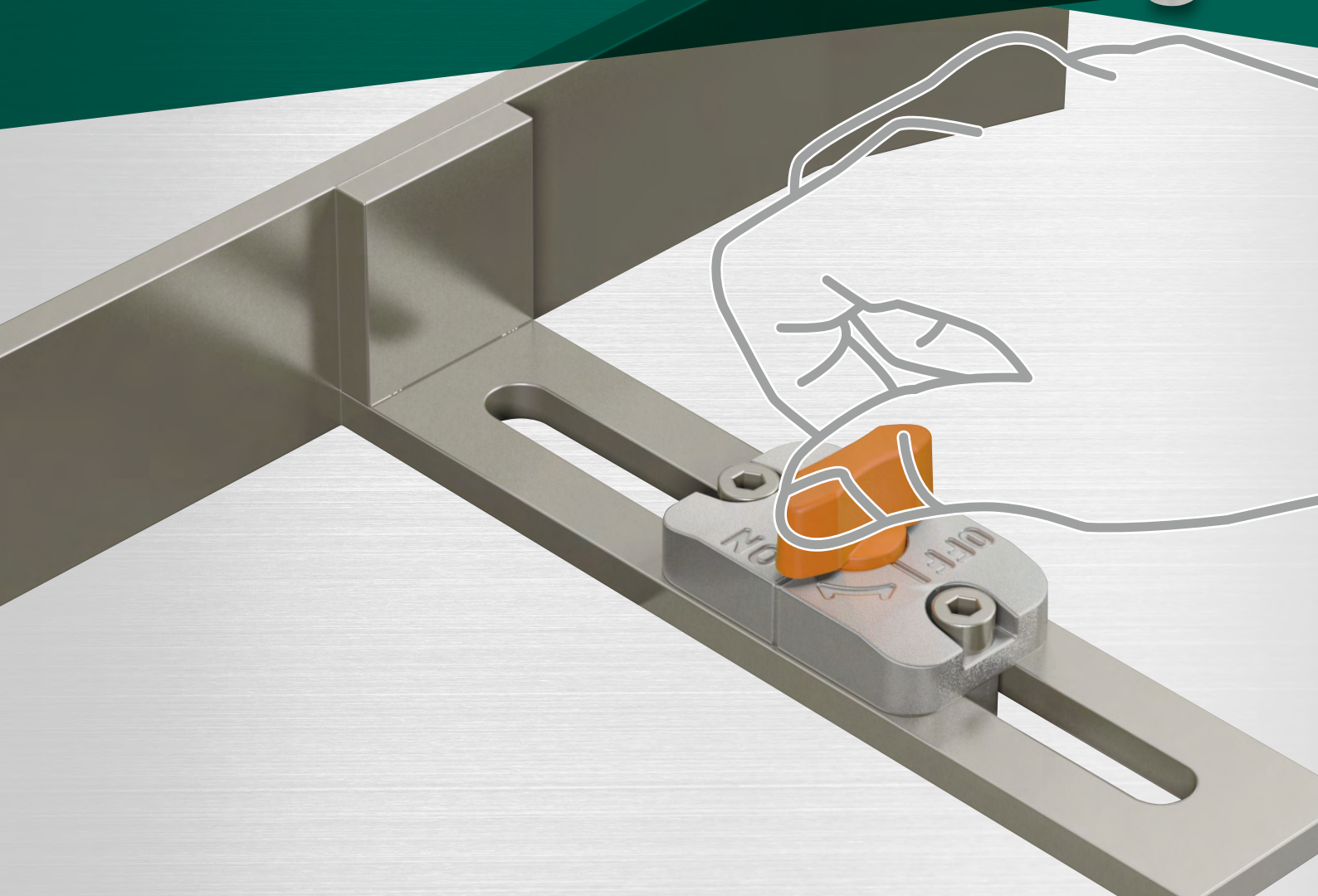
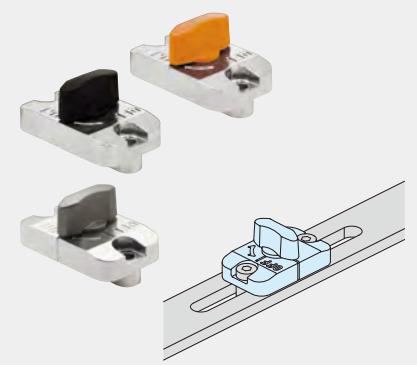
IMAO® fixtureworks®

Sliding Locks



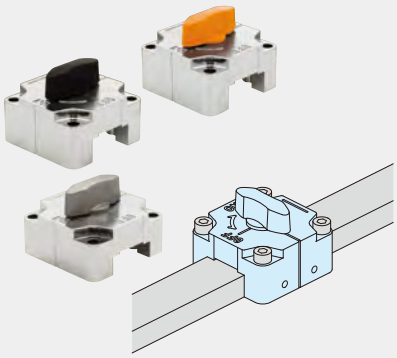


SLIDING LOCKS FOR SLOTTED HOLE

Part No. QCSL

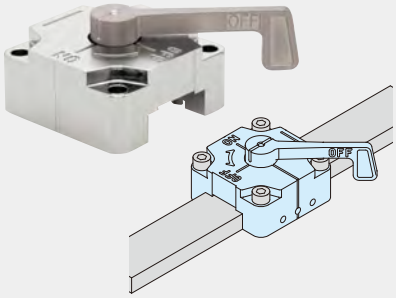
RISER PLATES FOR SLIDING LOCK

Part No. QCSLSP



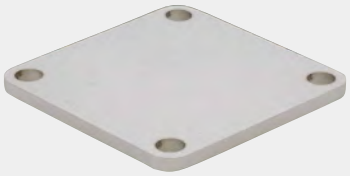
SLIDING LOCKS FOR SQUARE BAR

Part No. QCSQ



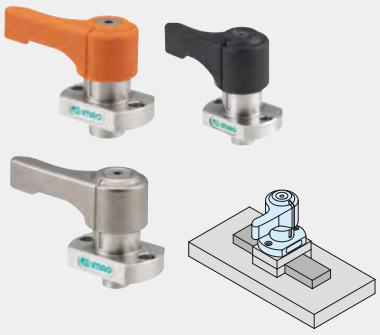
SLIDING LOCKS FOR SQUARE BAR WITH HANDLE

Part No. QCSQ-L



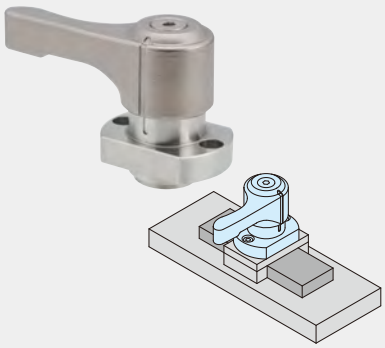
RISER PLATES FOR SLIDING LOCK

Part No. QCSQSP



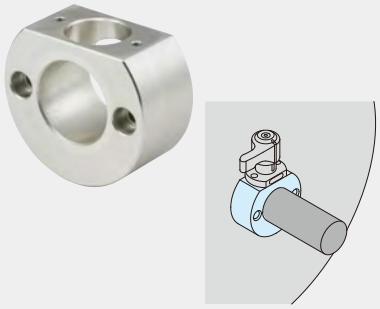
ONE TOUCH PUSH LOCK CLAMPS

Part No. QCPS



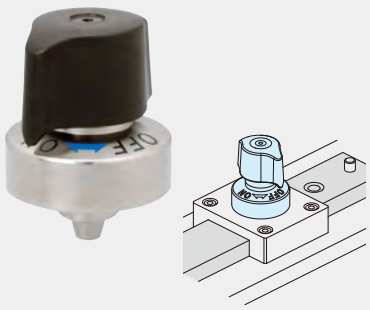
HEAVY DUTY ONE TOUCH PUSH LOCK CLAMPS

Part No. QCPSS



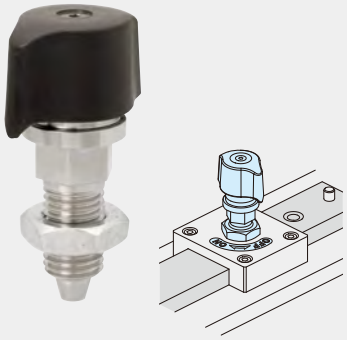
SHAFT COLLARS

Part No. QCIC-M



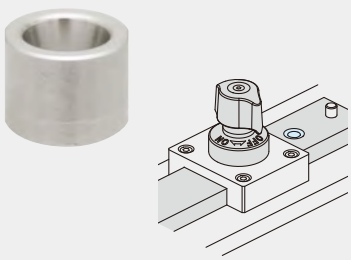
ONE-TOUCH INDEXING CLAMPS

Part No. QCIC-F



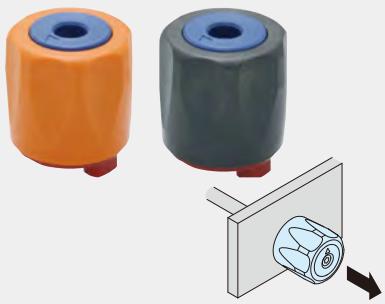
ONE-TOUCH INDEXING CLAMPS

Part No. QCIC-M



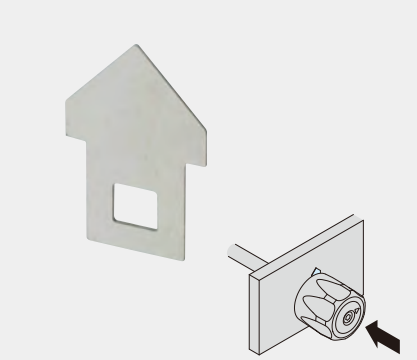
TAPERED BUSHINGS

Part No. QCIC-TB



ONE-TOUCH LOCKING KNOBS

Part No. OTLK



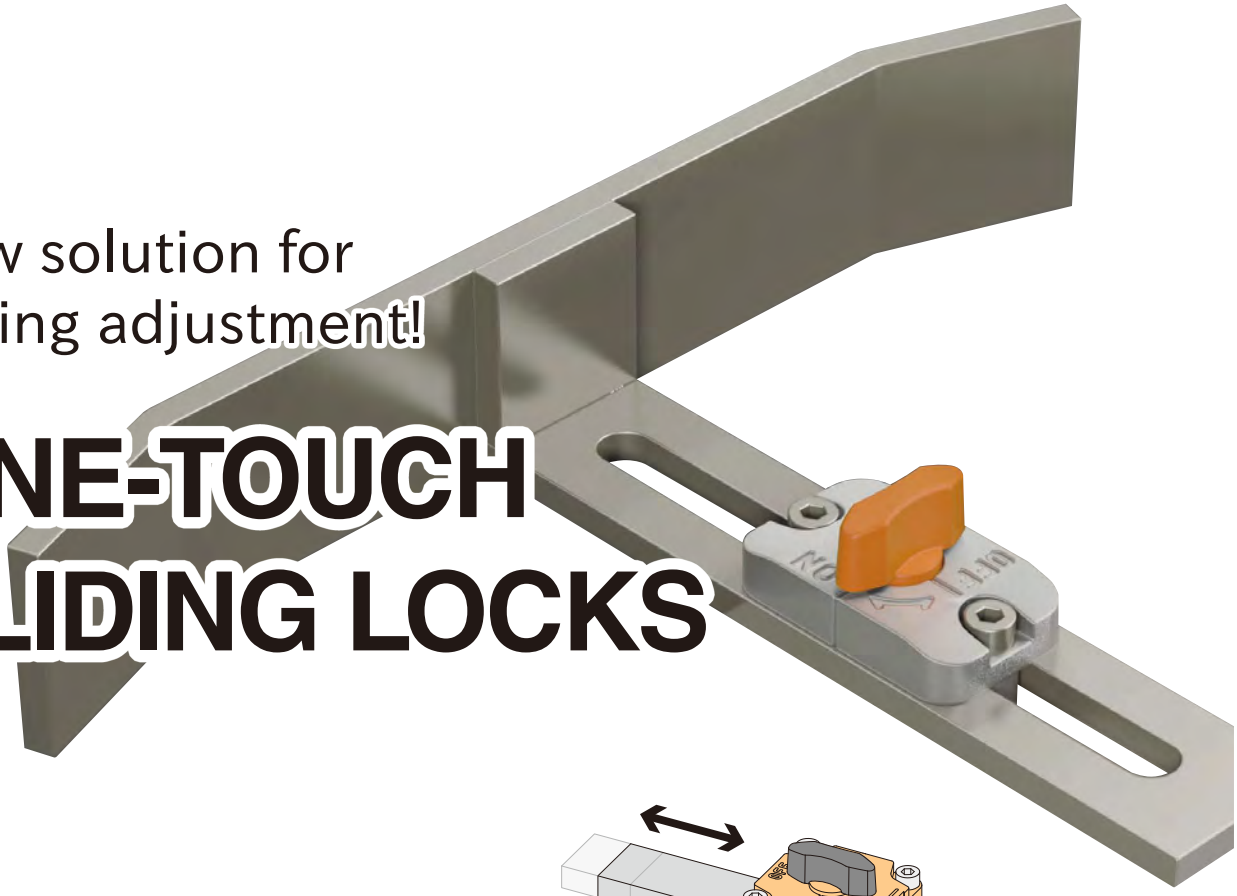
POINTER PLATE

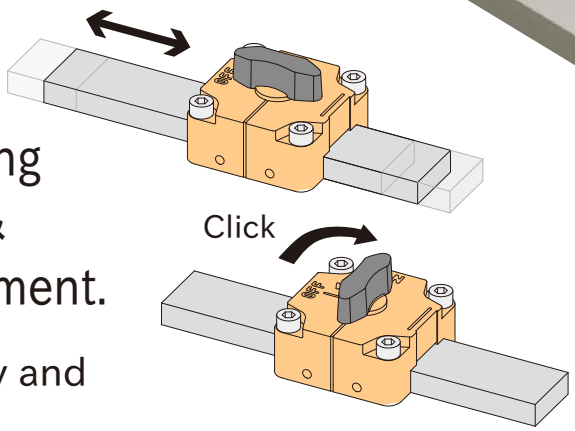
Part No. OTLK-A

ONE-TOUCH SLIDING LOCKS

New solution for
sliding adjustment!

ONE-TOUCH SLIDING LOCKS

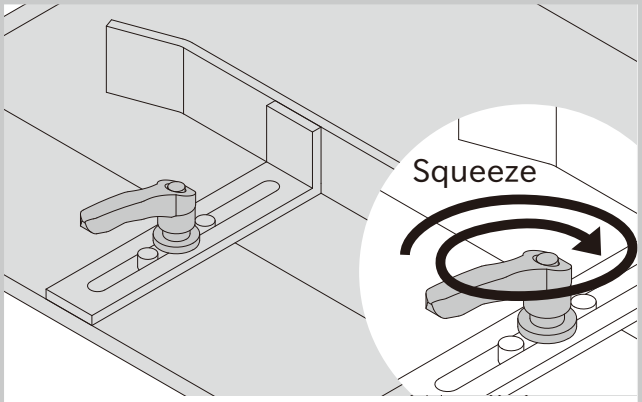




One-touch Sliding Lock is a fixing component that enables easy & secure locking in sliding adjustment.

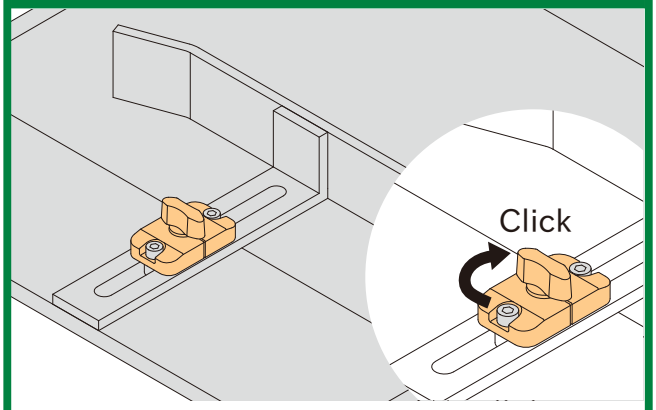
This dramatically improves reliability and safety in set-ups of various devices.

Conventional Method



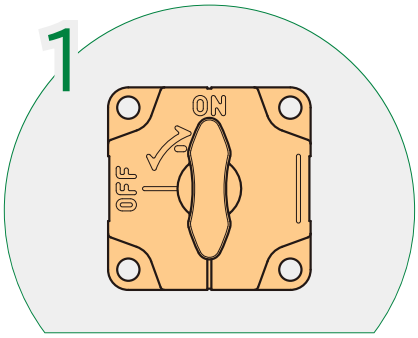
Required to tighten by main force to prevent misalignment.

IMAO Fixtureworks Method



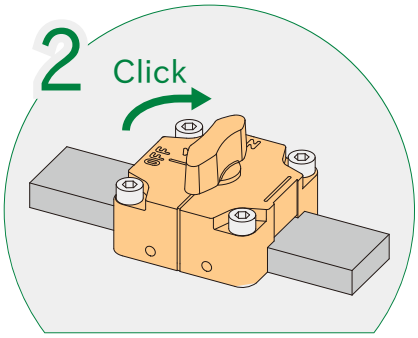
Prevents misalignment with easy operation!

Feature



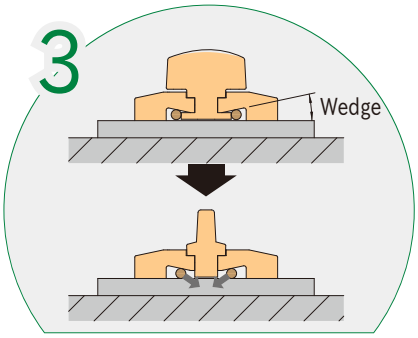
High Visibility

Easy-to-read ON/OFF position



Leveling of Operation

The knob clicks when it is locked/unlocked.

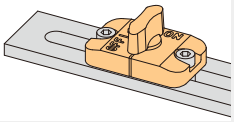


Secure Locking

Secure locking with wedge structure.

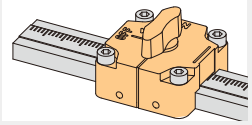
Lineup

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

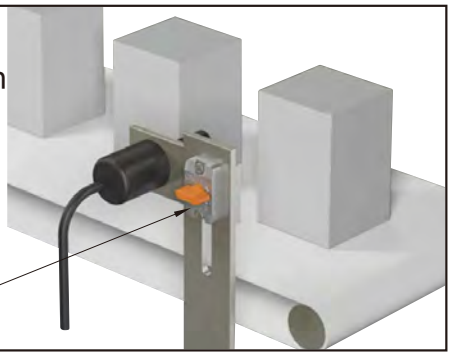
Knob is available in plastic or metal.

Handle is accessible from the side even in tight space.

