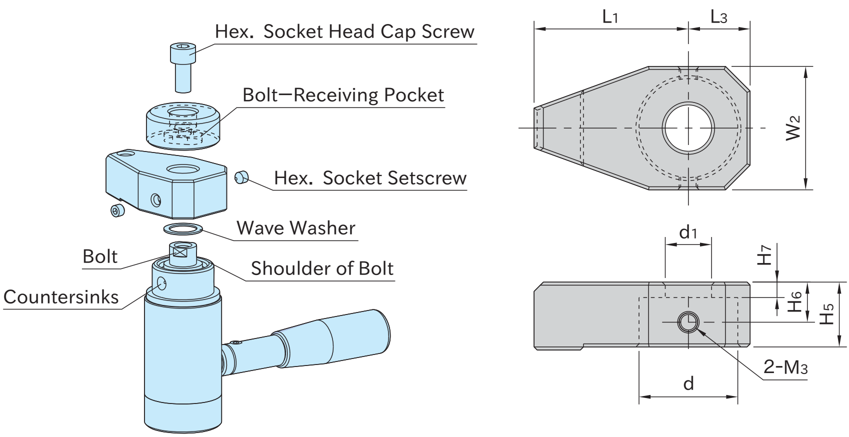
Recommended Dimensions

Type	L_1 (Max.)	L_3	W_2	H_5	d (F8)	d_1	H_7 (±0.1)	M_3	H_6
QLSWH400	50	20	40	21	32	15	5	M6×1	13
QLSWH500	60	25	50	24	41	19	6	M8×1.25	15

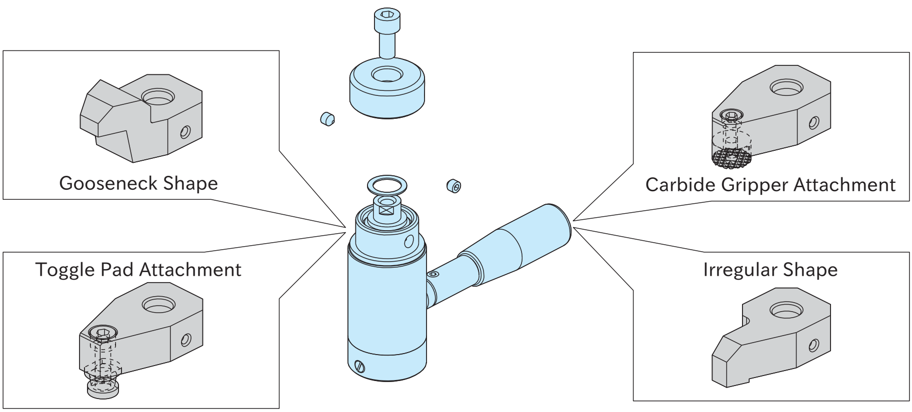
■Clamp Arm Installation / Removal

To install a clamp arm,

1. Place the wave washer on the shoulder of the bolt and then fit the clamp arm onto the bolt.
2. Place the adjustment knob onto the bolt getting the bolt fitted into the bolt - receiving pocket in the adjustment knob, and then lock the adjustment knob using a hex. socket head cap screw.
3. Align the countersinks on the side of the holder with the setscrew holes on the side of the clamp arm, and then lock them using the hex. socket setscrews.
   To remove the clamp arm, follow the above steps back.



■Clamp Arm Customization Examples

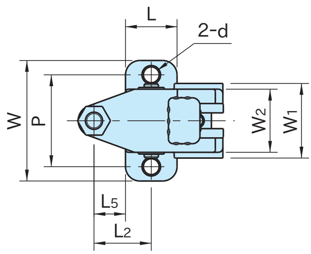


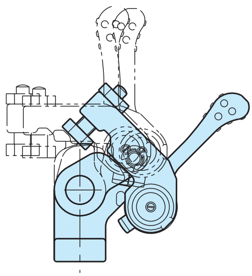
QLRE RETRACTABLE CLAMPS WITH CAM HANDLE

RoHS

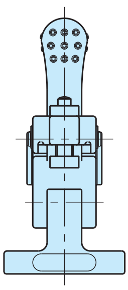
IMAO

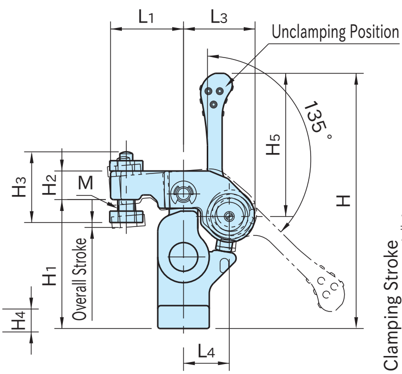
Body/Spindle	Arm/Joint	Cam Handle
S45C steel Quenched and tempered Black oxide finish	SCM435 steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish



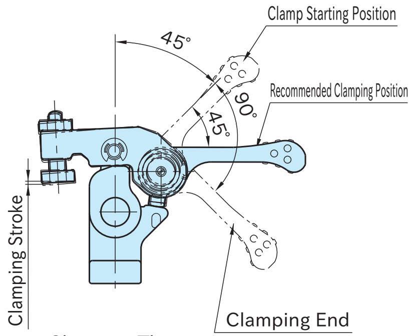


Unclamped

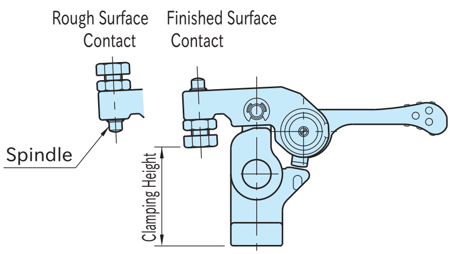




Clamping Position



Clamping Throw



Part Number	Clamping Height *)				Clamping Stroke	Overall Stroke	L_2	L_5	W	L	H_4	d	P	H	L_1	L_3
	Finished Surface Contact		Rough Surface Contact													
	min.	max.	min.	max.												
QLRE100	32 (31.5~32.5)	40 (39.5~40.5)	35 (34.5~35.5)	43 (42.5~43.5)	1	1.5	20	11	42	18	8	5.5	32	89	25.5	25
QLRE150	37 (36.4~37.6)	48 (47.4~48.6)	42 (41.4~42.6)	53 (52.4~53.6)	1.2	1.8	25	14	52	22	10	6.6	40	109	32	31

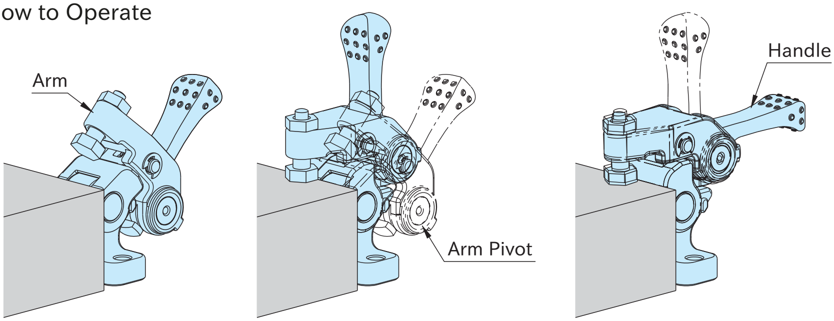
*) Clamping height can be adjusted. The parenthesised values denote actual clamping height.

Part Number	W_1	W_2	H_2	H_1	M	H_3	H_5	L_4	Cam Handles Part Number	Allowable Operating Load (N) **)	Clamping Force (kN)	Clamping Mechanism	Weight (g)
QLRE100	26	22	10	45	M6×1	24	50	16	QLCA-05	100	0.7	Spiral Cam	244
QLRE150	32	28	12	55	M8×1.25	30.5	63	20	QLCA-06	150	1.1	Cam Angle: 4°	468

**) Allowable load to operate the handle

How To Use

■How to Operate



1. Unclamped
Load a workpiece.

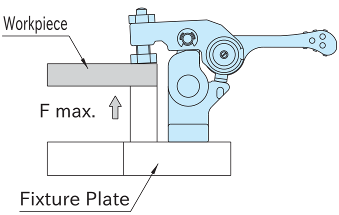
2. Clamping Setup
Set the arm in clamping position holding it at the arm pivot.

3. Clamping
Set the handle down to clamp the workpiece.
(For unclamping, follow the above steps back.)

Technical Information

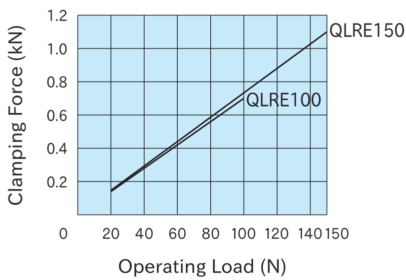
■Allowable Loads in Machining of Workpiece Bottom

Ensure that any force more than stated below is not applied.



Part Number	Allowable Force to Workpiece Bottom (per Clamp)
QLRE100	max. 5kN
QLRE150	max. 6kN

Performance Curve



QLRE

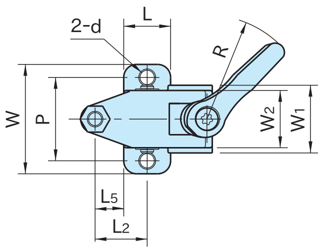
RETRACTABLE CLAMPS WITH ADJUSTABLE HANDLE

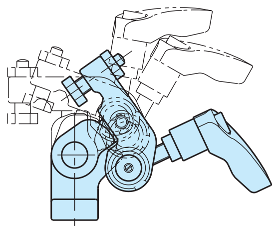
RoHS

IMAO

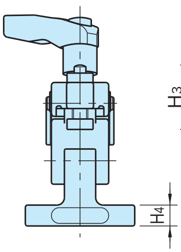
Body/Spindle	Arm/Joint
S45C steel Quenched and tempered Black oxide finish	SCM435 steel Quenched and tempered Black oxide finish

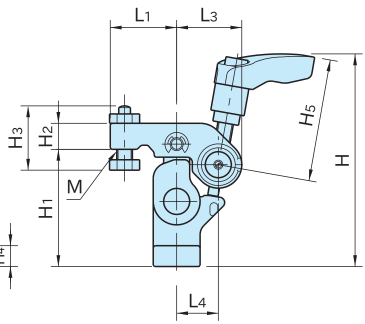
Screw clamping mechanism allows for longer clamping stroke and greater clamping force.



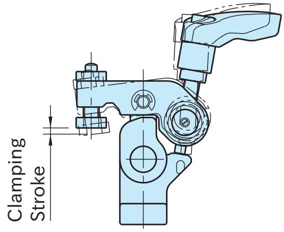


Unclamped

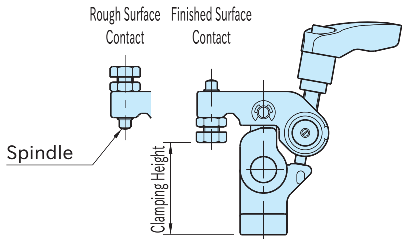




Clamping Position



Clamping Throw



Part Number	Clamping Height *) Finished Surface Contact min.	Clamping Height *) Finished Surface Contact max.	Clamping Height *) Rough Surface Contact min.	Clamping Height *) Rough Surface Contact max.	Clamping Stroke	L_2	L_5	W	L	H_4	d	P	H	L_1	L_3	W_1
QLRE-06	32 (32~29.5)	40 (40~37.5)	35 (35~32.5)	43 (43~40.5)	2.5	20	11	42	18	8	5.5	32	81	25.5	25	26
QLRE-08	37 (37~33.5)	48 (48~44.5)	42 (42~38.5)	53 (53~49.5)	3.5	25	14	52	22	10	6.6	40	100	32	31	32

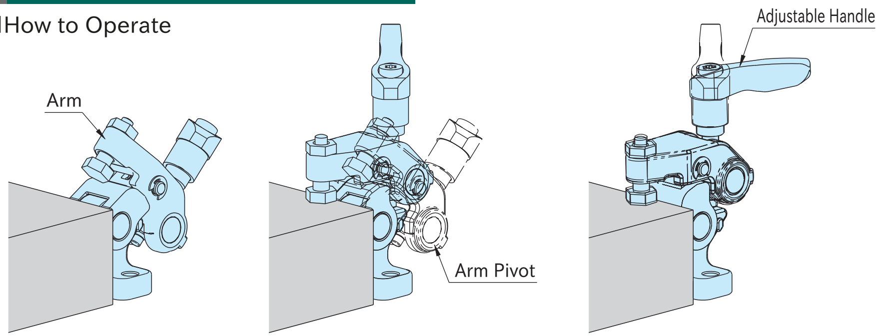
*) Clamping height can be adjusted. The parenthesised values denote actual clamping height.

Part Number	W_2	H_2	H_1	M	H_3	R	H_5	L_4	Adjustable Handles **)	Allowable Operating Load (N) ***)	Clamping Force (kN)	Clamping Mechanism	Weight (g)
QLRE-06	22	10	45	M6×1	24	40	47	16	FKF6-BR	170	2.4	Srew	242
QLRE-08	28	12	55	M8×1.25	30.5	65	63	20	FKF8-BR	210	4.2		490

**) Studs are bonded with FKF handles.
***) Allowable load to operate the handle.

How To Use

■How to Operate



1. Unclamped
Load a workpiece.

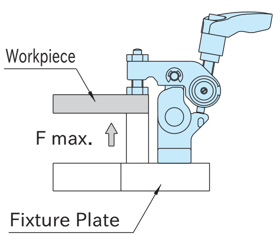
2. Clamping Setup
Set the arm in clamping position holding it at the arm pivot.

3. Clamping
Tighten the adjustable handle to clamp the workpiece.
(For unclamping, follow the above steps back.)

Technical Information

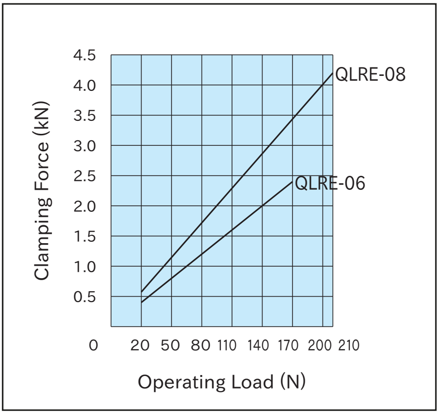
■Allowable Loads in Machining of Workpiece Bottom

Ensure that any force more than stated below is not applied.



Part Number	Allowable Force to Workpiece Bottom (per Clamp)
QLRE-06	max. 5kN
QLRE-08	max. 6kN

Performance Curve



QLRC THRUST CLAMPS

RoHS

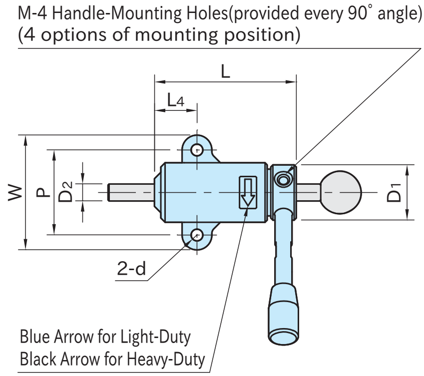
IMAO

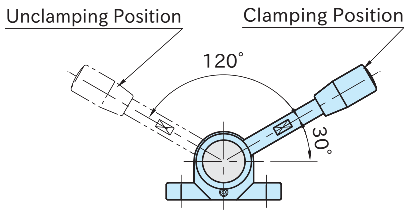
Light-Duty
(Marked with Blue Arrow)

Heavy-Duty
(Marked with Black Arrow)

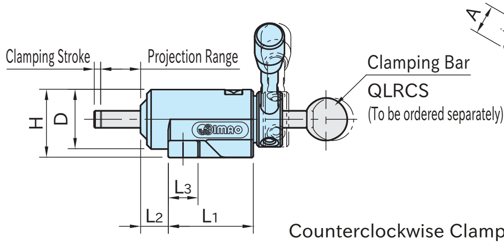
Note: Clamping bar is not included.

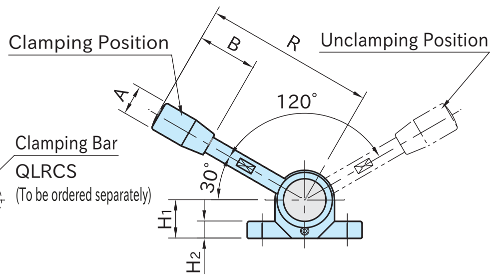
Body/Lever Arm	Cam	Handle
S45C steel Black oxide finish	SCM415 steel Carburized-hardened Black oxide finish	Phenolic plastic Black matte





Clockwise Clamping





Counterclockwise Clamping

Type	Clamping Stroke	D_2	H_1	L_4	W	L_3	H_2	d	P	H	D	D_1	L	L_1	L_2	R	B	A	M
QLRC-08	1.5	8	18	20	54	14	8	5.5	40	32	28	26	68.5	40	13	80	28	14	M5×0.8
QLRC-12	2.3	12	25	30	80	20	12	9	60	45	40	36	93.7	55	20	132	50	21	M6×1

QLRC-L (Light-Duty)

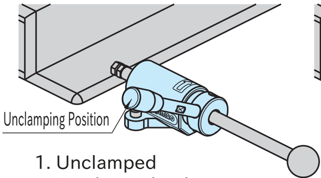
Part Number	Clamping Direction	Allowable Operating Load (N)	Clamping Force (kN)	Weight (g)	Clamping-Bar Projection Range
QLRC-08R-L	CW	40	0.2	330	QLRCS-08100 0~ 30 QLRCS-08125 0~ 55 QLRCS-08150 0~ 80
QLRC-08L-L	CCW				
QLRC-12R-L	CW	100	0.7	930	QLRCS-12125 0~ 29 QLRCS-12150 0~ 54 QLRCS-12200 0~ 104
QLRC-12L-L	CCW				

QLRC (Heavy-Duty)

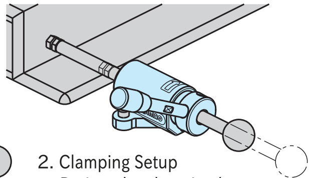
Part Number	Clamping Direction	Allowable Operating Load (N)	Clamping Force (kN)	Weight (g)	Clamping-Bar Projection Range
QLRC-08R	CW	80	0.5	330	QLRCS-08100 0~ 30 QLRCS-08125 0~ 55 QLRCS-08150 0~ 80
QLRC-08L	CCW				
QLRC-12R	CW	150	1.4	910	QLRCS-12125 0~ 29 QLRCS-12150 0~ 54 QLRCS-12200 0~ 104
QLRC-12L	CCW				

How To Use

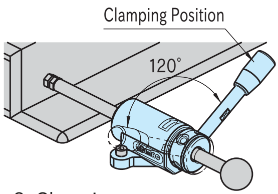
■Operation of CW Type (Invert the operation for CCW type.)



1. Unclamped
Load or unload a part.



2. Clamping Setup
Project the clamping bar until it contacts the part.



3. Clamping
Turn the lever handle (120°) to the clamping position.

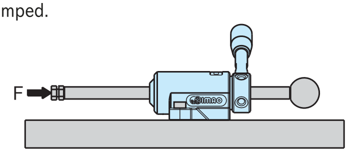
Feature

・Spring-loaded clamp that provides constant clamping force.
・Long clamping-bar projection range allows clamping a recessed part.
・Clamping Bars are not included (must be ordered separately).
(When using your own clamping bar, ensure that the diameter is finished to a h9 or better tolerance)

Note

When a reaction force (F) becomes greater than a clamping force, the clamping bar slides back to get a part unclamped.

Type	Clamp Releasing Force
QLRC-08-L	F>0.2kN
QLRC-12-L	F>0.7kN
QLRC-08	F>0.5kN
QLRC-12	F>1.4kN



QLRCF THRUST CLAMPS (Vertical)

RoHS

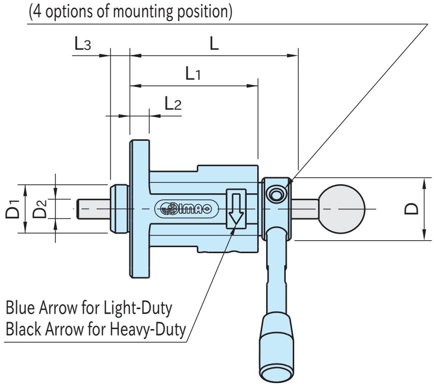
IMAO

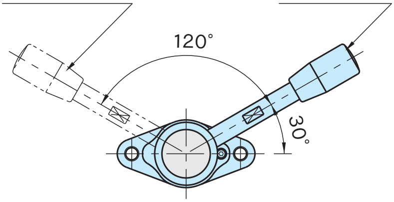
Light-Duty
(Marked with Blue Arrow)

Heavy-Duty
(Marked with Black Arrow)

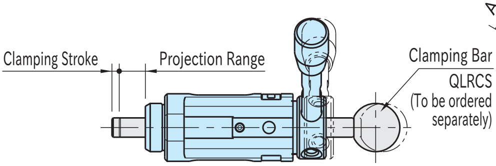
Note: Clamping bar is not included.

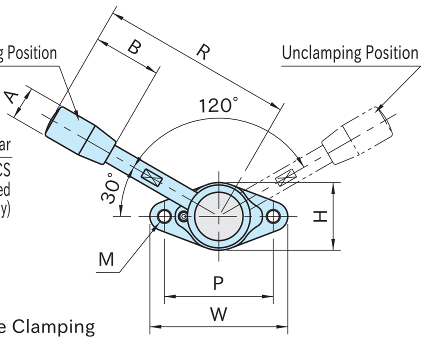
Body/Lever Arm	Cam	Handle
S45C steel Black oxide finish	SCM415 steel Carburized-hardened Black oxide finish	Phenolic plastic Black matte





Clockwise Clamping





Counterclockwise Clamping

Type	Clamping Stroke	D2	W	H	L2	M	P	L	L1	L3	D	D1 $\left(\begin{smallmatrix}-0.04\\-0.08\end{smallmatrix}\right)$	R	B	A	M1
QLRCF-08	1.5	8	57	28	8	M 6×1 (Prepared Hole 5.2)	45	68.5	53	8	26	20	80	28	14	M5×0.8
QLRCF-12	2.3	12	85	40	12	M10×1.5 (Prepared Hole 8.5)	65	90.7	72	12	36	30	132	50	21	M6×1

QLRCF-L (Light-Duty)

Part Number	Clamping Direction	Allowable Operating Load (N)	Clamping Force (kN)	Weight (g)	Clamping-Bar Projection Range
QLRCF-08R-L	CW	40	0.2	330	QLRCS-08100 0~22 QLRCS-08125 0~47 QLRCS-08150 0~72
QLRCF-08L-L	CCW				
QLRCF-12R-L	CW	100	0.7	930	QLRCS-12125 0~20 QLRCS-12150 0~45 QLRCS-12200 0~95
QLRCF-12L-L	CCW				

QLRCF (Heavy-Duty)

Part Number	Clamping Direction	Allowable Operating Load (N)	Clamping Force (kN)	Weight (g)	Clamping-Bar Projection Range
QLRCF-08R	CW	80	0.5	330	QLRCS-08100 0~22 QLRCS-08125 0~47 QLRCS-08150 0~72
QLRCF-08L	CCW				
QLRCF-12R	CW	150	1.4	950	QLRCS-12125 0~20 QLRCS-12150 0~45 QLRCS-12200 0~95
QLRCF-12L	CCW				

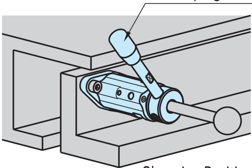
Feature

- Can be used in both vertical and horizontal clamping applications.
- The horizontal style is also available. (see page for QLRC)
- Spring-loaded clamp that provides constant clamping force.
- Long clamping-bar projection range allows clamping a recessed part. (When using your own clamping bar, ensure that the diameter is finished to a h9 or better tolerance)

How To Use

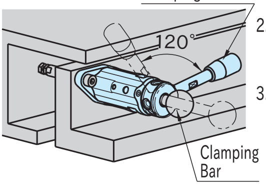
■Operation of CW Type (Invert the operation for CCW type.)

Unclamping Position



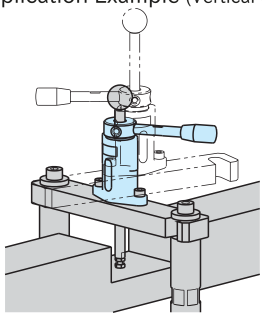
1. Unclamped
   Load or unload a part.

Clamping Position



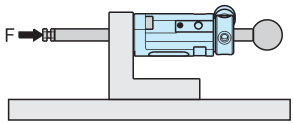
2. Clamping Setup
   Project the clamping bar until it contacts the part.
3. Clamping
   Turn the lever handle (120°) to the clamping position.

■Application Example (Vertical Clamping)



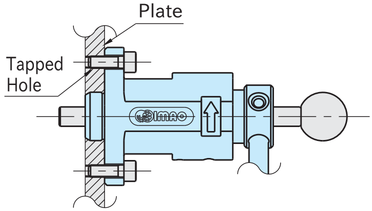
Note

When a reaction force (F) becomes greater than a clamping force, the clamping bar slides back to get a part unclamped.

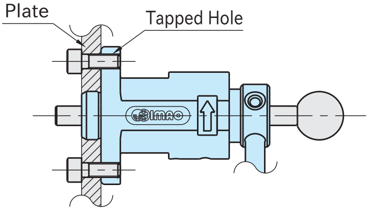


Type	Clamp Releasing Force
QLRCF-08-L	F>0.2kN
QLRCF-12-L	F>0.7kN
QLRCF-08	F>0.5kN
QLRCF-12	F>1.4kN

■How to Mount



・Face Mounting
(Use cap screws with one-size smaller threads than mounting-hole threads.)

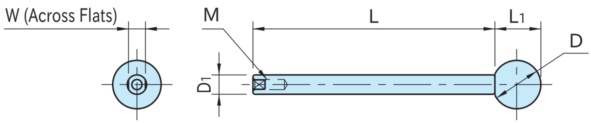


・Back Mounting
(Use cap screws with threads of the same size as mounting-hole threads.)

QLRCS CLAMPING BARS

RoHS

IMAO

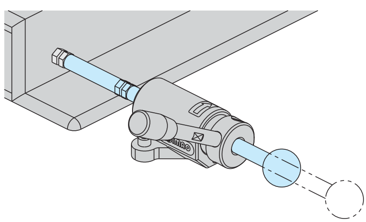


Part Number	D_1 (f8)	L	L_1	D	W	M	Weight (g)
QLRCS-08100	8	100	19	20	7	M4×0.7 Depth 8	50
QLRCS-08125		125					60
QLRCS-08150		150					70
QLRCS-12125	12	125	24	25	10	M6×1 Depth 12	130
QLRCS-12150		150					150
QLRCS-12200		200					190

Arm	Ball Knob
S45C steel Chrome plated	ABS resin Black

How To Use

- QLRC THRUST CLAMPS
- QLRCF THRUST CLAMPS (Vertical)
- Can be cut shorter to a desired length.



Value Creator
IMAO

QLSCH CAM EDGE CLAMPS

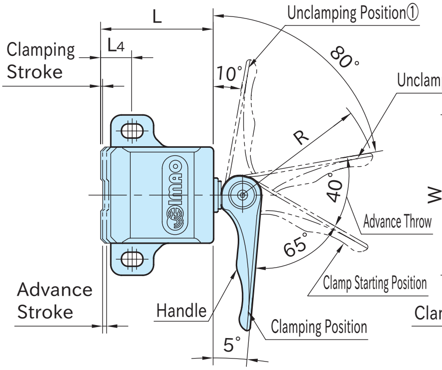
RoHS

IMAO

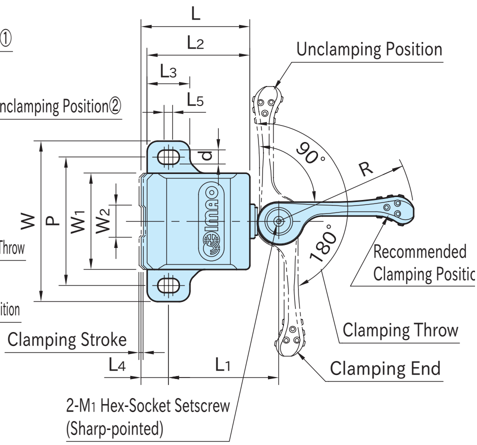
QLSCH-L
(Light-Duty)

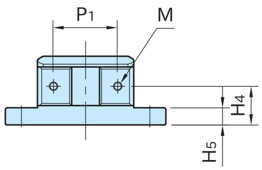
QLSCH
(Standard)

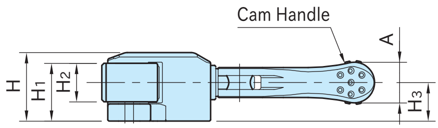
Type	Body	Jaw/Handle Shaft	Handle
QLSCH-L	S45C steel Black oxide finished	S45C steel Quenched & tempered Black oxide finished Precision ground	SCM440 steel Quenched & tempered Electroless nickel plated
QLSCH			SCM440 steel Quenched & tempered Black oxide finished



QLSCH-L
(Light-Duty)







QLSCH
(Standard)

Size	W_1	W_2	H_1	H_2	M	P_1	H_4	L_4	W	L_3	H_5	d	L_5	P
QLSCH32	45	15	27	18	M4×0.7 Depth 6	30	18	13	75	20	8	6.6	3	60
QLSCH40	60	20	33	22	M5×0.8 Depth 8	40	22	17	100	26	10	8.6	4	80

Size	H	L	L_2	R	L_1	H_3	M_1
QLSCH32	32	51	48	63	51.5	18	M4×0.7-5L
QLSCH40	40	67	63	80	67	22	M5×0.8-6L

Related Product

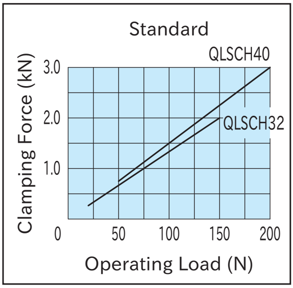
Stronger type without handle is available.
QLSCH-H SIDE CLAMPS

■Light-Duty

Part Number	A	Clamping Stroke *)	Advance Stroke	Operating Load (N) **)	Clamping Force (kN)	Weight (g)
QLSCH32L	14	0.3	0.8	40	0.6	600
QLSCH40L	18	0.4		50	1.2	1320

*) Dimensional variations between workpieces should be 0.1mm or less.
**) Load needed to turn the handle to clamping position

Performance Curve



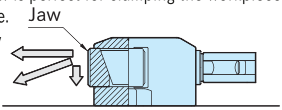
■Standard

Part Number	A	Clamping Stroke	Handle Number	Operating Load (N) ***)	Clamping Force (kN)	Weight (g)
QLSCH32	19	1.6	QLCA-06	150	2	620
QLSCH40	24	2.2	QLCA-08	200	3	1360

***) Allowable load to operate the handle

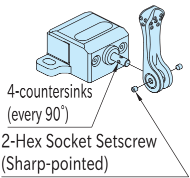
Feature

- The cam handle allows fast clamping in single operation.
- Spring-loaded light-duty style allows distributing constant clamping force.
- Standard style allows adjusting clamping force depending on operating loads.
- Precision-ground jaw is perfect for clamping the workpiece on its finished surface.
- In clamping, the jaw provides downward force to prevent part lift.

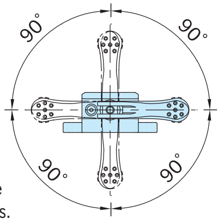


Changing Handle Position

The handle shaft has 4 countersinks which are provided every 90°for 4 options of handle position.

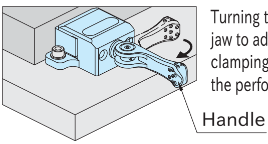


Note: The setscrews must be tightened into 2 countersinks.



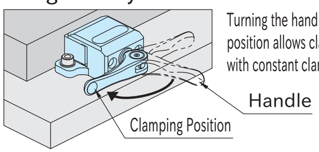
How To Use

■Standard



Turning the cam handle allows the jaw to advance to the workpiece for clamping. For clamping forces, see the performance curve.

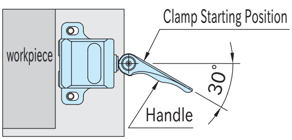
■Light-Duty



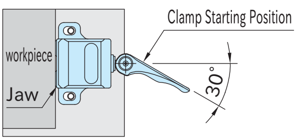
Turning the handle to the clamping position allows clamping the workpiece with constant clamping force.

Installation Instructions for Light-Duty Style

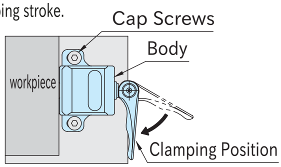
The steps below must be followed so that constant clamping force can be distributed within the clamping stroke.



Set the handle to the clamp starting position.



Contact the jaw to the workpiece.



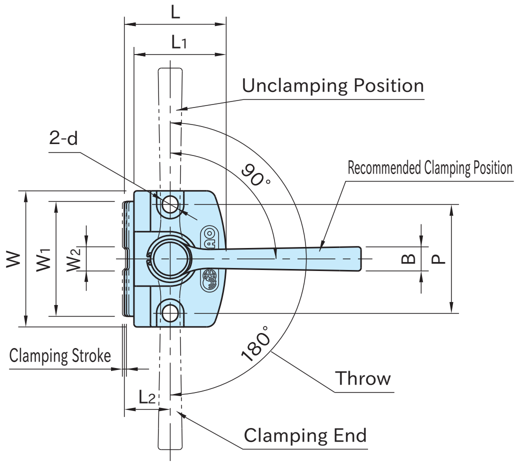
Fasten the clamp with hex socket-head cap screws, and then turn the handle to the clamping position for clamping.

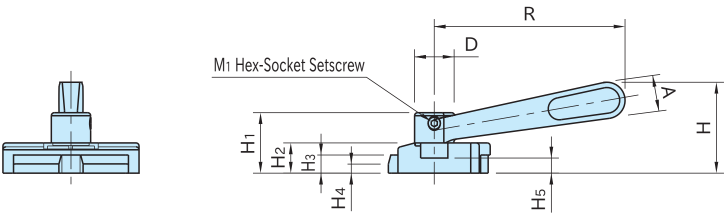
QLSCL-R LOW-PROFILE CAM EDGE CLAMPS

RoHS

IMAO

Body	Jaw/Cam	Handle
S45C steel Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish	S45C steel Quenched and tempered Black oxide finish





Part Number	Clamping Stroke	W_1	W_2	H_3	H_4	L_2	W	L	H_2	d	P	H_5	L_1	Clamping Mechanism
QLSCL10R	1	38	8	6	3	15	45	33.5	10	5.2	36	5	30.5	Spiral Cam
QLSCL15R	2	60	12	9	5	22	70	50	15	8.2	55	7	46	Cam Angle: 4°

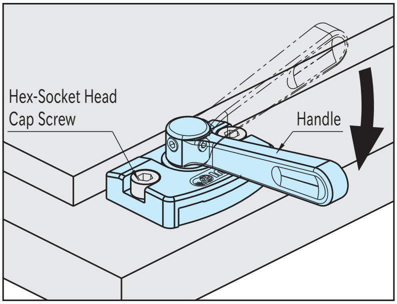
Part Number	H	D	H_1	R	A	B	M_1	Allowable Operating Load (N) *)	Clamping Force (kN)	Weight (g)
QLSCL10R	30	13	20	63	12	8	M4×0.7-4L	170	4	130
QLSCL15R	46	19	30	100	18	12	M5×0.8-5L	280	6	440

*) Allowable load to operate the handle

Feature

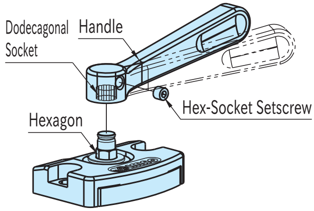
Designed to prevent part lift.

How To Use



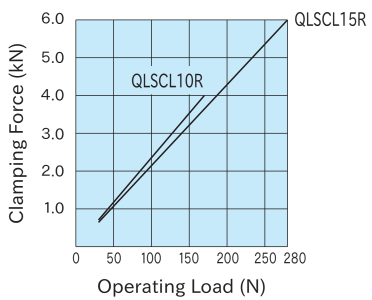
Turning the handle allows the cam to project the jaw for clamping. When the handle is turned back for unclamping, the loaded spring lets the jaw return to the original position.

■How to Change Handle Position



The handle has the dodecagonal socket to allow changing the handle position by 30°

Performance Curve



Note

Ensure that mounting surfaces are finished to 6.3 ∇ (6.3a) or better, without any scratches or dents.

QLSCL-NR | **LOW-PROFILE CAM EDGE CLAMPS**

Without handle type is available.

CP135-L SPIRAL CAM CLAMPS

RoHS

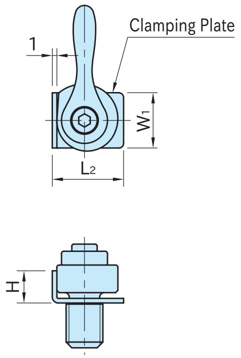
IMAO

★Key Point
Space saving.
Long clamping stroke.

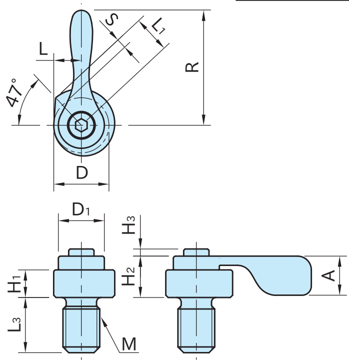
CP135-AL

CP135-L

Spiral Cam Clamp	Handle	Clamping Plate
SCM440 steel Black oxide finished HRC33-39	SCM440 steel Black oxide finish HRC30-35	SUS304CSP stainless steel



CP135-AL
(With Clamping Plate)



CP135-L
(Without Clamping Plate)

Type	S	L	L_1	D	M	H_1	L_3	D_1	H_2	R	H_3	A	Allowable Operating Load (N)	Clamping Force (kN)
CP135-08001	2.2	6	8.2	12	M 8×1.25	6	12	10	9	25	1.5	8.5	50	0.3
CP135-10001	2.5	7	9.5	14	M10×1.5	7	15	12	11	30	1.8	10	70	0.5
CP135-12001	2.9	8	10.9	16	M12×1.75	8	18	14	13	40	2.2	12	100	0.7

CP135-AL (With Clamping Plate)

Part Number	H	W_1	L_2	Clamping Plates	Weight (g)
CP135-08001AL	7	12	15.5	CP135-08001P	19
CP135-10001AL	8	14	18	CP135-10001P	32
CP135-12001AL	9	16	20	CP135-12001P	54

CP135-L (Without Clamping Plate)

Part Number	Weight (g)
CP135-08001L	17
CP135-10001L	30
CP135-12001L	51

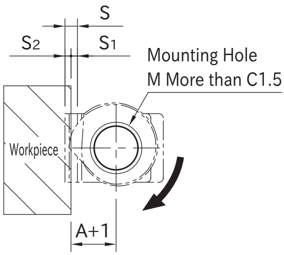
Feature

・The spiral cam provides quick and powerful clamping.
・The simple design keeps cost low and the small size allows more workpieces per load.
・Clamping Plate avoids marring workpiece surfaces.

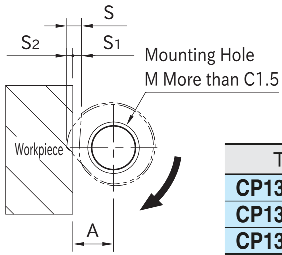
How To Use

■Mounting Hole Dimension

With Clamping Plate



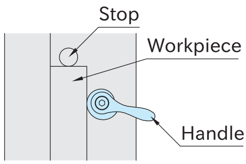
Without Clamping Plate



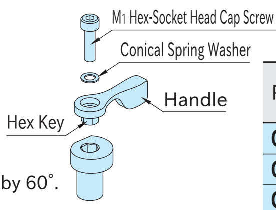
Type	A	S	S_1	S_2	M
CP135-08001	7.1	2.2	1.1	1.1	M 8×1.25
CP135-10001	8.3	2.5	1.3	1.2	M10×1.5
CP135-12001	9.5	2.9	1.5	1.4	M12×1.75

Note: Dimension A and A+1 are the recommended distances between the mounting hole and the end of the workpiece.

■How to Install Handle



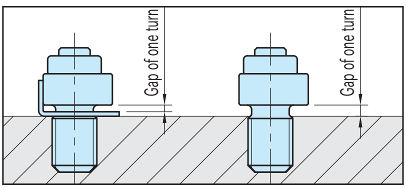
The handle position is adjustable by 60˚.



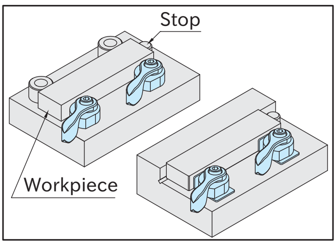
Part Number	M_1	Recommended Tightening Torque (N·m)
CP135-08001L	M3×0.5	1.2
CP135-10001L	M4×0.7	3
CP135-12001L	M5×0.8	6

Note

Tighten Spiral Cam Clamp fully and loosen it about one turn. Then mount a workpiece.



・Tighten clockwise to clamp the workpiece.
・Mount a stop on the right side of the workpiece.



CP135-P | **Clamping Plates**

CP135 | **SPIRAL CAM CLAMPS**

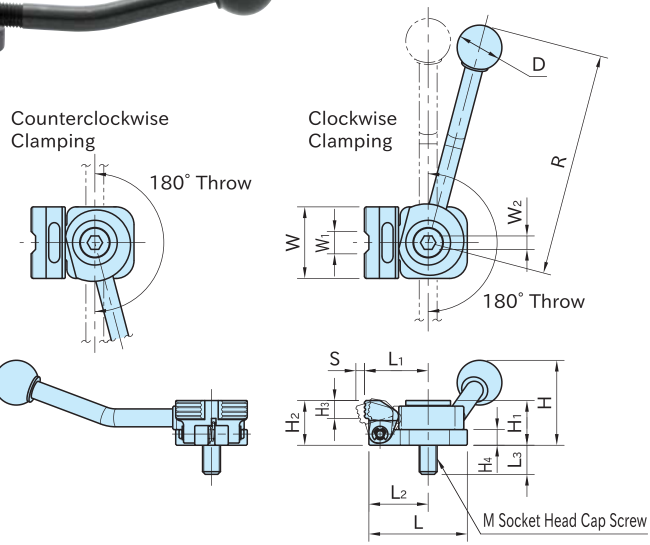
Without handle type is available.

QLSC CAM EDGE CLAMPS

RoHS

IMAO

Body/Jaw	Cam/Handle	Ball Knob
SCM440 steel Quenched and tempered Black oxide	SCM435 steel Quenched and tempered Black oxide	ABS resin Black



Part Number	Clamping Direction	H_2	S	W	W_1	H_3	L_1	L	L_2	H_4	M	L_3	H_1	H
QLSC-08R	CW	20	3.8	32	10	8	28.5	44	26.5	7	M 8×1.25	13	20	38
QLSC-08L	CCW													
QLSC-12R	CW	30	5.5	46	14	12	39.5	62	37.5	11	M12×1.75	17	30	55
QLSC-12L	CCW													

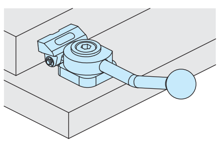
Part Number	R	D	W_2	Allowable Operating Load (N)	Clamping Force (kN)	Weight (g)
QLSC-08R	100	20	6	250	2.5	195
QLSC-08L						
QLSC-12R	146	25	10	400	5	600
QLSC-12L						

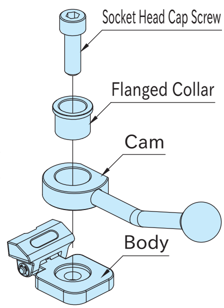
Feature

Enables one-touch clamping / unclamping of workpiece.

How To Use

Secure the body and the flanged collar with a socket head cap screw, and then turn the the handle to clamp a workpiece.





Related Product

BJ162 CAM EDGE CLAMPS
Without handle type is available.

Value Creator

IMAO

QLSC SIDE CLAMPS (Standard)

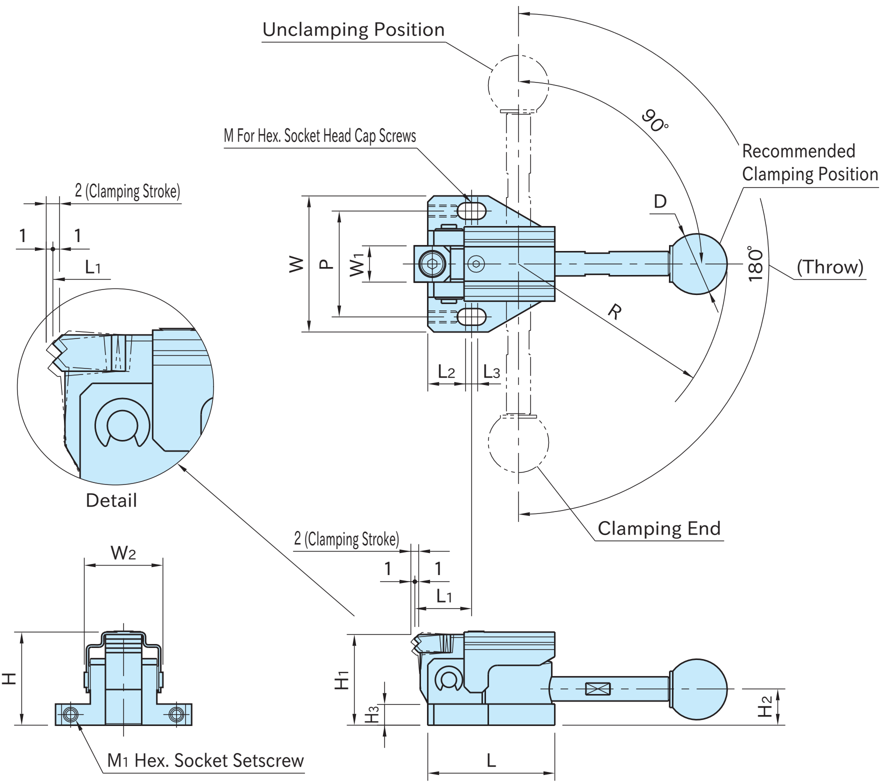
RoHS

IMAO

With Handle

Without Handle

Base	Jaw	Cam	Handle	Ball Knob
S45C steel Quenched and tempered Black oxide finish	SKH51 steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish	SCM440 steel Black oxide finish	ABS resin Black



Type	H_1	W_1	L_1	L	W	H_3	M	P	L_2	L_3	H	W_2
QLSC150	30	12	19	42	45	7	M5	35	12.5	4	31	26
QLSC200	40	16	28	62	65	10	M8	50	18.5	5	41	38

Type	H_2	M_1	Clamping Force (kN)	Clamping Mechanism
QLSC150	12	M4×0.7-10L	3	Spiral Cam Cam Angle: 4°
QLSC200	16	M4×0.7-15L	4	

■With Handle

Part Number	R	D	Allowable Operating Load (N) *)	Weight (g)
QLSC150R	69	20	150	210
QLSC200R	104	25	200	580

*) Allowable load to operate the handle.

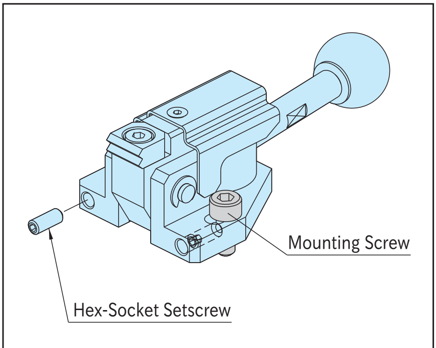
■Without Handle

Part Number	Weight (g)
QLSC150NR	185
QLSC200NR	530

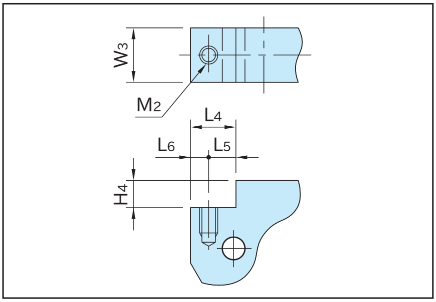
The handle must be ordered separately.
・QLSL STANDARD HANDLES
・QLTL ADJUSTABLE-TORQUE HANDLES

How To Use

The long mounting holes allow adjusting the clamping range. Tightening the hex. socket setscrews in the base front allows preventing the clamp from sliding back in the clamping mode.



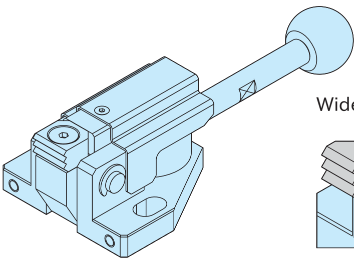
Dimensions of Jaw Base

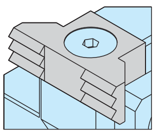


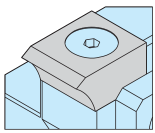
Type	L_4	W_3	H_4	M_2	L_5	L_6
QLSC150	10	12	6	M4×0.7 Depth 7	6	4
QLSC200	14.5	16	10	M6×1 Depth 9	8	6.5

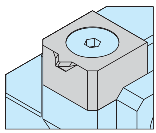
■Jaw Customization

Custom jaws must be prepared by you.




Wide Serrated Jaw


Edged Jaw

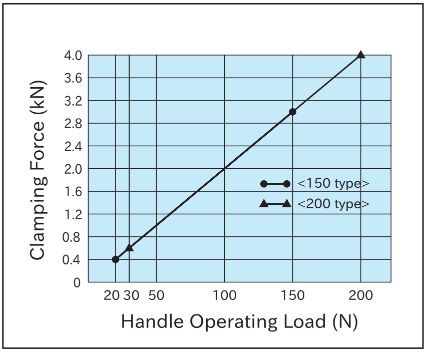

Pointed Jaw

Continuing to next page

Performance Curve

■QLSL STANDARD HANDLES

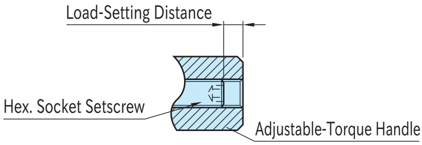
⚠ The performance curves shown below do not denote the guaranteed performance.

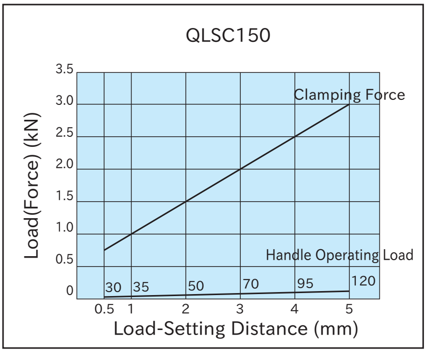


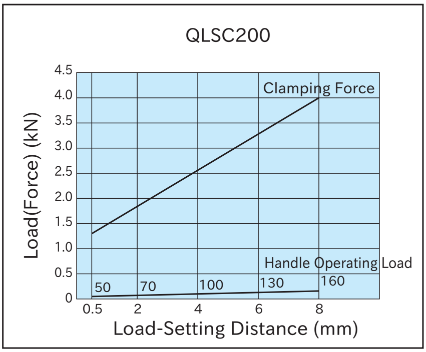
■QLTL ADJUSTABLE-TORQUE HANDLES

Use a force gauge when measuring handle-operating loads.

⚠ The performance curves shown below do not denote the guaranteed performance.







QLCP CAM PUSH CLAMPS

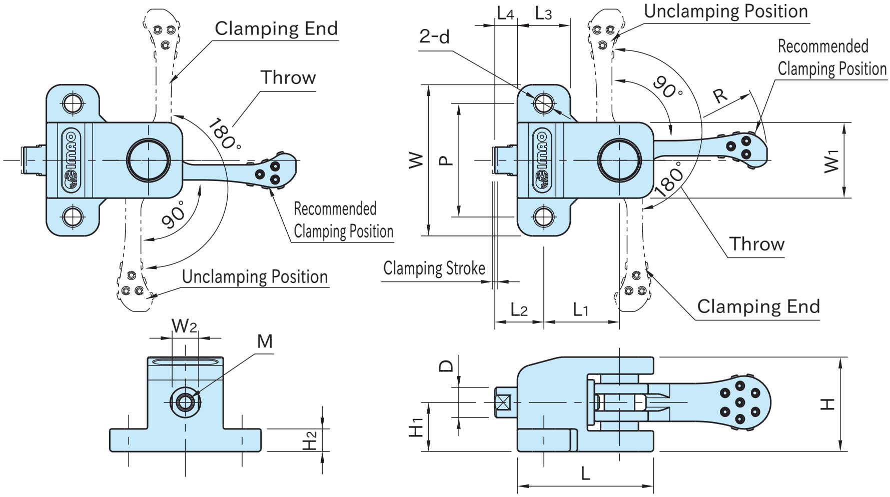
RoHS

IMAO

Body	Piston / Pin	Cam Handle
S45C steel Black oxide finish	S45C steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish

Counterclockwise Clamping

Clockwise Clamping

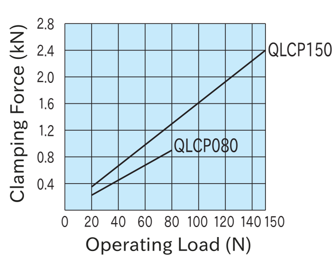


Part Number	Clamping Direction	Clamping Stroke	H_1	D	W_2	M	L_2	L_4	W	L_3	H_2	d	P	H	L	W_1	R	L_1	Cam Handle
QLCP080R	CW	1.2	13	8	7	M4×0.7 Depth 8	13	6	40	14	6	4.5	30	25	36	20	40	20	QLCA-04
QLCP080L	CCW																		
QLCP150R	CW	1.6	18	12	10	M6×1 Depth 12	19	9	55	20	10	6.6	40	33	50	26	63	28	QLCA-06
QLCP150L	CCW																		

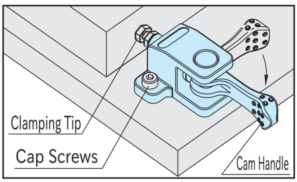
Part Number	Allowable Operating Load (N) *)	Clamping Force (kN)	Clamping Mechanism	Weight (g)
QLCP080R	80	0.9	Spiral Cam Cam Angle:4°	130
QLCP080L				
QLCP150R	150	2.4		350
QLCP150L				

*) Allowable load to operate the cam handle

Performance Curve



How To Use



Turning the handle in the clamping direction lets the cam work to project the piston for clamping.
Turning the handle back lets the spring work to retract the piston for unclamping.

Feature

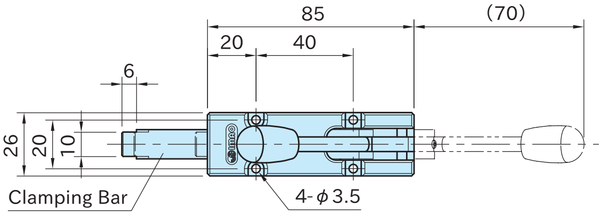
The tapped hole in the piston allows a tip to be fitted to the push clamp.

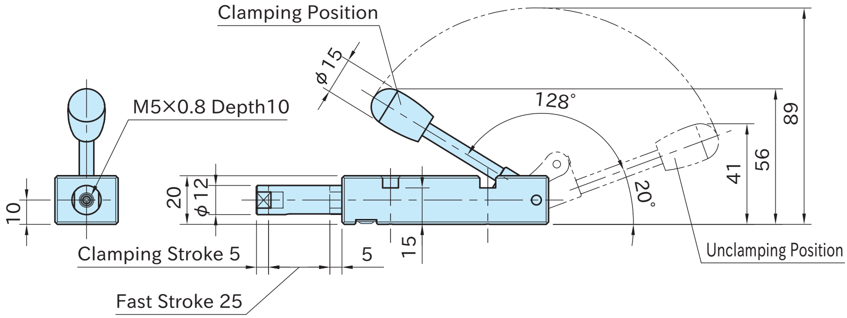
QLPCT PRECISION THRUST CLAMPS

Body	Clamping Bar
AC7A aluminum Anodized	S45C steel Solid film lubricated
Linkage End	**Knob**
S45C steel Black oxide finished	Phenolic plastic Black

(Clamping)

(Unclamping)





Part Number	Clamping Force(N) Initial - Final *)	Weight (g)
QLPCT20-07	55~ 85	170
QLPCT20-13	90~175	

*) The minimum clamping force at clamping end position, and the maximum clamping force at clamp starting position.

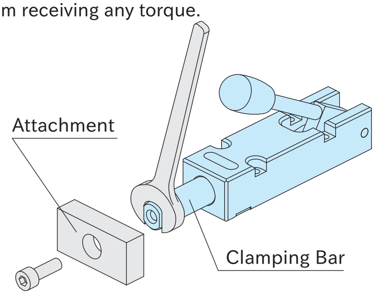
Feature

・Precision Thrust Clamps can clamp at the same position by precise projection of clamping bars.
・Spring-loaded clamp provides constant clamping force.
・The handle clicks to indicate completed clamping.

Note

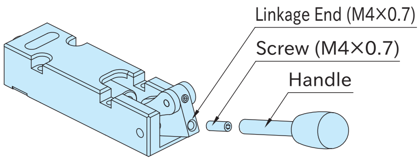
■How to Install Attachments

When installing an attachment on the clamping bar, lock the clamping bar using a wrench to prevent it from receiving any torque.



■How to Replace Handle

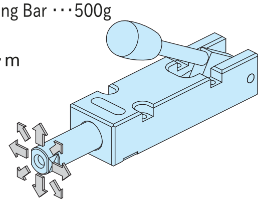
The handle is replaceable.
When installing/removing a handle, do not apply torque to the Linkage End.



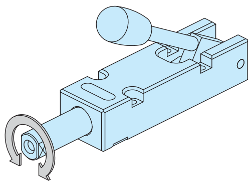
Technical Information

■Allowable Load and Accuracy of Clamping Bar

・Allowable Weight of Attachments on Clamping Bar ･･･500g
・Deflection･･･±0.05
・Allowable Rotation Torque ･･･0.5N･m
・Rotation Accuracy
･･･±0.1°(Under no load)
･･･±1°(Under load at allowable rotation torque)



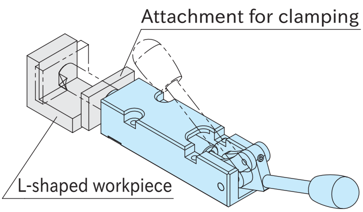
<Allowable Weight / Deflection>



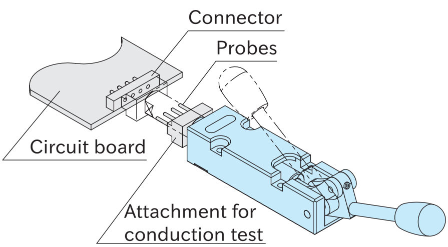
<Allowable Rotation Torque / Rotation Accuracy>

How To Use

For clamping a recessed part / clamping with constant clamping force



For press-fit fixtures and conduction test fixtures that require precise projection of clamping bars.



QLPD PULL CLAMPS (Standard)

RoHS

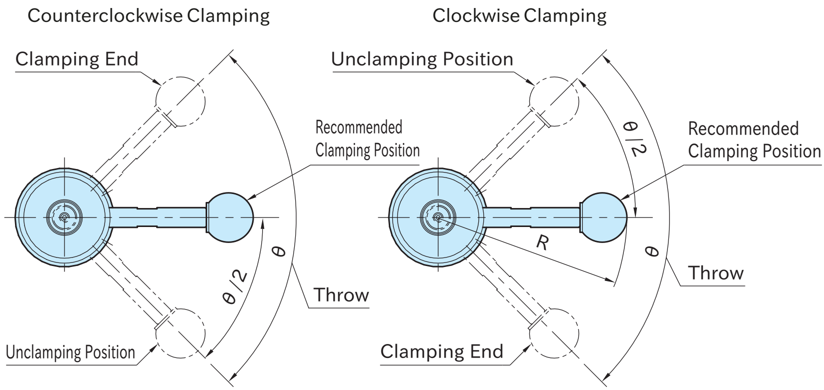
IMAO

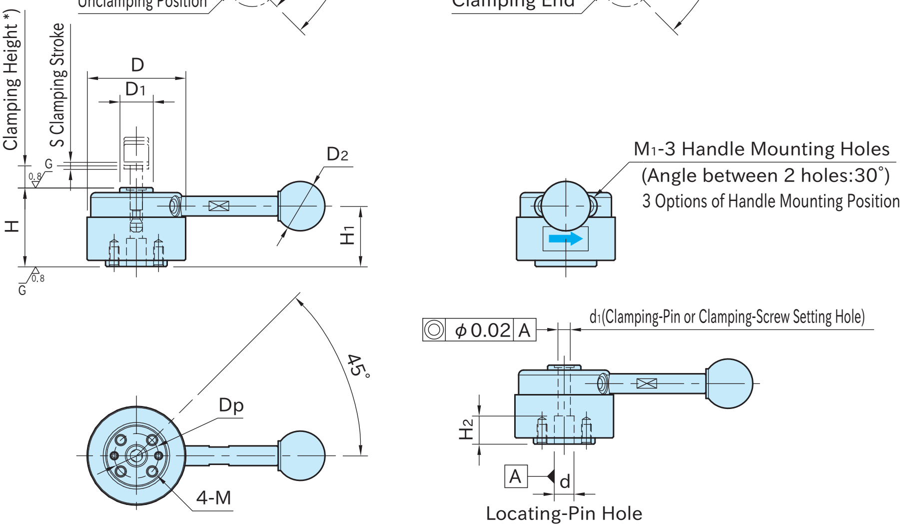
(CCW Clamping With Handle) (CW Clamping Without Handle) (CW Clamping With Handle)

Note: Clamping Pins or Screws must be ordered separately.

Body	Handle Shank	Ball Knob
SCM440 steel Quenched and tempered Black oxide finish	S45C steel Black oxide finish	ABS resin Black

★Key Point
Easy clamping without screws.





Type	S	d (G6)	d_1 (F7)	H_2	D_1	H (±0.01)	D	θ	Dp	M
QLPD150	1.5	8	5	10	13.5	32	40	90°	18	M4×0.7 Depth 8
QLPD200	2	12	8	13	18	40	50	110°	25	M6×1 Depth 9

Type	M_1	H_1	Clamping Force (kN)	Clamping Mechanism	Recommended Workpiece Thickness Tolerance **)
QLPD150	M5×0.8	24.5	0.9	Spiral Cam Cam Angle: 4°	±0.3
QLPD200	M6×1	30.7	2.5		±0.5

■With Handle

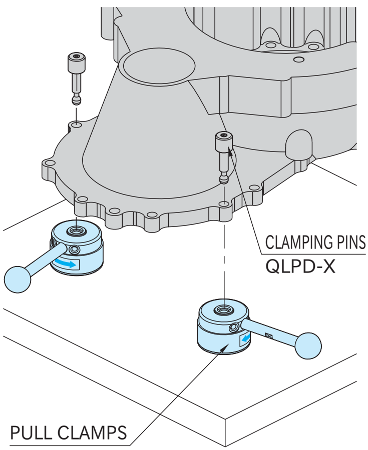
Part Number	Clamping Direction	R	D_2	Allowable Operating Load(N) ***)	Weight (g)
QLPD150R	CW	76.5	20	150	245
QLPD150L	CCW				
QLPD200R	CW	111.5	25	200	470
QLPD200L	CCW				

■Without Handle ****)

Part Number	Clamping Direction	Weight (g)
QLPD150NR	CW	220
QLPD150NL	CCW	
QLPD200NR	CW	420
QLPD200NL	CCW	

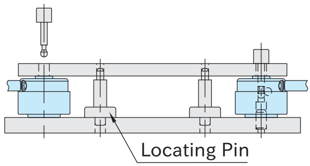
*) Grip length of QLPD-X Clamping Pin (workpiece thickness)
**) Maintaining these recommended tolerances allows minimizing the variation of handle position in the clamping mode in clamping with the use of the Clamping Pin.
***) Allowable load to operate the handle.
****) The handle must be ordered separately.
- QLSL STANDARD HANDLES
- QLTL ADJUSTABLE-TORQUE HANDLES

How To Use

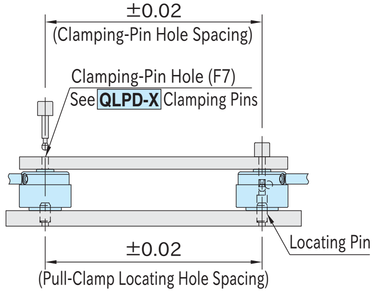


■How to Locate Workpiece

1. Basic Method



2. Method for clamping and locating a workpiece at a time
Give an accuracy shown below to the hole spacing to generate a locating accuracy of ±0.08.



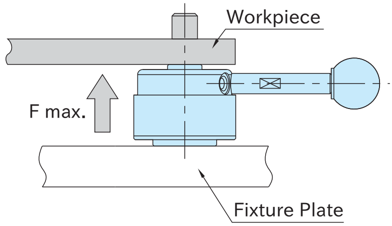
Continuing on Next Page

Technical Information

■Allowable Loads in Machining of Workpiece Bottom

Ensure that a force more than indicated below is not applied to the workpiece bottom.

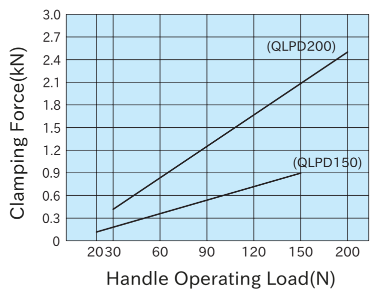
Type	Allowable Force To Workpiece Bottom (Per Clamp)
QLPD150	max.2 kN
QLPD200	max.5.5kN



Performance Curve

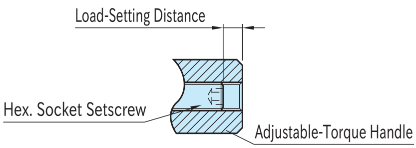
■QLSL STANDARD HANDLES

⚠ The performance curves shown below do not denote the guaranteed performance.

