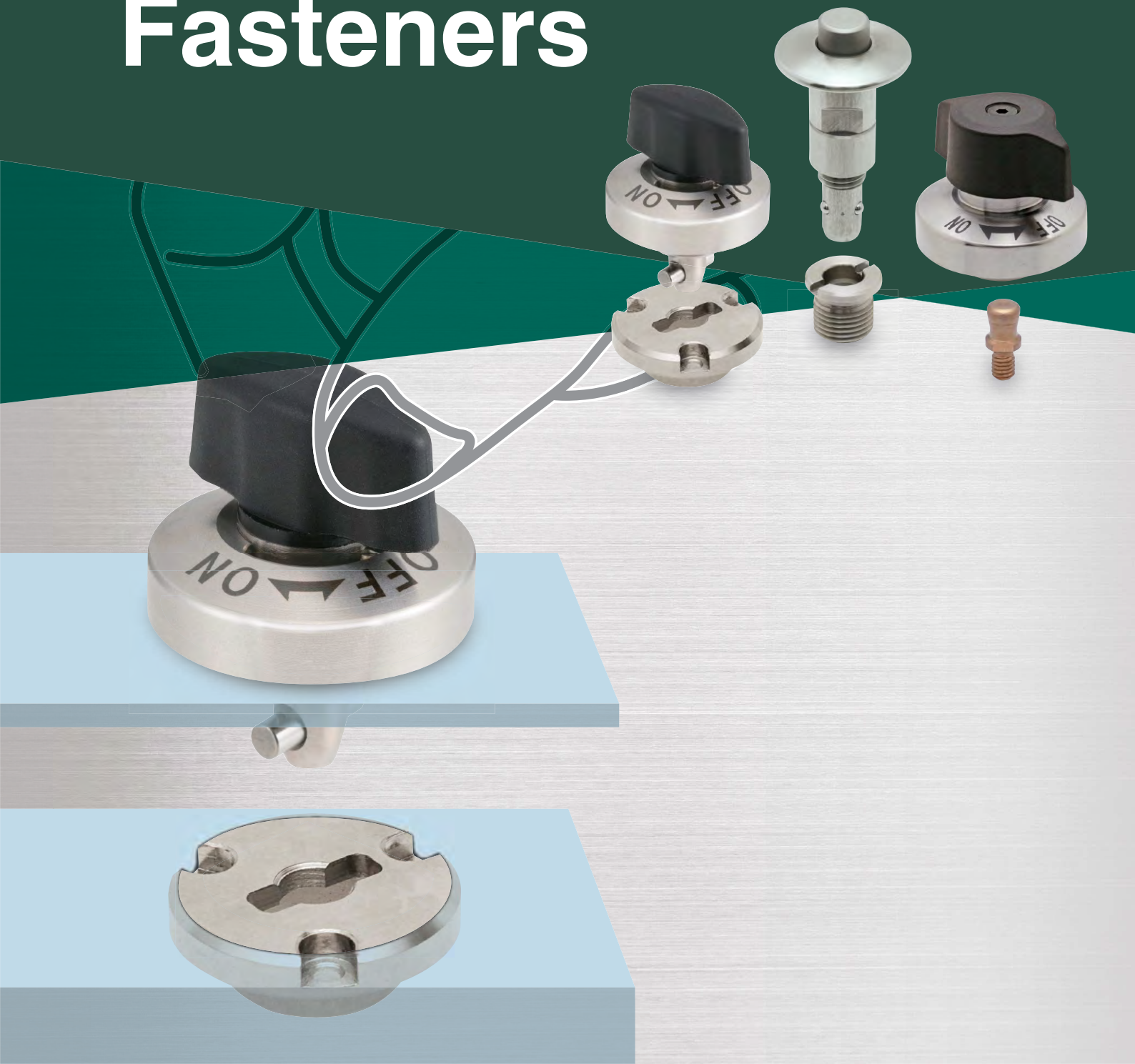
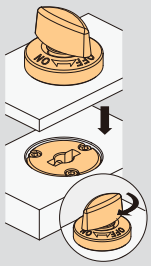
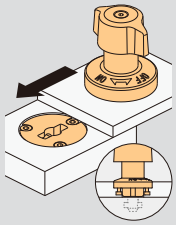
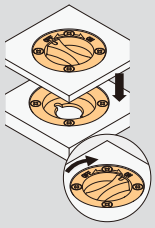
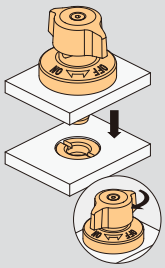
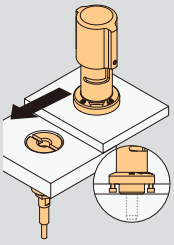
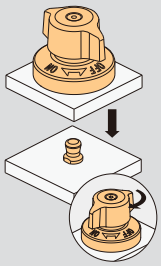
IMAO® fixtureworks®

One Touch Fasteners



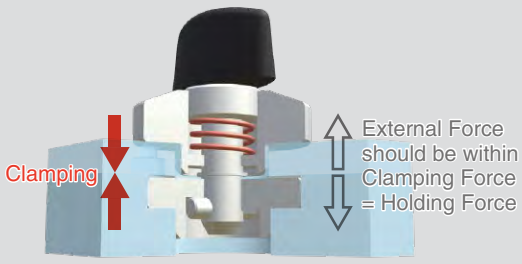
One Touch Fasteners Selection Guide

Quarter Turn

	QUARTER TURN CLAMPS	RETRACTABLE QUARTER TURN CLAMPS	FLAT QUARTER TURN CLAMPS	KNOB LOCKING PINS	RETRACTABLE KNOB LOCKING PINS	PIN HOLDING CLAMPS
Products						
Standard Heavy Duty	QCTH QCTHS	QCTHA QCTHSA	QCFC -	QCWE QCWES	QCWEA QCWESA	QCPC QCPCS
	Clamping with 1/4 turn					
How it works		 Retractable shaft allows sliding movement	 Flat design with recessed knob and body		 Retractable shaft allows sliding movement	 Clamping pin for space-limited application
Clamping Force (N)	60 - 400	60 - 400	30	30 - 2000	30 - 2000	7 - 250
Holding Force (N)				90 - 5000	90 - 5000	110 - 750

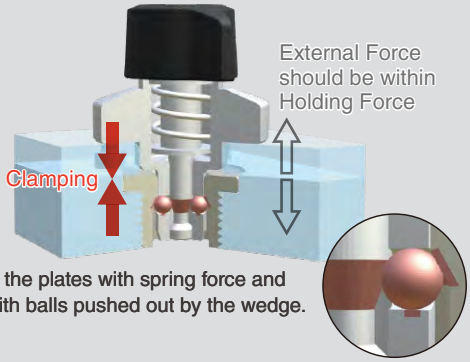
Clamping Mechanism

Cam & Spring Clamping



Clamps and holds the plates with spring force
Higher clamping force than same size ball lock fasteners

Ball Lock Clamping



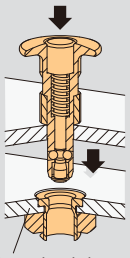
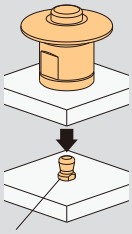
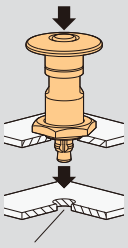
Clamps the plates with spring force and holds with balls pushed out by the wedge.

Pros & Cons

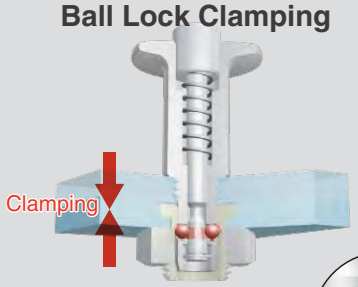
- Vibration resistant with key lock to prevent accidental removal
- ON/OFF indicator for safety
- Tensile force greater than clamping force creates a gap between the plates

- High holding force for use in the presence of a counterforce
- ON/OFF indicator for safety
- Clamping force lower than the holding force
- Low resistance to vibration

Button Push

BUTTON LOCKING PINS	SNAP IN CLAMPS	HOLE HOLDING CLAMPS
		
QCBU -	QCOW -	QCHC -
Press the button to insert  Base plate is kept flat with receptacle.	Simply press the clamp onto the pin  Clamping pin for space-limited application	Press the button to insert  Only through hole required
30, 50 90, 150	6 100	3, 6 30, 60

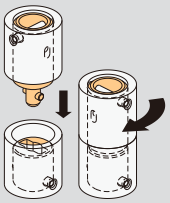
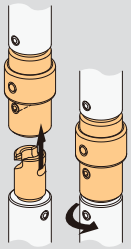
Ball Lock Clamping



Provides a firm clamping as the balls are held in place by the tapered surface.

- High holding force for use in the presence of a counterforce
- Secure locking upon releasing button
- Clamping force lower than the holding force
- Low resistance to vibration

Twist Coupling

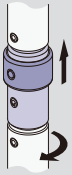
SHAFT COUPLING CLAMP	SHAFT COUPLING CLAMP WITH SAFETY LOCK
	
QCSJ QCSJS	QCSJLK -
Twist the shaft 90 degrees for coupling 	
90, 400	–

Cam & Spring Clamping

Clamps and holds the shafts with spring force

Turn Lock & Hold

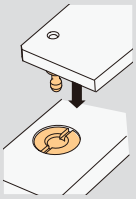
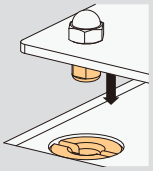
Shafts cannot be rotated or pulled out when in the locking position.



- High clamping force
- Greater tensile force than clamping force makes a gap between the shafts.

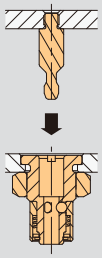
- Safety lock
- No clamping force

Push Pull

BALL LOCK CLAMPS	MAGNET LOCK CLAMP
	
QCBA,QCBAS -	QCMA -
Clamped instantly once the pin is inserted 	Clamped instantly with magnet 
7 , 15	7

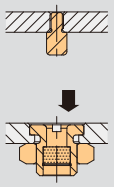
Spring Clamping

Three balls pull in the clamping pin.



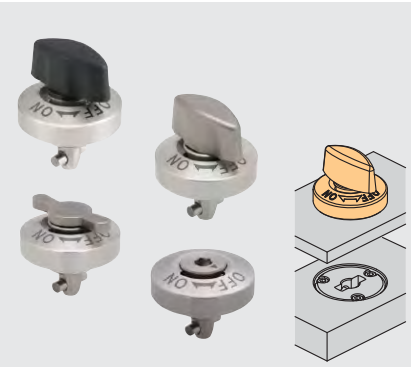
Magnetic Clamping

Magnet pulls in the clamping pin.



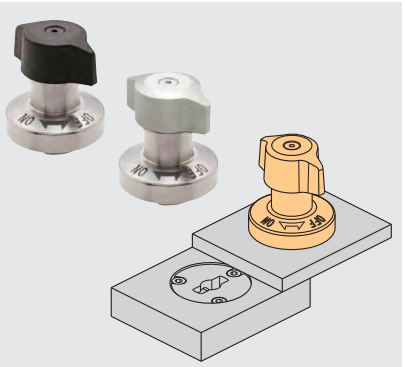
- Easy & instant lock
- Very low clamping force

Quarter Turn



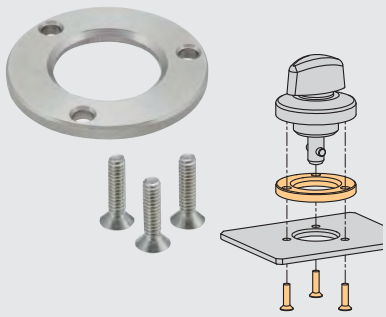
QUARTER-TURN CLAMPS

Part No. QCTH / QCTHL / QCTHH



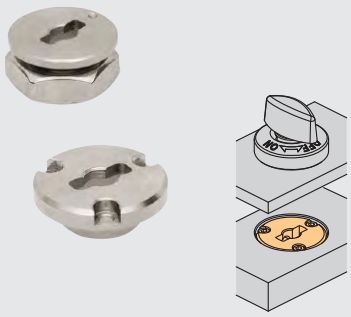
RETRACTABLE QUARTER-TURN CLAMPS

Part No. QCTHA



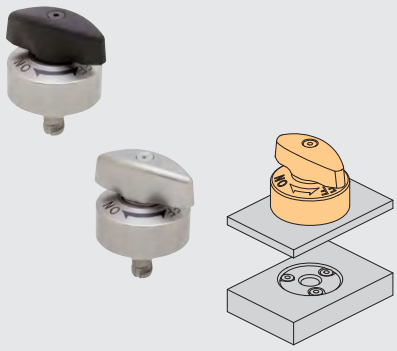
SPACERS

Part No. QCASP



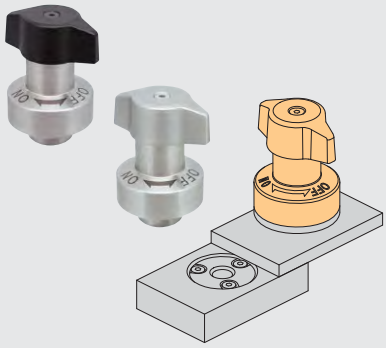
CAM RECEPTACLES

Part No. QCTH-N / QCTH-B



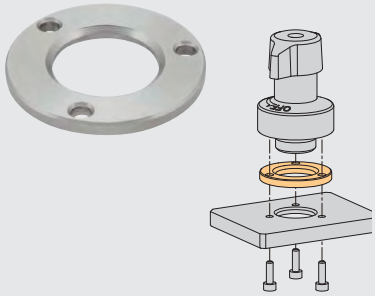
HEAVY DUTY QUARTER-TURN CLAMPS

Part No. QCTHS



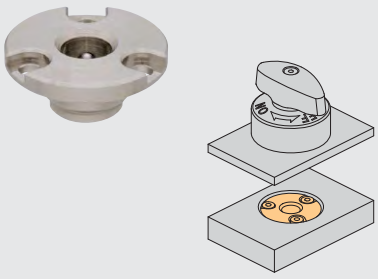
RETRACTABLE HEAVY DUTY QUARTER-TURN CLAMPS

Part No. QCTHSA



SPACER

Part No. QCTHSA

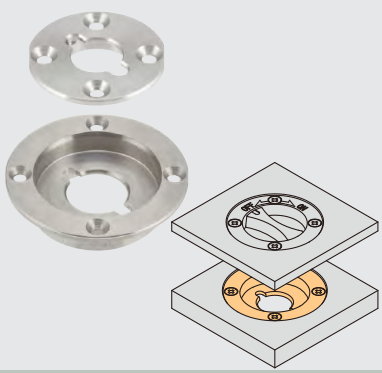


LOCKING RECEPTACLE

Part No. QCTHS-B

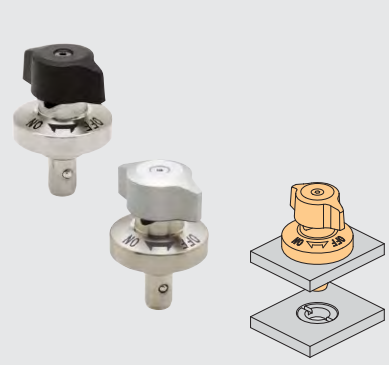
FLAT QUARTER TURN CLAMPS

Part No. QCFC / QCFCH



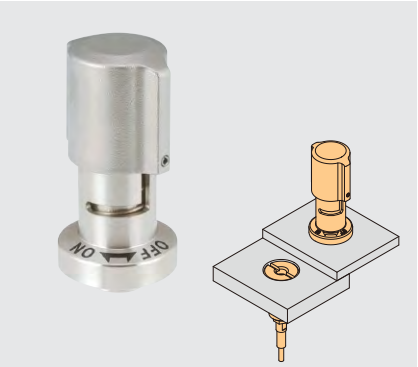
LOCKING RECEPTACLES

Part No. QCFC-B / QCFCH-B



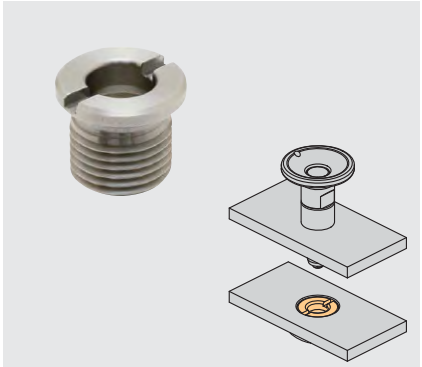
KNOB-LOCKING PINS

Part No. QCWE



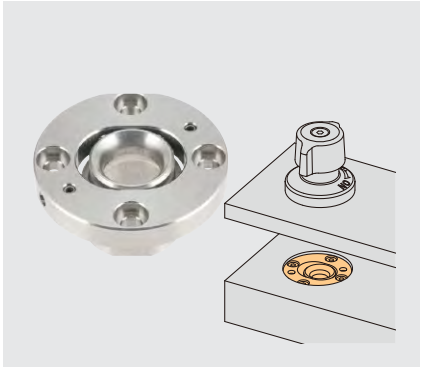
RETRACTABLE KNOB-LOCKING PINS

Part No. QCWEA



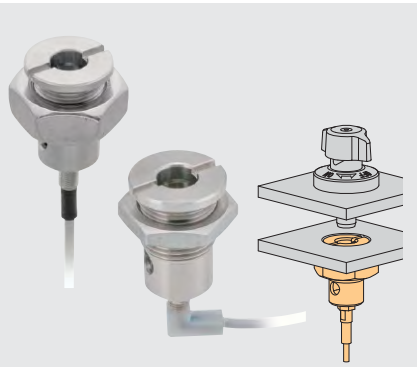
BALL-LOCK RECEPTACLES

Part No. QCBU-M



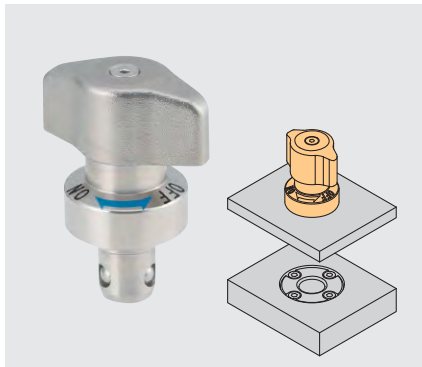
FLOATING RECEPTACLES

Part No. QCBU-FL



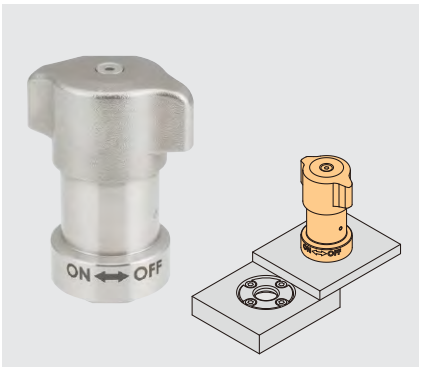
POSITION SENSOR RECEPTACLES

Part No. QCWE-M-S



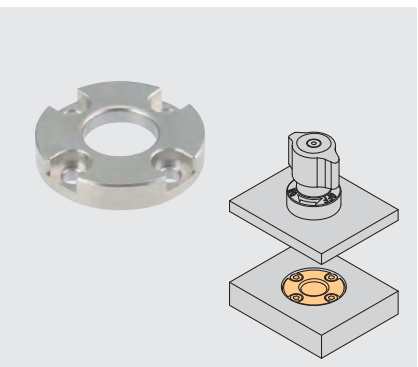
HEAVY DUTY KNOB-LOCKING PINS

Part No. QCWES



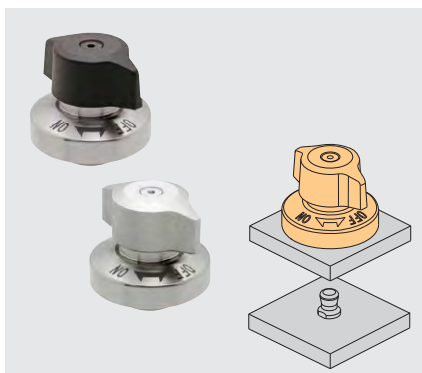
RETRACTABLE HEAVY DUTY KNOB-LOCKING PINS