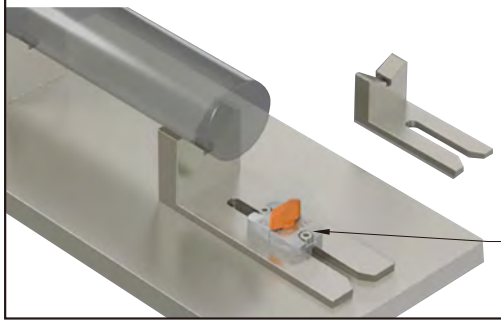
Application

For Adjusting Camera Position

Sliding Locks For Slotted Hole
QCSL

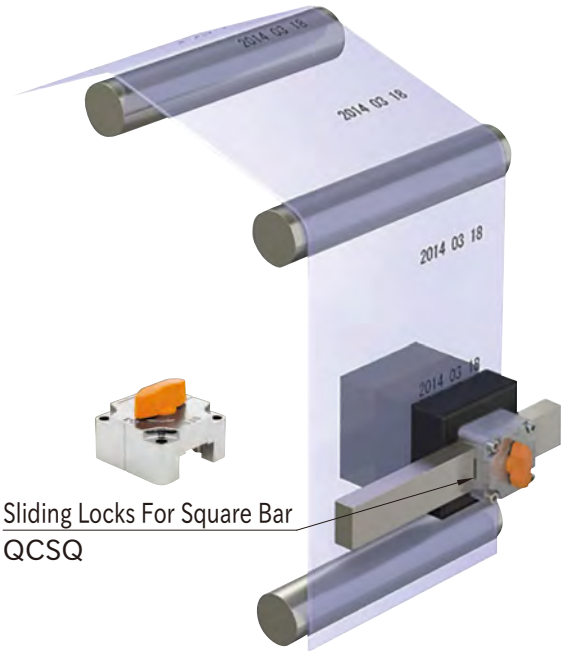


For Adjusting Workpiece Guide



Sliding Locks For Slotted Hole
QCSL

For Adjusting Stamp Base Position



Sliding Locks For Square Bar
QCSQ

QCSL SLIDING LOCKS FOR SLOTTED HOLE

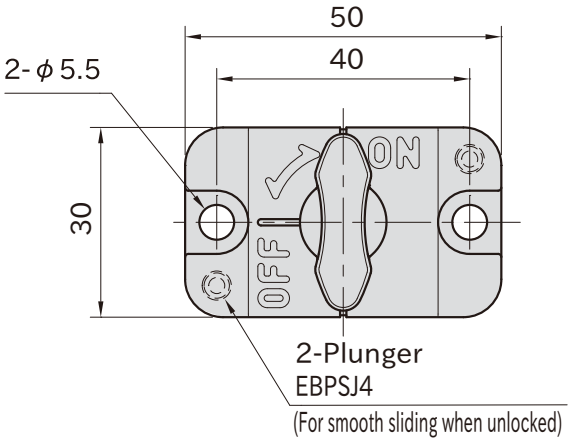
RoHS

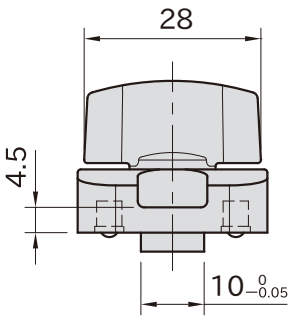
Type	Body	Knob	Shafts / Wedge	Ball Plunger
QCSL-OG QCSL-BK	Die-cast zinc Chrome plated	Polyamide (glass-fiber reinforced)	Stainless steel	Polyacetal
QCSL-S		SCS13 stainless steel (Equivalent to SUS304)		

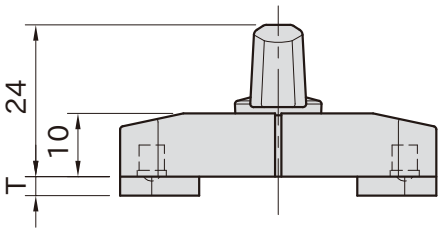
QCSL-OG
(Plastic Knob,Orange)

QCSL-BK
(Plastic Knob,Black)

QCSL-S
(Metal Knob)

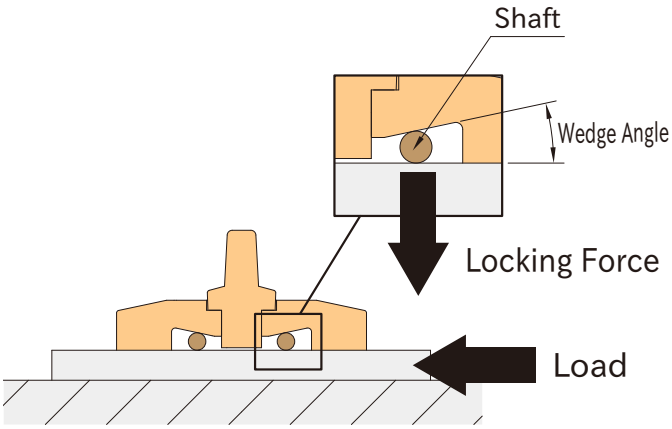


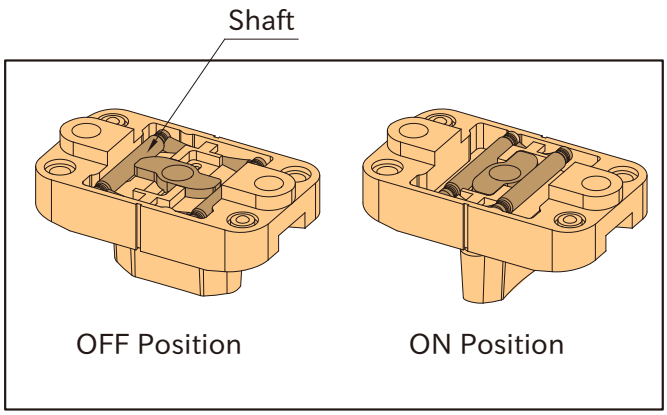




■Locking Mechanism

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

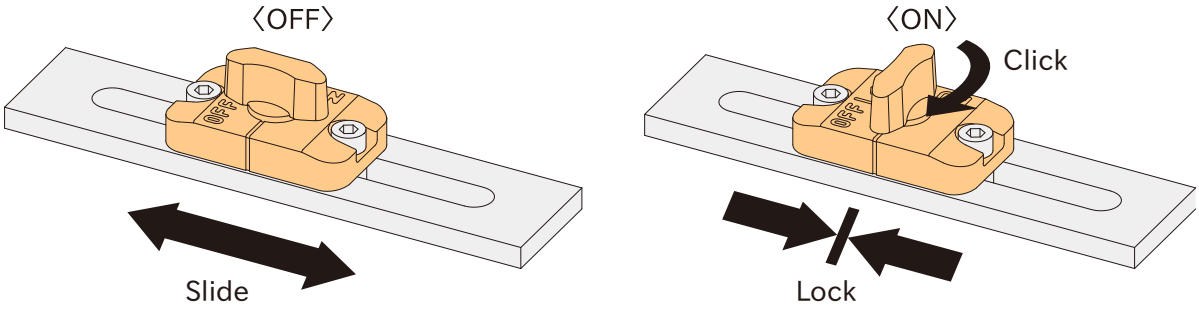




QCSL-OG (Plastic Knob, Orange)		QCSL-BK (Plastic Knob, Black)		QCSL-S (Metal Knob)		T
Part Number	Weight(g)	Part Number	Weight(g)	Part Number	Weight(g)	
QCSL1003-OG	80	QCSL1003-BK	80	QCSL1003-S	95	3
QCSL1006-OG	80	QCSL1006-BK	80	QCSL1006-S	95	6

How To Use

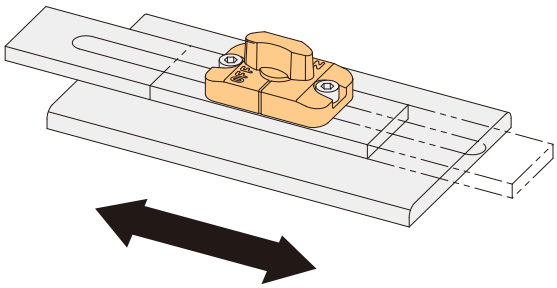
■Operating Instructions



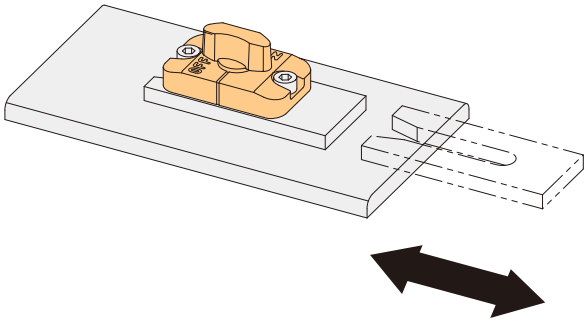
The slide is locked when the knob is at “ON” position.

■Usage Instructions * Refer to the “Note” for safety use.

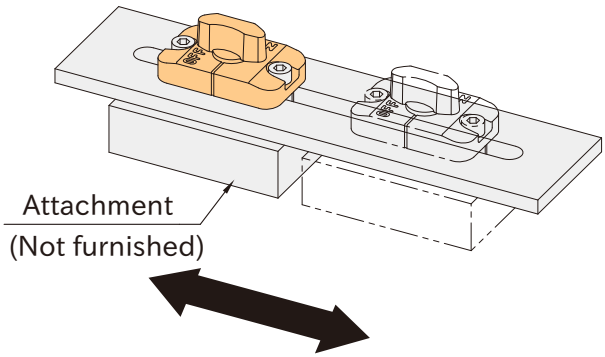
1. Slide the steel bar.



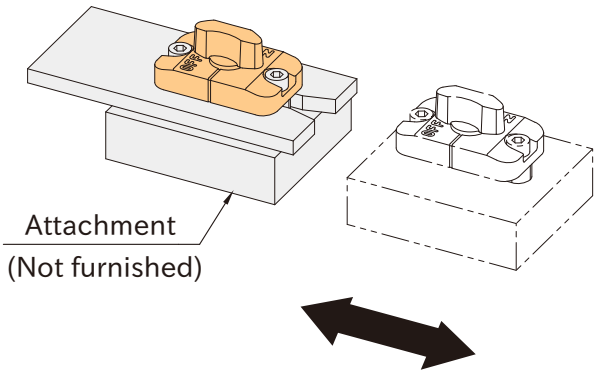
2. Attach/remove the steel bar.



3. Slide the Sliding Locks For Slotted Hole.

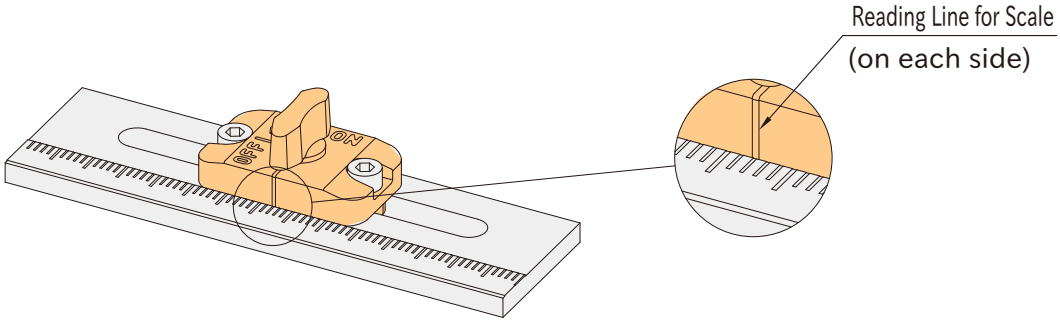


4. Attach/remove the Sliding Locks For Slotted Hole.



■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.

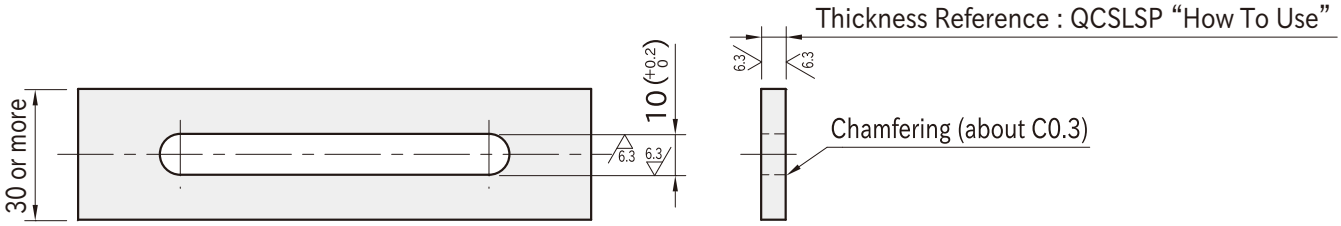


Continuing on Next Page

■Steel Bar Materials

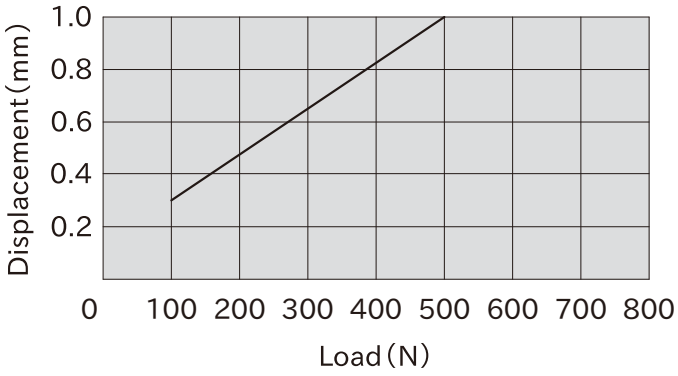
・Usable Materials: Flat bar (JIS h14 grade) made of SS400, S45C or SUS304 etc.

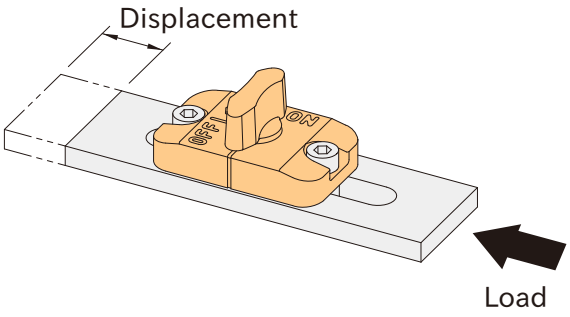
・Machining of slotted hole: Recommended tolerance of the slotted hole to prevent chattering is shown as below.
For more accurate sliding, machine the slotted hole to fit the dimension of 10mm(-0.05 to 0) on the bottom of Sliding Locks. Remove the burr around the slotted hole to ensure secure locking.



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

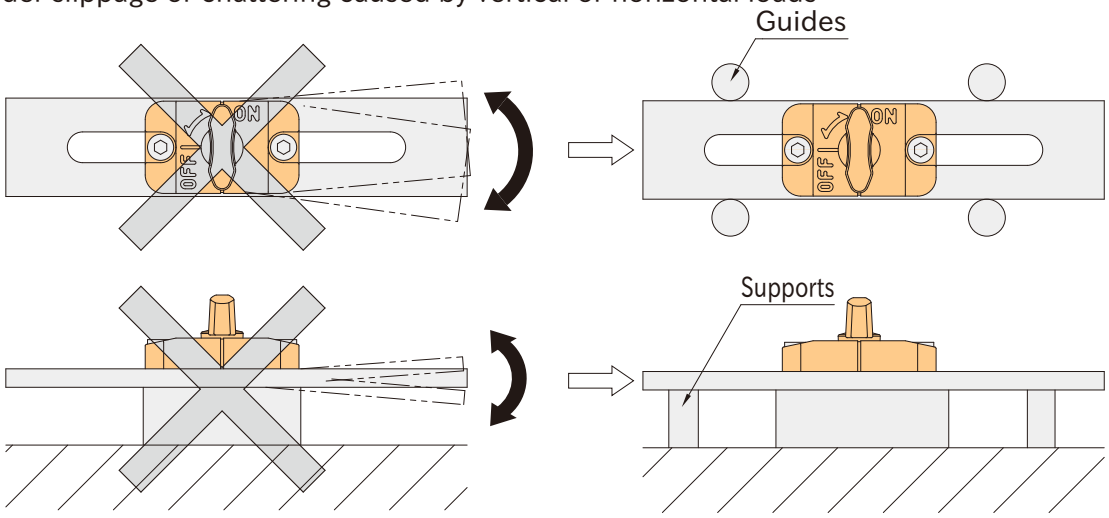
・Heat resistance : Up to 90℃

・Rated load : Up to 500N

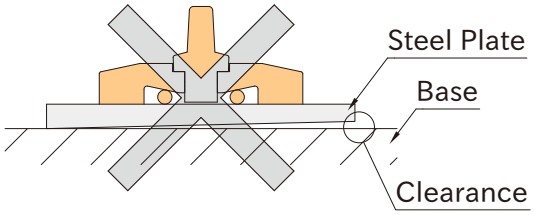
Note

The following conditions may cause displacement increasing or misalignment.

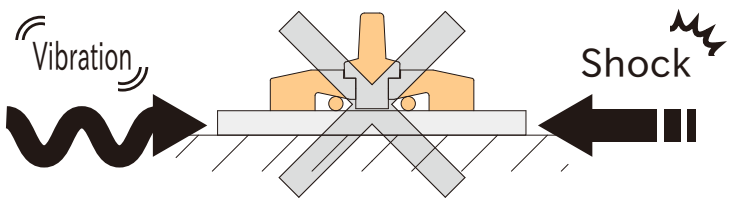
1. Use under slippage or chattering caused by vertical or horizontal loads



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

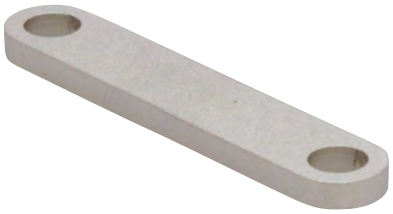


3. Use under excess shock or vibration

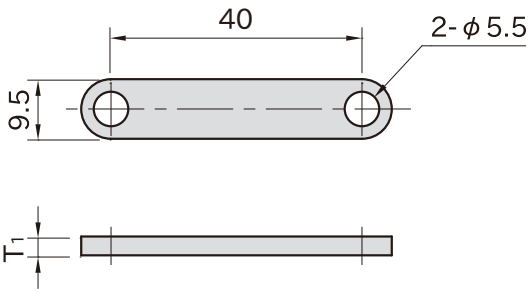


QCSLSP RISER PLATES FOR SLIDING LOCK

RoHS



Body
SUS304 stainless steel

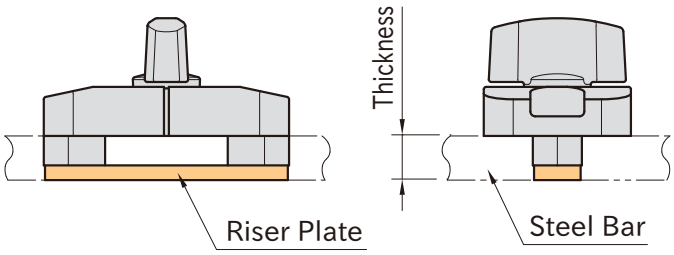


Part Number	T_1	Weight (g)
QCSLSP1002	2	6
QCSLSP1003	3	10

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	$9(^{0}_{-0.36})$

QCSQ SLIDING LOCKS FOR SQUARE BAR

RoHS

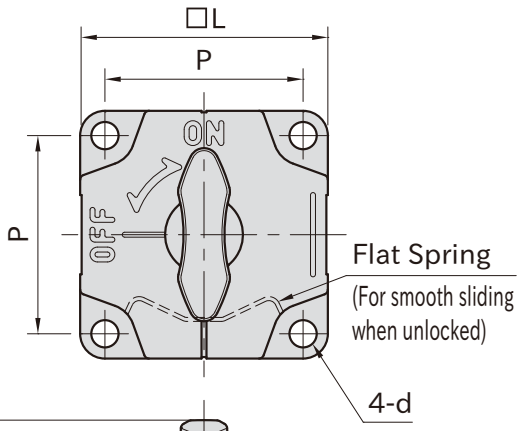
IMAO

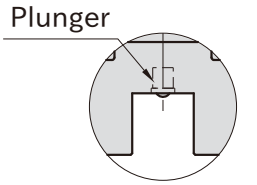
Type	Body	Knob	Shafts / Wedge	Flat Spring
QCSQ-OG QCSQ-BK	Die-cast zinc Chrome plated	Polyamide (glass-fiber reinforced)	Stainless steel	C519P phosphor bronze
QCSQ-S		SCS13 stainless steel (Equivalent to SUS304)		