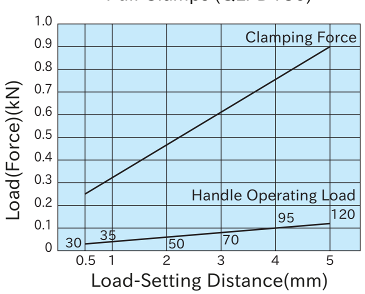


■QLTL ADJUSTABLE-TORQUE HANDLES

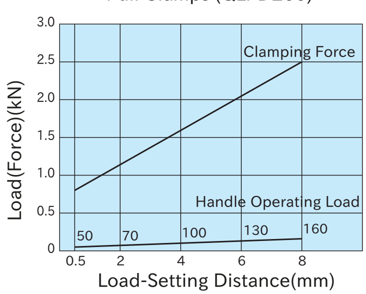
Use a force gauge when measuring handle-operating loads.



⚠ The performance curves shown below do not denote the guaranteed performance.



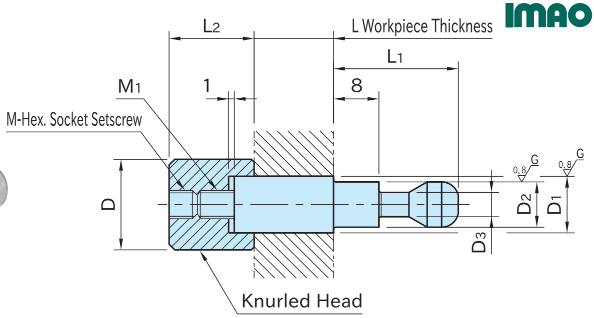
When clamping force is 0.9(kN), load-setting distance is 5mm, and handle operating load is 120N.



QLPD-X CLAMPING PINS (Standard)

On Request RoHS

IMAO



L dimension is adjustable by ±1mm to fit actual workpiece thickness.

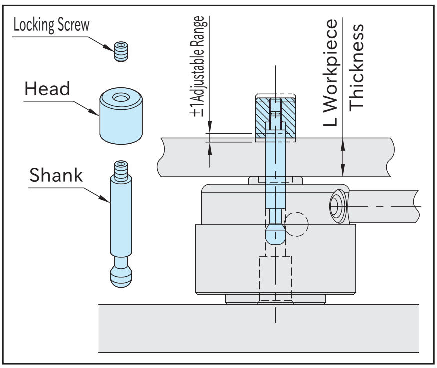
Shank	Head
SCM435 steel Induction hardened(taper seat) Precision ground	S45C steel Quenched and tempered Black oxide finish

Part Number	D_2 (f7)	D_1 (f7)	L*) (By 0.1mm)	D	L_2	L_1	D_3	M
QLPD150-5× 5- (L Dim. in mm)	5	5	3≦L≦50	10	10	17	3	M3×0.5-4L
QLPD150-5× 6- (L Dim. in mm)		6						
QLPD200-8× 8- (L Dim. in mm)	8	8	4≦L≦80	16	15	22	4.3	M5×0.8-5L
QLPD200-8×10- (L Dim. in mm)		10						

Part Number	M_1	Weight (g)	Pull Clamps
QLPD150-5× 5- (L Dim. in mm)	M3×0.5	min. 8~max.16	QLPD150Series
QLPD150-5× 6- (L Dim. in mm)		min. 8~max.19	
QLPD200-8× 8- (L Dim. in mm)	M5×0.8	min.30~max.60	QLPD200Series
QLPD200-8×10- (L Dim. in mm)		min.31~max.77	

*) For ordering, specify workpiece thickness.

How To Use



Note

The length of L dimension should be decided depending on the workpiece thickness.

■ Ordering Example

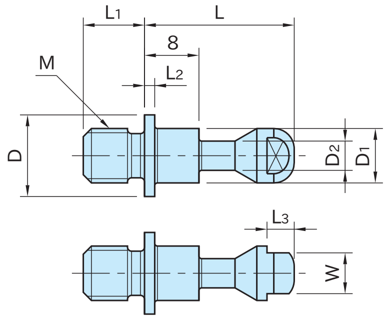
QLPD150-5×5-10.5

Shank Size　L Dim.

※ QLPD150-5×5 for 10.5mm thickness workpiece.

QLPD-M CLAMPING SCREWS (Standard)

RoHS



Body
SCM435 steel Quenched and tempered Black oxide finish

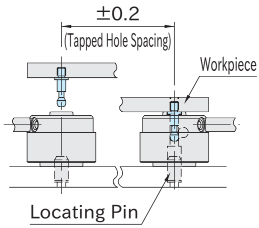
Part Number	D_1	M	L_1	L	D	L_2	D_2	W	L_3	Weight (g)	Pull Clamps
QLPD150-M 5	5	M 5×0.8	6	17	8	1.2	3	4	2.5	3	QLPD150
QLPD150-M 6		M 6×1	7							4	
QLPD200-M 8	8	M 8×1.25	9	22	12	1.5	4.3	6	4	10	QLPD200
QLPD200-M10		M10×1.5	11							13	

Note

Custom Clamping Screws (different screw thread sizes) are available on request.

How To Use

■Recommended Spacing Tolerance in Use of Clamping Screws

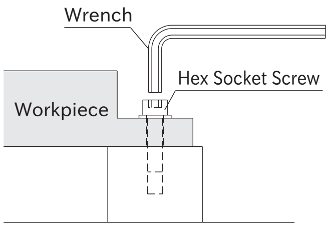


Advantage of PULL CLAMPS

Conventional Method

Conventional

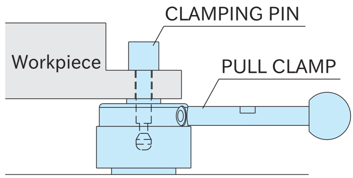
Uses hex socket screw



Requires wrench & screw in addition to block for clamping.

QLPD PULL CLAMP

Uses dedicated clamping pin



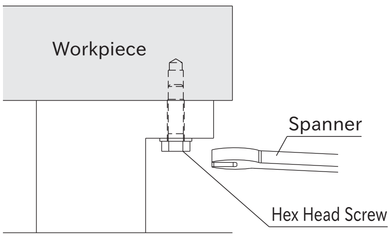
Simply turn the handle after inserting the pin.

=Setup time becomes 1/3!!

Conventional Method

Conventional

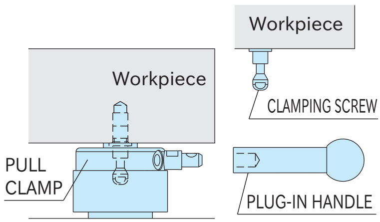
Uses hex head screw



Require to operate from bottom.

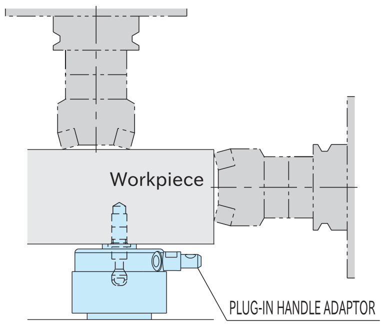
QLPD PULL CLAMPS

Use dedicated clamping screw



Simply turn the handle after inserting the clamping screw mounted on the workpiece.

=Setup time becomes 1/3!!



PLUG-IN HANDLE type enables machining from 5 sides.

QLPDH PULL CLAMPS (Heavy)

RoHS

IMAO

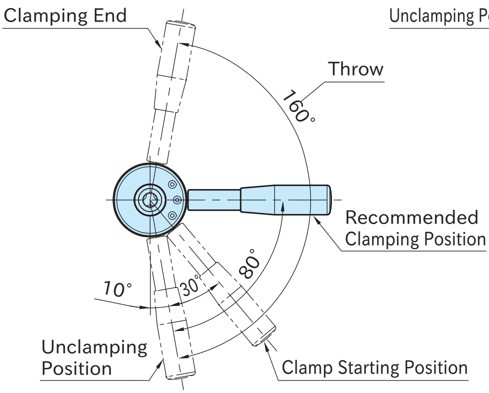
(Counterclockwise)

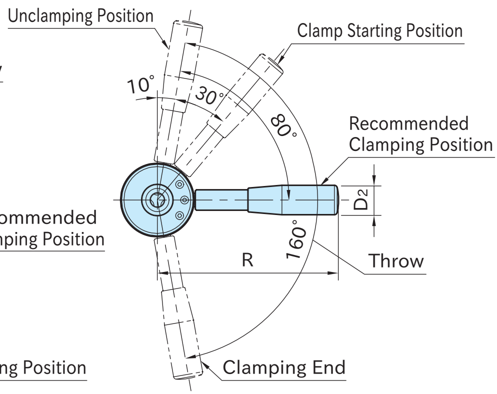
(Clockwise)

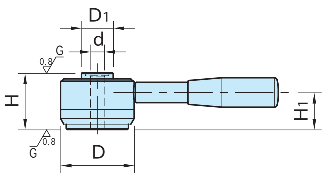
Body	Handle Shank	Handle
SCM440 steel Quenched and tempered Black oxide finish	S45C steel Quenched and tempered Black oxide finish	Phenolic plastic Black

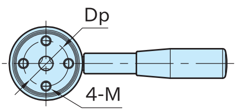
★Key Point
Easy clamping without screws.

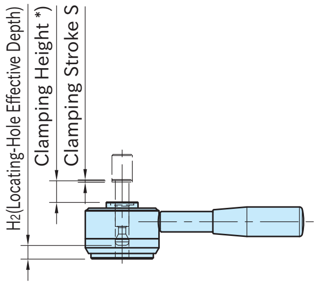
Note: Clamping Pins or Screws must be ordered separately.

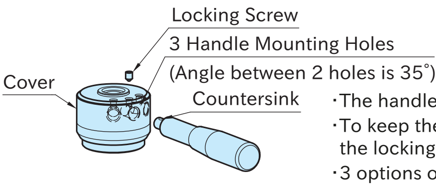












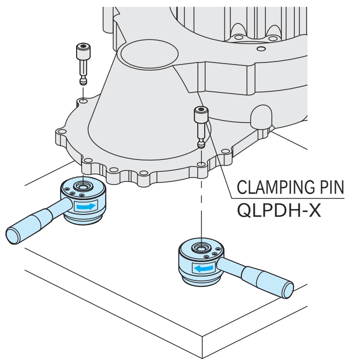
- The handle can be removed by loosening the locking screw.
- To keep the handle mounted permanently, make sure that the locking screw is fully tightened.
- 3 options of handle mounting position.

Part Number	Clamping Direction	S	d (F7)	H_2	D_1	H (±0.01)	D	M	Dp	R
QLPDH400R	CW	2	12	10	28	50	65	M 8×1.25 Depth 14	40	160
QLPDH400L	CCW									
QLPDH500R	CW	2.5	16	12	34	63	80	M10×1.5 Depth 18	50	180

Part Number	D_2	H_1	Allowable Operating Load (N) **)	Clamping Force (kN)	Clamping Mechanism	Recommended Workpiece Thickness Tolerance ***)	Weight (kg)
QLPDH400R	26	32.8	600	6	Spiral Cam Cam Angle: 4°	±0.5	1.2
QLPDH400L							
QLPDH500R	28	41.1		8		±0.8	2.2

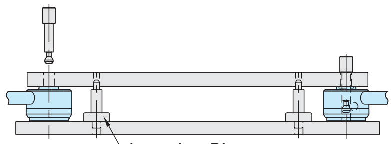
*) Grip length of QLPDH-X Clamping Pin (workpiece thickness)
**) Allowable load to operate the handle
***) Maintaining these recommended tolerances allows minimizing the variation of handle position in the clamping mode in clamping with the use of the Clamping P in.
****) QLPDH500 is available only with Clockwise Clamping.

How To Use



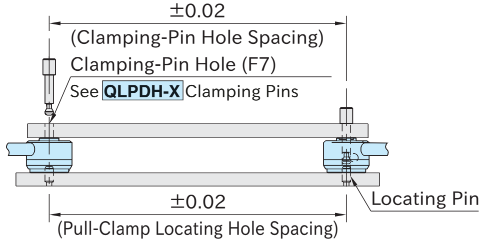
■How to Locate Workpiece

1. Basic Method



2. Method for clamping and locating a workpiece at a time

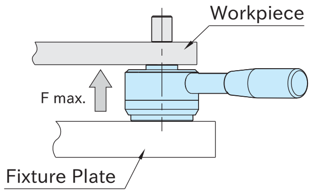
Give an accuracy shown below to the hole spacing to generate a locating accuracy of ±0.08.



Technical Information

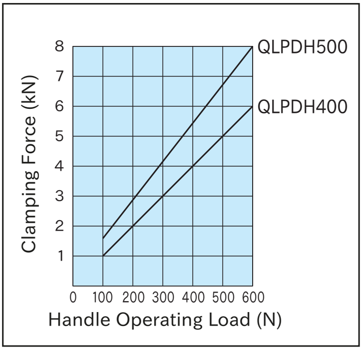
■Allowable Loads in Machining of Workpiece Bottom

Ensure that a force more than indicated below is not applied to the workpiece bottom.



Type	Allowable Force To Workpiece Bottom (Per Clamp)
QLPDH400	max. 8kN
QLPDH500	max.14kN

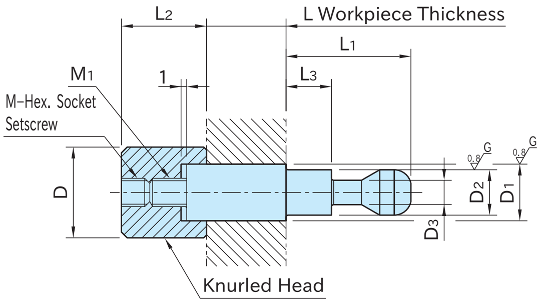
Performance Curve



QLPDH-X CLAMPING PINS (Heavy)

On Request RoHS

IMAO



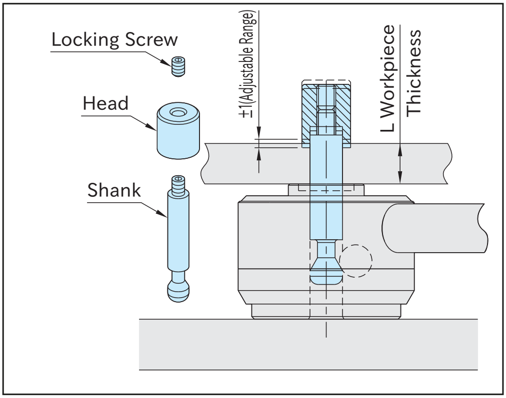
L dimension is adjustable by ± 1mm to fit actual workpiece thickness.

Shank	Head
SCM435 steel Induction hardened(taper seat) Precision ground	S45C steel Quenched and tempered Black oxide finish

Part Number	D_2 (f7)	D_1 (f7)	L*) (By 0.1mm)	D	L_2	L_1	L_3	D_3	M	M_1	Weight (g)	Pull Clamps
QLPDH400-12-(L Dim. In mm)	12	12	0<L≦100	18	23	38	21.5	6.5	M 8X1.25- 8L	M 8X1.25	min. 70~max.160	QLPDH400R
QLPDH400-16-(L Dim. In mm)		16		24							min.175~max.265	
QLPDH500-16-(L Dim. In mm)	16	16	0<L≦120	24	29	48	28	9.5	M10X1.5 -10L	M10X1.5	min.160~max.350	QLPDH500R
QLPDH500-20-(L Dim. In mm)		20		30							min.325~max.515	

*) For ordering, specify workpiece thickness.

How To Use



Ordering Example

QLPDH400-12-20.5

Shank Size L Dim.

※ QLPD400-12 for 20.5mm thickness workpiece.

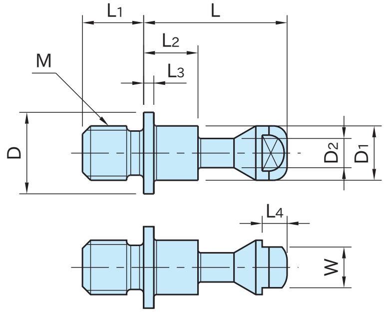
Note

The length of L dimension should be decided depending on the workpiece thickness.

QLPDH-M CLAMPING SCREWS(Heavy)

IMAO

RoHS



Body
SCM435 steel Quenched and tempered Black oxide finish

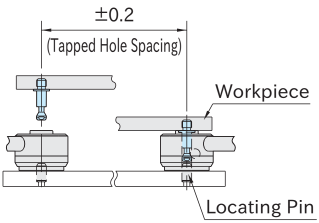
Part Number	D_1	M	L_1	L	D	L_2	L_3	D_2	W	L_4	Weight (g)	Pull Clamps
QLPDH400-M12	12	M12×1.75	13	38	20	21.5	2	6.5	10	4	40	QLPDH400R
QLPDH400-M16		M16×2	17								55	
QLPDH500-M16	16			48	25	28	2.5	9.5	13	5	90	QLPDH500R
QLPDH500-M20		M20×2.5	21								110	

Note

Custom Clamping Screws (different screw thread sizes) are available on request.

How To Use

■Recommended Spacing Tolerance in Use of Clamping Screws



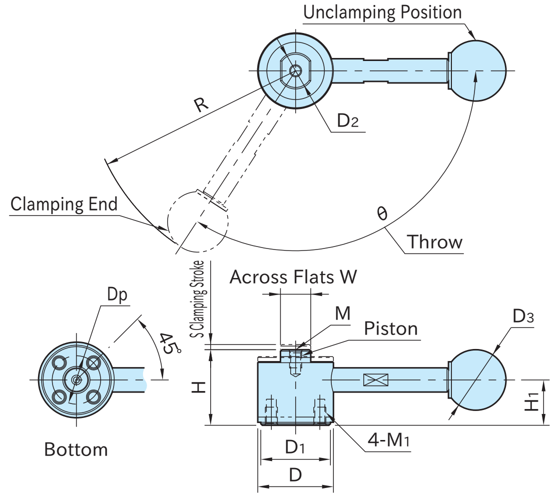
QLPU PUSH CLAMPS(Standard)

RoHS

IMAO

With Handle

Without Handle



Cam	Piston	Handle	Ball Knob
SCM440 steel Quenched and tempered Black oxide finish	S45C steel Quenched and tempered Black oxide finish	S45C steel Black oxide finish	ABS resin Black

Type	H	S	D_2	M	W	θ	D	D_1	M_1	Dp	H_1
QLPU150	25 *)	1.7	12	M4×0.7 Depth 6	10	123°	25	23	M4×0.7 Depth 6	16	15
QLPU200	32 **)	2.5	15	M6×1 Depth 9	13	135°	32	30	M6×1 Depth 9	20	19.5

Type	Clamping Force (kN)	Clamping Mechanism
QLPU150	3	Spiral Cam Cam Angle:4°
QLPU200	4	

*) Actual clamping height : 25 to 26.7 (clamping stroke :1.7)
**) Actual clamping height : 32 to 34.5 (clamping stroke :2.5)

■With Handle

Part Number	R	D_3	Allowable Operating Load (N) ***)	Weight (g)
QLPU150R	69.5	20	150	100
QLPU200R	103	25	200	200

***) Allowable load to operate the handle.

■Without Handle

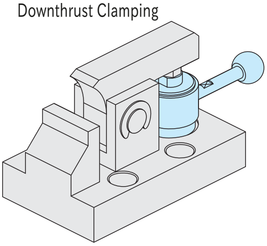
Part Number	Handle Mounting Hole	Weight (g)
QLPU150NR	M5×0.8	75
QLPU200NR	M6×1	150

The handle must be ordered separately.
・QLSL STANDARD HANDLES
・QLTL ADJUSTABLE-TORQUE HANDLES

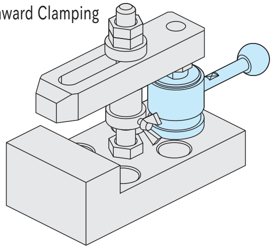
How To Use

■Application Examples

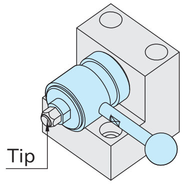
Downthrust Clamping



Downward Clamping

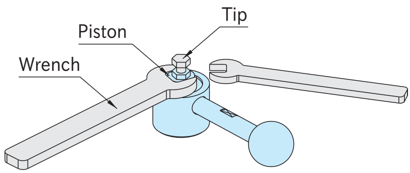


Sideways Clamping



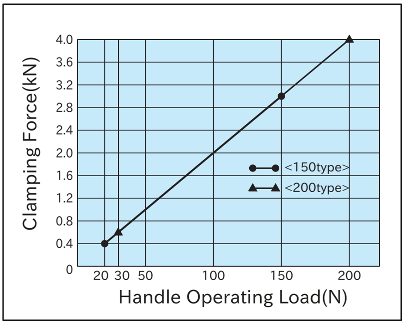
Note

・When installing a tip on the piston, lock the piston using a wrench to prevent the clamp from receiving any torque.
・The piston goes down when turning handle over clamping end.



Performance Curve

■QLSL STANDARD HANDLES

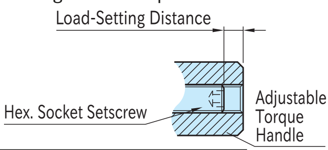


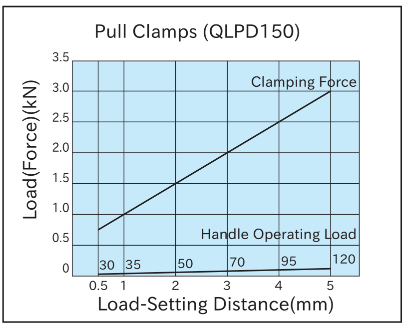
⚠ The performance curves shown below do not denote the guaranteed performance.

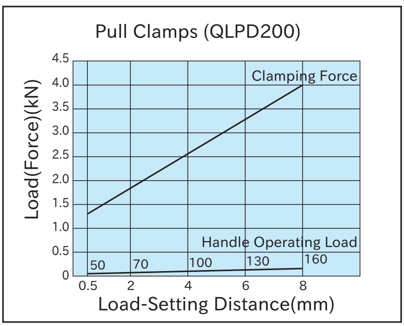
■QLTL ADJUSTABLE-TORQUE HANDLES

⚠ The performance curves shown below do not denote the guaranteed performance.

・Use a force gauge when measuring handle-operating loads.





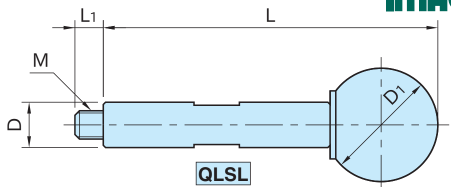


QLSL STANDARD HANDLES

RoHS

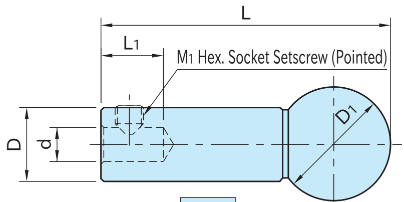
IMAO

QLSL
(Screw-In Handles)



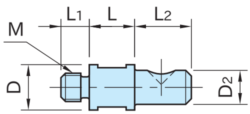
QLSL
(Screw-In Handles)

QLSL-RL
(Plug-In Handles)



QLSL-RL
(Plug-In Handles)

QLSL-RA
(Plug-In-Handle Adaptors)



QLSL-RA
(Plug-In-Handle Adaptors)

Type	Handle	Ball Knob	Shaft
QLSL **QLSL-RL**	S45C steel Black oxide finish	ABS resin Black	—
QLSL-RA	—	—	SCM435 steel Quenched and tempered Black oxide finish

QLSL (Screw-In Handles)

Part Number	L	D_1	D	M	L_1	Weight (g)
QLSL150	59	20	8	M5×0.8	5	25
QLSL200	89	25	10	M6×1	6	50

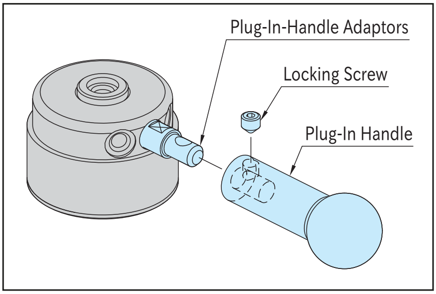
QLSL-RL (Plug-In Handles)

Part Number	L	D_1	D	d	L_1	M_1	Weight (g)
QLSL150-RL	51	20	13	6	11	M5×0.8-5L	45
QLSL200-RL	79	25	15	8	13	M6×1 -6L	90

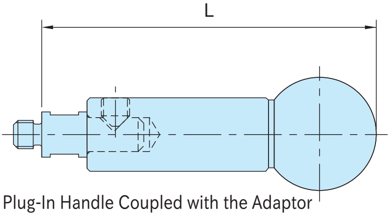
QLSL-RA (Plug-In-Handle Adaptors)

Part Number	L	D	L_2	D_2	M	L_1	Weight (g)
QLSL150-RA	8	8	10	6	M5×0.8	5	7
QLSL200-RA	10	10	12	8	M6×1	6	14

How To Use



Secure the Plug-In Handle to the Adaptor using the locking screw if necessary.



Plug-In Handle Coupled with the Adaptor

■Proper One-Touch Clamps

- SWING CLAMPS <QLSW>
- SIDE CLAMPS <QLSC>
- PULL CLAMPS <QLPD>
- PUSH CLAMPS <QLPU>

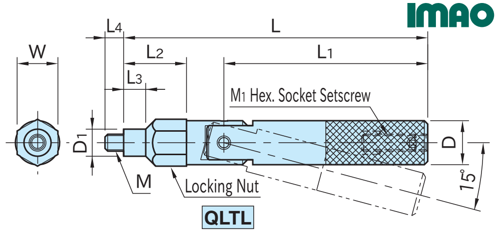
Type	L
QLSL150	59
QLSL200	89

QLTL ADJUSTABLE-TORQUE HANDLES

RoHS

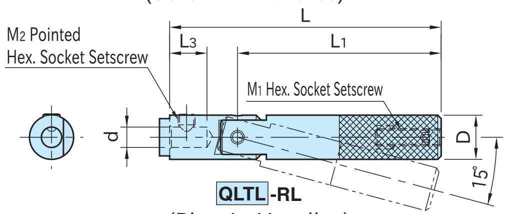
IMAO

QLTL
(Screw-In Handles)



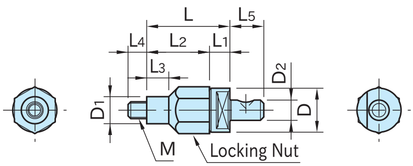
QLTL
(Screw-In Handles)

QLTL-RL
(Plug-In Handles)



QLTL-RL
(Plug-In Handles)

QLTL-RA
(Plug-In-Handle Adaptors)



QLTL-RA
(Plug-In-Handle Adaptors)

Type	Stem	Locking Nut	Handle
QLTL	SCM435 steel Quenched & tempered Black oxide finished	S45C steel Black oxide finished	S45C steel Quenched & tempered Black oxide finished
QLTL-RL		—	
QLTL-RA		S45C steel Black oxide finished	—

QLTL (Screw-In Handles)

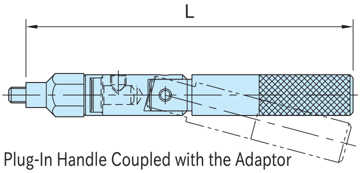
Part Number	L	L_1	D	L_2	L_3	D_1	W	M	L_4	M_1	Weight (g)
QLTL120	89.5	60	13	18.5	6.5	8	12	M5×0.8	5.5	M5×0.8-16L	90
QLTL160	119	84	15	23	8	10	14	M6×1	6.5	M6×1 -20L	140

QLTL-RL (Plug-In Handles)

Part Number	L	L_1	D	d	L_3	M_2	M_1	Weight (g)
QLTL120-RL	80	60	13	6	11	M5×0.8-5L	M5×0.8-16L	70
QLTL160-RL	107	84	15	8	13	M6×1 -6L	M6×1 -20L	130

QLTL-RA (Plug-In-Handle Adaptors)

Part Number	L	L_1	D	L_2	L_3	D_1	L_5	D_2	M	L_4	Weight (g)
QLTL120-RA	24.5	6	13	18.5	6.5	8	10	6	M5×0.8	5.5	20
QLTL160-RA	30	7	15	23	8	10	12	8	M6×1	6.5	40



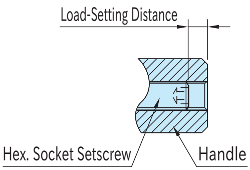
Plug-In Handle Coupled with the Adaptor

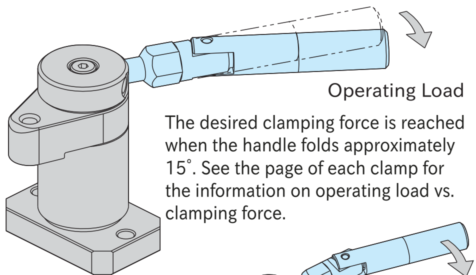
Type	L
QLTL120	104.5
QLTL160	137

■Proper One-Touch Clamps
- SWING CLAMPS <QLSW>
- SIDE CLAMPS <QLSC>
- PULL CLAMPS <QLPD>
- PUSH CLAMPS <QLPU>

How To Use

Turning the setscrew inside the handle allows adjusting the torque to set a desired clamping force.



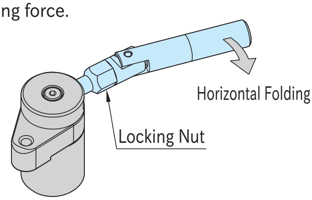


The desired clamping force is reached when the handle folds approximately 15°. See the page of each clamp for the information on operating load vs. clamping force.

[Operating-Load Setting Range]

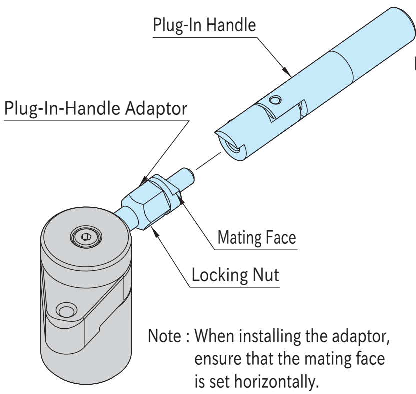
QLTL120/QLTL120-RL : 30N to 120N
QLTL160/QLTL160-RL : 50N to 160N

Note : Ensure that the operating load is not set below the lower limit to prevent the handle from returning to the unclamping position due to shock load generated during the transfer of machine pallets.

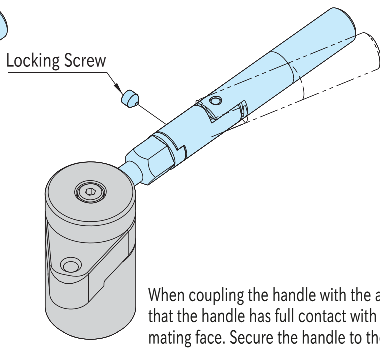


Note : Ensure that the handle is set to fold horizontally.

Plug-In Handle Installation



Note : When installing the adaptor, ensure that the mating face is set horizontally.



When coupling the handle with the adaptor,ensure that the handle has full contact with the adaptor's mating face. Secure the handle to the adaptor using the lockingscrew if necessary.

Value Creator
IMAO

SNAP CLAMPS

Click-Out Clamping!

SNAP CLAMPS

A click indicates completed clamping.

Hold-Down Style   Push-Pull Style   Hold-Down (Mini) Style

IMAO's Snap-On System

As the handle is operated, the built-in balls move following the slit to let tension accumulate on the flat spring. When the balls are positioned in the clamping pockets, the accumulated tension is released and transformed into clamping force.

Hold-Down Standard Double-Lock

Push-Pull Double-Lock

Hold-Down Mini Single-Lock

Stable Clamping!

Provide the firm clamping force at every operation.

Smooth Clamping!

A small handle operating load generates a maximal clamping capacity.

Secure Clamping!

A snap-on system allows clamping a part with no errors.

Highly Durable!

New Sturdy Clamps!
500,000 Cycles Cleared! *)

Due to one-piece body construction and heat treatment to the pressurizing members, Snap Clamps can work with little wear-out, deformation or deterioration, and do not get shaky or weak in clamping even after long-term use.
Snap Clamps are far more durable than traditional toggle clamps or the like, and can be used without maintenance.

*) Result of Imao original proof test (note that cycle life varies with operating conditions and environments).

One-Piece Body

Visible Clamping Force

A label number stands for clamping force.

Example:
6 ··· Clamping Force 60N

QLSND VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS

IMAO

RoHS

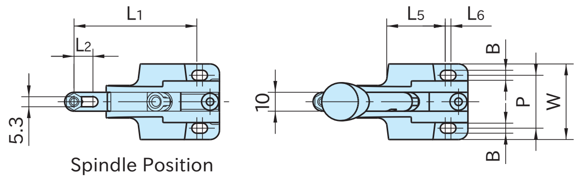
Clamping Mode

Unclamping Mode

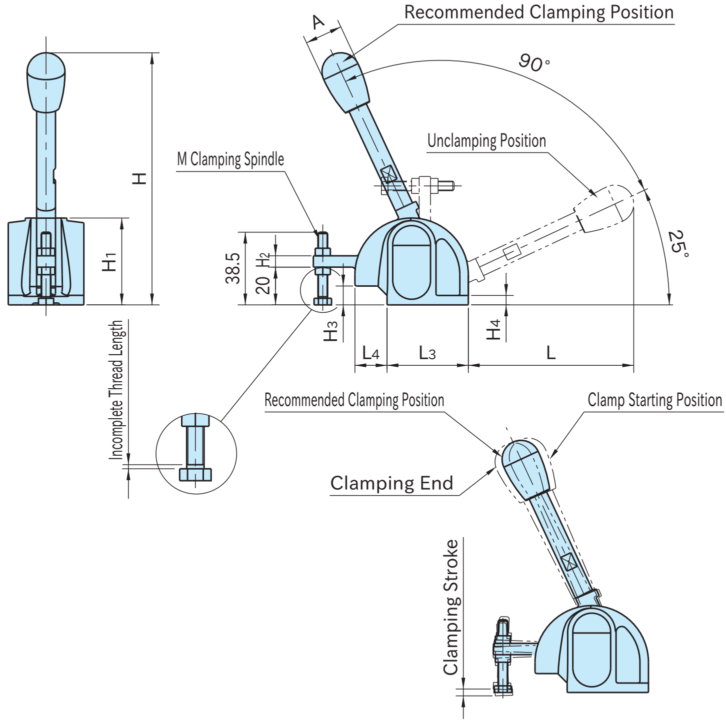
★Key Point

The handle clicks at clamping end.

Body	Clamping Arm	Handle	Knob	Clamping Spindle
ZDC2 steel Cation coating finish Black	SCM440 steel Quenched and tempered Black oxide finish	S45C steel Chrome plated	Phenolic plastic Black	SCM435 steel Quenched and tempered Black oxide finish



Spindle Position



Part Number	Clamping Stroke	L_1	L_2	L_3	W	H_4	B	L_6	P	L_5	H max.	H_1	H_2	H_3
QLSND28-02	3	65	10	43	40	5	5.3	3	28	31	140	46	6	10
QLSND28-05														
QLSND30-03		75	12	48.5	42	6	6.4	6	30	32.5	158	53	8	12
QLSND30-06														

Part Number	L_4	M	L	A	Handle Operating Load (N)	Clamping Force (N)	Weight (g)
QLSND28-02	17	M5×0.8-35L Incomplete Thread Length :1.5	88	20	6	20	390
QLSND28-05					12	50	
QLSND30-03	22.5		98	26	6	30	520
QLSND30-06					12	60	

How To Set Handle To Recommended Clamping Position

- Turn the handle to the clamping end and then set the clamping spindle to contact a workpiece (Fig. 1)
- Lower the clamping spindle by about half of the clamping stroke and then tighten the nut for locking (Fig. 2)

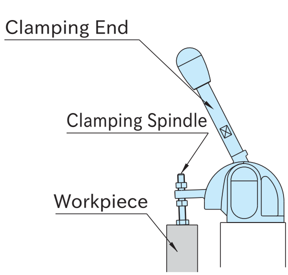


Fig. 1

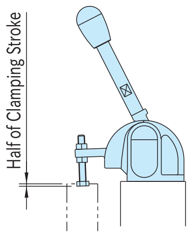
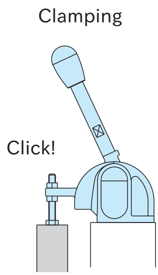


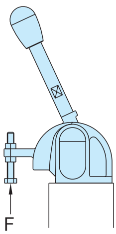
Fig. 2



Setting Completed

Note

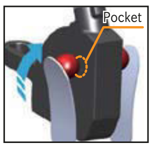
- The clamping forces and handle operating loads stated above can vary by up to ± 20%.
- When the reaction force(F) becomes greater than the clamping force, clamping is lifted.



Part Number	Clamping Is Lifted When :
QLSND28-02	F ＞ 20N
QLSND28-05	F ＞ 50N
QLSND30-03	F ＞ 30N
QLSND30-06	F ＞ 60N

Feature

- The long handle facilitates clamping operation.
- The handle is locked at the unclamping position.
- Uses a snap-on system (double locking)



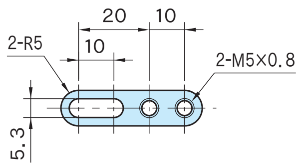
Related Product

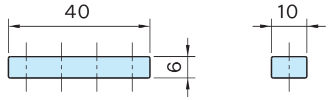
- QLSND-EX20 Extension Arms to extend the clamp arm.
- QLSND-AN10 Angle Adaptors to set the handle in an angled position.
- UB Clamping Spindles to protect workpieces from being marred.
- QLSN-B Mounting Brackets

QLSND-EX20 EXTENSION ARM

RoHS | Dedicated for Snap Clamps

IMAO





Body
S45C steel Black oxide finish

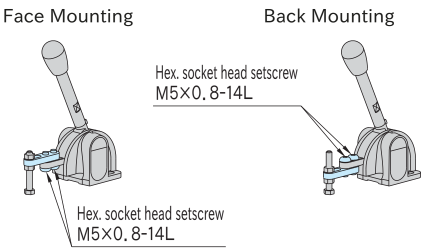
Part Number	Weight (g)
QLSND-EX20	12

Supplied With

Hex. socket head setscrew M5×0.8-14L ×2 pcs.

How To Use

Use to extend the clamping arm for clamping at a more distant point.



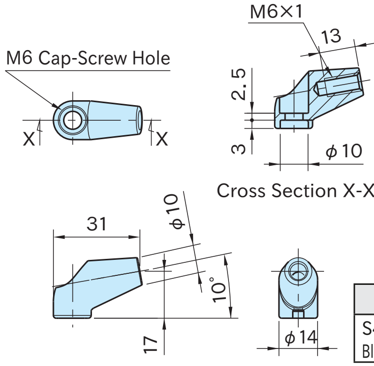
Clamping Forces Generated in Use of Extension Arms

Part Number	Clamping Force (N)
QLSND28-02	15
QLSND28-05	35
QLSND30-03	20
QLSND30-06	40

QLSND-AN10 ANGLE ADAPTOR

RoHS | Dedicated for Snap Clamps

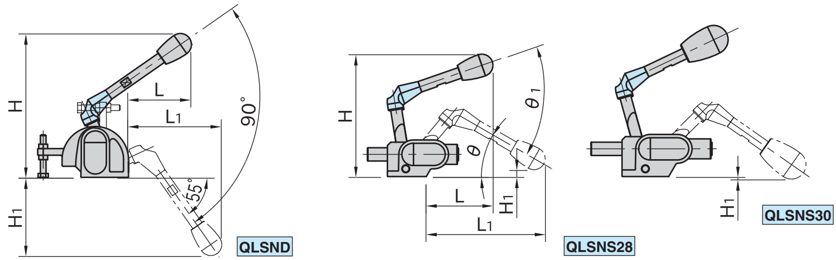
IMAO



Body
S45C steel Black oxide finish

Part Number	Weight (g)
QLSND-AN10	12

Dimensions of Snap Clamps with Angular Adaptor Installed



Type	H	L	H_1	L_1
QLSND28	130	57	71	84
QLSND30	145	61	79	92

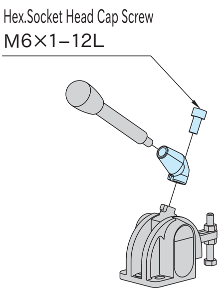
Type	H	L	H_1	L_1	θ	θ_1
QLSNS28	110	60	6	107	30°	50°
QLSNS30	136	53	2	123	35°	60°

Supplied With

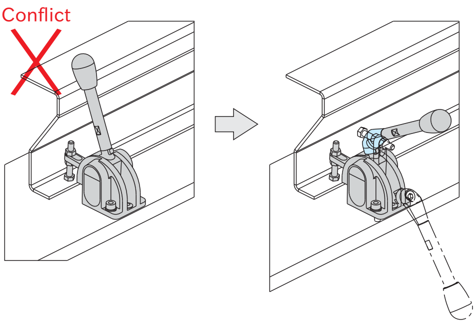
Hex.socket head cap screw M6×1-12L × 1pc.

How To Use

Remove the handle and then install an Angular Adaptor between the body and the handle. (Use a wrench of nominal size 9 for removal of the handle.)



Perfect in applications where the handle can not be turned to the clamping position.



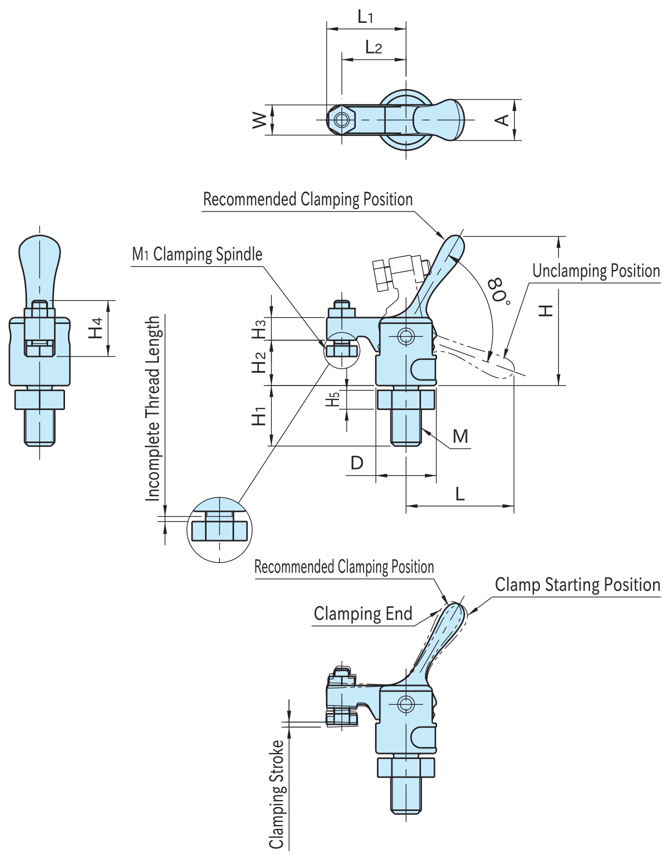
QLSNDM VERTICAL-HANDLE HOLD-DOWN SNAP CLAMPS (Mini)

RoHS | Stainless Steel | Electroless Nickel Plated

IMAO

(Black Oxide Finish) (Stainless Steel) (Electroless Nickel Plated)

Type	Body	Clamping Arm / Handle	Clamping Spindle
QLSNDM08	S45C steel Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish	SUS304 stainless steel
QLSNDM12			SCM435 steel Quenched and tempered Black oxide finish
QLSNDM08-SUS QLSNDM12-SUS	SCS13 steel (equivalent to SUS304)	SCS13 steel (equivalent to SUS304)	SUS304 stainless steel
QLSNDM08-NP QLSNDM12-NP	S45C steel Electroless Nickel Plated	SCM440 steel Electroless Nickel Plated	



Type	Clamping Stroke	L_2	M	H_1	H	D	L_1	W	H_3	H_2	M_1	H_4	L	A	H_5
QLSNDM08-01	1	17	M 8×1.25	16	39.5	16	21	8	6	12	M4×0.7-12L Incomplete Thread Length :1	15	28.5	11	5
QLSNDM12-01 QLSNDM12-03	1.5	22	M12×1.75	24	53.5	22	27	10	8	17	M5×0.8-15L Incomplete Thread Length :1.5	18.5	38	13	7

QLSNDM (Black Oxide Finish)

Part Number	Handle Operating Load (N)	Clamping Force (N)	Weight (g)
QLSNDM08-01	5	10	50
QLSNDM12-01	5	10	120
QLSNDM12-03	13	30	120

QLSNDM-SUS (Stainless Steel)

Part Number	Handle Operating Load (N)	Clamping Force (N)	Weight (g)
QLSNDM08-01-SUS	5	10	50
QLSNDM12-01-SUS	5	10	120
QLSNDM12-03-SUS	13	30	120

QLSNDM-NP (Electroless Nickel Plated)

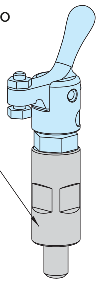
Part Number	Handle Operating Load (N)	Clamping Force (N)	Weight (g)
QLSNDM08-01-NP	5	10	50
QLSNDM12-01-NP	5	10	120
QLSNDM12-03-NP	13	30	120

Feature

- The clamp clicks when clamping is done.
- Perfect for clamping of a small part, and for use in limited space.
- Designed for fingertip handle operation.
- The handle is lockesd at the unclamping position.
- Uses a snap-on system (single locking).

How To Use

Use a BJ601 Small Cylindrical Risers to raise these clamps.



Related Product

UB Clamping Spindles with a plastic tip are available for clamping without marring a part.

How To Set Handle To Recommended Clamping Position

- Turn the handle to the clamping end and then set the clamping spindle to contact a workpiece (Fig. 1)
- Lower the clamping spindle by about half of the clamping stroke and then tighten the nut for locking (Fig. 2)

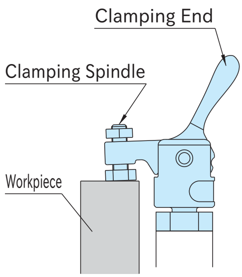


Fig. 1

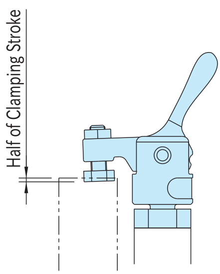
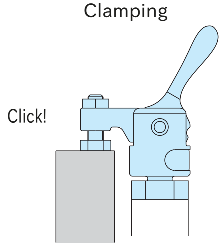


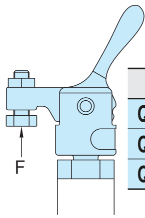
Fig. 2



Setting Completed

Note

- The clamping forces and handle operating loads stated above can vary by up to ± 20%.
- When the reaction force(F) becomes greater than the clamping force, clamping is lifted.



Type	Clamping Is Lifted When :
QLSNDM08-01	F is larger than 10N
QLSNDM12-01	F is larger than 10N
QLSNDM12-03	F is larger than 30N

QLSNS PUSH-PULL SNAP CLAMPS

RoHS

IMAO

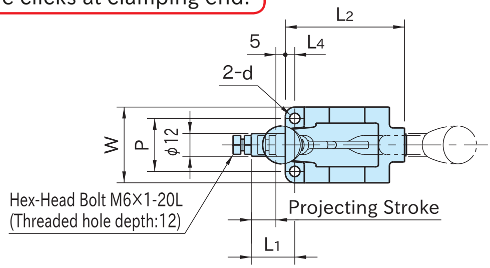
Clamping Mode

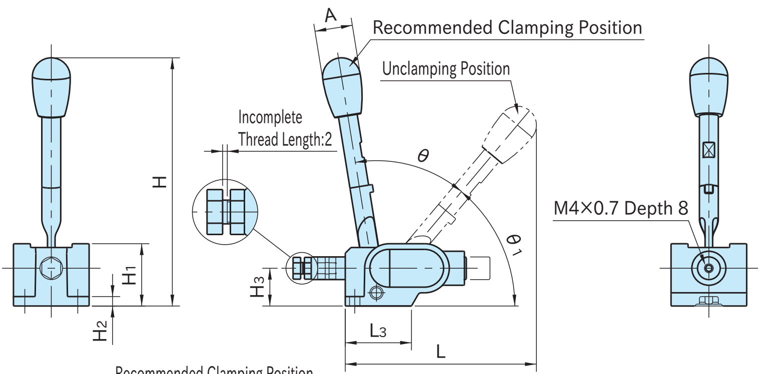
Unclamping Mode

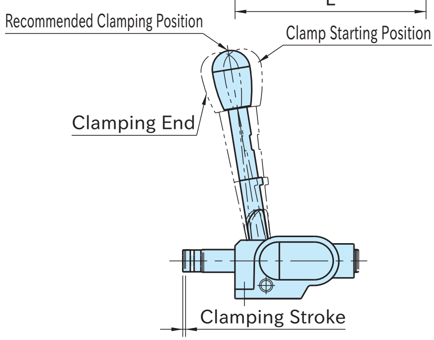
Body	Handle Link	Shaft
ZDC2 steel Cation coating finish Black	SCM440 steel Quenched and tempered Black oxide finish	S25C steel Carburized nitriding hardened Black oxide finish
Lever	**Knob**	**Clamping Spindle**
S45C steel Chrome plated	Phenolic plastic Black	SCM435 steel Quenched and tempered Black oxide finish

★Key Point

The handle clicks at clamping end.







Part Number	Projecting Stroke	Clamping Stroke	H_3	L_1	L_2	L_3	W	H_2	d	L_4	P
QLSNS28-05	12	1.5	20	22	63	35	40	5	5.5	5	28
QLSNS28-12											
QLSNS30-07	22		25	33	80	42	42	6	6.5	6	30
QLSNS30-14											

Part Number	H max.	H_1	A	L	θ	θ_1	Handle Operating Load (N)	Clamping Force (N)	Weight (g)
QLSNS28-05	133	33	20	101	50°	50°	9	50	370
QLSNS28-12							20	120	
QLSNS30-07	157	38	26	131	60°	45°	6	70	500
QLSNS30-14							18	140	

How To Set Handle To Recommended Clamping Position

- Turn the handle to the clamping end and then set the clamping spindle to contact a workpiece (Fig. 1)
- Project the clamping spindle by about half of the clamping stroke and then tighten the nut for locking (Fig. 2)

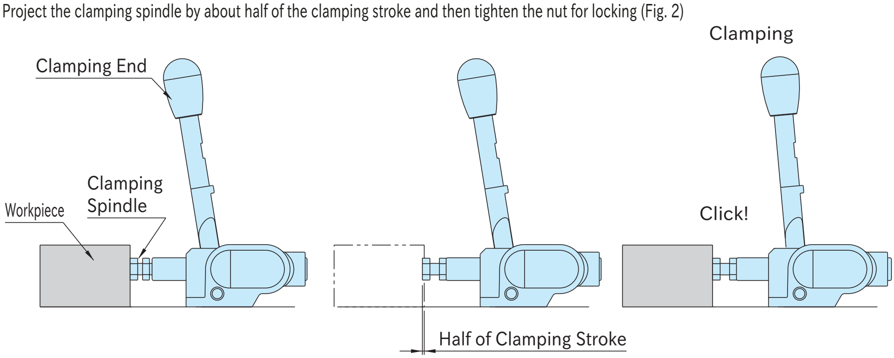
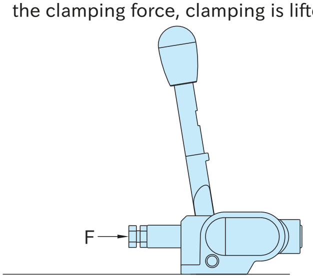


Fig. 1 Fig. 2 Setting Completed

Note

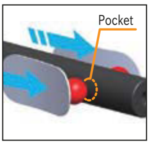
- The clamping forces and handle operationg loads stated above can vary by up to ± 20%.
- When the reaction force(F) becomes greater than the clamping force, clamping is lifted.



Part Number	Clamping Is Lifted When:
QLSNS28-05	F ＞ 50N
QLSNS28-12	F ＞ 120N
QLSNS30-07	F ＞ 70N
QLSNS30-14	F ＞ 140N

Feature

- The long handle facilitates clamping operation.
- The handle is locked at the unclamping position.
- Uses a snap-on system (double locking)



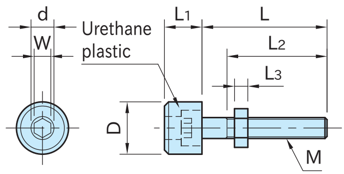
Related Product

- QLSND-AN10 Angle Adaptors to set the handle in an angled position.
- UB Clamping Spindles to protect workpieces from being marred.
- QLSN-B Mounting Brackets

UB CLAMPING SPINDLES

RoHS Dedicated for Snap Clamps

IMAO



Part Number	M	L	D	L_1	L_2	L_3
UB4×15	M4×0.7	15	10	7	14	2.4
UB5×15	M5×0.8		12.5	9	13.5	3.2
UB5×30		30			24	
UB6×20	M6×1	20	15	10	18	3.6

Part Number	d	W	Weight (g)	Proper Snap Clamps
UB4×15	4.2	3	4	Mini Hold-Down
UB5×15	5.5	4	6	
UB5×30			8	Standard Hold-Down
UB6×20	6	5	10	Push-Pull

Tip	Screw	Hex. Nut
Black urethane plastic Shore A90	SCM435 steel Trivalent chromate plated	SS400 steel Trivalent chromate plated

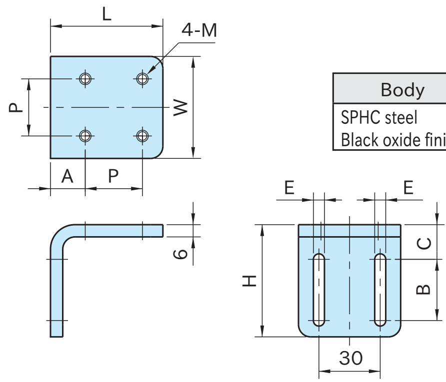
Installation example

The urethane tip avoids marring soft or finished surfaces.

QLSN-B MOUNTING BRACKETS

RoHS Dedicated for Snap Clamps

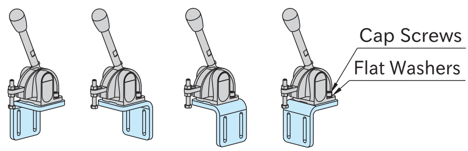
IMAO



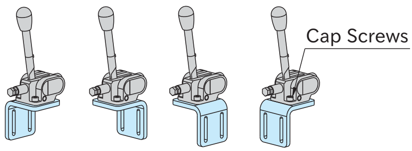
Body
SPHC steel Black oxide finish

Part Number	L	W	H	E	B	C	M	P	A	Weight (g)	Snap Clamps
QLSN28-B	55	50	55	5.4	30	17	M5×0.8	28	17	200	QLSND28/QLSNS28
QLSN30-B	70	55	70	6.4	35	25	M6×1	30	27.5	310	QLSND30/QLSNS30

How To Use



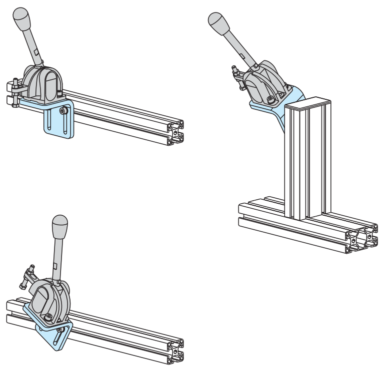
Examples of Mounting Standard Hold-Down Snap Clamps



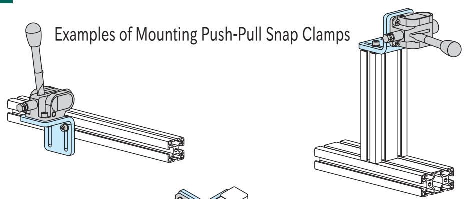
Examples of Mounting Push-Pull Snap Clamps

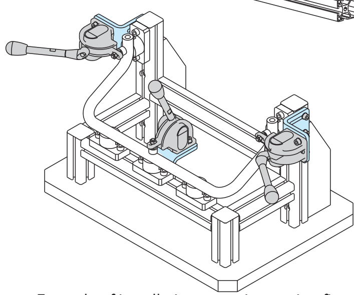
Installation on Aluminum Profiles

Examples of Mounting Standard Hold-Down Snap Clamps



Examples of Mounting Push-Pull Snap Clamps





Example of installation on an inspection fixture for 3-D measuring machine

Feature

- Brackets for Standard Hold-Down and Push-Pull Snap Clamps
- Mountable in 4 directions

Value Creator
IMAO

CLAMPS

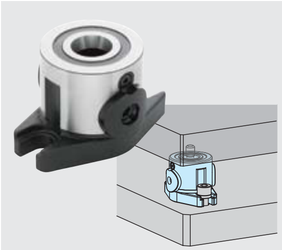
MODULAR PULL CLAMPING SYSTEM

OD / ID CLAMPS

CLAMPS

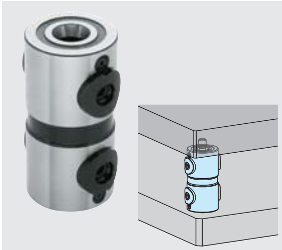
CLAMPS

MODULAR PULL CLAMPING SYSTEM



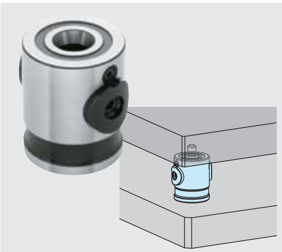
CLAMPING MODULES (Flanged)

Part No. CP150



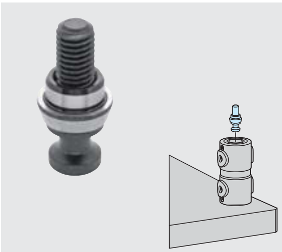
CLAMPING MODULES (Double)

Part No. CP151



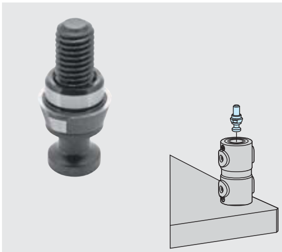
CLAMPING MODULES (Single)

Part No. CP152



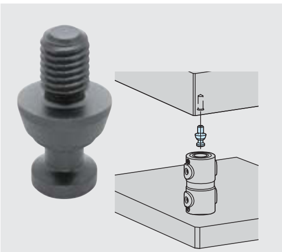
TAPERED CLAMPING SCREWS (Round)

Part No. CP155-L



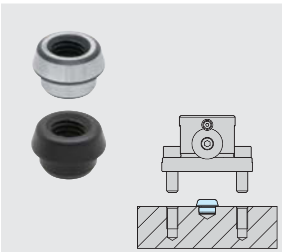
TAPERED CLAMPING SCREWS (Diamond)

Part No. CP155-D



CLAMPING SCREWS

Part No. CP156

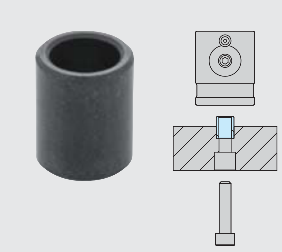


TAPERED BUSHINGS

Part No. CP157

DOUBLE TAPERED CLAMPING PINS

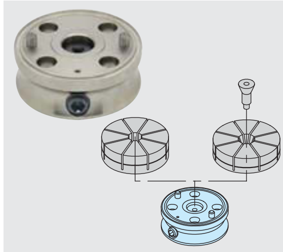
Part No. CP158



LOCATING BUSHINGS

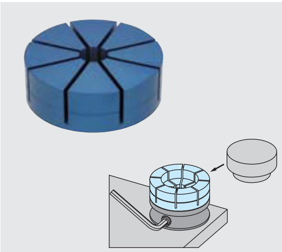
Part No. CP159

OD / ID CLAMPS



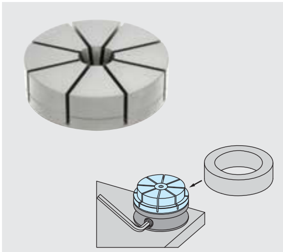
FORM HOLDING CLAMPS

Part No. CP125



JAWS FOR EXTERNAL FORM HOLDING

Part No. CP126

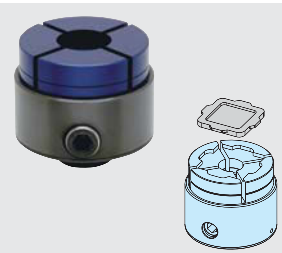


JAWS FOR INTERNAL FORM HOLDING

Part No. CP127

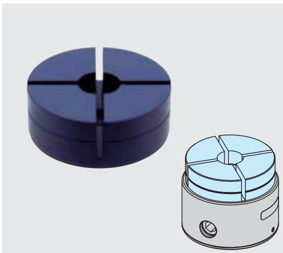
TAPERED SCREWS FOR INTERNAL FORM HOLDING

Part No. CP127-B



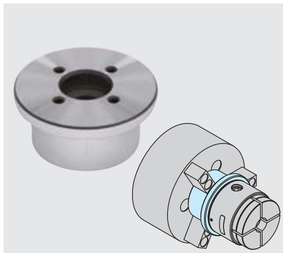
OD HOLDING CLAMPS

Part No. CP120



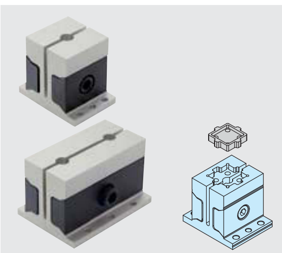
JAWS

Part No. CP121



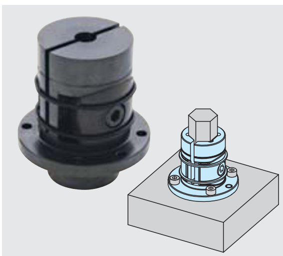
MOUNTING-ON-LATHE ADAPTERS

Part No. CP122



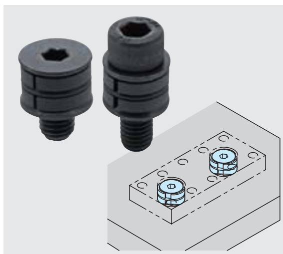
OD HOLDING CLAMPS (Wedge Style/Square)

Part No. CP124



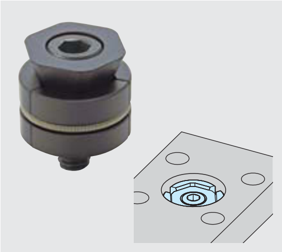
OD HOLDING CLAMPS (Wedge Style/Round)

Part No. CP123



COMPACT ID HOLDING CLAMPS

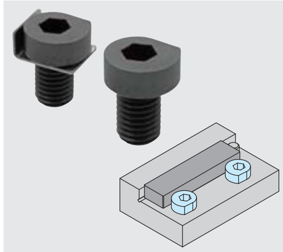
Part No. CP131



ID HOLDING CLAMPS

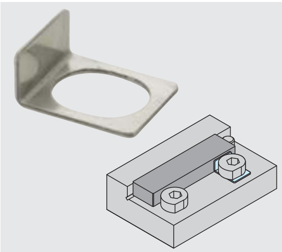
Part No. CP130

CLAMPS



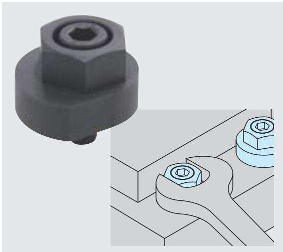
SPIRAL CAM CLAMPS

Part No. CP135



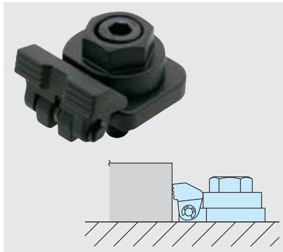
CLAMPING PLATES

Part No. CP135-P



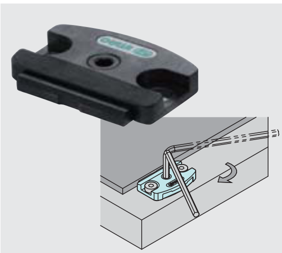
CAM CLAMPS

Part No. BJ161



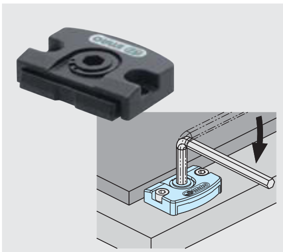
CAM EDGE CLAMPS

Part No. BJ162



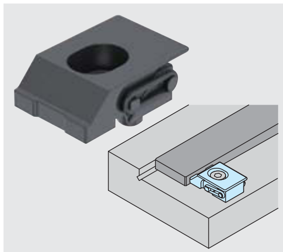
COMPACT LOW-PROFILE CAM EDGE CLAMPS

Part No. QLSCL



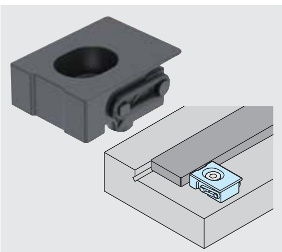
LOW-PROFILE CAM EDGE CLAMPS

Part No. QLSCL-NR



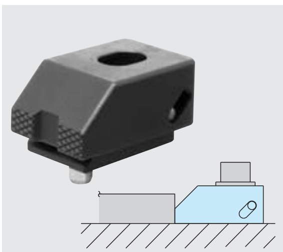
COMPACT TOE CLAMPS

Part No. CP133



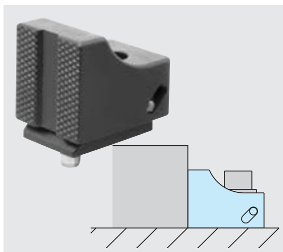
COMPACT SIDE CLAMPS

Part No. CP134



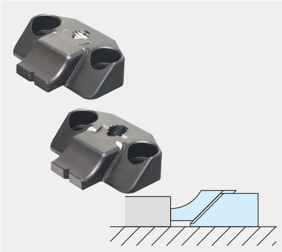
TOE CLAMPS

Part No. CP106



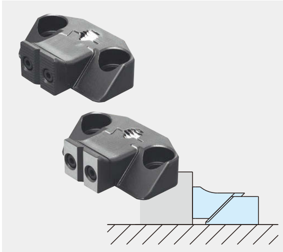
SIDE CLAMPS

Part No. CP107



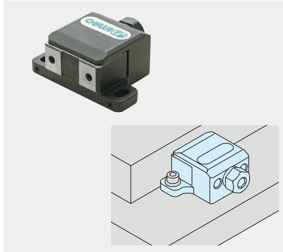
TOE CLAMPS

Part No. CP104



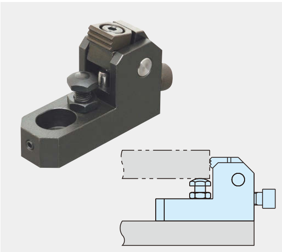
SIDE CLAMPS

Part No. CP105



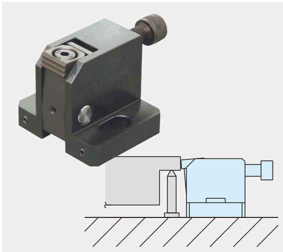
SIDE CLAMPS

Part No. QLSCH-H



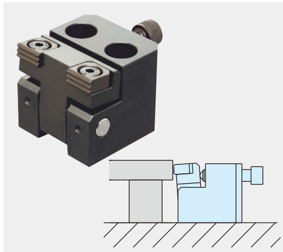
SIDE CLAMPS

Part No. CP100



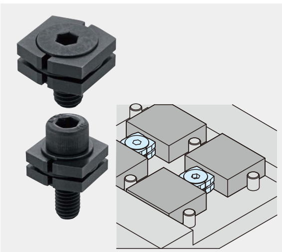
SIDE CLAMPS

Part No. CP101



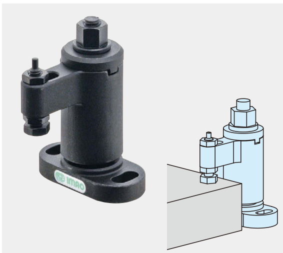
WIDE-JAW SIDE CLAMPS

Part No. CP102



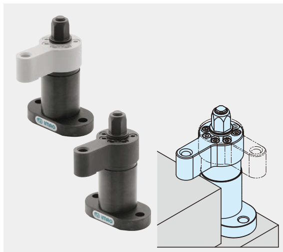
COMPACT WEDGE CLAMPS

Part No. CP132



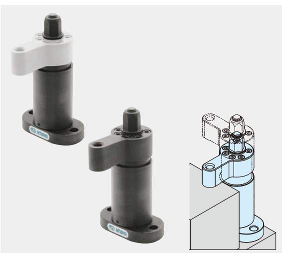
SWING CLAMPS FOR TORQUE CONTROL

Part No. QLSWC



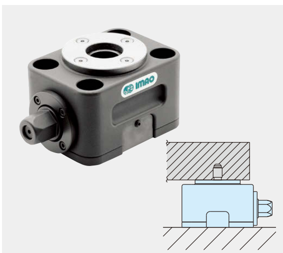
SWING CLAMPS (Quick-Acting)

Part No. PTSW1



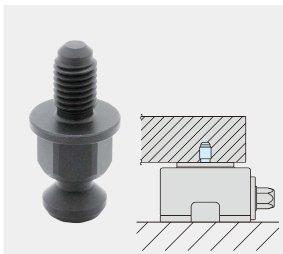
SWING CLAMPS (Spiral-Acting)

Part No. PTSW2



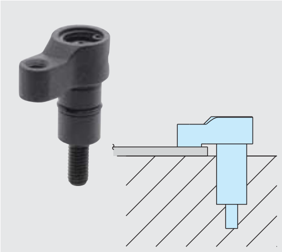
BLOCK PULL CLAMPS

Part No. PTPD



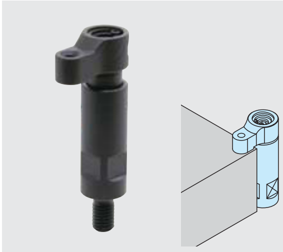
CLAMPING SCREWS FOR BLOCK PULL CLAMPS

Part No. PTPD-M



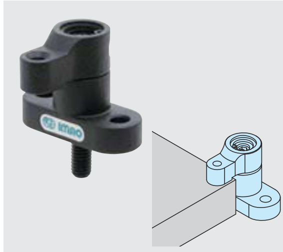
HOOK CLAMPS

Part No. BJ132



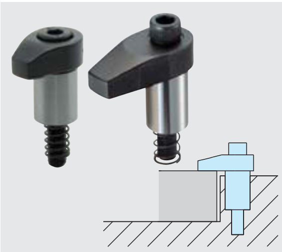
HOOK-CLAMP ASSEMBLIES

Part No. BJ132-A



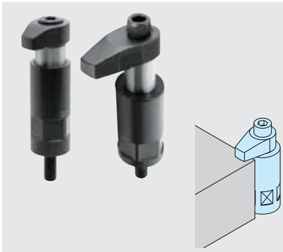
HOOK-CLAMP ASSEMBLIES WITH FLANGED HOLDER

Part No. BJ132-B



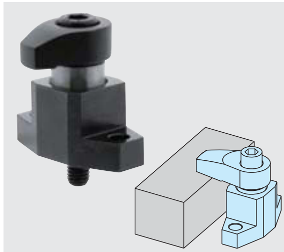
HOOK CLAMPS

Part No. BJ130



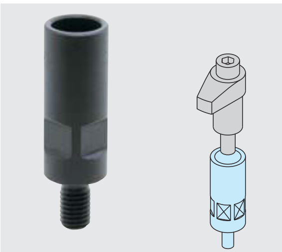
HOOK-CLAMP ASSEMBLIES

Part No. BJ130-A



HOOK-CLAMP ASSEMBLIES (Flanged)

Part No. BJ130-B1

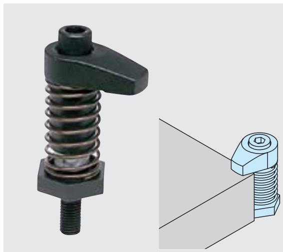


HOOK-CLAMP HOLDERS

Part No. BJ530

HOOK-CLAMP HOLDERS (Flanged)

Part No. BJ531



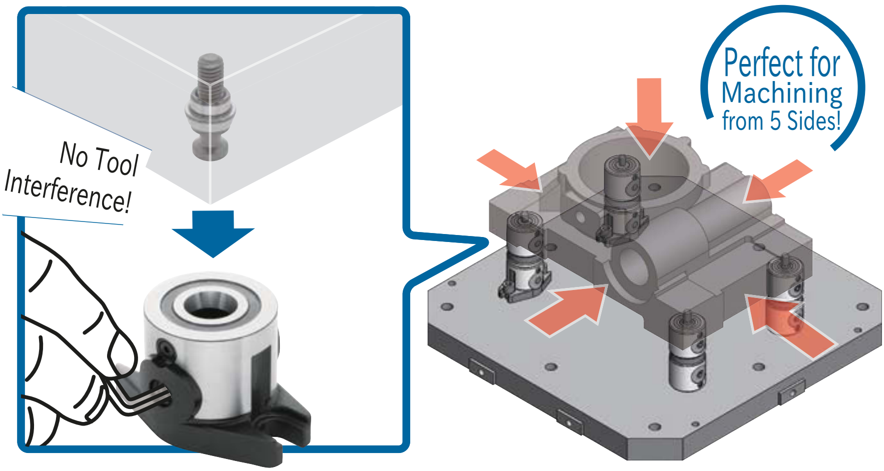
HOOK CLAMPS

Part No. BJ131

Value Creator

IMAO

MODULAR PULL CLAMPING SYSTEM

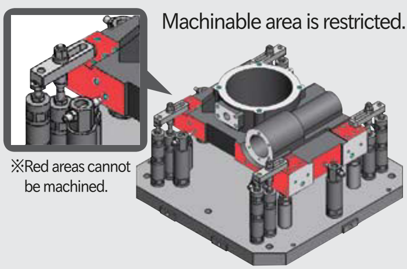


New Style of Pull Clamps!