Part No. QCWESA



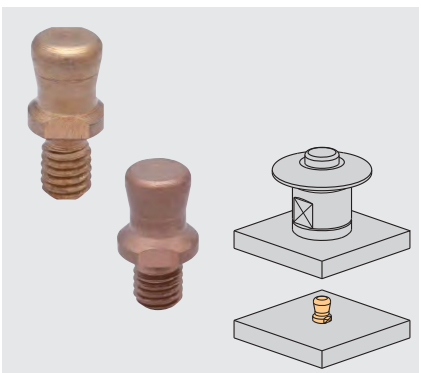
LOCKING RECEPTACLES

Part No. QCWES-B



PIN HOLDING CLAMPS

Part No. QCPC

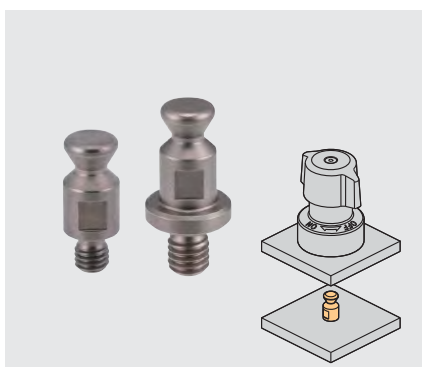


CLAMPING PINS

Part No. QCPC-M

HEAVY DUTY PIN HOLDING CLAMPS

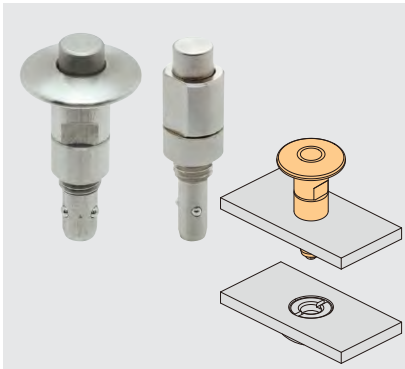
Part No. QCPCS



CLAMPING PINS

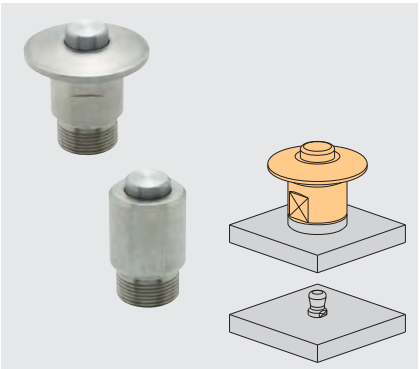
Part No. QCPCS-M / QCPCSF-M

Button Push



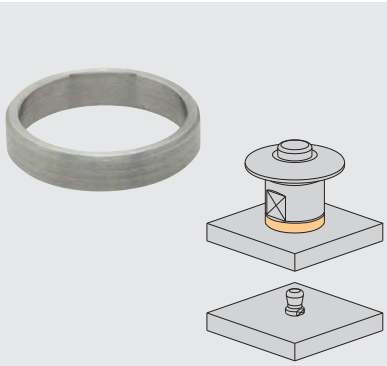
BUTTON-LOCKING PINS

Part No. QCBU / QCBUS



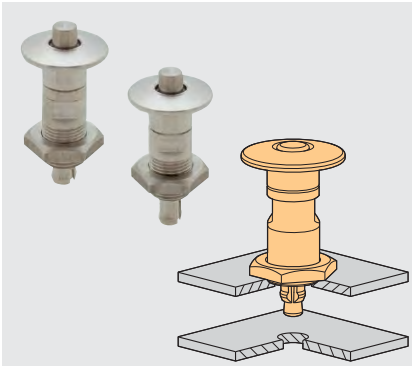
SNAP-IN CLAMPS

Part No. QCOW / QCOWS



SPACERS

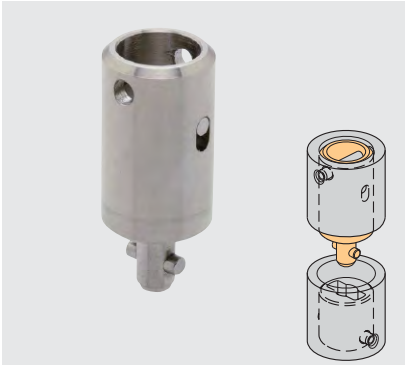
Part No. QCOW



HOLE HOLDING CLAMPS

Part No. QCHC-N

Twist Coupling



SHAFT COUPLING CLAMP

Part No. QCSJ

CAM RECEPTACLES

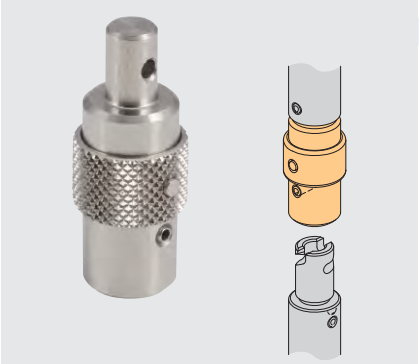
Part No. QCSJ-S / QCSJ-B

HEAVY DUTY SHAFT COUPLING CLAMP

Part No. QCSJS

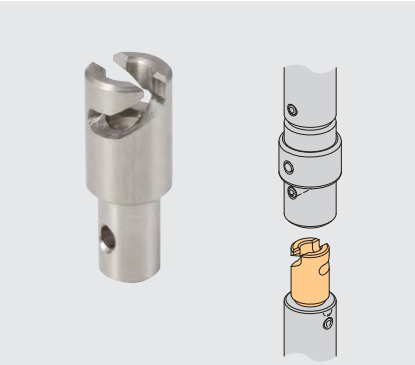
LOCKING RECEPTACLE

Part No. QCSJS-S



SHAFT COUPLING CLAMP WITH SAFETY LOCK

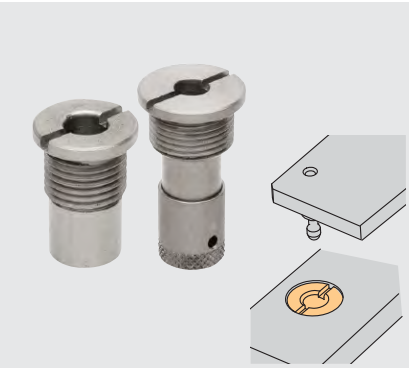
Part No. QCSJLK



LOCKING RECEPTACLE

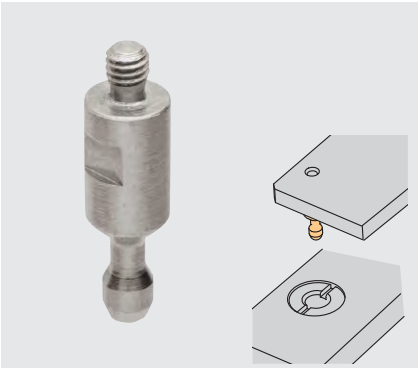
Part No. QCSJLK-S

Push Pull



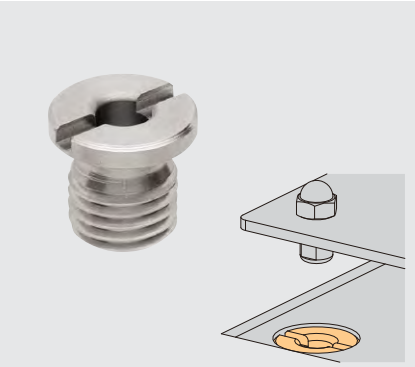
BALL-LOCK CLAMPING RECEPTACLES

Part No. QCBA / QCBAS



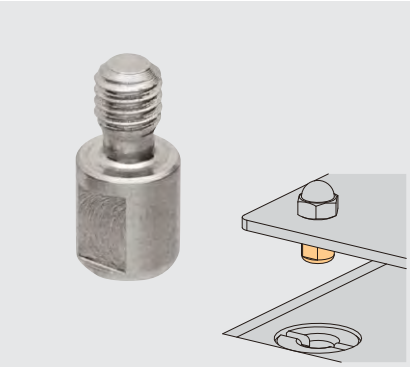
BALL-LOCK CLAMPING PINS

Part No. QCBA-M



MAGNET-LOCK CLAMPING RECEPTACLES

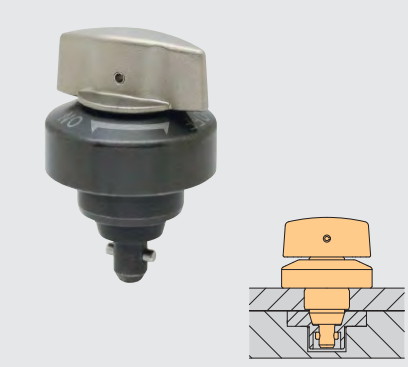
Part No. QCMA



MAGNET-LOCK CLAMPING PINS

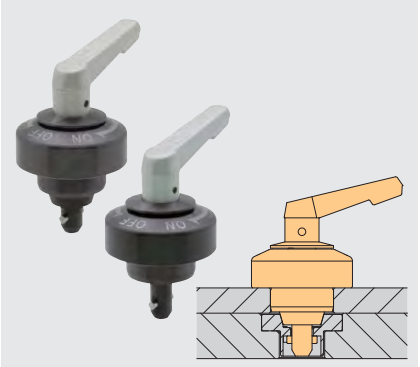
Part No. QCMA-M

Locate & Clamp



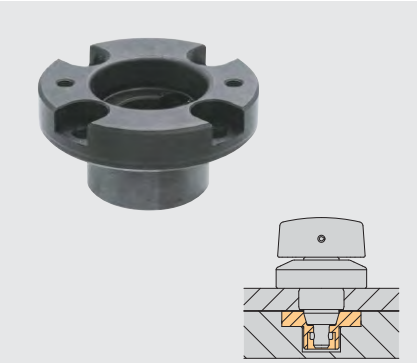
ONE-TOUCH FLEX LOCATOR CLAMPERS (Knob)

Part No. CP723



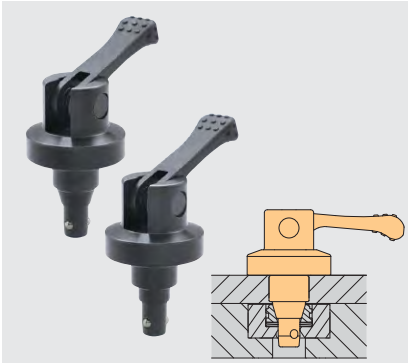
ONE-TOUCH FLEX LOCATOR CLAMPERS

Part No. CP722



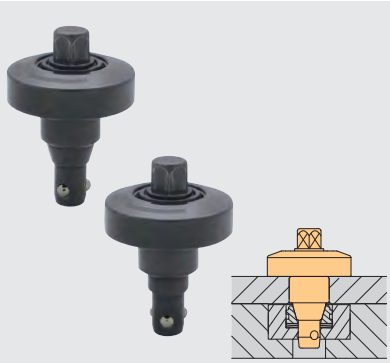
ONE-TOUCH FLEX LOCATOR BUSHINGS

Part No. CP727



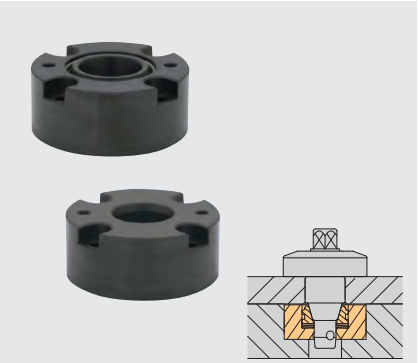
ONE-TOUCH FLEX LOCATOR CLAMPERS (Cam Handle)

Part No. CP731



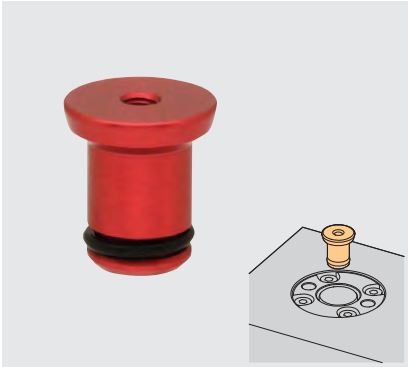
ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head)

Part No. CP730



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

QCTH / QCTHL / QCTHH QUARTER-TURN CLAMPS

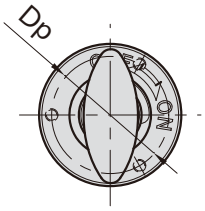
RoHS Stainless Steel

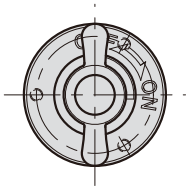
IMAO

★Key Point

Easy-to-read ON/OFF position

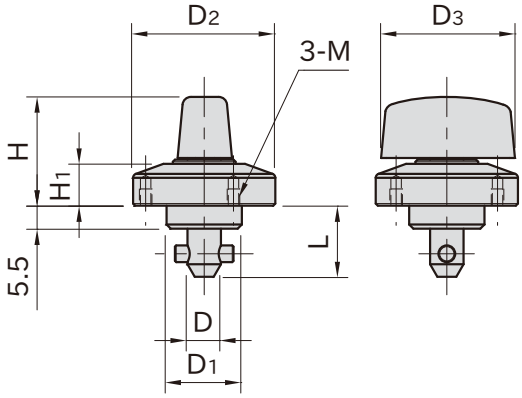
QCTH
(Plastic Knob)



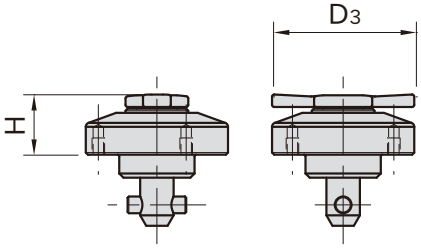


Stainless Steel

QCTH-SUS
(Stainless Steel)



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



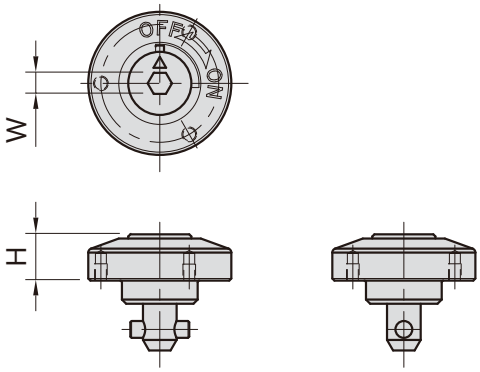
QCTHL-SUS
(Low-height Knob, Stainless Steel)

Stainless Steel

QCTHL-SUS
(Low-height Knob,
Stainless Steel)

Stainless Steel

QCTHH-SUS
(Hex. Socket Head,
Stainless Steel)



QCTHH-SUS
(Hex. Socket Head,
Stainless Steel)

Supplied With

- QCTH QCTH-SUS QCTHL-SUS QCTHH-SUS 0525-10:
  3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCTH QCTH-SUS QCTHL-SUS QCTHH-SUS 0834-14、0834-20:
  3 of socket-head cap screws(stainless steel), M3×0.5-6L

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

Size		Plate Thickness	D (−0.04 −0.08)	D1 (h9)	D2	L	H1	M	Dp	Clamping Force (N)	Holding Force (N) **	Cam Receptacles
QCTH QCTH-SUS QCTHL-SUS QCTHH-SUS	0525-10	3～10 *)	5	14	25	15.5	6.5	M2×0.4 Depth 3	21	60	60	QCTH0525-N,QCTH0525-B QCTH0525-N-SUS,QCTH0525-B-SUS
	0834-14	3～14 *)	8	18	34	17	10	M3×0.5 Depth 4	28	90	90	QCTH0834-N,QCTH0834-B QCTH0834-N-SUS,QCTH0834-B-SUS
	0834-20	12～20				23						

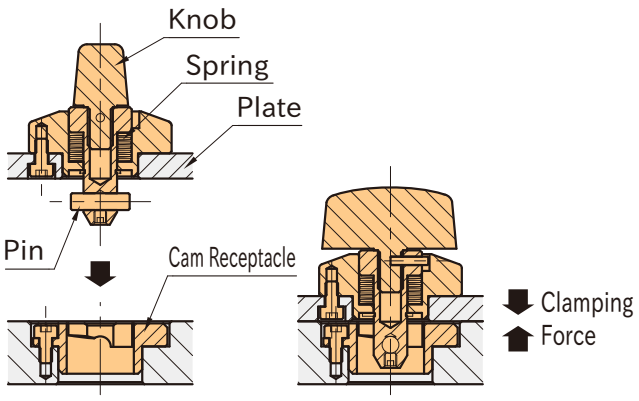
*) Spacer QCASP is required for thinner plate than 6mm.

**) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

QCTH (Plastic Knob)				QCTH-SUS (Stainless Steel)			
Part Number	D3	H	Weight (g)	Part Number	D3	H	Weight (g)
QCTH0525-10	20	19	35	QCTH0525-10-SUS	20	19	40
QCTH0834-14	32	26	105	QCTH0834-14-SUS	32	25.5	130
QCTH0834-20			110	QCTH0834-20-SUS			135

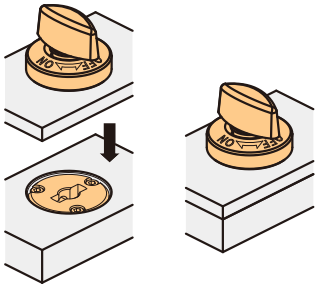
QCTHL-SUS (Low-height Knob, Stainless Steel)				QCTHH-SUS (Hex. Socket HeadStainless Steel)			
Part Number	D3	H	Weight (g)	Part Number	H	W	Weight (g)
QCTHL0525-10-SUS	25	11.5	35	QCTHH0525-10-SUS	8	4	30
QCTHL0834-14-SUS	34	15.5	83	QCTHH0834-14-SUS	11	5	75
QCTHL0834-20-SUS			85	QCTHH0834-20-SUS			77

Feature



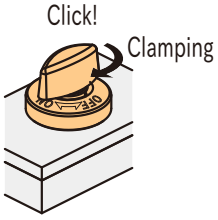
When the pin contacts the cam in the Cam Receptacle, the spring gets compressed to press down the plate.

How To Use



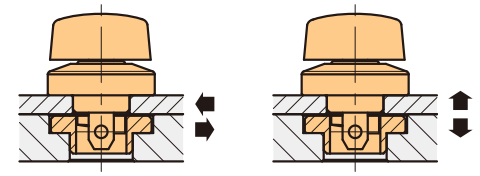
1. Ensure that the knob is positioned at the "OFF" mark.

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.

Mechanical Strength



Part Number		Heatresistant Temperature(℃)	Shear Strength (N)	Tensile Strength (N)
QCTH	0525-10	130	1800	1200
	0834-14		3200	2600
	0834-20			
QCTH-SUS	0525-10	180	1800	1200
QCTHL-SUS	0834-14		3200	2600
QCTHH-SUS	0834-20			

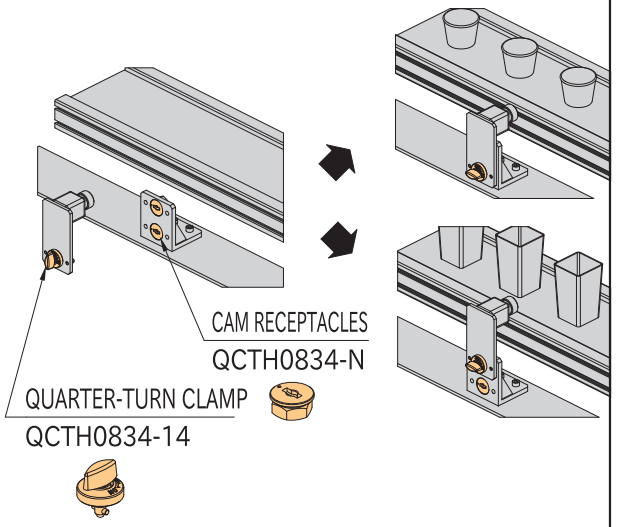
Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

QCTH-N / QCTH-B CAM RECEPTACLES

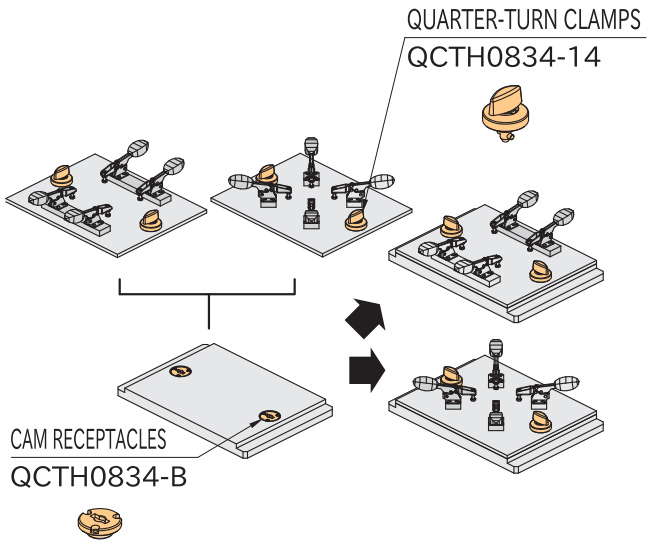
Continuing on Next Page

Application Example

Changes of camera positions



Changes of fixture plates



How To Install

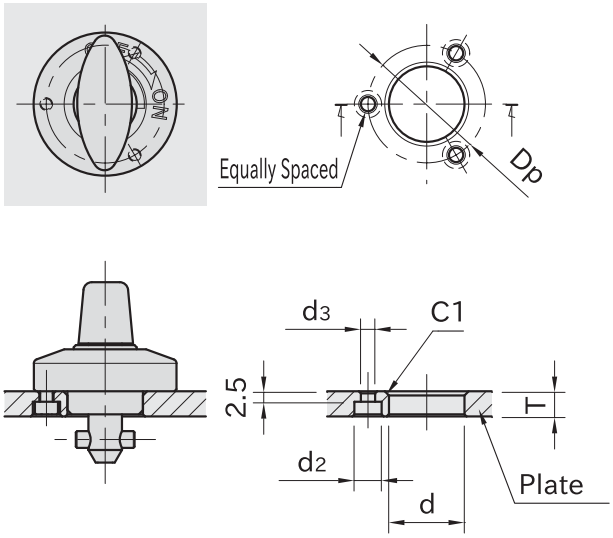


Figure A

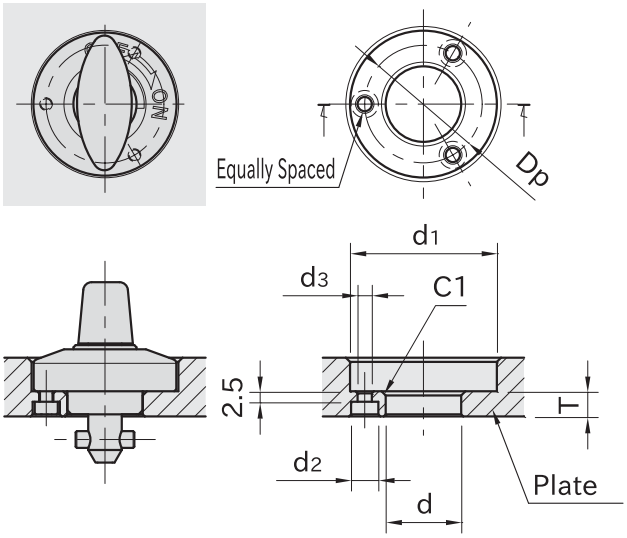


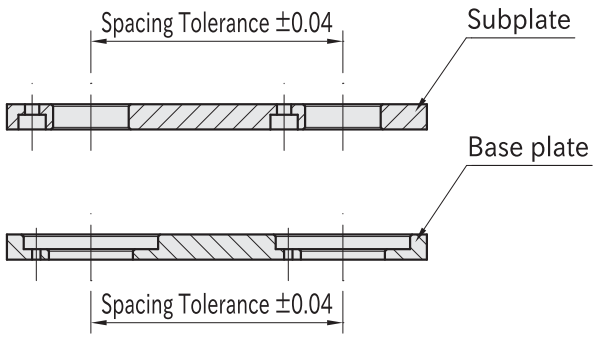
Figure B

Part Number		Plate Thickness	Figure	d (+0.10 +0.05)	d1	T (±0.2)	d2	d3	Dp
QCTH QCTH-SUS QCTHL-SUS QCTHH-SUS	0525-10	3 or more, under 6	Spacer QCASP is required.						
		6	A	14	—	6	4.4	2.4	21
		Over 6, 10 or less	B		26				
	0834-14	3 or more, under 6	Spacer QCASP is required.						
		6	A	18	—	6	6.5	3.4	28
		Over 6, 14 or less	B		35				
	0834-20	12	A		—	12			
		Over 12, 20 or less	B		35				

QCASP SPACERS

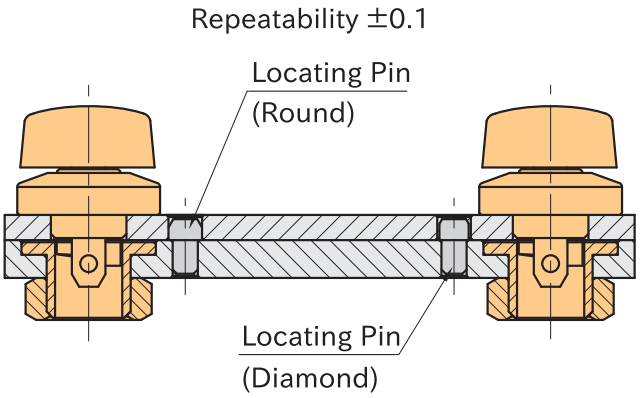
Accuracy

■Machining Accuracy



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

■Repeatability

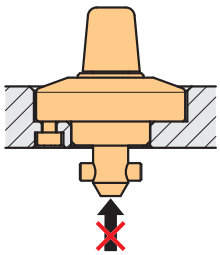


For higher accurate locating, use locating pins.

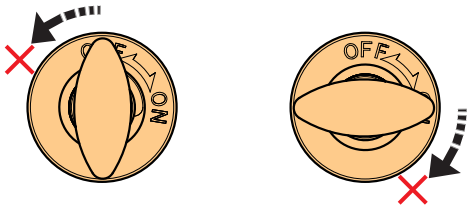
Caution

Note the following cautions using QCTH QCTH-SUS QCTHL-SUS QCTHH-SUS 0525-10

・Any force over 600N or more on the tip of the shaft from any direction can damage the pin.



・The knob operating torque is 0.4 N・m. Note that the excessive operating torque over 2 N・m can damage the pin.



Reference

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

・Spacer QCASP is required for 3mm or more, under 6mm plate thickness.

QCTHA RETRACTABLE QUARTER-TURN CLAMPS

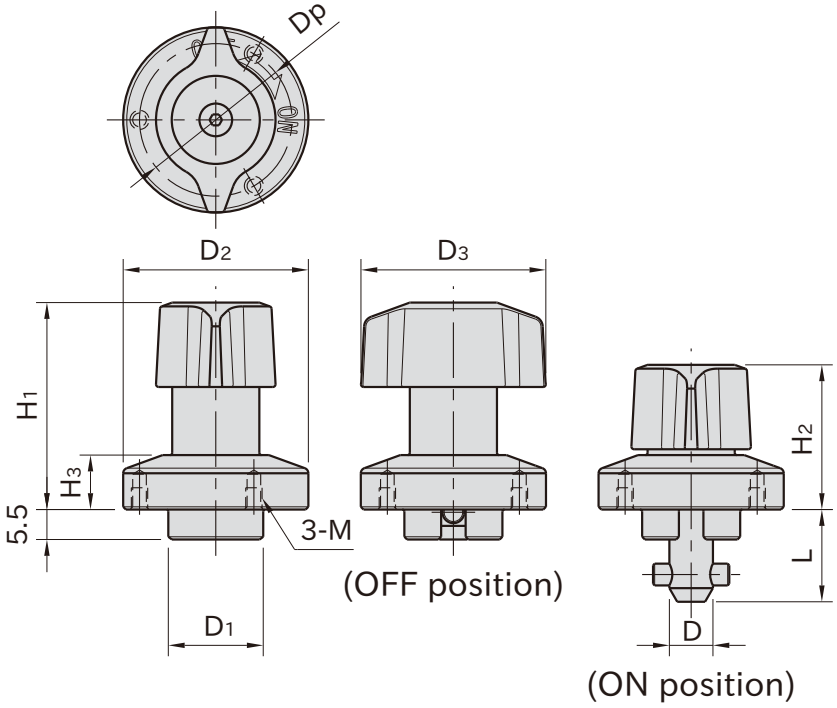
RoHS Stainless Steel

IMAO

QCTHA
(Plastic Knob,
OFF position)

Stainless Steel

QCTHA-SUS
(Stainless Steel,
ON position)



★One Point

No interference by retractable shank

Type	Body	Shank	Pin	Knob	Spring A	Spring B
QCTHA	SUS303 stainless steel	S45C steel Electroless nickel plated	SUS304 stainless steel	Polyamide (glass-fiber reinforced) Black	Equivalent to SWOSC-V steel	SUS304WPB stainless steel
QCTHA-SUS		SUS303 stainless steel		SCS13 stainless steel (Equivalent to SUS304)	SUS304-CSP stainless steel	

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

*) Spacer QCASP is required for thinner plate than 6mm.

**) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

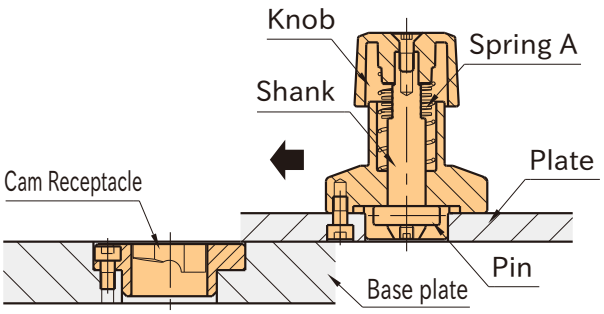
QCTHA (Plastic Knob)		QCTHA-SUS (Stainless Steel)	
Part Number	Weight (g)	Part Number	Weight (g)
QCTHA0525-10	40	QCTHA0525-10SUS	53
QCTHA0834-14	100	QCTHA0834-14SUS	117

Supplied With

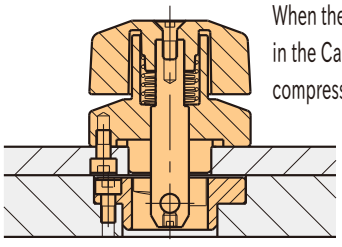
- QCTHA QCTHA-SUS 0525-10:3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCTHA QCTHA-SUS 0834-14:3 of socket-head cap screws(stainless steel), M3×0.5-6L

QCTH-N/QCTH-B CAM RECEPTACLES

Feature



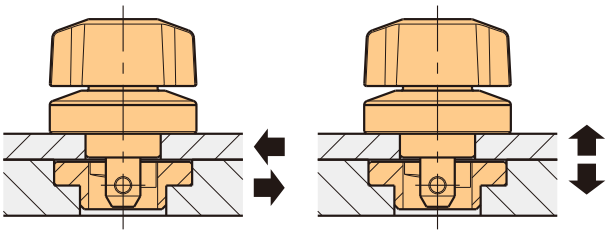
The shank retracts at the unclamping position to enable operations without interference with the base plate.



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

Clamping Force

Mechanical Strength

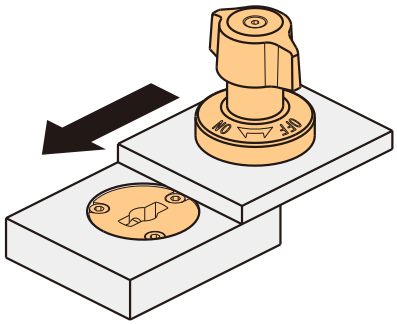


Shear Strength Tensile Strength

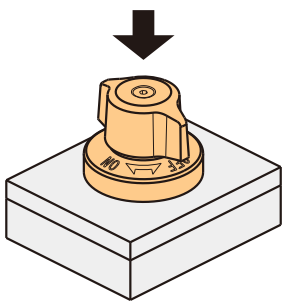
Part Number		Heatresistant Temperature(℃)	Shear Strength(N)	Tensile Strength(N)
QCTHA	0525-10	130	1800	1200
	0834-14		3200	400
QCTHA-SUS	0525-10	180	1800	1200
	0834-14		3200	

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

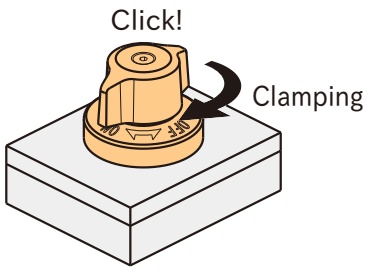
How To Use



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.

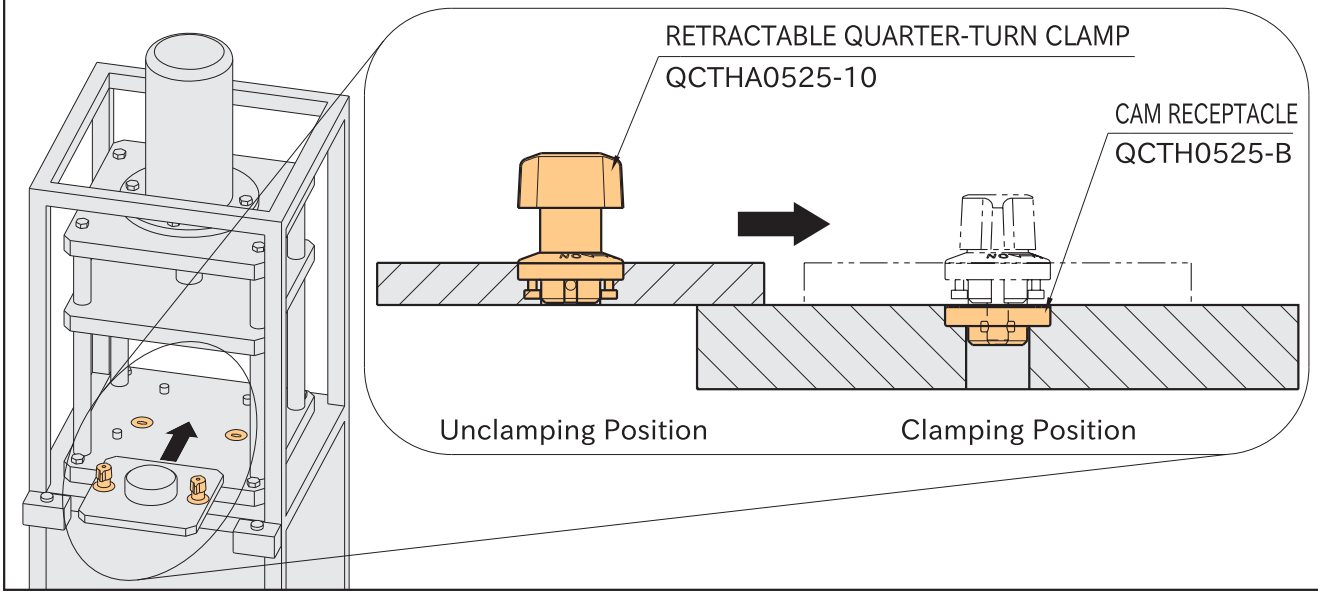


3. Turn the knob to the "ON" mark for clamping. The knob clicks when clamped.
   Turning the knob to the "OFF" position, the shank returns automatically to the unclamping position by the spring.