QCSQ-OG
(Plastic Knob,Orange)

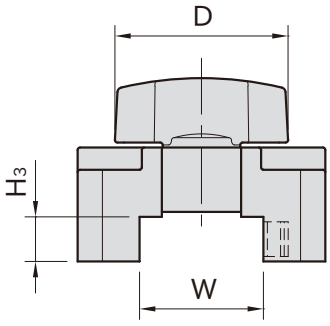
QCSQ-BK
(Plastic Knob,Black)

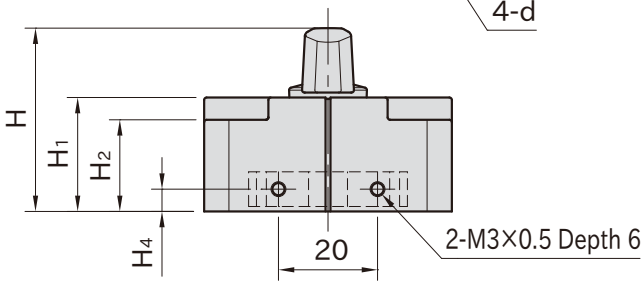
QCSQ-S
(Metal Knob)





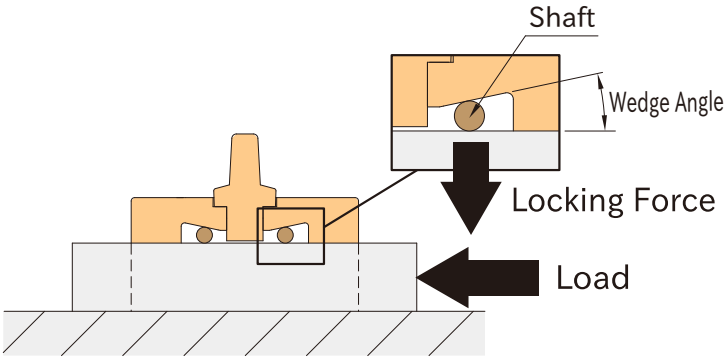
QCSQ 1212,1616

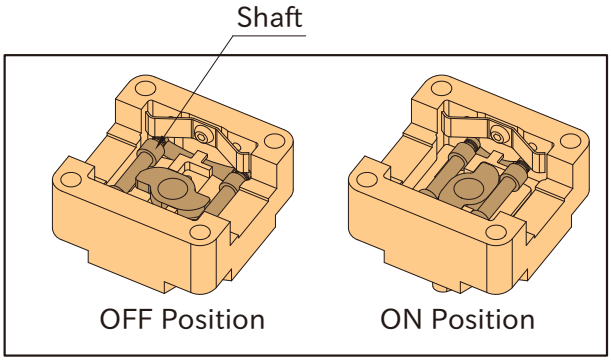




■Locking Mechanism

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





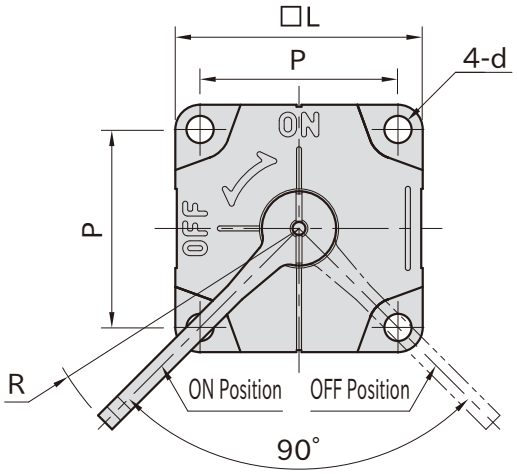
Size		L	H	W (+0.05 0)	H3	D	H1	H2	H4	P	d
QCSQ-OG QCSQ-BK QCSQ-S	1212	40	36	12	12	28	22	18.5	6	32	4.5
	1616		40	16	16		26	22.5	8		
	2509	50	37	25	9	35	23	18.5	4.5	40	5.5
	2512		40		12		26	21.5	6		
	3212			32							
	3216		44		16		30	25.5	8		

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

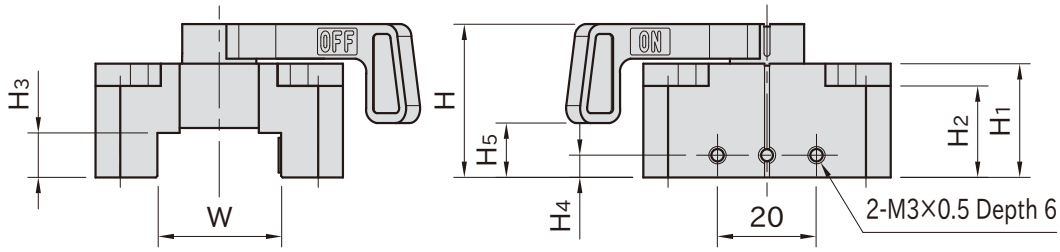
QCSQ-L SLIDING LOCKS FOR SQUARE BAR WITH HANDLE

RoHS

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.

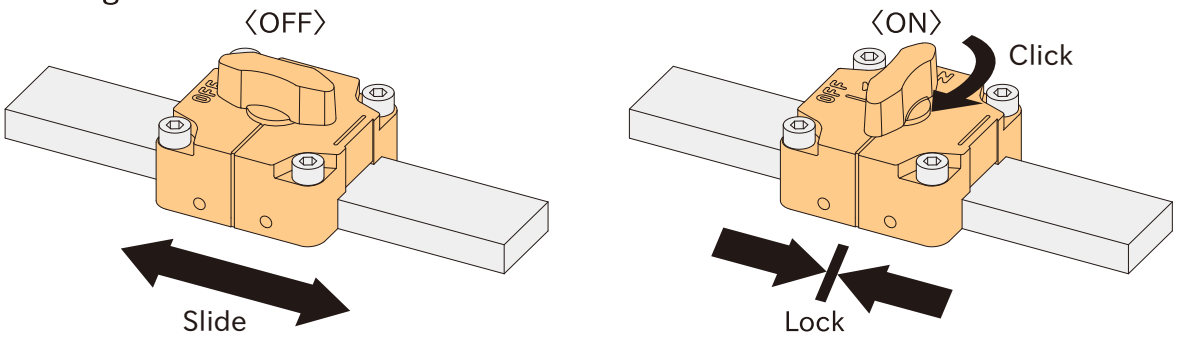


Part Number	L	H	W (+0.05 0)	H3 (+0.2 0)	H1	H2	H4	R	H5	P	d	Weight (g)
QCSQ1212-L	40	29	12	12	22	18.5	6	46	11	32	4.5	150
QCSQ1616-L		33	16	16	26	22.5	8		15			160
QCSQ2509-L	50	31	25	9	23	18.5	4.5	55.5	11	40	5.5	250
QCSQ2512-L		34		12	26	21.5	6		14			260
QCSQ3212-L			32									250
QCSQ3216-L		38		16	30	25.5	8		18			270

Continuing on Next Page

How To Use

■Operating Instructions

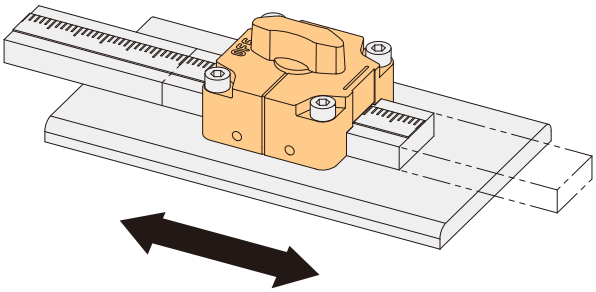


The slide is locked when the knob is at “ON” position.

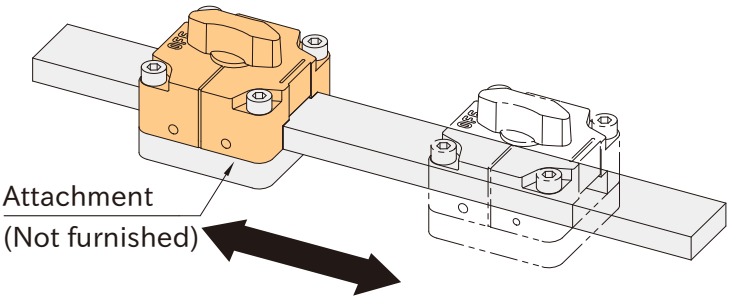
■Usage Instructions

* Refer to the “Note” for safety use.

1. Slide the steel bar.



2. Slide the Sliding Locks For Square Bar.

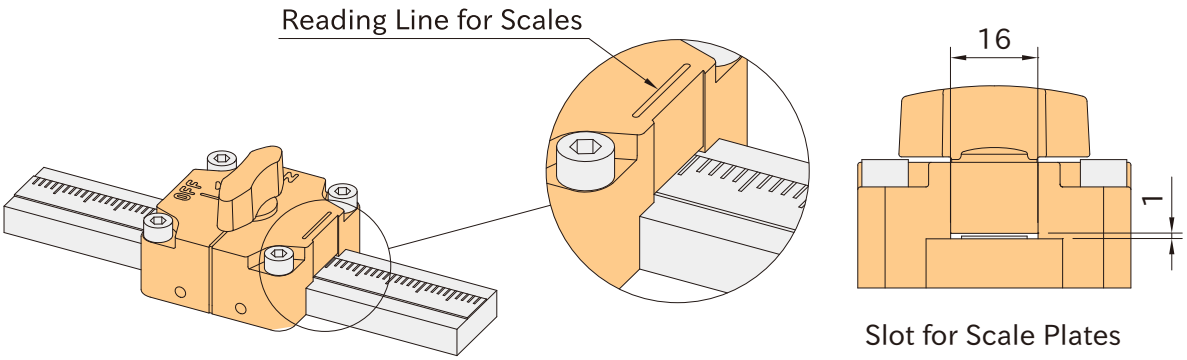


■How to Use Scale Plate

・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.
Scale plate can not be put on the QCSQ1212 or QCSQ1616.

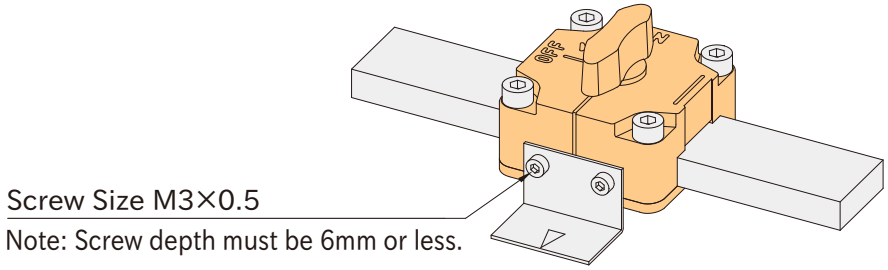
・ES1N Scale Plate is separately available.



Slot for Scale Plates

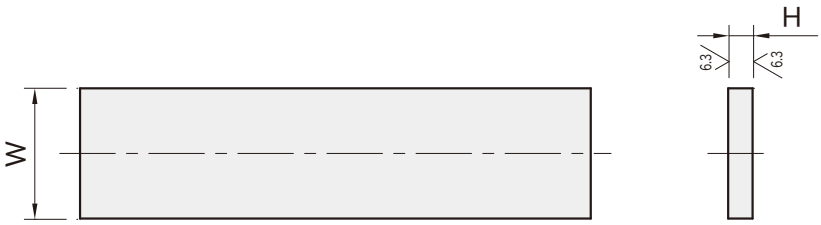
■How to Use Tapped Holes on Side Surface

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



■Steel Bar Materials

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

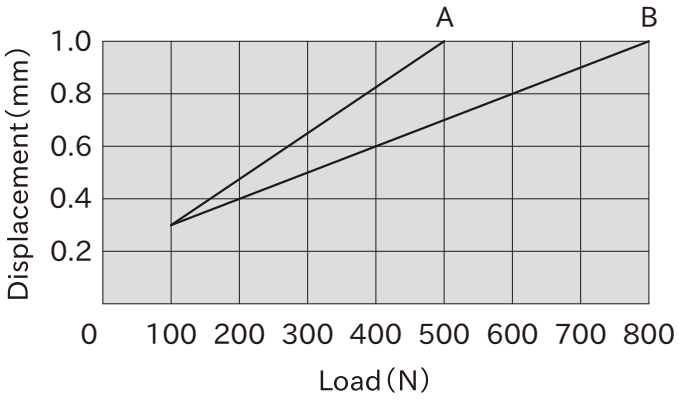


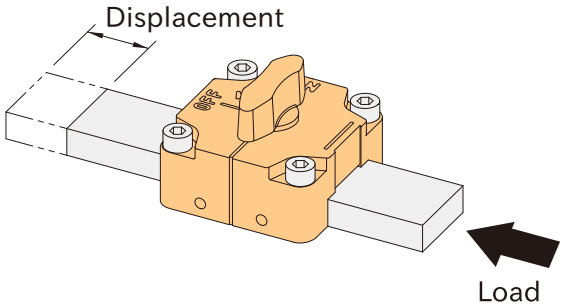
Size		W	H
QCSQ	1212	12 $(^{0}_{-0.43})$	12 $(^{0}_{-0.43})$
	1616	16 $(^{0}_{-0.43})$	16 $(^{0}_{-0.43})$
	2509	25 $(^{0}_{-0.52})$	9 $(^{0}_{-0.36})$
	2512		12 $(^{0}_{-0.43})$
	3212	32 $(^{0}_{-0.62})$	
	3216		16 $(^{0}_{-0.43})$

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

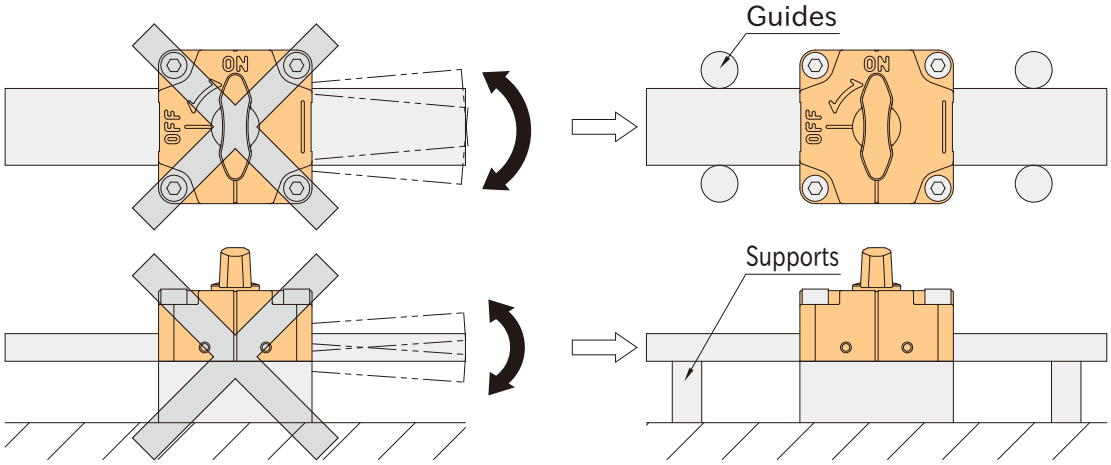
・Heat resistance : Up to 90℃
・Rated load : QCSQ 1212,1616 : 500N
QCSQ 2509,2512,3212,3216 : Up to 800N

Continuing on Next Page

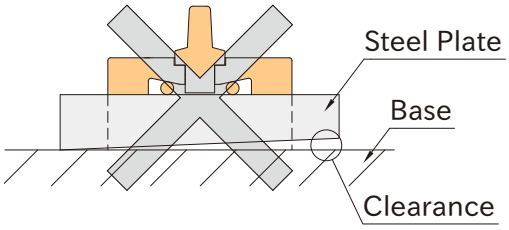
Note

The following conditions may cause displacement increasing or misalignment.

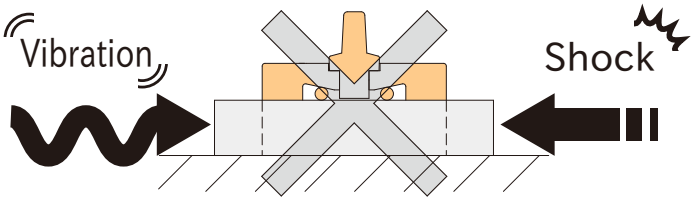
1. Use under slippage or chattering caused by vertical or horizontal loads



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

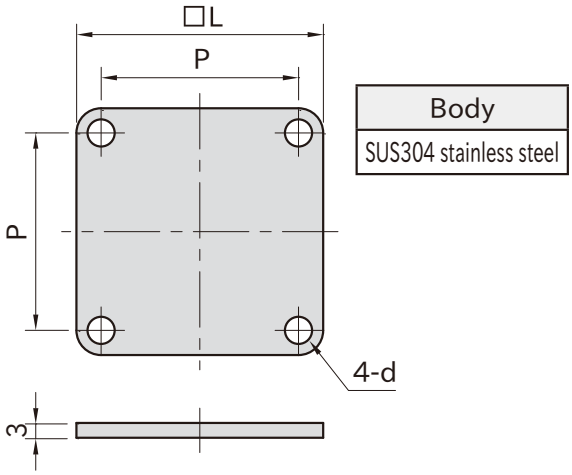


3. Use under excess shock or vibration



QCSQSP RISER PLATES FOR SLIDING LOCK

RoHS



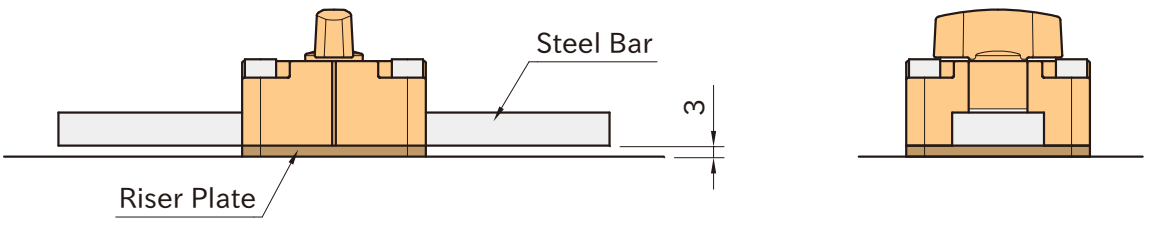
Body
SUS304 stainless steel

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.