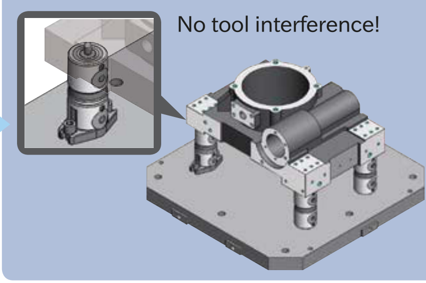
MODULAR PULL CLAMPING SYSTEM

The cylindrical body allows machining from 5 sides without tool interference.

Conventional Fixture



Modular Pull Clamping System



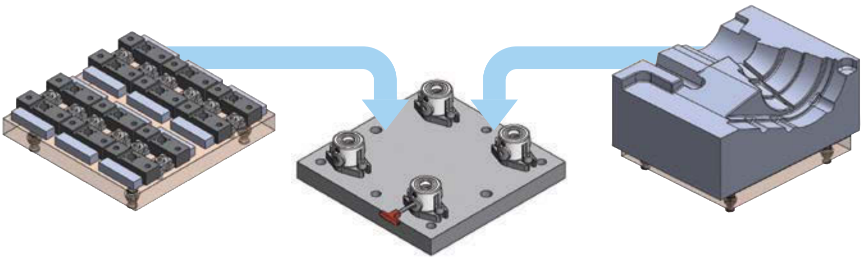
Simple workholding provides ;

Single Machining Step	Lower Fixture Cost	Better Machining Accuracy	Shorter Machining Time
No tool interference	Single fixture	Single setup	Simple toolpaths

Application Example

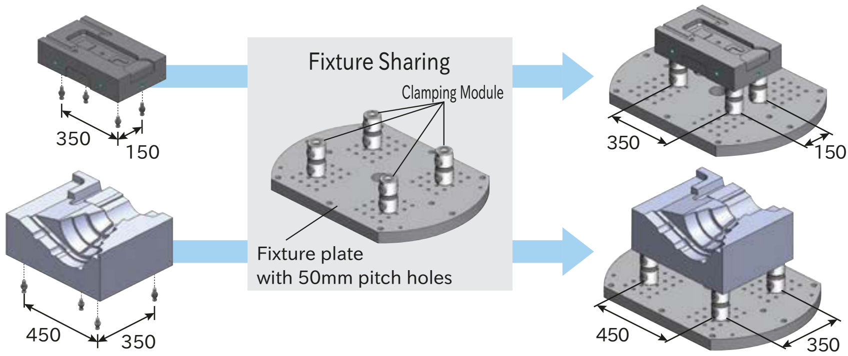
Precise Fixture Change

Modular Pull Clamping System allows quick and precise fixture change.



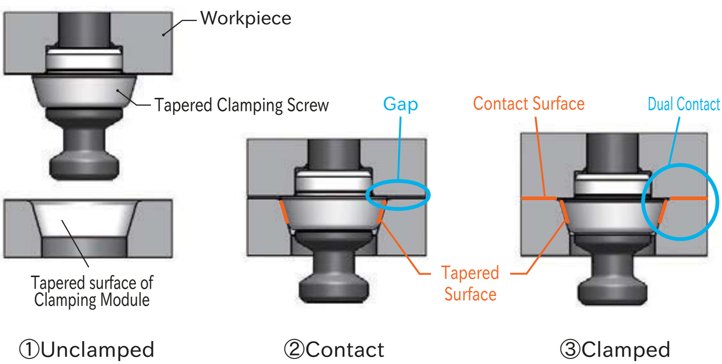
Modular Fixture

Standardizing position of Clamping Screws enables universal fixture.



Locating Mechanism

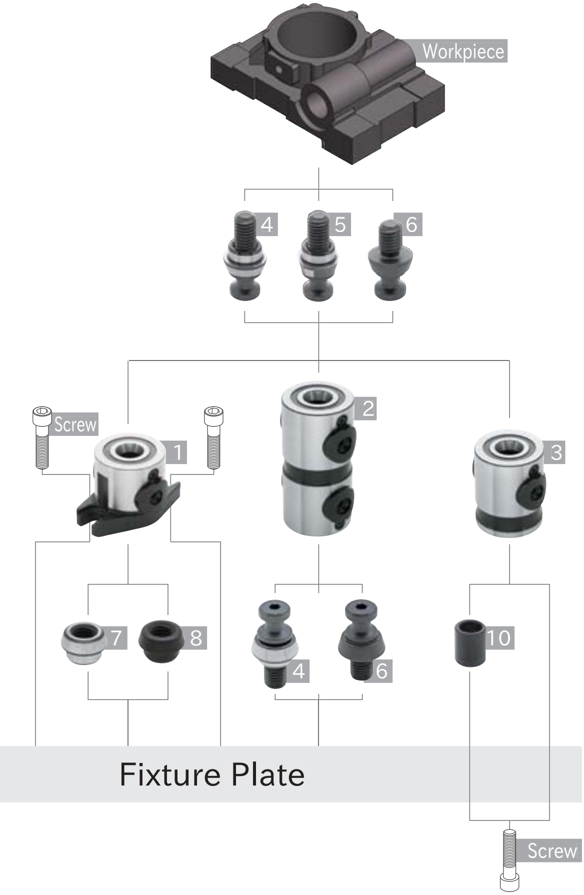
Dual surface contact at the tapered surfaces and contact surfaces provides 5μm locating repeatability.

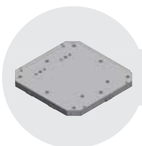


How To Use Modular Pull Clamping System

Assembly Chart

The system consists of 10 kinds of components. Please refer to the table on the next page for details of each component.

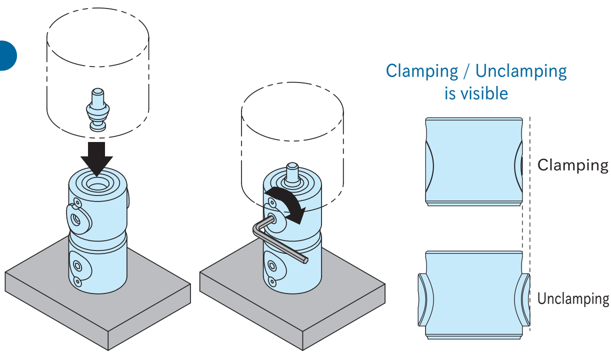




Coupling

Operation

Install clamping screw on the workpiece and mount it on clamping module.
Tighten the locking screws on the side of clamping module.



Clamping Modules

1 Flanged

Part Number	Diameter (mm)	Height (mm)	Clamping Force (kN)
CP150-08040	40	40	8
CP150-12063	60	63	15
CP150-16080	80	80	25

2 Double

Part Number	Diameter (mm)	Height (mm)	Clamping Force (kN)
CP151-08080	40	80	8
CP151-12125	60	125	15
CP151-16160	80	160	25

3 Single

Part Number	Diameter (mm)	Height (mm)	Clamping Force (kN)
CP152-08050	40	50	8
CP152-12080	60	80	15
CP152-16100	80	100	25

Tapered Clamping Screws

4 Round

Part Number	Thread Size	Workpiece Locating Repeatability
CP155-08061L	M 6	5μm
CP155-08001L	M 8	
CP155-12081L	M 8	
CP155-12001L	M12	
CP155-16121L	M12	
CP155-16001L	M16	

5 Diamond

Part Number	Thread Size	Workpiece Locating Repeatability
CP155-08061D	M 6	5μm (Should be used with round type.)
CP155-08001D	M 8	
CP155-12081D	M 8	
CP155-12001D	M12	
CP155-16121D	M12	
CP155-16001D	M16	

Clamping Screws

6

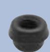
Part Number	Thread Size
CP156-08061	M 6
CP156-08001	M 8
CP156-12081	M 8
CP156-12001	M12
CP156-16121	M12
CP156-16001	M16

Tapered Bushings

7 Accurate

Part Number	Clamping Module Locating Repeatability
CP157-08001L	5μm
CP157-12001L	
CP157-16001L	

8 Standard



Part Number	Clamping Module Locating Repeatability
CP157-08001S	0.1mm
CP157-12001S	
CP157-16001S	

Double Tapered Clamping Pins

9

Part Number	Clamping Module Locating Repeatability
CP158-08001	0.2mm
CP158-12001	
CP158-16001	

Locating Bushings

10

Part Number	Diameter (mm)	Clamping Module Locating Repeatability
CP159-08001	12h6	0.04mm
CP159-12001	18h6	
CP159-16001	22h6	

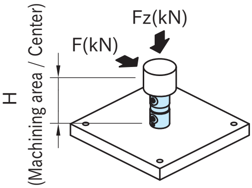
Allowable Cutting Force & Workpiece Weight of CLAMPING MODULES

Ensure the cutting force and the workpiece weight are within the allowable level.

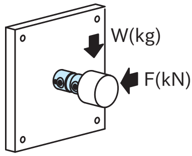
1 Module

Note: Prepare a locator when the workpiece gets big rotating force.

■Horizontal



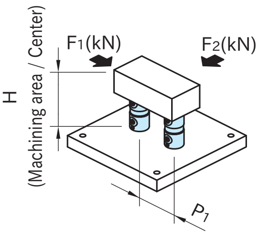
■Vertical



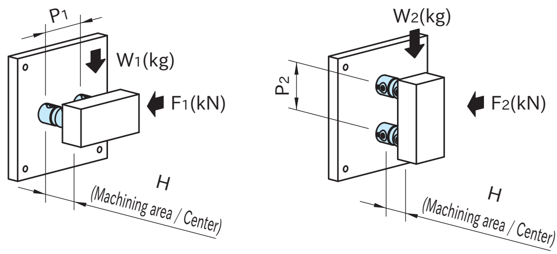
Part Number	Allowable Cutting Force		Allowable Workpiece Weight
	F(kN)	Fz(kN)	W(kg)
CP150-08040	120/H	2.5	120×100/H
CP151-08080	70/H		70×100/H
CP152-08050	70/H		70×100/H
CP150-12063	250/H	7.5	250×100/H
CP151-12125	150/H		150×100/H
CP152-12080	150/H		150×100/H
CP150-16080	500/H	15	500×100/H
CP151-16160	300/H		300×100/H
CP152-16100	300/H		300×100/H

2 Modules

■Horizontal



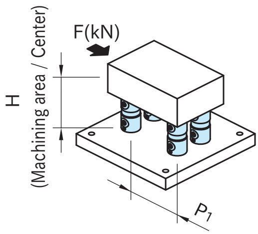
■Vertical



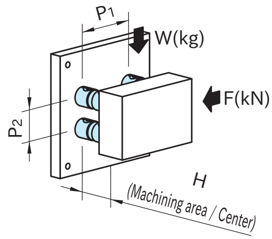
Part Number	Allowable Cutting Force			Allowable Workpiece Weight		
	F_1(kN)	F_2(kN)	Max(kN)	W_1(kg)	W_2(kg)	Max(kg)
CP150-08040	$(0.24P_1+432)/H$	240/H	3.2	240×100/H	$(0.24P_2+432)\times100/H$	320
CP151-08080	$(0.14P_1+252)/H$	140/H		140×100/H	$(0.14P_2+252)\times100/H$	
CP152-08050	$(0.14P_1+252)/H$	140/H		140×100/H	$(0.14P_2+252)\times100/H$	
CP150-12063	$(0.50P_1+900)/H$	500/H	6.0	500×100/H	$(0.50P_2+900)\times100/H$	600
CP151-12125	$(0.30P_1+540)/H$	300/H		300×100/H	$(0.30P_2+540)\times100/H$	
CP152-12080	$(0.30P_1+540)/H$	300/H		300×100/H	$(0.30P_2+540)\times100/H$	
CP150-16080	$(1.00P_1+1800)/H$	1000/H	10.0	1000×100/H	$(1.00P_2+1800)\times100/H$	1000
CP151-16160	$(0.60P_1+1080)/H$	600/H		600×100/H	$(0.60P_2+1080)\times100/H$	
CP152-16100	$(0.60P_1+1080)/H$	600/H		600×100/H	$(0.60P_2+1080)\times100/H$	

4 Modules

■Horizontal

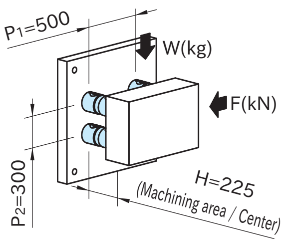


■Vertical



Part Number	Allowable Cutting Force		Allowable Workpiece Weight	
	F(kN)	Max(kN)	W(kg)	Max(kg)
CP150-08040	$2\times(0.24P_1+432)/H$		$2\times(0.24P_2+432)\times100/H$	
CP151-08080	$2\times(0.14P_1+252)/H$	6.4	$2\times(0.14P_2+252)\times100/H$	640
CP152-08050	$2\times(0.14P_1+252)/H$		$2\times(0.14P_2+252)\times100/H$	
CP150-12063	$2\times(0.50P_1+900)/H$		$2\times(0.50P_2+900)\times100/H$	
CP151-12125	$2\times(0.30P_1+540)/H$	12.0	$2\times(0.30P_2+540)\times100/H$	1200
CP152-12080	$2\times(0.30P_1+540)/H$		$2\times(0.30P_2+540)\times100/H$	
CP150-16080	$2\times(1.00P_1+1800)/H$		$2\times(1.00P_2+1800)\times100/H$	
CP151-16160	$2\times(0.60P_1+1080)/H$	20.0	$2\times(0.60P_2+1080)\times100/H$	2000
CP152-16100	$2\times(0.60P_1+1080)/H$		$2\times(0.60P_2+1080)\times100/H$	

Calculation Example



- Vertical mounting
- 4 pcs of CP151-12125 (height 125mm)
- Pitch:
  P_1=500mm
  P_2=300mm
- Workpiece center: H=225mm
- F direction cutting force: 3kN
- Workpiece weight: 375kg

<Allowable Cutting Force F>

$F = 2\times(0.3\times P_1+540)/H$

$= 2\times(0.3\times500+540)/225$

$= 6.13\text{kN}$

*) Cutting force 3kN is within allowable value (6.13kN).

<Allowable Workpiece Weight W>

$W = 2\times(0.3\times P_2+540)\times100/H$

$= 2\times(0.3\times300+540)\times100/225$

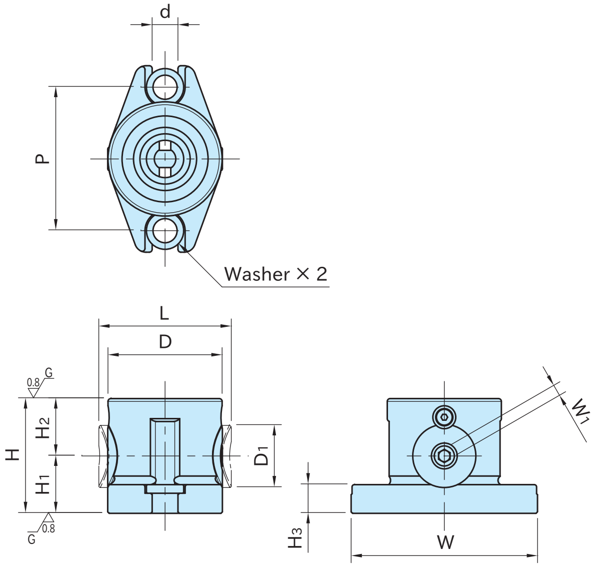
$= 560\text{kg}$

*) Workpiece weight 375kg is within allowable value (560kg).

CP150 CLAMPING MODULES (Flanged)

RoHS

IMAO



Body	Clamping Nut	Locking Screw
SCM440 steel Induction hardened Black oxide finished Precision ground	SCM440 steel Quenched and tempered Black oxide finished	SCM435 steel Quenched and tempered Black oxide finished

Part Number	D	H (±0.01)	D_1	L	H_1	H_2	W	H_3	d	P	W_1
CP150-08040	40	40	22	46	20	20	65	10	9	50	4
CP150-12063	60	63	32	69	33	30	95	15	13	75	6
CP150-16080	80	80	44	91	40	40	130	20	17	100	8

Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (kg)
CP150-08040	8	8	0.3
CP150-12063	15	22	1.4
CP150-16080	25	50	3.3

Supplied With

2 pcs. of flat washer

Techinical Information

Allowable Cutting Force & Workpiece Weight of CLAMPING MODULES

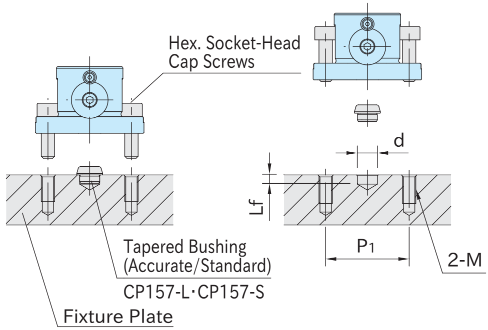
Related Product

- CP155-L Tapered Clamping Screws (Round)
- CP155-D Tapered Clamping Screws (Diamond)
- CP156 Clamping Screws
- CP157 Tapered Bushings

How To Use

・Use CP157-L Tapered Bushing (Accurate) for precise locating.
・Use CP157-S Tapered Bushing (Standard) for rough locating.

■Mounting-Hole Dimension

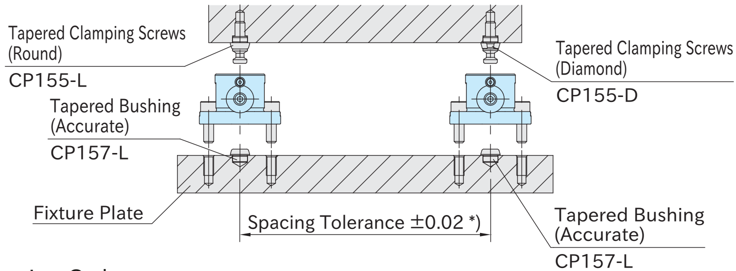


Part Number	d (H7)	Lf	M	P_1
CP150-08040	12	5.5	M 8×1.25	50
CP150-12063	18	6.5	M12×1.75	75
CP150-16080	22	8	M16×2	100

Note:The tolerance of dimension "d" for Tapered Bushing (Standard) should be $^{+0.1}_{0}$.

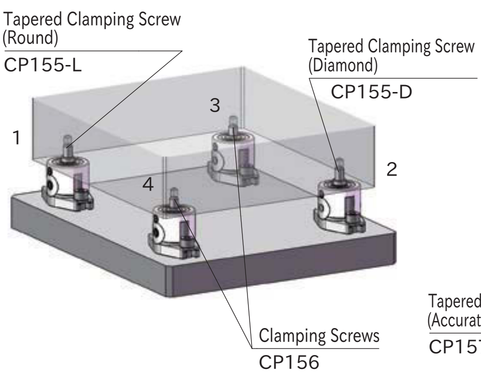
■Spacing Tolerance

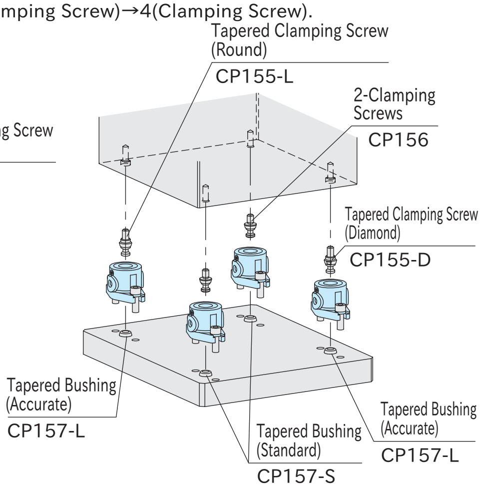
Spacing tolerance for CP157-L Tapered Bushings (Accurate) should be ±0.02.
*) Spacing tolerance for CP157-S Tapered Bushings (Standard) should be ±0.1.



■Tightening Order

Tighten the locking screws in order of 1(Round Tapered Clamping Screw)→ 2(Diamond Tapered Clamping Screw)→3(Clamping Screw)→4(Clamping Screw).

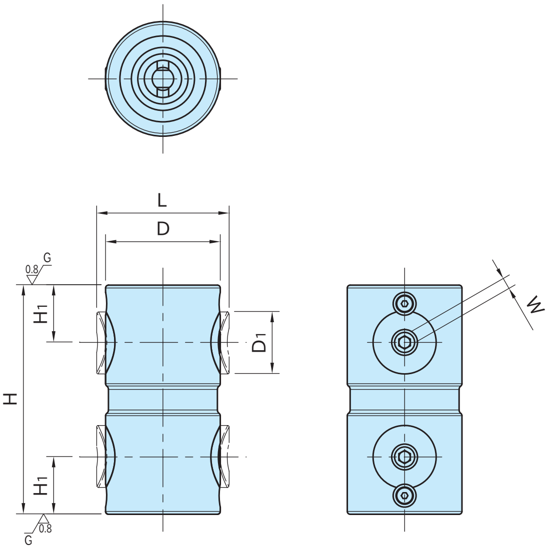




CP151 CLAMPING MODULES (Double)

RoHS

IMAO



Body	Clamping Nut	Locking Screw
SCM440 steel Induction hardened Black oxide finished Precision ground	SCM440 steel Quenched and tempered Black oxide finished	SCM435 steel Quenched and tempered Black oxide finished

Part Number	D	H (±0.01)	D_1	L	H_1	W	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (kg)
CP151-08080	40	80	22	46	20	4	8	8	0.7
CP151-12125	60	125	32	69	30	6	15	22	2.6
CP151-16160	80	160	44	91	40	8	25	50	5.8

Related Product

- CP150 Clamping Modules (Flanged)
- CP152 Clamping Modules (Single)
- CP155-L Tapered Clamping Screws (Round)
- CP155-D Tapered Clamping Screws (Diamond)
- CP156 Clamping Screws

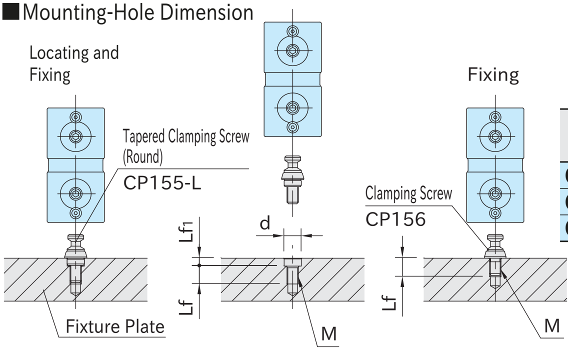
Technical Information

Allowable Cutting Force & Workpiece Weight of CLAMPING MODULES

How To Use

・Use CP155-L Tapered Clamping Screw (Round) for precise locating.
・Use CP156 Clamping Screw just for fixing.

■Mounting-Hole Dimension

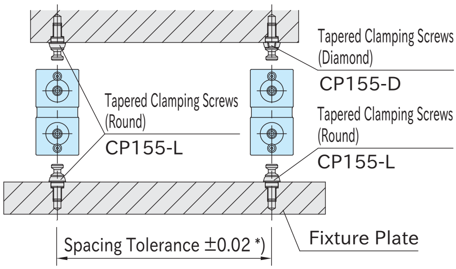


Part Number	d (H7)	Lf	Lf_1	M
CP151-08080	12	13	5.5	M 8X1.25
CP151-12125	18	19	6.5	M12X1.75
CP151-16160	22	23	8	M16X2

Note: Only tapped hole is required for CP156 Clamping Screw.

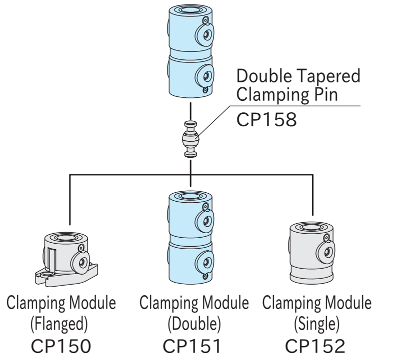
■Spacing Tolerance

Spacing tolerance for CP155-L Tapered Clamping Screws (Accurate) should be ±0.02.
*)Spacing tolerance for CP156 Clamping Screws should be ±0.2.



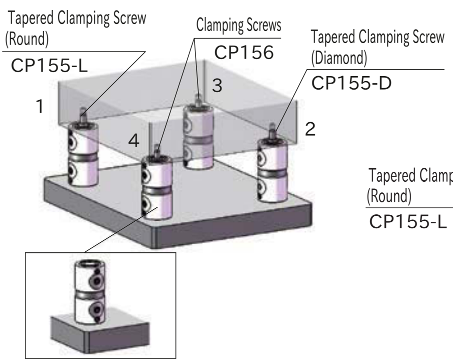
■Coupling with Other Clamping Modules

Can be coupled with each Clamping Module.
〈Locating Repeatability is 0.2〉

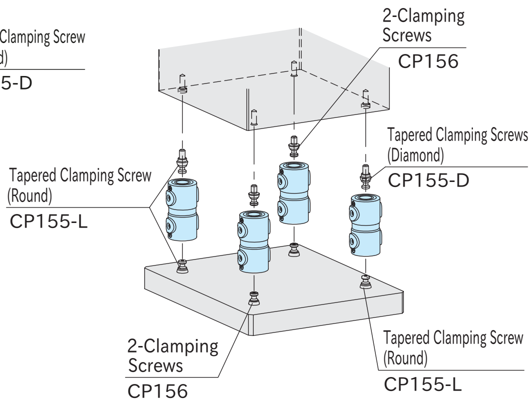


■Tightening Order

Tighten the locking screws in order of 1(Round Tapered Clamping Screw)→2(Diamond Tapered Clamping Screw)→3(Clamping Screw)→4(Clamping Screw).



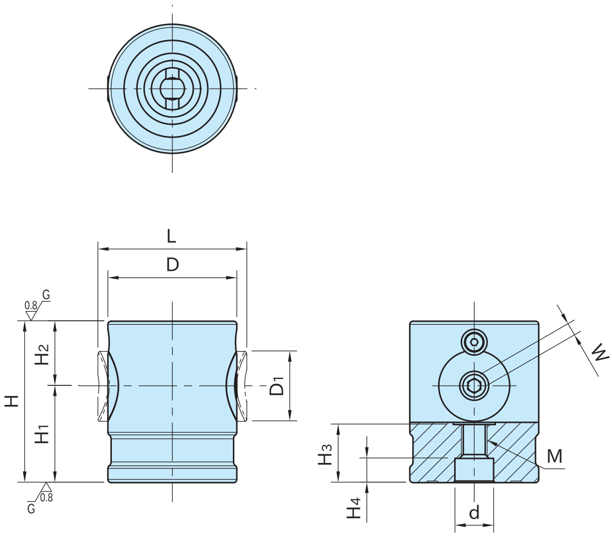
The direction of Clamping Module can be changed for easy operation.



CP152 CLAMPING MODULES (Single)

RoHS

IMAO



Body	Clamping Nut	Locking Screw
SCM440 steel Induction hardened Black oxide finished Precision ground	SCM440 steel Quenched and tempered Black oxide finished	SCM435 steel Quenched and tempered Black oxide finished

Part Number	D	H (±0.01)	D_1	L	H_1	H_2	H_3	d (H7)	H_4	M	W
CP152-08050	40	50	22	46	30	20	18	12	7.5	M 8×1.25	4
CP152-12080	60	80	32	69	50	30	25	18	10.5	M12×1.75	6
CP152-16100	80	100	44	91	60	40	31	22	12.5	M16×2	8

Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (kg)
CP152-08050	8	8	0.5
CP152-12080	15	22	1.6
CP152-16100	25	50	3.8

Related Product

- CP150 Clamping Modules (Flanged)
- CP151 Clamping Modules (Double)
- CP155-L Tapered Clamping Screws (Round)
- CP155-D Tapered Clamping Screws (Diamond)
- CP156 Clamping Screws
- CP159 Locating Bushings

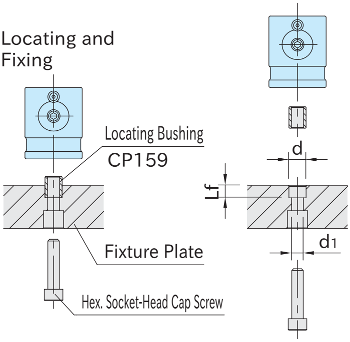
Technical Information

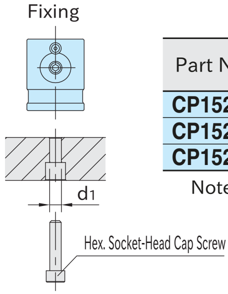
Allowable Cutting Force & Workpiece Weight of CLAMPING MODULES

How To Use

・Use CP159 Locating Bushing for precise locating.
・Use only hex. socket-head cap screw just for fixing.

■Mounting-Hole Dimension



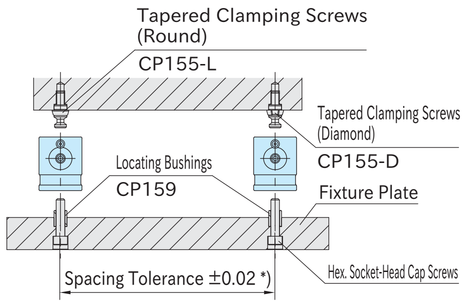


Part Number	d (H7)	Lf	d_1 ($^{+0.2}_{0}$)
CP152-08050	12	8.5	8
CP152-12080	18	12.5	12
CP152-16100	22	16.5	16

Note:Only c'bored hole is required just for fixing.

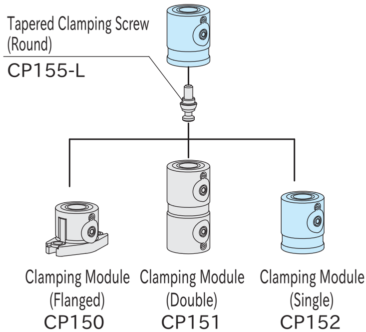
■Spacing Tolerance

Spacing tolerance for CP159 Locating Bushings should be ±0.02.
*) Spacing tolerance for hex. socket-head cap screw should be ±0.1.



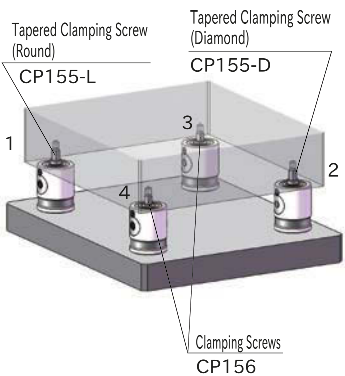
■Coupling with Other Clamping Modules

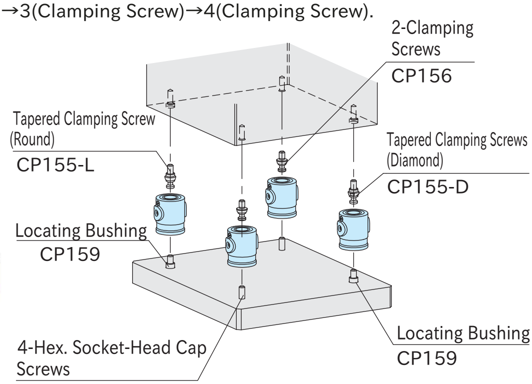
Can be coupled with each Clamping Module.
〈Locating Repeatability is 5 μm〉



■Tightening Order

Tighten the locking screws in order of 1(Round Tapered Clamping Screw)→2(Diamond Tapered Clamping Screw)→3(Clamping Screw)→4(Clamping Screw).

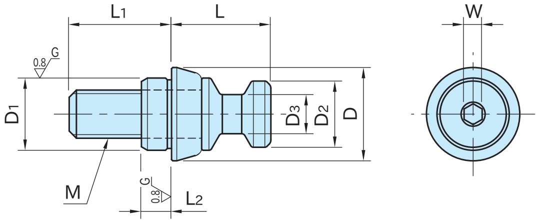




CP155-L TAPERED CLAMPING SCREWS (Round)

RoHS

IMAO



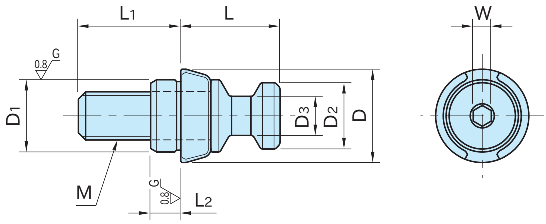
Tapered Bushing	Clamping Screw
S45C steel Black oxide finished Precision ground	SCM435 steel Quenched and tempered Black oxide finished

Part Number	M	D_1 (g6)	L_2	L_1	D	L	D_2	D_3	W	Weight (g)	CLAMPING MODULES
CP155-08061L	M 6×1	10	5	17	15.5	16.5	11	6.5	3	17	CP150-08040, CP151-08080 CP152-08050
CP155-08001L	M 8×1.25	12								20	
CP155-12081L	M 8×1.25	12	5	17	24.5	25	16	9.5	5	52	CP150-12063, CP151-12125 CP152-12080
CP155-12001L	M12×1.75	18	6	24						70	
CP155-16121L	M12×1.75	18	6	24	31.5	33	21	13	6	125	CP150-16080, CP151-16160 CP152-16100
CP155-16001L	M16×2	22	7.5	30						150	

CP155-D TAPERED CLAMPING SCREWS (Diamond)

RoHS

IMAO



Tapered Bushing	Clamping Screw
S45C steel Black oxide finished Precision ground	SCM435 steel Quenched and tempered Black oxide finished

Part Number	M	D_1 (g6)	L_2	L_1	D	L	D_2	D_3	W	Weight (g)	CLAMPING MODULES
CP155-08061D	M 6×1	10	5	17	15.5	16.5	11	6.5	3	17	CP150-08040, CP151-08080 CP152-08050
CP155-08001D	M 8×1.25	12								20	
CP155-12081D	M 8×1.25	12	5	17	24.5	25	16	9.5	5	51	CP150-12063, CP151-12125 CP152-12080
CP155-12001D	M12×1.75	18	6	24						70	
CP155-16121D	M12×1.75	18	6	24	31.5	33	21	13	6	123	CP150-16080, CP151-16160 CP152-16100
CP155-16001D	M16×2	22	7.5	30						150	

How To Use

Round Type

・Can be used for locating CP151 Clamping Module (Double).

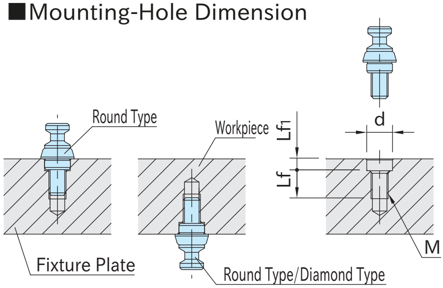
・Can be used for locating a workpiece with diamond type.

Diamond Type

・Can be used for locating a workpiece with round type.

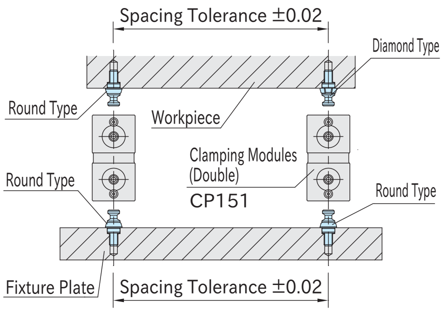
・Fix the tapered bushing of diamond type after deciding the direction.

■Mounting-Hole Dimension

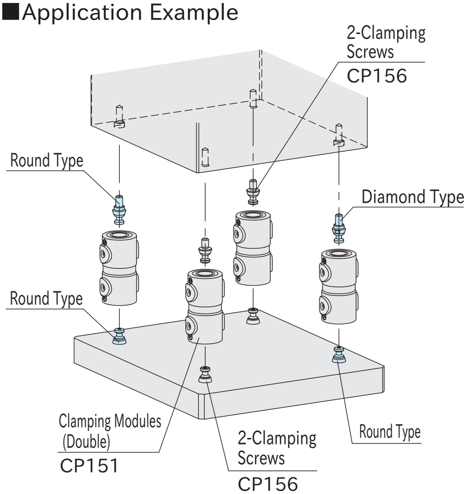


Part Number	d (H7)	Lf	Lf1	M
CP155-08061	10	13	5.5	M 6×1
CP155-08001	12			M 8×1.25
CP155-12081	12	13	5.5	M 8×1.25
CP155-12001	18	19	6.5	M12×1.75
CP155-16121	18	19	6.5	M12×1.75
CP155-16001	22	23	8	M16×2

■Spacing Tolerance

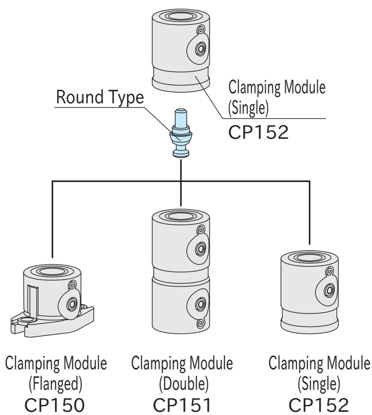


■Application Example



■Coupling of Clamping Module (Single)

Round type can be used as a coupling for Clamping Module (Single).
〈Locating Repeatability is 5μm〉



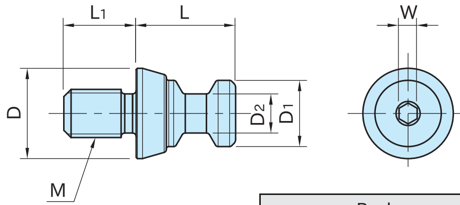
Related Product

- CP150 Clamping Modules (Flanged)
- CP151 Clamping Modules (Double)
- CP152 Clamping Modules (Single)
- CP156 Clamping Screws

CP156 CLAMPING SCREWS

RoHS

IMAO

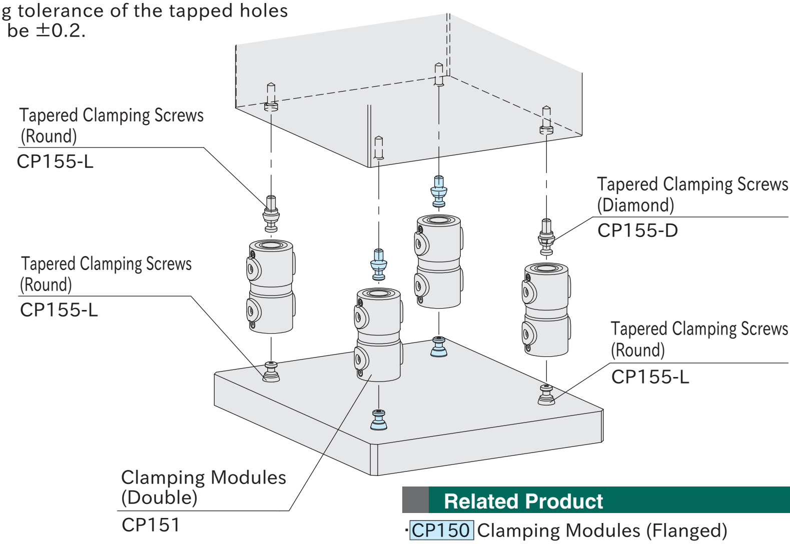


Body
SCM435 steel Quenched and tempered Black oxide finished

Part Number	M	L_1	D	L	D_1	D_2	W	Weight (g)	CLAMPING MODULES
CP156-08061	M 6×1	9	15	16.5	11	6.5	3	13	CP150-08040, CP151-08080
CP156-08001	M 8×1.25	12						16	CP152-08050
CP156-12081	M 8×1.25	12	24	25	16	9.5	5	46	CP150-12063, CP151-12125
CP156-12001	M12×1.75	18						57	CP152-12080
CP156-16121	M12×1.75	18	31	33	21	13	6	108	CP150-16080, CP151-16160
CP156-16001	M16×2	22						125	CP152-16100

How To Use

- Can be used for mounting CP151 Clamping Module (Double) on the fixture plate.
- Can be installed on the workpiece.
- No locating function.
- Spacing tolerance of the tapped holes should be ±0.2.



Related Product

- CP150 Clamping Modules (Flanged)
- CP151 Clamping Modules (Double)
- CP152 Clamping Modules (Single)
- CP155-L Tapered Clamping Screws (Round)
- CP155-D Tapered Clamping Screws (Diamond)

Note

Contact us for customization.

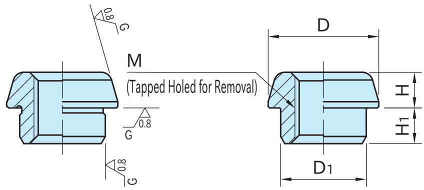
CP157 TAPERED BUSHINGS

RoHS

IMAO

CP157-L
(Accurate)

CP157-S
(Standard)



CP157-L
(Accurate)

CP157-S
(Standard)

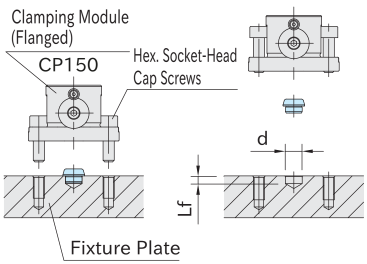
Part Number	D	H	D1		H1	M	Weight (g)
CP157-08001L	15.5	5	12	g6	5	M 8×1.25	6
CP157-12001L	24.5	8	18		6	M12×1.75	24
CP157-16001L	31.5	10	22		7.5	M16×2	45
CP157-08001S	15.5	5	12	$^{-0.02}_{-0.05}$	5	M 8×1.25	11
CP157-12001S	24.5	8	18		6	M12×1.75	37
CP157-16001S	31.5	10	22		7.5	M16×2	75

Type	Body
CP157-L	S45C steel Black oxide finished Precision ground
CP157-S	S45C steel Black oxide finished

How To Use

- Can be used for mounting CP150 Clamping Module (Flanged) on the fixture plate.
- Use Accurate Type for precise locating of a clamping module.
- Use Standard Type for rough locating of a clamping module.

Mounting-Hole Dimension

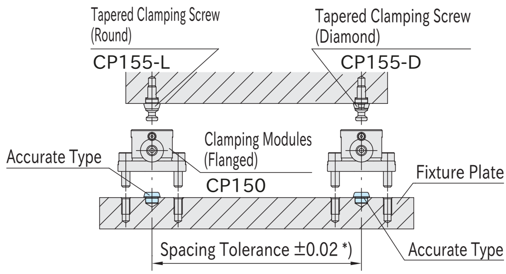


Size		d (H7)	Lf
CP157	**08001**	12	5.5
	12001	18	6.5
	16001	22	8

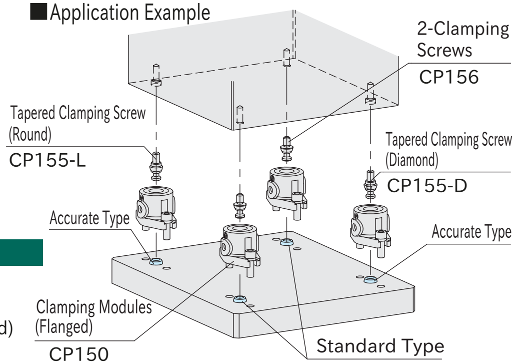
Note: The tolerance of dimension "d" for Standard Type should be $^{+0.1}_{0}$.

Spacing Tolerance

Spacing tolerance for Accurate Type should be ±0.02.
*) Spacing tolerance for Standard Type should be ±0.1.



Application Example



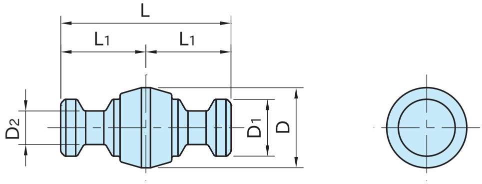
Related Product

- CP150 Clamping Modules (Flanged)
- CP155-L Tapered Clamping Screws (Round)
- CP155-D Tapered Clamping Screws (Diamond)
- CP156 Clamping Screws

CP158 DOUBLE TAPERED CLAMPING PINS

RoHS

IMAO



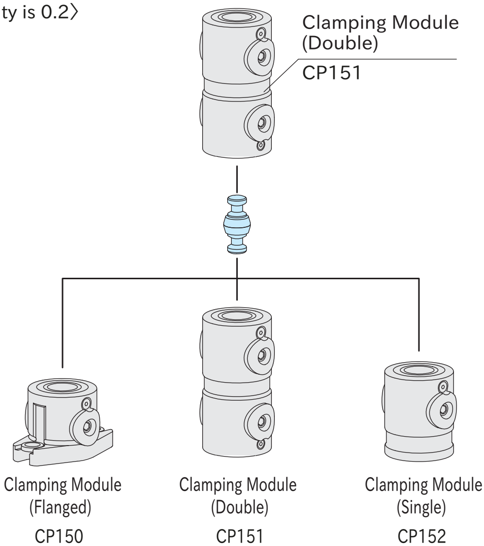
Body
SCM435 steel Quenched and tempered Black oxide finished

Part Number	D	L	D_1	D_2	L_1	Weight (g)
CP158-08001	15.5	33	11	6.5	16.5	24
CP158-12001	24.5	50	16	9.5	25	85
CP158-16001	31.5	66	21	13	33	190

How To Use

Can be used as a coupling for CP151 Clamping Module (Double).

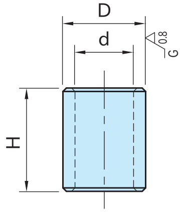
〈Locating Repeatability is 0.2〉



CP159 LOCATING BUSHINGS

RoHS

IMAO



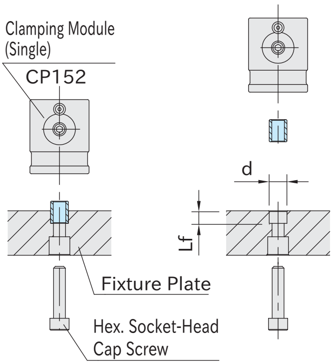
Body
SCM435 steel Quenched and tempered Black oxide finished

Part Number	d	D (h6)	H	Weight (g)
CP159-08001	8.5	12	15	7
CP159-12001	12.5	18	22	22
CP159-16001	16.5	22	28	35

How To Use

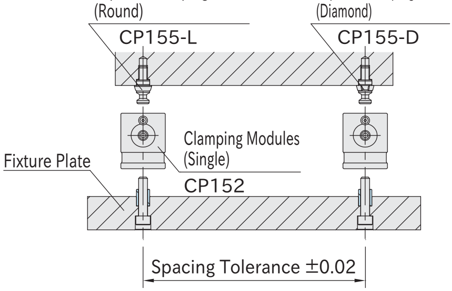
Can be used for locating CP152 Clamping Module (Single) on the fixture plate.

■Mounting-Hole Dimension

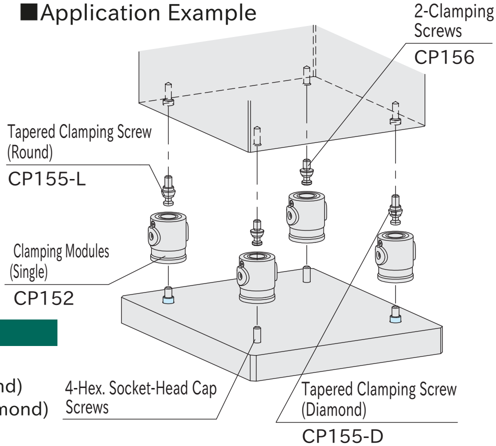


Part Number	d (H7)	Lf
CP159-08001	12	8.5
CP159-12001	18	12.5
CP159-16001	22	16.5

■Spacing Tolerance



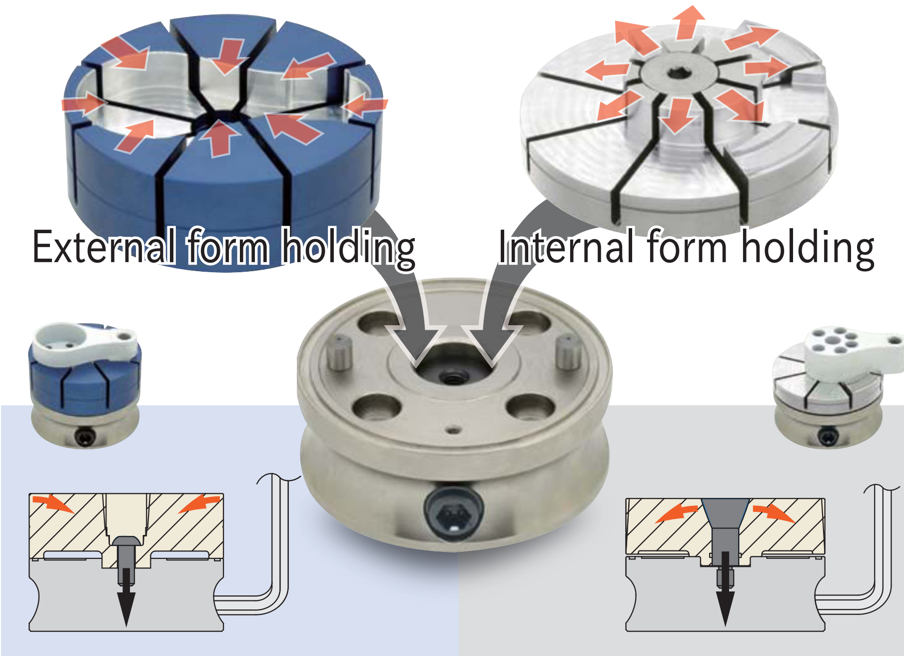
■Application Example



Related Product

- CP152 Clamping Modules (Single)
- CP155-L Tapered Clamping Screws (Round)
- CP155-D Tapered Clamping Screws (Diamond)
- CP156 Clamping Screws

FORM HOLDING CLAMPS



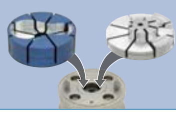
Clamp any shape! Hold on external / internal form!

FORM HOLDING CLAMPS

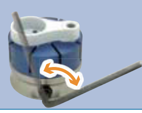
Form Holding Clamps with a machinable jaw are perfect for irregular-shaped workpieces. Simple workholding on external/internal form eliminates the need for custom fixtures.

Secure clamping for odd shaped workpieces

Versatile workholding by changing jaw



Quick clamping by tightening cam cylinder



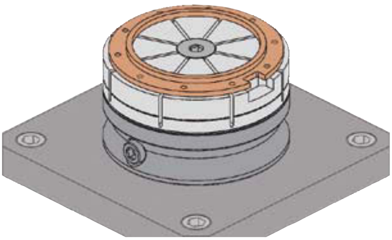
1 Prepare jaw | 2 Machine jaw | 3 Mount workpiece | 4 Tighten cam cylinder

External

Internal

Application Example

Clamping Low Profile Workpiece

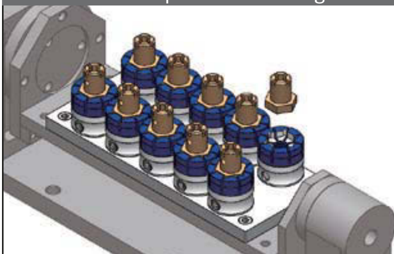


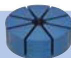
Internal Form

8 jaw sections distribute clamping force to workpiece for deformation prevention.

Note to control the tightening torque using adequate tools in reference to the data provided by the performance curve.

Multipul Workholding

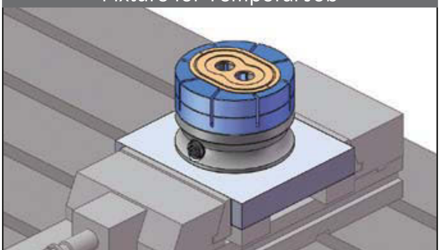


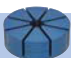


External Form

Small cylindrical body allows the multi-piece clamping in limited space.

Fixture for Temporal Job

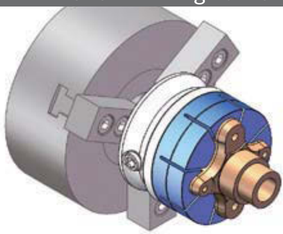




External Form

Can be mounted on the existing vise by attaching the clamp on plate.

Fixture for Turning Lathe



External Form

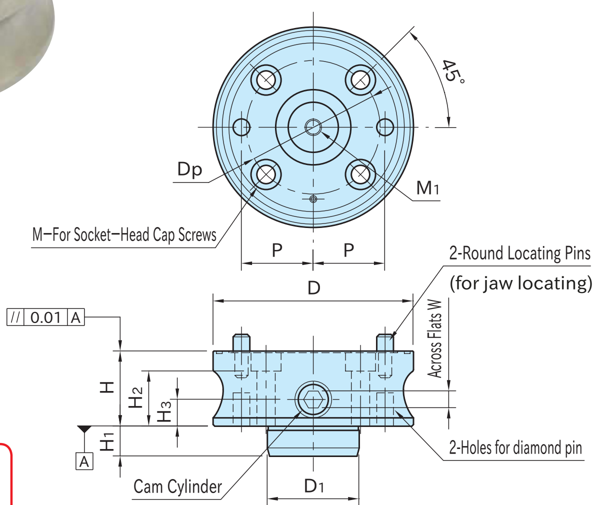
Can clamp odd shape that a chuck does not clamp.

CP125 FORM HOLDING CLAMPS

RoHS | Electroless Nickel Plated

IMAO

Body	Pull Cylinder	Cam Cylinder
S45C steel Electroless nickel plated	SCM415 steel Carburized-hardened Black oxide finish	SCM435 steel Quenched & tempered Black oxide finish



★Key Point
Can hold on external/ internal form.

Part Number	D	H (±0.01)	D_1 (g6)	H_1	M	H_2	Dp	P (±0.02)	W	H_3	M_1
CP125-06501	65	35	28	12	M 6	27	42	22	8	12	M 8×1.25
CP125-09001	90	40	42	14	M 8	30	60	30		14	M10×1.5
CP125-12001	120	45	55	18	M10	33	80	43	10	16	
CP125-16001	160	50	63	24	M12	36	110	60		18	M12×1.75

Part Number	Allowable Screw Torque(N·m)	Weight (kg)	Proper Jaws					
			For External Form Holding			For Internal Form Holding		
			Part Number	Clamping Force(kN)	Clamping Stroke	Part Number	Clamping Force(kN)	Clamping Stroke
CP125-06501	15	0.8	CP126-06501	4.5	ϕ0.3	CP127-06501	4.5	ϕ0.3
CP125-09001	25	1.7	CP126-09001	7		CP127-09001	7	
CP125-12001	40	3.5	CP126-12001	10		CP127-12001	10	
CP125-16001		7.1	CP126-16001	12		CP127-16001		

Technical Information

- Part locating repeatability: ±0.03
- Jaw locating repeatability: ±0.02

Note

Do not tighten the cam cylinder without the workpiece set to prevent damage and deformation. Tightening with the torque beyond the allowable screw torque will lower the durability of the jaw.

Supplied With

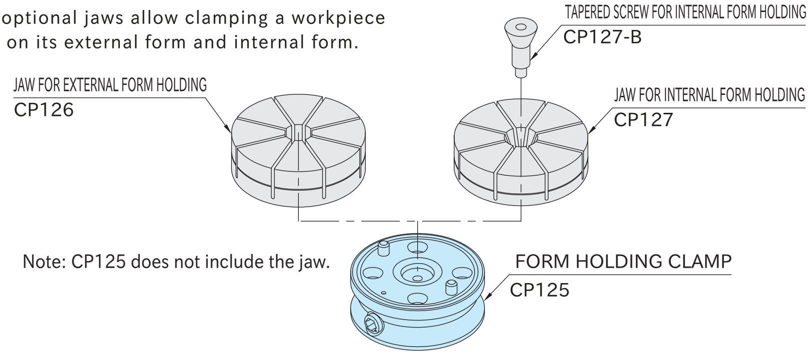
- ·CP125-06501 : 1 pc. of Diamond Locating Pin (BJ722-06001)
- ·CP125-09001 : 1 pc. of Diamond Locating Pin (BJ722-08001)
- ·CP125-12001 : 1 pc. of Diamond Locating Pin (BJ722-10001)
- ·CP125-16001 : 1 pc. of Diamond Locating Pin (BJ722-12001)

Related Product

- ·CP126 Jaws for External Form Holding
- ·CP127 Jaws for Internal Form Holding
- ·BJ722 Diamond Locating Pin
- ·CP122 Mounting-on-lathe Adapters

Feature

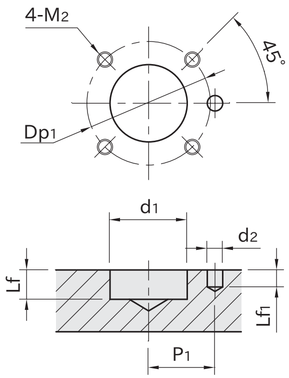
Two optional jaws allow clamping a workpiece both on its external form and internal form.



Note: CP125 does not include the jaw.