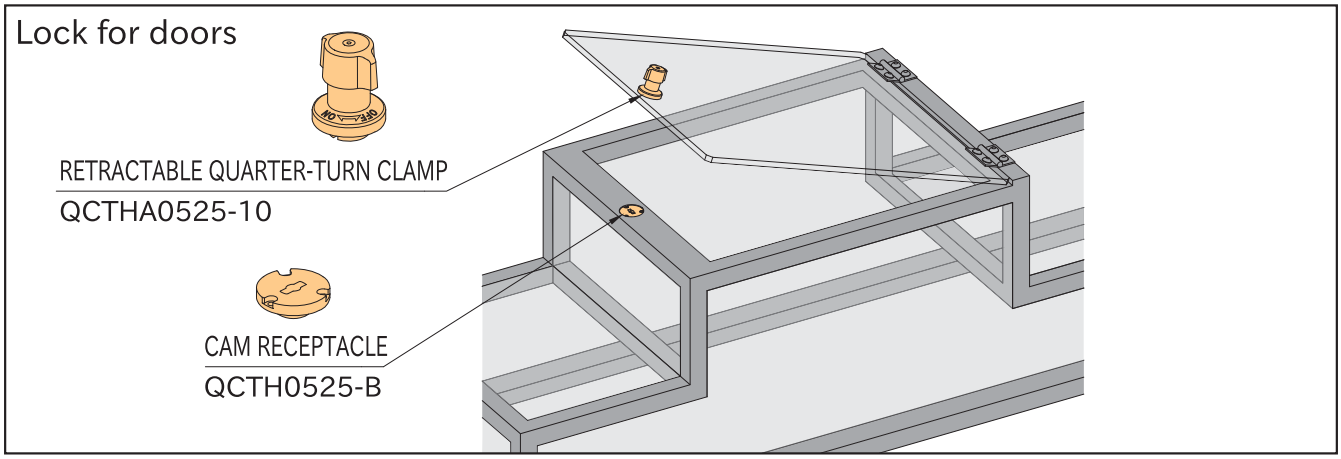
Continuing on Next Page

Application Example

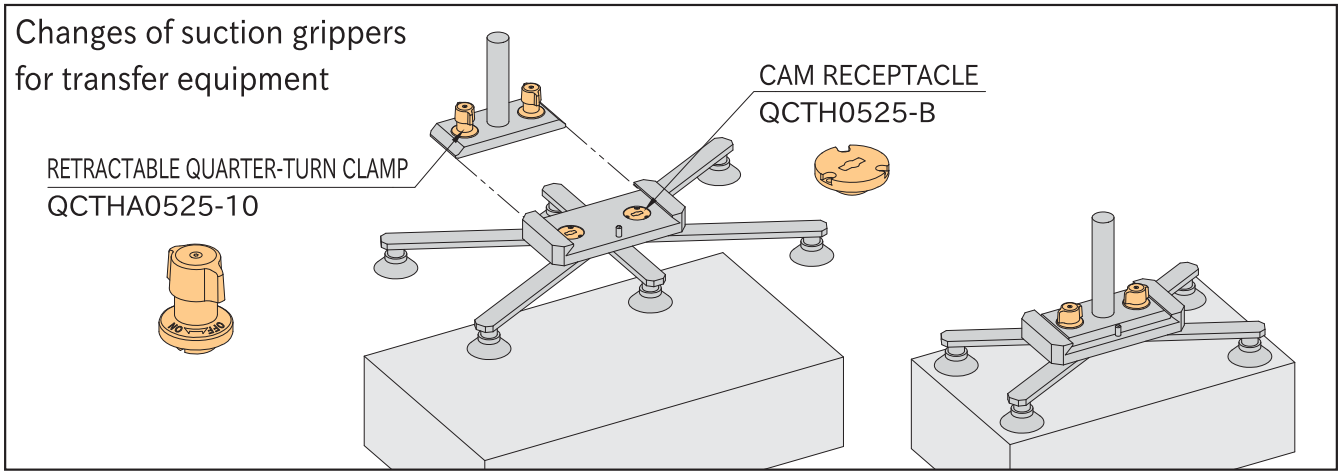
Changes of fixture plates



Lock for doors



Changes of suction grippers for transfer equipment



Reference

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

・Spacer QCASP is required for 3mm or more, under 6mm plate thickness.

How To Install

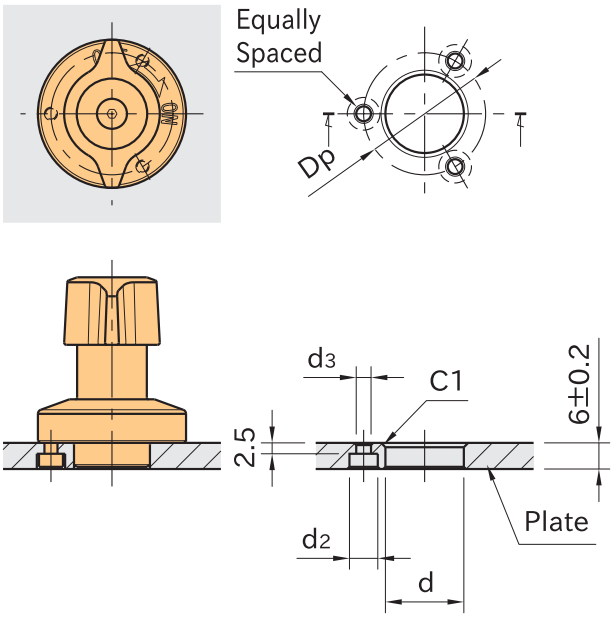


Figure A

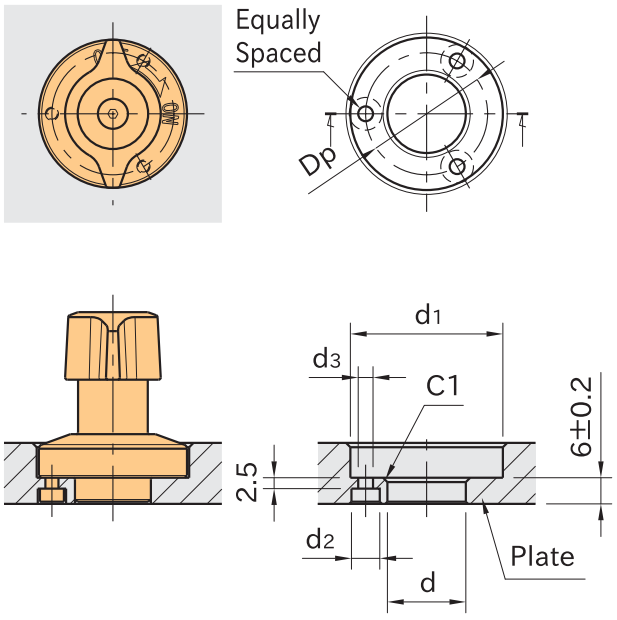


Figure B

Part Number		Proper Plate Thickness	Figure	D (+0.10 +0.05)	d1	d2	d3	Dp
QCTHA QCTHA-SUS	0525-10	3 or more, under 6	Spacer QCASP is required.					
		6	A	14	—	4.4	2.4	21
		Over 6, 10 or less	B		26			
	0834-14	3 or more, under 6	Spacer QCASP is required.					
		6	A	18	—	6.5	3.4	28
		Over 6, 14 or less	B		35			

QCASP SPACERS

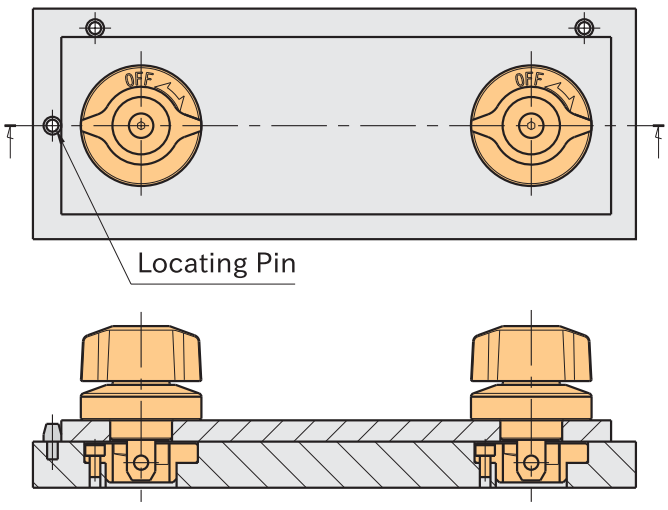
Accuracy

■Machining Accuracy

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

■Repeatability

Repeatability ±0.1

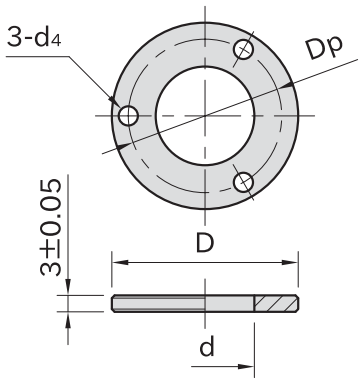


For higher accurate locating, use locating components.

QCASP SPACERS

RoHS Stainless Steel

IMAO



★Key Point

Quarter-Turn Clamps can be mounted on 3mm plate.

Body
SUS303 stainless steel

Part Number	D	d ($^{+0.1}_{0}$)	Dp	d_4	Weight (g)
QCASP25-03-SUS	25	14	21	2.3	8
QCASP34-03-SUS	34	18	28	3.5	15.5

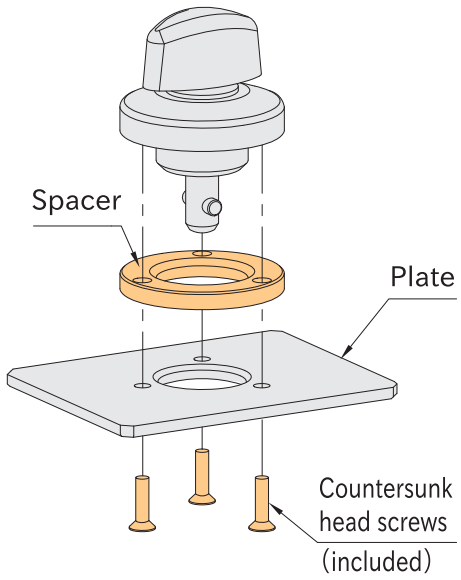
Supplied With

·QCASP25-03-SUS:
3 of countersunk head screws(stainless steel), M2x0.4-8L
·QCASP34-03-SUS:
3 of countersunk head screws(stainless steel), M2x0.5-9L

Note:

To mount the spacer, use the included countersunk head screws.

How To Use



How To Install

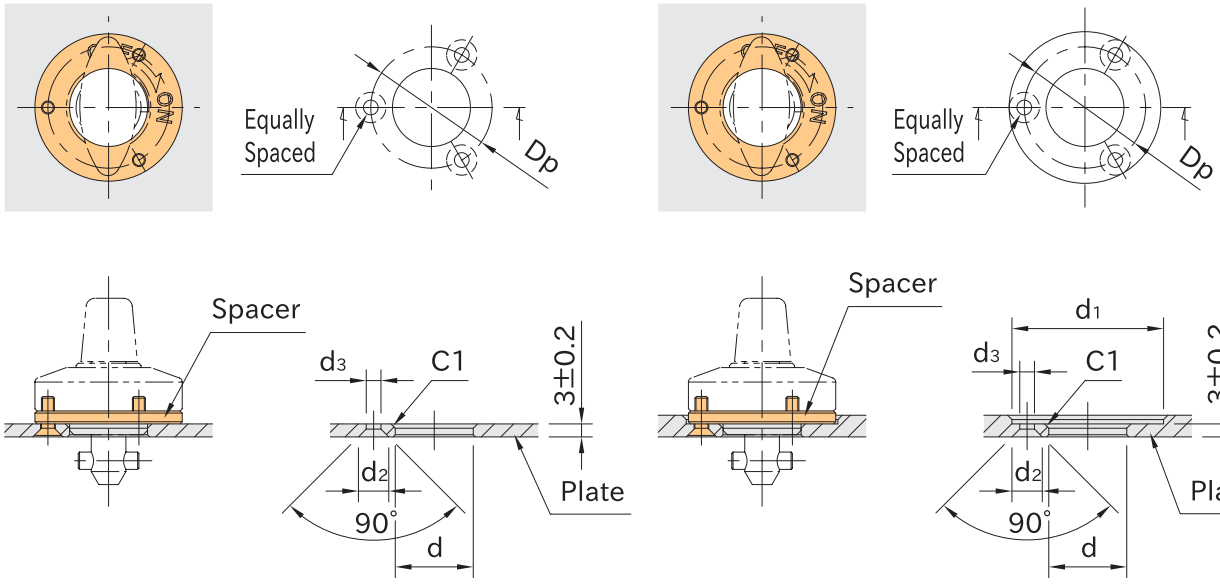


Figure A

Figure B

Part Number	Plate Thickness	Figure	d (+0.10 +0.05)	d1	T *) (±0.2)	d2	d3	Dp
QCASP25-03-SUS	3	A	14	–	3	5	2.4	21
	Over 3, under 6	B		26				
QCASP34-03-SUS	3	A	18	–		7	3.4	28
	Over 3, under 6	B		35				

Part Number	Quarter-Turn Clamps		Retractable Quarter-Turn Clamps		Heavy Duty Quarter-Turn Clamps	
QCASP25-03-SUS	QCTH QCTH-SUS	0525-10	QCTHA	0525-10	QCTHS	0825-20
QCASP34-03-SUS	QCTHL-SUS QCTHH-SUS	0834-14	QCTHA-SUS	0834-14	QCTHS-S	0834-20

Part Number	Pin Holding Clamps		Heavy Duty Pin Holding Clamps	
QCASP25-03-SUS	QCPC	0625-10	QCPCS	0625-20
QCASP34-03-SUS	QCPC-SUS	0834-14	QCPCS-SUS	0834-20

Part Number	Knob-Locking Pins		Retractable Knob-locking Pins	
QCASP25-03-SUS	QCWE	0625-10	QCWEA-SUS	0625-10
QCASP34-03-SUS	QCWE-SUS	1034-14		1034-14

Note: Combining QCWE / QCWE-SUS / QCWEA-SUS with Position Sensor Receptacles QCWE-M-S & Spacers QCASP requires a tolerance of ±0.05 for dimension T to ensure stable sensor operation.

QCTH-N / QCTH-B CAM RECEPTACLES

RoHS Stainless Steel

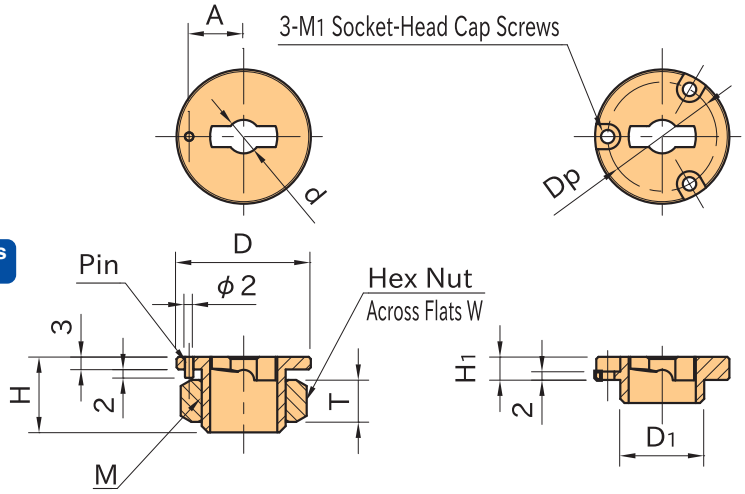
IMAO

QCTH-N
(Thin-Plate Mount)

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

QCTH-B
(Embedded Mount)

Stainless Steel
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)

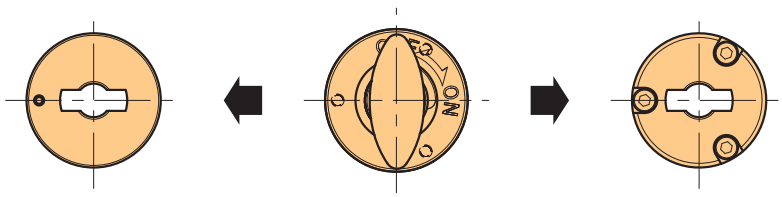
Type	Body	Nut
QCTH-N	SCM440 steel Electroless nickel plated	Stainless steel
QCTH-B		—
QCTH-N-SUS	SCS24 stainless steel (Equivalent to SUS630)	Stainless steel
QCTH-B-SUS		—

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	M14X1.5 (Fine Thread)	8	22	—	—	—	—	40	QCTH	0525-10
QCTH0525-N-SUS																	
QCTH0834-N		6~12	32		18	8	13	M20X1.5 (Fine Thread)	10	30					55	QCTHL-SUS	0834-14
QCTH0834-N-SUS																QCTH-SUS	0834-20
QCTH0525-B	Embedded Mount	Over 10	25	—	9	5	—	—	—	—	14	4.5	M2	21	20	QCTHH-SUS	0525-10
QCTH0525-B-SUS																QCTHA	
QCTH0834-B		Over 12	32		11	8					20	5.5	M3	26	35	QCTHA-SUS	0834-14
QCTH0834-B-SUS																	0834-20

Supplied With

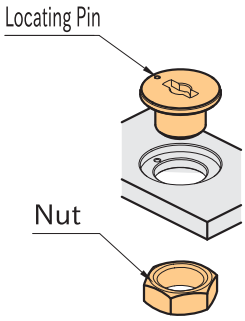
- QCTH0525-B QCTH0525-B-SUS : 3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCTH0834-B QCTH0834-B-SUS : 3 of socket-head cap screws(stainless steel), M3×0.5-6L