IMAO® fixtureworks®

QCPS ONE TOUCH PUSH LOCK CLAMPS

RoHS

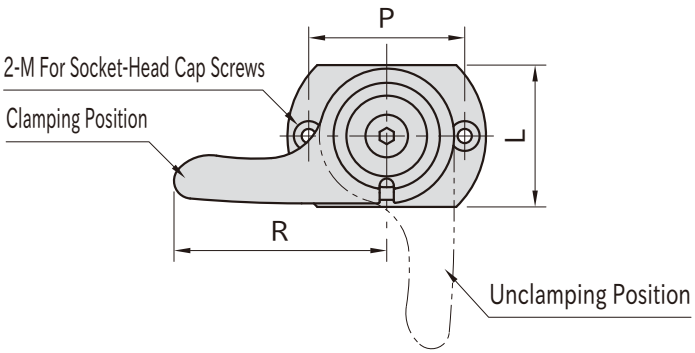
QCPS1036-6-OG
(Plastic Handle, Orange)

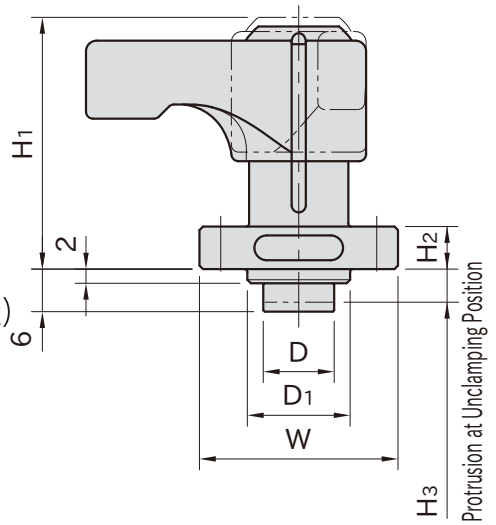
QCPS0828-6-BK
(Plastic Handle, Black)

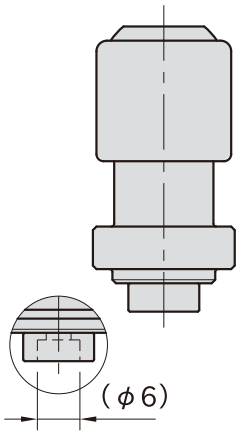
QCPS1036-6-S
(Metal Handle)

QCPS-F
Flat Tip

QCPS-D
Diamond Tip







Dimensions of
Diamond Gripper

★Key Point

Quick & easy lock with constant clamping force

Type	Body/Piston	Spring	Handle	Gripper
QCPS-OG-F QCPS-BK-F	SUS303 stainless steel	Equivalent to SWOSC-V	Polyamide (glass-fiber reinforced)	–
QCPS-S-F			SCS13 stainless steel (Equivalent to SUS304)	
QCPS-OG-D QCPS-BK-D			Polyamide (glass-fiber reinforced)	SUS303 stainless steel Diamond electroplated
QCPS-S-D			SCS13 stainless steel (Equivalent to SUS304)	

Type	Tip Type	D	D1	W	L	H1	H2	H3	R	P	M	Clamping Force (N)	Proper Shaft Collars
QCPS0828-6-F	Flat	8.5	14.5	28	20	35.5	6	5.5	30	22	M2	200	QCPSC0828-20
QCPS0828-6-D	Diamond	10											QCPSC0828-25
QCPS1036-6-F	Flat	10.5	17.5	36	24	39	8	5.3	45	28	M3	400	QCPSC1036-20
QCPS1036-6-D	Diamond	14											QCPSC1036-25

■Plastic Handle

Part Number		Weight (g)
Orange	Black	
QCPS0828-6-OG-F	QCPS0828-6-BK-F	54
QCPS0828-6-OG-D	QCPS0828-6-BK-D	
QCPS1036-6-OG-F	QCPS1036-6-BK-F	100
QCPS1036-6-OG-D	QCPS1036-6-BK-D	

■Metal Handle

Part Number	Weight (g)
QCPS0828-6-S-F	79
QCPS0828-6-S-D	
QCPS1036-6-S-F	150
QCPS1036-6-S-D	

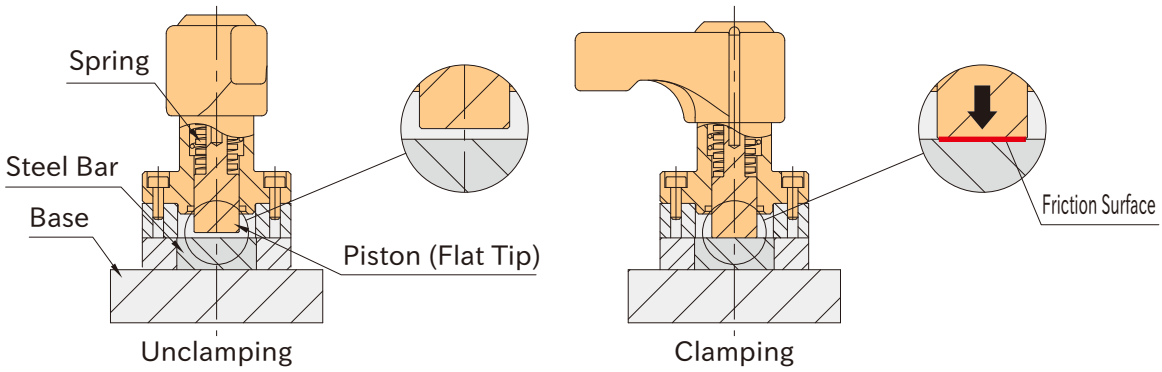
Supplied With

·QCPS0828-6:
2 of socket-head cap screw (stainless steel), M2×0.4-6L
·QCPS1036-6:
2 of socket-head cap screw (stainless steel), M3×0.5-8L

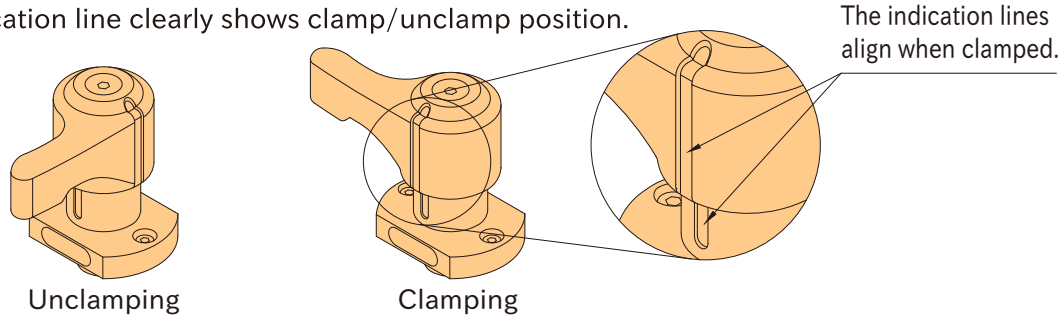
QCPSC SHAFT COLLARS

Feature

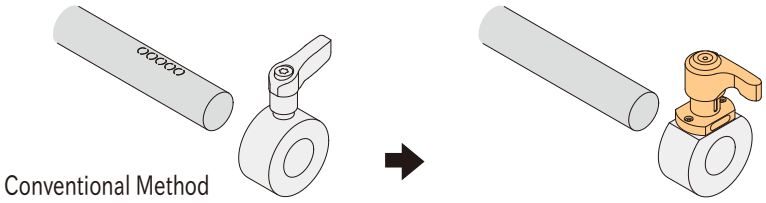
·The piston pushes out to clamp the object such as steel bar or shaft by turning the handle.
·The spring-loaded clamp provides a constant clamping force.
·Frictional force generated at the contact surface prevents the object from moving.
·The flat tip which hardly damages an object, and the diamond tip which provides high holding force, are available. Choose a suitable type for your application.



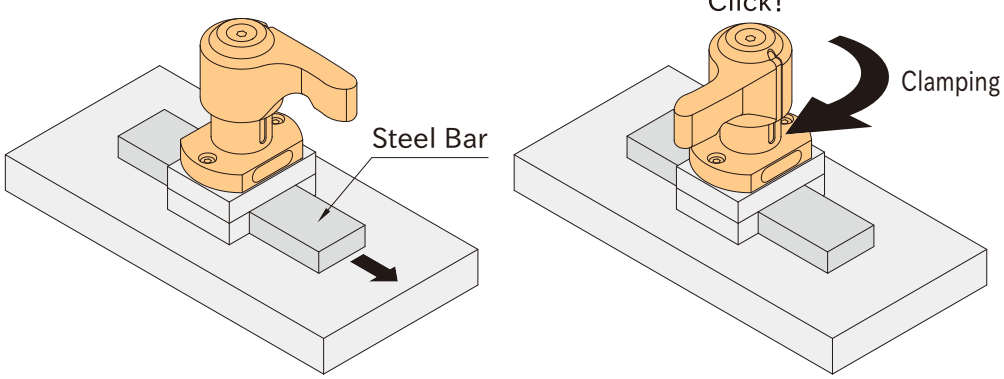
·The indication line clearly shows clamp/unclamp position.



·Shafts are less likely to be damaged compared to fixing by screws.



How To Use



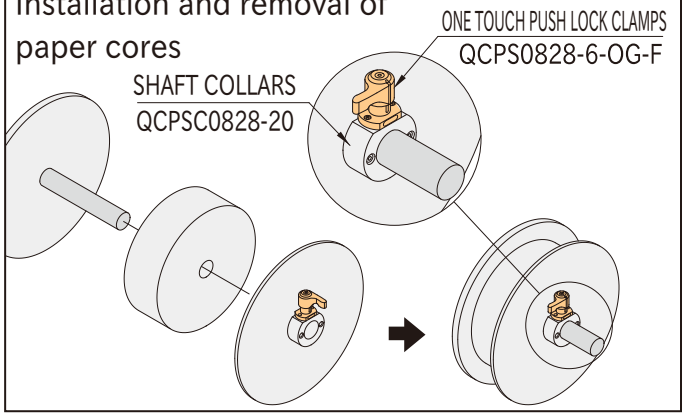
Slides the steel bar at the unclamping position.

Turn the handle 90˚ to clamp.

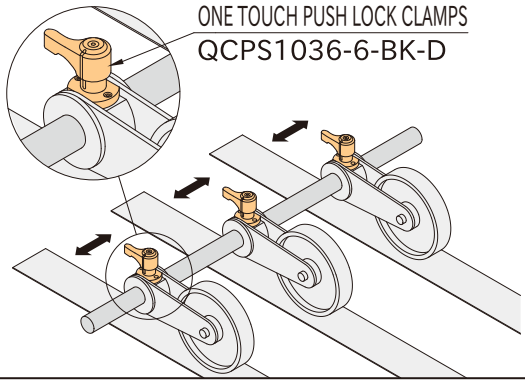
Continuing on Next Page

Application Example

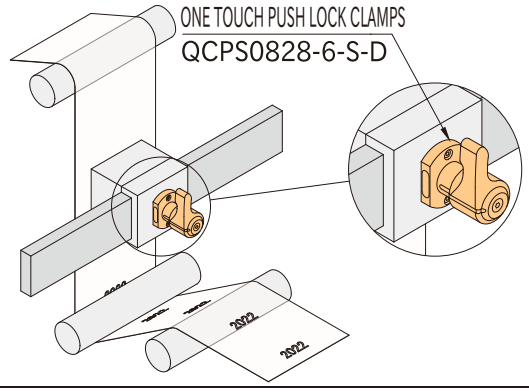
Installation and removal of paper cores



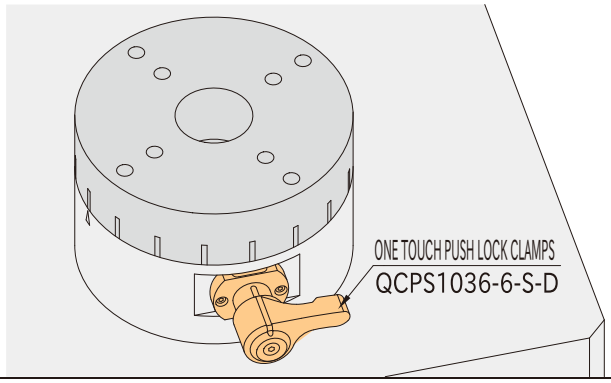
Position adjustment of guide rollers



Position adjustment of print heads

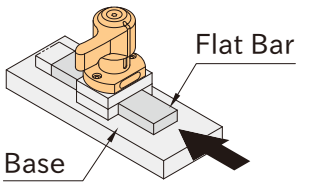


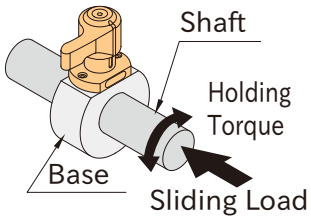
Fixing of rotary table



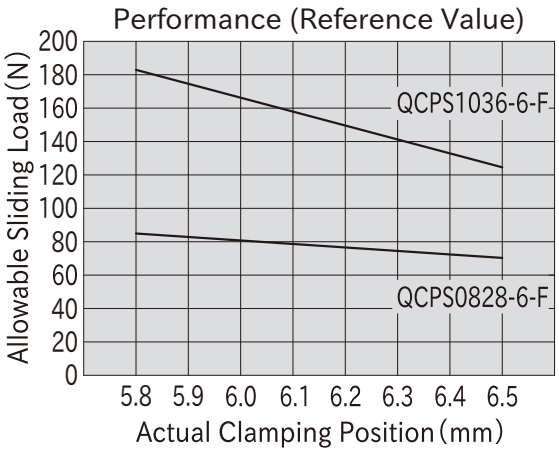
Technical Information

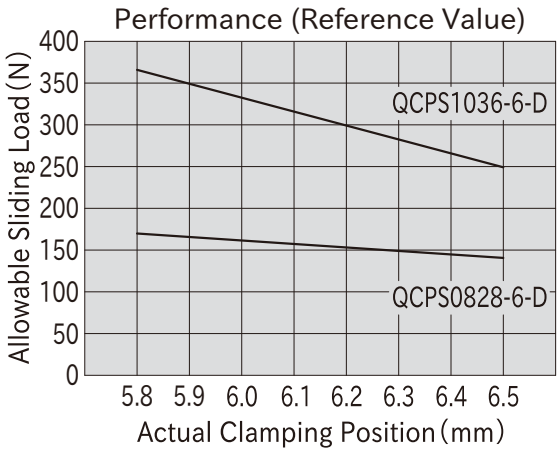
Type	Sliding Load (N)	Holding Torque (N·m) Shaft Dia.						
		ϕ10	ϕ12	ϕ14	ϕ15	ϕ16	ϕ20	ϕ25
QCPS0828-6-F	80	0.4	0.5	0.6	0.6	0.6	0.8	1
QCPS0828-6-D	160	0.8	1	1.2	1.2	1.2	1.6	2
QCPS1036-6-F	160	0.8	1	1.1	1.2	1.3	1.6	2
QCPS1036-6-D	320	1.6	2	2.2	2.4	2.6	3.2	4





■Actual Clamping Position vs. Sliding Load



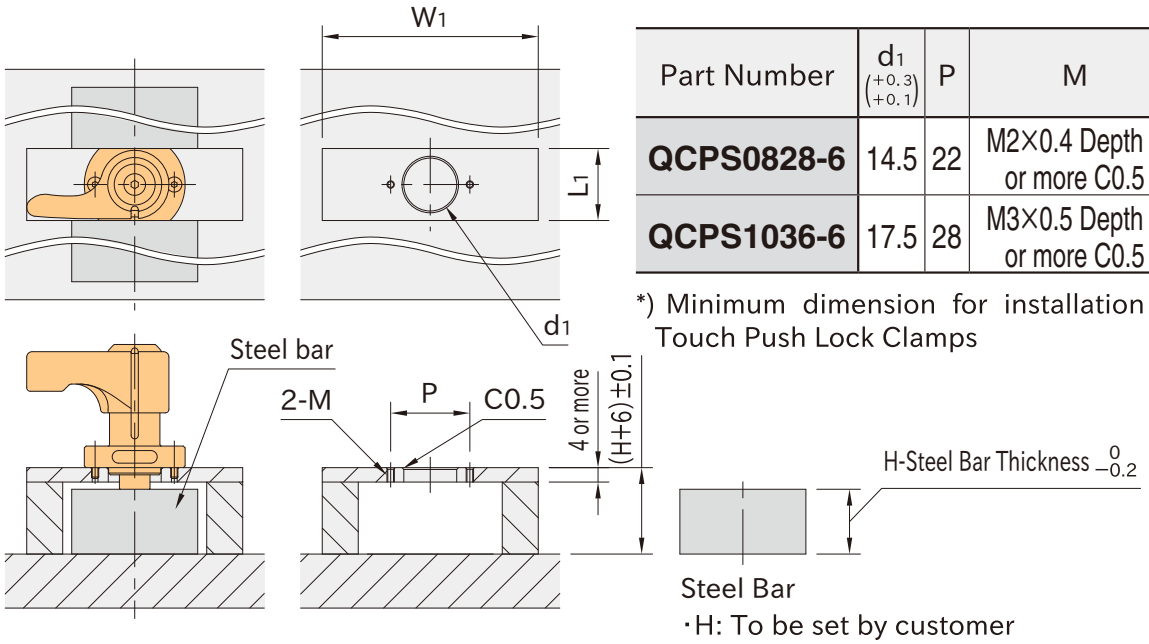


These numerical values are for reference only, under the following conditions.

- The material of the object (flat bar, shaft) and the base is SUS303 stainless steel.
- The tip of the piston, object (flat bar, shaft), and base are fully degreased.
- The object is clamped within the recommended clamping range.

How To Install

■For Steel Bar

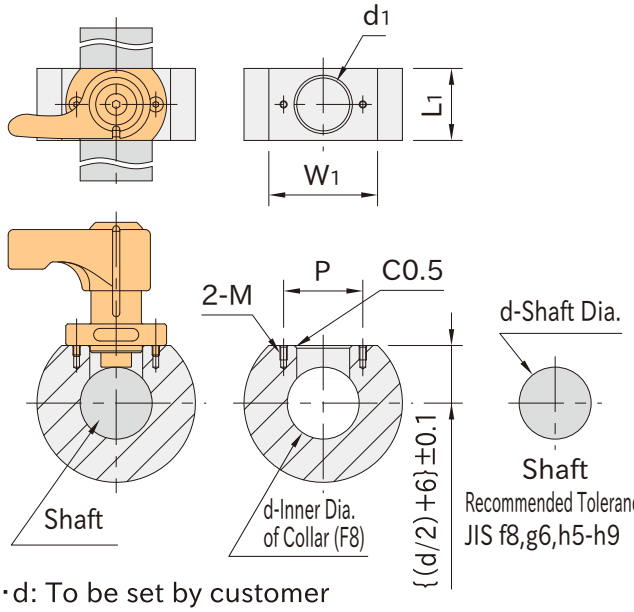


Part Number	d_1 $(^{+0.3}_{+0.1})$	P	M	W_1 *)	L_1 *)
QCPS0828-6	14.5	22	M2×0.4 Depth 4 or more C0.5	28 or more	20 or more
QCPS1036-6	17.5	28	M3×0.5 Depth 5 or more C0.5	36 or more	24 or more

*) Minimum dimension for installation of the One Touch Push Lock Clamps

・H: To be set by customer

■For Shaft

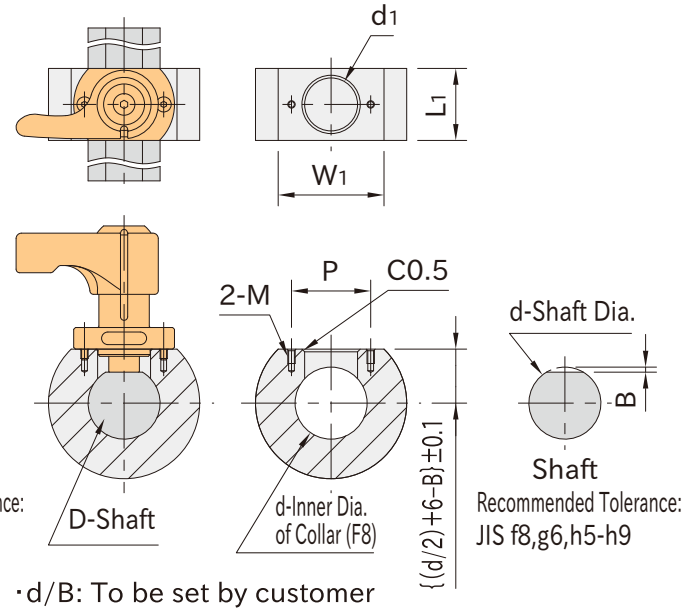


・d: To be set by customer

・The approximate outer diameter of the collar can be calculated according to the following formula.

$$\text{Outer diameter of collar} \geqq 2\times\sqrt{\left(\frac{W_1}{2}\right)^2+\left(\frac{d}{2}+6\right)^2}$$

■For D-Shaft



・d/B: To be set by customer

・The approximate outer diameter of the collar can be calculated according to the following formula.

$$\text{Outer diameter of collar} \geqq 2\times\sqrt{\left(\frac{W_1}{2}\right)^2+\left(\frac{d}{2}+6-B\right)^2}$$

Note

・Degrease all contact surfaces thoroughly.
・Do not try to move the clamped object.
・Excess shock or vibration may cause a misalignment of the clamped object.
・When using the clamps by methods other than "How to Install" above, please install them so that the object is clamped within the recommended clamping range.