How To Use

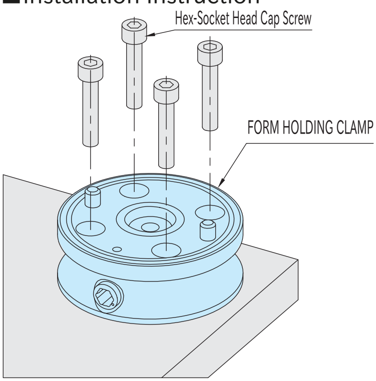
■Mounting Hole Dimension

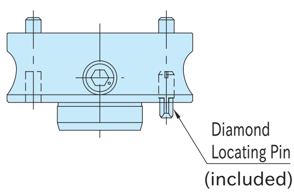


Part Number	d_1 (H7)	Lf	d_2 (G7)	Lf_1	P_1 (±0.02)	M_2	Dp_1
CP125-06501	28	13	6	6	22	M 6×1	42
CP125-09001	42	15	8	8	30	M 8×1.25	60
CP125-12001	55	19	10	11	43	M10×1.5	80
CP125-16001	63	25	12	13	60	M12×1.75	110

■Installation Instruction

Insert an included diamond pin into the body for locating and secure the body to the fixture plate with 4 socket-head cap screws.
Note: Use either of the holes for diamond locating pin for your application.





Dimension of Diamond Locating Pin

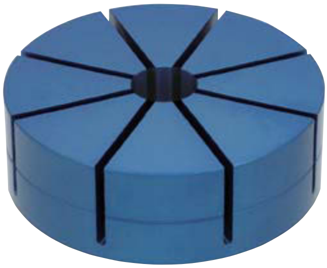
Part Number	Diameter
CP125-06501	ϕ 6h6
CP125-09001	ϕ 8h6
CP125-12001	ϕ 10h6
CP125-16001	ϕ 12h6

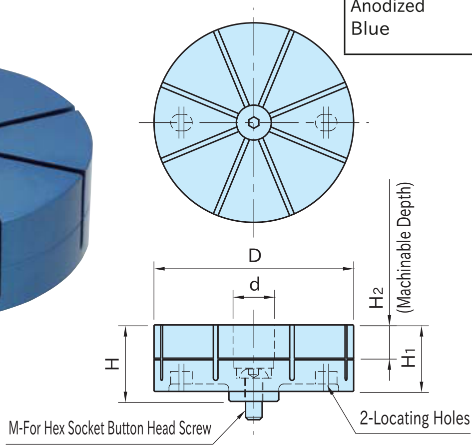
CP126 JAWS FOR EXTERNAL FORM HOLDING

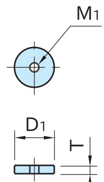
RoHS

IMAO

Jaw	Locking Ring
A7075 aluminum Anodized Blue	S45C steel Black oxide finish







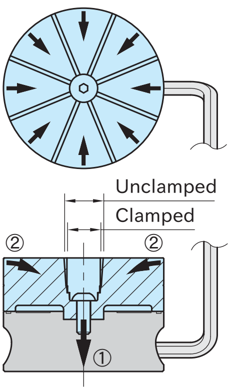
Locking Ring

Part Number	D	d	H_1	H_2	M	H	M_1	D_1	T	Weight (kg)	Proper CP125 Clamps
CP126-06501	65	21	25	10	M 8X20L Across Flats 5	29	M5X0.8	20	4	0.2	CP125-06501
CP126-09001	90	25	35	15	M10X20L Across Flats 6	40	M6X1	24	5	0.5	CP125-09001
CP126-12001	120	25	40	20	M10X25L Across Flats 6	46				1.1	CP125-12001
CP126-16001	160	29	45	25	M12X25L Across Flats 8	52	M8X1.25	28	6	2.2	CP125-16001

Supplied With

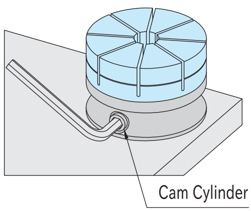
- 1 pc. of O-ring
- 1 pc. of Locking Ring
- 1 pc. of Hex Socket Button Head Screw

Feature



- The diaphragm clamping mechanism allows securely clamping a part with 8 jaw sections.
- 0.15mm clamping stroke of each jaw section is perfect for clamping of lost-wax parts, die-cast parts, extruded parts, solid-drawn parts, prefinished parts, etc.

①When the cam cylinder is tightened, the central bottom part of the jaw is pulled down.
②At the same time the 8 jaw sections tilt toward the center to clamp the external form of workpiece.



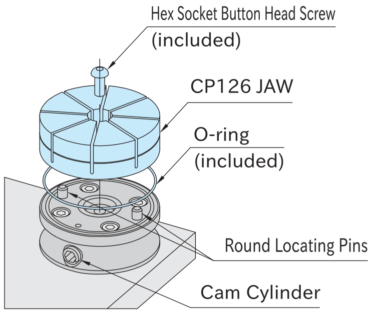
How To Use

1.Jaw Mounting

・Insert an O-ring to the groove on top surface of the Form Holding Clamp.

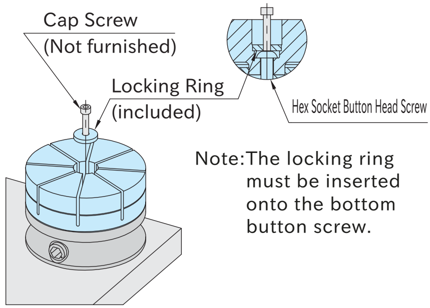
・Set a Jaw putting its locating holes onto the round locating pins and fix it with a hex socket button head screw.

Note: At jaw installation, ensure the cam cylinder is fully loosened by turning counterclockwise until it stops.



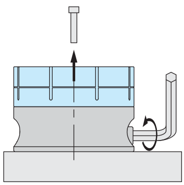
2.Jaw Machining

2-1. Set the locking ring in the jaw.
(Using a screw facilitates setting.)

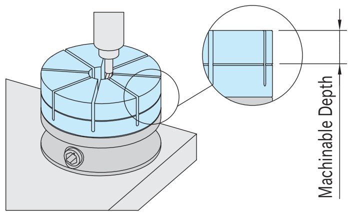


Note:The locking ring must be inserted onto the bottom button screw.

2-2. ・Tighten the cam cylinder to clamp the locking ring. (Recommended Tightening Torque:15N・m)
・After clamping the screw should be removed from the locking ring.



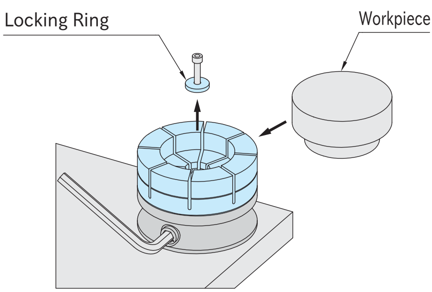
2-3. Machine the jaw to the contours of workpiece. (Do not machine the jaws beyond the machinable depth.)



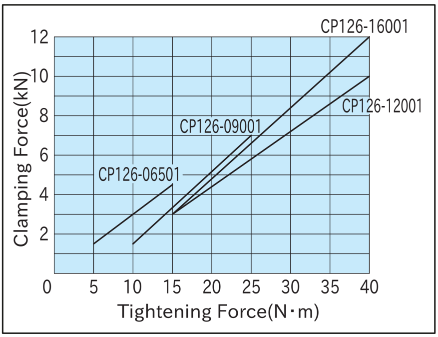
3.Workpiece Loading

・Loosen the cap screw to remove the locking ring.

・Load the workpiece and tighten the cam cylinder for clamping.



Performance Curve



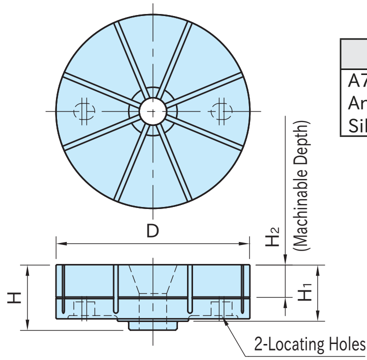
Note

Do not tighten the cam cylinder without the workpiece set to prevent damage and deformation. Tightening with the torque beyond the allowable screw torque will lower the durability of the jaw.

CP127 JAWS FOR INTERNAL FORM HOLDING

RoHS

IMAO



Jaw
A7075 aluminum Anodized Silver

Part Number	D	H1	H2	H	Weight (kg)	Proper CP125 Clamps	Proper CP127-B Screws
CP127-06501	65	25	10	28.5	0.2	CP125-06501	CP127-06501B
CP127-09001	90	30	15	34.5	0.4	CP125-09001	CP127-09001B
CP127-12001	120	35	20	40.5	0.9	CP125-12001	CP127-12001B
CP127-16001	160	40	25	46.5	1.9	CP125-16001	CP127-16001B

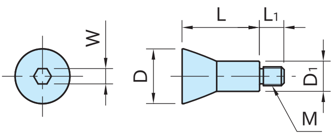
Supplied With

1 pc. of O-ring

CP127-B TAPERED SCREWS FOR INTERNAL FORM HOLDING

RoHS Electroless Nickel Plated

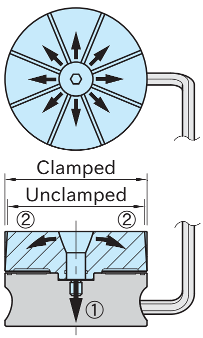
IMAO



Body
SCM435 steel Quenched and tempered Electroless nickel plated

Part Number	D	L	M	L1	D1	W	Weight (g)	Proper CP127 Jaws
CP127-06501B	22.5	29	M 8×1.25	10	13.2	6	50	CP127-06501
CP127-09001B	27	35	M10×1.5	11	16	8	80	CP127-09001
CP127-12001B	29	41		13			100	CP127-12001
CP127-16001B	33	47	M12×1.75	14	18	10	150	CP127-16001

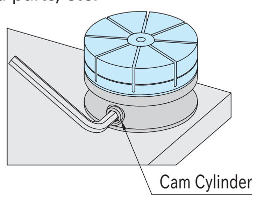
Feature



- The tapered screw expands the jaws towards eight directions to hold different irregularly-shaped workpieces securely.
- 0.15mm clamping stroke of each jaw section is perfect for clamping of lost-wax parts, die-cast parts, extruded parts, solid-drawn parts, prefinished parts, etc.

①When the cam cylinder is tightened, the tapered screw is pulled down.

②At the same time the 8 jaw sections expand to clamp the internal form of workpiece.

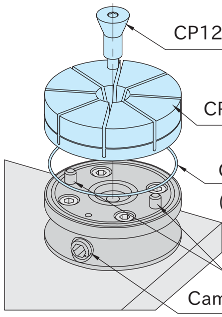


How To Use

1.Jaw Mounting

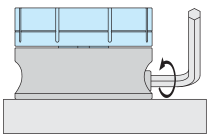
・Insert an O-ring to the groove on top surface of the Form Holding Clamp.
・Set a Jaw putting its locating holes onto the round locating pins and fix it with a tapered screw.

Note: At jaw installation, ensure the cam cylinder is fully loosened by turning counterclockwise until it stops.

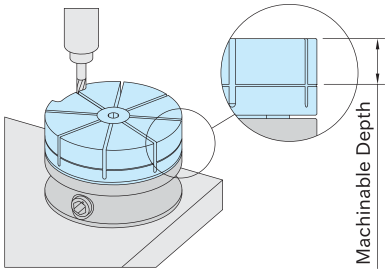


2.Jaw Machining

2-1. Loosen the cam cylinder fully and measure the dimension of the jaw for machining. Then tighten the cam cylinder until each jaw section expands 0.15mm.

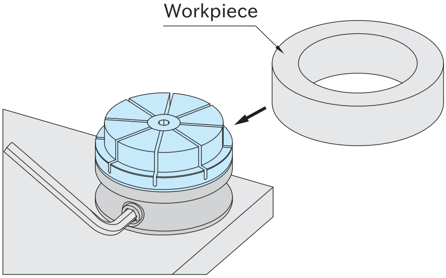


2-2. Machine the jaw to the contours of workpiece. (Do not machine the jaws beyond the machinable depth.)

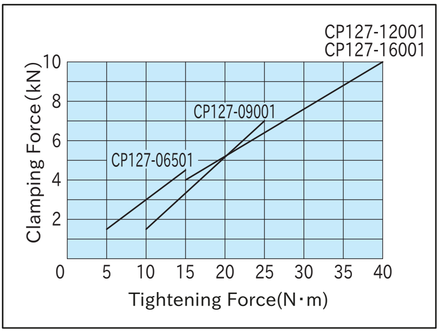


3. Workpiece Loading

After machining loosen the cam cylinder to set workpiece and tighten the cam cylinder again for clamping.



Performance Curve



Note

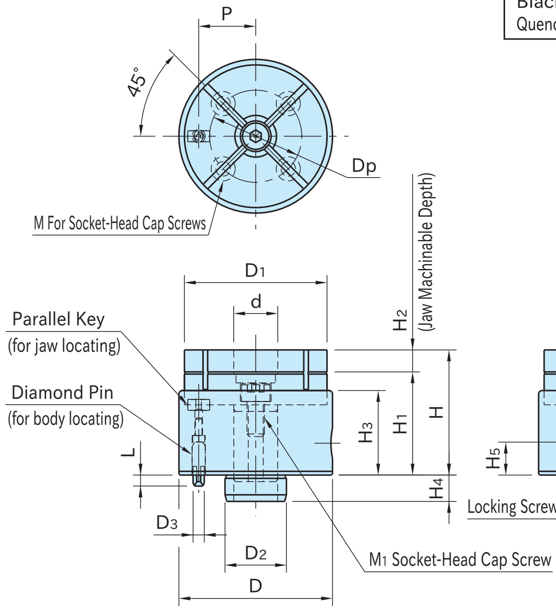
Do not tighten the cam cylinder without the workpiece set to prevent damage and deformation. Tightening with the torque beyond the allowable screw torque will lower the durability of the jaw.

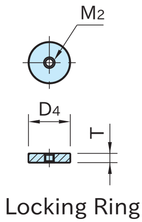
CP120 OD HOLDING CLAMPS

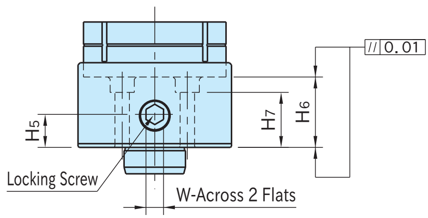
RoHS

IMAO

Body	Jaw
S45C steel Black oxide finish	A7075 alluminum Anodized Blue
Shaft / Locking Screw	**Housing / Locking Ring**
SCM435 steel Black oxide finish Quenched and tempered	S45C steel Black oxide finish







Part Number	D_1	d	H	H_2	D	H_1	H_3	H_6 (±0.01)	D_2 (g6)	H_4	M	H_7	Dp	D_3 (h6)	L	P (±0.02)
CP120-06501	65	19	57	10	70	47	39	32	28	12	M6	25	42	6	5	26
CP120-09001	90	23	72	15	95	57	46	38	42	14	M8	28	60	8	7	36

Part Number	W	H_5	M_1	M_2	D_4	T	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (kg)
CP120-06501	8	15	M 8×1.25-15L	M4×0.7	18	4	4	60	1.1
CP120-09001	10	17	M10×1.5 -20L	M5×0.8	22	6	6	100	2.6

Technical Information

- Part locating repeatability: ±0.03
- Jaw locating repeatability: ±0.02

Supplied With

- 1 of locking ring
- 1 of diamond pin
- 1 of socket-head cap screw

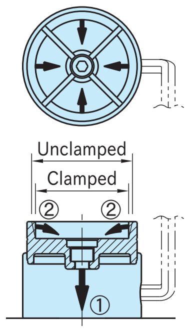
Note

- Do not tighten the clamp screw without the workpiece set to prevent damage and deformation.
- Do not machine the jaw beyond the machinable depth.

Related Product

- CP121 Jaws
- CP122 Mounting-on-lathe Adapters

Feature



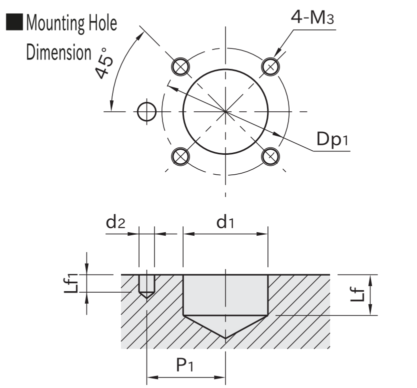
①When the locking screw is tightened, the central bottom part of the jaw is pulled down.

②At the same time the 4 jaw sections tilt toward the center to clamp the circumference of a part.

- The diaphragm claming mechanism allows securely clamping a part with 4 jaw sections.
- Different irregularly-shaped parts can be clamped.
- 0.15mm clamping stroke of each jaw section is perfect for clamping of lost-wax parts, die-cast parts, extruded parts, solid-drawn parts, prefinished parts, etc.

How To Install

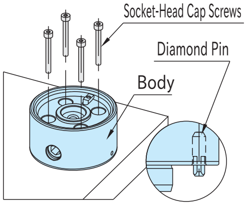
■Mounting Hole Dimension



Part Number	d_1 (H7)	Lf	d_2 (G7)	Lf_1	P_1 (±0.02)	M_3	Dp_1
CP120-06501	28	13	6	6	26	M6×1	42
CP120-09001	42	15	8	8	36	M8×1.25	60

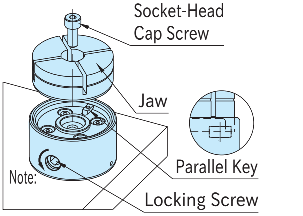
How To Use

1. Body Mounting



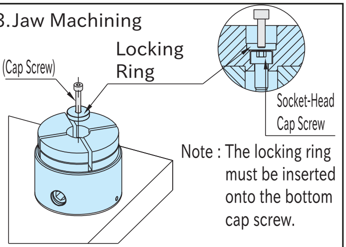
Insert an included diamond pin into the body for locating, and then secure the body to the fixture plate with 4 socket-head cap screws.

2. Jaw Setting



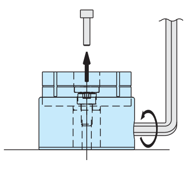
Engage the keyway on the bottom of the jaw with the parallel key on the top of the body, and then secure the jaw with an included cap screw.
Note : At jaw installation, ensure the locking screw is fully loosened by turning it counterclockwise until it stops.

3. Jaw Machining

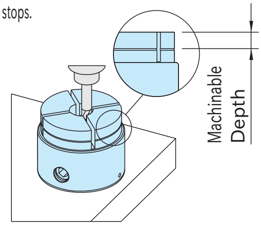


Note : The locking ring must be inserted onto the bottom cap screw.

(1)Set the locking ring in the jaw. (using a cap screw facilitates setting)

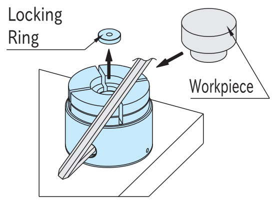


(2)Tighten the locking screw to clamp the locking ring (after clamping the screw will be removed from the locking ring).

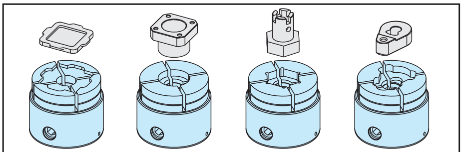


(3)Machine the jaw to the contours of workpiece.

4. Workpiece Loading



- Loosen the cap screw to remove the locking ring.
- Load the workpiece and tighten the clamping screw for clamping.

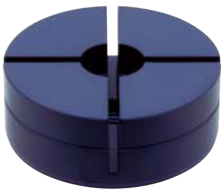


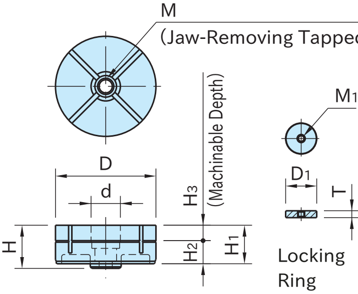
- Tightening the locking screw on the side of the body allows holding a part on its circumference.
- Machinable jaws allow clamping parts of various shapes.
- Ideal way to hold parts for machining on small-size machining centers, tapping centers, small-size 5-axis machines, CNC rotary tables, etc.

CP121 JAWS

RoHS

IMAO





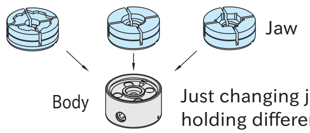
Jaw	Locking Ring
A7075 aluminum Anodized Blue	S45C steel Black oxide finish

Part Number	D	d	H_1	H_3	M	H	H_2	M_1	D_1	T	Weight (g)	OD Holding Clamps	
CP121-06501	65	19	25	10	M10×1.5 (Prepared hole φ 8.5)	28	15	M4×0.7	18	4	170	CP120-06501	AMCH080-5W
CP121-09001	90	23	34	15	M12×1.75(Prepared hole φ 10.2)	39	19	M5×0.8	22	6	470	CP120-09001	AMCH100-5W

Note

Jaw has lifecycle.

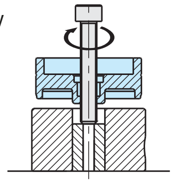
Feature



Just changing jaws allows holding different parts.

■How to Remove Jaw

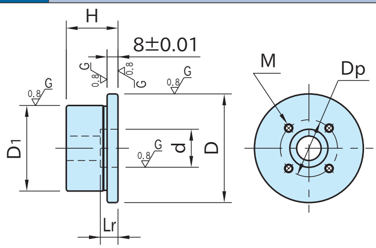
When it is hard to remove the jaw by hand, screw a bolt into the jaw-removing tapped hole to push it against the body, for easier removal.



CP122 MOUNTING-ON-LATHE ADAPTERS

RoHS

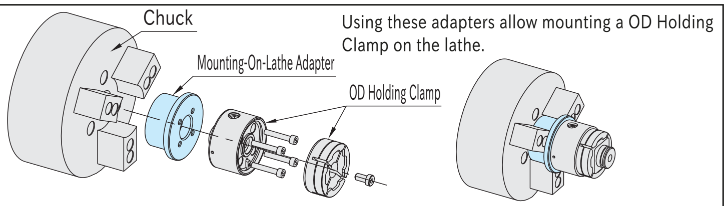
IMAO



Body
SCM415 steel Black oxide finish Carburized-hardened

Part Number	d (H7)	Lr	D_1 (±0.01)	H	D	M	Dp	Weight (g)	Form Holding Clamps	OD Holding Clamps
CP122-06501	28	13	63	38	80	M6×1 Depth 12	42	910	CP125-06501	CP120-06501
CP122-09001	42	15	80	43	100	M8×1.25Depth 16	60	1600	CP125-09001	CP120-09001

How To Use



Using these adapters allow mounting a OD Holding Clamp on the lathe.

Note : A diamond pin included in an OD Holding Clamp is NOT REQUIRED in this combination use.

Value Creator

IMAO

CP124 OD HOLDING CLAMPS (Wedge Style/Square)

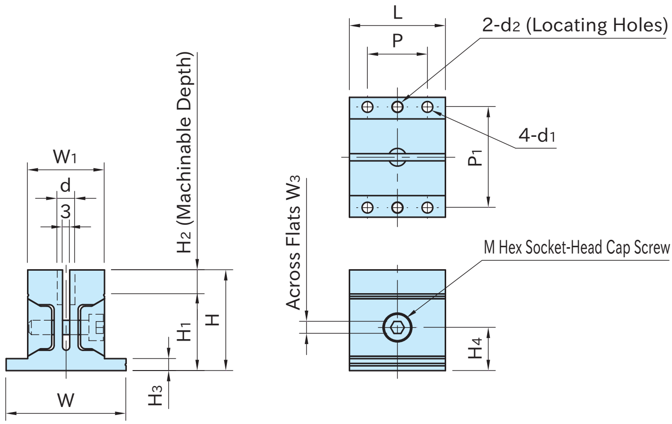
IMAO

RoHS

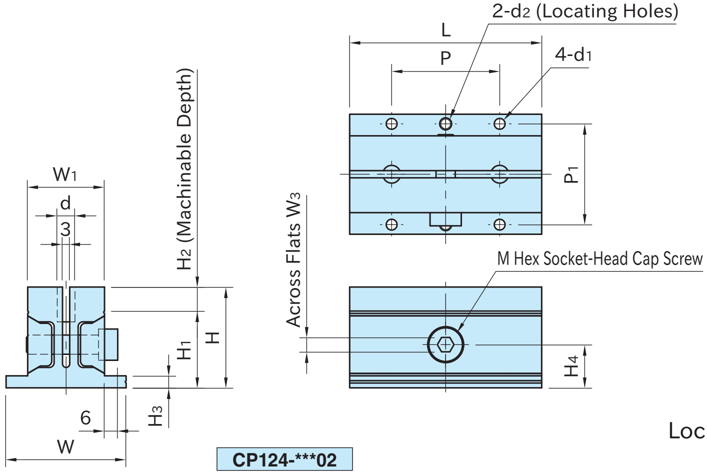
CP124-***01

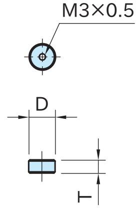
CP124-***02

Body	Wedge
A6N01 aluminum Anodized Silver	SCM440 steel Black oxide finished Quenched & tempered



CP124-***01





Locking Button

CP124-***02

Part Number	W_1	d	L	H	H_2	W	H_3	H_1	d_2 (H7)	d_1	P	P_1	M
CP124-03201	32	7.4	40	42	10	50	5	32	5	4.5	25	42	M 6×1 -25L
CP124-03202			80								45		M 8×1.25-30L
CP124-05001	50	11.4	50	63	15	72	7	48	6	5.5	30	62	M10×1.5 -40L
CP124-05002			100								58		M12×1.75-45L

Part Number	W_3	H_4	D	T	Clamping Force (kN)	Allowable Screw torque (N·m)	Weight (kg)
CP124-03201	5	18	7	3.5	2.5	7.5	0.22
CP124-03202	6					14	0.42
CP124-05001	8	27	11	5.5	5.5	26	0.62
CP124-05002	10					46	1.29

Technical Information

Locating Repeatability : ±0.08

Supplied With

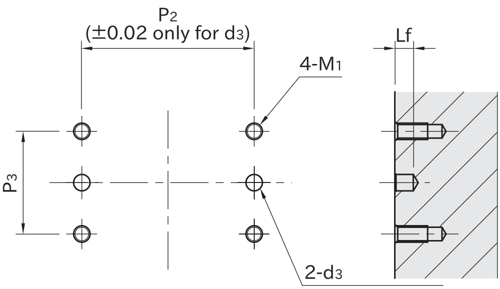
- 1 of locking button for CP124-***01
  2 of locking button for CP124-***02
- 2 of parallel pin(m6 tolerance)
  ϕ5×10L for CP124-***01
  ϕ6×15L for CP124-***02

Feature

- When the clamp screw is tightened, both jaws tilt toward the center to clamp the circumference of the workpiece.
- The clamping stroke is 0.5mm.
- Cutting the machinable jaw to the contour of workpiece allows holding different shapes.
- Simple and compact design permits multiple-parts holding arrangement.

How To Use

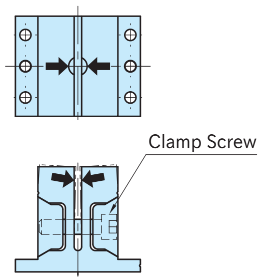
■Mounting-Hole Dimension



Use the included parallel pin for locating.

Note

- Do not tighten the clamp screw without the workpiece set to prevent damage and deformation.
- Do not machine the jaws beyond the machinable depth



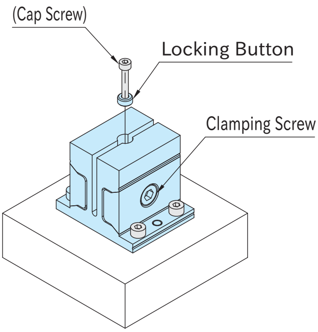
Part Number	d_3 (H7)	Lf	M_1	P_2	P_3
CP124-03201	5	5	M4×0.7	42	25
CP124-03202					45
CP124-05001	6	8	M5×0.8	62	30
CP124-05002					58

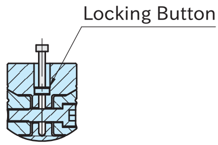
Continuing to next page

■How to Machine Jaw

1. Setting the locking button

Insert the locking button into the jaw, and then tighten the clamp screw to fasten the locking button.
(Using a cap screw facilitates setting)

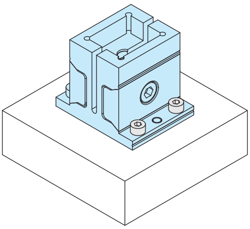




Note: The locking button must be inserted onto the bottom.

2. Machining the jaw

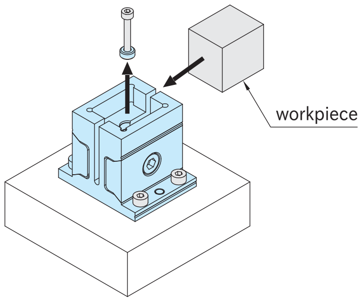
Cut the jaw to the contours of the workpiece.



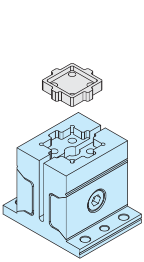
Note:Do not cut beyond the machinable depth.

3. Workpiece Loading

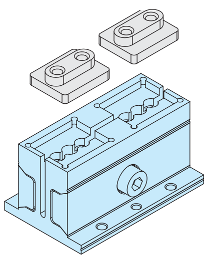
Loosen the clamp screw to remove the locking button. Load the workpiece and tighten the clamp screw for clamping.



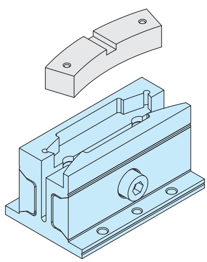
■Application Example



Single-station mode
on the short-type clamp



Dual-station mode
on the long-type clamp



Single-station mode
on the long-type clamp

Value Creator

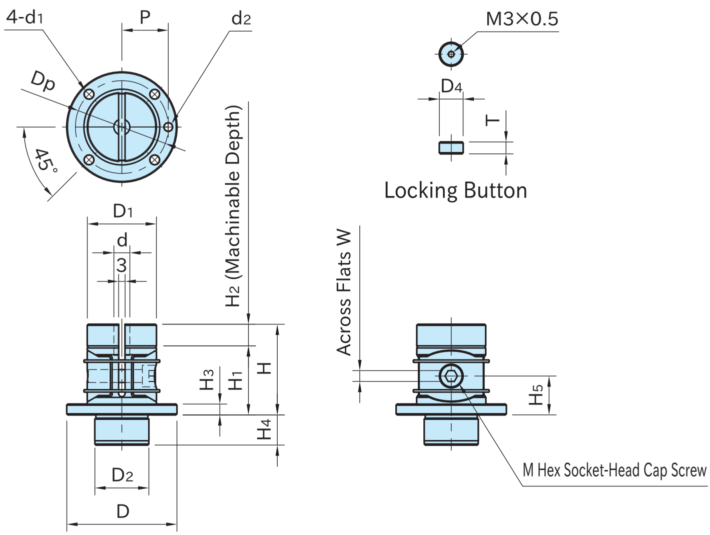
IMAO

CP123 OD HOLDING CLAMPS (Wedge Style/Round)

RoHS

IMAO

Body	Wedge
S45C steel Black oxide finished	S45C steel Black oxide finished Quenched & tempered



Part Number	D_1	d	H	H_2	D	H_1	H_3	D_2 (g7)	H_4	d_1	Dp	d_2	P
CP123-03201	32	7.4	42	10	51	32	5	25	14	4.5	43	5	21.5
CP123-05001	50	11.4	63	15	75	48	7	40	19	5.5	65	6	32.5

Part Number	M	W	H_5	D_4	T	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (kg)
CP123-03201	M 6×1 –25L	5	18	7	3.5	3	9	0.33
CP123-05001	M10×1.5–35L	8	27	11	5.5	7	42	1.2

Technical Information

Part Locating Repeatability ±0.08

Supplied With

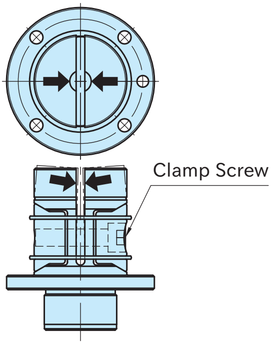
- 1 of locking button
- Spring pin
  (φ5×10L for CP123-03201)
  (φ6×14L for CP123-05001)

Note

- Do not tighten the clamp screw without the workpiece set to prevent damage and deformation.
- Do not machine the jaws beyond the machinable depth.

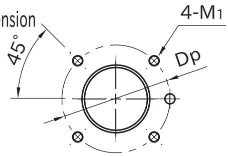
Feature

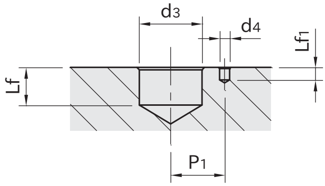
- When the clamp screw is tightened, both jaws tilt toward the center to clamp the circumference of the workpiece.
- The clamping stroke is 0.5mm.
- Cutting the machinable jaw to the contour of workpiece allows holding different shapes.
- Simple and compact design permits multiple-parts holding arrangement.



How To Use

■Mouting-Hole Dimension

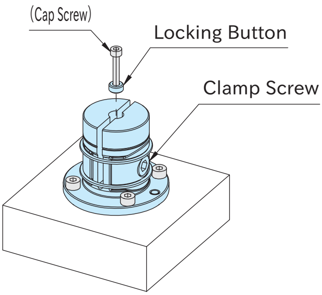


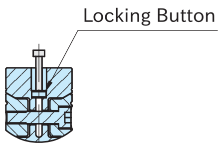


Part Number	d_3 (H7)	Lf	d_4 ($^{+0.12}_{0}$)	Lf_1	P_1 (±0.05)	M_1	Dp
CP123-03201	25	15	5	5	21.5	M4×0.7	43
CP123-05001	40	20	6	7	32.5	M5×0.8	65

■How to Machine Jaw

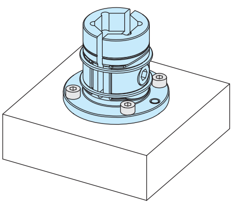
1. Setting the locking button
Insert the locking button into the jaw, and then tighten the clamp screw to fasten the locking button. (Using a cap screw facilitates setting)





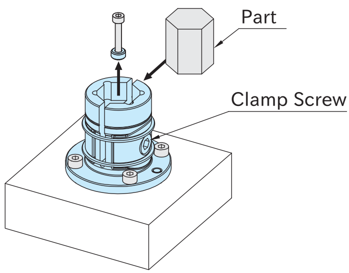
Note:The locking button must be inserted onto the bottom.

2. Machining the jaw
Cut the jaw to the contours of the part.



Note:Do not cut beyond the machinable depth.

3. Loading the part
Loosen the clamp screw to remove the locking button. Load the part and tighten the clamp screw for clamping.



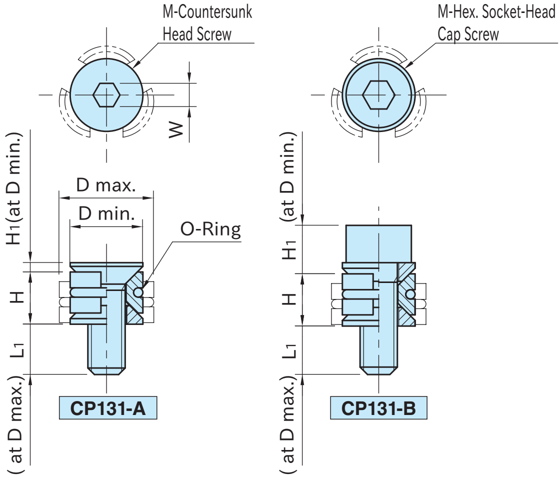
CP131 COMPACT ID HOLDING CLAMPS

RoHS

IMAO

CP131-A

CP131-B



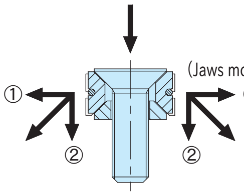
Jaw	Washer	O-Ring
SNCM439 steel Black oxide finished HRC33-39	SCM435 steel Black oxide finished	Fluoro rubber

Part Number	D		H		H_1	M	L_1	W
	min.	max.	D min.	D max.				
CP131-04001A	8	10.3	5.5	4.6	0.9	M4×0.7 -12L	7.3	2.5
CP131-05001A	10	12.3	6.4	5.6	1.1	M5×0.8 -15L	9.1	3
CP131-06001A	12	16.3	8.6	7	1.3	M6×1 -18L	11.2	4
CP131-08001A	16	22	11.5	9.4	1.6	M8×1.25-25L	16.2	5
CP131-04001B	8	10.3	5.5	4.6	5.1	M4×0.7 -12L	7.1	3
CP131-05001B	10	12.3	6.4	5.6	6.2	M5×0.8 -15L	9	4
CP131-06001B	12	16.3	8.6	7	7.9	M6×1 -18L	10.6	5
CP131-08001B	16	22	11.5	9.4	10.4	M8×1.25-25L	15.4	6

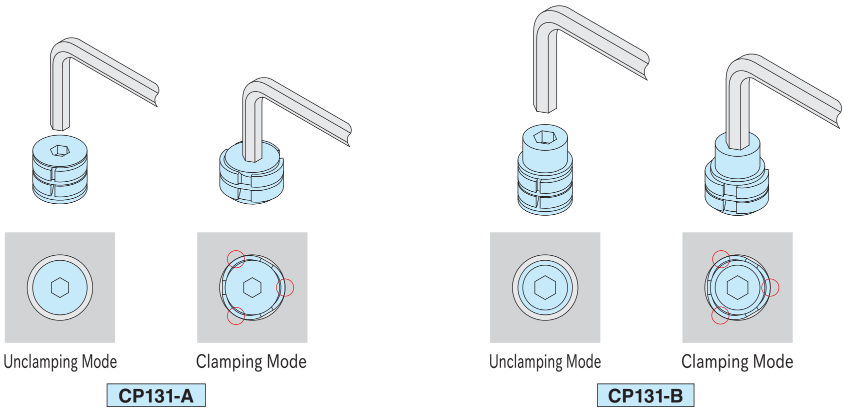
Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (g)	Proper NOK's O-ring
CP131-04001A	0.9	2.1	3	CO 3370H0 (SS5.5)
CP131-05001A	1.5	4.3	5	CO 5497G0 (SS7.5)
CP131-06001A	2.1	7.3	9	CO 0505P0 (S8)
CP131-08001A	4	18	22	CO 0509N2 (S12)
CP131-04001B	1.5	2.7	4	CO 3370H0 (SS5.5)
CP131-05001B	2.5	5.4	7	CO 5497G0 (SS7.5)
CP131-06001B	5	9.1	11	CO 0505P0 (S8)
CP131-08001B	9	25	28	CO 0509N2 (S12)

Feature

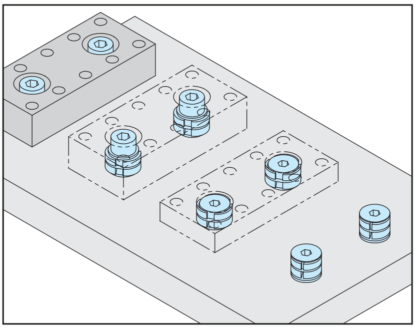
・These clamps hold the inside diameter of the workpiece.
・The wedge construction allows powerfully clamping the workpiece.
・Long clamping stroke is ideal for holding as-cast or roughly-finished holes.



How To Use



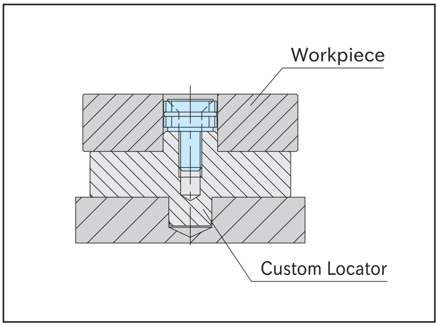
Note: The clamp makes a line contact with the workpiece at the clamping mode.
This contact can mark the surface of the workpiece depending on its materials, and using these clamps for accurately finished holes is not recommended.



Example of application where two Compact ID Holding Clamps are used.

Note

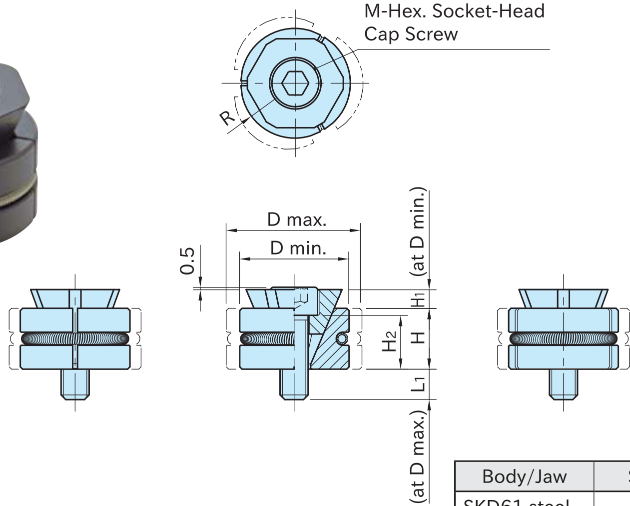
For accurate locating, use these clamps with a locator as shown below.



CP130 ID HOLDING CLAMPS

RoHS

IMAO



Body/Jaw	Spring
SKD61 steel Quenched & tempered Black oxide finished HRC47-53	SUS304 stainless steel

Part Number	D		H	H_1	R	H_2		L_1*)	M
	min.	max.				min.	max.		
CP130-04001	19.5	24	9	2.5	R 9.5	8	2.6	9.4	M4×12L
CP130-06001	23.5	29	13	4	R11.5	11.5	5	13	M6×18L
CP130-08001	28.5	36	17	5.5	R14	15	6	19	M8×25L

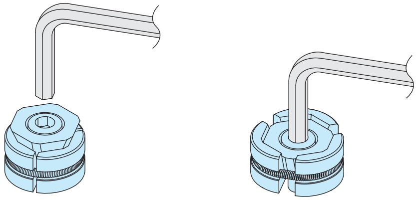
Part Number	Clamping Force (kN)	Allowable Screw Torque (N･m)	Weight (g)
CP130-04001	2	3.2	19
CP130-06001	5	10.5	43
CP130-08001	9	25	89

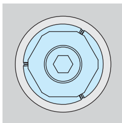
*) The stated values are only for use of the proper cap screws.

Feature

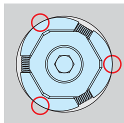
･These clamps hold the inside diameter of the workpiece.
･The wedge construction allows powerfully clamping the workpiece.
･Long clamping stroke is ideal for holding as-cast or roughly-finished holes.

How To Use



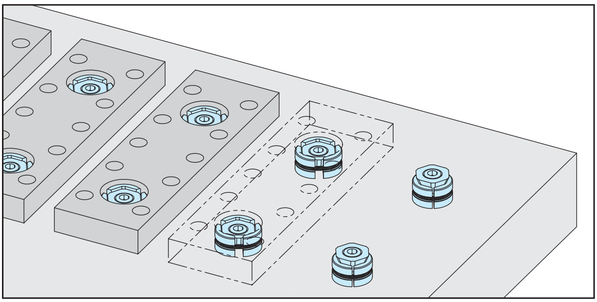


Unclamping Mode



Clamping Mode

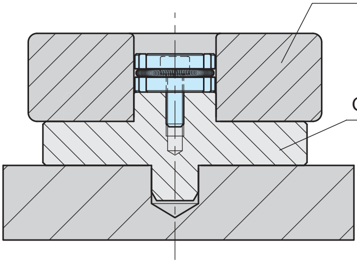
Note:The clamp makes a line contact with the workpiece at the clamping mode.
This contact can mark the surface of the workpiece depending on its materials, and using these clamps for accurately finished holes is not recommended.



Example of application where two ID Holding Clamps are used.

Note

For accurate locating, use these clamps with a locator as shown below.



CP135 SPIRAL CAM CLAMPS

RoHS

IMAO

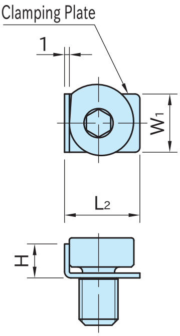
CP135-A

CP135

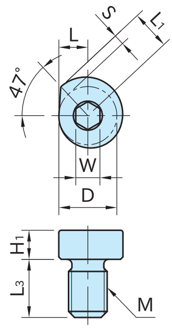
★Key Point

Space saving.
Long clamping stroke.

Spiral Cam Clamp	Clamping Plate
SCM440 steel Black oxide finished HRC33-39	SUS304CSP stainless steel



CP135-A
(With Clamping Plate)



CP135
(Without Clamping Plate)

Part Number	S	L	L_1	D	M	H_1	L_3	W	Allowable Screw Torque (N·m)	Clamping Force (kN)
CP135-06001	1.8	5	6.8	10	M 6×1	5	9	4	7.4	2.2
CP135-08001	2.2	6	8.2	12	M 8×1.25	6	12	5	18	4.7
CP135-10001	2.5	7	9.5	14	M10×1.5	7	15	6	35	7.9
CP135-12001	2.9	8	10.9	16	M12×1.75	8	18	8	60	14

CP135-A (With Clamping Plate)

Part Number	H	W_1	L_2	Clamping Plate	Weight (g)
CP135-06001A	6	10	13	CP135-06001P	7
CP135-08001A	7	12	15.5	CP135-08001P	13
CP135-10001A	8	14	18	CP135-10001P	21
CP135-12001A	9	16	20	CP135-12001P	33

CP135 (Without Clamping Plate)

Part Number	Weight (g)
CP135-06001	6
CP135-08001	11
CP135-10001	19
CP135-12001	30

CP135-L SPIRAL CAM CLAMPS

One-Touch type is available.

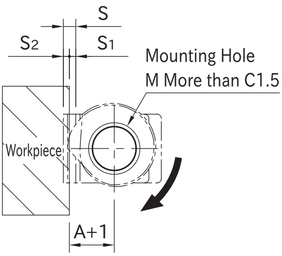
Feature

- The spiral cam provides quick and powerful clamping.
- The simple design keeps cost low and the small size allows more workpieces per load.
- Clamping Plate avoids marring workpiece surfaces.

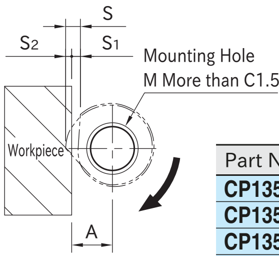
How To Use

■Mounting Hole Dimension

With Clamping Plate



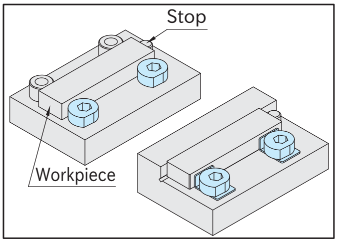
Without Clamping Plate



Part Number	A	S	S_1	S_2	M
CP135-06001	5.9	1.8	0.9	0.9	M 6X1
CP135-08001	7.1	2.2	1.1	1.1	M 8X1.25
CP135-10001	8.3	2.5	1.3	1.2	M10X1.5
CP135-12001	9.5	2.9	1.5	1.4	M12X1.75

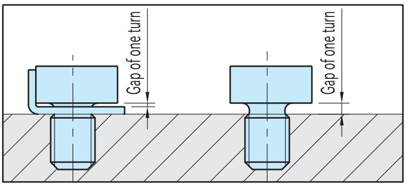
Note: Dimension A and A+1 are the recommended distances between the mounting hole and the end of the workpiece.

- Tighten clockwise to clamp the workpiece.
- Mount a stop on the right side of the workpiece.



Note

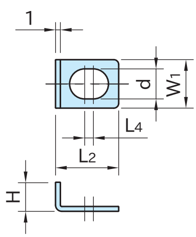
Tighten Spiral Cam Clamp fully and loosen it about one turn. Then mount a workpiece.



CP135-P CLAMPING PLATES

RoHS Stainless Steel

IMAO



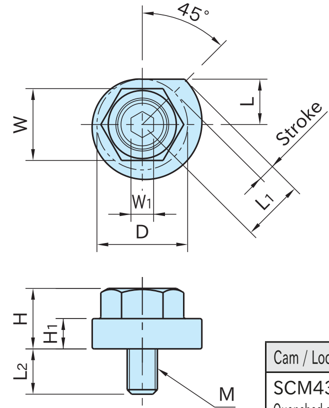
Part Number	H	W_1	L_2	d	L_4	Weight (g)
CP135-06001P	6	10	13	6.2	1.8	1
CP135-08001P	7	12	15.5	8.2	2.2	2
CP135-10001P	8	14	18	10.2	2.6	
CP135-12001P	9	16	20	12.2	2.9	3

Clamping Plate
SUS304CSP stainless steel

BJ161 CAM CLAMPS

RoHS

IMAO



Cam / Locking Screw	Flanged Collar
SCM435 steel Quenched and tempered Black oxide finish	SK95 steel Quenched and tempered Black oxide finish

Part Number	Stroke	L	L_1	D	H_1	M	L_2	H	W	W_1
BJ161-08001	4.4	12	16.4	24	8	M 8×1.25	12	16	19	6
BJ161-10001	5.5	15	20.5	30	10	M10×1.5	15	20	24	8
BJ161-12001	6.2	17	23.2	34	12	M12×1.75	18	24	27	10

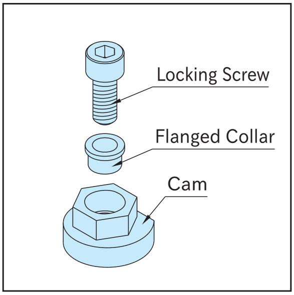
Part Number	Allowable Screw Torque (N·m)	Clamping Force (kN)	Weight (g)
BJ161-08001	50	5.2	55
BJ161-10001	75	8	110
BJ161-12001	90	9.3	185

Feature

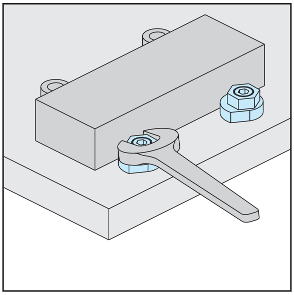
・Allows loading and unloading a part faster.
・Compact design

How To Use

To install, lock the flanged collar into the cam using the locking screw and then tighten up the cam with a wrench.



Parts Breakdown



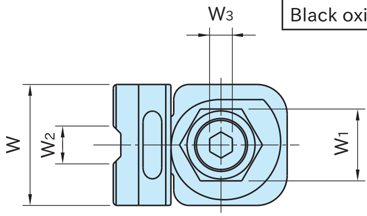
Provides positive clamping

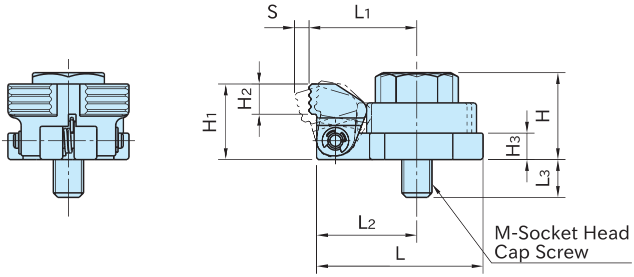
BJ162 CAM EDGE CLAMPS

RoHS

IMAO

Body / Jaw	Cam
SCM440 steel Quenched and tempered Black oxide	SCM435 steel Quenched and tempered Black oxide



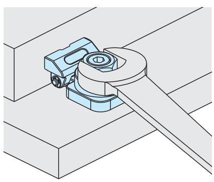


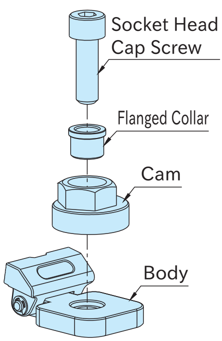
Part Number	H_1	S	W	W_2	H_2	L_1	L	L_2	H_3	M	L_3	H	W_1
BJ162-08001	20	4	32	10	8	28.5	44	26.5	7	M 8×1.25-30L	15	23	19
BJ162-10001	25	5	40	12	10	35	54	33	9	M10×1.5 -35L	16	29	24
BJ162-12001	30	5.5	46	14	12	39.5	62	37.5	11	M12×1.75-40L	17	35	27

Part Number	W_3	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (g)
BJ162-08001	6	3.5	45	160
BJ162-10001	8	5.5	55	310
BJ162-12001	10	7	70	490

How To Use

Secure the body and the flanged collar with a socket head cap screw, and then turn the the cam with a wrench to clamp a workpiece.





Related Product

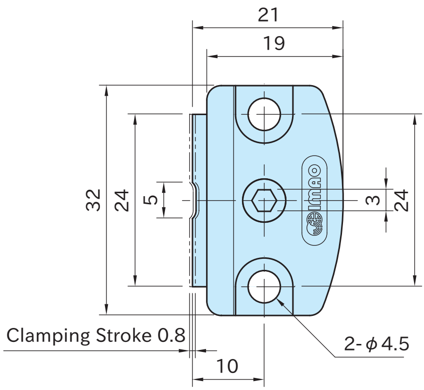
One-Touch type is available.
QLSC CAM EDGE CLAMPS

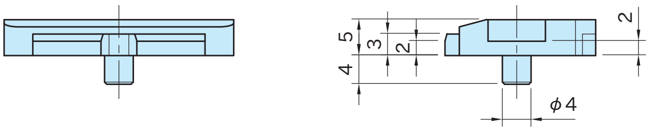
QLSCL COMPACT LOW-PROFILE CAM EDGE CLAMPS

RoHS

IMAO

Body	Jaw / Cam
S45C steel Black oxide finished	SCM440 steel Black oxide finished HRC39-45





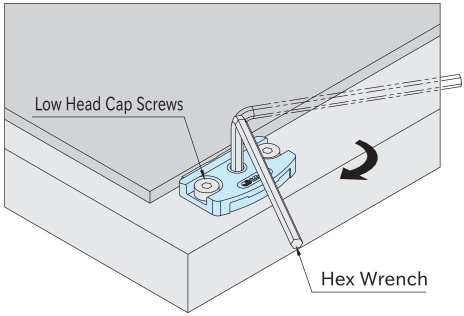
Part Number	Allowable Screw Torque (N･m)	Clamping Force (kN)	Weight (g)
QLSCL05NR	2.1	1.3	18

Feature

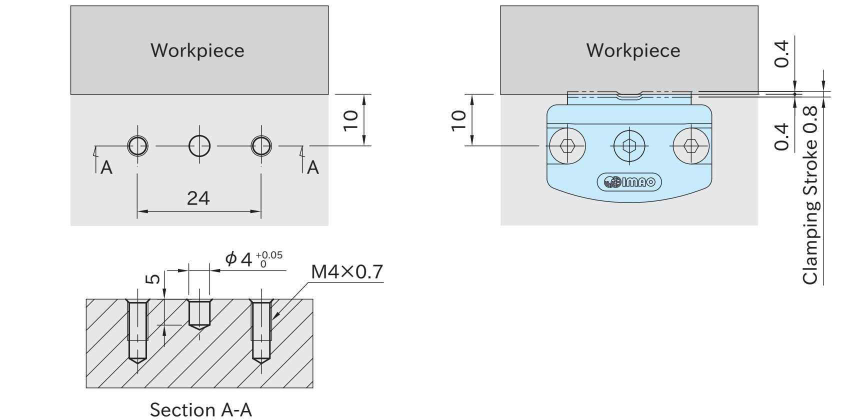
Designed to prevent part lift.

How To Use

- Low head cap screws do not project from the body.
- Turning the cam with a hex wrench allows the cam to project the jaw for clamping. When the cam is turned back for unclamping, the loaded spring lets the jaw return to the original position.



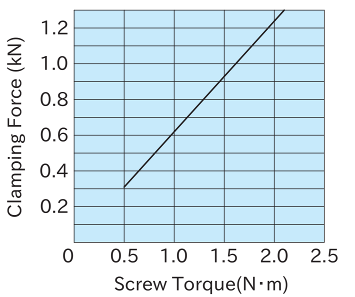
■Mounting-Hole Dimension



Note

Ensure that mounting surfaces are finished to 6.3 (6.3a) or better, without any scratches or dents.

Performance Curve

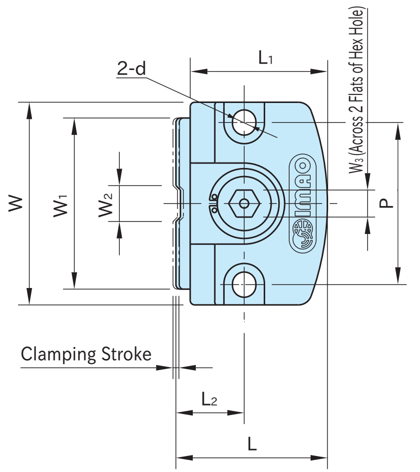


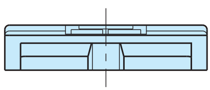
QLSCL-NR LOW-PROFILE CAM EDGE CLAMPS

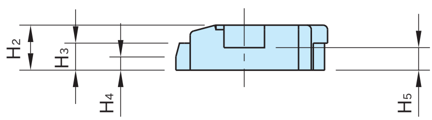
RoHS

IMAO

Body	Jaw / Cam
S45C steel Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish







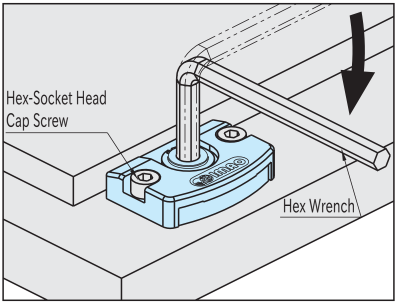
Part Number	Clamping Stroke	W_1	W_2	H_3	H_4	L_2	W	L	H_2	d	P	H_5	L_1	Clamping Mechanism
QLSCL10NR	1	38	8	6	3	15	45	33.5	10	5.2	36	5	30.5	Spiral Cam Cam Angle : 4°
QLSCL15NR	2	60	12	9	5	22	70	50	15	8.2	55	7	46	

Part Number	W_3	Allowable Screw Torque (N·m)	Clamping Force (kN)	Weight (g)
QLSCL10NR	6	10	4	85
QLSCL15NR	10	27	6	290

Feature

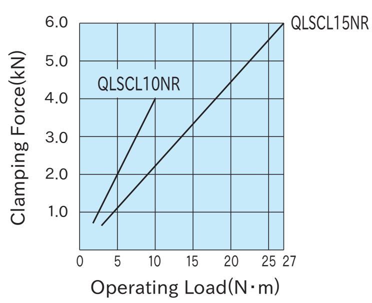
Designed to prevent part lift.

How To Use



Turning the wrench allows the cam to project the jaw for clamping.
When the wrench is turned back for unclamping, the loaded spring lets the jaw return to the original position.

Performance Curve



Note

Ensure that mounting surfaces are finished to $\overset{6.3}{\bigtriangledown}$(6.3a) or better, without any scratches or dents.

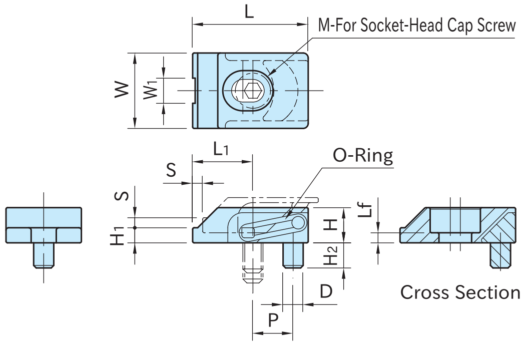
QLSCL-R | **LOW-PROFILE CAM EDGE CLAMPS**

One-Touch type is available.

CP133 COMPACT TOE CLAMPS

RoHS

IMAO

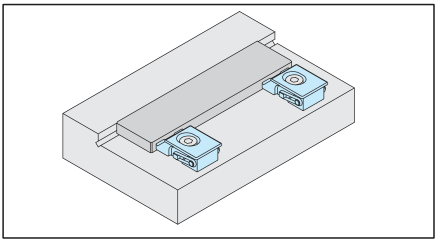


Body	O-Ring
SCM440 steel Black oxide finished HRC33-39	Fluoro rubber

Part Number	S	W	W_1	H_1	L_1	P	D	H_2	M	Lf	L	H
CP133-04007	2	15	5	3	12	8	4	5	M4	2	23	7
CP133-05009	2.5	19	7	4	14	10	5	6	M5	3	28	9

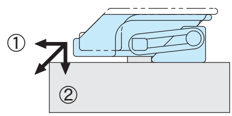
Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (g)	Proper NOK's O-ring
CP133-04007	2	2.7	13	CO 3216H0 (SS6.5)
CP133-05009	3	5.4	27	CO 0505P0 (S8)

How To Use



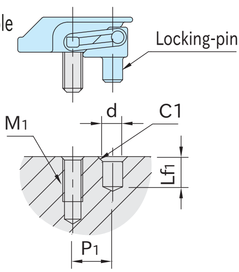
Feature

(Jaw moves obliquely downward)



①Horizontal pressure against workpiece
②Vertical pressure preventing workpiece lift

■Mounting-Hole Dimension



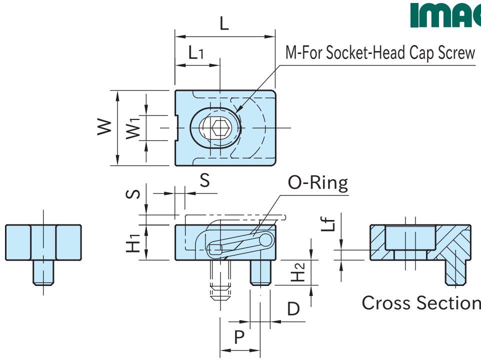
Drill a tapped hole and a locking-pin hole as specified below.

Part Number	M_1	d $\left(^{+0.3}_{0}\right)$	Lf_1	P_1
CP133-04007	M4	4	6	8
CP133-05009	M5	5	7	10

CP134 COMPACT SIDE CLAMPS

RoHS

IMAO

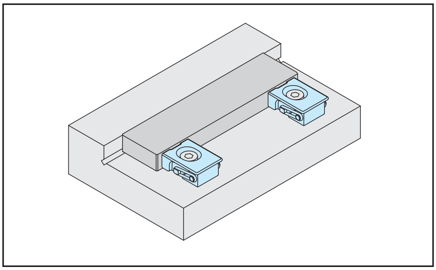


Body	O-Ring
SCM440 steel Black oxide finished HRC33-39	Fluoro rubber

Part Number	S	W	W_1	H_1	L_1	P	D	H_2	M	Lf	L
CP134-04007	2	15	5	7	9	8	4	5	M4	2	20
CP134-05009	2.5	19	7	9	11	10	5	6	M5	3	25

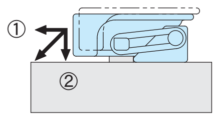
Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (g)	Proper NOK's O-ring
CP134-04007	2.5	2.7	13	CO 3216H0 (SS6.5)
CP134-05009	3.5	5.4	26	CO 0505P0 (S8)

How To Use



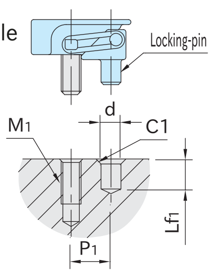
Feature

(Jaw moves obliquely downward)



①Horizontal pressure against workpiece
②Vertical pressure preventing workpiece lift

■Mounting-Hole Dimension



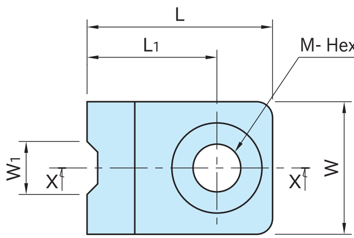
Drill a tapped hole and a locking-pin hole as specified below.

Part Number	M_1	d $\left(\begin{smallmatrix}+0.3\\0\end{smallmatrix}\right)$	Lf_1	P_1
CP134-04007	M4	4	6	8
CP134-05009	M5	5	7	10

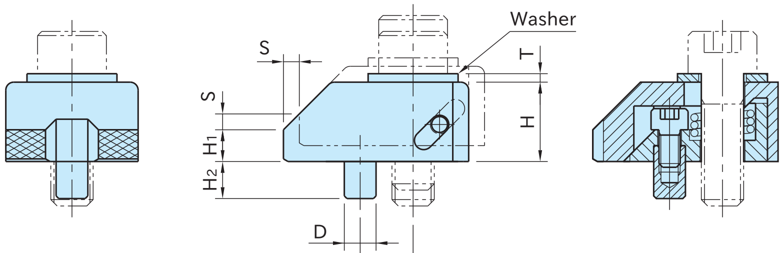
CP106 TOE CLAMPS

RoHS

IMAO



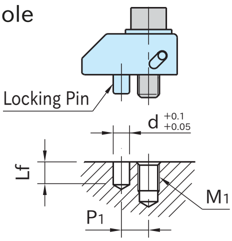
Body
S45C steel Quenched and tempered Black oxide finish



Part Number	S	W	W_1	H_1	L_1	P	D (h7)	H_2	M	L	H	T	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (g)
CP106-08015	3	25	10	6	24.5	10	6	7	M 8	35	15	1.6	7	25	100
CP106-10019	4	30	11	8	29	12			M10	43	19	2	8.5	50	185
CP106-12023	5	35	12	9	37	16	8	10	M12	54	23	2.3	20	90	320
CP106-16025	6	40	14	10	45	20	10		M16	65	25	3.2	30	150	520

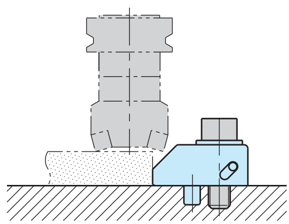
How To Use

■Mounting-Hole Dimension



Part Number	M_1	d	Lf	P_1
CP106-08015	M 8	6	8	10
CP106-10019	M10			12
CP106-12023	M12	8	11	16
CP106-16025	M16	10		20

Drill a tapped hole and a pin hole as specified on the above.