Installing Position

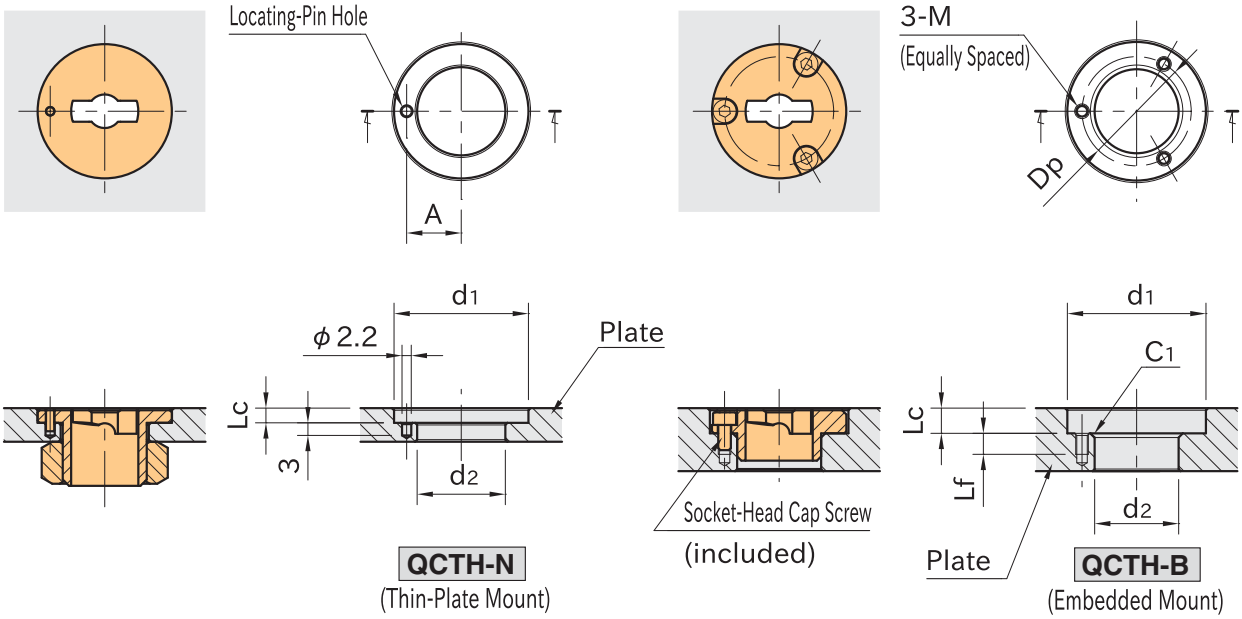


Cam Receptacle (Thin-Plate Mount) Quarter-Turn Clamp Cam Receptacle (Embedded Mount)

How To Install



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



Part Number	Proper Plate Thickness		d1		d2		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											
QCTH0834-N		6~12	32		21		13				
QCTH0834-N-SUS											
QCTH0525-B	Embedded Mount	Over 10	26	—	14	+0.10 +0.05	—	5	M2×0.4	4	21
QCTH0525-B-SUS											
QCTH0834-B		Over 12	33		20			6	M3×0.5	5	26
QCTH0834-B-SUS											

Reference

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

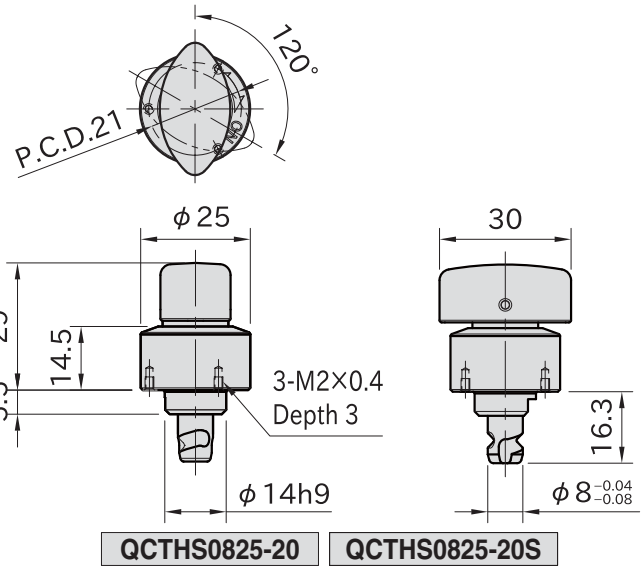
QCTHS HEAVY DUTY QUARTER-TURN CLAMPS

RoHS

IMAO

QCTHS0825-20
(Plastic Knob)

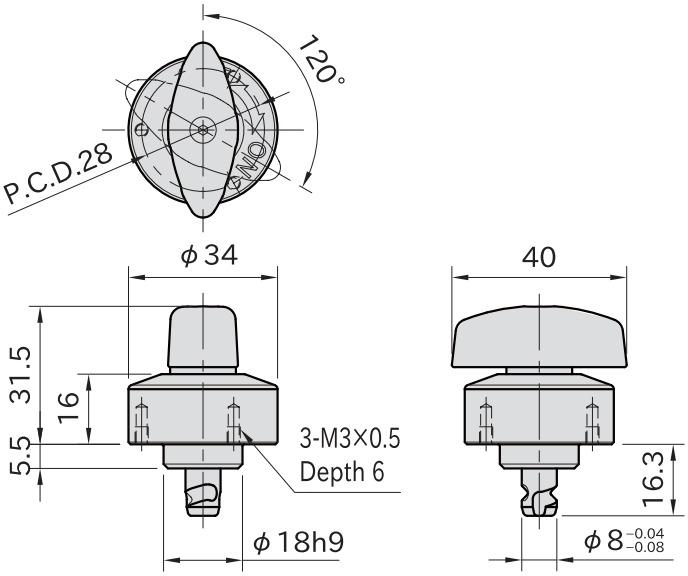
QCTHS0825-20S
(Metal Knob)



QCTHS0825-20 QCTHS0825-20S

QCTHS0834-20
(Plastic Knob)

QCTHS0834-20S
(Metal Knob)



QCTHS0834-20 QCTHS0834-20S

★Key Point
Clamping force 400N,250N

Part Number	Body	Shank	Pin	Knob	Spring A	Spring B
QCTHS	SUS303 stainless steel	SKS3 steel Electroless nickel plated Quenched and tempered	SUS440C stainless steel Quenched and tempered	Polyamide (glass-fiber reinforced) Black	Equivalent to SWOSC-V steel	SUS316J1 stainless steel
QCTHS-S				SCS13 stainless steel (Equivalent to SUS304)		

Part Number	Proper Plate Thickness	Clamping Force (N)	Holding Force (N)**	Weight (g)	Proper Locking Receptacle
QCTHS0825-20	3~20 *)	250	250	62	QCTHS0834-B
QCTHS0825-20S				84	
QCTHS0834-20		400	400	121	
QCTHS0834-20S				157	

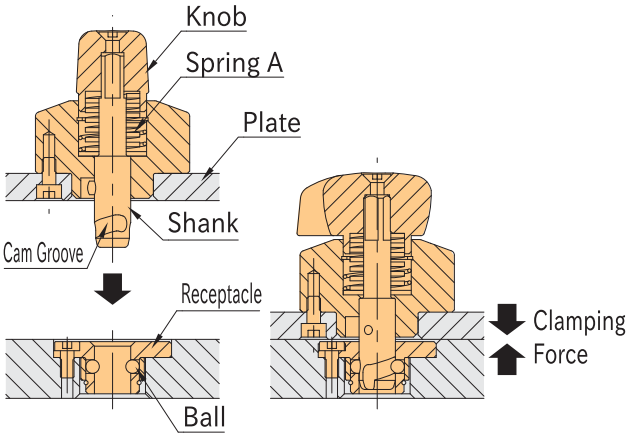
*) Spacer QCASP is required for thinner plate than 6mm.
**) The holding force limits the gap between plates within 0.1 mm.

Supplied With

- QCTHS QCTHS-S 0825-20 :
  3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCTHS QCTHS-S 0834-20 :
  3 of socket-head cap screws(stainless steel), M3×0.5-6L

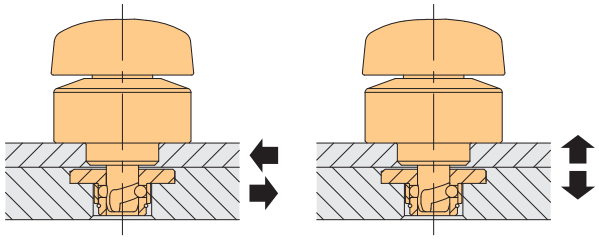
QCTHS-B LOCKING RECEPTACLE

Feature



When the cam groove moves along the ball inside the receptacle, the spring A gets compressed to press down the plate.

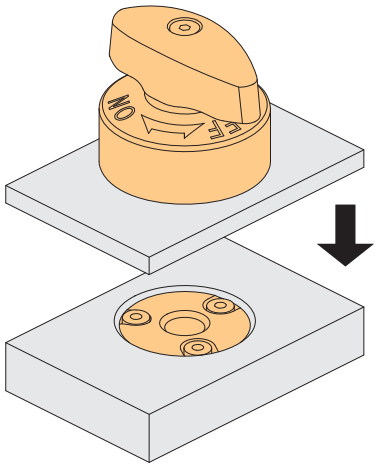
Technical Information



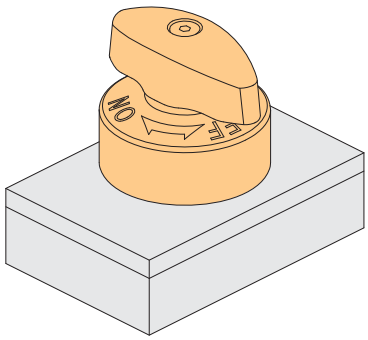
Part Number	Heatresistant Temperature (℃)	Shear Strength (N)	Tensile Strength (N)
QCTHS0825-20	130	4800	1100
QCTHS0825-20S	180		
QCTHS0834-20	130		1600
QCTHS0834-20S	180		

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

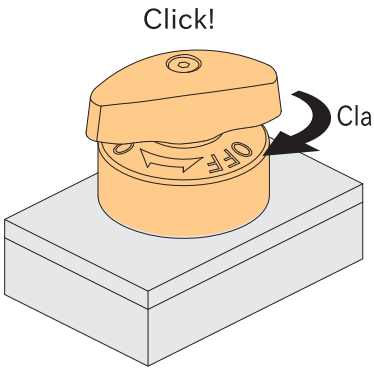
How To Use



1. Ensure that the knob is positioned atthe "OFF" mark.



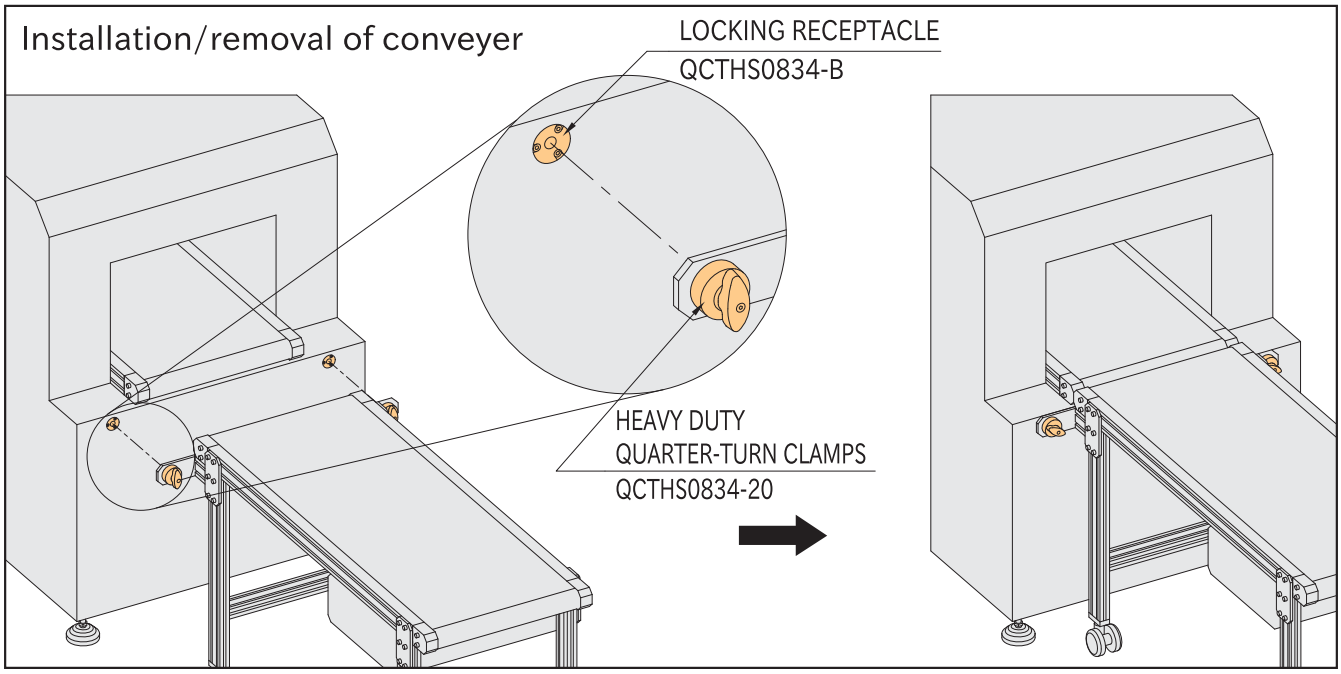
2. Insert the Heavy Duty Quarter-Turn Clamp.

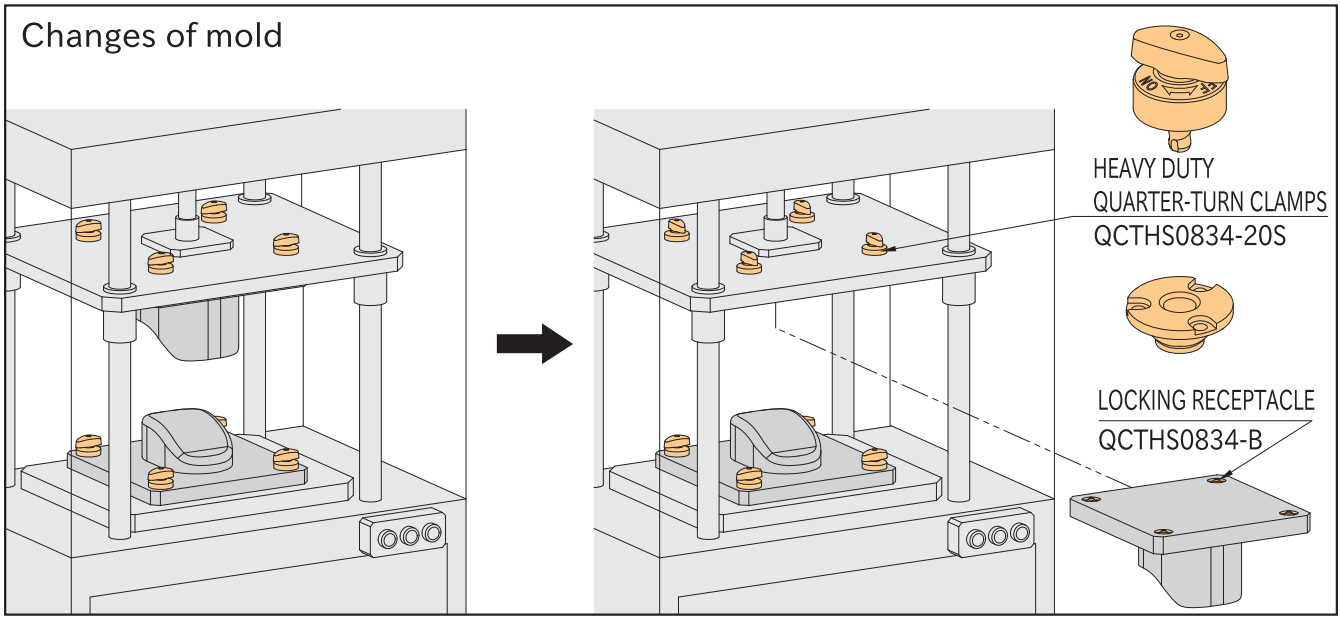


3. Turn the knob to the "ON" mark for clamping. The knob clicks when it is clamped/unclamped.
   Note: For unclamping, follow back these steps.

Continuing on Next Page

Application Example





Reference

・"How To Install" of QCTHS-B Locking Receptacle
・Spacer QCASP is required for 3mm or more, under 6mm plate thickness.