QCPSS HEAVY DUTY ONE TOUCH PUSH LOCK CLAMPS

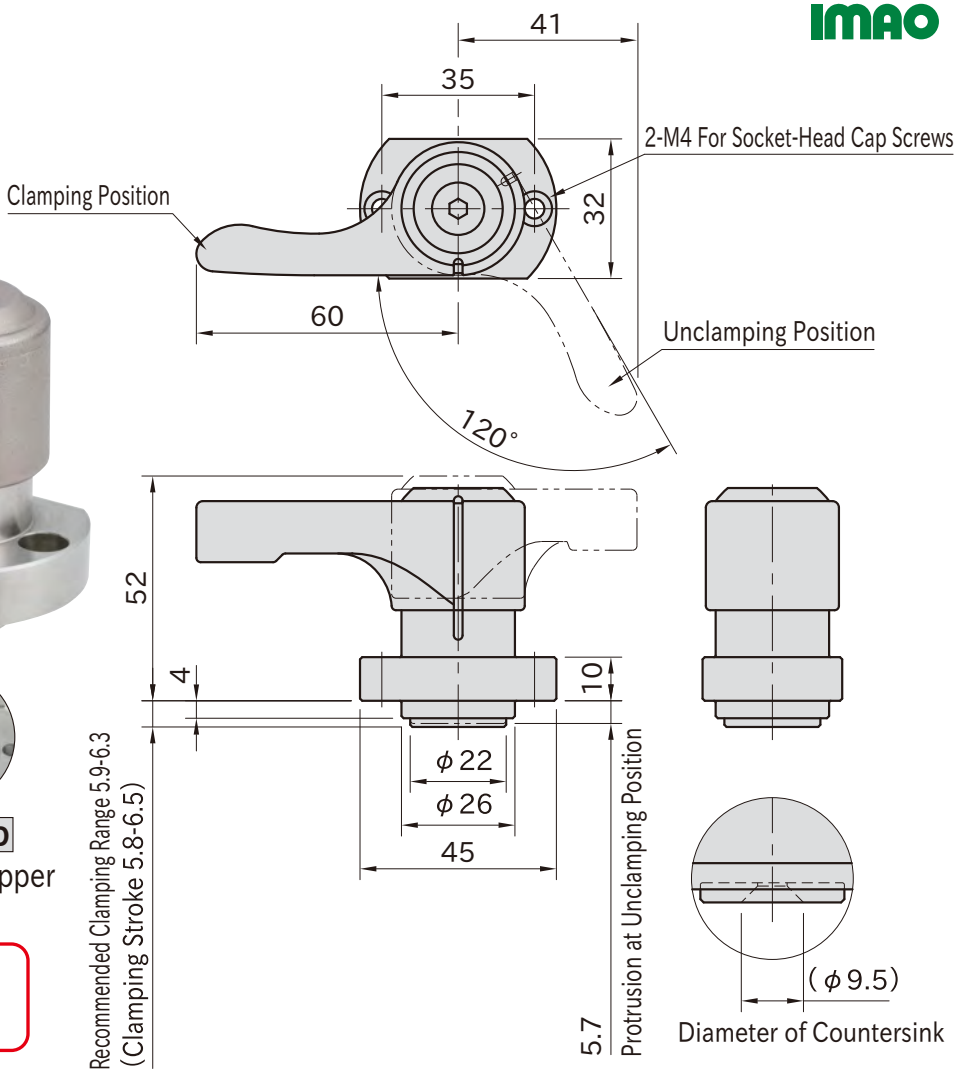
RoHS

Wedge

QCPSS-F
Flat Gripper

QCPSS-D
Diamond Gripper

★Key Point
Quick & easy lock with high clamping force



Part Number	Body	Piston	Spring	Handle	Gripper
QCPSS2245-6-S-F	SUS303 stainless steel	SCM435 steel Electroless Nickel Plated	Equivalent to SWOSC-V	SCS13 stainless steel (Equivalent to SUS304)	SUS303 stainless steel
QCPSS2245-6-S-D					SUS630 stainless steel Diamond electroplated

Part Number	Gripper	Clamping Force (N)	Weight (g)	Shaft Collars
QCPSS2245-6-S-F	Flat	1100	320	QCPSC2245-20 QCPSC2245-25
QCPSS2245-6-S-D	Diamond			

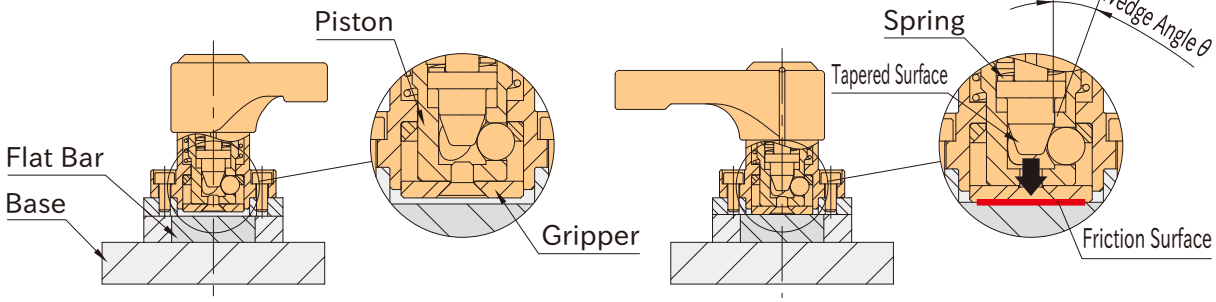
Supplied With

2 of socket-head cap screw (stainless steel),
M4×0.7-10L

QCPSC SHAFT COLLARS

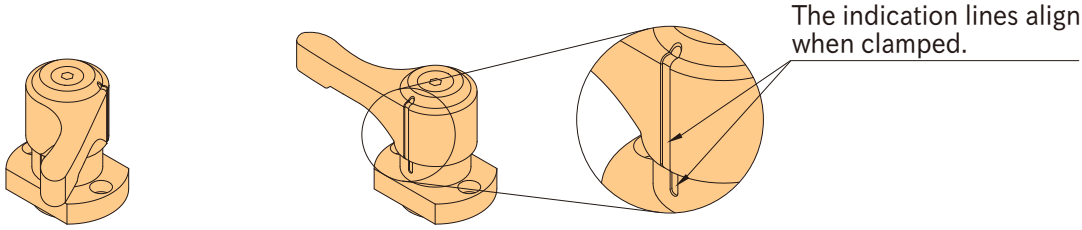
Feature

- By turning the handle, the piston is pushed out and locked with the balls and tapered surface to clamp the object such as flat bar or shaft.
- The internal spring and wedge mechanism provides constant and strong clamping force.
- Frictional force generated at the contact surface prevents the object from moving.
- The flat gripper which hardly damages an object, and the diamond gripper which provides high holding force, are available. Choose a suitable type for your application.



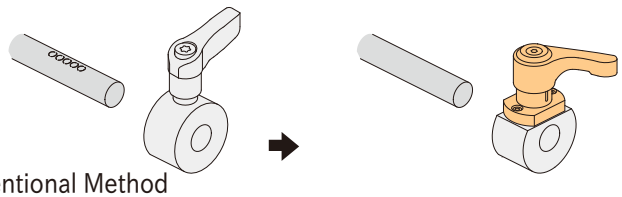
Unclamping Clamping

- The indication line clearly shows clamp/unclamp position.



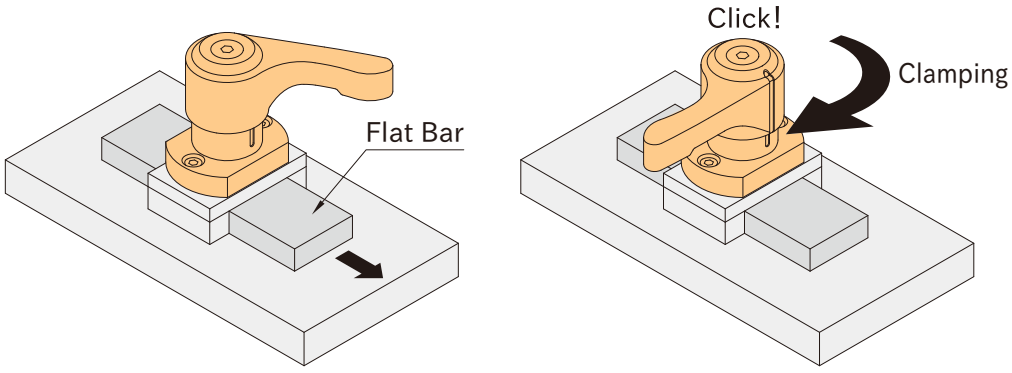
Unclamping Clamping

- Shafts are less likely to be damaged compared to fixing by screws.



Conventional Method

How To Use



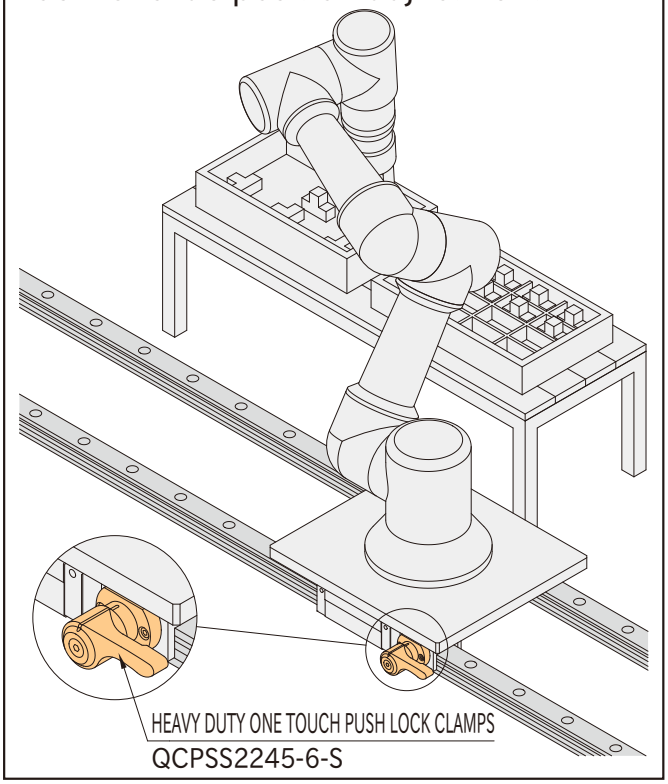
Slide the flat bar at the unclamping position.

Turn the handle 120˚ to clamp.

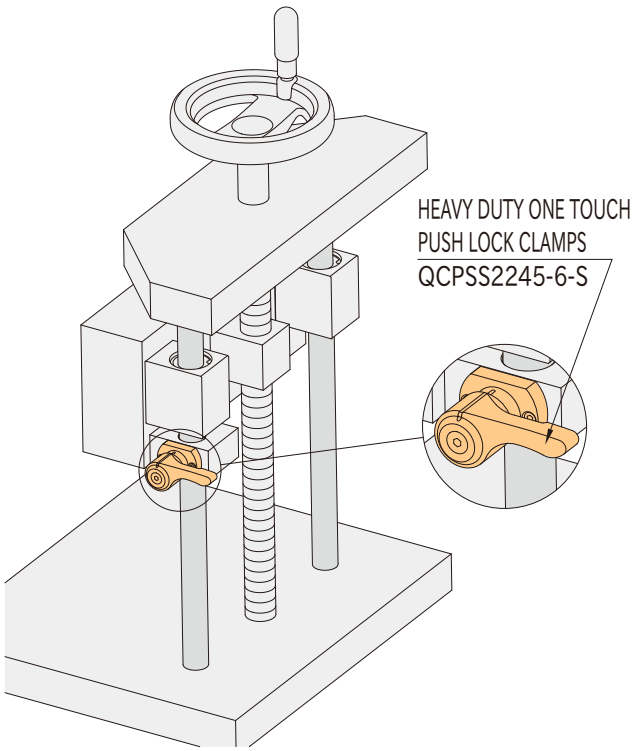
Continuing on Next Page

Application Example

Lock for slide position adjustment



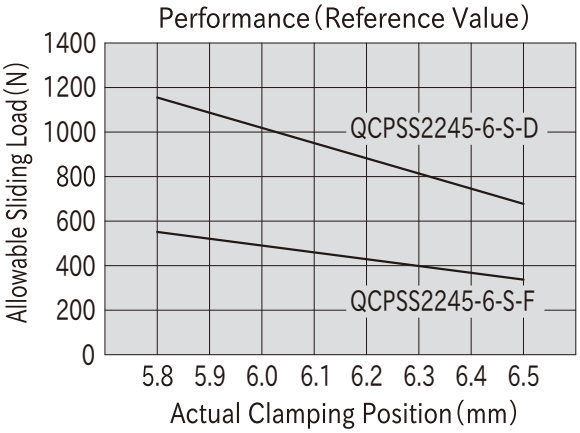
Lock for elevating equipment

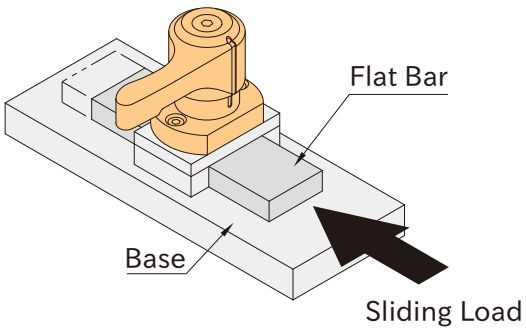


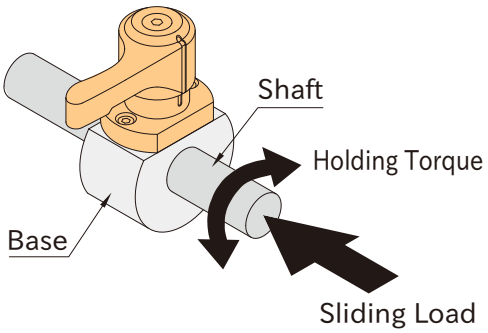
Technical Information

Part Number	Sliding Load (N)	Holding Torque (N·m) Shaft Dia.	
		ϕ20	ϕ25
QCPSS2245-6-S-F	450	4.4	5.5
QCPSS2245-6-S-D	900	8.8	11

■Actual Clamping Position vs. Sliding Load



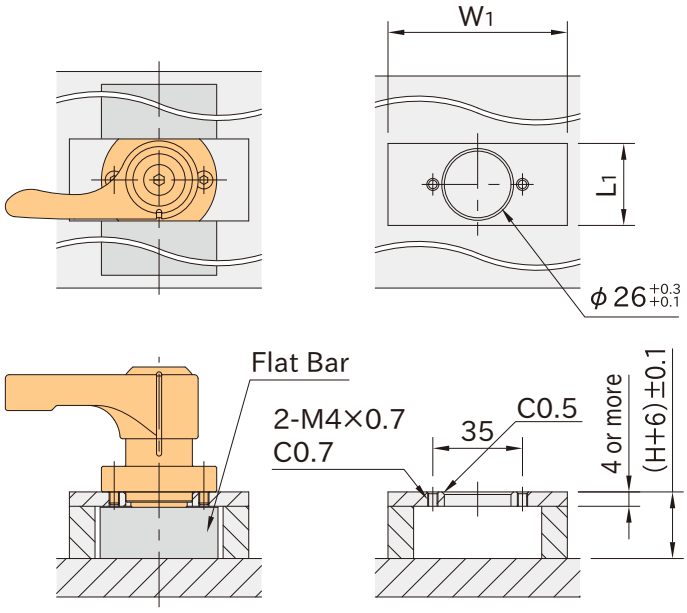




These numerical values are for reference only, under the following conditions.
・The material of the object (flat bar, shaft) and the base is SUS303 stainless steel.
・The gripper, object (flat bar, shaft), and base are fully degreased.
・The object is clamped within the recommended clamping range.

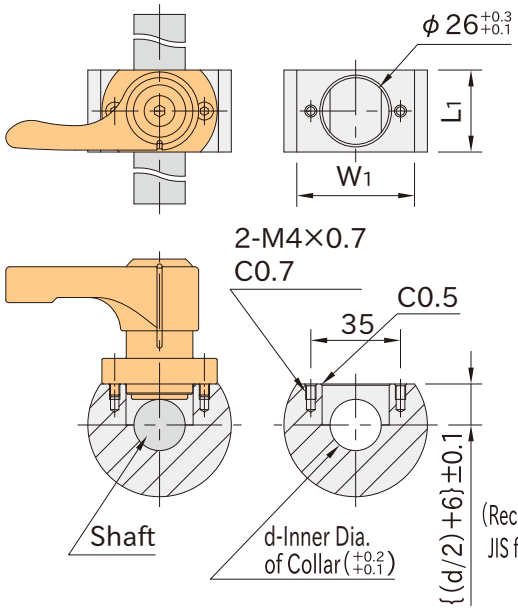
How To Install

■For Flat Bar



・Minimum dimension for installation of Heavy Duty One Touch Push Lock Clamps
W1 : 45 or more
L1 : 32 or more

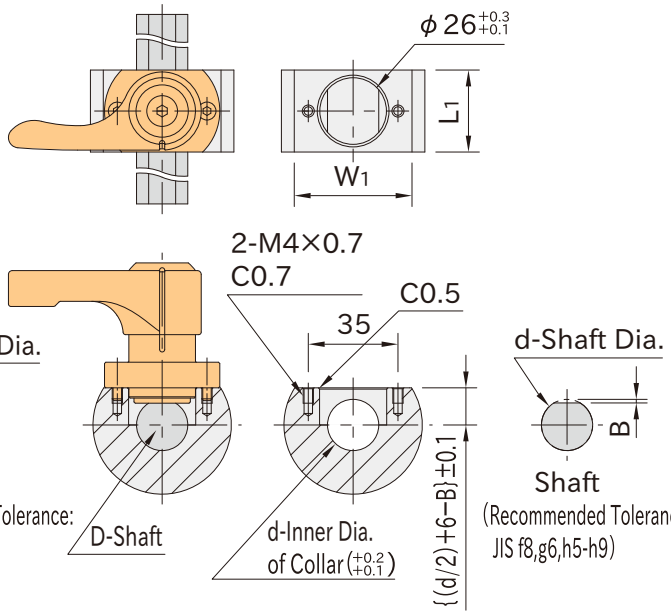
■For Shaft



・d:To be set by customer
・The approximate outer diameter of the collar can be calculated according to the following formula.

$$\text{Outer diameter of collar} \geqq 2\times\sqrt{\left(\frac{W_1}{2}\right)^2+\left(\frac{d}{2}+6\right)^2}$$

■For D-Shaft



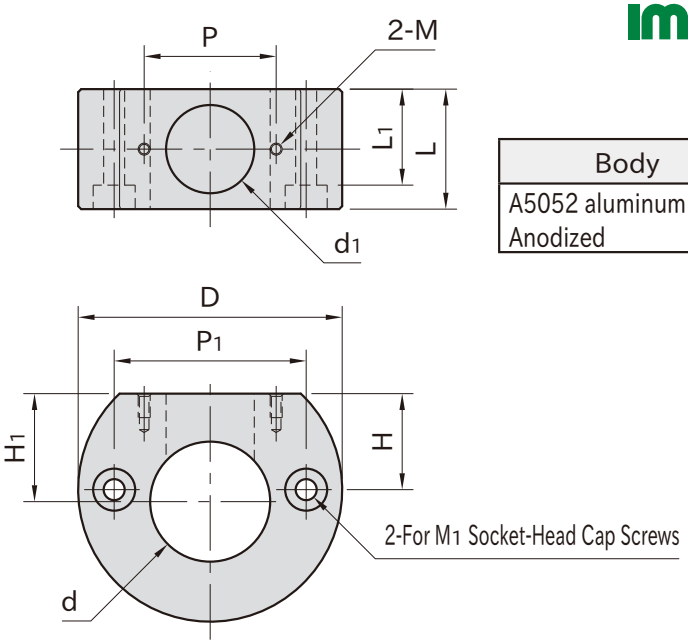
・d・B:To be set by customer
・The approximate outer diameter of the collar can be calculated according to the following formula.

$$\text{Outer diameter of collar} \geqq 2\times\sqrt{\left(\frac{W_1}{2}\right)^2+\left(\frac{d}{2}+6-B\right)^2}$$

Note

・Degrease all contact surfaces thoroughly.
・Do not try to move the clamped object.
・When using the clamps by methods other than "How to Install" above, please install them so that the object is clamped within the recommended clamping range.