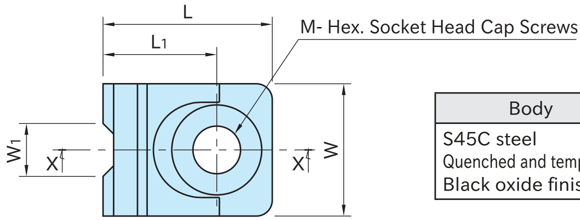
Supplied With

One flat washer

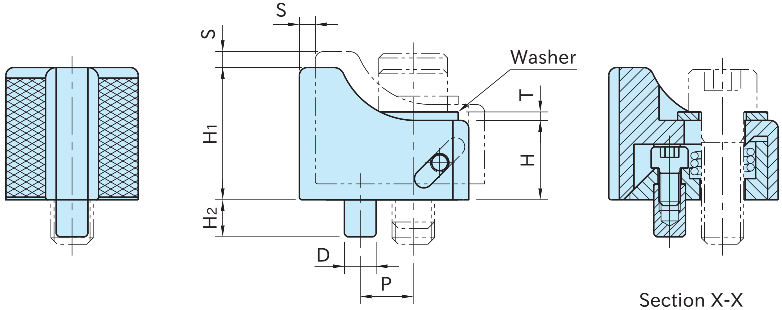
CP107 SIDE CLAMPS

RoHS

IMAO



Body
S45C steel Quenched and tempered Black oxide finish

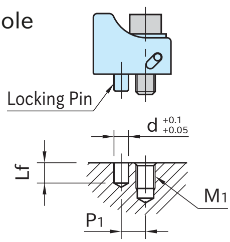


Section X-X

Part Number	S	W	W_1	H_1	L_1	P	D (h7)	H_2	M	L	H	T	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (g)
CP107-08015	3	25	10	25	21.5	10	6	7	M 8	32	15	1.6	7	25	115
CP107-10019	4	30	11	32	26	12			M10	40	19	2	8.5	50	225
CP107-12023	5	35	12	38	33	16	8	10	M12	50	23	2.3	20	90	390
CP107-16025	6	40	14	45	40	20	10		M16	60	25	3.2	30	150	640

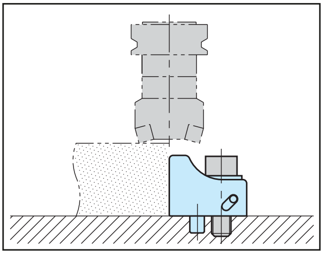
How To Use

■Mounting-Hole Dimension



Part Number	M_1	d	Lf	P_1
CP107-08015	M 8	6	8	10
CP107-10019	M10			12
CP107-12023	M12	8	11	16
CP107-16025	M16	10		20

Drill a tapped hole and a pin hole as specified on the above.



Supplied With

One flat washer

CP104 TOE CLAMPS

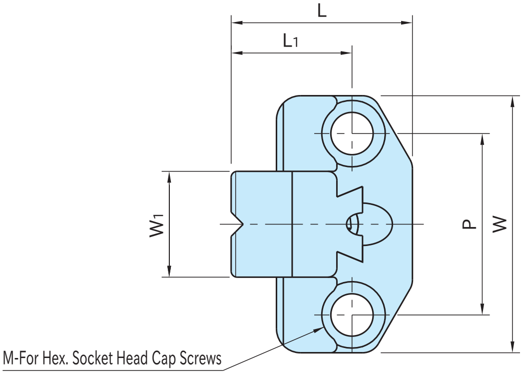
RoHS

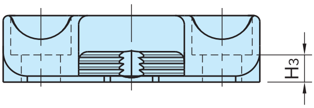
IMAO

Serrated Nose

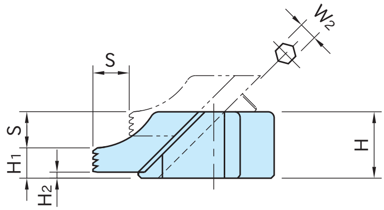
Smooth Nose

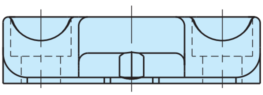
Body	Sliding Nose
SCM440 steel Quenched and tempered Black oxide finish	SCM440 steel Induction hardened (clamping face) Black oxide finish Precision ground (smooth nose)



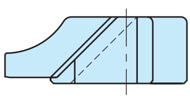


Serrated Nose





Smooth Nose



Nose	Part Number	S	W_1	H_1	H_2	L_1	W	L	M	H_3	P	H	W_2	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (g)
Serrated	CP104-08016	7	25	7.5	1.5	25	65	39.5	M 8	7	45	16	4	4	8	160
	CP104-12022	12	35	10	2	40	85	60	M12	9	60	22	6	9	26	450
	CP104-16030	14	40	14		50	100	77	M16	13	70	30	8	17	60	900
Smooth	CP104-08116	7	25	7.5	1.5	25	65	39.5	M 8	7	45	16	4	4	8	160
	CP104-12122	12	35	10	2	40	85	60	M12	9	60	22	6	9	26	450
	CP104-16130	14	40	14		50	100	77	M16	13	70	30	8	17	60	900

CP105 SIDE CLAMPS

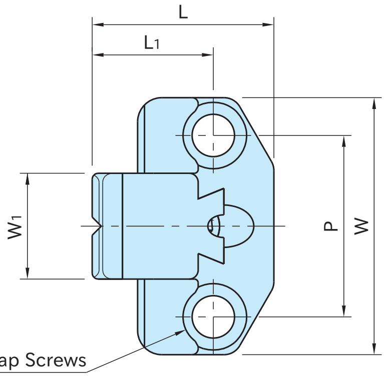
RoHS

IMAO

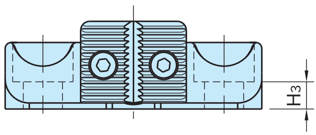
Serrated Nose

Smooth Nose

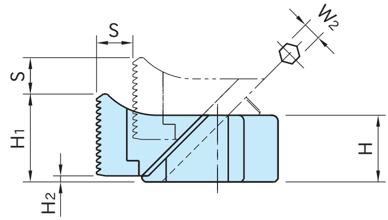
Body/Sliding Nose	Jaw
SCM440 steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish Precision ground (smooth nose)

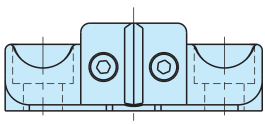


M-For Hex. Socket Head Cap Screws

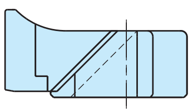


Serrated Jaw





Smooth Jaw

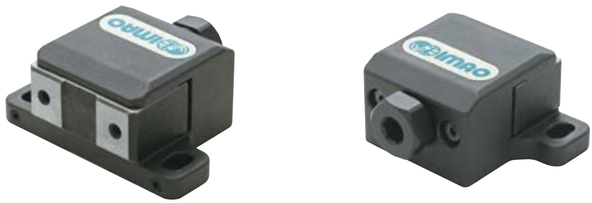


Nose	Part Number	S	W_1	H_1	H_2	L_1	W	L	M	H_3	P	H	W_2	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (g)
Serrated	CP105-08016	7	25	19.5	1.5	25	65	39.5	M 8	7	45	16	4	4	8	180
	CP105-12022	12	35	29	2	40	85	60	M12	9	60	22	6	9	26	500
	CP105-16030	14	40	38		50	100	77	M16	13	70	30	8	17	60	1010
Smooth	CP105-08116	7	25	19.5	1.5	25	65	39.5	M 8	7	45	16	4	4	8	180
	CP105-12122	12	35	29	2	40	85	60	M12	9	60	22	6	9	26	510
	CP105-16130	14	40	38		50	100	77	M16	13	70	30	8	17	60	1020

QLSCH-H SIDE CLAMPS

RoHS

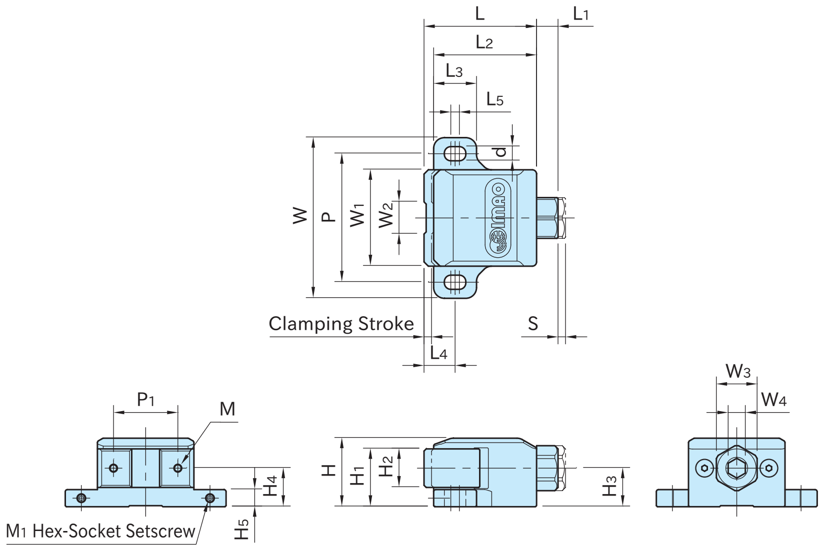
IMAO



Body	Jaw	Shaft	Screw
S45C steel Black oxide finished	S45C steel Quenched & tempered Black oxide finished Precision ground	SCM440 steel Black oxide finished	SCM435 steel Quenched & tempered Black oxide finished

★Key Point

Compact free vise that prevents lifting up of the part.

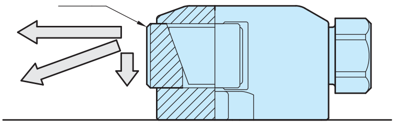


Part Number	Clamping Stroke	W_1	W_2	H_1	H_2	M	P_1	H_4	L_4	W	L_3	H_5	d	L_5
QLSCH32H	3	45	15	27	18	M4×0.7 Depth 6	30	18	14	75	20	8	6.6	3
QLSCH40H	4	60	20	33	22	M5×0.8 Depth 8	40	22	19	100	26	10	8.6	4

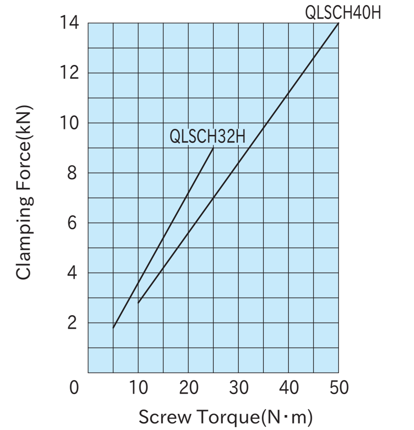
Part Number	P	H	L	L_2	L_1	H_3	S	W_3	W_4	M_1	Allowable Screw Torque(N·m)	Clamping Force(kN)	Weight (g)
QLSCH32H	60	32	52	48	10	18	3	19	8	M4×0.7-6L	25	9	560
QLSCH40H	80	40	69	63	13	22	4	24	10	M5×0.8-8L	50	14	1240

Feature

- A screw type clamping mechanism provides long clamping stroke and firm clamping.
- Precision-ground jaw is perfect for clamping the workpiece on its finished surface.
- In clamping, the jaw provides downward force to prevent part lift.

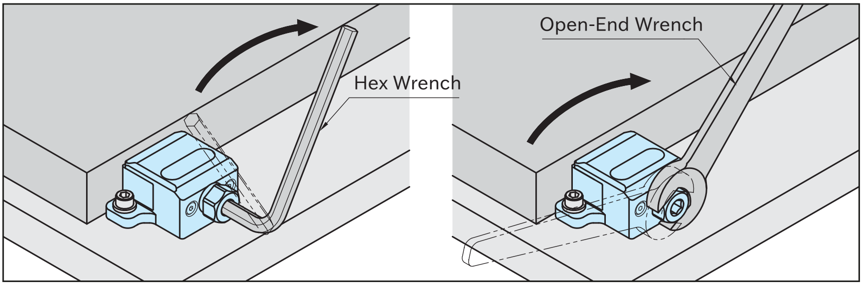


Performance Curve

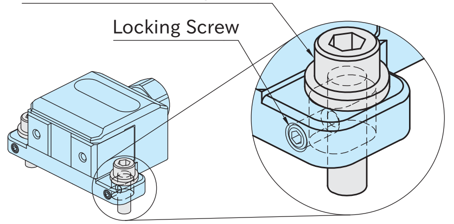


How To Use

- Can be clamped with both of hex wrench and open-end wrench.



- The locking screw must be screwed onto the hex socket-head cap screw to prevent the body sliding backwards when clamping.



QLSCH | **CAM EDGE CLAMPS**

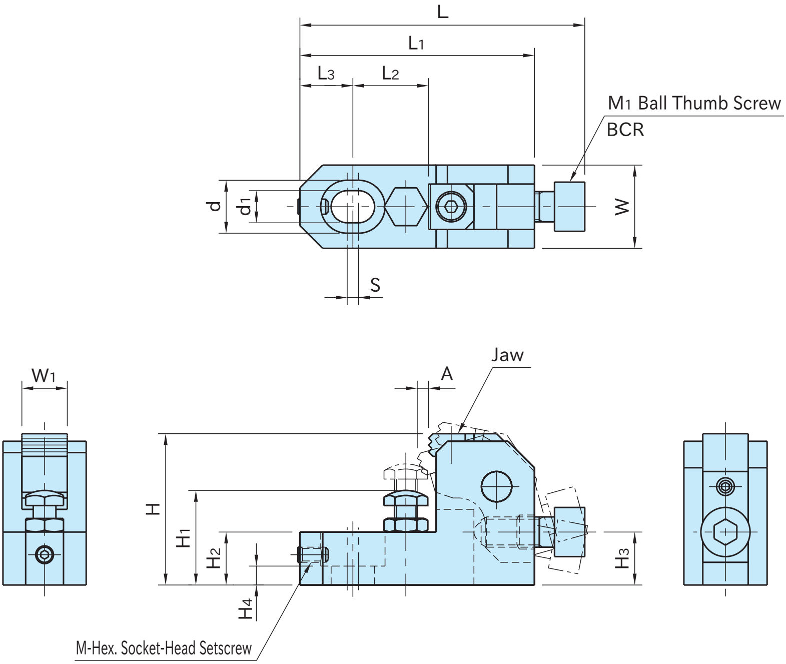
One-Touch type is available.

CP100 SIDE CLAMPS

RoHS

IMAO

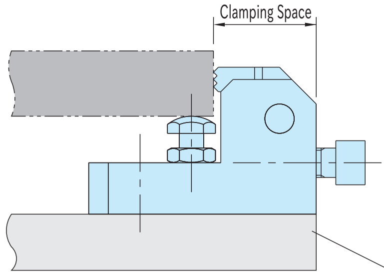
Body / Arm	Jaw	Support Screw
S45C steel Quenched and tempered Black oxide finish	SKH51 steel Quenched and tempered Black oxide finish	S45C steel Induction hardened (Ball head part)



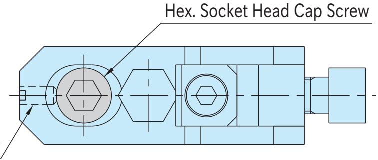
Part Number	A	W_1	L_2	L_3	H	H_1	W	L	L_1	d_1	d	S	H_2	H_4
CP100-08040	3	12	20	14	40	25~32	22	75.5	62	8.5	14	3	14	5
CP100-10050	3.7	16	25	18	50	32~40	25	95	78	11	17.5	4	18	7
CP100-12060	4.5	20	30	21	60	40~48	32	113	93	13	20	5	21	8
CP100-16080	6	25	40	28	80	50~65	38	151	124	17	26	6	27	10

Part Number	M	M_1	H_3	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (kg)	Proper Jaws
CP100-08040	M4×0.7 - 8L	M 8×1.25-20L	14	9	15	0.23	HSE-9126-SS
CP100-10050	M5×0.8 -10L	M10×1.5 -25L	17.5	15	30	0.41	HSE-9166-SS
CP100-12060	M6×1 -12L	M12×1.75-30L	21	25	65	0.75	HSE-9200-SS
CP100-16080	M8×1.25-16L	M16×2 -40L	28	38	100	1.57	HSE-9250-SS

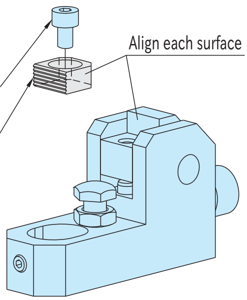
How To Use



Smaller clamping space allows clamping a larger workpiece.



The hex. socket-head setscrew works to prevent the clamp from sliding back if screwed in until it contacts the cap screw.



*) CP100-08040 : Hex. Socket-Head Cap Screw M4×0.7-6L
CP100-10050 : Hex. Socket-Low-Head Cap Screw M6×1-10L
CP100-12060 : Hex. Socket-Low-Head Cap Screw M8×1.25-12L
CP100-16080 : Hex. Socket-Low-Head Cap Screw M10×1.5-16L

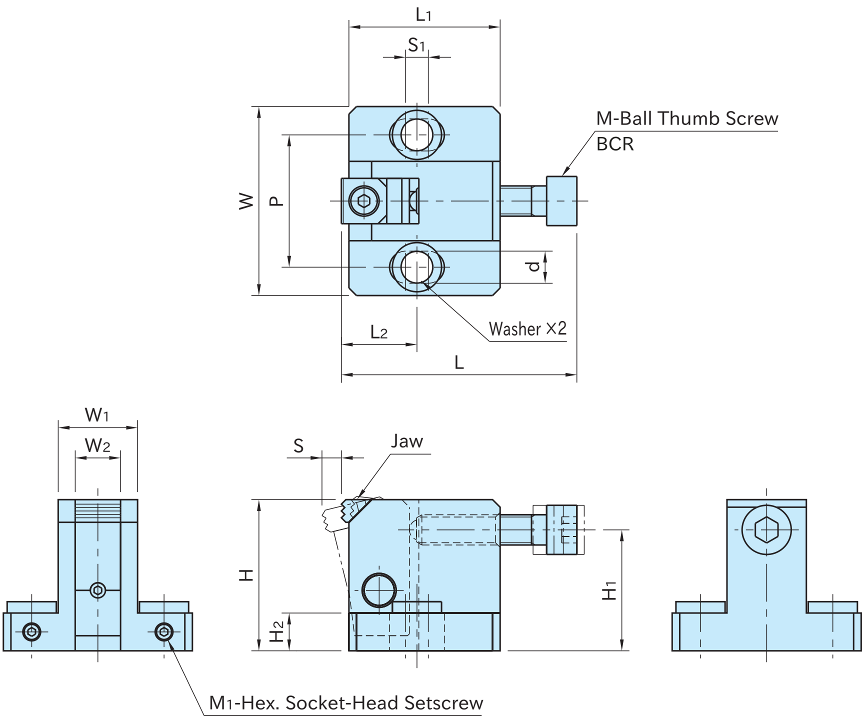
Jaw is replaceable.
For installing, use a hex.socket-head cap screw. Fit the jaw onto a pocket of the side clamp arm.

CP101 SIDE CLAMPS

RoHS

IMAO

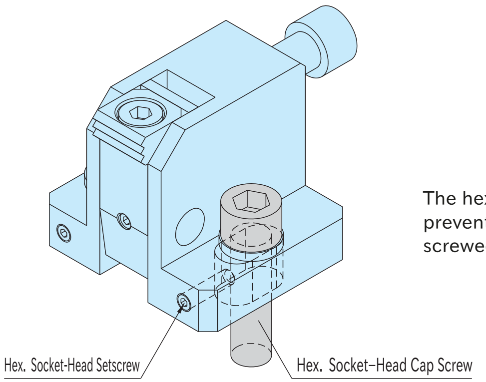
Body	Arm	Jaw
S45C steel Black oxide finish	S45C steel Quenched and tempered Black oxide finish	SKH51 steel Quenched and tempered Black oxide finish



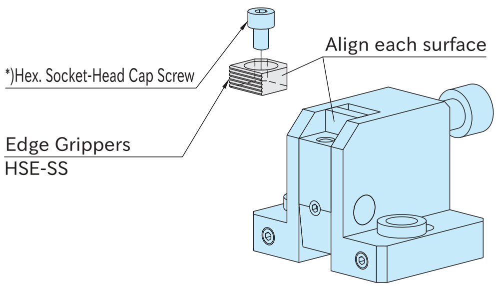
Part Number	S	W_2	L_2	H	W	L	W_1	L_1	d	S_1	H_2	P	M_1
CP101-08040	5.3	12	20	40	50	62.5	21	40	8.5	6	10	35	M4×0.7-10L
CP101-10050	7.1	16	25	50	65	74	27	50	11	8	12	45	M4×0.7-12L
CP101-12060	8	20	30	60	70	91	31	60	13	10	15	50	M5×0.8-15L
CP101-16080	10.2	25	40	80	90	115	39	80	17	15	20	65	M6×1 -20L

Part Number	M	H_1	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (kg)	Proper Jaws
CP101-08040	M 8×1.25-35L	32	15	25	0.33	HSE-9126-SS
CP101-10050	M10×1.5 -40L	40	27	50	0.66	HSE-9166-SS
CP101-12060	M12×1.75-50L	48	38	90	1.06	HSE-9200-SS
CP101-16080	M16×2 -60L	64	46	130	2.38	HSE-9250-SS

How To Use



The hex. socket–head setscrew works to prevent the clamp from sliding back if screwed in until it contacts the cap screw.



*) CP101-08040 : Hex. Socket-Head Cap Screw M4×0.7-6L
CP101-10050 : Hex. Socket-Low-Head Cap Screw M6×1-10L
CP101-12060 : Hex. Socket-Low-Head Cap Screw M8×1.25-12L
CP101-16080 : Hex. Socket-Low-Head Cap Screw M10×1.5-16L

Jaw is replaceable. For installing, use a hex. socket-head cap screw.
Fit the jaw onto a pocket of the side clamp arm.

Supplied With

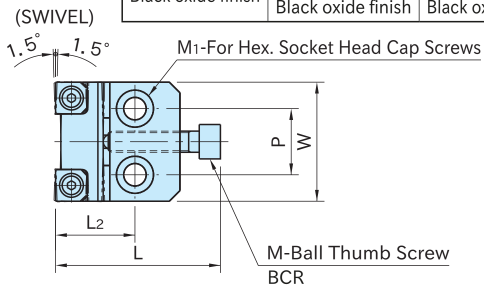
Two flat washers

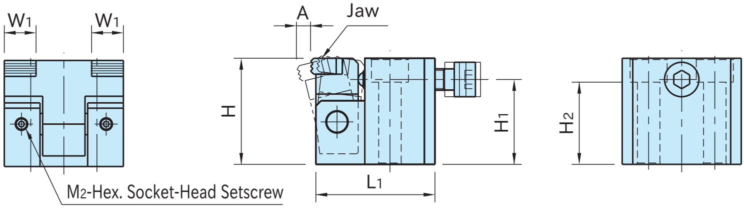
CP102 WIDE-JAW SIDE CLAMPS

RoHS

IMAO

Body	Arm	Jaw
S45C steel Black oxide finish	S45C steel Quenched and tempered Black oxide finish	SKH51 steel Quenched and tempered Black oxide finish

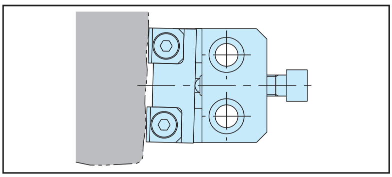




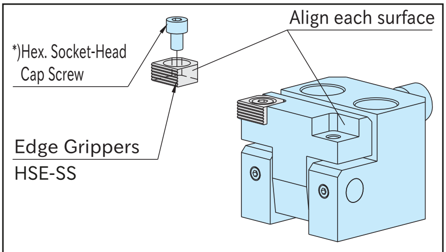
Part Number	A	W1	L2	H	W	L	L1	M1	H2	P	M2	M	H1	Clamping Force(kN)
CP102-08040	5.3	12	30	40	45	62.5	45	M 8	31	25	M4×0.7-4L	M 8×1.25-35L	32	15
CP102-10050	7.1	16	40	50	55	74	55	M10	39	30		M10×1.5 -40L	40	27
CP102-12060	8	20	45	60	65	91	65	M12	47	35	M5×0.8-5L	M12×1.75-50L	48	38

Part Number	Allowable Screw Torque (N·m)	Weight (kg)	Proper Jaws
CP102-08040	25	0.55	HSE-9126-SS
CP102-10050	50	1	HSE-9166-SS
CP102-12060	90	1.69	HSE-9200-SS

How To Use



The jaw swivels to fit an unmachined surface of the workpiece.



*) CP102-08040 : Hex. Socket-Head Cap Screw M4×0.7-6L
CP102-10050 : Hex. Socket-Low-Head Cap Screw M6×1-10L
CP102-12060 : Hex. Socket-Low-Head Cap Screw M8×1.25-12L

Jaw is replaceable. For installing, use a hex. socket-head cap screw. Fit the jaw onto a pocket of the side clamp arm.

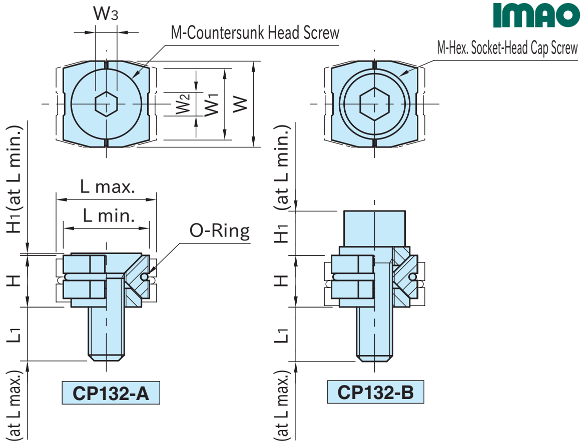
CP132 COMPACT WEDGE CLAMPS

RoHS

IMAO

CP132-A

CP132-B



Jaw	Washer	O-Ring
SNCM439 steel Black oxide finished HRC33-39	SCM435 steel Black oxide finished	Fluoro rubber

★Key Point

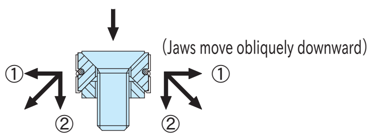
Can clamp 2 workpieces in small space.

Part Number	L		W	H		W1	W2	H1	M	L1	W3
	min.	max.		L min.	L max.						
CP132-05001A	12	14	12	7.2	6.2	10	3.3	0.3	M5×0.8 -15L	9.5	3
CP132-06001A	15	17	14.8	8.5	7.5	12	4	0.2	M6×1 -16L	9.3	4
CP132-08001A	18.5	21.5	18.4	11.4	9.9	16	5.3	0.4	M8×1.25-20L	11.3	5
CP132-05001B	12	14	12	7.2	6.2	10	3.3	6.2	M5×0.8 -16L	9.6	4
CP132-06001B	15	17	14.8	8.5	7.5	12	4	7.3	M6×1 -18L	10.2	5
CP132-08001B	18.5	21.5	18.4	11.4	9.9	16	5.3	9.8	M8×1.25-25L	14.9	6

Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (g)	Proper NOK's O-ring
CP132-05001A	2	4.3	8	CO 7044H0 (SS8.5)
CP132-06001A	3.5	7.3	13	CO 0509N2 (S12)
CP132-08001A	5	18	27	CO 0511R0 (S14)
CP132-05001B	3	5.4	9	CO 7044H0 (SS8.5)
CP132-06001B	4.5	9.1	17	CO 0509N2 (S12)
CP132-08001B	9	22	30	CO 0511R0 (S14)

Feature

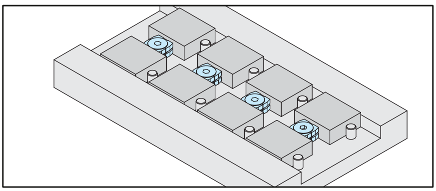
- The wedge construction allows powerfully clamping the workpiece.
- Can hold two workpieces with equilateral clamping action by using a hex wrench.



①Horizontal pressure against workpiece
②Vertical pressure preventing workpiece lift

How To Use

Compact design allows to utilize machining area and clamp multiple workpieces.



QLSWC SWING CLAMPS FOR TORQUE CONTROL

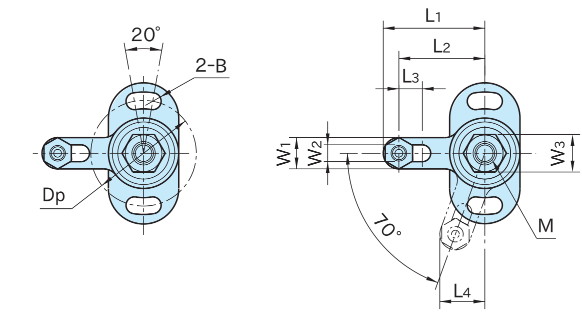
RoHS

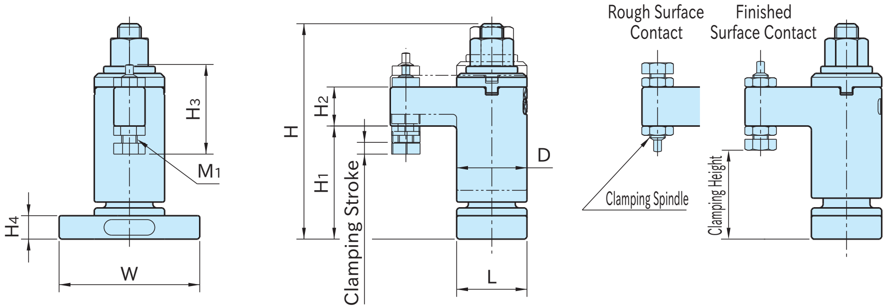
IMAO

Base/Washer/Flange Nut/Clamping Spindle	Body
S45C steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish

Feature

- Designed for clamping-force control with a torque wrench.
- Screw-locking mechanism allows for longer clamping stroke and greater clamping force than a cam-locking mechanism.





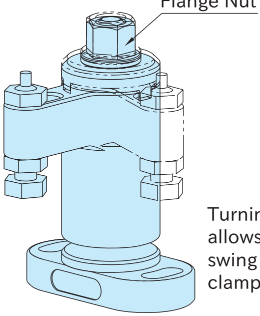
Part Number	Clamping Height *)				Clamping Stroke	L2	L3	L1	L4	W	L	H4	B	Dp
	Finished Surface Contact		Rough Surface Contact											
	Min.	Max.	Min.	Max.										
QLSWC-0618	21.8 (21.8~24.8)	23.8 (23.8~26.8)	21.4 (21.4~24.4)	23.4 (23.4~26.4)	3	22	6	26	11.5	36	18	6	4.3	27
QLSWC-0823	30.3 (30.3~34.3)	32.3 (32.3~36.3)	31.2 (31.2~35.2)	33.2 (33.2~37.2)	4	30	8	35	15.3	45	23	8	5.3	34
QLSWC-1030	30.5 (30.5~34.5)	37 (37~41)	31.5 (31.5~35.5)	38 (38~42)		37		45	20.7	65	30	12	8.4	48
QLSWC-1240	34.5 (34.5~39.5)	44 (44~49)	37 (37~42)	46.5 (46.5~51.5)	5	45		55	25.4	85	40	15	10.5	64

*) Clamping height can be adjusted. The parenthesised values denote clamping height range.

Part Number	H	D	W1	W2	H2	H1	M1	H3	W3	M	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (g)
QLSWC-0618	56.5	18	8	4.3	10	29	M 4×0.7	22.8	10	M 6×1	2.3	6	94
QLSWC-0823	73.5	23	10	5.3	14	39	M 5×0.8	28.5	13	M 8×1.25	3.6	10.5	210
QLSWC-1030	91	30	16	8.4	18	48	M 8×1.25	45.5	17	M10×1.5	6	30	515
QLSWC-1240	114	40	20	10.4	22	58	M10×1.5	57	19	M12×1.75	7.5	45	1100

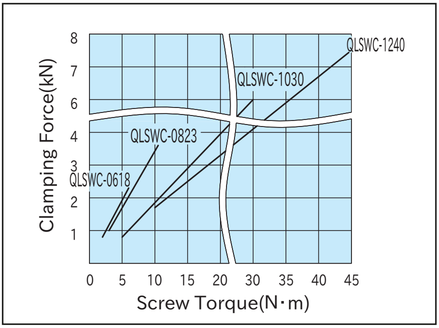
How To Use

■How to Operate



Turning the flange nut allows the clamp arm to swing into position for clamping.

Performance Curve



Note

Do not use a power tool (impact wrench etc.) to turn the flange nut, for damage prevention.

QLSWC SWING CLAMPS WITH ADJUSTABLE HANDLE

One-Touch type is available.

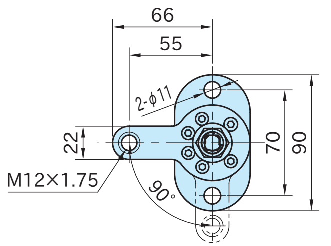
PTSW1 SWING CLAMPS (Quick-Acting)

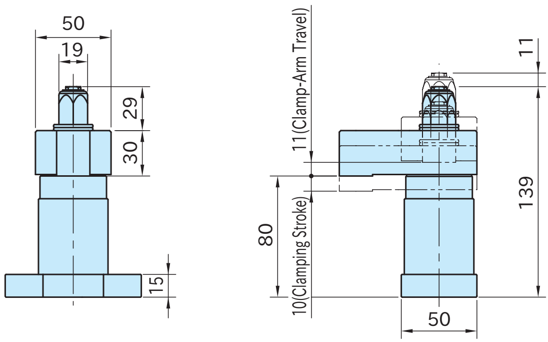
RoHS

IMAO

Without Clamp Arm

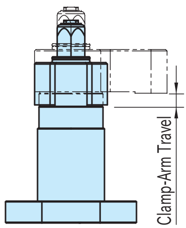
Body / Clamp-Arm Holder / Hex. Head	Clamp Arm
SCM440 steel Quenched and tempered Black oxide finish	S45C steel Quenched and tempered Black oxide finish





Feature

・The clamp arm swings in swift response to the turning speed of an impact wrench, for quick clamping.
・A short clamp-arm travel allows quick clamping.



Note:For robotized production lines,
use Spiral-Acting Swing Clamps.

■With Clamp Arm

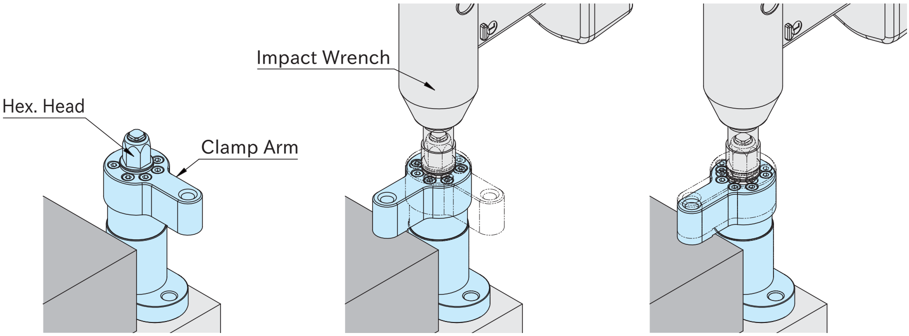
Part Number	Clamping Force(kN)	Allowable Screw Torque (N・m)	Clamping Direction	Weight (kg)
PTSW1-12R	6	28	CW	1.6

■Without Clamp Arm

Part Number	Clamping Force(kN)	Allowable Screw Torque (N・m)	Clamping Direction	Weight (kg)
PTSW1-12NR	6	28	CW	1.2

Note: If you prepare a custom clamp arm, contact us for the dimensional information on its mounting section.
Note that custom clamp arms made by yourselves may cause clamping force to be increased or decreased.

How To Use



1. Unclamped Mode
Load a workpiece.

2. Ready-To-Clamp Mode
When the hex. head is turned by an impact wrench, the clamp arm swings fast to the clamping position.

3. Clamping Mode
The clamp arm moves down for clamping. Using an impact wrench allows completing positive clamping in a few seconds.

Note

・Do not use applying higher torque than allowable for a long period of time, to avoid damage. Using a torque-settable impact wrench is recommended.
・Use PTSW2 in robotized production lines.

PTSW2 SWING CLAMPS (Spiral-Acting)

RoHS

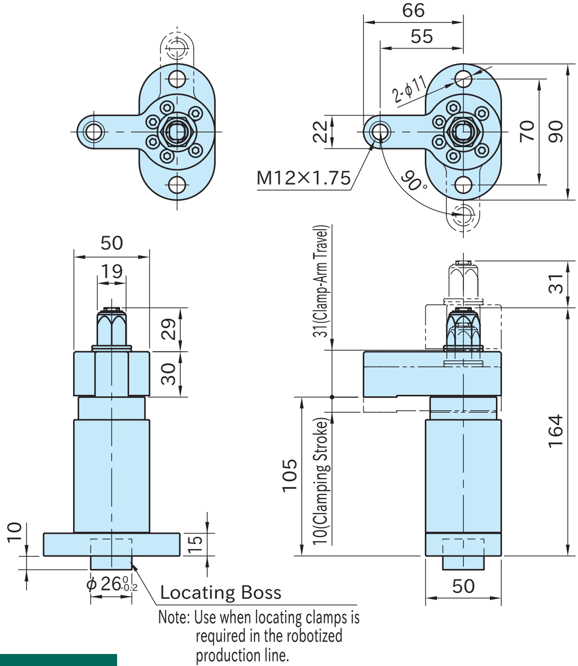
IMAO

Without Clamp Arm

Body / Clamp-Arm Holder / Hex. Head	Clamp Arm
SCM440 steel Quenched and tempered Black oxide finish	S45C steel Quenched and tempered Black oxide finish

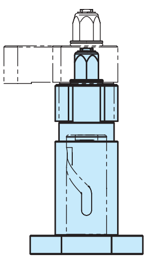
Counterclockwise Clamping

Clockwise Clamping



Feature

The inside spiral groove allows the clamp arm to swing positively.



■With Clamp Arm

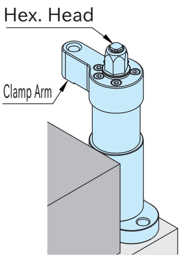
Part Number	Clamping Force (kN)	Allowable Screw Torque (N･m)	Clamping Direction	Weight (kg)
PTSW2-12R	6	28	CW	2
PTSW2-12L			CCW	

■Without Clamp Arm

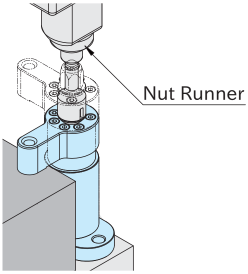
Part Number	Clamping Force (kN)	Allowable Screw Torque (N･m)	Clamping Direction	Weight (kg)
PTSW2-12NR	6	28	CW	1.6
PTSW2-12NL			CCW	

Note: If you prepare a custom clamp arm, contact us for the dimensional information on its mounting section. Note that custom clamp arms made by yourselves may cause clamping force to be increased or decreased.

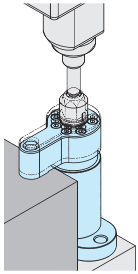
How To Use



1.Unclamped Mode
Load or unload a workpiece.



2.Ready-To-Clamp Mode
When the hex. head is turned by a nut runner, the clamp arm swings fast to the clamping position.



3.Clamping Mode
The clamp arm moves down for clamping. Using a nut runner allows completing positive clamping in a few seconds.

Note

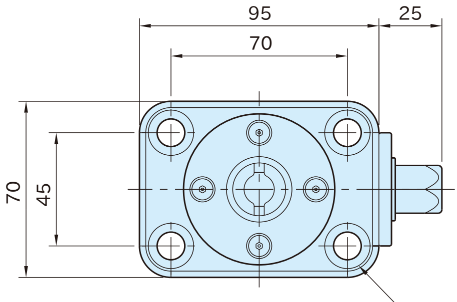
A torque-settable impact wrench may also be used to operate these clamps.

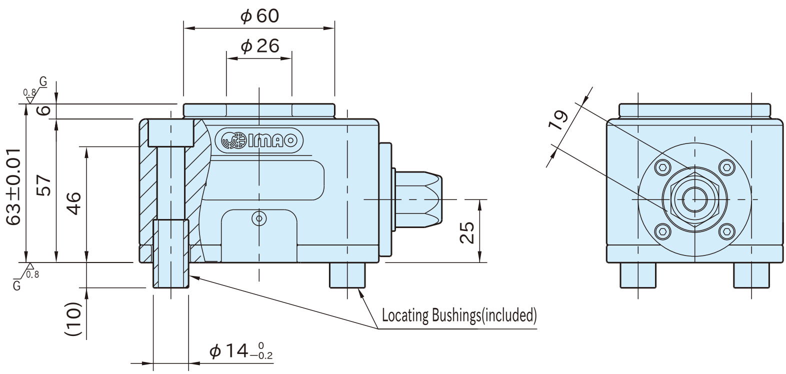
PTPD BLOCK PULL CLAMPS

RoHS

IMAO

Body	Contact Pad	Locating Bushing
S45C steel Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish	SCM435 steel Quenched and tempered Black oxide finish





Part Number	Weight (kg)
PTPD12	2.3

Options of Operating Tool	Clamping Force (kN)	Allowable Screw Torque(N·m)
Spanner or Socket Wrench	12	40
Nut Runner (for robotization)		
Impact Wrench	6	20

Note

Do not use applying a greater torque than allowable for a long period of time, to avoid damage. When an impact wrench is used, the torque-settable type is recommended.

Related Product

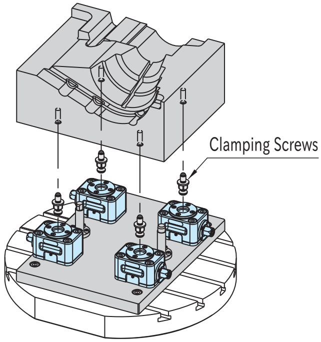
PTPD-M Clamping Screws

Feature

Clamp the workpiece from bottom.

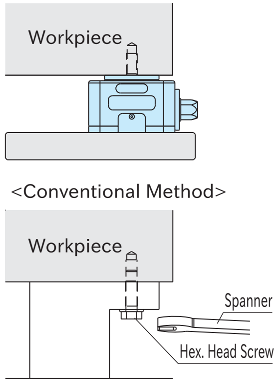
■Ideal for 5-Axis Machining

Block Pull Clamps mount under a workpiece making its surfaces to be machined fully open for the cutting tool. This allows completing multiple machining processes at a time.



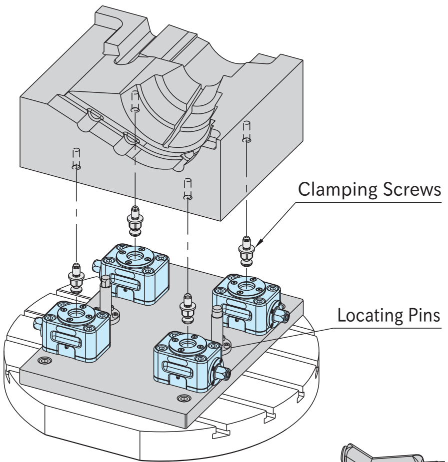
■Better Workability

Block Pull Clamps allow fastening a workpiece easily, unlike the conventional method of fastening with hexagon head screws from below.

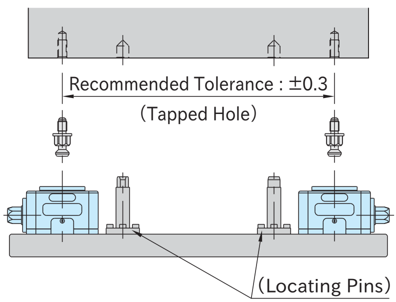


How To Use

In addition to tightening with wrench, this clamp can be operated with nut runner for automation and impact wrench for lower workload.

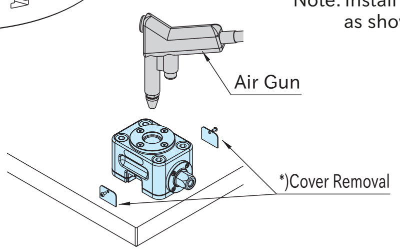


■Spacing Between Two Clamping-Screw Holes



Locating repeatability in using Block Pull Clamps alone is ±0.3.

Note: Install locating pins for better accuracy, as shown above.

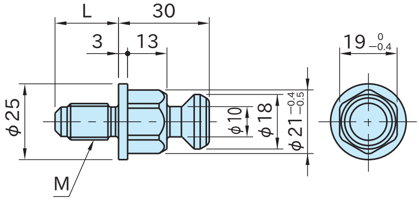


*) To remove metal chips in the mechanism, take off the side covers and blow air from above.

PTPD-M CLAMPING SCREWS for BLOCK PULL CLAMPS

RoHS

IMAO



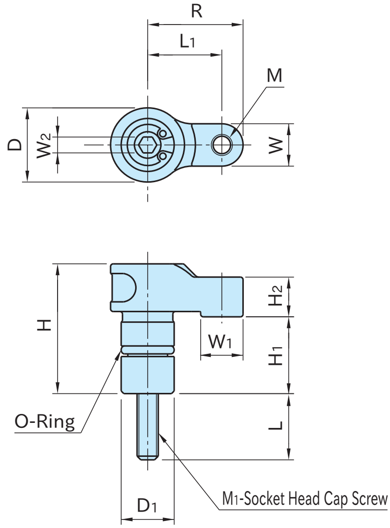
Body
SCM435 steel Quenched and tempered Black oxide finish

Part Number	M	L	Weight (g)	Proper Block Pull Clamp
PTPD12-M10	M10×1.5	18	69	PTPD12
PTPD12-M12	M12×1.75	21	75	
PTPD12-M16	M16×2	28	98	

BJ132 HOOK CLAMPS

RoHS

IMAO



Body
SCM440 steel Quenched and tempered Black oxide

Part Number	W_1	M	L_1	R	D_1 $\left(\begin{smallmatrix}-0.02\\-0.10\end{smallmatrix}\right)$	H_1	M_1	L	H	D	W	H_2	W_2
BJ132-04018	8	M4×0.7	14	18	10	14.5	M4×0.7-30L	12.5	24.5	14	8	7.5	3
BJ132-06022	10	M5×0.8	17	22	12	17.5	M6×1 -35L	13.5	30.5	16	10	9.5	5

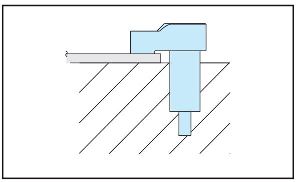
Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (g)
BJ132-04018	2	2.7	25
BJ132-06022	3.5	7	45

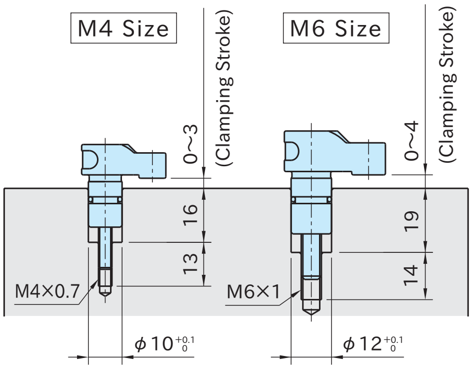
Feature

- Compact design for applications in limited space
- BJ530 Hook-Clamp Holders are available.
- Clamp that is designed to move up and down in conjunction with the tightening screw, for prevention of galling.

How To Use

Instead of being used with Hook-Clamp Holders, these Hook Clamps can be plugged into a custom block with receiving holes as specified on the right.

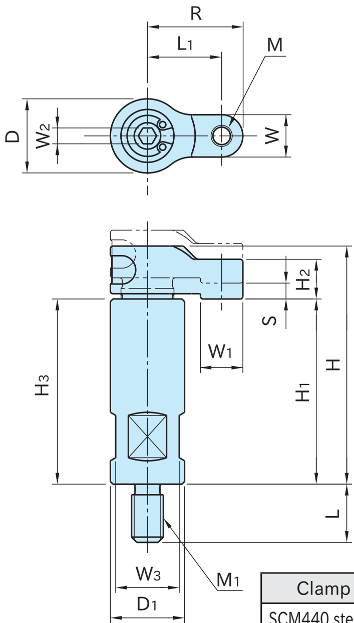




BJ132-A HOOK-CLAMP ASSEMBLIES

RoHS

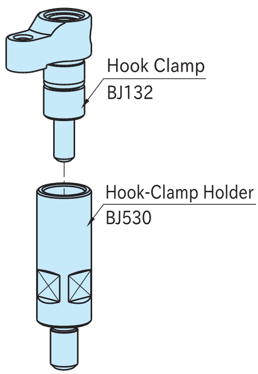
IMAO



Clamp Body	Holder
SCM440 steel Quenched and tempered Black oxide finished	S45C steel Quenched and tempered Black oxide finished

Part Number	H_1	S (Clamping Stroke)	W_1	M	L_1	R	D_1	H_3	M_1	L	H	D	W	H_2	W_2	W_3
BJ132-04018A	35	3	8	M4×0.7	14	18	14	35	M6×1	11	45	14	8	7.5	3	12
BJ132-06022A	40	4	10	M5×0.8	17	22	16	40	M8×1.25	14	53	16	10	9.5	5	13

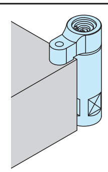
Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (g)
BJ132-04018A	2	2.7	55
BJ132-06022A	3.5	7	90



Feature

The hook clamp is designed to move up and down in conjunction with the tightening screw, for prevention of galling in the hook-clamp holder.

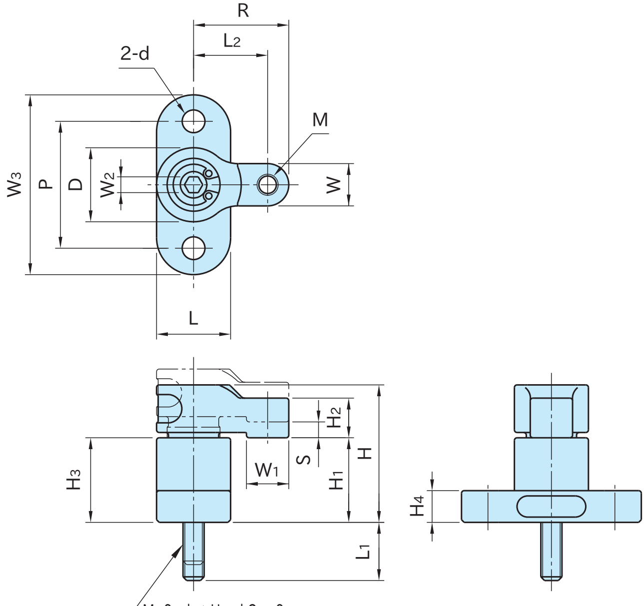
How To Use



BJ132-B HOOK-CLAMP ASSEMBLIES WITH FLANGED HOLDER

RoHS

IMAO



Clamp Body	Holder
SCM440 steel Quenched and tempered Black oxide finished	S45C steel Quenched and tempered Black oxide finished

Part Number	H_1	S (Clamping Stroke)	W_1	M	L_2	R	W_3	L	M_1	L_1 (max)	d	H_4	P	H	H_3	D	W	H_2	W_2
BJ132-04018B	16	3	8	M4×0.7	14	18	34	14	M4×0.7-30L	11	4.3	6	24	26	16	14	8	7.5	3
BJ132-06022B	19	4	10	M5×0.8	17	22	40	16	M6×1 -35L	12	5.3	8	28	32	19	16	10	9.5	5

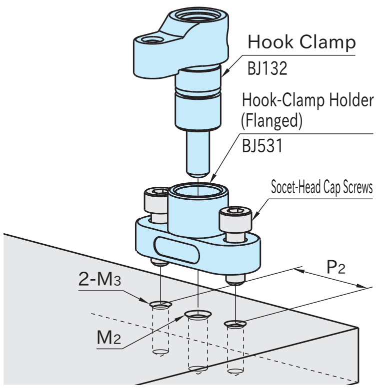
Part Number	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (g)
BJ132-04018B	2	2.7	45
BJ132-06022B	3.5	7	75

Feature

- Ideal for low height clamping.
- The hook clamp is designed to move up and down in conjunction with the tightening screw, for prevention of galling in the hook-clamp holder.

Part Number	M_2	M_3	P_2
BJ132-04018B	M4×0.7 Depth 13	M4×0.7	24
BJ132-06022B	M6×1 Depth 14	M5×0.8	28

How To Use



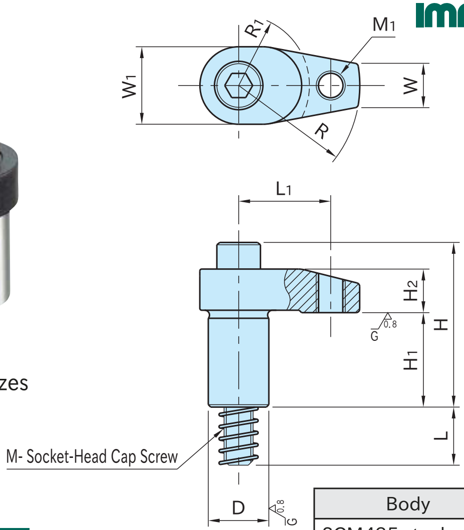
BJ130 HOOK CLAMPS

RoHS

IMAO

M8 Size

M10-M16 Sizes

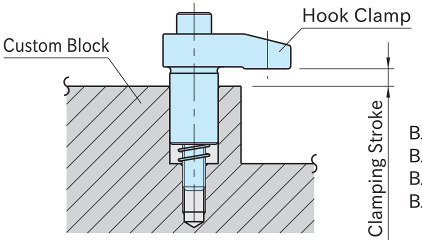


Body
SCM435 steel Quenched & tempered Black oxide finished Precision ground

Related Product

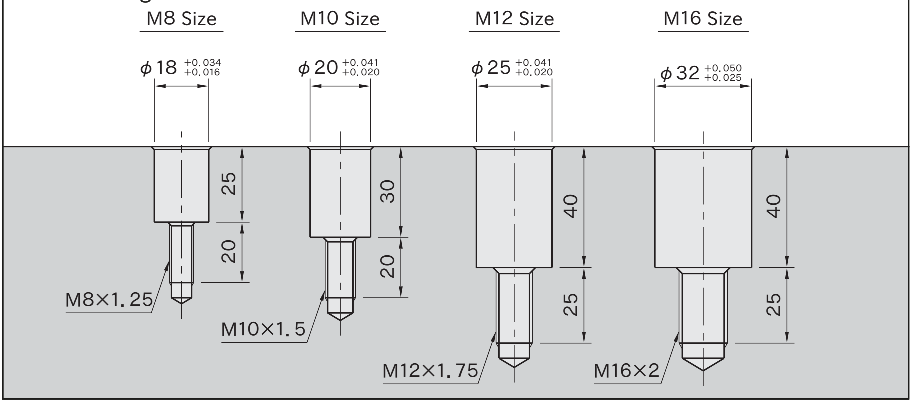
BJ530 Hook-Clamp Holders

How To Use



BJ130-08***(M 8 size) : 10mm
BJ130-10***(M10 size) : 12mm
BJ130-12***(M12 size) : 15mm
BJ130-16***(M16 size) : 15mm

■Machining Instruction for Custom Blocks



Hook Clamps can be plugged directly into custom blocks with receiving holes as specified above.

Part Number	R	R1	M1	L1	D (h7)	H1	M	L	H
BJ130-08020	20	15	—	—	18	23	M 8×1.25-50L	21	37
BJ130-08025	25								
BJ130-08030	30	20							
BJ130-10030	30	20	—	—	20	30	M10×1.5 -65L	21	54
BJ130-10040	40	25							
BJ130-12040	40	25	—	—	25	39	M12×1.75-80L	26	66
BJ130-12050	50							24	68
BJ130-12060	60								
BJ130-12140	40		M12×1.75	31				26	66
BJ130-12150	50			38				24	68
BJ130-12160	60			46					
BJ130-16040	40	25	—	—	32	39	M16×2 -85L	26	75
BJ130-16050	50								
BJ130-16060	60								
BJ130-16150	50		M12×1.75	38					
BJ130-16160	60			46					

Part Number	W1	W	H2	Clamping Force(kN)	Allowable Screw Torque(N・m) *)	Weight (g)
BJ130-08020	22	10	12	15	38	90
BJ130-08025				12	33	100
BJ130-08030				10	30	105
BJ130-10030	25	12	15	13	38	165
BJ130-10040				10	32	180
BJ130-12040	32	18	16	18	60	305
BJ130-12050			18	14	50	360
BJ130-12060				12	46	380
BJ130-12140			16	18	60	295
BJ130-12150			18	14	50	350
BJ130-12160				12	46	370
BJ130-16040	36	22	21	38	170	530
BJ130-16050				31	150	580
BJ130-16060				26	130	625
BJ130-16150				31	150	565
BJ130-16160				26	130	610

*) Values for use in conjunction with custom holder blocks.
For use in conjunction with BJ530 Hook-Clamp Holders, apply allowable screw torques given on the BJ530 page.

Note

Please put grease on sliding surface to prevent galling when using in dry condition.

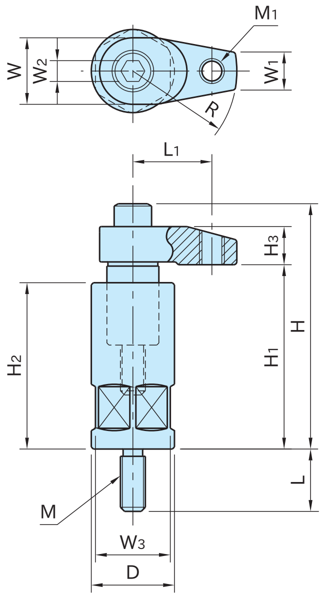
BJ130-A HOOK-CLAMP ASSEMBLIES

RoHS

IMAO


M8 Size


M12 Size



Clamp Body
SCM435 steel Quenched and tempered Black oxide finish Precision ground
Holder
S45C steel Black oxide finish

Part Number	H_1	M_1	L_1	R	D	H_2	M	L	H
BJ130-08020A1	55~65	—	—	20	24	55	M 8×1.25	19	69~ 79
BJ130-08025A1				25					
BJ130-08030A1				30					
BJ130-10030A1	63~75	—	—	30	32	63	M12×1.75	30	87~ 99
BJ130-10030A2	80~92					80			104~116
BJ130-10040A1	63~75			40		63			87~ 99
BJ130-10040A2	80~92					80			104~116

Part Number	W	W_1	H_3	W_2	W_3	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (kg)
BJ130-08020A1	22	10	12	6	22	12	30	0.23
BJ130-08025A1						11		0.24
BJ130-08030A1						10		0.25
BJ130-10030A1	25	12	15	8	30	13	38	0.60
BJ130-10030A2								0.70
BJ130-10040A1						10	32	0.61
BJ130-10040A2								0.71

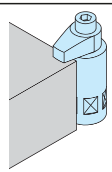
Related Product

Use BJ600 Cylindrical Risers for additional height.

Note

Please put grease on sliding surface to prevent galling when using in dry condition.

How To Use



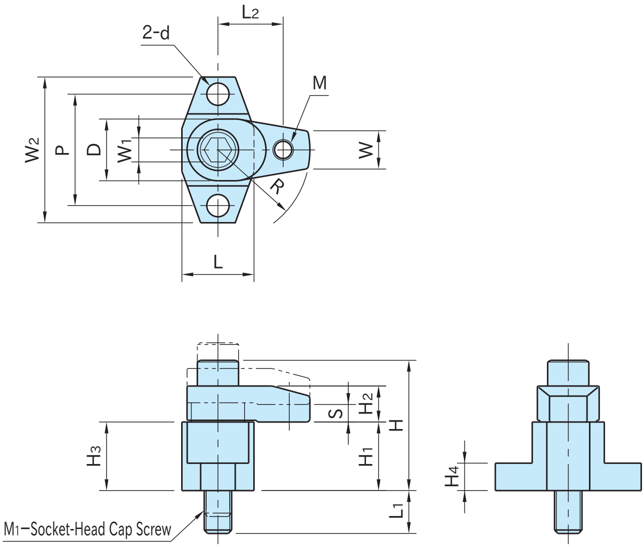
Part Number	H_1	M_1	L_1	R	D	H_2	M	L	H
BJ130-12040A1	80~ 95	—	—	40	40	80	M12×1.75	30	107~122
BJ130-12040A2	100~115					100			127~142
BJ130-12050A1	80~ 95			50		80			109~124
BJ130-12050A2	100~115					100			129~144
BJ130-12060A1	80~ 95			60		80			109~124
BJ130-12060A2	100~115					100			129~144
BJ130-12140A1	80~ 95	M12×1.75	31	40		80			107~122
BJ130-12140A2	100~115					100			127~142
BJ130-12150A1	80~ 95		38	50		80			109~124
BJ130-12150A2	100~115					100			129~144
BJ130-12160A1	80~ 95		46	60		80			109~124
BJ130-12160A2	100~115					100			129~144
BJ130-16040A1	80~ 95	—	—	40	50	80	M16×2	30	116~131
BJ130-16040A2	100~115					100			136~151
BJ130-16050A1	80~ 95			50		80			116~131
BJ130-16050A2	100~115					100			136~151
BJ130-16060A1	80~ 95			60		80			116~131
BJ130-16060A2	100~115					100			136~151
BJ130-16150A1	80~ 95	M12×1.75	38	50		80			116~131
BJ130-16150A2	100~115					100			136~151
BJ130-16160A1	80~ 95		46	60		80			116~131
BJ130-16160A2	100~115					100			136~151

Part Number	W	W_1	H_3	W_2	W_3	Clamping Force (kN)	Allowable Screw Torque (N·m)	Weight (kg)
BJ130-12040A1	32	18	16	10	36	15	50	1.36
BJ130-12040A2								1.56
BJ130-12050A1			18			14		1.39
BJ130-12050A2								1.59
BJ130-12060A1						12	46	1.43
BJ130-12060A2								1.63
BJ130-12140A1			16			15	50	1.36
BJ130-12140A2								1.56
BJ130-12150A1			18			14		1.39
BJ130-12150A2								1.59
BJ130-12160A1						12	46	1.43
BJ130-12160A2								1.63
BJ130-16040A1	36	22	21	14	46	18	80	2.11
BJ130-16040A2								2.42
BJ130-16050A1						16.5		2.16
BJ130-16050A2								2.47
BJ130-16060A1						16		2.22
BJ130-16060A2								2.53
BJ130-16150A1						16.5		2.16
BJ130-16150A2								2.47
BJ130-16160A1						16		2.22
BJ130-16160A2								2.53

BJ130-B1 HOOK-CLAMP ASSEMBLIES, Flanged

RoHS

IMAO



Clamp Body	Holder
SCM435 steel Quenched and tempered Black oxide finish Precision ground	S45C steel Black oxide finish

Part Number	H_1	S (Clamping Stroke)	M	L_2	R	W_2	L	M_1	L_1 (max)	d	H_4	P
BJ130-08020B1	25	10	—	—	20	50	24	M 8×1.25-50L	19	6.6	10	38
BJ130-08025B1					25							
BJ130-08030B1					30							
BJ130-10030B1	30	12	—	—	30	60	28	M10×1.5 -65L	21	9	12	45
BJ130-10040B1					40							

Part Number	H	H_3	D	W	H_2	W_1	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (g)
BJ130-08020B1	39	25	22	10	12	6	15	38	175
BJ130-08025B1							12	33	185
BJ130-08030B1							10	30	190
BJ130-10030B1	54	30	25	12	15	8	13	38	315
BJ130-10040B1							10	32	330

Part Number	H_1	S (Clamping Stroke)	M	L_2	R	W_2	L	M_1	L_1 (max)	d	H_4	P
BJ130-12040B1	40	15	—	—	40	75	35	M12×1.75-80L	25	11	14	55
BJ130-12050B1					50				23			
BJ130-12060B1					60							
BJ130-12140B1			M12×1.75	31	40				25			
BJ130-12150B1				38	50				23			
BJ130-12160B1				46	60							
BJ130-16040B1	40	15	—	—	40	85	42	M16×2 -85L	25	13	16	65
BJ130-16050B1					50							
BJ130-16060B1					60							
BJ130-16150B1			M12×1.75	38	50							
BJ130-16160B1				46	60							

Part Number	H	H_3	D	W	H_2	W_1	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (g)
BJ130-12040B1	67	40	32	18	16	10	18	60	595
BJ130-12050B1	69				18		14	50	650
BJ130-12060B1							12	46	675
BJ130-12140B1	67				16		18	60	585
BJ130-12150B1	69				18		14	50	640
BJ130-12160B1							12	46	665
BJ130-16040B1	76	40	36	22	21	14	38	170	930
BJ130-16050B1							31	150	980
BJ130-16060B1							26	130	1025
BJ130-16150B1							31	150	965
BJ130-16160B1							26	130	1010

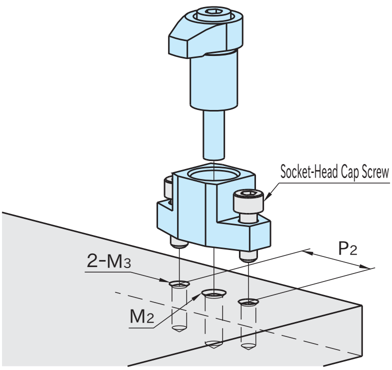
Feature

Perfect for low-height clamping.

Note

Please put grease on sliding surface to prevent galling when using in dry condition.