How To Install

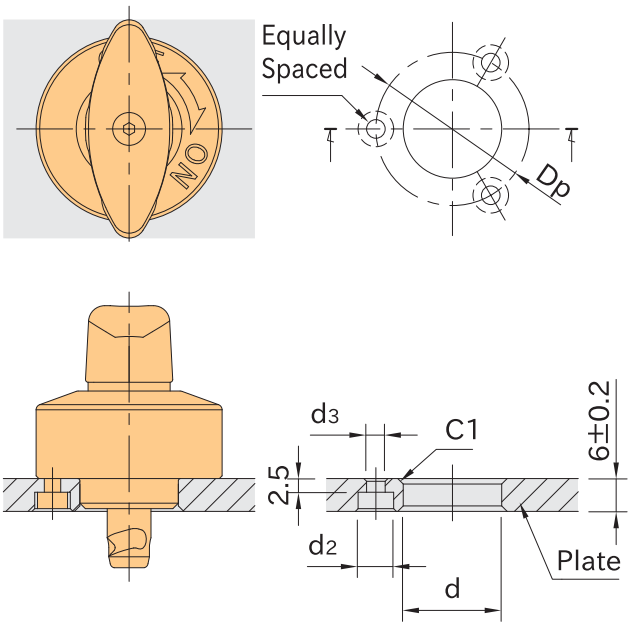


Figure A

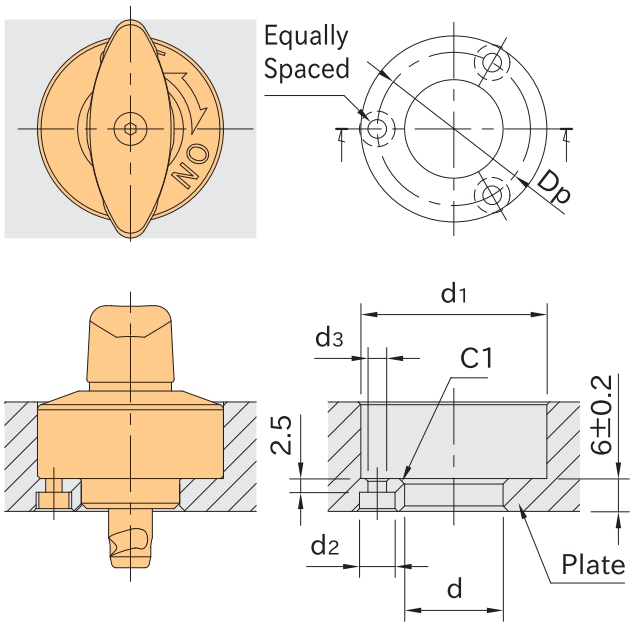


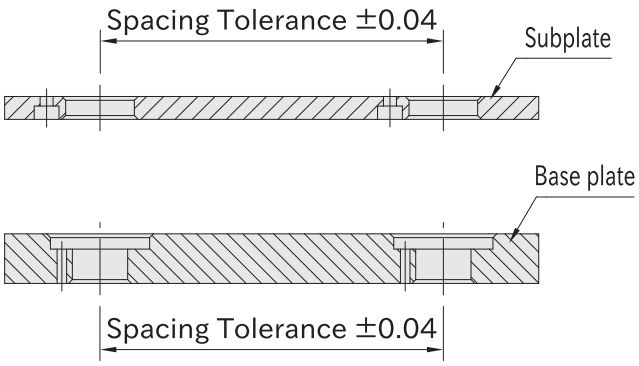
Figure B

Size		Proper Plate Thickness	Figure	d (+0.10 +0.05)	d1	d2	d3	Dp
QCTHS QCTHS-S	0825-20	3 or more, under 6	Spacer QCASP is required.					
		6	A	14	—	4.4	2.4	21
		over 6, 20 or less	B		26			
	0834-20	3 or more, under 6	Spacer QCASP is required.					
		6	A	18	—	6.5	3.4	28
		over 6, 20 or less	B		35			

QCASP SPACERS

Accuracy

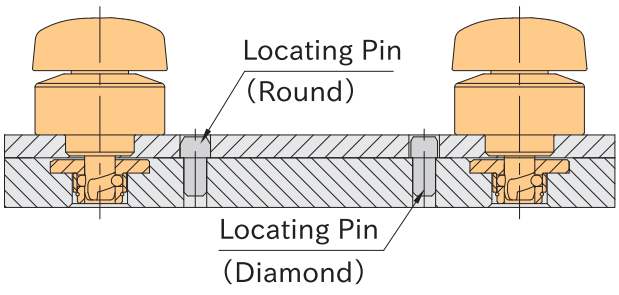
■Machining Accuracy



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

■Repeatability

Repeatability ±0.1



For higher accurate locating, use locating pins.

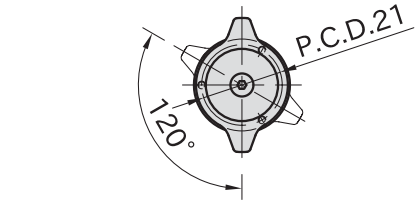
QCTHSA RETRACTABLE HEAVY DUTY QUARTER-TURN CLAMPS

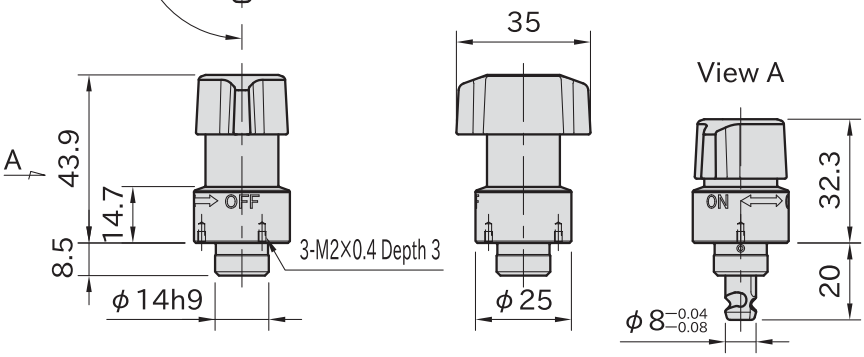
RoHS

IMAO

QCTHSA0825-20
(Plastic Knob)
(OFF position)

QCTHSA0825-20S
(Metal Knob)
(ON position)



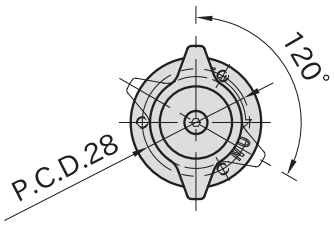


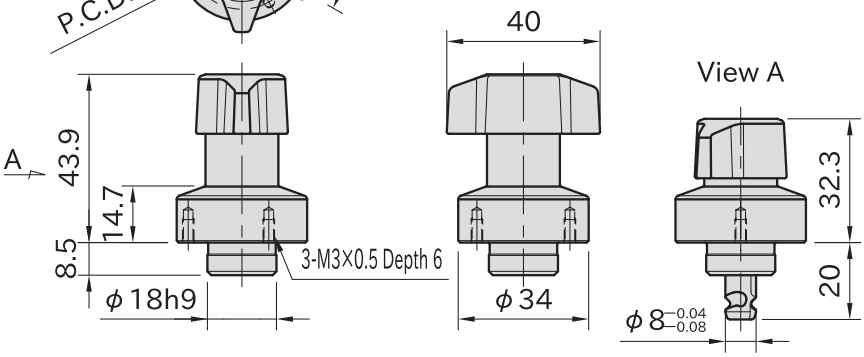
(OFF position) (ON position)

QCTHSA0825-20 QCTHSA0825-20S

QCTHSA0834-20
(Plastic Knob)
(OFF position)

QCTHSA0834-20S
(Metal Knob)
(ON position)





(OFF position) (ON position)

QCTHSA0834-20 QCTHSA0834-20S

★Key Point

No interference by retractable shank

Type	Body	Shank	Pin	Knob	Spring A	Spring B
QCTHSA	SUS303 stainless steel	SKS3 steel Electroless nickel plated Quenched and tempered	SUS420J2 stainless steel Quenched and tempered	Polyamide (glass-fiber reinforced) Black	Equivalent to SWOSC-V steel	SUS304WPB stainless steel
QCTHSA-S				SCS13 stainless steel (Equivalent to SUS304)		

Part Number	Proper Plate Thickness	Clamping Force (N)	Holding Force (N) **	Weight (g)	Proper Locking Receptacle
QCTHSA0825-20	6~20 *)	250	250	76	QCTHS0834-B
QCTHSA0825-20S				104	
QCTHSA0834-20		400	400	130	
QCTHSA0834-20S				160	

*) Spacer QCASP is required for thinner plate than 9mm.

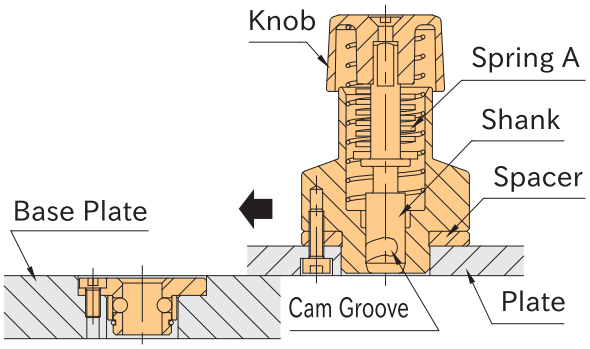
**) The holding force limits the gap between plates within 0.1 mm.

QCTHS-B LOCKING RECEPTACLE

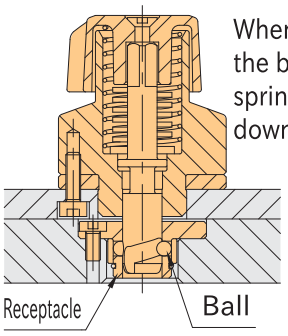
Supplied With

- QCTHSA QCTHSA-S 0825-20:
  3 of socket-head cap screws(stainless steel) M2×0.4-8L
- QCTHSA QCTHSA-S 0834-20:
  3 of socket-head cap screws(stainless steel) M3×0.5-10L

Feature



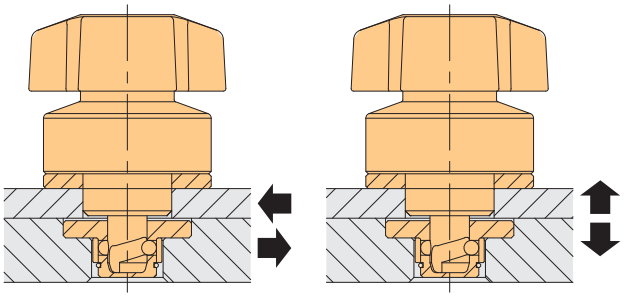
The shank retracts at the unclamping position to enable operations without interference with the base plate.



When the cam groove moves along the ball inside the receptacle, the spring A gets compressed to press down the plate.

Clamping Force

Technical Information

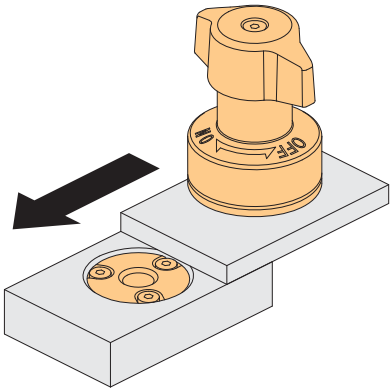


Shear Strength　　Tensile Strength

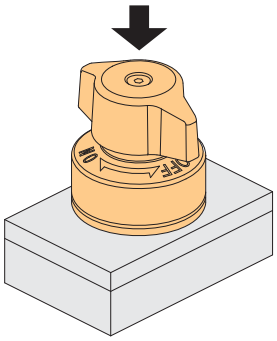
Part Number	Heatresistant Temperature (℃)	Shear Strength(N)	Tensile Strength(N)
QCTHSA0825-20	130	3000	1600
QCTHSA0825-20S	180		
QCTHSA0834-20	130		
QCTHSA0834-20S	180		

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

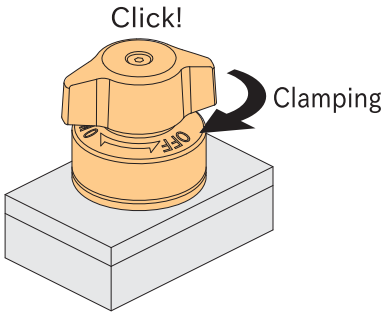
How To Use



1. Ensure that the knob is positioned at the"OFF" mark.



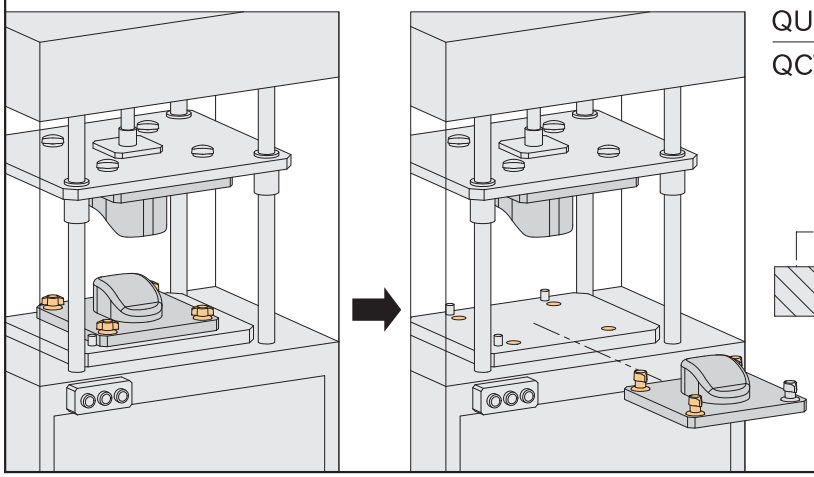
2. Insert the clamp pressing the knob.



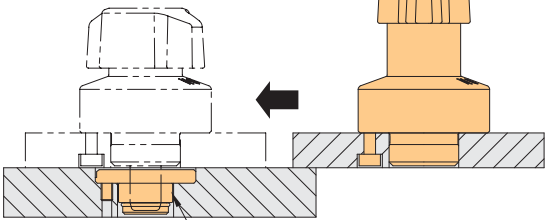
3. Turn the knob to the "ON" mark for clamping. The knob clicks when clamped. Turning the knob to the "OFF" position, the shank returns automatically to the unclamping position by the spring.

Application Example

Die Changing



RETRACTABLE HEAVY DUTY QUARTER-TURN CLAMP
QCTHSA0834-20

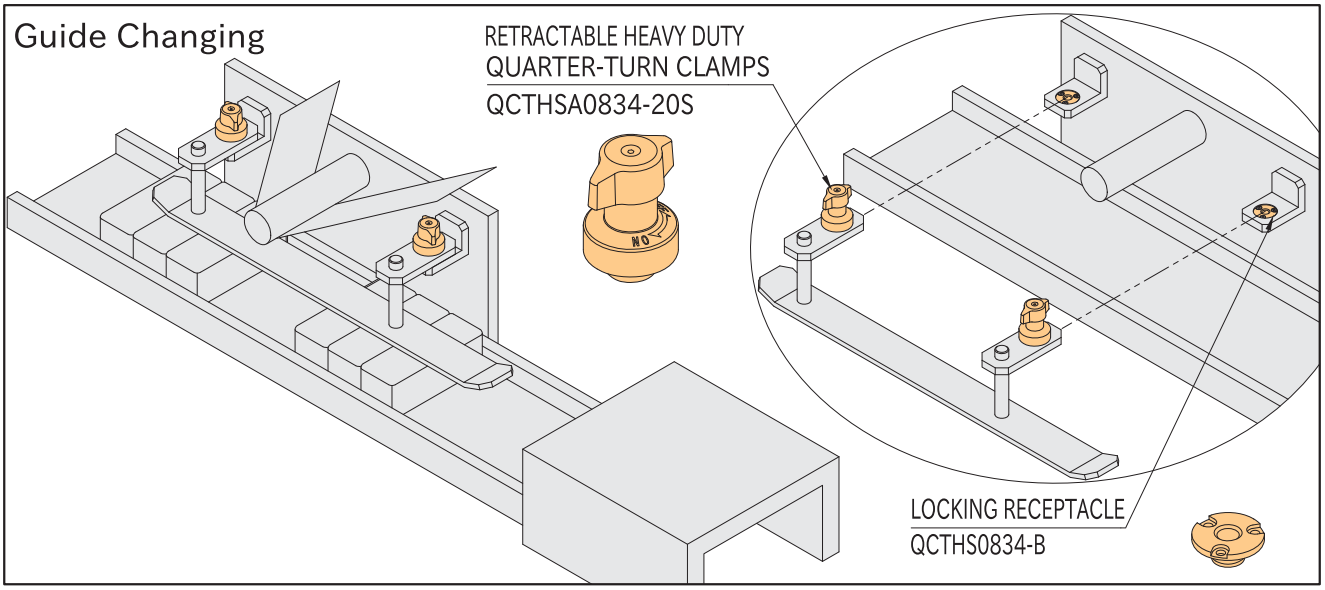


Clamping　　Unclamping

LOCKING RECEPTACLE
QCTHS0834-B

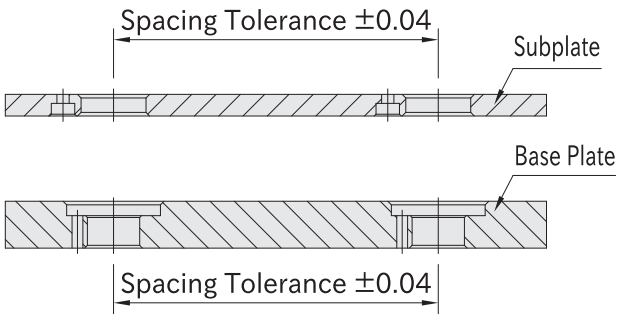
Continuing on Next Page

Application Example



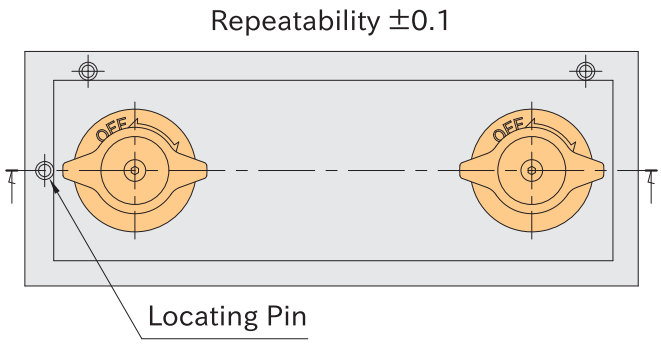
Accuracy

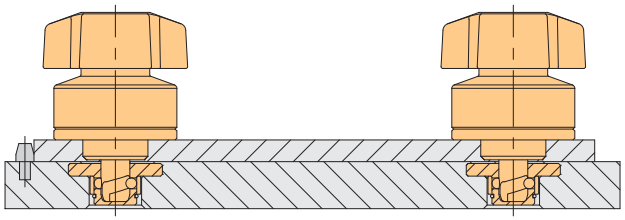
■Machining Accuracy



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

■Repeatability





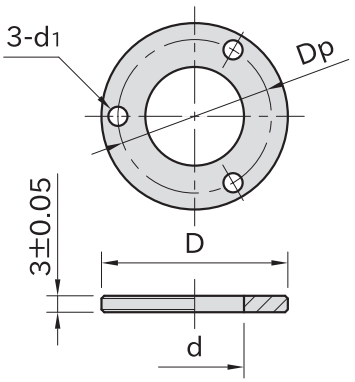
For higher accurate locating, use locating pins.

Reference

"How To Install Receptacle" of QCTHS-B LOCKING RECEPTACLE.