QCPSC SHAFT COLLARS



Body
A5052 aluminum alloy Anodized

Part Number	d (+0.2 +0.1)	H_1	D	L	P	M	d_1	P_1	H	M_1	L_1	Shaft Dia. *)
QCPSC0828-10	10	11	40	20	22	M2×0.4 Depth 4	14.7	28	11	M3	16	ϕ10
QCPSC0828-12	12	12										ϕ12
QCPSC0828-14	14	13										ϕ14
QCPSC0828-15	15	13.5										ϕ15
QCPSC0828-16	16	14										ϕ16
QCPSC0828-20	20	16	44					32	16			ϕ20
QCPSC0828-25	25	18.5	48					36	18.5			ϕ25
QCPSC1036-10	10	11	46	24	28	M3×0.5 Depth 6	17.7	36	11		20	ϕ10
QCPSC1036-12	12	12										ϕ12
QCPSC1036-14	14	13										ϕ14
QCPSC1036-15	15	13.5										ϕ15
QCPSC1036-16	16	14										ϕ16
QCPSC1036-20	20	16	50						16			ϕ20
QCPSC1036-25	25	18.5	52					38	18.5			ϕ25
QCPSC2245-20	20	16	56	32	35	M4×0.7 Depth 8	26.2	36	16	M4	27	ϕ20
QCPSC2245-25	25	18.5	60					42	18.5			ϕ25

*) Recommended shaft tolerance is JIS f8, g6, h5-h9.

Part Number	Weight (g)	One Touch Push Lock Clamp		Heavy Duty One Touch Push Lock Clamps
QCPSC0828-10	49			
QCPSC0828-12	47			
QCPSC0828-14	45			
QCPSC0828-15	44		0828-6	
QCPSC0828-16	42	**QCPS-OG-F**		
QCPSC0828-20	55	**QCPS-BK-F**		
QCPSC0828-25	62	**QCPS-S-F**		
QCPSC1036-10	74	**QCPS-OG-D**		
QCPSC1036-12	72	**QCPS-BK-D**		
QCPSC1036-14	69	**QCPS-S-D**		
QCPSC1036-15	68		1036-6	
QCPSC1036-16	67			
QCPSC1036-20	86			
QCPSC1036-25	88			
QCPSC2245-20	140			QCPSS2245-6-S-F
QCPSC2245-25	160			QCPSS2245-6-S-D

Supplied With

- QCPSC0828:
  2 of socket-head cap screw (stainless steel), M3×0.5-20L
- QCPSC1036:
  2 of socket-head cap screw (stainless steel), M3×0.5-25L
- QCPSC2245:
  2 of socket-head cap screw (stainless steel), M4×0.7-35L

IMAO® fixtureworks®

ONE-TOUCH INDEXING CLAMPS

Quick Clamping & Precise Locating

One-Touch Indexing Clamps are quick fasteners with precise locating for position adjustment by sliding or rotation. Tapered surface contact provides +/- 0.05 repeatability and ON/OFF marking and click eliminate human error.

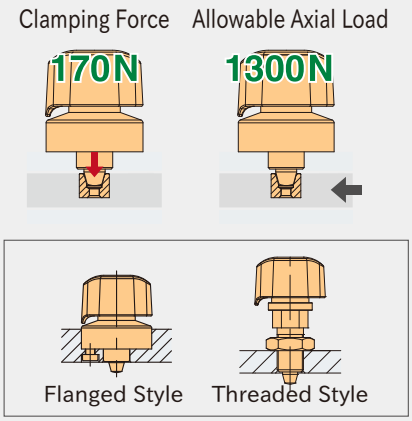
Quick Clamping

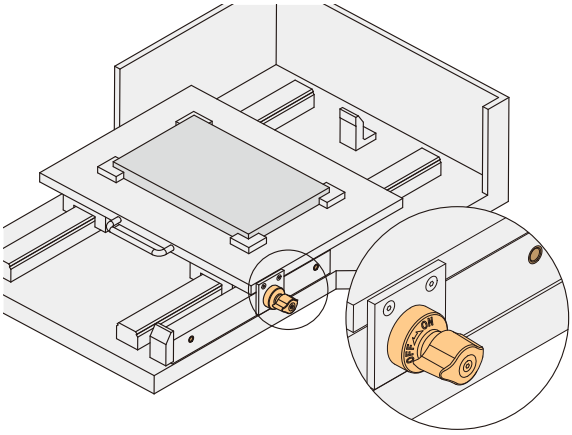
Locating Repeatability: +/- 0.05

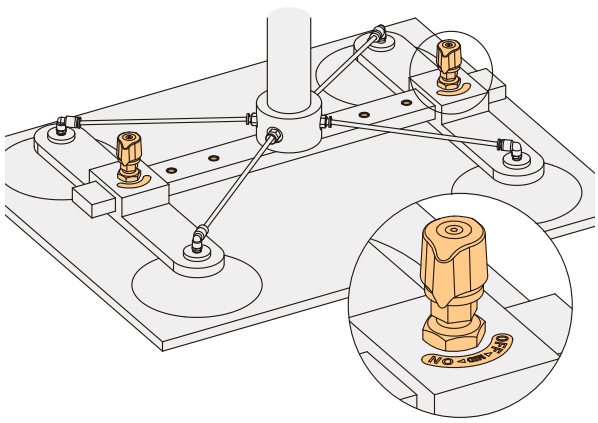
Visible Safety

Flanged Style Threaded Style

High Clamping Force







QCIC-F ONE-TOUCH INDEXING CLAMPS

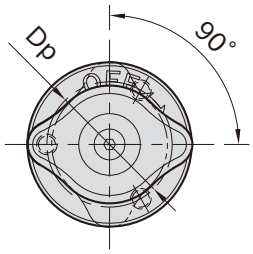
RoHS

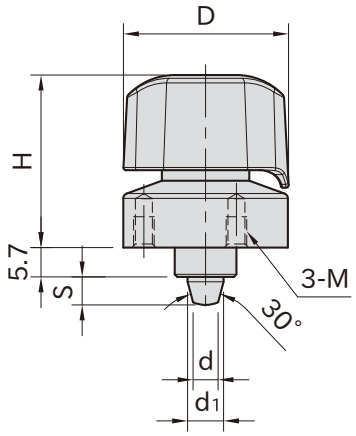
QCIC-F-2P
(ON Position)

QCIC-F-2P
(OFF Position)

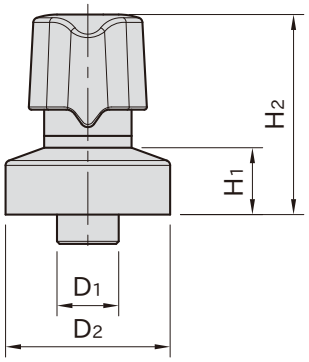
QCIC-F-2P
(Without Spring Pressure)

QCIC-F-3P
(With Spring Pressure)





(ON Position)



(OFF Position)

Body	Tapered Pin	Indicator	Knob
SCM440 steel Electroless nickel plated	SCM435 steel Electroless nickel plated	A5056 aluminum alloy Anodized Red	Polyamide (glass-fiber reinforced) Black

★Key Point

Locating and clamping at once
Easy to read ON/OFF position

Size	Proper Plate Thickness	D	D_1 $(^{-0.01}_{-0.03})$	D_2	H	H_1	H_2	d	d_1	S	M	Dp	Proper Tapered Bushings
QCIC05F26	6~14	26	10	26	29	11	33	3.3	5	4.2	M3×0.5 Depth 5	20	QCIC05TB
QCIC07F32	6~15	32	12	32	34	13	39	4.9	7	5	M4×0.7 Depth 6	24	QCIC07TB

Part Number	Clamping Force (N)	Spring Pressure (N)	Weight (g)
QCIC05F26-2P	140	—	60
QCIC07F32-2P	170	—	105
QCIC07F32-3P		9	110

QCIC-TB TAPERED BUSHINGS

Supplied With

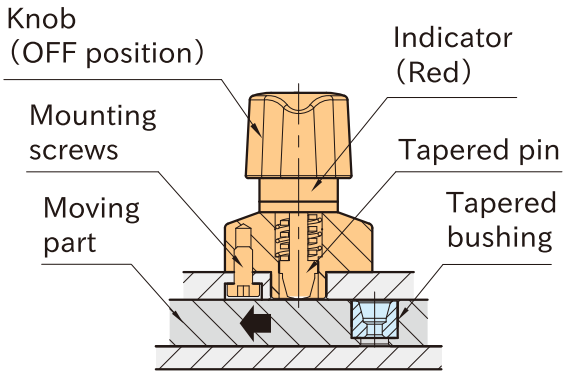
- QCIC05F26: 3 of socket-head cap screws(Stainless Steel), M3×0.5-6L
- QCIC07F32: 3 of socket-low-head cap screws(Stainless Steel), M4×0.7-8L

Feature

- Clamping by the tapered pin allows locating and fixing with no clearance at once.
- Use with the dedicated tapered bushing.
- ON/MID/OFF mark on the body and the knob position allow to visually recognize clamping or unclamping.
- The red indicator appears to show the unclamping state when the knob is in OFF position.

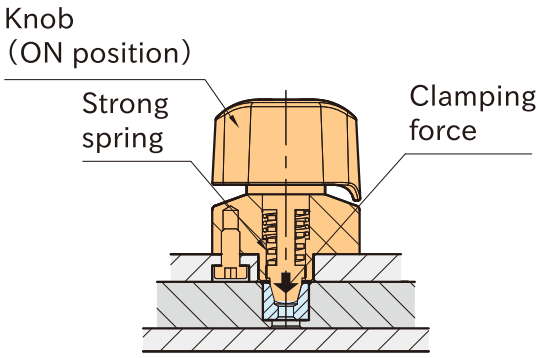
■Without Spring Pressure

2 positions of ON/OFF



Knob is in OFF position.

The tapered pin remains inside when releasing the knob.

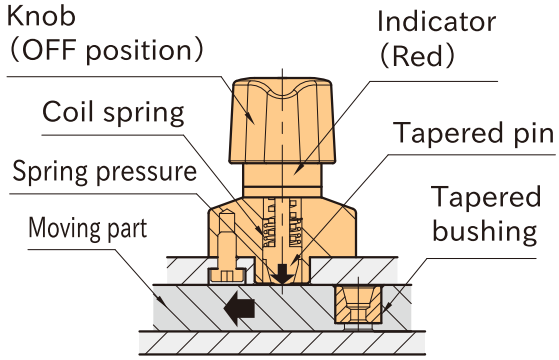


Knob is in ON position.

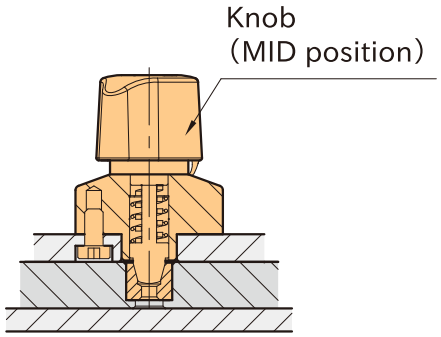
- Turn the knob to "ON" when the tapered pin and tapered bushing are aligned.
- Clamping force is generated by compressing strong spring and the tapered pin clamps the tapered bushing. The knob clicks when it is clamped.

■With Spring Pressure

- 3 positions of ON/MID/OFF
- The plate is movable while receiving spring pressure of the coil spring inside the body.
- The tapered pin and tapered bushing automatically engage by spring pressure when they are aligned. (The knob positions in "MID".)

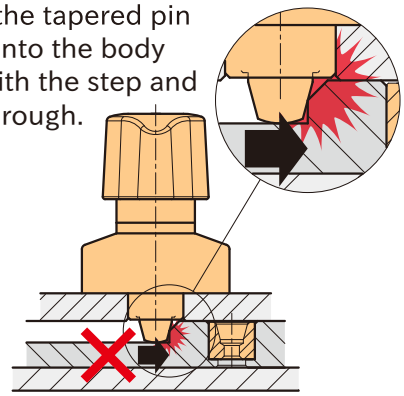


Knob is in OFF position.



Knob is in MID position.

- The tapered pin keeps pushed-out-state when releasing the knob. (The knob turns to "MID".)
- In MID position, the tapered pin does not retract into the body when colliding with the step and it can not pass through.



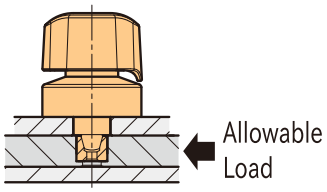
- The tapered pin and tapered bushing engage by spring pressure when they are aligned.
- The knob moves to "MID".
- Turn the knob from "MID" to "ON".
- Clamping force is generated by compressing strong spring and the tapered pin clamps the tapered bushing. The knob clicks when it is clamped.

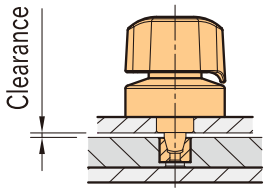
Continuing on Next Page

Technical Information

Size	Heatresistant Temperature (℃)	Allowable Load (N)
QCIC05F26	80	900
QCIC07F32		1300

Repeatability: ±0.05

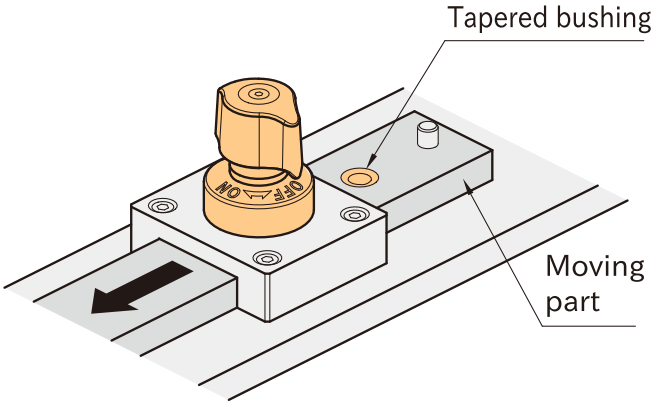




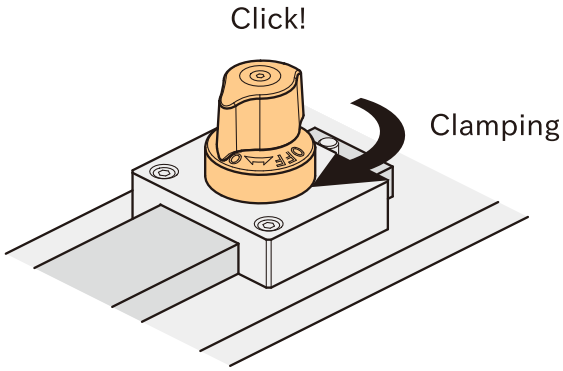
Recommended clearance between plates: 0.2 mm or less

How To Use

■Without Spring Pressure

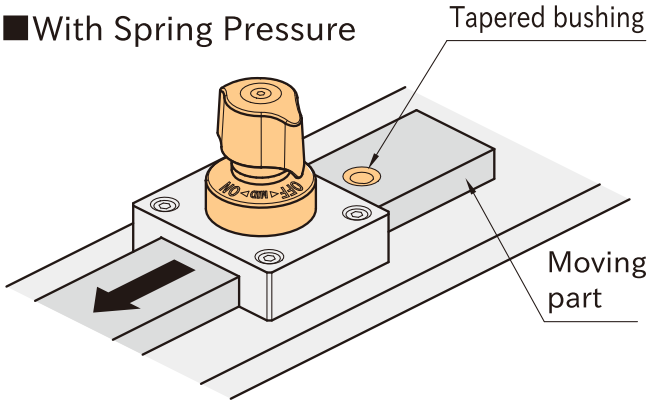


①Ensure that the knob is positioned at "OFF". Slide the moving part.

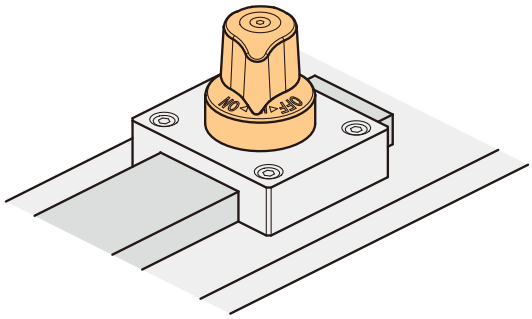


②Turn the knob to "ON" for clamping.
The knob clicks when it is clamped.
Note: For QCIC-F-2P (Without spring pressure), do not unclamp when the tapered pin is receiving axial load. (The tapered pin could not return due to structure.)

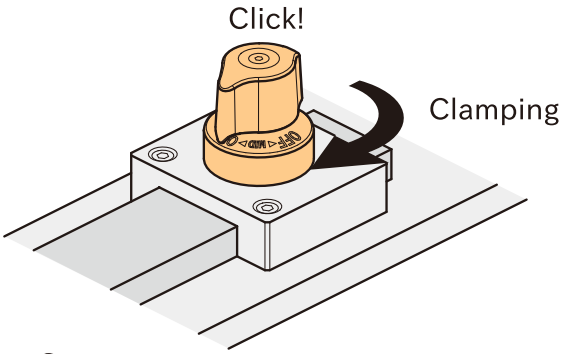
■With Spring Pressure



①Slide the moving part when the knob is positioned at "OFF".