How To Use



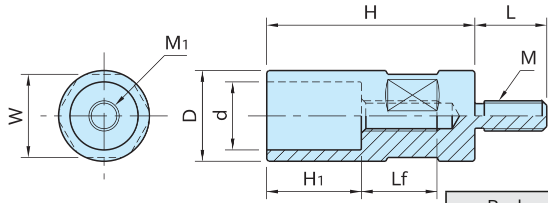
Part Number	M_2	M_3	P_2
BJ130-08020B1	M 8×1.25 Depth 20	M 6×1	38
BJ130-08025B1			
BJ130-08030B1			
BJ130-10030B1	M10×1.5 Depth 21	M 8×1.25	45
BJ130-10040B1			
BJ130-12040B1	M12×1.75 Depth 25	M10×1.5	55
BJ130-12050B1			
BJ130-12060B1			
BJ130-12140B1			
BJ130-12150B1			
BJ130-12160B1			
BJ130-16040B1	M16×2 Depth 25	M12×1.75	65
BJ130-16050B1			
BJ130-16060B1			
BJ130-16150B1			
BJ130-16160B1			

BJ530 HOOK-CLAMP HOLDERS

RoHS

IMAO

BJ530-04 BJ530-06 BJ530-08 BJ530-12 BJ530-10 BJ530-16



Body
S45C steel Black oxide finish

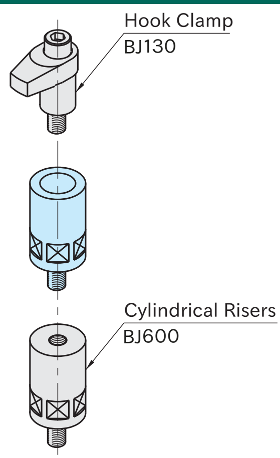
Part Number	H	D	d*)	H_1	M_1	Lf	M	L	W	Allowable Screw Torque(N·m)	Weight (g)
BJ530-04035	35	14	10	16	M 4×0.7	13	M 6×1	11	12	2.7	30
BJ530-06040	40	16	12	19	M 6×1	14	M 8×1.25	14	13	7	45
BJ530-08055	55	24	18	25	M 8×1.25	20	M 8×1.25	19	22	30	140
BJ530-10063	63	32	20	30	M10×1.5	21	M12×1.75	30	30	38 (32 **)	400
BJ530-10080	80					23					500
BJ530-12080	80	40	25	40	M12×1.75	25	M12×1.75	30	36	50 (46 ***)	600
BJ530-12100	100										800
BJ530-16080	80	50	32	40	M16×2	25	M16×2	30	46	80	930
BJ530-16100	100										1230

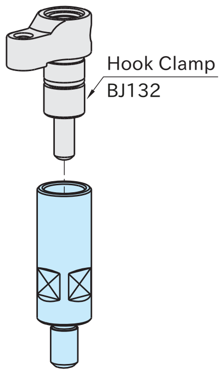
*) Tolerances of d Diameter
BJ530-04 BJ530-06 : $^{+0.1}_{0}$
BJ530-08 BJ530-10 BJ530-12 BJ530-16 : F7
**) The value to use with BJ130-10030.
***) The value to use with BJ130-12060 or BJ130-12160.

Note

The above screw torque values are effective for installation of BJ130 BJ132 Hook Clamps.

How To Use





BJ531 HOOK-CLAMP HOLDERS (Flanged)

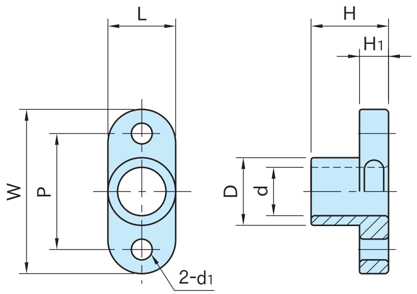
RoHS

IMAO

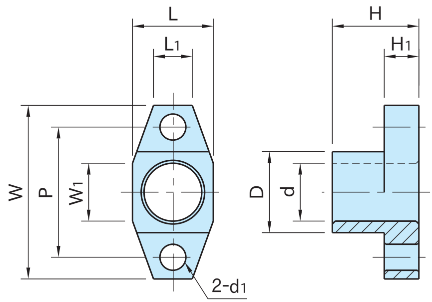
BJ531 -04016, 06019

BJ531 -08025～16040

Type	Body
BJ531-04016, 06019	S45C steel Quenched and tempered Black oxide finish
BJ531-08025～16040	S45C steel Black oxide finish



BJ531 -04016, 06019



BJ531 -08025～16040

Part Number	H	W	L	d *)	d_1	H_1	P	D	W_1	L_1	Weight (g)
BJ531-04016	16	34	14	10	4.3	6	24	14	—	—	20
BJ531-06019	19	40	16	12	5.3	8	28	16	—	—	30
BJ531-08025	25	50	24	18	6.6	10	38	24	15	11.3	85
BJ531-10030	30	60	28	20	9	12	45	28	20	13.4	150
BJ531-12040	40	75	35	25	11	14	55	35		15	290
BJ531-16040		85	42	32	13	16	65	42	25	20.2	400

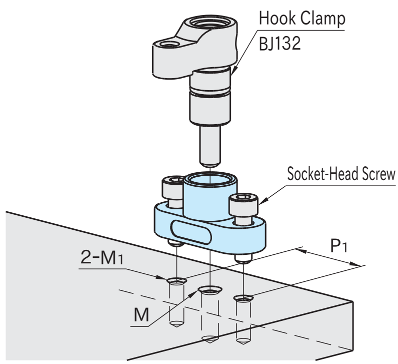
*) Tolerance of d Diameter BJ531-04016 BJ531-06019 : $^{+0.1}_{0}$
BJ531-08025 BJ531-10030 BJ531-12040 BJ531-16040 : F7

Feature

Suitable for low-height clamping.

Part Number	M	M_1	P_1
BJ531-04016	M 4×0.7 Depth 13	M 4×0.7	24
BJ531-06019	M 6×1 Depth 14	M 5×0.8	28
BJ531-08025	M 8×1.25Depth 20	M 6×1	38
BJ531-10030	M10×1.5 Depth 21	M 8×1.25	45
BJ531-12040	M12×1.75Depth 25	M10×1.5	55
BJ531-16040	M16×2 Depth 25	M12×1.75	65

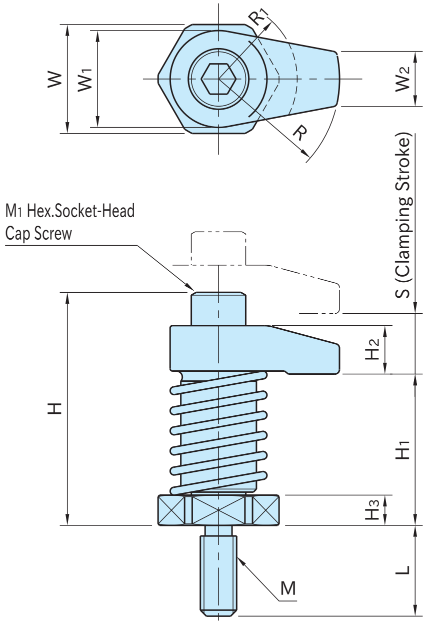
How To Use



BJ131 HOOK CLAMPS

RoHS

IMAO



Body
SCM435 steel Heat treated Black oxide finish Precision ground

Part Number	H_1	S	R	R_1	M	L	H	W_1	W_2	H_2	W
BJ131-08020	35	10	20	15	M 8×1.25	19	49	22	10	12	22
BJ131-08025			25								
BJ131-08030			30	15 *)							
BJ131-08120	45		20	15			59				
BJ131-08125			25								
BJ131-08130			30	15 *)							
BJ131-12040	50	15	40	26	M12×1.75	30	77	32	18	16	36
BJ131-12050			50				79			16	
BJ131-12060			60								
BJ131-12140	65		40				92			16	
BJ131-12150			50				94			18	
BJ131-12160			60								
BJ131-16040	50	15	40	26	M16×2	30	86	36	22	21	36
BJ131-16050			50								
BJ131-16060			60								
BJ131-16140	65		40				101				
BJ131-16150			50								
BJ131-16160			60								

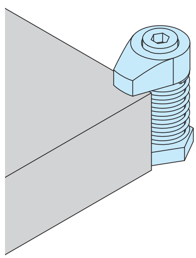
*) The center of R_1 is located in 5mm outside from the center of the body.

Part Number	H_3	M_1	Clamping Force(kN)	Allowable Screw Torque(N·m)	Weight (g)
BJ131-08020	6	M 8×1.25-30L	7.9	20	125
BJ131-08025			7.3		130
BJ131-08030			6.7		135
BJ131-08120	16		7.9		160
BJ131-08125			7.3		165
BJ131-08130			6.7		170
BJ131-12040	10	M12×1.75-45L	13.5	45	450
BJ131-12050			12.6		480
BJ131-12060			11.7		520
BJ131-12140	25		13.5		600
BJ131-12150			12.6		630
BJ131-12160			11.7		670
BJ131-16040	10	M16×2 -55L	13.4	60	630
BJ131-16050			12.4		680
BJ131-16060			12		740
BJ131-16140	25		13.4		780
BJ131-16150			12.4		830
BJ131-16160			12		890

Related Product

BJ600 Cylindrical Risers are available for additional height.

How To Use

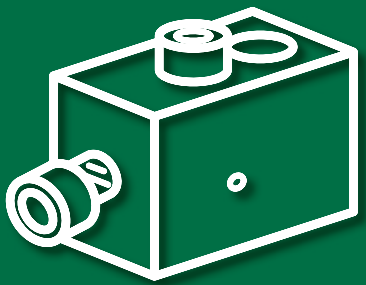


Note

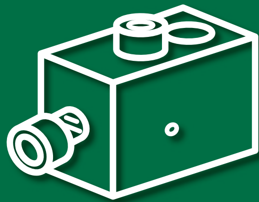
Please put grease on sliding surface to prevent galling when using in dry condition.

Value Creator
IMAO

WORK SUPPORTS

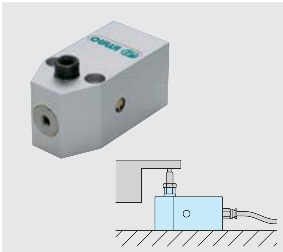


WORK SUPPORTS



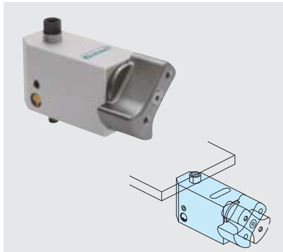
COMPACT PNEUMATIC
WORK SUPPORTS

Part No. AMNS-S



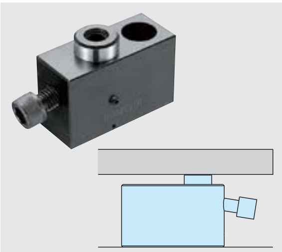
PNEUMATIC
WORK SUPPORTS

Part No. BJ370



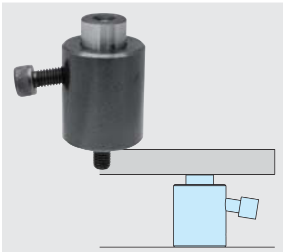
PRECISION
WORK SUPPORT

Part No. BJ371



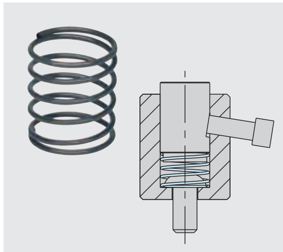
WORK SUPPORTS

Part No. BJ350



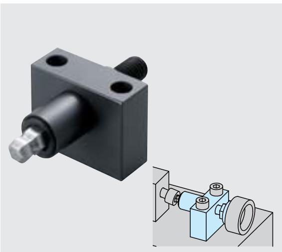
CYLINDRICAL
WORK SUPPORTS

Part No. BJ351



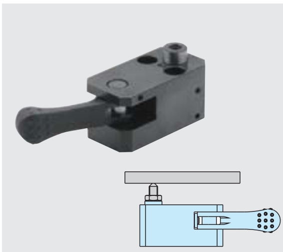
COIL SPRINGS FOR
CYLINDRICAL WORK SUPPORTS

Part No. BJ351-C



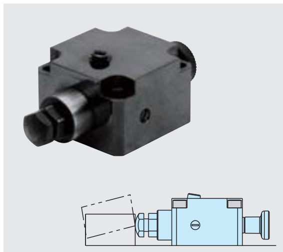
REMOTE-CONTROL UNITS

Part No. BJ650



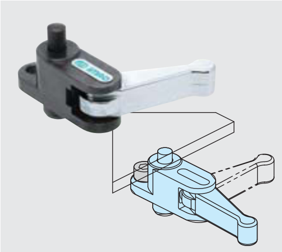
WORK SUPPORTS
WITH CAM HANDLE

Part No. BJ352



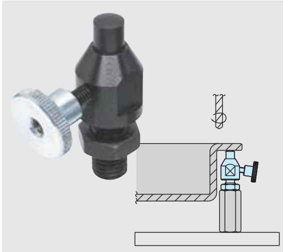
HORIZONTAL
WORK SUPPORTS

Part No. BJ351-A



COMPACT WORK SUPPORTS WITH CAM HANDLE

Part No. BJ362



COMPACT WORK SUPPORTS

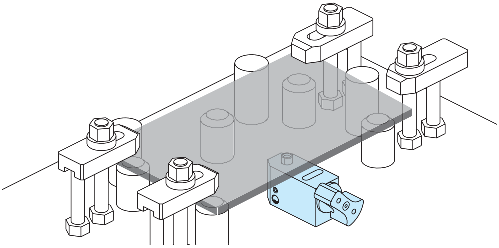
Part No. BJ360

WORK SUPPORTS

IMAO's Work Supports

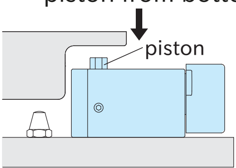
Solutions for workpiece chattering !!

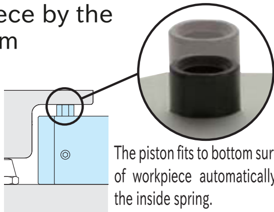
during machining low-profile part



Easy Setup

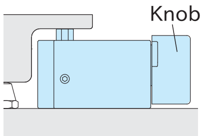
① Support a workpiece by the piston from bottom





The piston fits to bottom surface of workpiece automatically by the inside spring.

② Lock the piston by turning the knob *)



*) The piston locking element differs by work support's type, such as screws or handles. We also provide air operated types.

PRECISION WORK SUPPORT

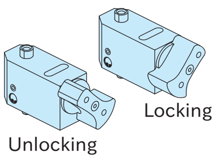
For machining highly accurate workpiece

PRECISION WORK SUPPORT

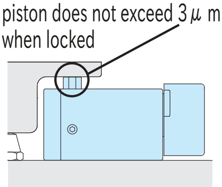
Ideal for

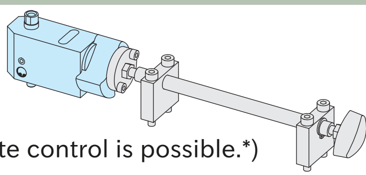
Preventing chattering during light cutting of workpiece.

One-touch operation & Stable support capacity



The displacement of the piston does not exceed 3 μ m when locked





Remote control is possible.*)

*) Components for remote control are not available from us.

OTHER WORK SUPPORTS

For Higher Holding Capacity

Max. 5kN

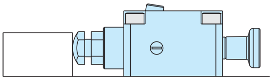
HORIZONTAL WORK SUPPORTS

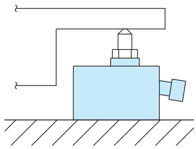
Max. 9kN

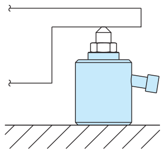
WORK SUPPORTS

Max. 9kN

CYLINDRICAL WORK SUPPORTS



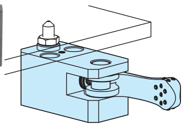




For Frequent Set-ups

Toolless operation

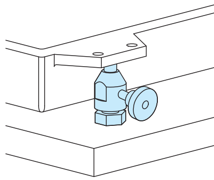
WORK SUPPORTS
WITH CAM HANDLE



For Tight Space

Assist you also in small space!

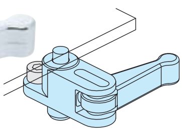
COMPACT WORK SUPPORTS



For Frequent Set-ups in Tight Space

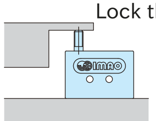
Hybrid of
Toolless & Compact!

COMPACT WORK SUPPORTS
WITH CAM HANDLE

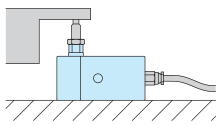


Pneumatic Types

Lock the piston by air supply



COMPACT PNEUMATIC
WORK SUPPORTS



PNEUMATIC WORK SUPPORTS

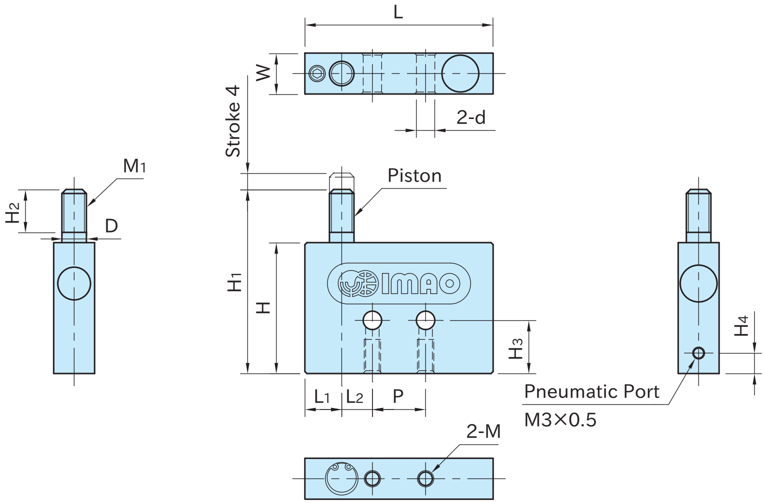
AMNS-S COMPACT PNEUMATIC WORK SUPPORTS

RoHS

IMAO

Body	Piston / Locking Shaft	Cylinder
A5052 aluminum Anodized	S45C steel Electroless nickel plated	A5056 aluminum Anodized

★Key Point
Provide high support capacity even with small body.



Part Number	H	H1	M1	H2	D	L	W	d	M	L1
AMNS06-S	25	33	M4×0.7	7	4	36	8	3.4	M3×0.5 Depth 6	7
AMNS08-S	32	44	M6×1	10.5	6	46	10	4.5	M4×0.7 Depth 8	9

Part Number	L2	P	H3	H4	Operating Air Pressure (MPa)	Support Capacity (N)	Piston Spring Force (N)	Weight (g)
AMNS06-S	6	10	10	3	0.3~0.7	15~40	0.2~0.3	22
AMNS08-S	7.5	13	13	5		30~70	0.3~0.4	49

Feature

・The piston can be locked/unlocked by air operation.
・This compact work support can be used as a support in surface mounter.

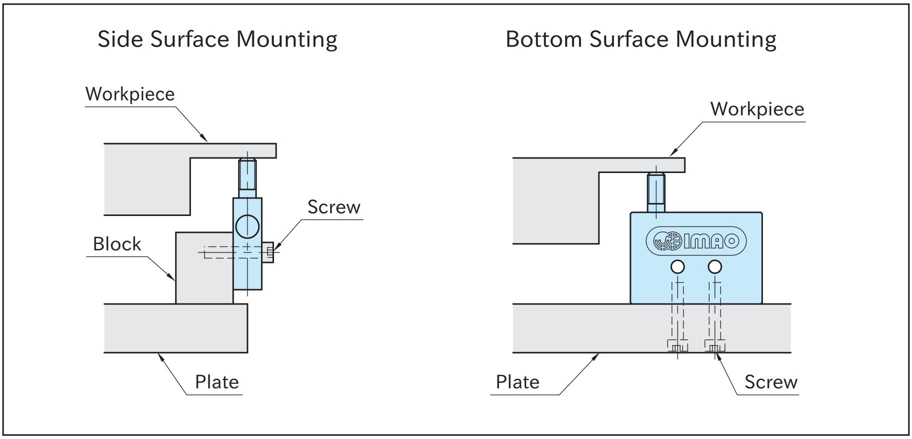
How To Use

■Operating Instructions

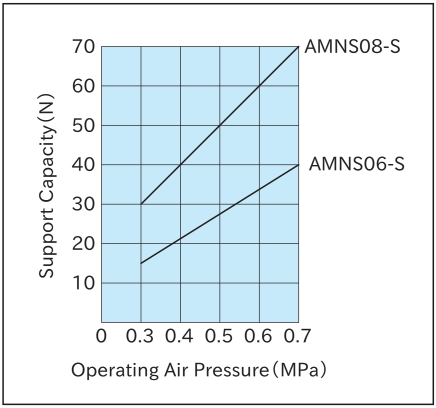
1. Load a workpiece on the support.
2. The piston strokes to fit the workpiece by the inner spring.
3. Clamp the workpiece.
4. Apply air to the pneumatic port.
5. The piston is locked.
6. The piston is unlocked when the air is released.

■Installation Instructions

Side or bottom surface mounting is possible.

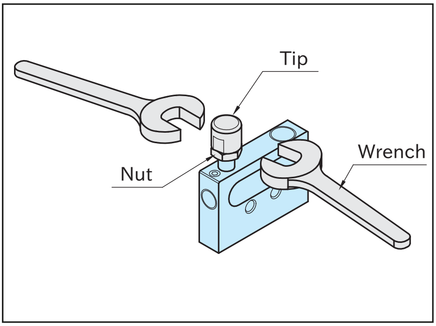


Performance Curve



Note

Use a nut to attach a tip on the piston as directed below.
The piston rotates 360° freely.

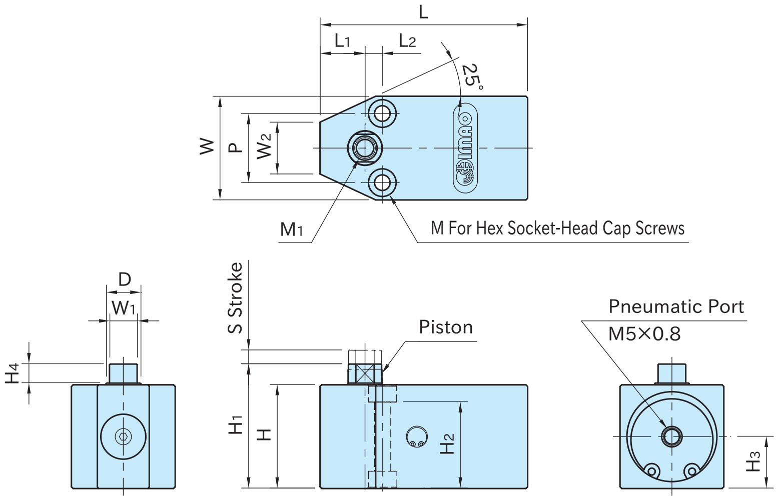


BJ370 PNEUMATIC WORK SUPPORTS

RoHS

IMAO

Body	Piston	Locking Shaft
A5052 aluminum Anodized	SK95 steel Quenched & tempered Black oxide finished	S45C steel Electroless nickel plated



Part Number	H	H_1	S	M_1	D	L	W	M	H_2	P	H_3	W_1	H_4
BJ370-05001	25	30	3	M5×0.8 Depth10	8	50	25	M3	21	16	12.5	7	4.5
BJ370-06001	30	36	4	M6×1 Depth12	10	60	30	M4	25	20	15	8	5.5

Part Number	L_1	L_2	W_2	Operating Air Pressure (MPa)	Support Capacity (N)	Piston Spring Force (N)	Weight (g)
BJ370-05001	11	4	12	0.3~1.0	300~500	1~1.9	92
BJ370-06001	13	5	15		500~700	1~2.2	165

Feature

The piston can be locked/unlocked by air operation.

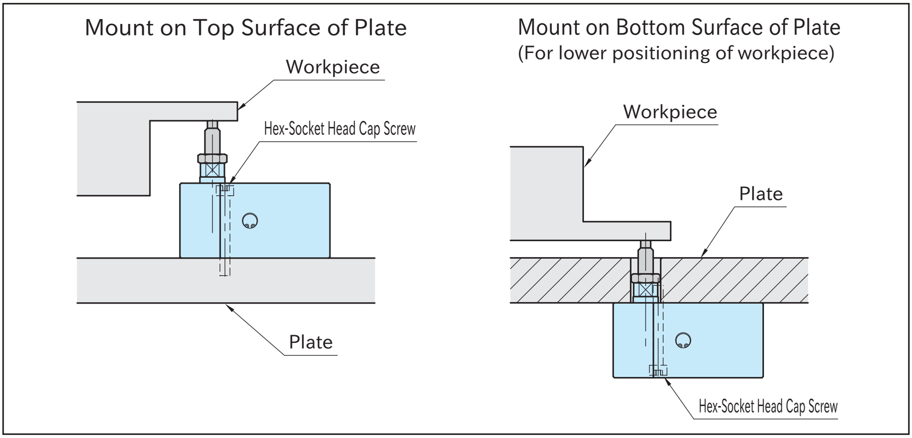
How To Use

■Operating Instructions

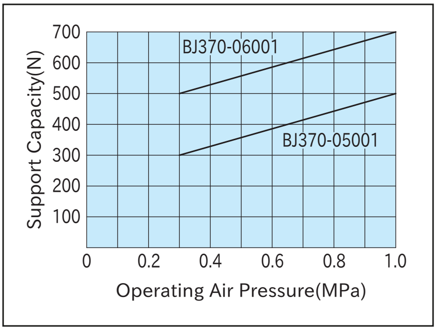
1. Load a workpiece on the support.
2. The piston strokes to fit the workpiece by the inner spring.
3. Clamp the workpiece.
4. Apply air to the pneumatic port.
5. The piston is locked.
6. The piston is unlocked when the air pressure is released.

■Installation Instructions

Can be mounted on both top surface and bottom surface of plate with hex-socket head cap screws.

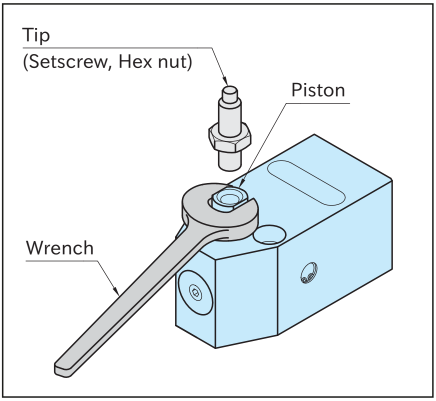


Performance Curve



Note

When installing a tip on the piston, lock the piston using a wrench to prevent it from receiving any torque.

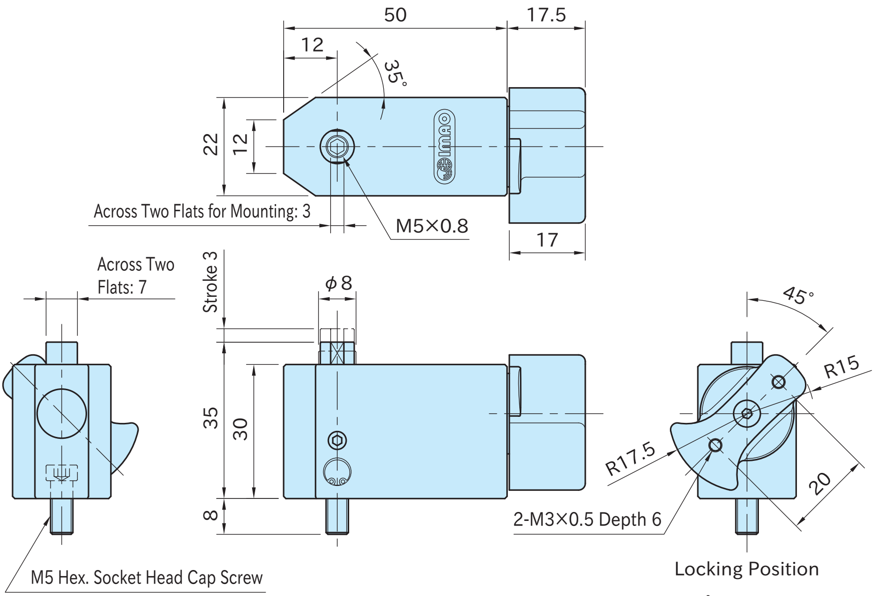


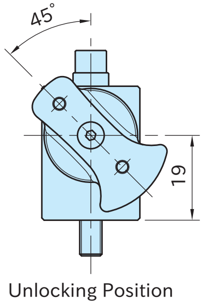
BJ371 PRECISION WORK SUPPORT

RoHS

IMAO

Body	Piston	Locking Shaft	Knob
A5052 aluminum Anodized	SK95 steel Quenched & tempered Black oxide finished	S45C steel Electroless nickel plated	SUS303 stainless steel





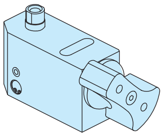
Part Number	Support Capacity (N)	Piston Spring Force (N)	Weight (g)
BJ371-05001	400	0.3~0.4	160

Feature

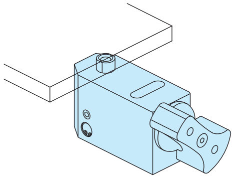
- The piston can be locked/unlocked with one-touch operation and keeps stable support capacity.
- The displacement of the piston is not exceeding 3 μm when it is locked. This helps keep the accuracy of the workpiece height.
- Can be used by remote control.

How To Use

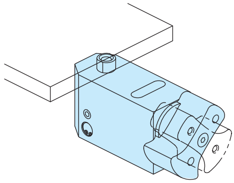
■Operating Instruction



1. No workpiece loaded.



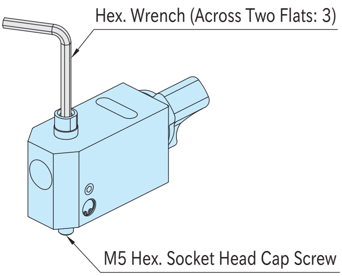
2. Load a workpiece, and the piston lowers.



3. Lock the piston by turning the knob.

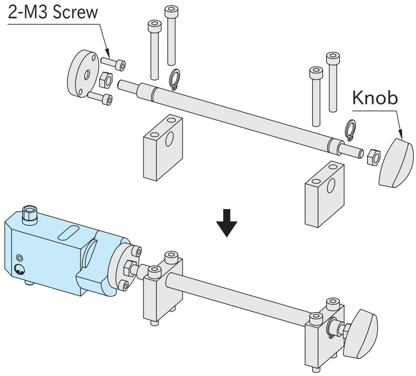
■Installation Instruction

Tighten the M5 hex. socket head cap screw with a hex. wrench (Across Two Flats: 3).



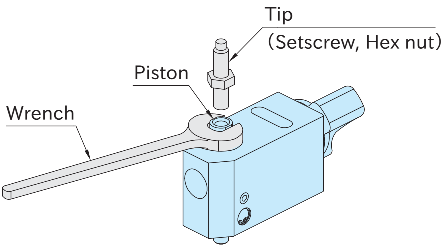
■Application Example for Remote Control

Components for remote control are not available from us.



Note

When installing a tip on the piston, lock the piston using a wrench to prevent it from receiving any torque.



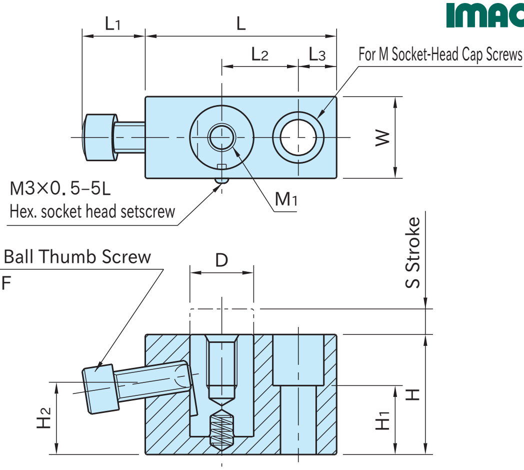
BJ350 WORK SUPPORTS

RoHS

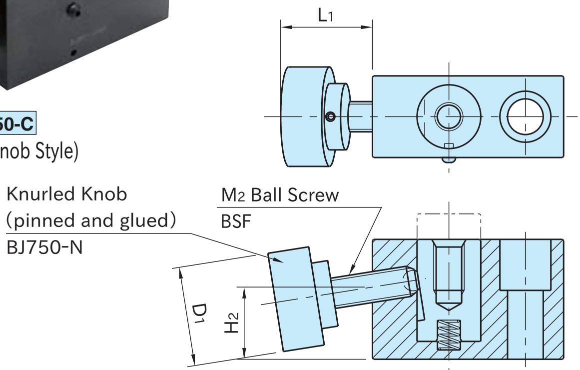
IMAO

BJ350
(Ball-Thumb-Screw Style)

BJ350-C
(Knurled-Knob Style)



BJ350
(Ball-Thumb-Screw Style)



BJ350-C
(Knurled-Knob Style)

Body	Piston
S45C steel Black oxide finish	SK95 steel Quenched and tempered Black oxide finish

Size		H	S	M_1	D	L	W	M	L_2	L_3	H_1	H_2
BJ350 BJ350-C	**06001**	29	6	M 6×1 Depth 10	12	38	19	M 6	15	8	15	17.6
	08001	37		M 8×1.25 Depth 15	16	50	22	M 8	20	10	20	21.6
	10001	42	10	M10×1.5 Depth 15	19	65	25	M10	25	15		24.6
	12001	47		M12×1.75 Depth 20	25	75	32	M12	30		27	28.3

BJ350 (Ball-Thumb-Screw Style)

Part Number	L_1	M_2	Screw Torque (N·m)	Support Capacity (kN)	Piston Spring Force (N)	Weight (g)
BJ350-06001	12	M 6×1 -16L	7.5	4	0～ 6	150
BJ350-08001	15	M 8×1.25-20L	14	6	0～ 7	285
BJ350-10001	18.5	M10×1.5 -25L	18	7.5	1～11	480
BJ350-12001	23	M12×1.75-30L	22	9		800

BJ350-C (Knurled-Knob Style)

Part Number	L_1	D_1	M_2	Screw Torque (N·m)	Support Capacity (kN)	Piston Spring Force (N)	Weight (g)
BJ350-06001C	20.7	24	M 6×1	1	0.6	0～ 6	180
BJ350-08001C	23.6	30	M 8×1.25	1.2	0.7	0～ 7	340
BJ350-10001C	26.2	36	M10×1.5	1.5		1～11	500
BJ350-12001C	31.3	40	M12×1.75	2	0.8		950

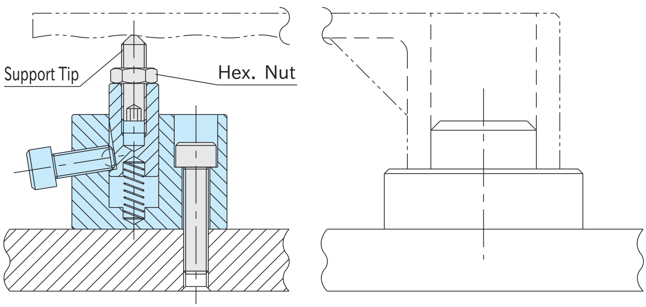
Feature

The positive locking mechanism allows the ball-thumb-screw style to offer high support capacities.

Note

When you attach a support tip to the tapped hole through the shaft, tighten the shaft and fix it to prevent damage.

How To Use



Ideal for preventing the workpiece from chattering and deflecting.

BJ351 CYLINDRICAL WORK SUPPORTS

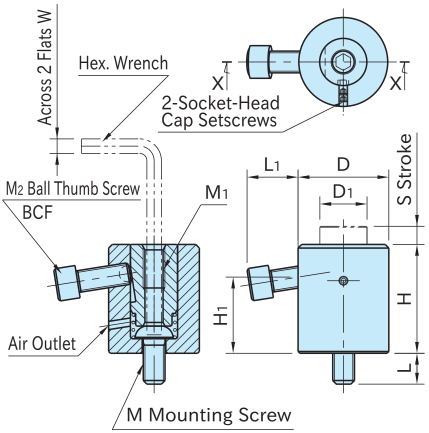
RoHS

IMAO

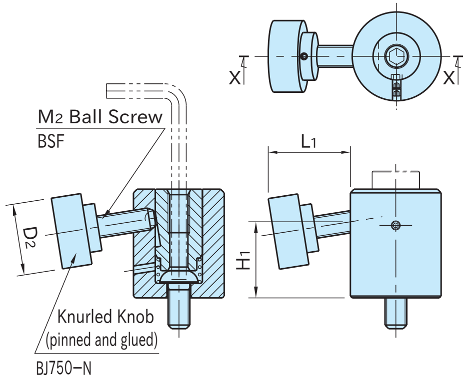
BJ351
(Ball-Thumb-Screw Style)

BJ351-C
(Knurled-Knob Style)

Body	Piston
S45C steel Black oxide finish	SK95 steel Quenched and tempered Black oxide finish



Section X-X



Section X-X

Note: To install, insert a hex. wrench through the piston into the mounting screw.

BJ351
(Ball-Thumb-Screw Style)

BJ351-C
(Knurled-Knob Style)

Size		H	S	M1	D1	D	M	L	W	H1
BJ351 BJ351-C	**06001**	33	6	M 6×1 Depth 12	14	28	M 6×1	10	4	22
	08001	42	10	M 8×1.25 Depth 16	19	35	M 8×1.25	15	5	28.5
	10001	50		M10×1.5 Depth 20	22	42	M10×1.5	14	6	34
	12001	60		M12×1.75 Depth 24	26	50	M12×1.75	17	8	42
	16001	70		M16×2 Depth 32	33	60	M16×2	22	10	47

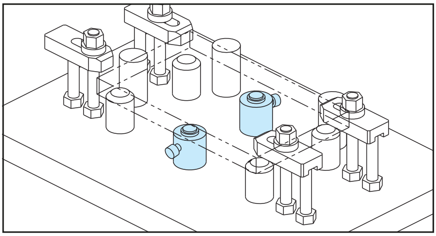
BJ351 (Ball-Thumb-Screw Style)

Part Number	L_1	M_2	Allowable Screw Torque (N·m)	Support Capacity (kN)	Piston Spring Force (N)	Weight (g)
BJ351-06001	14.1	M 6×1 -16L	7.5	4	10~22	150
BJ351-08001	18.8	M 8×1.25-20L	14	6	10~27	300
BJ351-10001	23.8	M10×1.5 -25L	18	7.5	14~28	540
BJ351-12001	28.5	M12×1.75-30L	22	9	15~30	865
BJ351-16001	26.5		25		15~35	1390

BJ351-C (Knurled-Knob Style)

Part Number	L_1	D_2	M_2	Allowable Screw Torque (N·m)	Support Capacity (kN)	Piston Spring Force (N)	Weight (g)
BJ351-06001C	22.7	24	M 6×1	1	0.6	10~22	185
BJ351-08001C	27.7	30	M 8×1.25	1.2	0.7	10~27	360
BJ351-10001C	31.8	36	M10×1.5	1.5		14~28	620
BJ351-12001C	36.8	40	M12×1.75	2	0.8	15~30	1020

How To Use

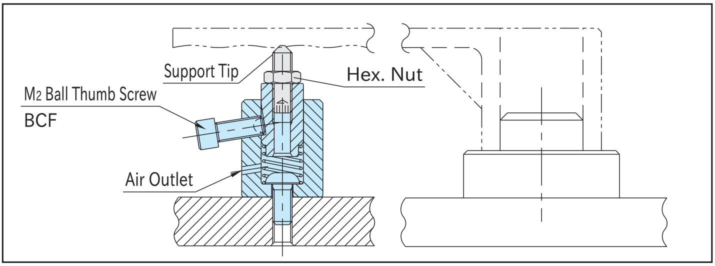


Feature

The positive locking mechanism allows the ball-thumb-screw style to offer high support capacities.

Note

When you attach a support tip to the tapped hole through the shaft, tighten the shaft and fix it to prevent damage.



Ideal for preventing the workpiece from chattering and deflecting.

BJ351-C COIL SPRINGS FOR CYLINDRICAL WORK SUPPORTS

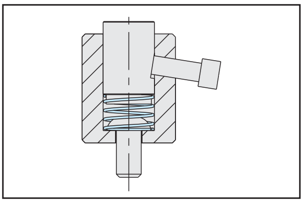
RoHS

IMAO

Body
SWPA steel

How To Use

Replacement springs to set the piston spring force lower.

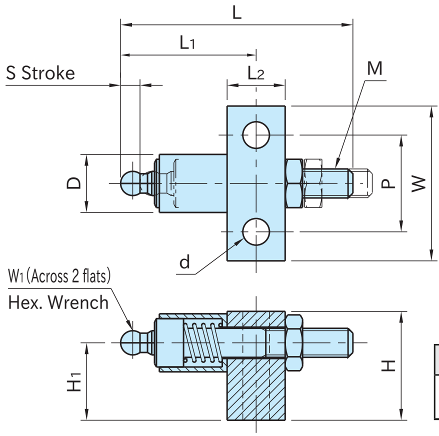


Part Number	Piston Spring Force (N)	Cylindrical Work Supports
BJ351-06001-C1	3~ 7	BJ351-06001
BJ351-08001-C1		BJ351-08001
BJ351-10001-C1	5~ 9	BJ351-10001
BJ351-12001-C1	6~11	BJ351-12001
BJ351-16001-C1	7~14	BJ351-16001

BJ650 REMOTE-CONTROL UNITS

RoHS

IMAO



Body
S45C steel Black oxide finish

BJ650-****1 (Short)

Part Number	L	W	H	L1	L2	D	S	H1	d	P
BJ650-06001	48	32	22	30	12	12	4	16	5.5	20
BJ650-08001	57		27	34		15		19.2		
BJ650-10001	76	44	32	45	16	18	5	22.2	9	30
BJ650-12001	86		36	50		20		25.2		

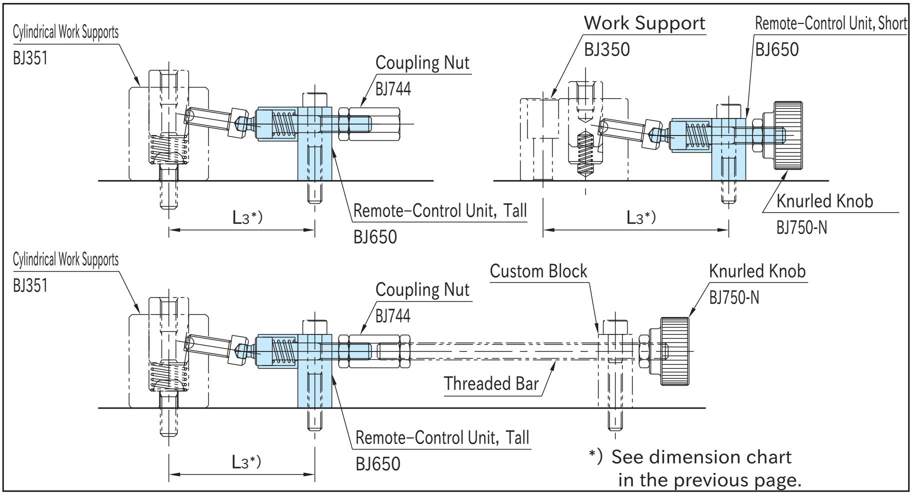
Part Number	W1	M	L3: Recommended Distance between Work Supprt and Remote-Control Unit	Weight (g)	Work Supports
BJ650-06001	5	M 6×1 -35L	66	75	BJ350-06001
BJ650-08001	6	M 8×1.25-40L	81	100	BJ350-08001
BJ650-10001	8	M10×1.5 -55L	103	210	BJ350-10001
BJ650-12001	10	M12×1.75-60L	121	250	BJ350-12001

BJ650-****2 (Tall)

Part Number	L	W	H	L1	L2	D	S	H1	d	P
BJ650-06002	48	32	26	30	12	12	4	20	5.5	20
BJ650-08002	57		33	34		15		25.2		
BJ650-10002	76	44	40	45	16	18	5	30.7	9	30
BJ650-12002	86		49	50		20		38.2		
BJ650-16002			54					43.7		

Part Number	W1	M	L3: Recommended Distance between Work Supprt and Remote-Control Unit	Weight (g)	Work Supports
BJ650-06002	5	M 6×1 -35L	52	85	BJ351-06001
BJ650-08002	6	M 8×1.25-40L	62	115	BJ351-08001
BJ650-10002	8	M10×1.5 -55L	79	240	BJ351-10001
BJ650-12002	10	M12×1.75-60L	92	310	BJ351-12001
BJ650-16002			95	335	BJ351-16001

How To Use



Suitable for controling work supports from a distance.

Note

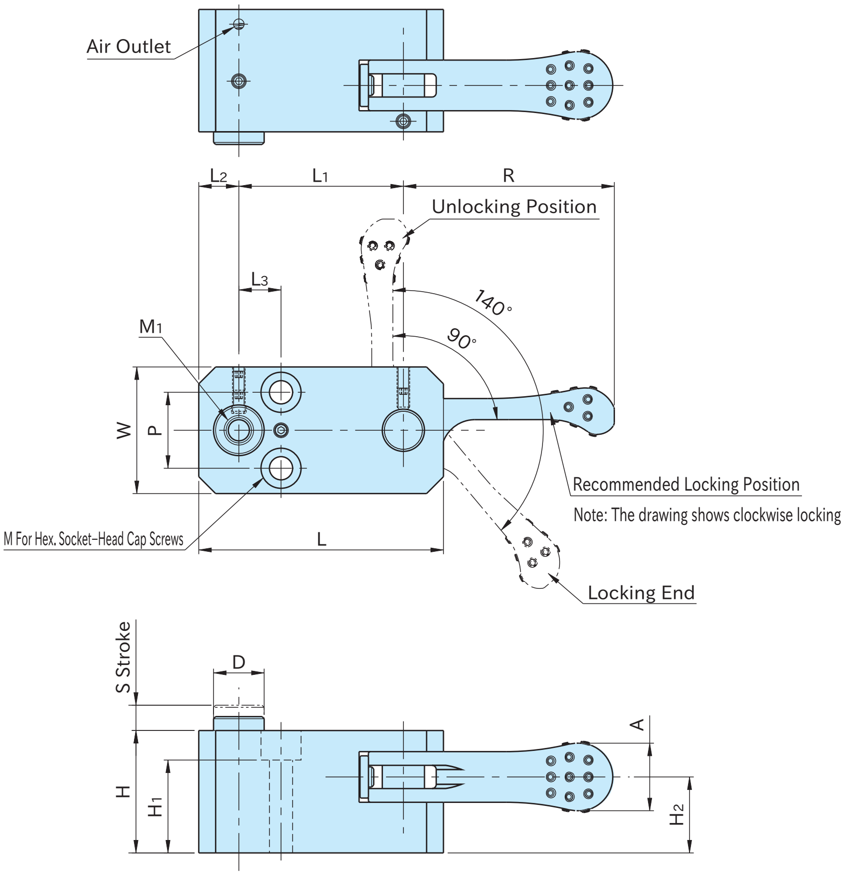
When used with a BJ650 Remote-Control Unit, a BJ350 or BJ351 Work Support can provide the support capacity as given in the catalog if the screw torque is fully applied by using a tool like wrench. If the screw torque is fully applied by hand(using a knob), the support capacity will be reduced to approx. 20% of the catalog value.

BJ352 WORK SUPPORTS WITH CAM HANDLE

IMAO

RoHS

Body	Piston	Locking Pin	Handle
S45C steel Black oxide finish	SK95 steel Quenched and tempered Black oxide finish	S45C steel Quenched and tempered Black oxide finish	SCM440 steel Quenched and tempered Black oxide finish



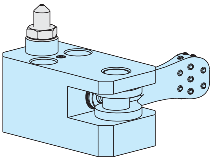
Part Number	H	S	M_1	D	L	W	R	A	H_2	M	H_1	P
BJ352-05001	24	5	M 5×0.8 Depth 8	10	52	25	40	14	14	M4	19	15
BJ352-06001	29	6	M 6×1 Depth 10	12	58	30	50	16	18	M5	22	18
BJ352-08001	37	8	M 8×1.25 Depth 15	16	75	38	63	19	23	M6	25	24
BJ352-10001	42	10	M10×1.5 Depth 15	19	85	45	80	24	26	M8	30	28

Part Number	L_1	L_2	L_3	Cam Handles Part Number	Allowable Operating Load (N)*)	Support Capacity (kN)	Piston Spring Force (N)	Locking Mechanism	Weight (g)
BJ352-05001	36	8	8	QLCA-04	80	0.5	0~ 6	Spiral Cam Cam Angle:4°	213
BJ352-06001	39	9.5	10	QLCA-05	100	0.7	0~ 6		335
BJ352-08001	51	12	12	QLCA-06	150	0.9	0~ 7		738
BJ352-10001	56	14.5	15	QLCA-08	200	1.2	1~11		1110

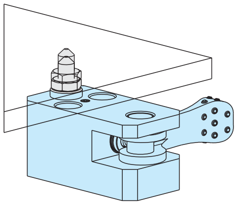
*)Allowable load to operate the handle

How To Use

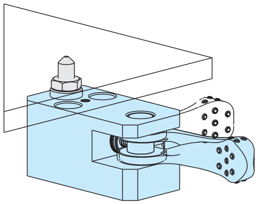
■Operating Instruction



1. Unlocked
No workpiece loaded

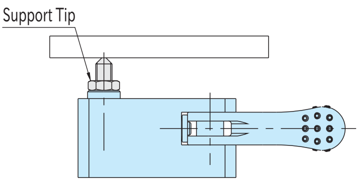


2. Workpiece Loading
Load a workpiece,
and the piston lowers.



3. Locking
Turn the handle to lock the piston.

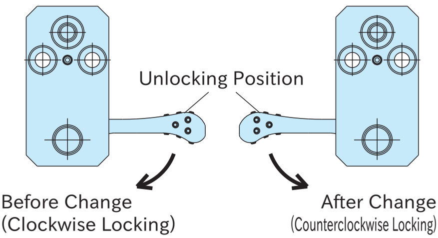
■Adjusting Handle Locking Position

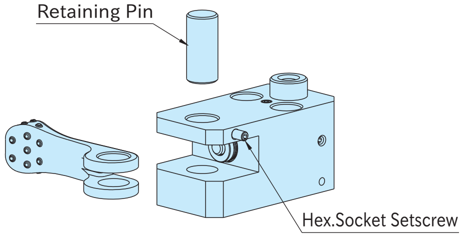


When the projection amount from the body is ½ of the stroke S, the handle comes to the recommended locking position. Design your application as the support tip contacts the workpiece at this position.

■Changing Locking Direction

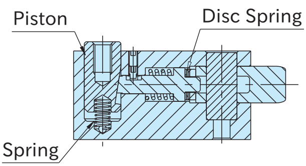
Loosen the hex. socket setscrew to remove the retaining pin.
Turn the handle upside down and put it in position again.





Feature

The built-in disc spring prevents loosened locking.



Note

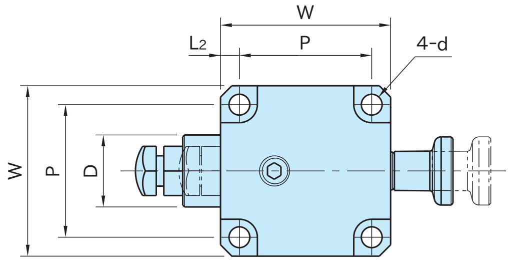
When you attach a support tip to the tapped hole through the shaft, tighten the shaft and fix it to prevent damage.

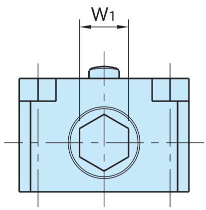
BJ351-A HORIZONTAL WORK SUPPORTS

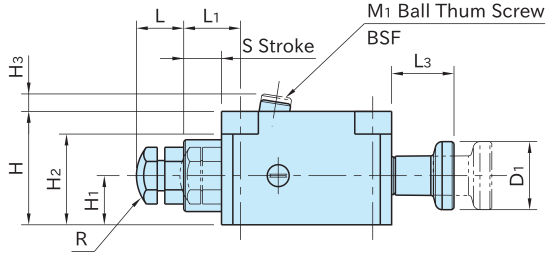
RoHS

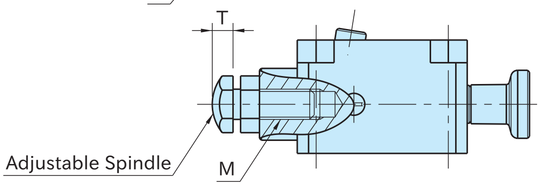
IMAO

Body	Piston	Adjustable Spindle	Knob
S45C steel Black oxide finish	SK4 steel Quenched and tempered Black oxide finish	S45C steel Heat treated on edge Black oxide finish	Polyamide plastic Black







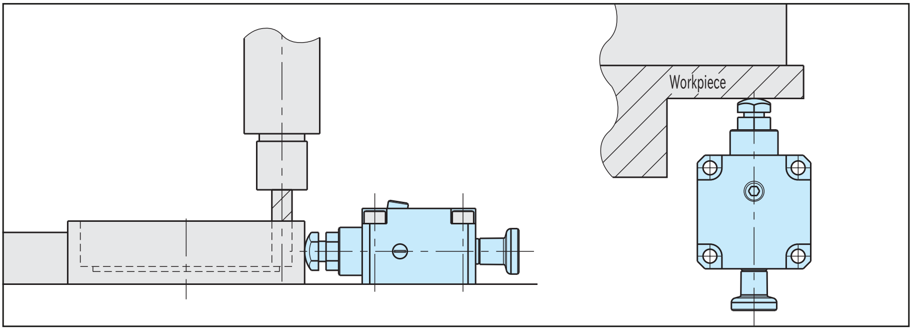


Internal structure of the piston part

Part Number	L	L1	S	L2	H1	D	W	H	d	H2	P	W1	T	R	M
BJ351-06001A	8~13	10	6	4	10	14	38	24	4.5	19	30	10	4	10	M 6X1 Depth 12
BJ351-08001A	11~18	15	10	5	13	19	45	30	5.5	24	35	13	5.5	12	M 8X1.25 Depth 16
BJ351-12001A	16~26	17.5		7.5	20	26	60	45	9	36	45	19	8	20	M12X1.75 Depth 24

Part Number	M1	H3	D1	L3	Screw Torque (N·m)	Support Capacity (kN)	Piston Spring Force (N)	Weight (g)
BJ351-06001A	M 6X1 -10L Across 2 Flats 3	3	16	14	3.5	1.5	0~ 6	260
BJ351-08001A	M 8X1.25-12L Across 2 Flats 4	5	18	16.5	8	2.5	1~ 6	450
BJ351-12001A	M12X1.75-20L Across 2 Flats 6	8	21	19	22	5	1~11	1160

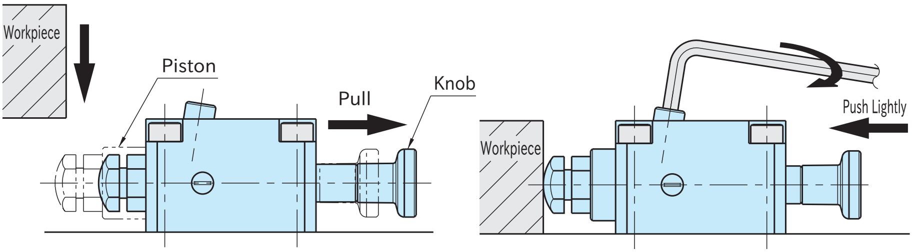
How To Use



Ideal for preventing the thin workpiece from chattering and deflecting.

■Operating Instruction

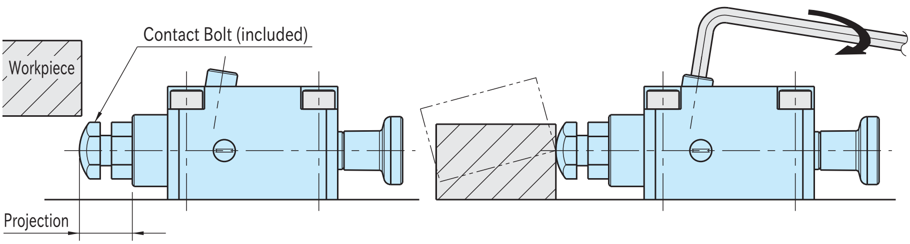
1. To set a workpiece with the piston retracted,



1. Set the piston retracted by pulling the knob. The internal plunger allows retaining the piston at the retracted position.

2. Load the workpiece and then push the knob lightly to let the adjustable spindle contact the workpiece. Tighten the ball thumb screw to lock the piston.

2. To set a workpiece without retracting the piston,



1. Adjust the projection of the adjustable spindle to let the bottom edge of workpiece contact the radius of the adjustable spindle when loading the workpiece.

2. Snap in the workpiece, and then tighten the ball thumb screw to lock the piston.

Note

When you attach a support tip to the tapped hole through the shaft, tighten the shaft and fix it to prevent damage.

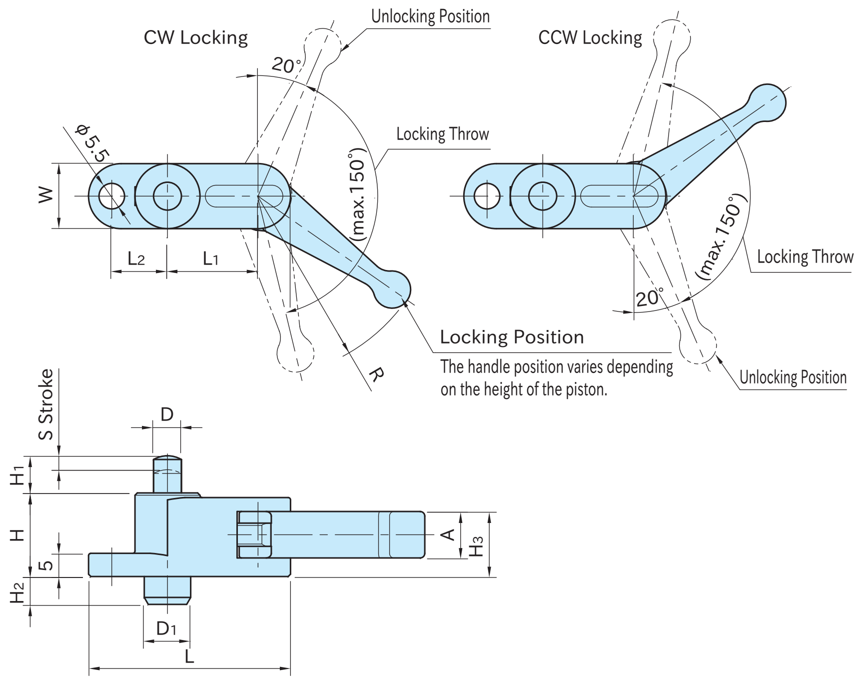
BJ362

COMPACT WORK SUPPORTS WITH CAM HANDLE

RoHS

IMAO

Body/Pin	Piston	Cam Handle
S45C steel Black oxide finished	SCM440 steel Black oxide finished HRC50-55	Die-cast zinc Chrome plated



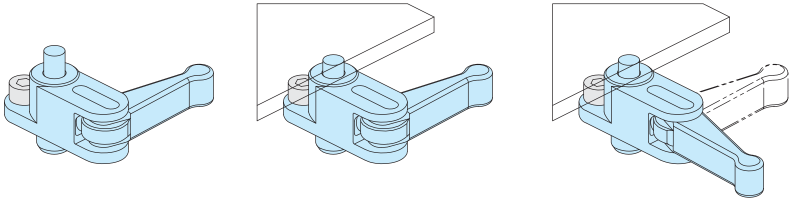
Part Number	Locking Direction	H	H_1	S	D	L	W	R	A	H_3	D_1	H_2	L_1	L_2
BJ362-06001R	CW	18	8	3	6	43.5	14	39	10	14	10	6	19.5	12
BJ362-06001L	CCW													
BJ362-10001R	CW	25	10	4	10	50.4	18	50	13	18.5	14	9.5	22.4	14
BJ362-10001L	CCW													

Part Number	Allowable Operating Load (N)*)	Support Capacity (N)	Piston Spring Force (N)	Locking Mechanism	Weight (g)
BJ362-06001R	80	200	1.5~3	Spiral Cam Cam Angle: 4°	76
BJ362-06001L					
BJ362-10001R	100	400	1.8~3		140
BJ362-10001L					

*)Allowable load to operate the handle.

How To Use

■Operating Instruction

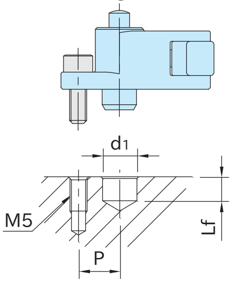


1. Unlocked
No workpiece loaded.

2. Workpiece Loading
Load a workpiece,
and the piston lowers.

3. Locking
Turn the handle to lock the piston.

■Mounting-Hole Dimension

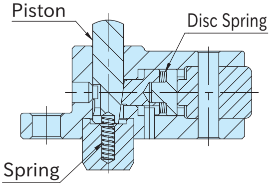


Drill a tapped hole and a locating-pin hole as specified below.

Size	d_1 $\left(^{+0.3}_{0}\right)$	Lf	P
BJ362-06001	10	7	12
BJ362-10001	14	10.5	14

Feature

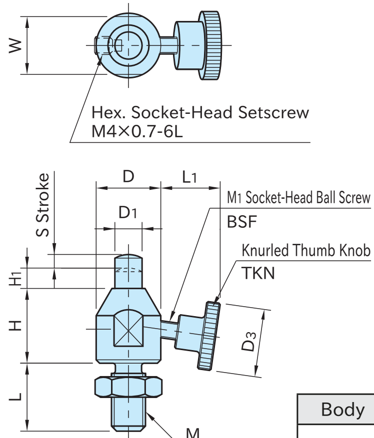
The built-in disc spring prevents loosened locking.



BJ360 COMPACT WORK SUPPORTS

RoHS

IMAO



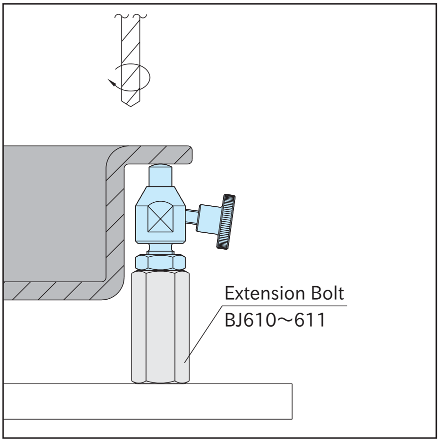
Note: The socket-head ball screw is glued to the knurled thumb knob.