QCTHSA SPACERS

RoHS Stainless Steel



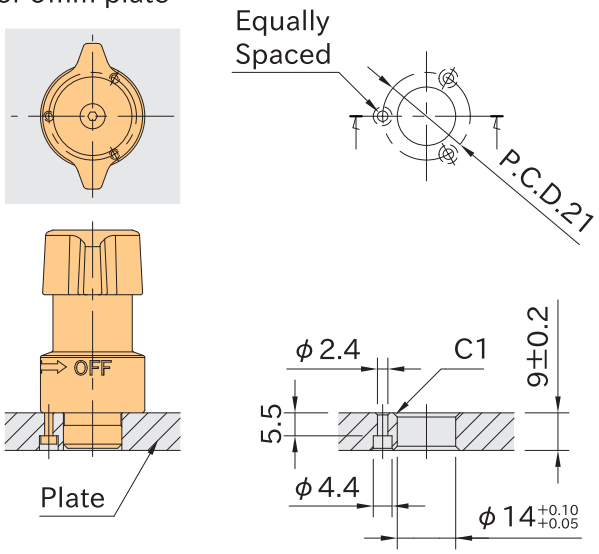
Body
SUS303 stainless steel

Part Number	D	d $(^{+0.1}_{0})$	Dp	d_1	Weight (g)
QCTHSA25-03-SUS	25	14	21	2.3	7
QCTHSA34-03-SUS	34	18	28	3.5	14

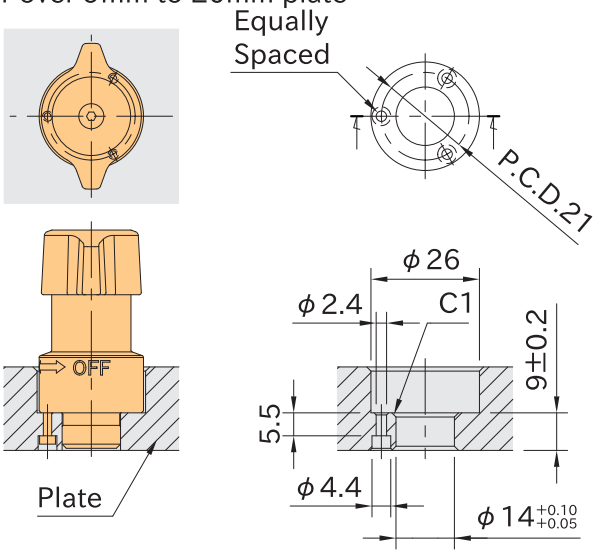
How To Install

QCTHSA0825-20 **QCTHSA0825-20S**

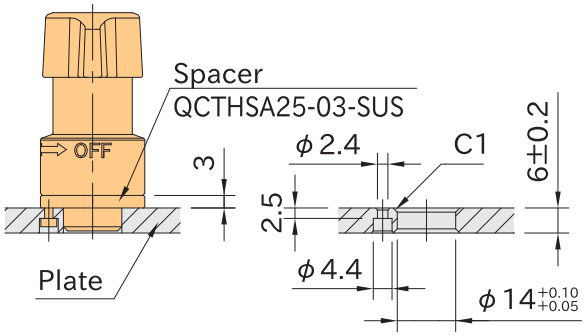
For 9mm plate



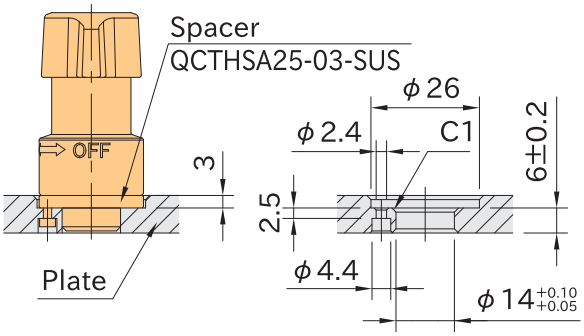
For over 9mm to 20mm plate



For 6mm plate

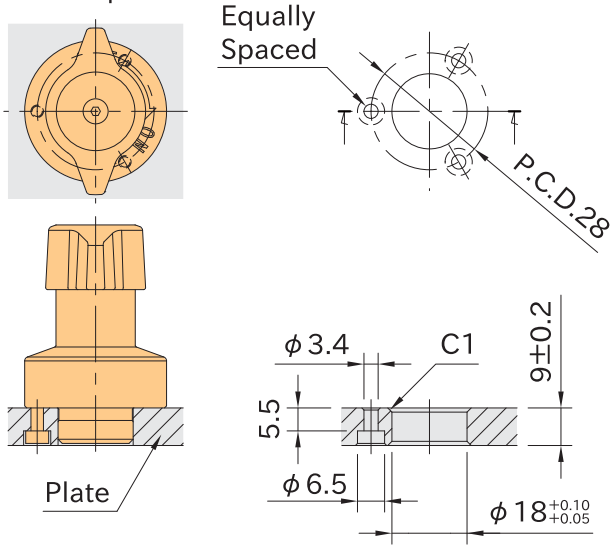


For over 6mm to under 9mm plate

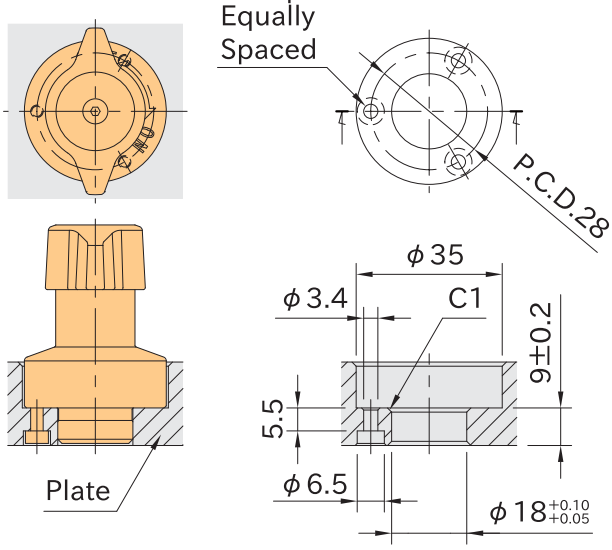


QCTHSA0834-20 **QCTHSA0834-20S**

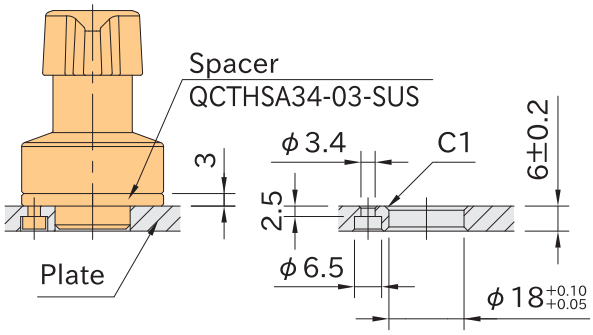
For 9mm plate



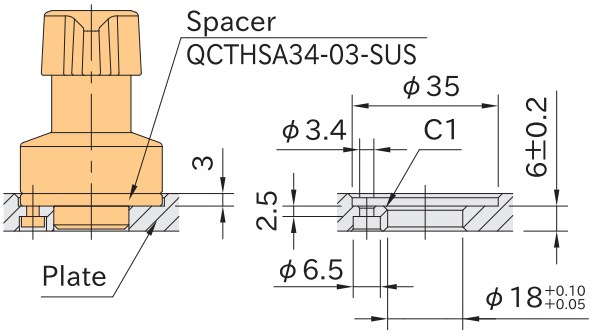
For over 9mm to 20mm plate



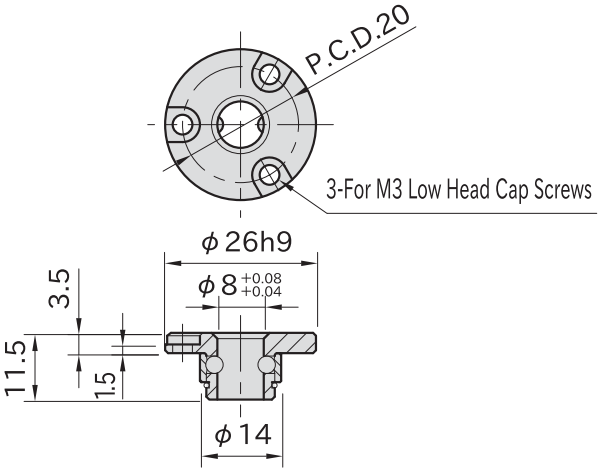
For 6mm plate



For over 6mm to under 9mm plate



QCTHS-B LOCKING RECEPTACLE



Body	Ball	Collar	Retaining Ring
S45C steel Electroless nickel plated	SUS440C stainless steel Quenched and tempered	SKS3 steel Electroless nickel plated Quenched and tempered	SUS304WPB stainless steel

Part Number	Weight (g)
QCTHS0834-B	19

Part Number	Proper Heavy Duty Quarter-Turn Clamps	Proper Retractable Heavy Duty Quarter-Turn Clamps	Proper Heavy Duty Shaft Coupling Clamp
QCTHS0834-B	QCTHS0825-20 QCTHS0825-20S QCTHS0834-20 QCTHS0834-20S	QCTHSA0825-20 QCTHSA0825-20S QCTHSA0834-20 QCTHSA0834-20S	QCSJS0822A

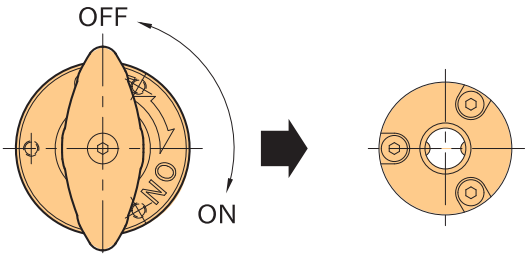
Supplied With

3 of low head cap screws(stainless steel), M3×0.5-6L

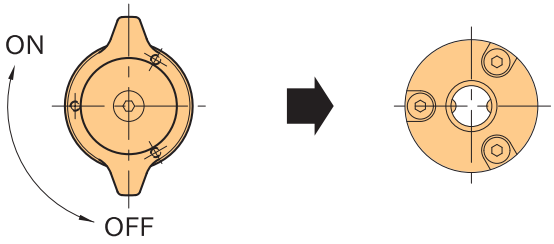
Reference

- QCTHS HEAVY DUTY QUARTER-TURN CLAMPS
- QCTHS RETRACTABLE HEAVY DUTY QUARTER-TURN CLAMPS
- QCSJS HEAVY DUTY SHAFT COUPLING CLAMP

Installing Position with Quarter Turn Clamps

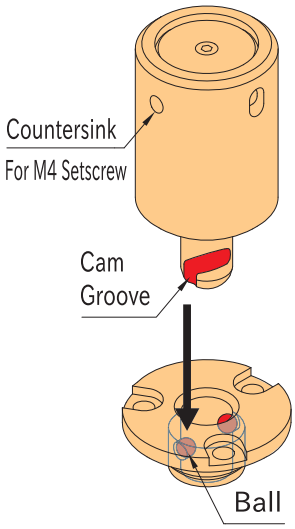


QCTHS0825-20	QCTHS0825-20S
QCTHS0834-20	QCTHS0834-20S
QCTHSA0834-20	QCTHSA0834-20S

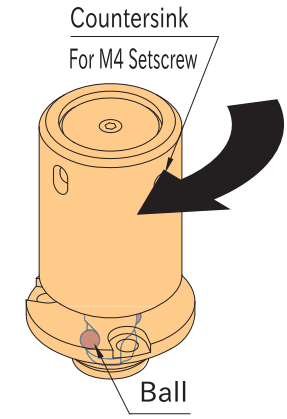


QCTHSA0825-20	QCTHSA0825-20S

Installing Position with Shaft Coupling Clamp



Align the cam groove with the ball and insert.



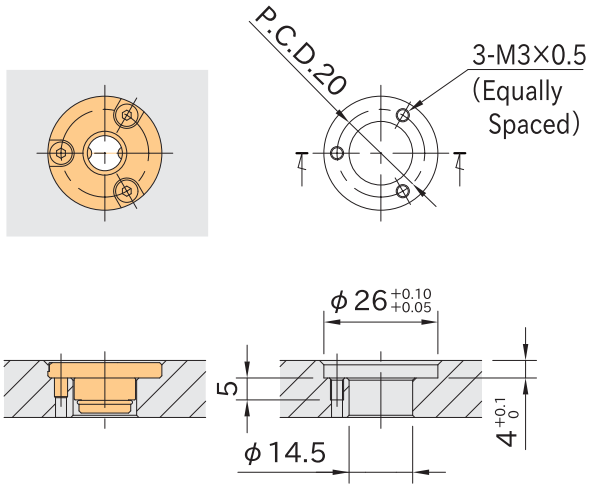
Turn the body for 90˚ to clamp.
Note: Please note the mounting direction of Locking Receptacle.

QCSJS0822A

Installing Position

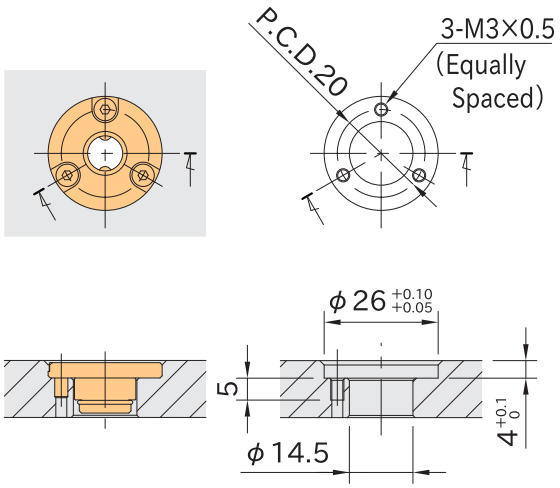
Use with Heavy Duty Quarter-Turn Clamps

Plate thickness should be 9mm or more.



Use with Heavy Duty Shaft Coupling Clamp

Plate thickness should be 9mm or more.



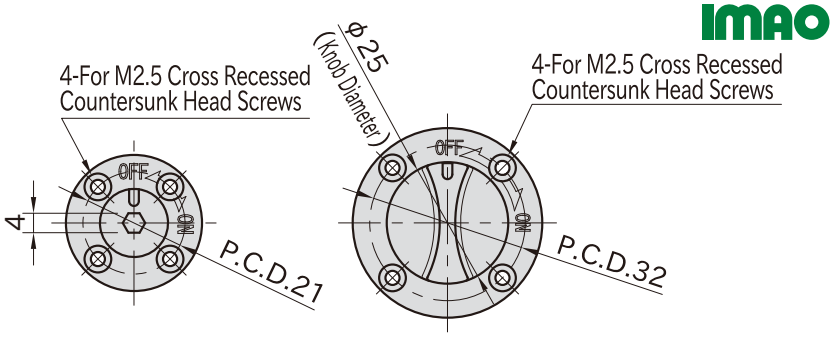
QCFC / QCFCH FLAT QUARTER TURN CLAMPS

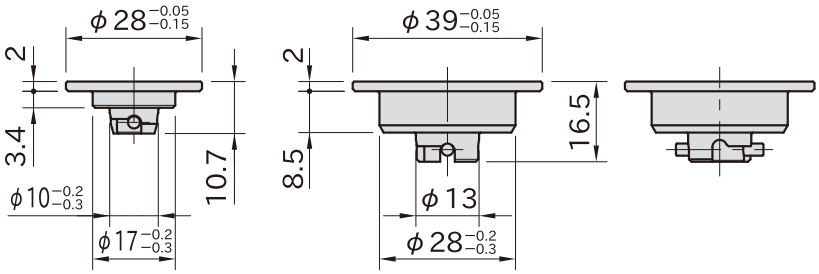
RoHS Stainless Steel

IMAO

QCFCH0628-SUS

QCFC0639-SUS





QCFCH0628-SUS QCFC0639-SUS

★Key Point

Flat design ensures no interference

Body, Knob	Pin	Spring
SUS303 stainless steel	SUS301stainless steel	Stainless steel

Part Number	Plate Thickness	Clamping Force (N)	Holding Force (N) *)	Weight (g)	Locking Receptacles
QCFCH0628-SUS	6 or more	60	60	15	QCFCH0628-B-SUS
QCFC0639-SUS		30	30	46	QCFC0639-B-SUS

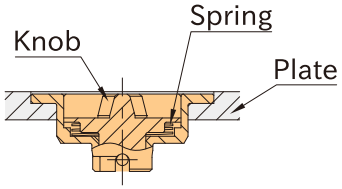
*) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

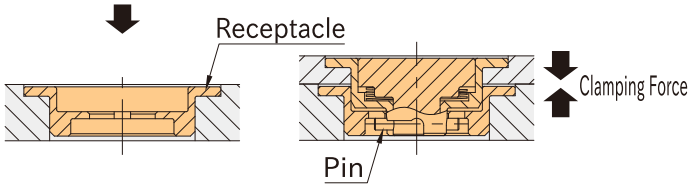
Supplied With

4 of cross recessed countersunk head screws(stainless steel), M2.5×0.45-5L

Feature

- Flat design ensures no interference, ideal for use where space is limited.
- QCFCH type is even more compact and space-saving.

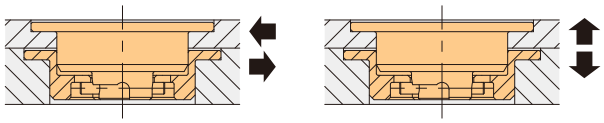




The pin engages the receptacle by turning the knob, the spring gets compressed to press down the plate.