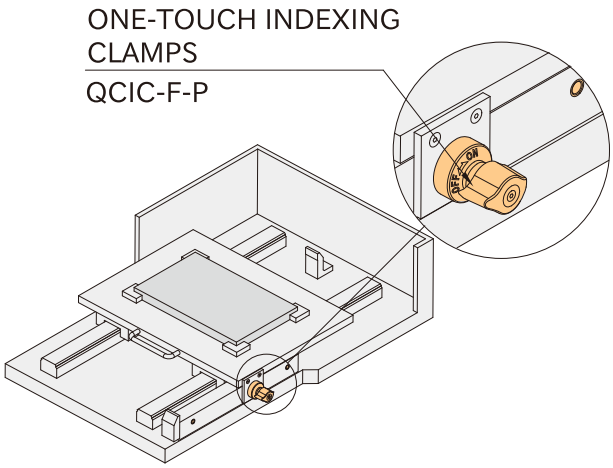
②The tapered pin and tapered bushing engage by spring pressure when they are aligned. The knob moves to "MID".



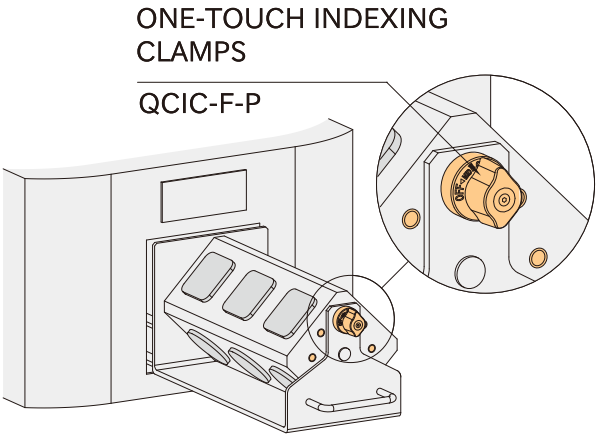
③Turn the knob from "MID" to "ON" for clamping. The knob clicks when it is clamped.

Application Example

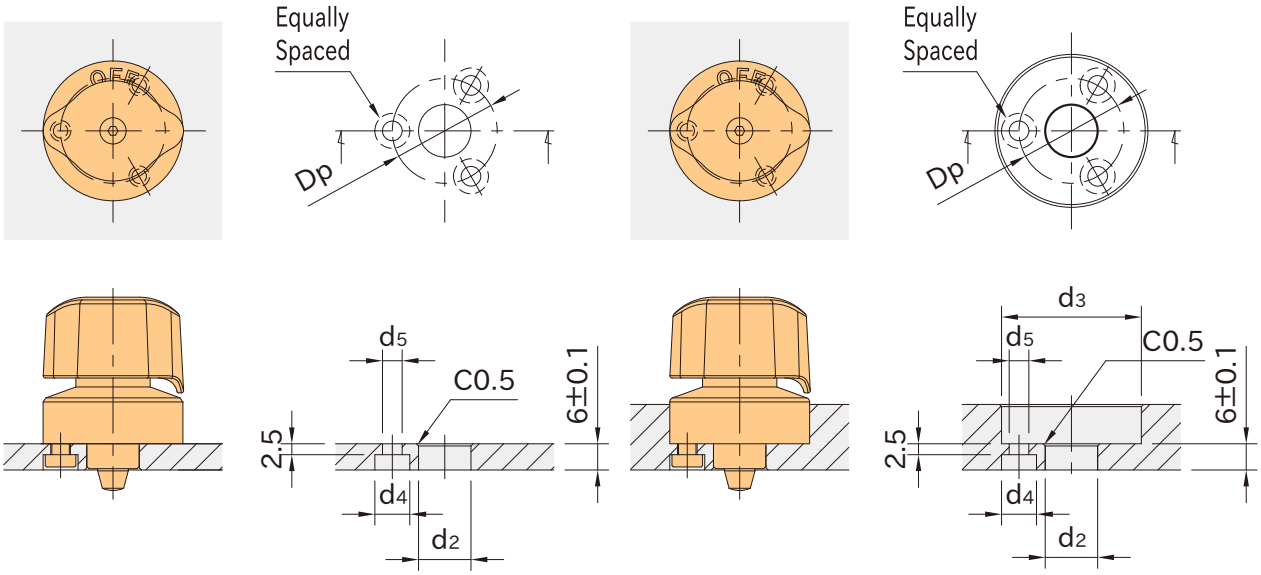
Locating and clamping for sliding plate



Locating and clamping for rotating unit



How To Install



Size	Proper Plate Thickness	Figure	d_2 (H7)	d_3	d_4	d_5	Dp
QCIC05F26	6	A	10	—	6.5	3.4	20
	Over 6, 14 or less	B		27			
QCIC07F32	6	A	12	—	8	4.5	24
	Over 6, 15 or less	B		33			

Reference

"How To Install" of QCIC-TB Tapered Bushings.

QCIC-M ONE-TOUCH INDEXING CLAMPS

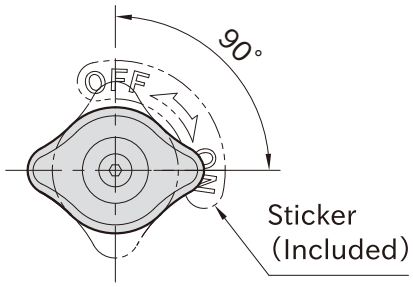
RoHS

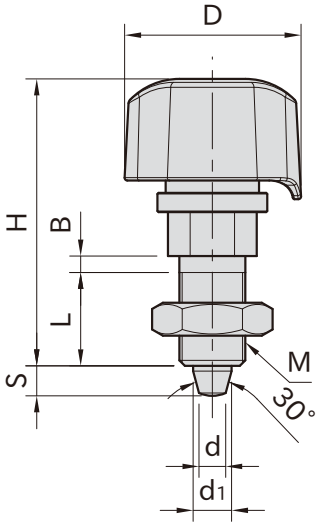
QCIC-M-P
(ON position)

QCIC-M-P
(OFF position)

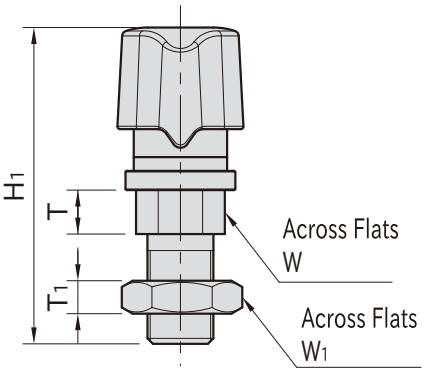
For QCIC-M-2P
(Sticker for without spring pressure type)

For QCIC-M-3P
(Sticker for with spring pressure type)





(ON position)



(OFF position)

Body	Tapered Pin	Indicator	Knob
SCM440 steel Electroless nickel plated	SCM435 steel Electroless nickel plated	A5056 aluminum alloy Anodized Red	Polyamide (glass-fiber reinforced) Black

★Key Point

Locating and clamping at once

Size	Proper Plate Thickness	D	H	H_1	d	d_1	S	L	B	M	W	W_1	T	T_1	Proper Tapered Bushings
QCIC05M10	8~10	26	44	48	3.3	5	4.2	15	2	M10X1 (Fine Thread)	13	17	7	5	QCIC05TB
QCIC07M12	9~11	32	52	58	4.9	7	5	17	3	M12X1.5(Fine Thread)	14	19	8	6	QCIC07TB

Part Number	Clamping Force (N)	Spring Pressure (N)	Weight (g)
QCIC05M10-2P	140	—	45
QCIC07M12-2P	170	—	70
QCIC07M12-3P		9	70

QCIC-TB TAPERED BUSHINGS

Supplied With

- QCIC-M-2P : ON/OFF sticker
- QCIC-M-3P : ON/MID/OFF sticker

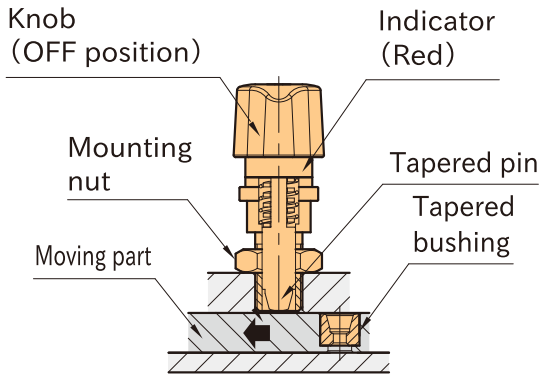
Note: The attached sticker is an aluminum with thickness of 0.2 mm and has an adhesive on the back side.

Feature

・Clamping by the tapered pin allows locating and clamping with no clearance at once.
・Only a tapped hole is required for mounting.
・Not only can be used with a tapered bushing, but also with a through hole made on the plate.
・The red indicator appears to show the unclamping state when the knob is in OFF position.
・Use QCIC-F ONE-TOUCH INDEXING CLAMPS to set ON/OFF position at your desired place.

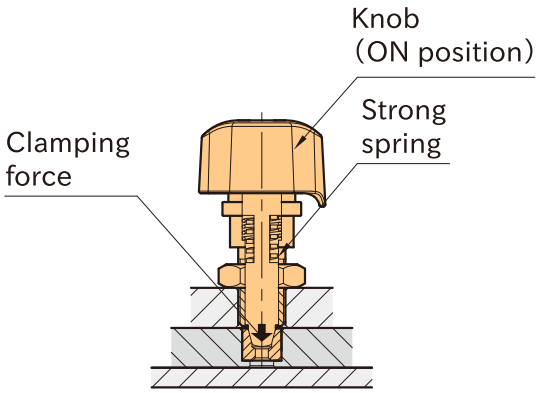
■Without Spring Pressure

2 positions of ON/OFF



Knob is in OFF position.

The tapered pin remains inside when releasing the knob.

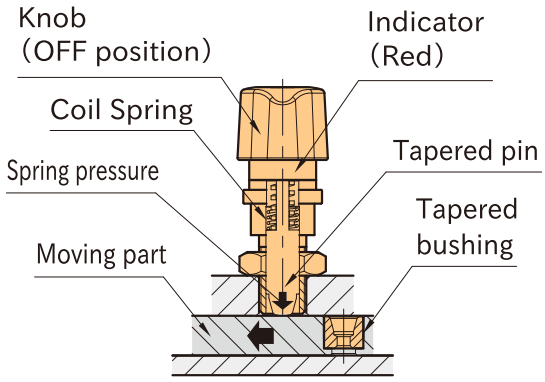


Knob is in ON position.

・Turn the knob to "ON" when the tapered pin and tapered bushing are aligned.
・Clamping force is generated by compressing strong spring and the tapered pin clamps the tapered bushing. The knob clicks when it is clamped.

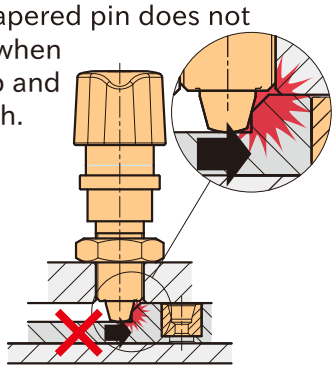
■With Spring Pressure

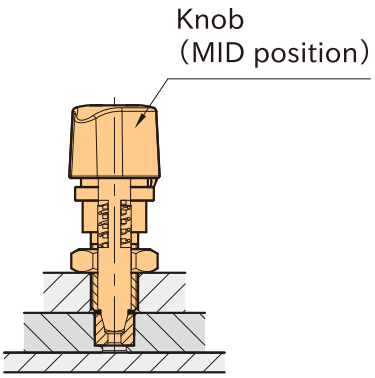
・3 positions of ON/MID/OFF
・The plate is movable while receiving spring pressure of the coil spring inside the body.
・The tapered pin and tapered bushing automatically engage by spring pressure when they are aligned. (The knob positions in "MID".)



Knob is in OFF position.

・The tapered pin keeps pushed-out-state when releasing the knob. (The knob turns to "MID".)
・In MID position, the tapered pin does not retract into the body when colliding with the step and it can not pass through.





Knob is in MID position.

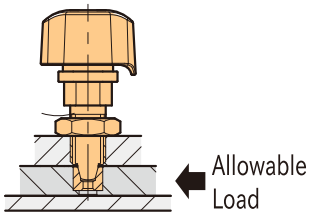
・The tapered pin and tapered bushing engage by spring pressure when they are aligned.
・The knob moves to "MID".
・Turn the knob from "MID" to "ON".
・Clamping force is generated by compressing strong spring and the tapered pin clamps the tapered bushing. The knob clicks when it is clamped.

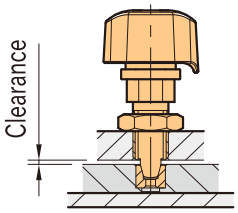
Continuing on Next Page

Technical Information

Size	Heatresistant Temperature (℃)	Allowable Load (N)
QCIC05M10	80	900
QCIC07M12		1300

Repeatability: ±0.05

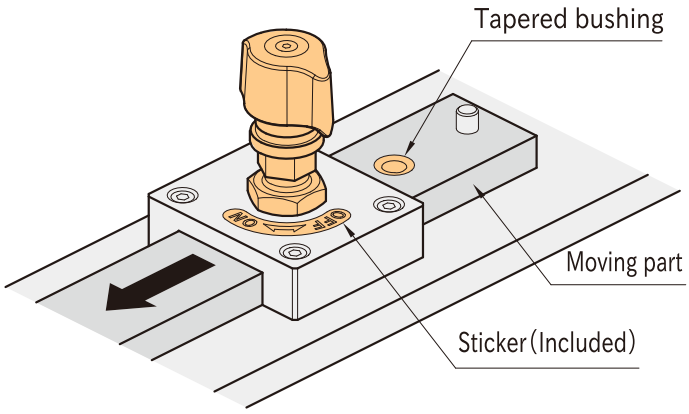




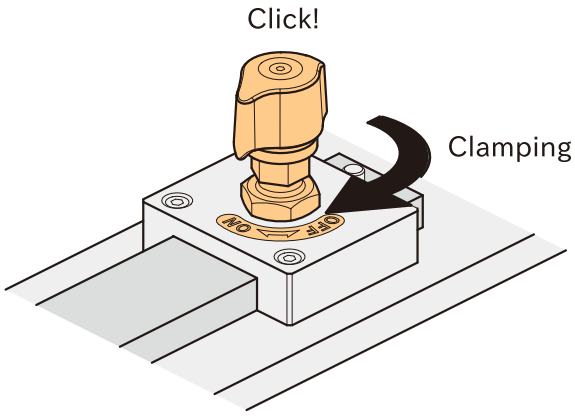
Recommended clearance between plates: 0.2 mm or less

How To Use

■Without Spring Pressure



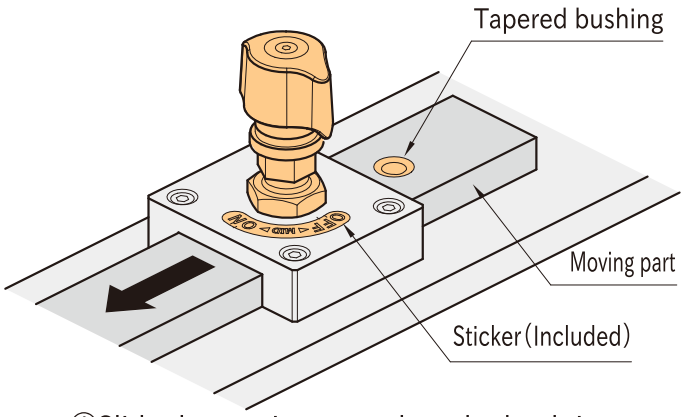
①Ensure that the knob is positioned at "OFF". Slide the moving part.



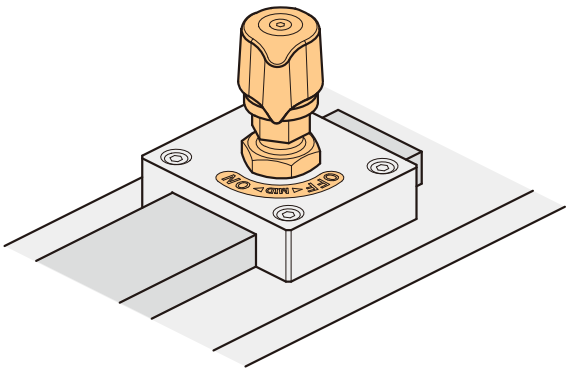
②Turn the knob to "ON" for clamping. The knob clicks when it is clamped.

Note: For QCIC-M-2P (Without Spring pressure), do not unclamp when the tapered pin is receiving axial load. (The tapered pin could not return due to structure.)

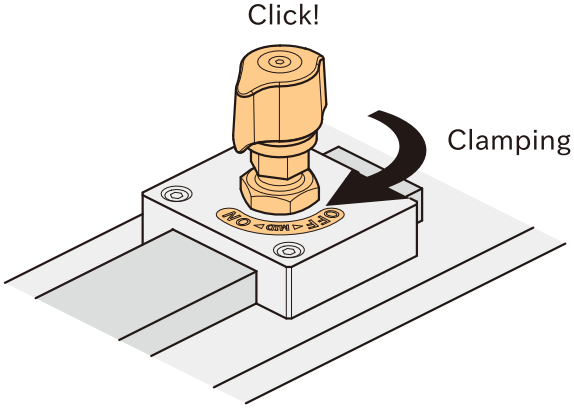
■With Spring Pressure



①Slide the moving part when the knob is positioned at "OFF"



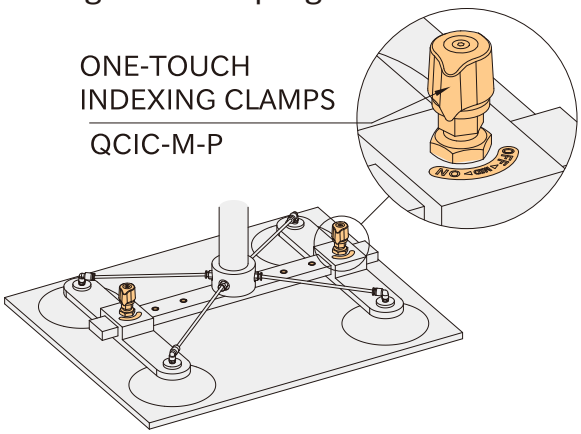
②The tapered pin and tapered bushing engage by spring force when they are aligned. The knob moves to "MID".



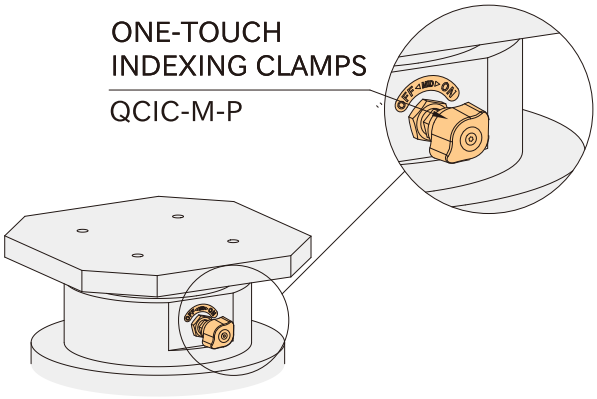
③Turn the knob from "MID" to "ON" for clamping. The knob clicks when it is clamped.