Body	Piston
S45C steel Black oxide	SCM440 steel Heat treated Black oxide

Part Number	H	H_1	S	D_1	D	M	L	W	D_3	M_1	L_1
BJ360-08001	18	5	3	6	15	M 8×1.25	16	13	16	M4×0.7-16L	13.2
BJ360-10001	22	6	4	8	19	M10×1.5	20	17	20	M5×0.8-20L	16.3
BJ360-12001	25			10	22	M12×1.75	24	19	24	M6×1 -25L	22.3

Part Number	Piston Spring Force (N)	Support Capacity (kN)	Weight (g)
BJ360-08001	1.5~3.0	0.2	36
BJ360-10001	1.8~3.0	0.3	72
BJ360-12001		0.4	150

How To Use



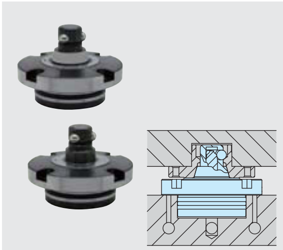
FIXTURE CHANGING SYSTEM

FLEX LOCATORS

QUICK ZERO SETTING DEVICE

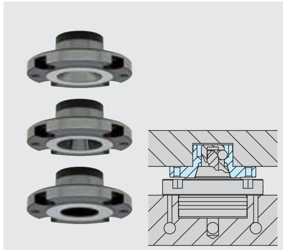
FIXTURE CHANGING SYSTEM

FLEX LOCATORS



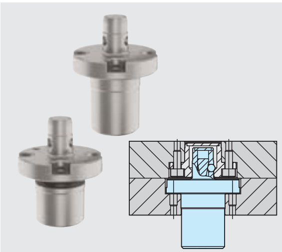
PNEUMATIC FLEX LOCATOR PINS

Part No. AMWF-W



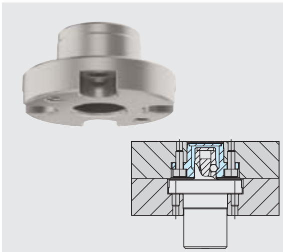
PNEUMATIC FLEX LOCATOR BUSHINGS

Part No. AMWF-BU



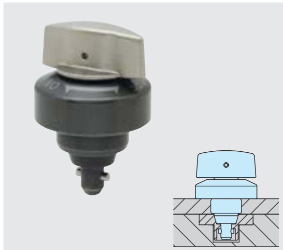
PNEUMATIC FLEX LOCATOR PINS

Part No. AMWF-L-S



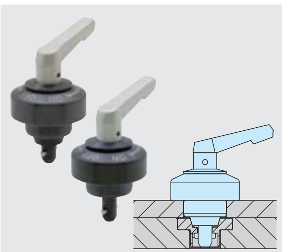
PNEUMATIC FLEX LOCATOR BUSHINGS

Part No. AMWF-BU



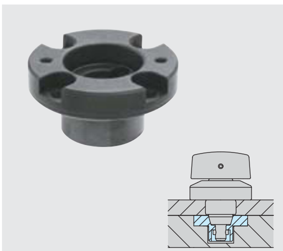
ONE-TOUCH FLEX LOCATOR CLAMPERS (Knob)

Part No. CP723



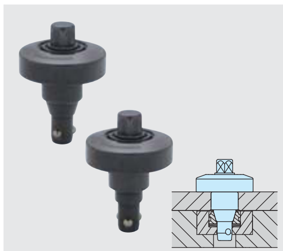
ONE-TOUCH FLEX LOCATOR CLAMPERS

Part No. CP722



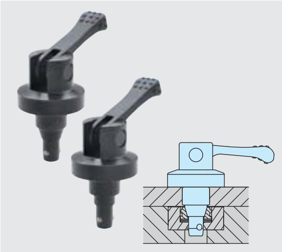
ONE-TOUCH FLEX LOCATOR BUSHINGS

Part No. CP727



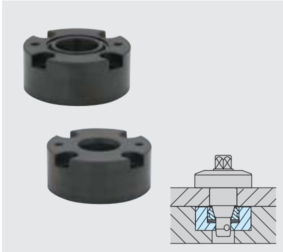
ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head)

Part No. CP730



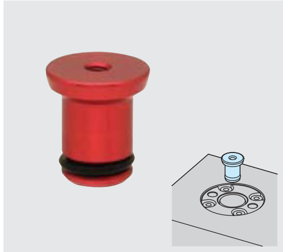
ONE-TOUCH FLEX LOCATOR CLAMPERS (Cam Handle)

Part No. CP731



ONE-TOUCH FLEX LOCATOR BUSHINGS

Part No. CP735

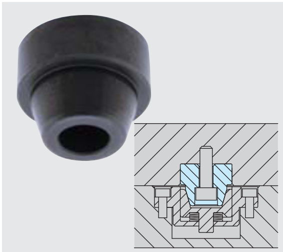


ONE-TOUCH FLEX LOCATOR PROTECTING COVERS

Part No. CP735-P

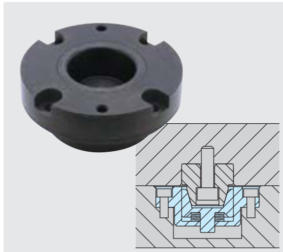
ADJUSTABLE-TORQUE WRENCHES

Part No. CP-TCW



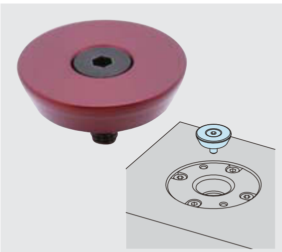
FLEX LOCATOR PINS

Part No. CP720



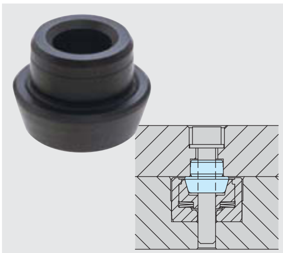
FLEX LOCATOR BUSHINGS (Blind)

Part No. CP725



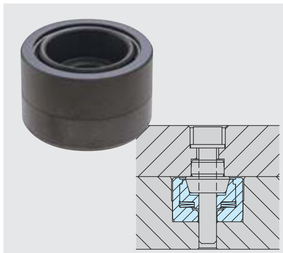
FLEX LOCATOR PROTECTING COVERS

Part No. CP725-P



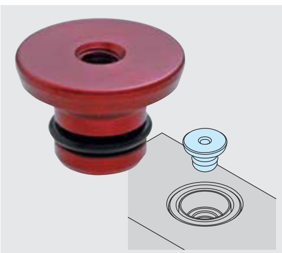
FLEX LOCATOR PINS

Part No. CP721



FLEX LOCATOR BUSHINGS (Through)

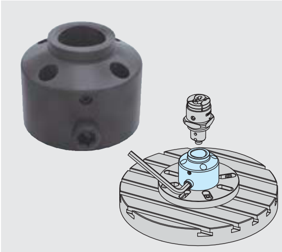
Part No. CP726



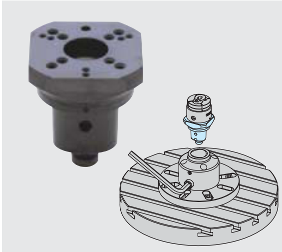
FLEX LOCATOR PROTECTING COVERS

Part No. CP726-P

QUICK ZERO SETTING DEVICE



BASE
(QUICK ZERO SETTING DEVICE)
Part No. QZSD-C6-B



HOLDER
(QUICK ZERO SETTING DEVICE)
Part No. QZSD-C6-H

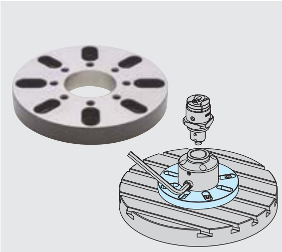


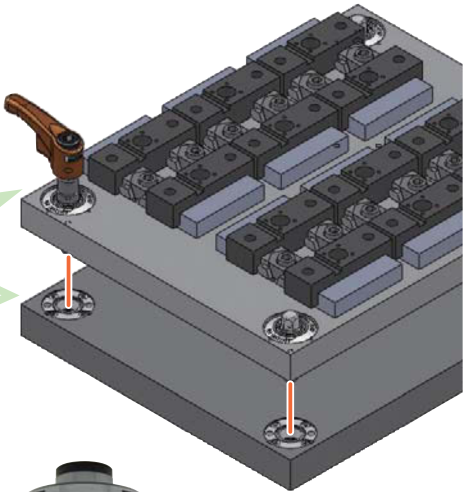
PLATE
(QUICK ZERO SETTING DEVICE)
Part No. QZSD-C6-P

Value Creator
IMAO

FLEX LOCATORS

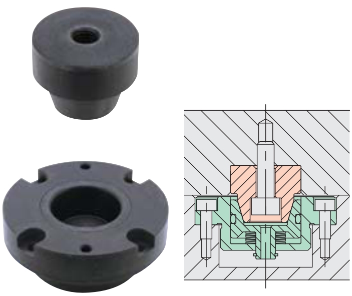
FLEX LOCATORS

Flex Locators provide "precise locating" and "easy operation" by movable tapered pin or bushing.



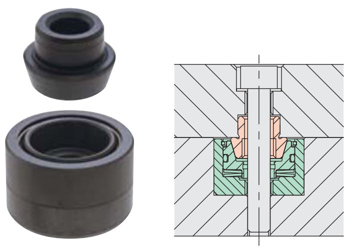
FLEX LOCATORS

Simple and low cost types with only locating function



Standard

Locating Repeatability	10μm



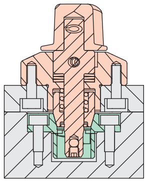
Through Hole

Locating Repeatability	10μm

ONE-TOUCH FLEX LOCATORS

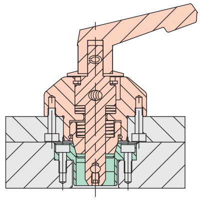
Locating and clamping functions

Quick and easy operation by knob



Knob

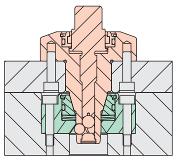
Locating Repeatability	10μm
Clamping Force	350N, 600N



Handle

Locating Repeatability	10μm
Clamping Force	600N, 700N

High clamping force by hex head

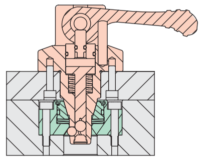


(Adjustable-torque wrenches are available to control clamping force.)

Hexagon Head

Locating Repeatability	8μm
Clamping Force	1700N, 3000N, 4500N

Quick operation by handle



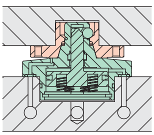
Cam Handle

Locating Repeatability	8μm
Clamping Force	600N, 1200N, 1800N

PNEUMATIC FLEX LOCATORS

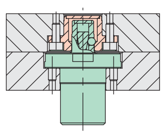
Easier and faster pneumatic operation

High clamping force by spring and air



Flange diameter
ϕ70 / ϕ85

Locating Repeatability	3μm
Clamping Force	4kN, 6.3kN



Flange diameter
ϕ40 / ϕ51

Locating Repeatability	±10μm
Clamping Force	250N, 350N

AMWF-W PNEUMATIC FLEX LOCATOR PINS

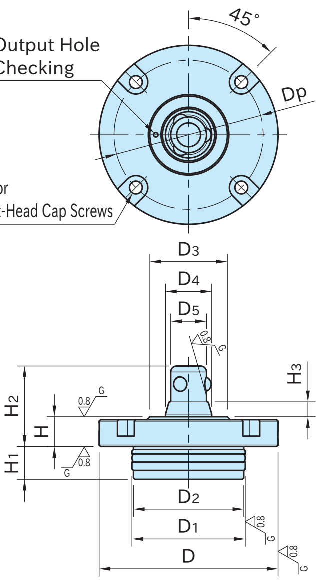
RoHS

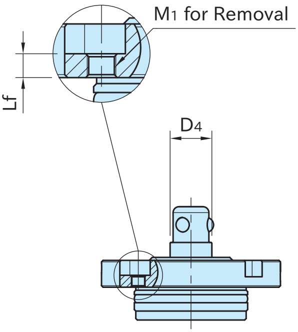
IMAO

(Tapered Type)

(Straight Type)

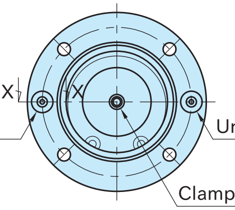
Body	Cylinder	Ball
SCM440 steel Induction hardened Black oxide finished Precision ground	S45C steel Induction hardened Electroless nickel plated	SUS440C stainless steel

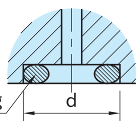




AMWF-W-T (Tapered Type)

AMWF-W-S (Straight Type)





Reference

・How To Use PNEUMATIC FLEX LOCATORS
・How To Install PNEUMATIC FLEX LOCATORS

Type		D_1 (g6)	D_2	H_1	D	D_3	H (±0.003)	M	H_3	D_5 $\left({}^{-0.05}_{-0.15}\right)$	H_2	Lf	M_1	Dp
AMWF-W-T	40	48	47.5	15	70	38	12	M5	8	16	35	5	M6×1 (Drilled Hole ϕ5.2)	60
AMWF-W-S	50	58	57.5	19	85	48	15	M6	10	20	44	6	M8×1.25(Drilled Hole ϕ6.8)	72

Type		d	Furnished O-ring	Operating Air Pressure(MPa) *)	Clamping Force(kN)
AMWF-W-T	40	7.2	P4	0.5	4
AMWF-W-S	50	8.2	P5		6.3

*) At least 0.45 MPa is required for unclamping.
The maximum operating air pressure is 1 MPa.

Related Product

AMWF-BU PNEUMATIC FLEX LOCATOR BUSHINGS

AMWF-W-T (Tapered Type)

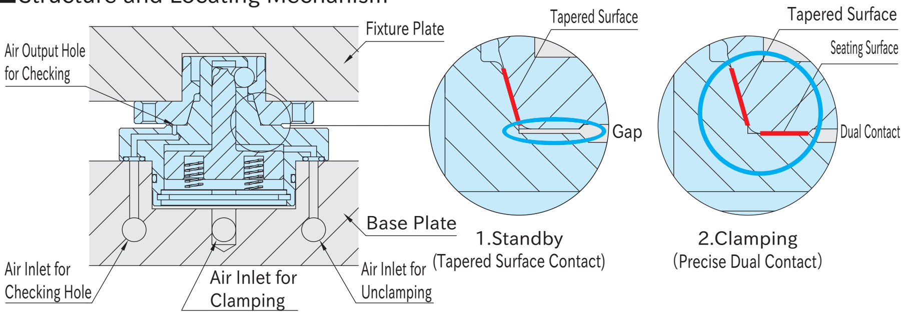
Part Number	D_4	Weight (g)
AMWF40-W-T	24.5	450
AMWF50-W-T	31.5	820

AMWF-W-S (Straight Type)

Part Number	D_4	Weight (g)
AMWF40-W-S	20	440
AMWF50-W-S	26	810

Feature

■Structure and Locating Mechanism



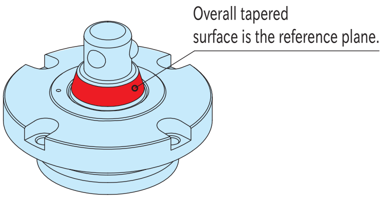
1.Standby (Tapered Surface Contact)

2.Clamping (Precise Dual Contact)

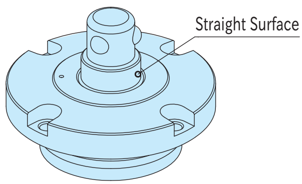
- When the air pressure is lowered by an air leakage, the wedge mechanism and the spring prevent prompt lowering of the clamping force.
  Clamping Force at 0 Mpa Air Pressure (Clamping Force of Spring)
  - AMWF40Type…1.2kN
  - AMWF50Type…1.8kN
- Can check if the fixture plate is clamped properly by applying air through the checking hole.
- Precise dual contact provides excellent locating repeatability at 3 μm.

■Functions

Locating with Tapered Type



Clamping with Straight Type



AMWF-BU PNEUMATIC FLEX LOCATOR BUSHINGS

RoHS

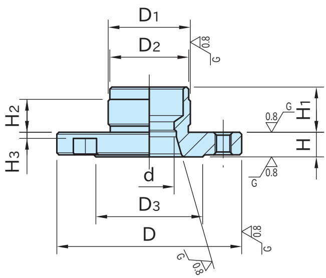
IMAO

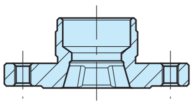

(Tapered Type)

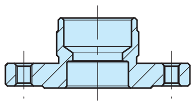

(Diamond Type)

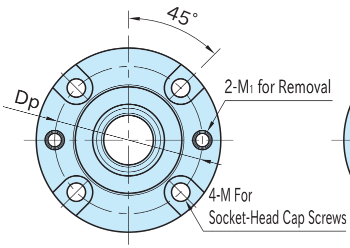

(Straight Type)

Body
SCM440 steel Quenched & tempered Black oxide finish Precision ground

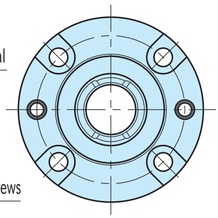


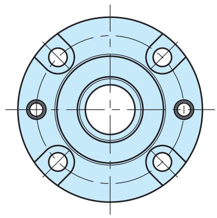






AMWF-BU-T
(Tapered Type)


AMWF-BU-D
(Diamond Type)


AMWF-BU-S
(Straight Type)

Type		D_1 (g6)	H_2	D_2	H_1	M	H_3	D	D_3	H (±0.003)	d $\left(\begin{smallmatrix}+0.15\\+0.05\end{smallmatrix}\right)$	M_1	Dp
AMWF-BU-T AMWF-BU-D AMWF-BU-S	40	28	10	27.5	15	M5	2.5	60	38	8	16	M5×0.8	50
	50	36	14	35.5	19	M6	3.5	75	48	10	20	M6×1	62

AMWF-BU-T (Tapered Type)

Part Number	Weight (g)
AMWF40-BU-T	160
AMWF50-BU-T	323

AMWF-BU-D (Diamond Type)

Part Number	Weight (g)
AMWF40-BU-D	159
AMWF50-BU-D	322

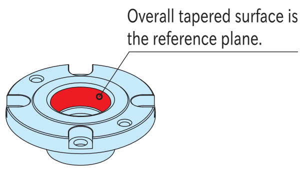
AMWF-BU-S (Straight Type)

Part Number	Weight (g)
AMWF40-BU-S	163
AMWF50-BU-S	330

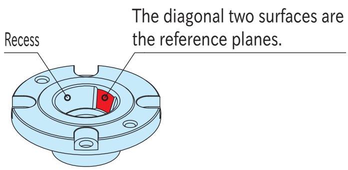
Feature

■Function

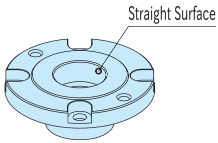
Locating with Tapered Type
For setting reference position



Locating with Diamond Type
For locating reference at rotational direction



Clamping with Straight Type



Related Product

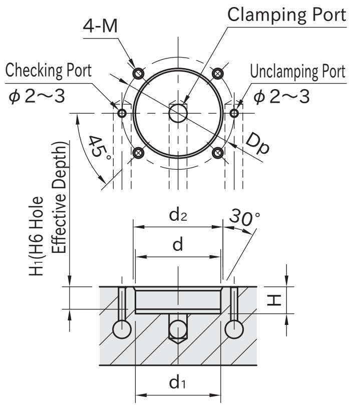
AMWF-W PNEUMATIC FLEX LOCATOR PINS

Reference

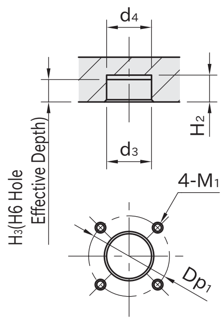
- How To Use PNEUMATIC FLEX LOCATORS
- How To Install PNEUMATIC FLEX LOCATORS

How To Install PNEUMATIC FLEX LOCATORS

■Mounting Hole Dimensions for Pins



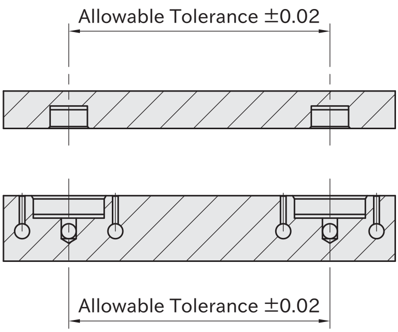
■Mounting Hole Dimensions for Bushings



Type	d (H6)	H_1	d_1 $\left(\begin{smallmatrix}-0.1\\-0.3\end{smallmatrix}\right)$	H	d_2	M	Dp
AMWF40-W	48	12	48	16	50	M5×0.8	60
AMWF50-W	58	16	58	20	60	M6×1	72

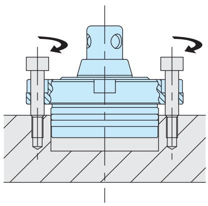
Type	d_3 (H6)	H_3	d_4 $\left(\begin{smallmatrix}-0.1\\-0.3\end{smallmatrix}\right)$	H_2	M_1	Dp_1
AMWF40-BU	28	12	28	16	M5×0.8	50
AMWF50-BU	36	16	36	20	M6×1	62

■Spacing Tolerance



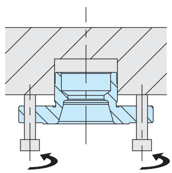
■How to Remove Pins

For easier removal, insert screws into the tapped holes and screw them.



■How to Remove Bushings

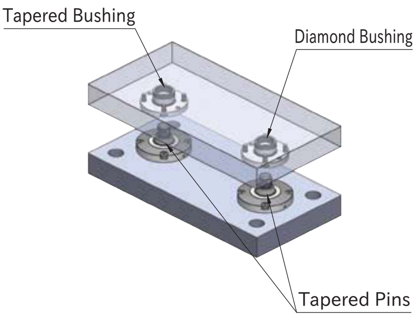
For easier removal, insert screws into the tapped holes and screw them.



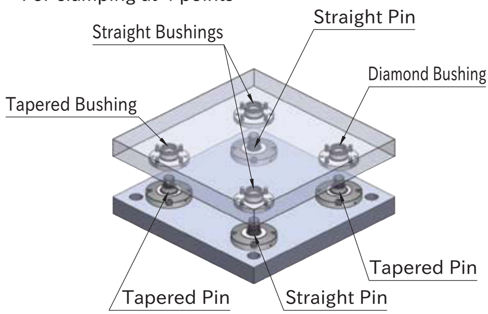
How To Use PNEUMATIC FLEX LOCATORS

Application Example

For clamping at 2 points



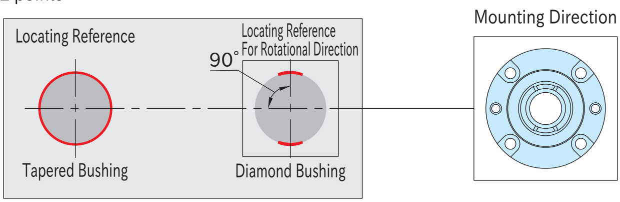
For clamping at 4 points



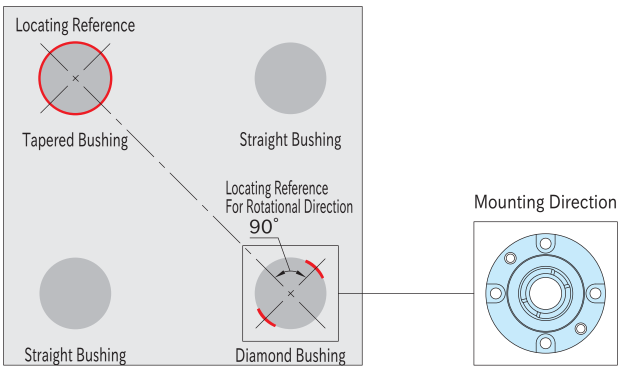
■Positioning Order of Bushings

Mount the Tapered Bushings and Diamond Bushings as in the figure below for locating fixture plates. Pay attention to the mounting direction of the Diamond Bushings, since the direction for use at 2 points and the direction for use at 4 points differ.

For clamping at 2 points



For clamping at 4 points



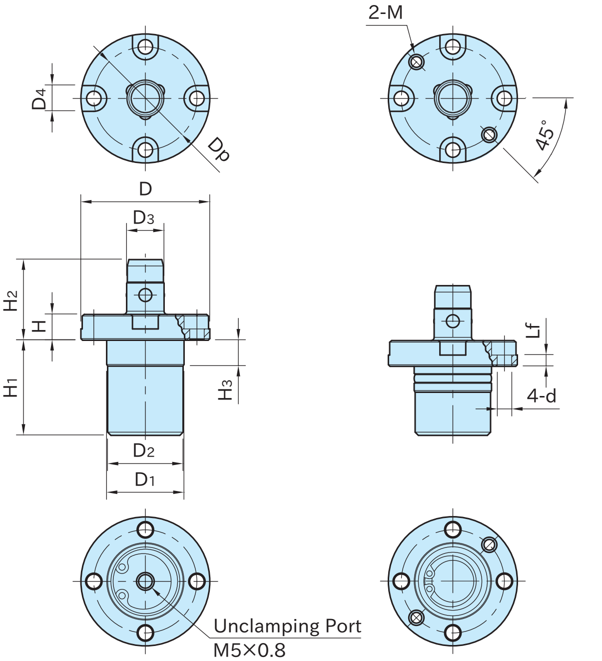
AMWF-L-S PNEUMATIC FLEX LOCATOR PINS

RoHS | Electroless Nickel Plated

IMAO

AMWF-L-S

AMWF-L-S-G



AMWF-L-S (Port Style) AMWF-L-S-G (Direct Style)

Body	Ball	Coiled Spring
S45C steel Electroless nickel plated	SUS440C stainless steel	SUS304WPB stainless steel

Part Number	D_1 (g6)	H_3	D_2	H_1	D	H	D_3 (h8)	H_2	d	Lf	D_4	Dp
AMWF18L-4S	24	8	23.4	29.5	40	8	12	25	4.5	3.5	8	32
AMWF26L-4S	32	8.5	31.4	31.7	51	9.5	16	28.5	5.5	4	9.5	41
AMWF18L-4S-G	24	8	23.4	24.5	40	8	12	25	4.5	3.5	8	32
AMWF26L-4S-G	32	8.5	31.4	25.5	51	9.5	16	28.5	5.5	4	9.5	41

Part Number	M	Air Pressure (MPa)	Clamping Force (N)	Weight (g)
AMWF18L-4S	—	0.5	250	154
AMWF26L-4S	—		350	289
AMWF18L-4S-G	M4×0.7		250	136
AMWF26L-4S-G	M5×0.8		350	252

Reference

- How To Install PNEUMATIC FLEX LOCATORS
- How To Use PNEUMATIC FLEX LOCATORS

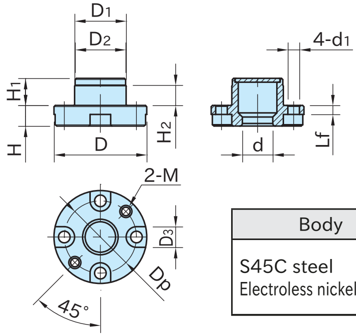
Related Product

AMWF-BU PNEUMATIC FLEX LOCATOR BUSHINGS

AMWF-BU PNEUMATIC FLEX LOCATOR BUSHINGS

RoHS | Electroless Nickel Plated

IMAO



Body
S45C steel Electroless nickel plated

Part Number	D_1 (g6)	H_2	D_2	H_1	D	H	d (E7)	d_1	Lf	D_3	M	Dp	Weight (g)
AMWF18-BU	20	7.5	19.6	10.5	36	8	12.1	4.5	3.5	8	M4×0.7	28	57
AMWF26-BU	25	7	24.6	11	44	9.5	16.1	5.5	4	9.5	M5×0.8	34	97

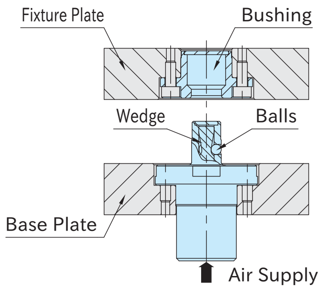
Reference

- How To Install PNEUMATIC FLEX LOCATORS
- How To Use PNEUMATIC FLEX LOCATORS

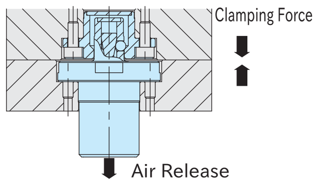
Related Product

AMWF-L-F PNEUMATIC FLEX LOCATOR PINS

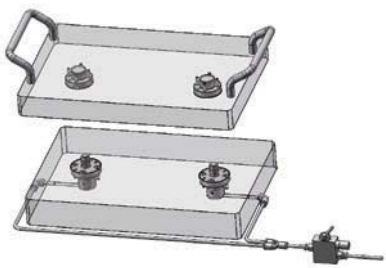
Feature



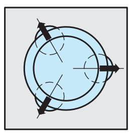
Supply air for unclamping.
The wedge goes up and releases the balls.



Release air for clamping. The wedge goes down and pushes the balls to pull down the bushing.
Can keep clamped without air supply.



Quick clamping and unclamping reduce set-up time in production equipment.



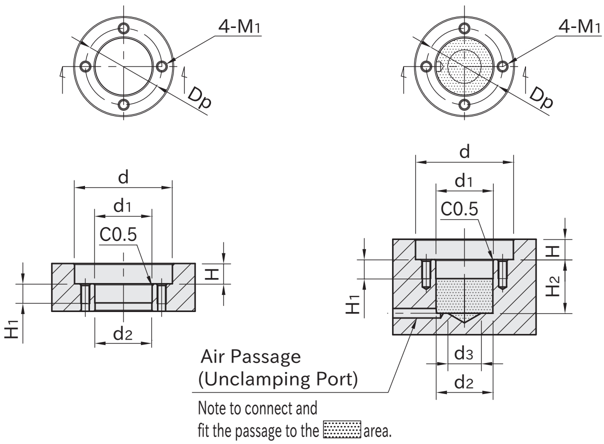
Locating Repeatability : ±10 μm
The bushing is centered and clamped when the 3 balls are pushed out to gain high locating repeatability.

How To Install PNEUMATIC FLEX LOCATORS

■Mounting Hole Dimensions

・Pins

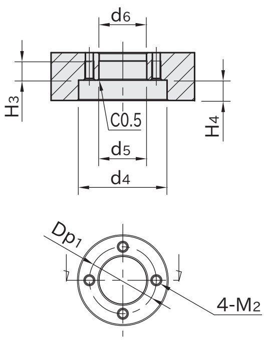
AMWF-L-S (Port Style)　　**AMWF-L-S-G** (Direct Style)



Part Number	d1 (H7)	H1	d2	H2	d3	d	H (±0.05)	M1	Dp
AMWF18L-4S	24	8.5	23.8	—	—	41	8.5	M4×0.7 Depth 8	32
AMWF26L-4S	32	9	31.8	—	—	52	10	M5×0.8 Depth10	41
AMWF18L-4S-G	24	8.5	23.8	25.5	14	41	8.5	M4×0.7 Depth 8	32
AMWF26L-4S-G	32	9	31.8	26.5	20	52	10	M5×0.8 Depth10	41

・Bushings

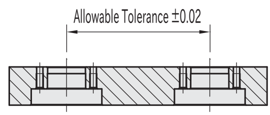
AMWF-BU (Bushing)



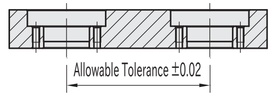
Part Number	d5 (H7)	H3	d6	d4	H4 (±0.05)	M2	Dp1
AMWF18-BU	20	8	19.8	37	8.5	M4×0.7 Depth 8	28
AMWF26-BU	25	7.5	24.8	45	10	M5×0.8 Depth10	34

■Spacing Tolerance

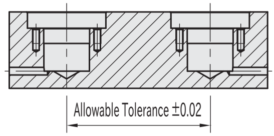
AMWF-BU (Bushing)



AMWF-L-S (Port Style)

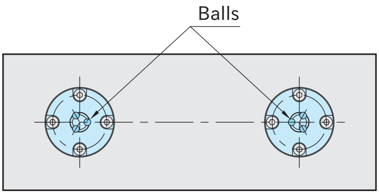


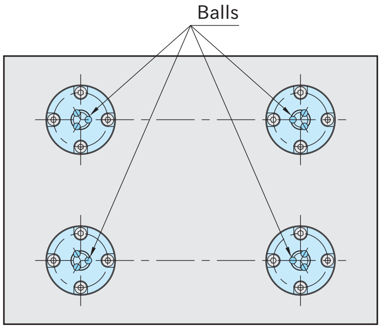
AMWF-L-S-G (Direct Style)



How To Use PNEUMATIC FLEX LOCATORS

■How to Use

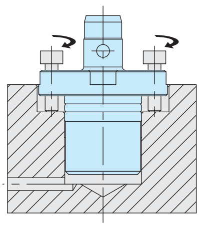




The pins should be mounted in the direction shown in the above figures.

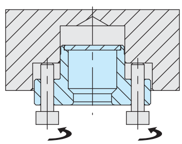
■How to Remove (Direct Style Pins)

For easier removal, insert screws into the tapped holes and screw them.



■How to Remove (Bushings)

For easier removal, insert screws into the tapped holes and screw them.



Note

Size	Max. Loading Capacity (N)
AMWF18	400
AMWF26	560

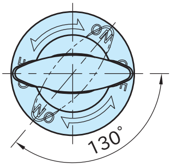
- If the total load exceeds the maximum loading capacity, the locating repeatability may exceed ±10 μm.
- In vertical use, the locating repeatability may exceed ±10 μm.
- Pins and Bushings should be positioned equally against the center of the fixture plate.
- For Port Style Pins, use with air joint that is available commercially.

Note: The maximum load is the entire sum of the load of fixture plates, fixtures and workpieces.
Note: The maximum loading capacity shown is the value when two sets each of AMWF-L-S Pins and AMWF-BU Bushings are used.

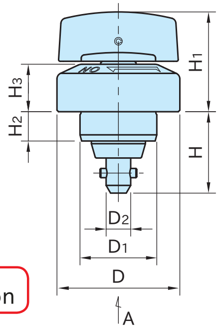
CP723 ONE-TOUCH FLEX LOCATOR CLAMPERS (Knob)

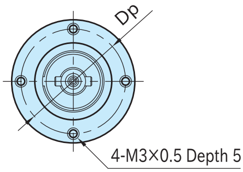
RoHS

IMAO



Body / Shank	Tapered Pin	Knob	Pin
SCM440 steel Black oxide finished	SCM440 steel ISONITE Treated (Nitrocarburized)	SCS13 stainless steel (Equivalent to SUS304)	SUS304 stainless steel





View A

★Key Point
Space saving operation

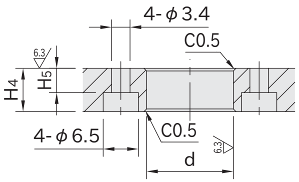
Part Number	D_1 (g6)	H_2	D	H_1	H_3	D_2	H	Dp
CP723-0632R-04	16	7.5	32	27	12	5.5	22	25.5
CP723-0840R-06	25	9.5	40	32	15.5	8	26	34

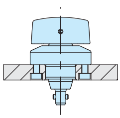
Part Number	Clamping Force(N)	Lifting Force (N) *)	Weight (g)	Proper One-Touch Flex Locator Bushing
CP723-0632R-04	350	30	96	CP727-0632R
CP723-0840R-06	600	100	211	CP727-0840R

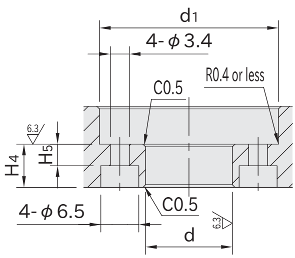
*) The lifting force is the power of the inner spring of the body to push up the movable tapered bushing.

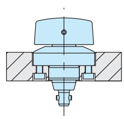
How To Use

■Mounting Hole Dimension









Part Number	d (H7)	H_4 (±0.05)	d_1	H_5
CP723-0632R-04	16	8	33	4
CP723-0840R-06	25	10	41	6

Supplied With

- CP723-0632R-04 : Four pieces of hex. socket-head cap screws M3×0.5-8L
- CP723-0840R-06 : Four pieces of hex. socket-head cap screws M3×0.5-10L

Reference

How To Use ONE-TOUCH FLEX LOCATORS (Handle / Knob)

CP722 ONE-TOUCH FLEX LOCATOR CLAMPERS

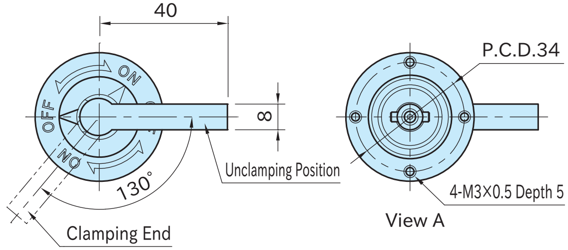
RoHS

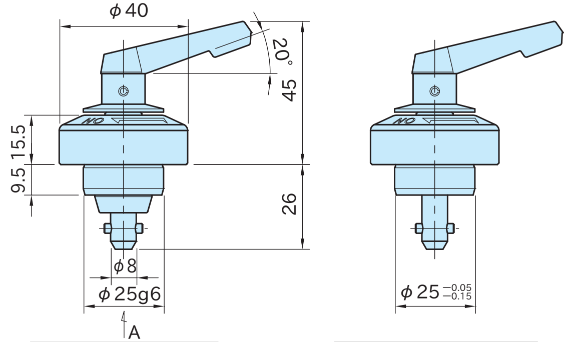
IMAO

Body / Shank	Tapered Pin	Handle	Pin
SCM440 steel Black Oxide Finished	SCM440 ISONITE Treated (Nitrocarburized)	ZDC1 die-cast zinc Silver-gray painted	SUS303 stainless steel

CP722-0840R-06

CP722-0840R-06N





CP722-0840R-06 | CP722-0840R-06N

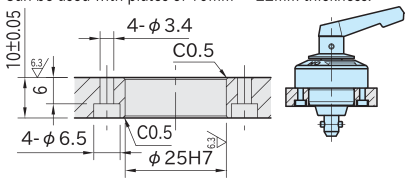
Part Number	Tapered Pin	Clamping Force (N)	Lifting Force (N)*)	Weight (g)	Proper One-Touch Flex Locator Bushing
CP722-0840R-06	With	600	100	220	CP727-0840R
CP722-0840R-06N	Without	700	—	215	

*) The lifting force is the power of the inner spring of the body to push up the movable tapered pin.

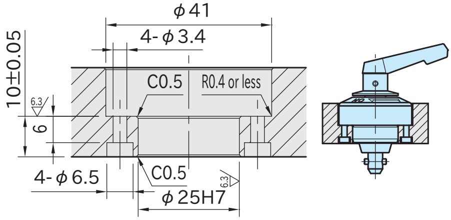
How To Use

■Mounting Hole Dimension

Can be used with plates of 10mm ～ 22mm thickness.



Installation on 10mm-thick Plate



Installation on 10mm-22mm Thick Plate
Drill a counterbored hole.

Reference

How To Use ONE-TOUCH FLEX LOCATORS (Handle / Knob)

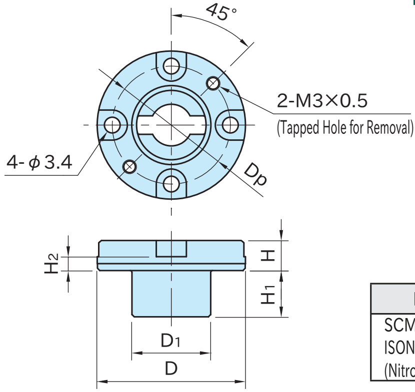
Supplied With

4 of M3×0.5-10L Hex Socket-Head Cap Screw

CP727 ONE-TOUCH FLEX LOCATOR BUSHINGS

RoHS

IMAO

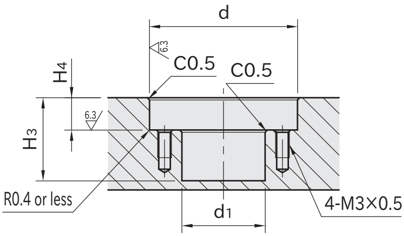


Body
SCM440 steel ISONITE Treated (Nitrocarburized)

Part Number	D (g6)	H	D_1	H_1	H_2	Dp	Weight (g)
CP727-0632R	28	5.5	12.5	8	2	21.5	20
CP727-0840R	32	6.5	17	10	3	25.5	32

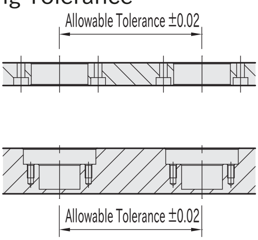
How To Use

■Mounting Hole Dimension



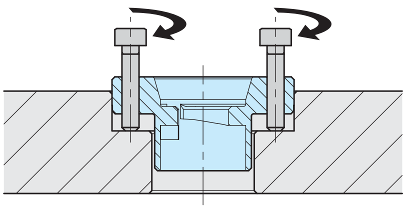
Part Number	d (H7)	H_4 (±0.05)	d_1	H_3
CP727-0632R	28	6	13.5	15
CP727-0840R	32	7	18	18

■Spacing Tolerance



■How to Remove

Insert screws into the tapped holes to lift up the bushing for removal.



Related Product

- CP722 ONE-TOUCH FLEX LOCATOR CLAMPERS
- CP723 ONE-TOUCH FLEX LOCATOR CLAMPERS(Knob)

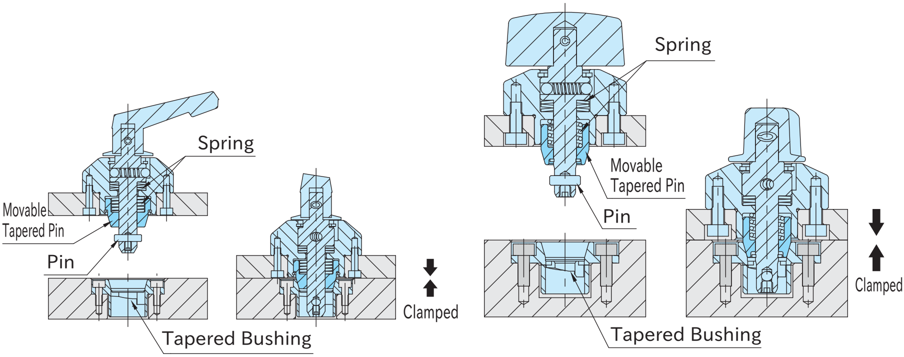
Reference

How To Use ONE-TOUCH FLEX LOCATORS (Handle / Knob)

Value Creator
IMAO

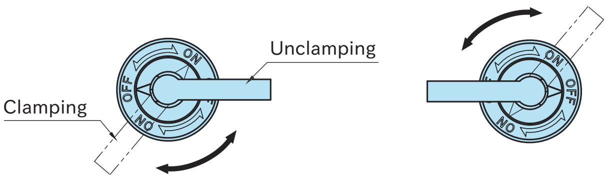
How To Use ONE-TOUCH FLEX LOCATORS (Handle / Knob)

Feature

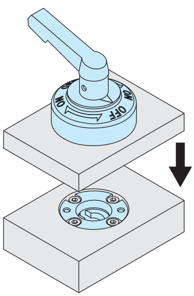


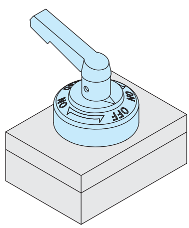
·The plates are located by fitting of the tapered pin and the tapered bushing.
·The pin contacts the cam surface inside the bushing, and it compresses the inner spring, then the plates are clamped.
Note: CP722-0840R-06N does not have locating function.

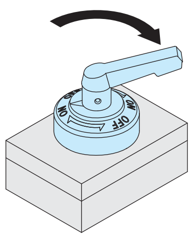
Two pair of clamping and unclamping positions of handle can be chosen for CP722.



How To Operate





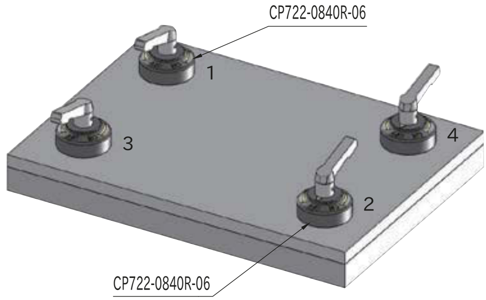


1. Ensure the handle is positioned at "OFF" mark.
2. Insert the clamper to the bushing.
3. Turn the handle to "ON" mark for clamping.

*) Follow back these steps for unclamping.
*) Same operation for Knob style.

Tightening Order

1.Ensure the handle is positioned at "OFF" mark and lift down the fixture plate.
2.Turn the handle and clamp in order of 1→2→3→4.
*) For unclamping, ensure the handle is positioned at "OFF" mark and disassemble the fixture plate.

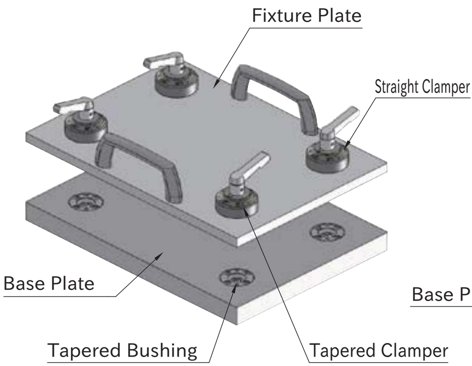


If the handles are not tightened in the correct order, the locating repeatability may exceed 10 μm.

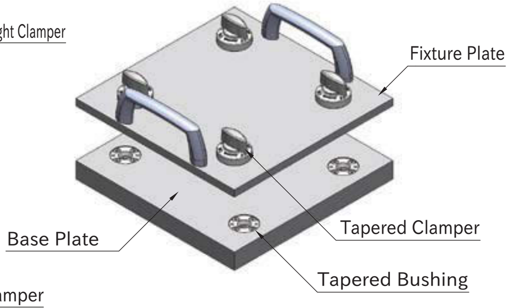
How To Use

■Horizontal Assembly of Fixture Plate

Note: Ensure not to lift the fixture plate up and down with gripping the handle of the clampers.



CP722



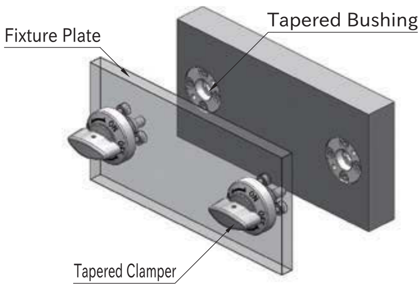
CP723

■Vertical Assembly of Fixture Plate

Locating repeatability is 20 μm.

Size		Max. Loading Capacity(N)
CP722 CP727	0840R	400

Size		Max. Loading Capacity(N)
CP723 CP727	0632R	120
	0840R	400



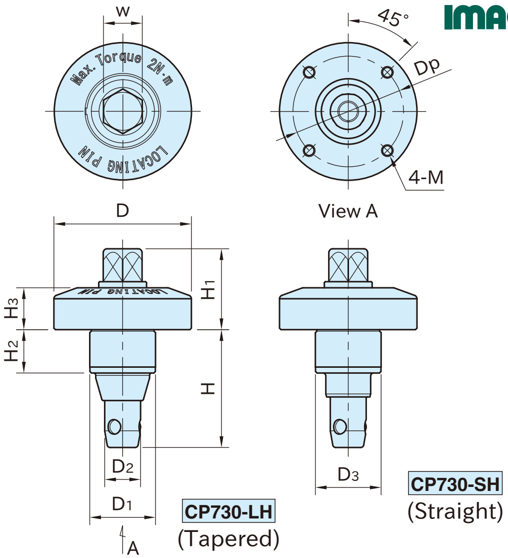
Note: The maximum load is the entire sum of the load of fixture plates, fixtures and workpieces.
Note: The maximum loading capacity shown is the value when two sets of Tapered Clamper and Tapered Bushing are used.

CP730 ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head)

RoHS

IMAO

CP730-LH (Tapered) | CP730-SH (Straight)



Body	Clamping Screw	Ball
SCM440 steel ISONITE Treated (Nitrocarburized)	SCM435 steel Black oxide finished Quenched & tempered	SUJ2 steel

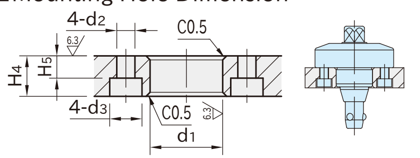
Part Number	D_1 (g6)	D_3 $\binom{-0.02}{-0.06}$	H_2	D	H_1	H_3	D_2	H	W	M	Dp
CP730-0939LH	18	–	9.5	39	22	12	9	30	10	M4×0.7 Depth 6	30
CP730-0939SH	–	18									
CP730-1246LH	22	–	14.5	46	27	14	12	40	13		37
CP730-1246SH	–	22									
CP730-1656LH	28	–	19.5	56	34	16	16	51	17	M5×0.8 Depth 7	45
CP730-1656SH	–	28									

Part Number	Clamping Force (N)	Allowable Screw Torque (N·m)*)	Weight (g)	Proper Bushing
CP730-0939LH	1700	2	134	CP735-0939L
CP730-0939SH			133	CP735-0939S
CP730-1246LH	3000	4	241	CP735-1246L
CP730-1246SH			239	CP735-1246S
CP730-1656LH	4500	7	457	CP735-1656L
CP730-1656SH			453	CP735-1656S

*)Do not apply greater torque than allowable screw torque.
Do not use a power tool (impact wrench etc.) to turn the hex head, for damage prevention.

How To Use

■Mounting Hole Dimension



Size	d_1 (H7)	H_4 (±0.05)	d_2	H_5	d_3
CP730-0939	18	10	4.5	5	8
CP730-1246	22	15		10	
CP730-1656	28	20	5.5	14	10

Supplied With

- CP730-0939:Four pieces of hex. socket-head cap screws M4×0.7-10L
- CP730-1246:Four pieces of hex. socket-head cap screws M4×0.7-15L
- CP730-1656:Four pieces of hex. socket-head cap screws M5×0.8-20L

Reference

How To Use ONE-TOUCH FLEX LOCATORS (Hexagon Head / Cam Handle)

Related Product

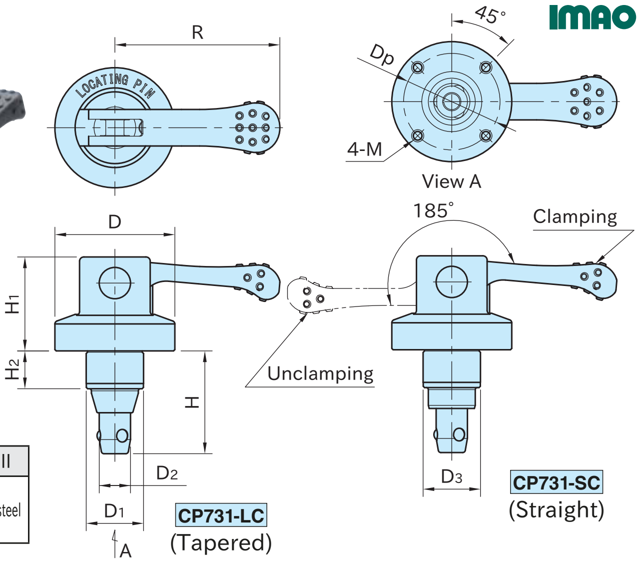
CP-TCW ADJUSTABLE-TORQUE WRENCHES are available for tightening.

CP731 ONE-TOUCH FLEX LOCATOR CLAMPERS (Cam Handle)

RoHS

IMAO

CP731-LC (Tapered) CP731-SC (Straight)



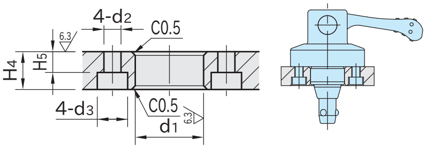
Body	Cam Handle	Ball
SCM440 steel ISONITE Treated (Nitrocarburized)	SCM440 steel Black oxide finished Quenched & tempered	SUJ2 steel

Part Number	D_1 (g6)	D_3 $\left(\begin{smallmatrix}-0.02\\-0.06\end{smallmatrix}\right)$	H_2	D	H_1	D_2	H	M	Dp	R	Cam Handle
CP731-0939LC	18	–	9.5	39	30	9	30	M4×0.7 Depth 6	30	50	QLCA-05
CP731-0939SC	–	18									
CP731-1246LC	22	–	14.5	46	36	12	40		37	63	QLCA-06
CP731-1246SC	–	22									
CP731-1656LC	28	–	19.5	56	42	16	51	M5×0.8 Depth 7	45	80	QLCA-08
CP731-1656SC	–	28									

Part Number	Clamping Force (N)	Operating Load (N)	Weight (g)	Proper Bushing
CP731-0939LC	600	60	191	CP735-0939L
CP731-0939SC			189	CP735-0939S
CP731-1246LC	1200	130	297	CP735-1246L
CP731-1246SC			294	CP735-1246S
CP731-1656LC	1800	160	654	CP735-1656L
CP731-1656SC			648	CP735-1656S

How To Use

■Mounting Hole Dimension



Size	d_1 (H7)	H_4 (±0.05)	d_2	H_5	d_3
CP731-0939	18	10	4.5	5	8
CP731-1246	22	15		10	
CP731-1656	28	20	5.5	14	10

Supplied With

- CP731-0939 : Four pieces of hex. socket-head cap screws M4×0.7-10L
- CP731-1246 : Four pieces of hex. socket-head cap screws M4×0.7-15L
- CP731-1656 : Four pieces of hex. socket-head cap screws M5×0.8-20L

Reference

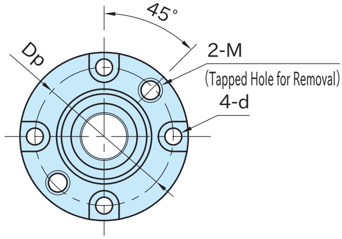
How To Use ONE-TOUCH FLEX LOCATORS (Hexagon Head / Cam Handle)

CP735 ONE-TOUCH FLEX LOCATOR BUSHINGS

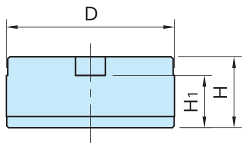
RoHS

IMAO

(Tapered Type)



(Straight Type)



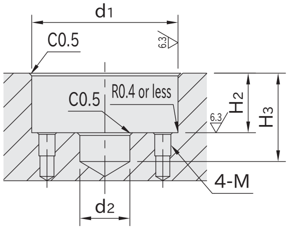
Type	Body	Tapered Bushing
CP735-L	SCM440 steel Black oxide finished Quenched & tempered	SCM440 steel ISONITE treated (Nitrocarburized)
CP735-S		–

Part Number	Type	D (g6)	H	d	H_1	Dp	M	Lifting Force (N)*)	Weight (g)
CP735-0939L	Tapered	38	15	4.5	10	30	M5×0.8	300	100
CP735-0939S	Straight							–	101
CP735-1246L	Tapered	45	19		14	37	M6×1	450	179
CP735-1246S	Straight							–	184
CP735-1656L	Tapered	55	24	5.5	18	45		680	337
CP735-1656S	Straight							–	341

*) The lifting force is the power of the inner spring of the body to push up the movable tapered bushing.

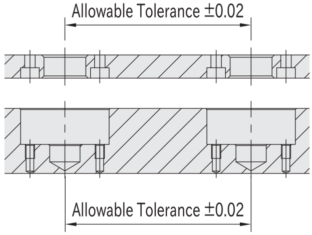
How To Use

■Mounting Hole Dimension



Size	d_1 (H7)	H_2 (±0.05)	d_2	H_3	M
CP735-0939	38	15.5	13	23	M4×0.7
CP735-1246	45	19.5	16	28	
CP735-1656	55	24.5	20	34	M5×0.8

■Spacing Tolerance



Related Product

- CP730 ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head)
- CP731 ONE-TOUCH FLEX LOCATOR CLAMPERS (Cam Handle)
- CP735-P ONE-TOUCH FLEX LOCATOR (PROTECTING COVERS)

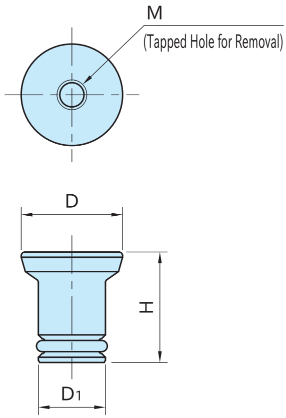
Reference

How To Use ONE-TOUCH FLEX LOCATORS (Hexagon Head / Cam Handle)

CP735-P ONE-TOUCH FLEX LOCATOR PROTECTING COVERS

RoHS

IMAO



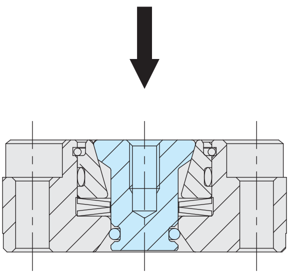
Body	O-Ring
A5052 aluminum Red	NBR nitrile rubber

Part Number	D	H	D_1	M	Weight (g)	Proper Bushing	
CP735-0939P	13.5	15	9	M4×0.7	3	CP735-0939L	CP735-0939S
CP735-1246P	17	19	12		6	CP735-1246L	CP735-1246S
CP735-1656P	23	22.5	16	M5×0.8	14	CP735-1656L	CP735-1656S

How To Use

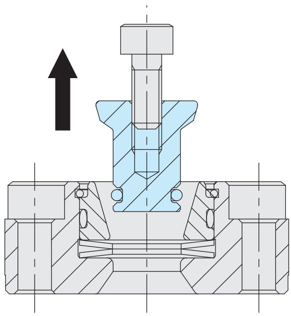
■How to Install

Insert the product to the center hole of the Flex Locator Bushings and use it as a protective cover.



■How to Remove

Insert a screw into the tapped hole and pull it out.



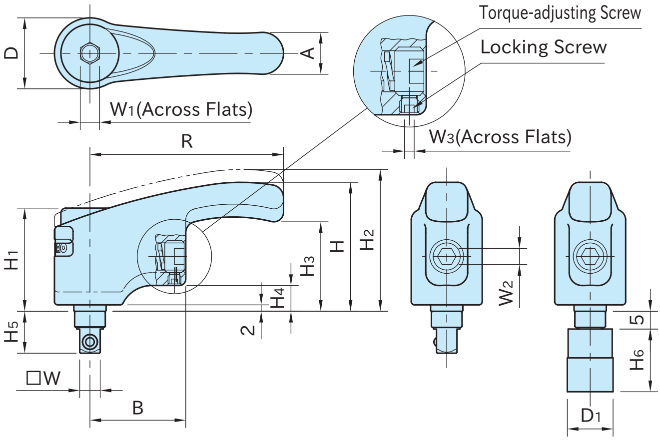
CP-TCW ADJUSTABLE-TORQUE WRENCHES

RoHS

IMAO

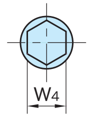
Without Socket

With Socket



Without Socket

With Socket



Socket Dimension

Type	Handle	Ratchet	Adapter	Socket
CP-TCW	SCM440 steel Quenched & tempered Painted Orange	SCM415 steel Carburized-hardened Black oxide finished	SCM435 steel Quenched & tempered Black oxide finished	–
CP-TCW-S				Cr-V chrome-vanadium steel Chrome plated

Size		W	R	H	D	H_1	H_2	H_3	H_4	H_5	A	B	W_1	W_2	W_3
CP-TCW / CP-TCW-S	6	6.3	60	40	22	32	44	27.5	8	13	13	30	6	5	2
	8		75	48	26	38	52.5	33	9		15	37	8	6	2.5
	10	9.5	90	57	32	45	62.5	39.5	10.5	16.5	18	39	10		

Size		Torque Range (N·m)
CP-TCW / CP-TCW-S	6	1~3.5
	8	2~5.4
	10	3~8

■Without Socket

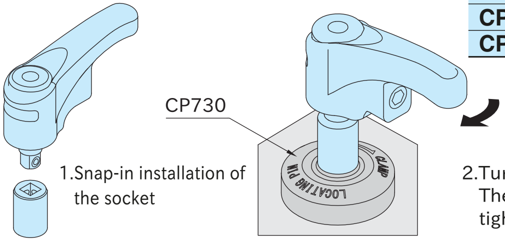
Part Number	Weight (g)
CP-TCW 6	166
CP-TCW 8	284
CP-TCW10	467

■With Socket

Part Number	W_4	D_1	H_6	Weight (g)
CP-TCW 6-S	10	13.8	25	183
CP-TCW 8-S	13	17.8		314
CP-TCW10-S	17	23.8	30	529

How To Use

Can be used as a tightening tool for CP730 ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head).



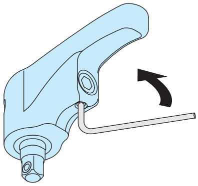
1.Snap-in installation of the socket

2.Turn the handle to clamp.
The handle clicks to indicate completed tightening at desired torque.

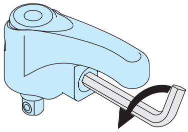
Part Number	Proper ONE-TOUCH FLEX LOCATOR CLAMPERS	
CP-TCW 6-S	CP730-0939LH	CP730-0939SH
CP-TCW 8-S	CP730-1246LH	CP730-1246SH
CP-TCW 10-S	CP730-1656LH	CP730-1656SH

How To Set Torque

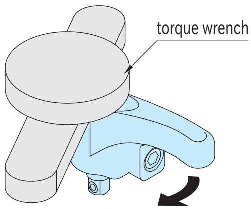
The preset torque is roughly set to its maximum tightening torque.



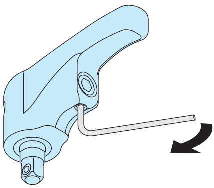
1. Loosen the locking screw.



2. Turn the hex key CCW to fine adjust the torque-adjusting screw.



3. Measure the torque with a torque wrench.
・Connect a torque wrench on the Adjustable-Torque Wrench.
・Turn the handle in the tightening direction and fine adjust the depth of torque-adjusting screw to reach to the handle clicking position at desired torque.

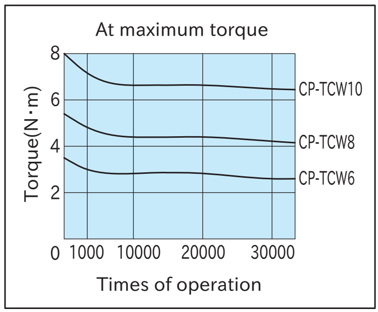


4. Fasten the locking screw at the desired torque.

Technical Information

・For initial several thousand operations, the tightening torque will decrease. (See the graph below)
Measure the torque regularly, and fine adjust the depth of torque-adjusting screw as needed.
・The tightening torque can vary. (Max.±15%)
Not recommended for precise torque management.

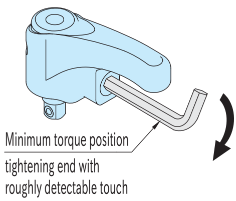
Torque Performance Graph



Note

・Do not overtighten or overloosen the torque-adjusting screw.

■Reference Torque Adjusting Range



Size		Rotation
CP-TCW CP-TCW-S	6	3/4
	8	1
	10	3/4

・To reach approx. the min torque, loosen the torque adjusting screw to the same end surface level of the body, then tighten it until you feel light touch of stop. (Ensure that the torque adjusting screw does not protrude from the body when loosening it.)
・To reach approx. the max torque, rotate the torque adjusting screw depending on the above table from the approx. min torque as instructed previously.

Reference

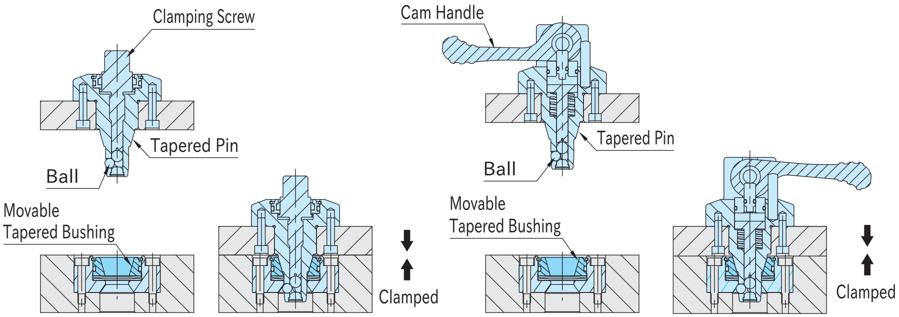
See ATCL ADJUSTABLE-TORQUE HANDLES page for further information.

Related Product

CP730 ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head)

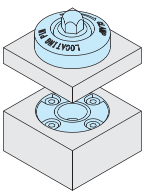
How To Use ONE-TOUCH FLEX LOCATORS (Hexagon Head / Cam Handle)

Feature

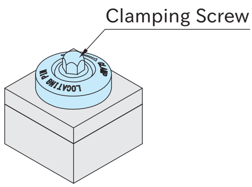


·The plate is located by fitting of the tapered parts.
·When the clamping screw or the cam handle is tightened, the balls goes out and the movable tapered bushing goes down. The fixture plate contacts with the base plate.
·For clamping screw, 2 turns tightening is enough.
Note: No locating function on the combination of straight pin and straight bushing.

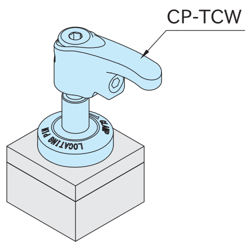
How To Operate



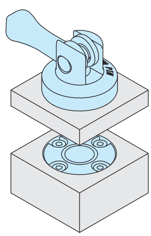
1. Ensure the balls are retracted.



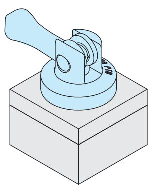
2. Insert the clamper to the bushing.



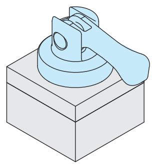
3. Tighten the clamping screw within the allowable torque.
Note: For unclamping, follow back these steps.



1. Ensure that the cam handle is loosened.

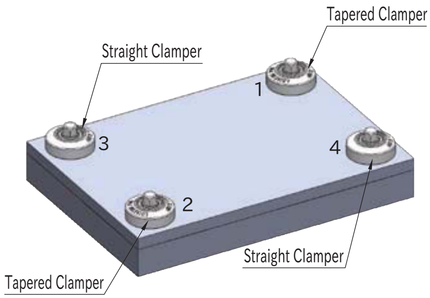


2. Insert the clamper to the bushing.



3. Tighten the cam handle.
Note: For unclamping, follow back these steps.

Tightening Order



CP730

1.Ensure that each plate is in close contact. *)
2.Tighten the screws temporarily in order of 1→2→3→4.
For temporary tightening, the tightening torque should be approximately 50% of the final tightening.
3.Tighten the screws finally in order of 1→2→3→4.
*) The fixture plate may be pushed up by the lifting force of the tapered bushing. In such cases, tighten the screws loosely in order of 1→2→3→4, and make the each plate be in close contact with each other. Then tighten the screws temporarily. For the lifting force, see the measurement table of CP735 ONE-TOUCH FLEX LOCATOR BUSHINGS.

CP731

・Tighten the cam handles in order of 1→2→3→4.

If the screws are not tightened in the correct order, the locating repeatability may exceed 8 μm.

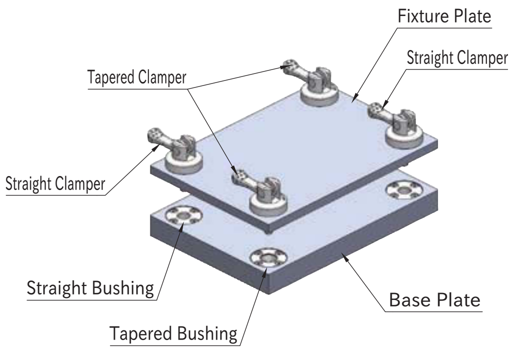
How To Use

■Horizontal Assembly

Two sets of tapered pin and straight pin

Use tapered or straight pin and bush as a set.

Note:Ensure not to lift the fixture plate up and down with gripping the cam handle of the clampers.

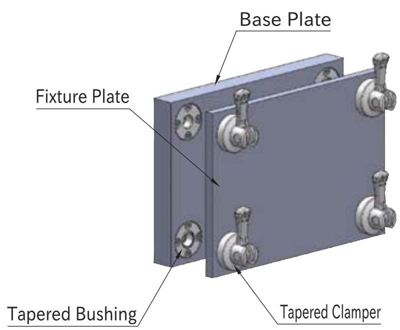


■Vertical Assembly

In vertical assembly, the locating repeatability is 10 μm.

Size		Max. Loading Capacity(N)
CP730 CP735	0939	400
	1246	600
	1656	1000

Size		Max. Loading Capacity(N)
CP731 CP735	0939	250
	1246	400
	1656	600

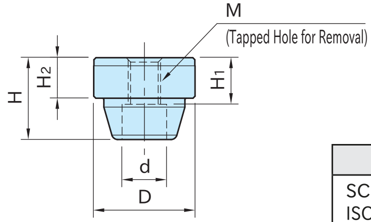


Note: The maximum load is the entire sum of the load of fixture plates, fixtures and workpieces.
Note: The maximum loading capacity shown is the value when two sets of tapered clamper and tapered bushing are used.