Application Example

Locating and clamping for suction arms



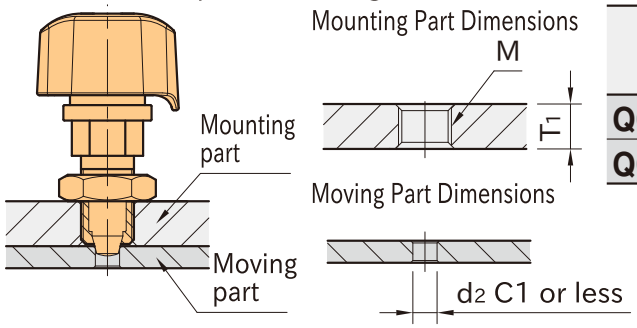
Locating and clamping for rotating pallet



How To Install

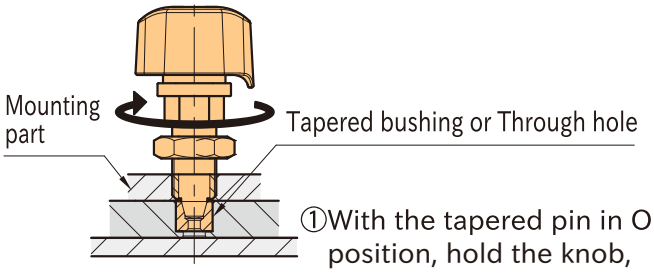
■Mounting Hole Dimensions

Note: Without tapered bushing

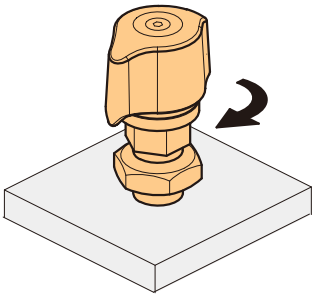


Size	d_2	T_1 (Proper Plate Thickness)	M
QCIC05M10	3.7~4.6	8~10	M10X1 (Fine Thread)
QCIC07M12	5.3~6.6	9~11	M12X1.5(Fine Thread)

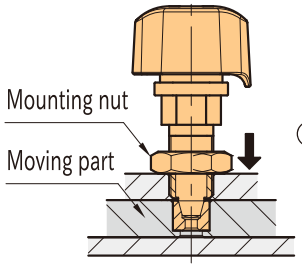
■Installation Instructions



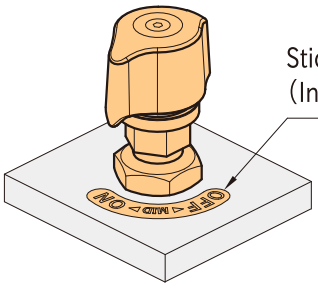
①With the tapered pin in ON position, hold the knob, and turn the body and screw it until the tapered pin touches lightly to the tapered bushing.



②Hold the knob and screw it about 90 degrees further.



③Fix the mounting nut. Turn the knob to OFF position and make sure the moving part slides smoothly and the knob clicks.

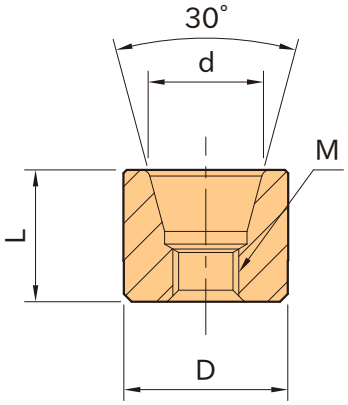


④Attach the sticker based on ON or OFF position.

Reference

"How To Install" of QCIC-TB Tapered Bushings

QCIC-TB TAPERED BUSHINGS



Body
S45C steel Electroless nickel plated

★Key Point

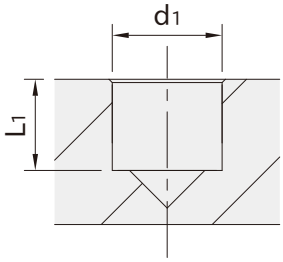
Bushing for ONE-TOUCH INDEXING CLAMPS

Part Number	d	D $(^{+0.01}_{-0.005})$	L (±0.1)	M	Weight (g)
QCIC05TB	5	8	6	M3×0.5	2
QCIC07TB	7	10	8	M4×0.7	5

Application Example

■How To Install

Press fit on the plate.

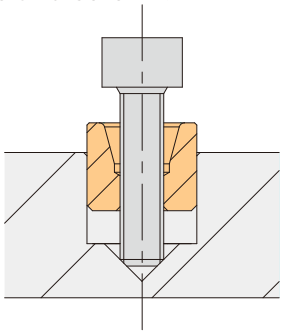


Part Number	d_1 (H7)	L_1 (±0.1)
QCIC05TB	8	6.2
QCIC07TB	10	8.2

Note: Fix these bushings with adhesive if they can come off.

■How To Remove

For removal, insert screws into the tapped hole and screw it.



Reference

- QCIC-F One-touch indexing clamps
- QCIC-M One-touch indexing clamps

ONE-TOUCH LOCKING KNOBS

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

<Locked>
(Position adjusted)

Blue=Safety to operate machine

<Unlocked>
(Position adjustable)

Red=Caution to opearate machine

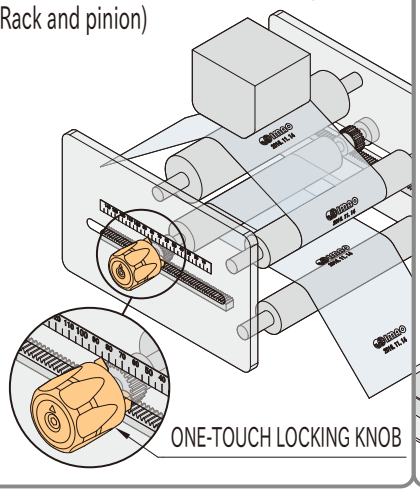
INNOVATIVE Knob!

Adjustment &
Locking at a time!

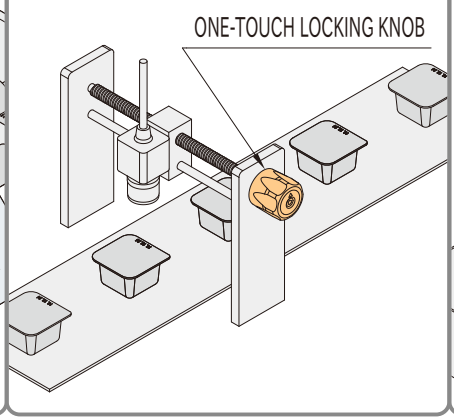
ONE-TOUCH LOCKING KNOBS

Application Example

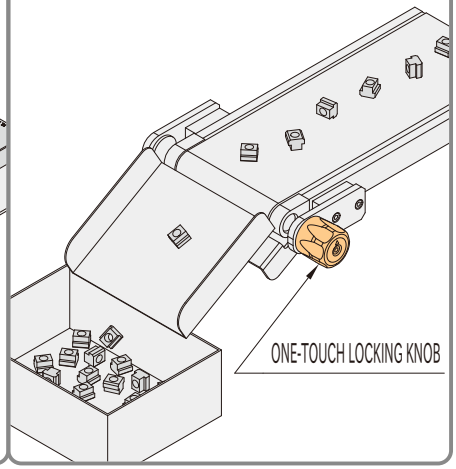
Adjsutment of film tension in printing machine (Rack and pinion)



Changes of camera position (Leadscrew)



Changes of shooter angle



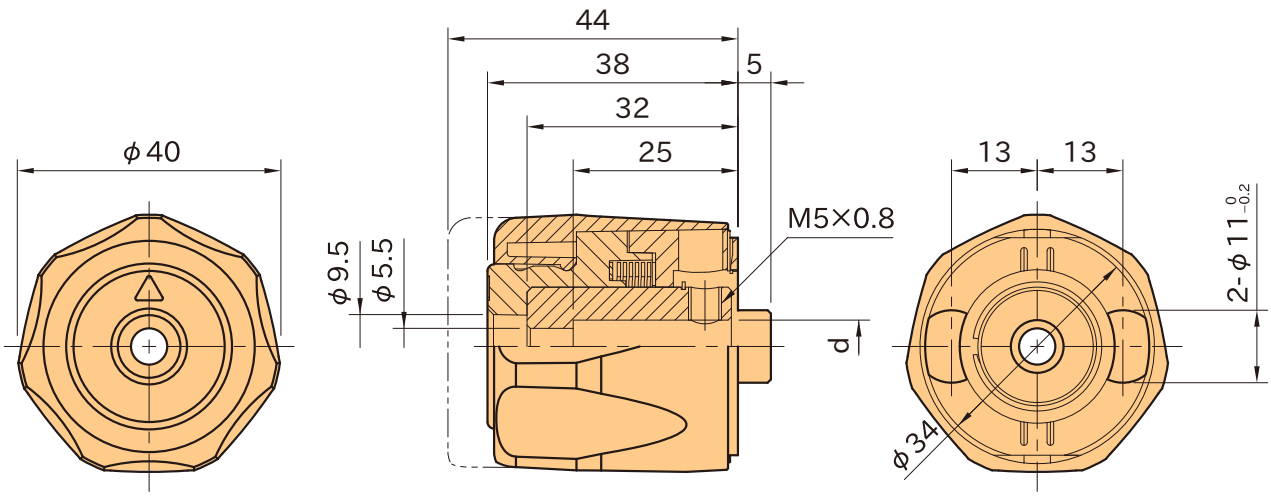
OTLK ONE-TOUCH LOCKING KNOBS

RoHS

★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

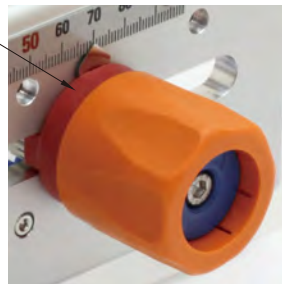
Supplied With

- 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

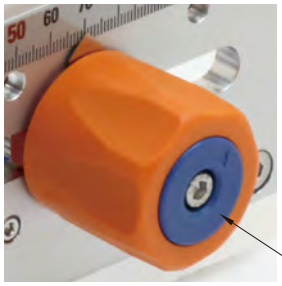
Feature

- 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〉

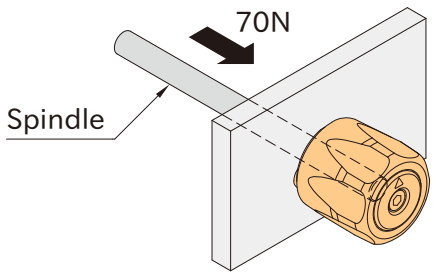


Blue indicates safety to operate machine.

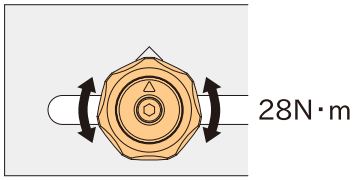
〈Locked〉

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.

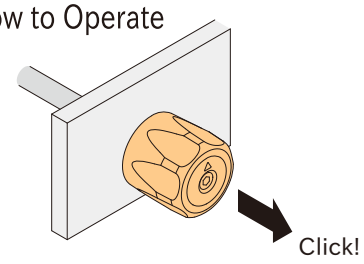


- Allowable moment at locking position: 28N·m (Safety Factor = 5)

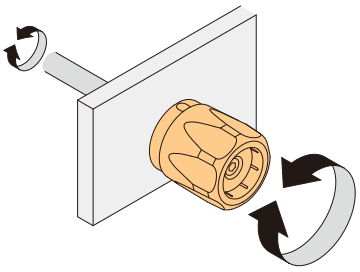


How To Use

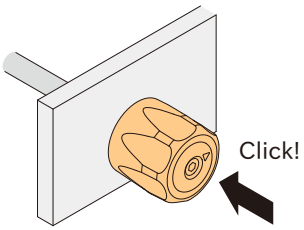
■How to Operate



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

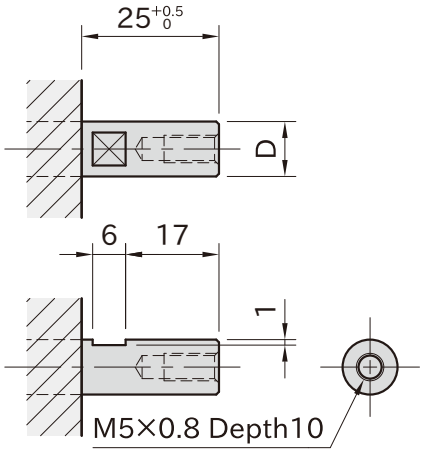


Turn OTLK to rotate the spindle.



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

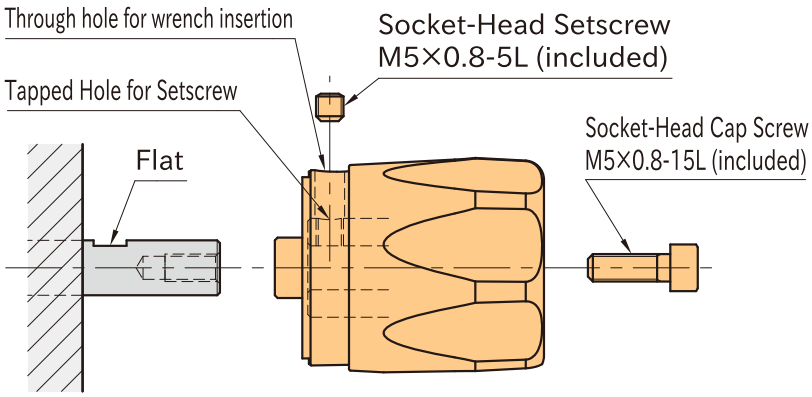
■Mounting Spindle Dimension



Size	D (g6)
OTLK4008	8
OTLK4010	10

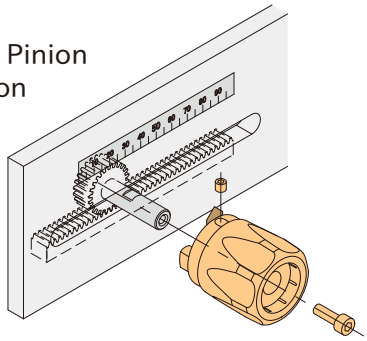
■How to Install

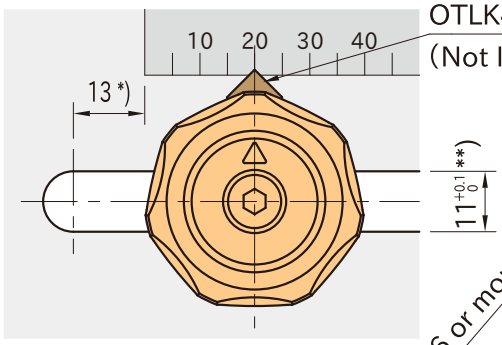
1. Pull the housing and align the through hole on the base and the tapped hole on the insert.
2. Align the flat and the tapped hole on the insert and then mount to the spindle.
3. Fix OTLK temporarily using M5×0.8-15L socket-head cap screw included.
4. Fix OTLK to the spindle temporarily using a setscrew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



■Mounting Hole Dimension

Rack and Pinion Application

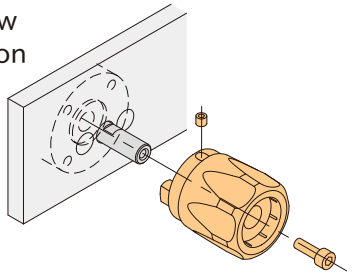


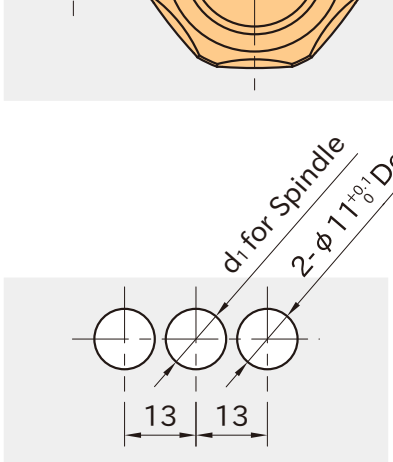


*)Prepare clearance of 13mm or more from the end of a required spindle stroke.

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

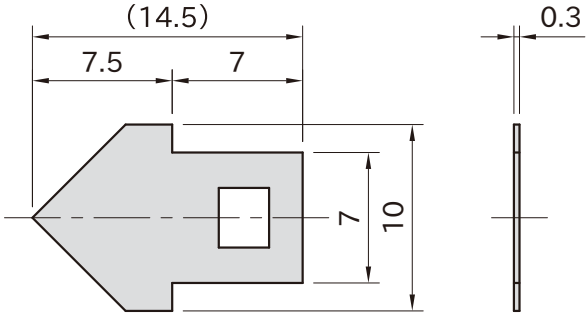
Leadscrew Application





Size	d1
OTLK4008	9
OTLK4010	11

OTLK-A POINTER PLATE

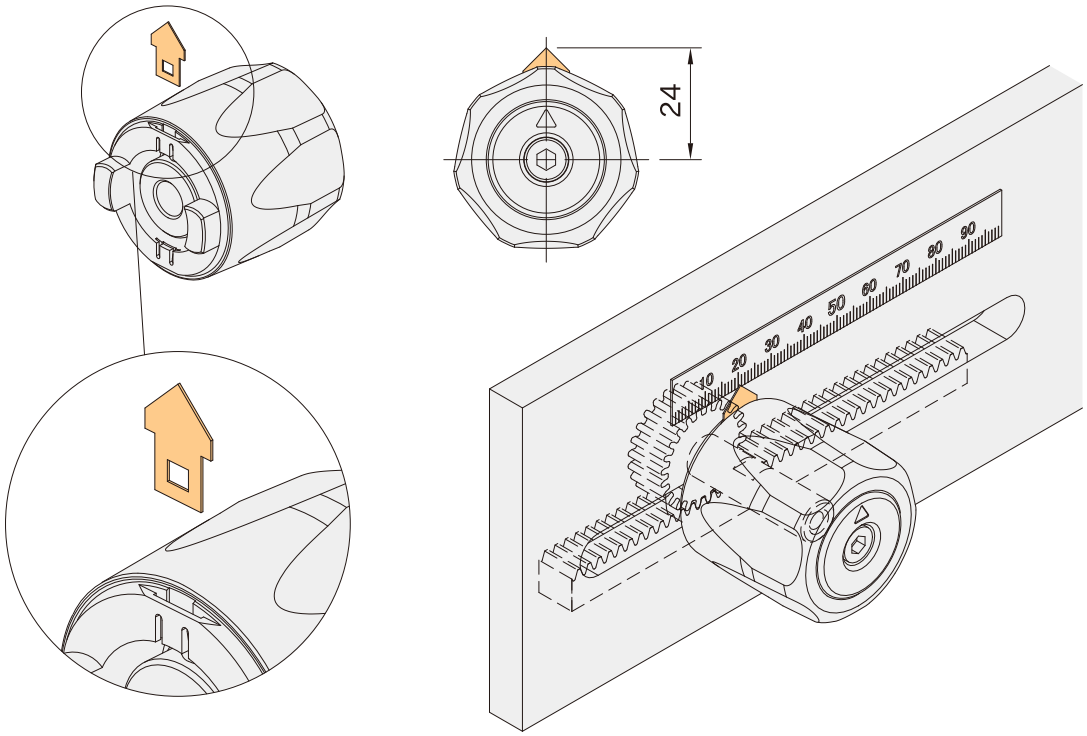


Body
SUS304 stainless steel

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.



IMAO® fixtureworks®

33792 Doreka Dr. Fraser, MI 48026
586-294-1188
cs@fixtureworks.com