CP720 FLEX LOCATOR PINS

RoHS

IMAO

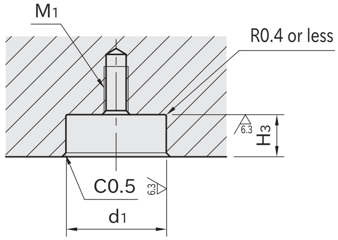


Body
SCM440 steel ISONITE Treated (Nitrocarburized)

Part Number	D (g6)	H_2	H	M	H_1	d	Weight (g)	Proper Flex Locator Bushings
CP720-16032	16	5.5	11.5	M 5X0.8 (Prepared Hole ϕ 4.2)	6	8	18	CP725-16032
CP720-25050	25	10	20	M 8X1.25(Prepared Hole ϕ 6.8)	11.5	11	49	CP725-25050
CP720-38070	38	15	29.5	M10X1.5 (Prepared Hole ϕ 8.5)	18	14	176	CP725-38070
CP720-56095	56	22	43.5	M16X2 (Prepared Hole ϕ 14)	28.5	20	569	CP725-56095

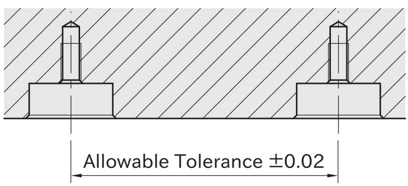
How To Use

■Mouting Hole Dimension

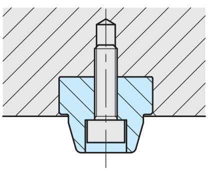


Part Number	d_1 (H7)	H_3 (±0.05)	M_1
CP720-16032	16	6	M 4X0.7
CP720-25050	25	10.5	M 6X1
CP720-38070	38	15.5	M 8X1.25
CP720-56095	56	22.5	M12X1.75

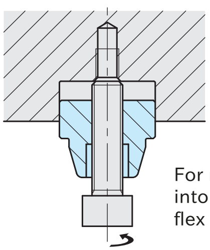
■Spacing Tolerance



■How to Install and Remove



Use a socket-head cap screw to fix the flex locator pin.



For removal, insert a screw into the tapped hole of the flex locator pin and screw it.

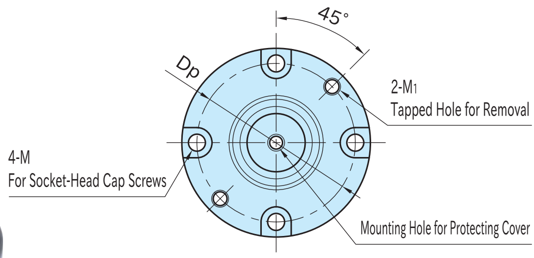
Reference

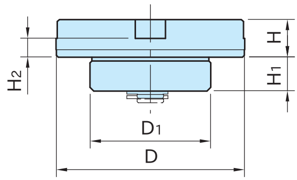
・How To Install FLEX LOCATORS (Blind)
・How To Use FLEX LOCATORS (Blind)

CP725 FLEX LOCATOR BUSHINGS (Blind)

RoHS

IMAO





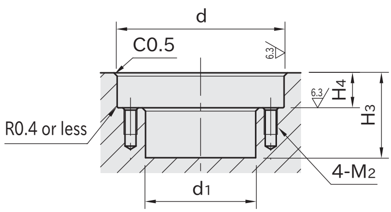
Body	Tapered Bushing
SCM440 steel Black oxide finished	SCM440 steel ISONITE Treated (Nitrocarburized)

Part Number	D (g6)	H	D_1	H_1	M	H_2	M_1	Dp	Lifting Force (N)*)	Weight (g)
CP725-16032	32	6.5	20	7	M3	3	M3×0.5	25.5	110	60
CP725-25050	50	10	32	9	M4	5	M4×0.7	42	180	160
CP725-38070	70	15	48	14	M5	9	M5×0.8	60	400	508
CP725-56095	95	22	70	21	M6	15	M6×1	84	690	1451

*) The lifting force is the power of the inner spring of the body to push up up the movable tapered bushing.

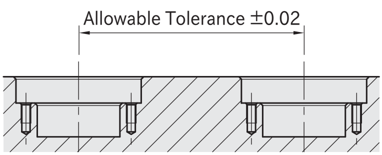
How To Use

■Mouting Hole Dimension

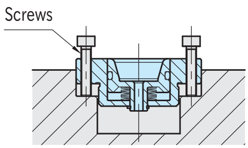


Part Number	d (H7)	H_4 (±0.05)	d_1	H_3	M_2
CP725-16032	32	7	21	18	M3×0.5
CP725-25050	50	10.5	33	24	M4×0.7
CP725-38070	70	15.5	49	35	M5×0.8
CP725-56095	95	22.5	71	51	M6×1

■Spacing Tolerance



■How to Remove



For removal, insert screws into the tapped holes and screw it.

Reference

・How To Install FLEX LOCATORS (Blind)
・How To Use FLEX LOCATORS (Blind)

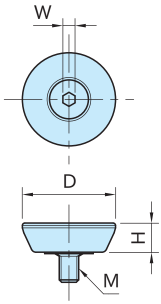
Related Product

CP720 FLEX LOCATOR PINS

CP725-P FLEX LOCATOR PROTECTING COVERS

RoHS

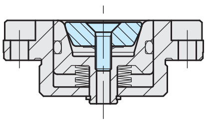
IMAO



Body	Screw
A5056 aluminum Red	SCM435 steel Black oxide finished

Part Number	D	H	M	W	Weight (g)	Proper Flex Locator Bushings
CP725-16032P	12	4	M3×0.5	2	3	CP725-16032
CP725-25050P	19	6	M4×0.7	2.5	5	CP725-25050
CP725-38070P	29	7	M5×0.8	3	14	CP725-38070
CP725-56095P	44	8	M6×1	4	35	CP725-56095

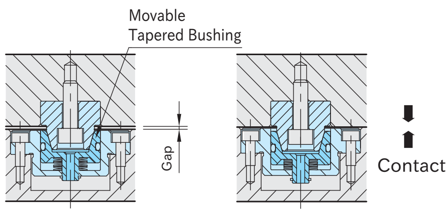
How to Install



Mount on Flex Locator Bushings onto the tapped hole as a protective cover.

How To Install FLEX LOCATORS (Blind)

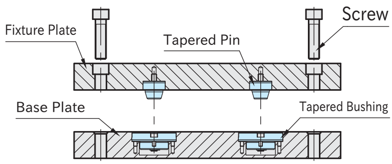
Feature



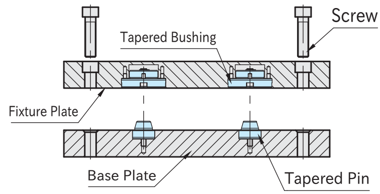
·Fixture plate is lifted down, and tapered pin engages with tapered bushing.
·Movable tapered bushing goes down, and fixture plate contacts with base plate.

How To Install

Bushings on Base Plate



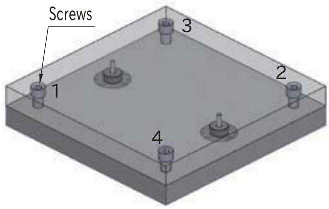
Pins on Base Plate

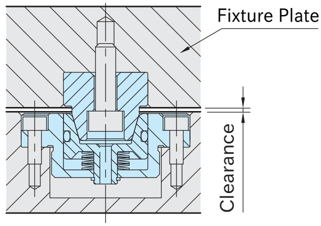


How To Use FLEX LOCATORS (Blind)

Tightening Order

1.Ensure that each plate is in close contact.*)
2.Tighten the screws temporarily in order of 1→2→3→4.
For temporary tightening, the tightening torque should be approximately 50% of the final tightening.
3.Tighten the screws finally in order of 1→2→3→4.
*) The fixture plate may be pushed up by the lifting force of CP725 Flex Locator Bushings.
In such cases, tighten the screws loosely in order of 1→2→3→4, and make the each plate be in close contact with each other.
Then tighten the screws temporarily.
For the lifting force, see the measurement table of CP725 Flex Locator Bushings.

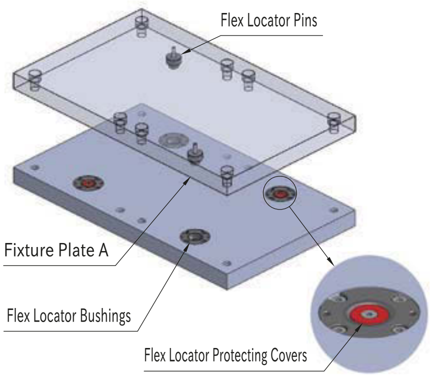


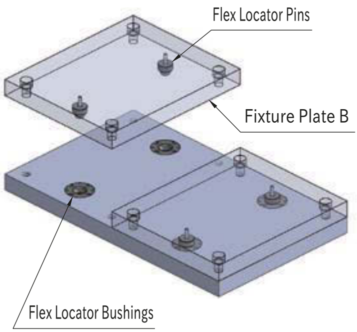


If the screws are not tightened in the correct order, the locating repeatability may exceed 10 μm.

How To Use

■Horizontal Assembly of Base Plate and Fixture Plate



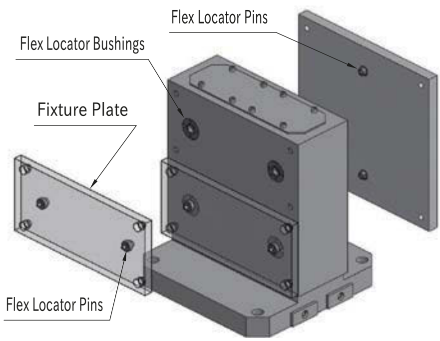


■Vertical Assembly of Tooling Block and Fixture Plate

If the total load exceeds the maximum loading capacity, the locating repeatability may exceed 10 μm.

Size		Max. Loading Capacity(kN)
CP720 CP725	16032	0.8
	25050	1.2
	38070	2
	56095	2.2

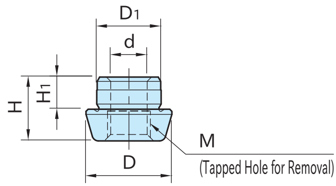
Note: The maximum load is the entire sum of the load of fixture plates, fixtures and workpieces.
Note: The maximum loading capacity shown is the value when two sets of CP720 Flex Locator Pins and CP725 Flex Locator Bushings are used.



CP721 FLEX LOCATOR PINS

RoHS

IMAO



Body
SCM440 steel ISONITE Treated (Nitrocarburized)

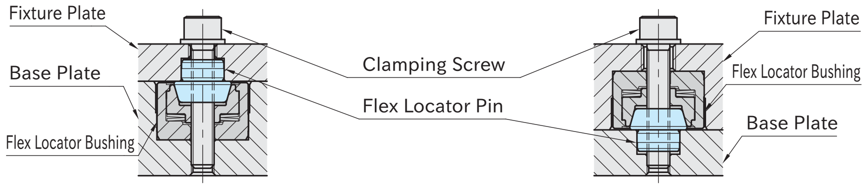
Part Number	D_1 (p6)	H_1	D	H	M	d	Weight (g)	Proper Flex Locator Bushings
CP721-12025	12	4.5	15	10	M10×1.5 Depth 3.5	8.5	6	CP726-12025
CP721-15032	15	7.5	20	15	M12×1.75Depth 4.5	10.2	16	CP726-15032
CP721-20045	20	10	30	20	M16×2 Depth 5.5	14	47	CP726-20045

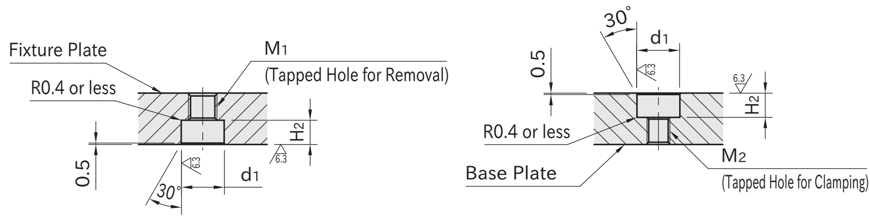
How To Use

■Mounting Hole Dimensions for Press Fit

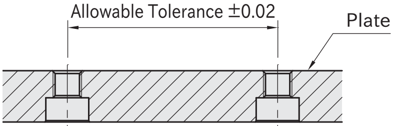
Installation of the Flex Locator Pins on the Fixture Plate

Installation of the Flex Locator Pins on the Base Plate





■Spacing Tolerance



Part Number	d_1 (H6)	H_2	M_1	M_2
CP721-12025	12	5.5	M 8×1.25	M 6×1
CP721-15032	15	8.5	M10×1.5	M 8×1.25
CP721-20045	20	11	M14×1.5	M12×1.75

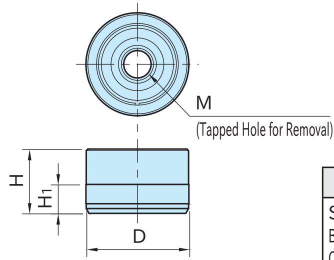
Reference

・How To Install FLEX LOCATORS (Through)
・How To Use FLEX LOCATORS (Through)

CP726 FLEX LOCATOR BUSHINGS (Through)

RoHS

IMAO



Body	Tapered Bushing
SCM440 steel Black Oxide Finished Quenched & Tempered	SCM440 steel ISONITE Treated (Nitrocarburized)

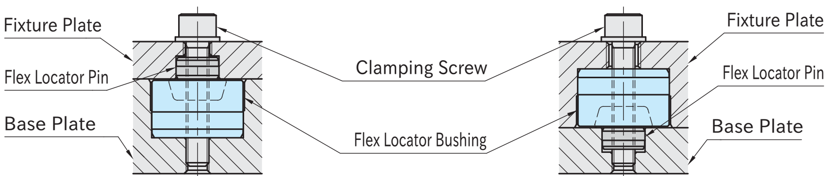
Part Number	D	H	H_1	M	Lifting Force (N)*)	Weight (g)
CP726-12025	$25\left(^{+0.028}_{+0.018}\right)$	16	8	M 8×1.25(Prepared Hole ϕ 6.8)	540	46
CP726-15032	$32\left(^{+0.031}_{+0.021}\right)$	20	9	M10×1.5 (Prepared Hole ϕ 8.5)	600	92
CP726-20045	$45\left(^{+0.031}_{+0.021}\right)$	26	11	M14×1.5 (Prepared Hole ϕ 12.5)	780	230

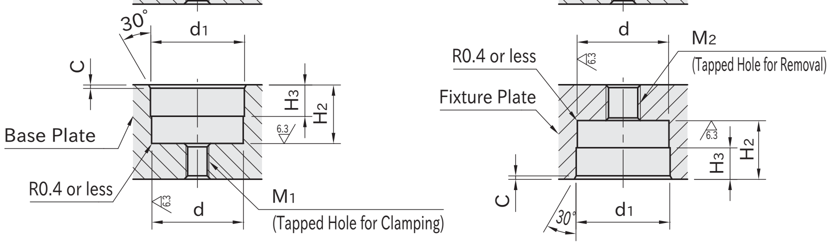
*) The lifting force is the power of the inner spring of the body to push up the movable tapered bushing.

How To Use

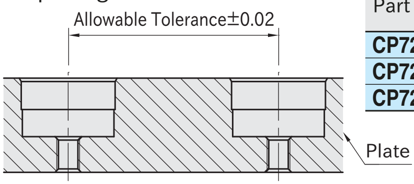
■Mounting Hole Dimension for Press Fit

Installation of the Bushings on the Base Plate　　Installation of the Bushings on the Fixture Plate





■Spacing Tolerance



Part Number	d (H6)	H_2 (±0.05)	d_1	H_3	C	M_1	M_2
CP726-12025	25	16.5	25.2	8	1	M 6×1	M10×1.5
CP726-15032	32	20.5	32.2	11	1.2	M 8×1.25	M12×1.75
CP726-20045	45	26.5	45.2	15	1.5	M12×1.75	M16×2

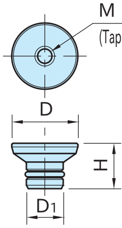
Reference

・How To Install FLEX LOCATORS (Through)
・How To Use FLEX LOCATORS (Through)

CP726-P FLEX LOCATOR PROTECTING COVERS

RoHS

IMAO



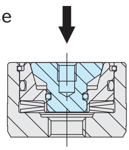
Body	O-Ring
A5056 aluminum Red	NBR nitrile rubber

Part Number	D	H	D_1	M	Weight (g)	Proper Flex Locator Bushings
CP726-12025P	15	10	9	M4×0.7	2	CP726-12025
CP726-15032P	19	13	11	M5×0.8	5	CP726-15032
CP726-20045P	29	18	16	M6×1	17	CP726-20045

How To Use

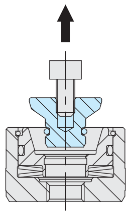
■How to Install

Insert the product to the center hole of the Flex Locator Bushings and use it as a protective cover.



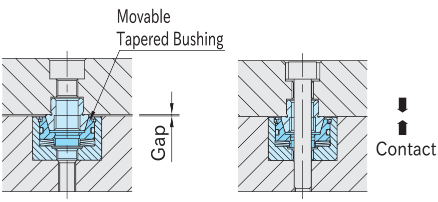
■How to Remove

Insert a screw into the tapped hole and pull it out.



How To Install FLEX LOCATORS (Through)

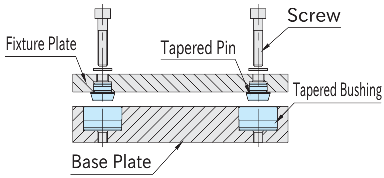
Feature



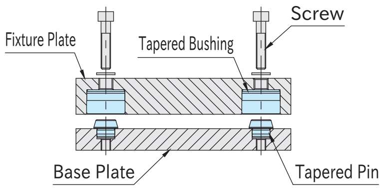
- When the fixture plate is lifted down, the tapered pin engages with the tapered receiver bushing.
- The movable tapered receiver bushing goes down by screwing the clamping screw and the fixture plate contacts with the base plate.

How To Install

Bushings on Base Plate



Pins on Base Plate



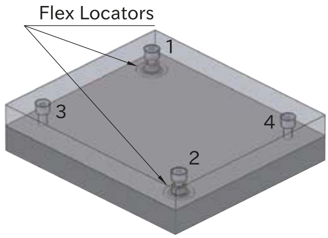
How To Use FLEX LOCATORS (Through)

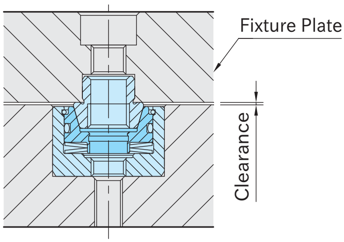
Tightening Order

1.Ensure that each plate is in close contact. *)
2.Tighten the screws temporarily in order of 1→2→3→4.
For temporary tightening, the tightening torque should be approximately 50% of the final tightening.
3.Tighten the screws finally in order of 1→2→3→4.

*) The fixture plate may be pushed up by the lifting force of CP726 Flex Locator Bushings.
In such cases, tighten the screws loosely in order of 1→2→3→4, and make the each plate be in close contact with each other. Then tighten the screws temporarily.For the lifting force, see the measurement table of CP726 Flex Locator Bushings.

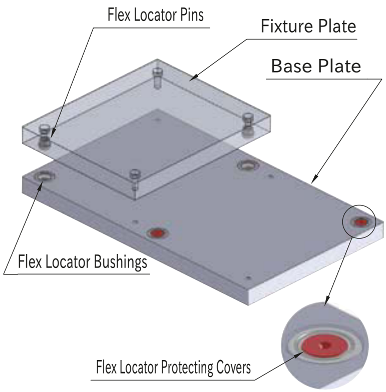
If the screws are not tightened in the correct order, the locating repeatability may exceed 10 μm.



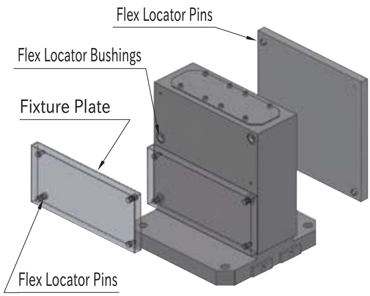


How To Use

■Horizontal Assembly of Base Plate and Fixture Plate



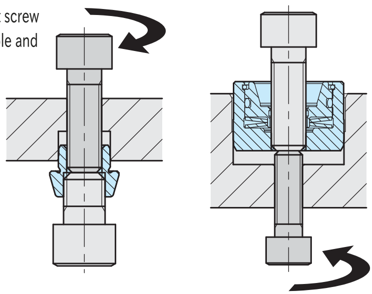
■Vertical Assembly of Base Plate and Fixture Plate



In vertical assembly, the locating repeatability may exceed 10 μm if the total load exceeds the maximum loading capacity.

■How to Remove

For removal, insert screw into the tapped hole and screw it.

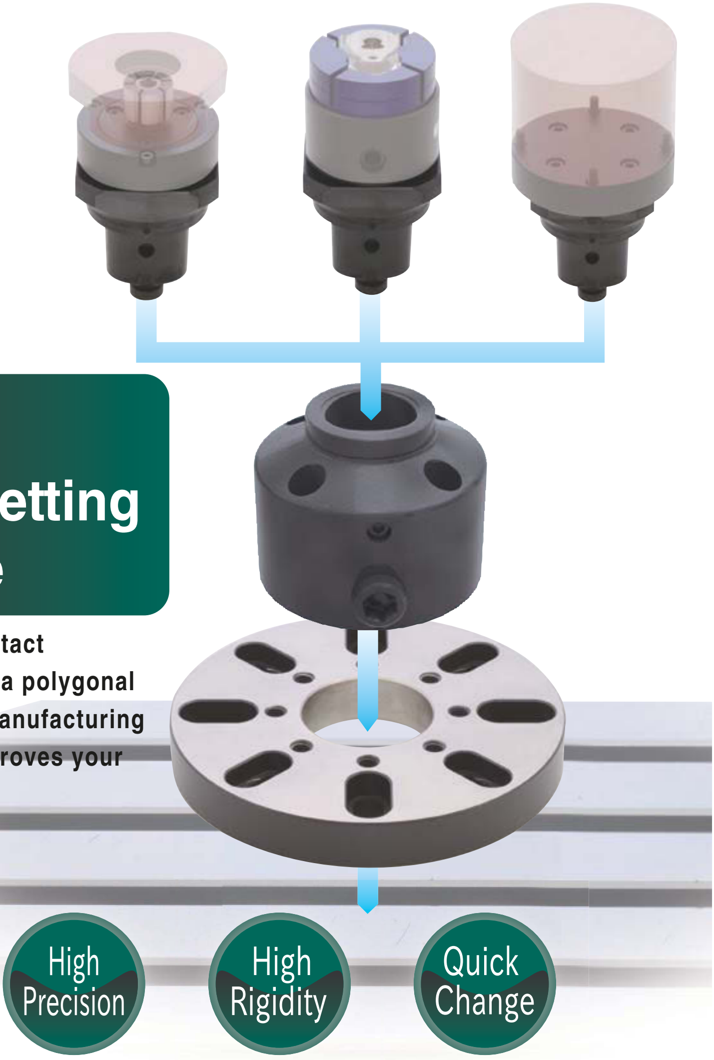


Flex Locator Pin Flex Locator Bushing

Size		Max. Loading Capacity(kN)
CP721 CP726	12025	1.5
	15032	2
	20045	2.4

Note: The maximum load is the entire sum of the load of fixture plates, fixtures and workpieces.
Note: The maximum loading capacity shown is the value when two sets of CP721 Flex Locator Pins and CP726 Flex Locator Bushings are used.

Quick Zero Setting Device



Quick Zero Setting Device

Ideal dual-contact coupling with a polygonal taper saves manufacturing costs and improves your productivity.

Usabilities

- Precise fixture changes for wide-variety low-volume productions
- Precise machinings that require intermediate measurements

Usable on

- 5-axis machine
- Vertical M/C
- CNC Rotary table

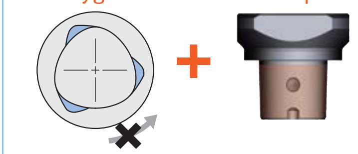
High Rigidity

Ideal dual-contact of a polygonal taper provides high bending rigidity and high torsional rigidity.

Compared to HSK shank(HSK-A63) Bending/torsional rigidity is **more than double!**

Bending rigidity

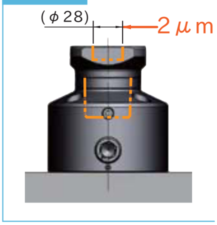
Torsional rigidity



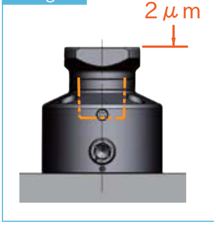
High Precision

Provides accurate positioning with high repeatability and no need of centering.

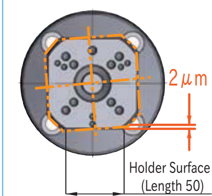
Center



Height

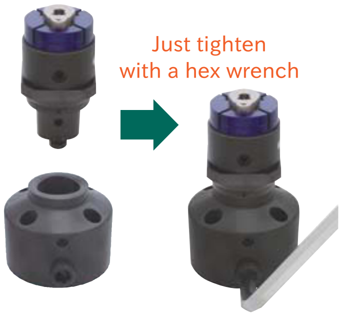


Angle



Quick Change

Holder can be locked/ unlocked with a hex wrench.
Easy settings for everyone.
Saves lots of time for setups.

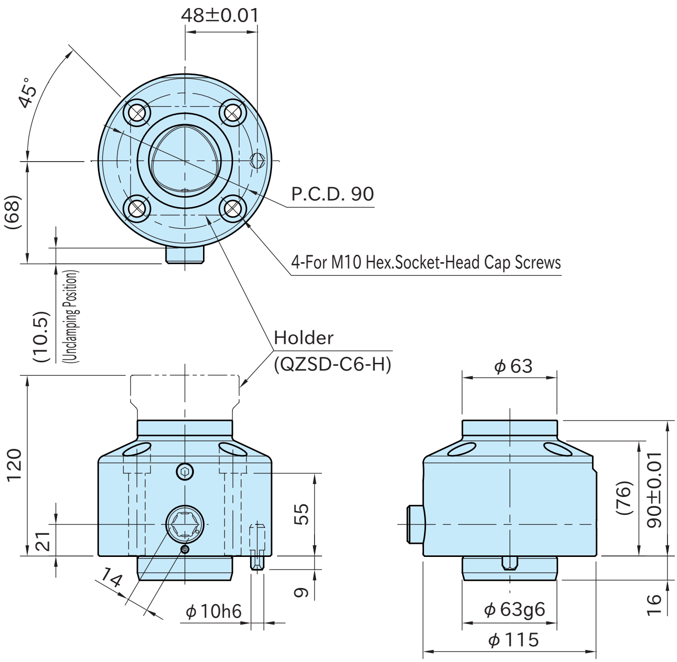


QZSD-C6-B BASE (QUICK ZERO SETTING DEVICE)

RoHS

IMAO

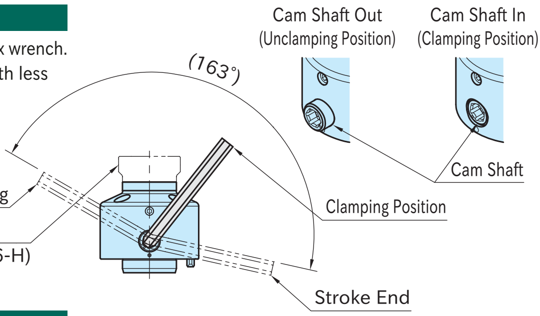
Body	Cam Shaft
SCM420 steel Carburized-hardened Black oxide finished	SCM435 steel Quenched and tempered Black oxide finished



Part Number	Clamping Force(kN)	Allowable Tightening Torque(N·m)	Weight (kg)
QZSD-C6-B	30	100	5.2

Feature

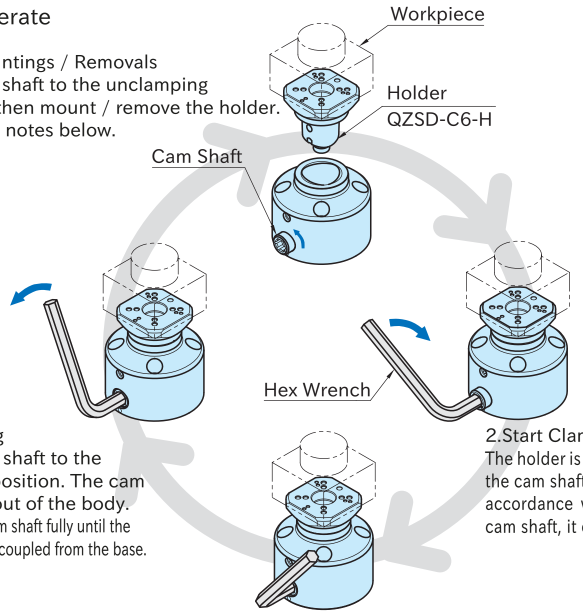
- Holder can be clamped / unclamped with a hex wrench.
- Tightening / loosening can be completed with less than 180˚turn.
- The cam shaft comes out of the body when the holder is unclamped. So you can check visually if the holder is unclamped or not.



How To Use

■How to Operate

1.Holder Mountings / Removals
Turn the cam shaft to the unclamping position and then mount / remove the holder.
Note: See the notes below.

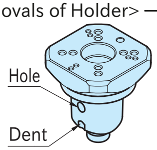


2.Start Clamping
The holder is clamped by tightening the cam shaft with a hex wrench. In accordance with tightening of the cam shaft, it comes in the body.

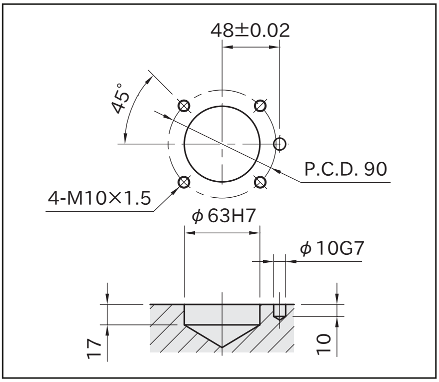
4.Unclamping
Turn the cam shaft to the unclamping position. The cam shaft comes out of the body.
Note: Turn the cam shaft fully until the holder is uncoupled from the base.

<Notes for Mountings/ Removals of Holder>

- Ensure that the cam shaft is come out of the body.
- Note to mount the holder by aligning its hole and dent to the cam shaft of the base.



■Mounting-Hole Dimension



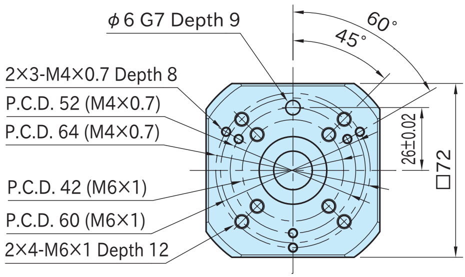
Related Product

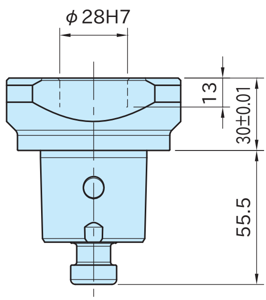
- QZSD-C6-H HOLDER (QUICK ZERO SETTING DEVICE)
- QZSD-C6-P PLATE (QUICK ZERO SETTING DEVICE)

QZSD-C6-H HOLDER (QUICK ZERO SETTING DEVICE)

RoHS

IMAO





Body	Clamping Screw
SCM420 steel Carburized-hardened Black oxide finished	SCM435 steel Quenched and tempered Black oxide finished

Part Number	Weight (kg)
QZSD-C6-H	1.3

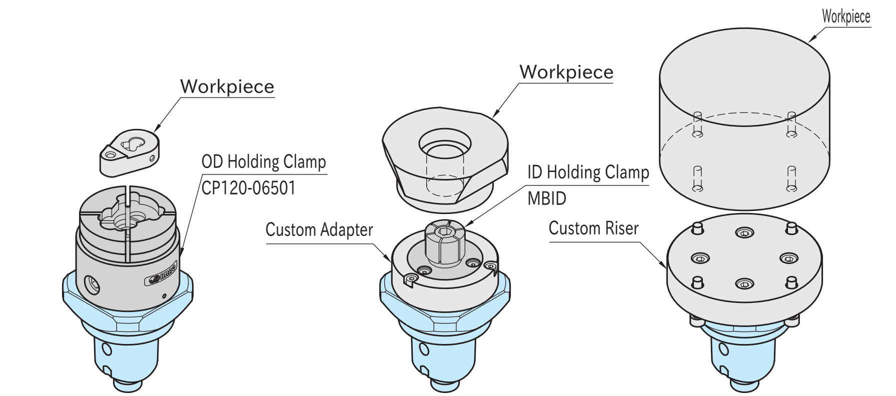
Feature

- Tapped holes for mounting fixtures on the top face.
- CP120-06501 OD HOLDING CLAMPS can be mounted directly.

Related Product

- CP120 OD HOLDING CLAMP
- MBID ID HOLDING CLAMP
- QZSD-C6-B BASE (QUICK ZERO SETTING DEVICE)
- QZSD-C6-P PLATE (QUICK ZERO SETTING DEVICE)

Application Example



With OD Holding Clamp
Note: CP120-06501 can be mounted directly.

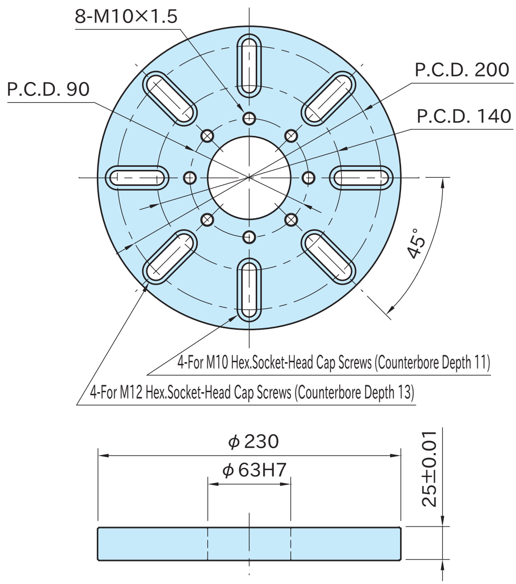
With ID Holding Clamp

Other Application
(Fix a workpiece from the bottom)

QZSD-C6-P PLATE (QUICK ZERO SETTING DEVICE)

On Request RoHS

IMAO



Body
S45C steel Black oxide finished Precision ground

Part Number	Weight (kg)
QZSD-C6-P	6.3

Feature

- For mounting the device on machine tables with T-Slots.
- Mouning holes are M10 and M12 sizes.
- Custom plates are available on request.

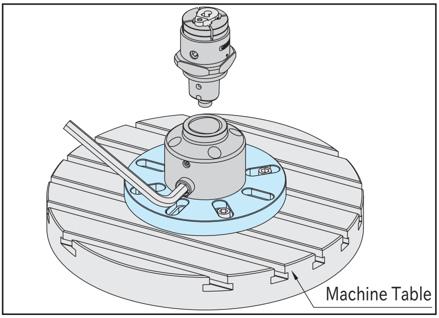
Related Product

- QZSD-C6-B BASE (QUICK ZERO SETTING DEVICE)
- QZSD-C6-H HOLDER (QUICK ZERO SETTING DEVICE)

Note

This plate is a non-stock item.

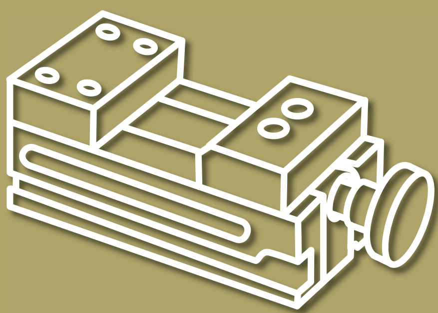
How To Use



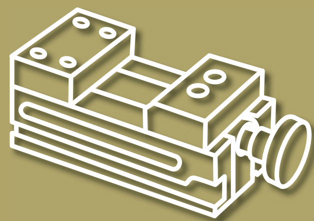
Value Creator

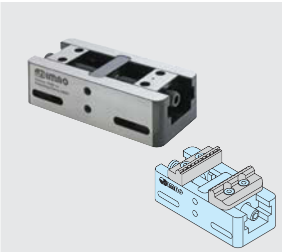
IMAO

VISES



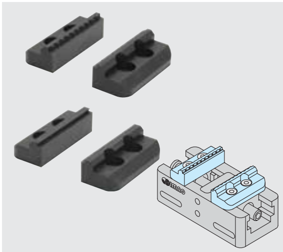
VISES





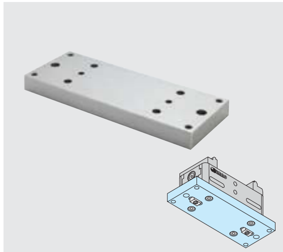
CENTERING CLAMP

Part No. CP170



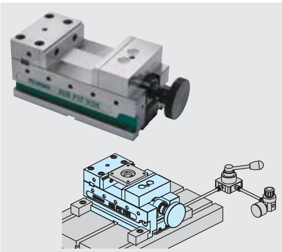
JAWS

Part No. CP175



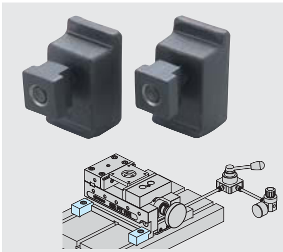
BASE PLATE

Part No. CP179



COMPACT PNEUMATIC VISE

Part No. AMLFV-S



PAIR OF CLAMPS

Part No. MVAC-CS

PAIR OF POSITIONING KEYS

Part No. MVAC-SK

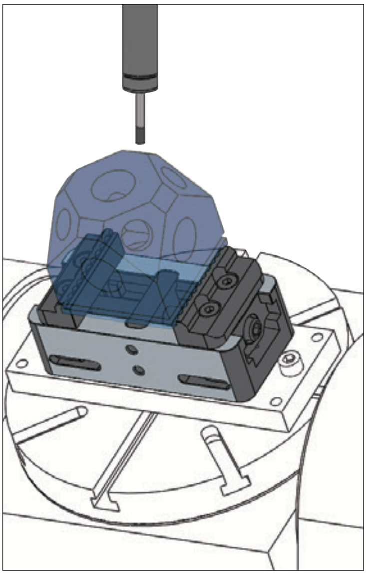
PAIR OF POSITIONING KEYS

Part No. AMLFV-FK

CENTERING CLAMP

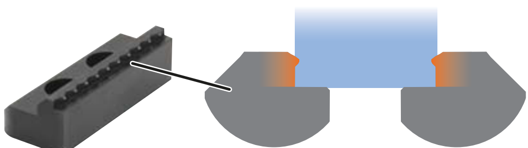
Perfect Workholding for 5-axis Machining!

CENTERING CLAMP



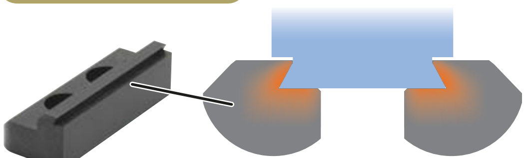
Self-centering vise for 5-axis machine or rotary table

Serrated Jaw



Tip and surface contact

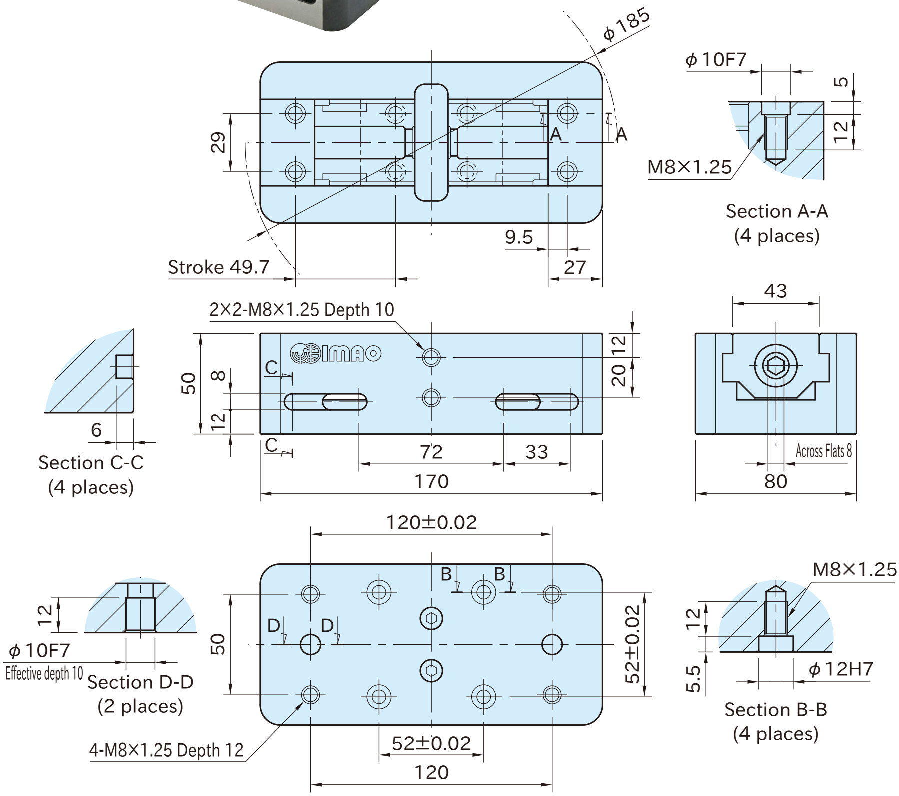
Dovetail Jaw



Dual surface contact

CP170 CENTERING CLAMP

Body	Spindle	Movable Jaw Base
SCM440 steel Induction hardened Black oxide finished Precision ground	SCM435 steel Nitrocarburized	SCM440 steel Black oxide finish



Part Number	Allowable Tightening Torque (N·m)	Weight (kg)	Proper Jaws			
			Serrated Jaws		Dovetail Jaws	
			Part Number	Clamping Force (kN)	Part Number	Clamping Force (kN)
CP170-08017	100	3.9	**CP175-08001S**	20	**CP175-08001D**	20

Feature

Manual compact self-centering vise.
Recommended machining allowance is 0.4mm or more per side of the workpiece.

Related Product

- Jaws
- Base Plate

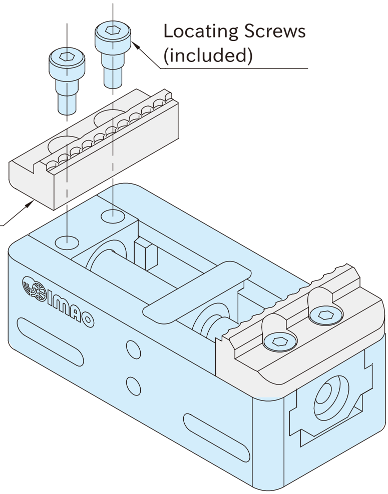
Supplied With

4 pcs. of Locating Screws for Jaws

How To Use

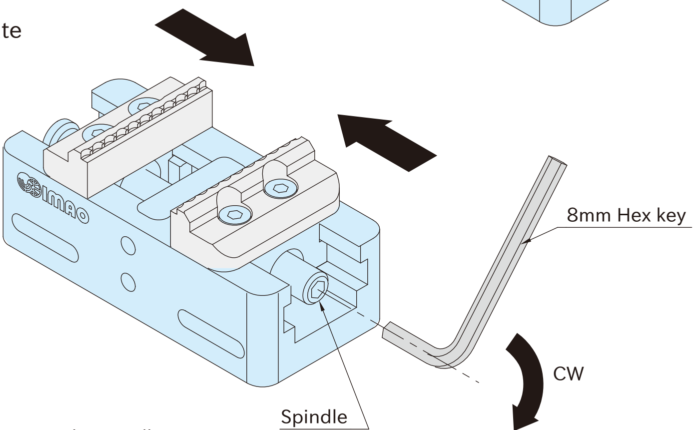
■How to Mount Jaws

・Mount Jaws to the jaw bases of CP170.
・Use included locating screws to fix Jaws.



*) Jaws are not supplied
with CP170.

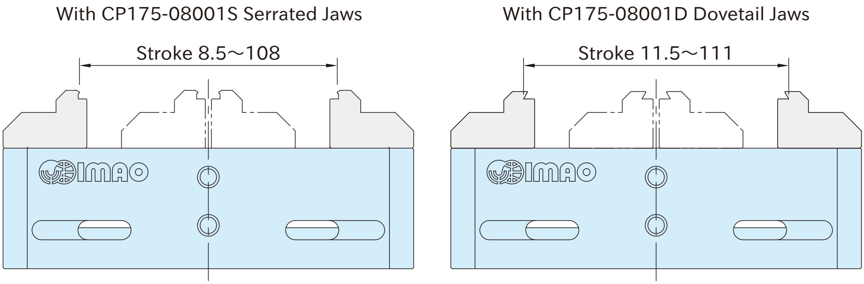
■How to Operate



・Use a hex key to operate the spindle.
・Both jaws move toward the arrow directions by turning the spindle clockwise.
・Both jaws move against the arrow directions by turning the spindle counterclockwise.

Technical Information

Stroke



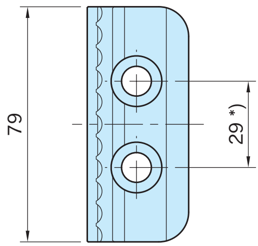
CP175 JAWS

RoHS

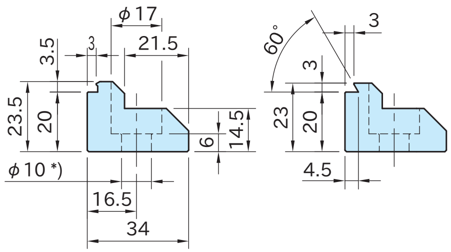
IMAO

CP175-08001S (Serrated)

CP175-08001D (Dovetail)



Body
SCM440 steel Quenched & tempered Black oxide finished



CP175-08001S (Serrated) (2 pcs. as a set)

CP175-08001D (Dovetail) (2 pcs. as a set)

*) To produce Jaws at customers, prepare ϕ10F8 mounting holes with 29±0.02 pitch.

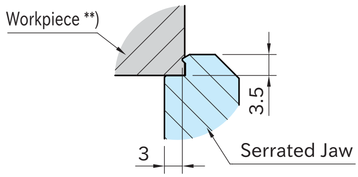
Part Number	Type	Weight (g)
CP175-08001S	Serrated	600
CP175-08001D	Dovetail	

How To Use

Use as jaws of CP170 Centering Clamp.

■Serrated Jaw

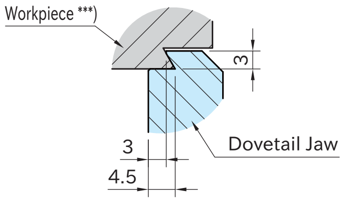
The serrated tips bite into workpiece and clamp powerfully.



**) Workpiece hardness should be HRC38 or less for use of serrated jaw.

■Dovetail Jaw

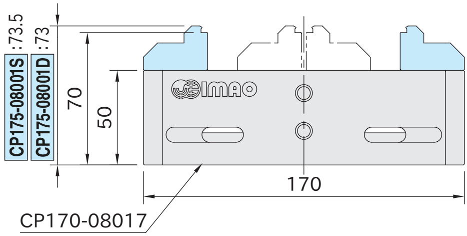
Dovetail jaw holds workpiece at two surfaces and provides positive clamping.



***) Preparation of dovetail groove on workpieces is required.

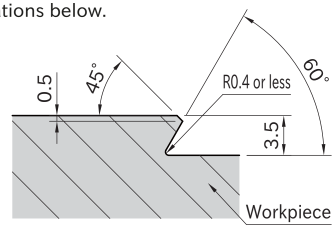
Technical Information

■Dimensions of Centering Clamp with Jaws



■Dovetail Groove Preparation

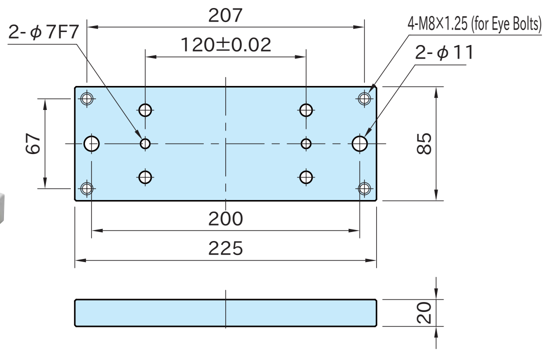
Machine dovetail grooves on workpiece to the specifications below.

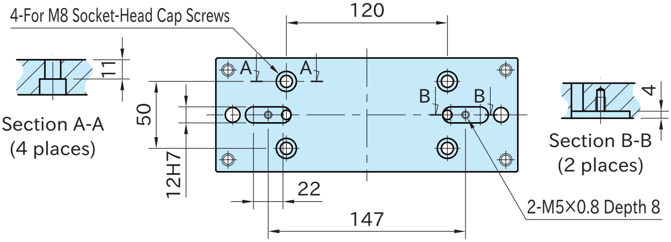


CP179 BASE PLATE

On Request RoHS

IMAO





Part Number	Weight (kg)
CP179-08017	2.9

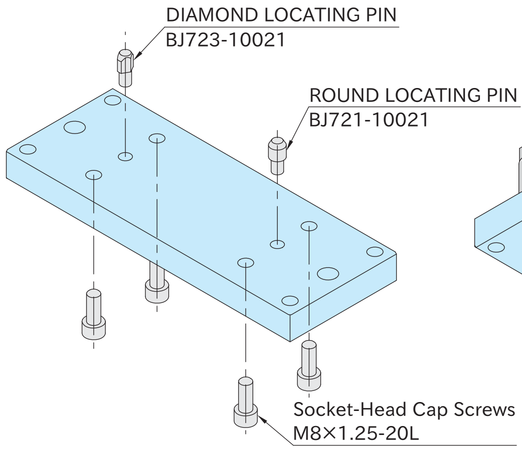
Body
S50C steel

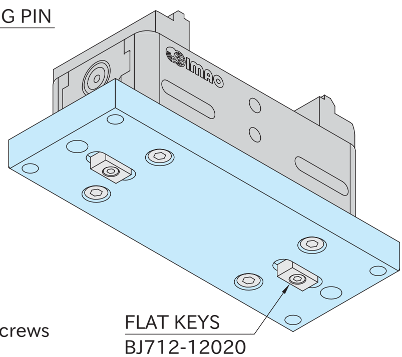
How To Use

・Use as base plate of CP170 Centering Clamp to mount on the machine table.

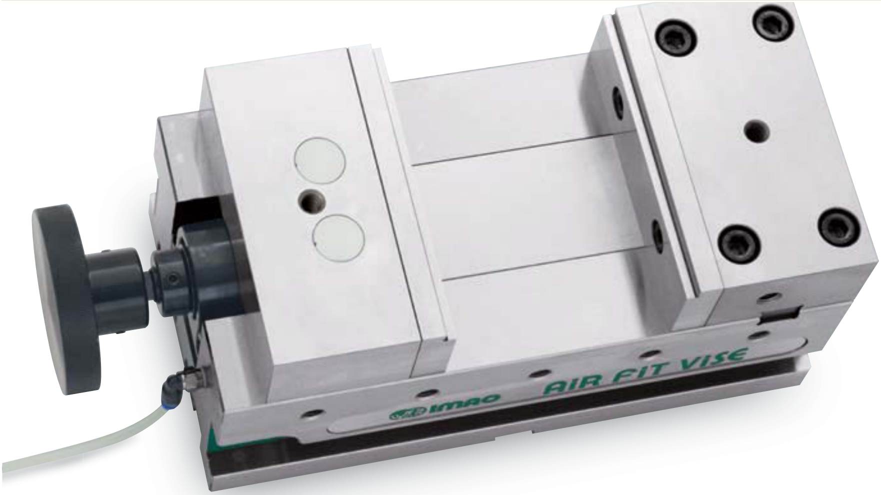
Note

This plate is non-stock item.





COMPACT PNEUMATIC VISE

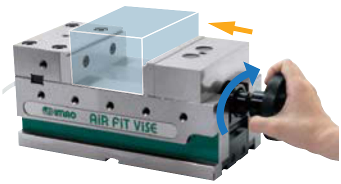


Ideal for small machining center!

COMPACT PNEUMATIC VISE

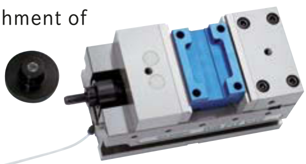
Suitable for compact machining centers.
Provides quick and easy clamping operation.

1 Turn the handwheel to set movable jaw at the desired position.



2 Supply air for clamping.

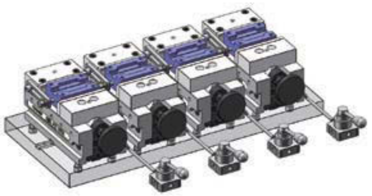
One-touch attachment of the handwheel

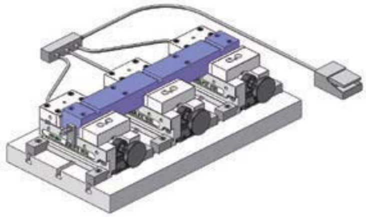


Quick & Easy Clamping

Air ON Clamp **Air OFF** Unclamp

Save setup time and workload.

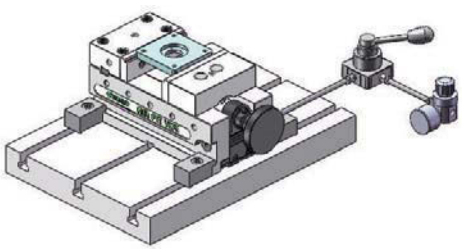


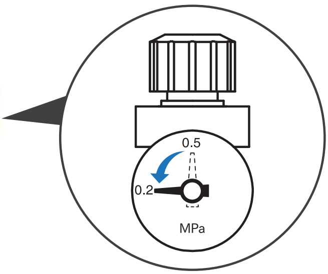


Can control actuation of several vises at a time by air source.

Deformation Prevention

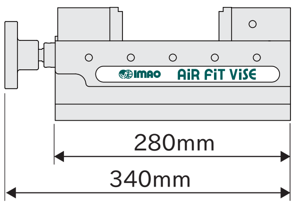
Can control clamping force by air depending on workpiece materials.

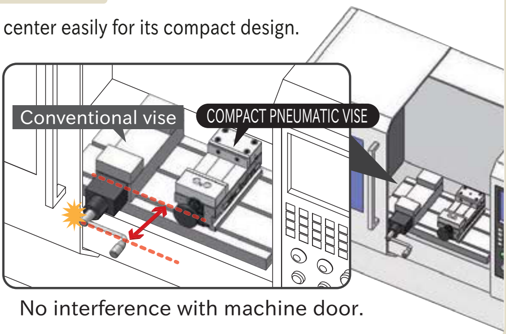




Small Body & Easy Mounting

Can be mounted on small machining center easily for its compact design.





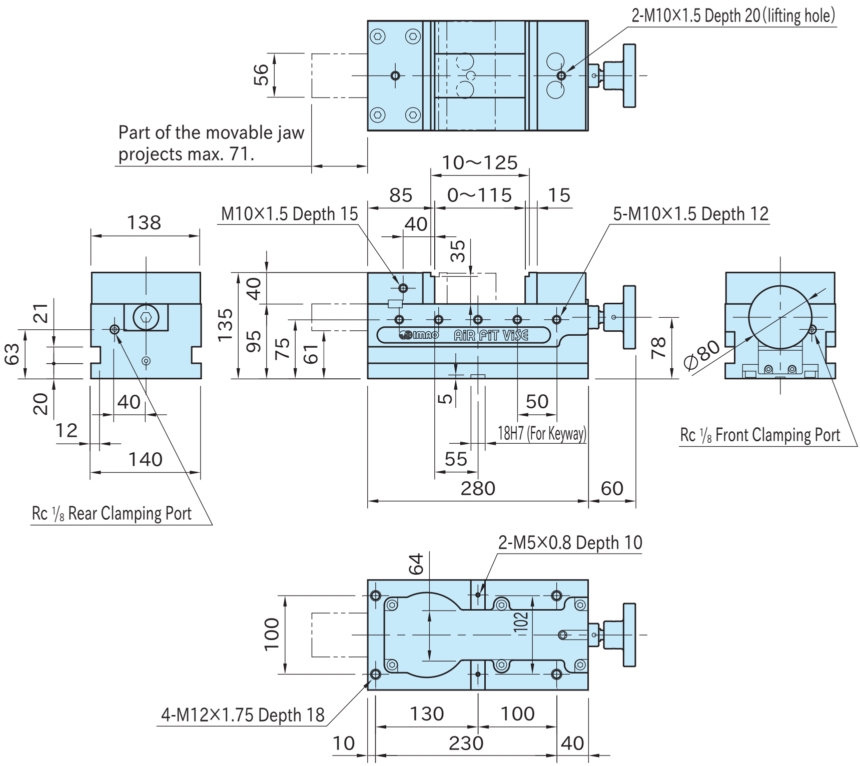
No interference with machine door.

AMLFV-S COMPACT PNEUMATIC VISE

RoHS

IMAO

Body	Jaws	Handwheel
SCM440 steel Induction hardened Precision ground	SCM440 steel Quenched & tempered Precision ground	A5056 aluminum Anodized



Part Number	Clamping Stroke	Operating Air Pressure (MPa)	Clamping Force (kN) *)	Mechanism		Weight (kg)
				Clamp	Unclamp	
AMLFV1428-S	2	0.1~1	14	Air	Spring	30

*) The clamping force above is at 0.5 MPa.

Supplied With

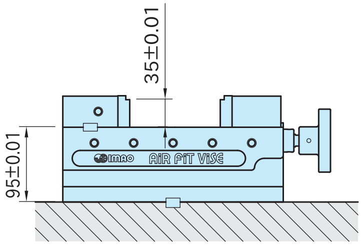
2 of eyebolt

Related Product

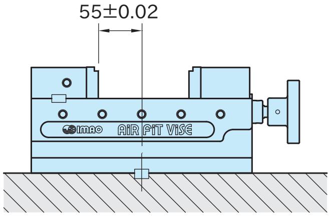
- Use MVAC-CS Pair of Clamps for the vise unit fixing.
- For 14 T-slot positioning, use MVAC-SK Pair of Positioning Keys.
- For 18 T-slot positioning, use AMLFV-FK Pair of Positioning Keys.

Technical Information (Static Accuracy)

1. Height of supporting surface

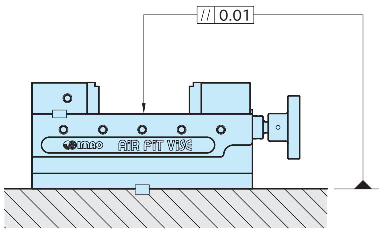


2. Position of fixed jaw **)

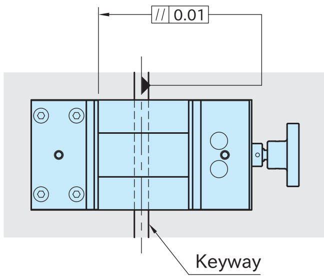


**) Parallel Use
For using multiple vises in parallel,
we align the fixed jaw within ±0.01.
Specify as "Parallel Use" and
the number of vise when ordering.

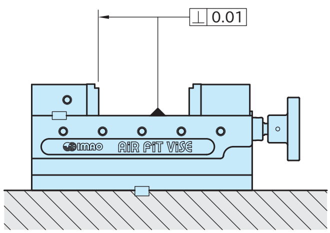
3. Parallelism of top and bottom surfaces of base



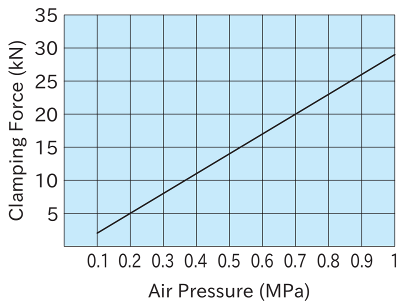
4. Parallelism of keyway and fixed jaw



5. Squareness of fixed jaw and top surface of base



Performance Curve

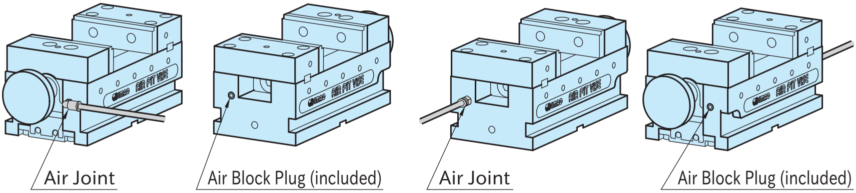


How To Use

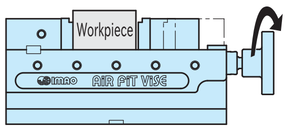
■Connection with Air

・To use the front clamping port, attach an air block plug (included) into the rear port.

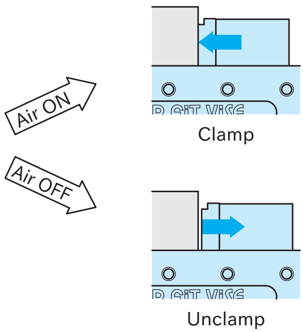
・To use the rear clamping port, attach an air block plug (included) into the front port.



■How to Operate

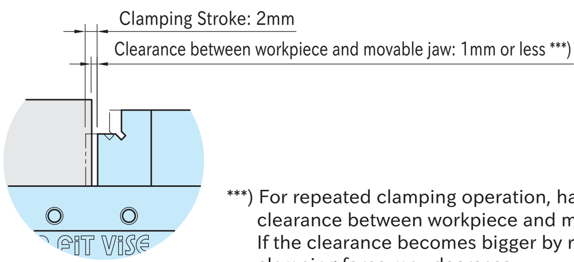


Turn a handwheel for setting a movable jaw at the desired clamping range.



■Clamping Same Shape Workpieces

The clamping stroke of the movable jaw is 2mm with air supply.
The clearance between workpiece and the movable jaw should be 1mm or less.

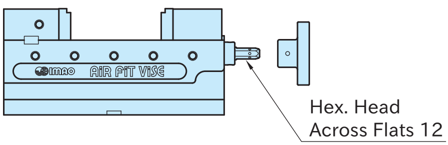


***) For repeated clamping operation, have a periodic check of the clearance between workpiece and movable jaw.
If the clearance becomes bigger by repeated clamp operation, the clamping force may decrease.

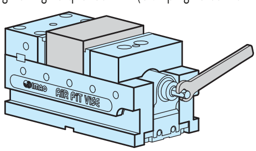
Feature

■How to Mount/Remove Handwheel

・One-touch attachment of the handwheel is possible for its inside plunger mechanism.



・Can be operated without air supply.
For that case, remove the handwheel and use spanner or such tools for clamping.
Allowable Tightening Torque: 50 N·m (Clamping Force: 10kN)



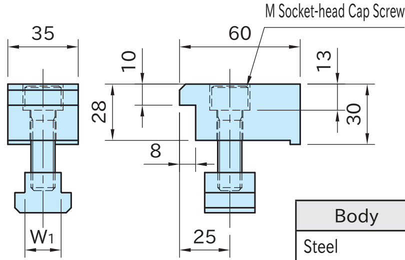
Note

・This vise is single actuated. (Clamp with Air Supply / Unclamp with Air Release) Please prepare three-directional control valve.
・Air joint, tube, directional control valve and such accessories are not available from Imao.

MVAC-CS PAIR OF CLAMPS

RoHS

IMAO



(2 pcs. as a set)

Body
Steel Black oxide finished

Part Number	W_1	M	Weight (g)
MVAC150CS14	14	M12×1.75-35L	700
MVAC150CS18	18	M12×1.75-40L	760

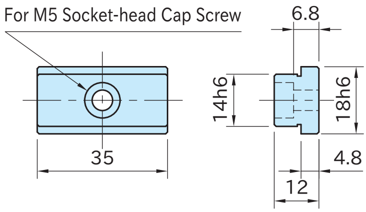
How To Use

For fixing AMLFV-S Compact Pneumatic Vise

MVAC-SK PAIR OF POSITIONING KEYS

RoHS

IMAO



(2 pcs. as a set)

Body
Steel Quenched & tempered Precision ground

Part Number	Weight (g)
MVAC18SK14	50

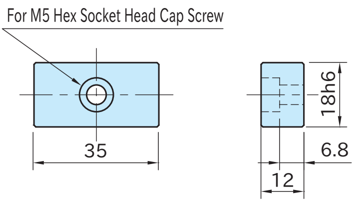
How To Use

Positioning keys for AMLFV-S Compact Pneumatic Vise with 14mm T-slot.

AMLFV-FK PAIR OF POSITIONING KEYS

RoHS

IMAO



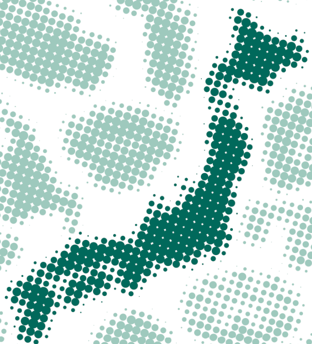
(2 pcs. as a set)

Part Number	Weight (g)
AMLFV18FK	112

Body
Steel Quenched & tempered Black oxide finished Precision ground

How To Use

Positioning keys for AMLFV-S Compact Pneumatic Vise with 18mm T-slot.



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