QCFC-B,QCFCH-B LOCKING RECEPTACLES

Mechanical Strength

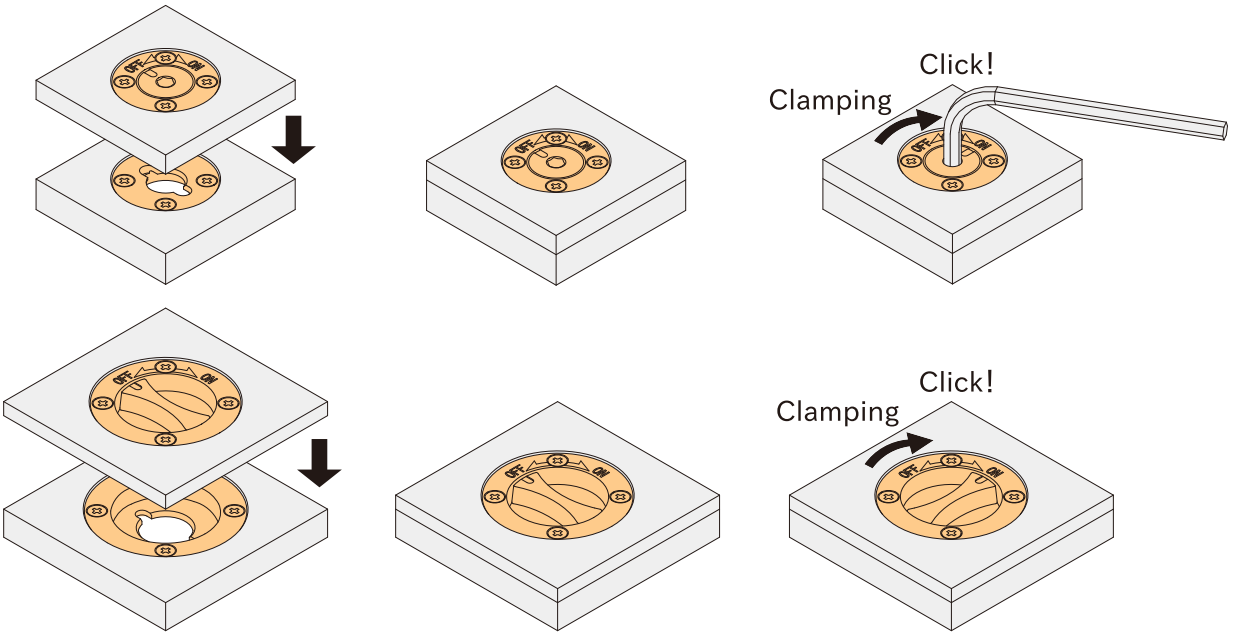


Shear Strength Tensile Strength

Part Number	Heatresistant Temperature(℃)	Shear Strength (N)	Tensile Strength (N)
QCFCH0628-SUS	180	1200	1000
QCFC0639-SUS		2500	

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

How To Use

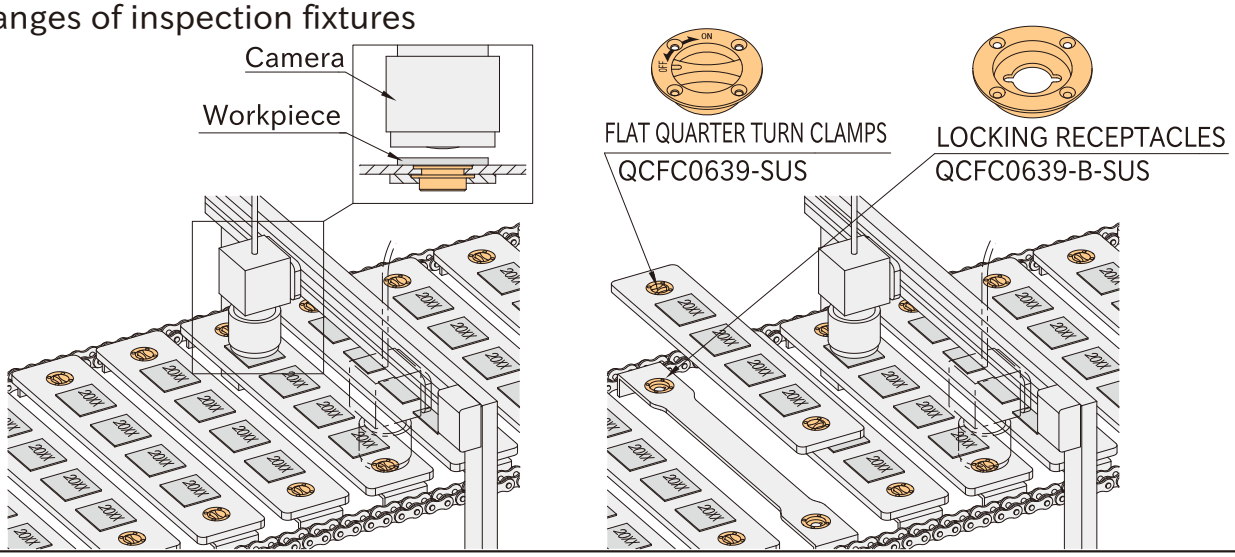


1. Ensure that the knob is positioned at the "OFF" mark.
2. Insert the Flat Quarter-Turn Clamp
3. Turn the clamp to the "ON" mark for clamping. The clamp clicks when it is clamped/ unclamped.

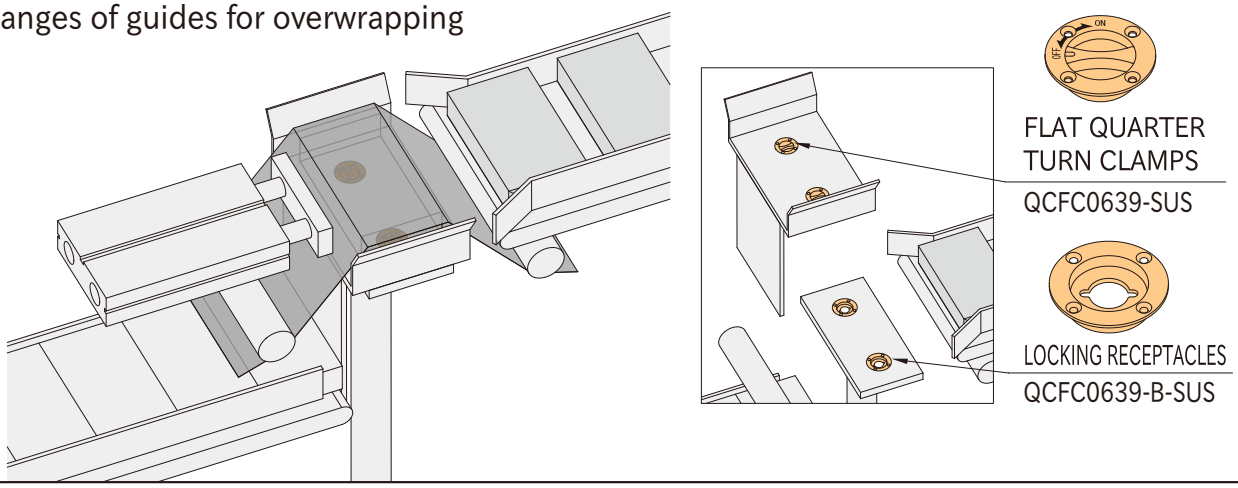
Note: For unclamping, follow back these steps.

Application Example

Changes of inspection fixtures



Changes of guides for overwrapping



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How To Install

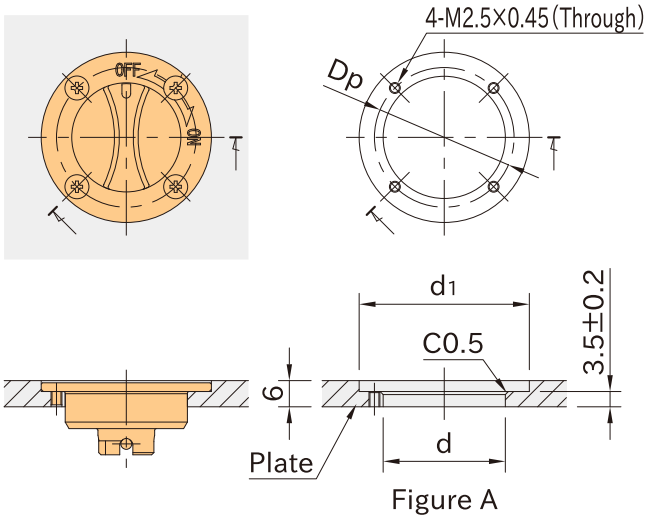


Figure A

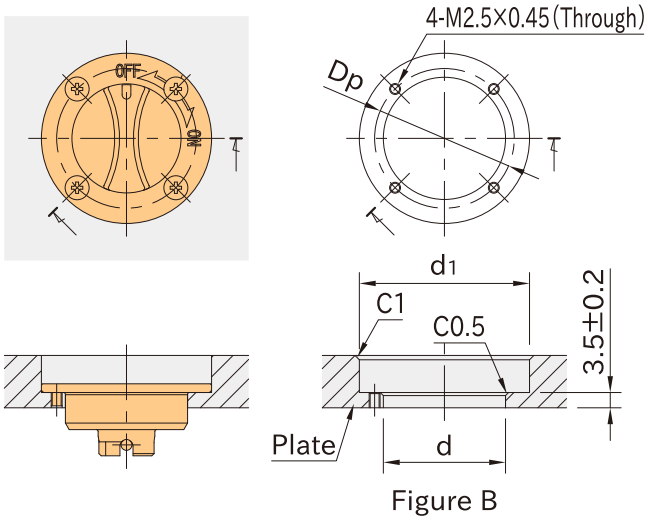


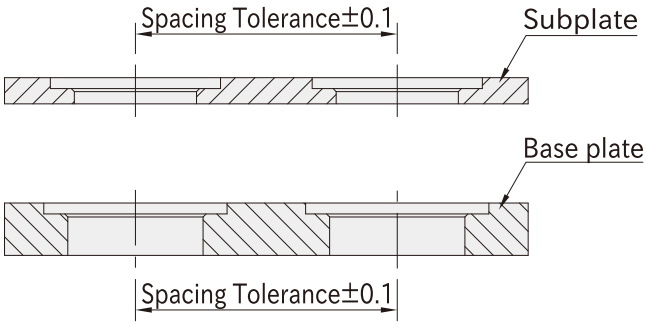
Figure B

Part Number	Plate Thickness	Figure	d (±0.1)	d_1 $(^{+0.05}_{0})$	Dp
QCFCH0628-SUS	6	A	17	28	21
	Over 6*)	B			
QCFC0639-SUS	6	A	28	39	32
	Over 6*)	B			

*)For use with thick plates, provide sufficient counterbore for operation.

Accuracy

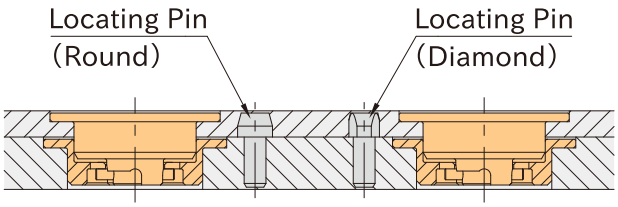
■Machining Accuracy



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

■Repeatability

Repeatability ±0.3



For higher accurate locating, use locating pins.

Reference

"How To Install" of QCFC-B QCFCH-B Locating Receptacles

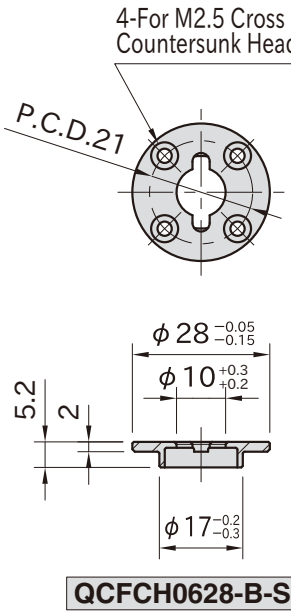
QCFC-B / QCFCH-B LOCKING RECEPTACLES

RoHS Stainless Steel

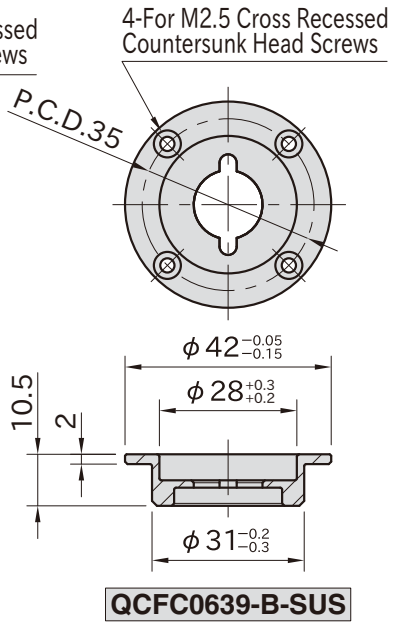
IMAO

QCFCH0628-B-SUS

QCFC0639-B-SUS



QCFCH0628-B-SUS



QCFC0639-B-SUS

Part Number	Plate Thickness	Weight (g)	Flat Quarter Turn Clamps
QCFCH0628-B-SUS	6 or more	8	QCFCH0628-SUS
QCFC0639-B-SUS		32	QCFC0639-SUS

Body
SUS303 stainless steel

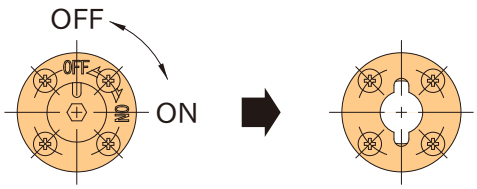
Supplied With

4 of cross recessed countersunk head screws(stainless steel), M2.5X0.45-5L

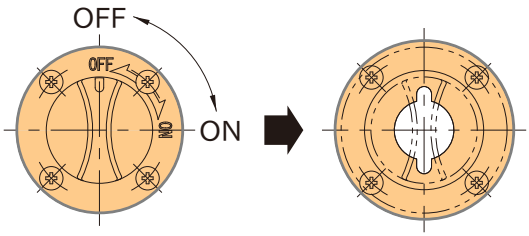
Reference

"Accuracy" of QCFC QCFCH Flat Quarter Turn Clamps

Installing Position



QCFCH0628-SUS QCFCH0628-B-SUS



QCFC0639-SUS QCFC0639-B-SUS

Please note the orientation of Locking Receptacle to Flat Quarter Turn Clamp.

QCWE KNOB-LOCKING PINS

RoHS Stainless Steel

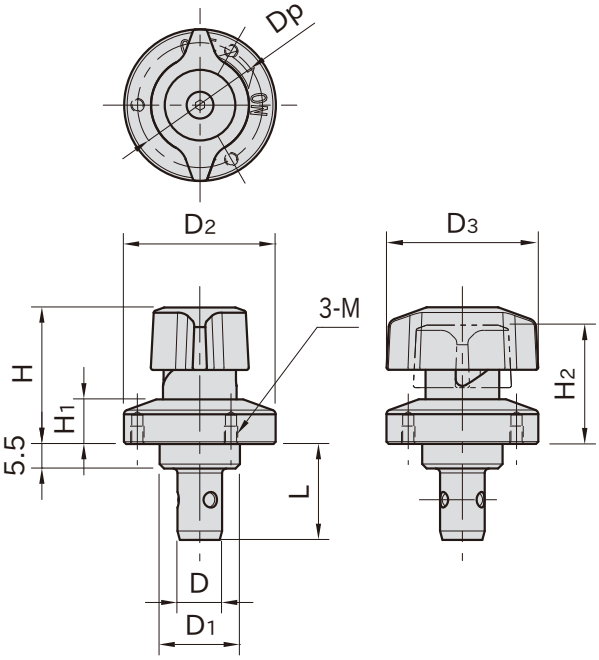
Wedge

IMAO

QCWE
(Plastic Knob)

Stainless Steel

QCWE-SUS
(Stainless Steel)



★Key Point

Clamping can be detected by sensor.

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

Size		Plate Thickness	D (−0.05 −0.10)	D1 (h9)	D2	D3	L	H	H1	H2	M	Dp	Clamping Force(N)	Holding Force (N) **
QCWE QCWE-SUS	0625-10	3～10 *)	6	14	25	25	19.5	24.5	6.5	21.5	M2×0.4 Depth3	21	30	90
	1034-14	3～14 *)	10	18	34	34	21.5	31	10	26.5	M3×0.5 Depth4	28	50	150
	1034-20	12～20					27.5							

*) Spacer QCASP is required for plate thinner than 6mm.

**) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

Size		Receptacles	Sensor Receptacles	Floating Receptacles
QCWE QCWE-SUS	0625-10	QCBU0608-M12SUS	QCWE0625-M16-S QCWE0625-M16-SL	QCBU0608-FL-SUS
	1034-14 1034-20	QCBU1012-M16SUS	QCWE1034-M20-S QCWE1034-M20-SL	QCBU1012-FL-SUS

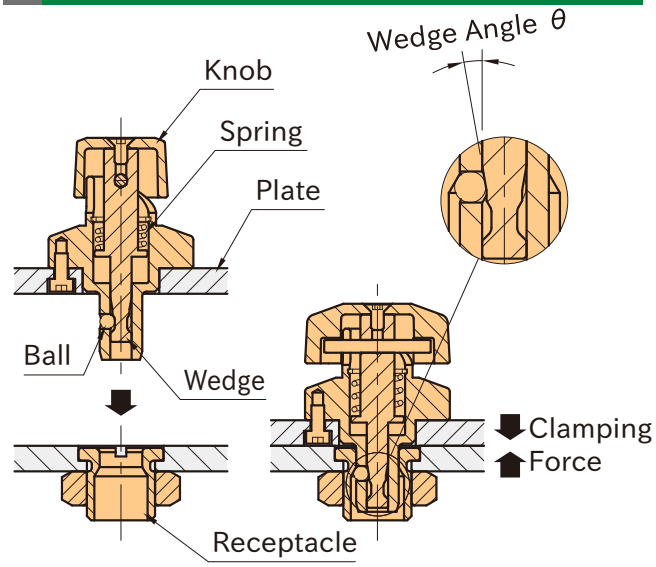
QCWE (Plastic Knob)		QCWE-SUS (Stainless Steel)	
Part Number	Weight (g)	Part Number	Weight (g)
QCWE0625-10	40	QCWE0625-10-SUS	50
QCWE1034-14	95	QCWE1034-14-SUS	120
QCWE1034-20	100	QCWE1034-20-SUS	130

Supplied With

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

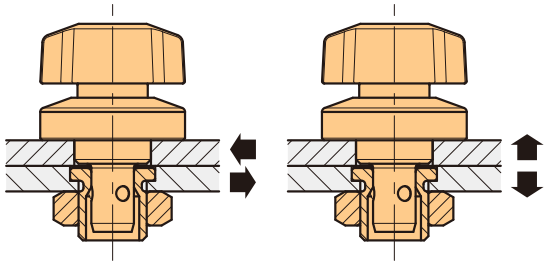
QCBU-M	BALL-LOCK RECEPTACLES	QCBU-FL	FLOATING RECEPTACLES

Feature



The wedge of the locking pin pushes out the balls against the tapered surface of the receptacle to clamp the two plates.

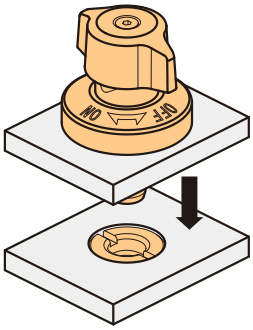
Mechanical Strength



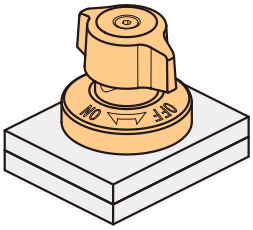
Size		Heatresistant Temperature(℃)	Shear Strength (N)	Tensile Strength (N)
QCWE	0625-10	130	3000	500
	1034-14		9000	1500
	1034-20			
QCWE-SUS	0625-10	180	3000	500
	1034-14		9000	1500
	1034-20			

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

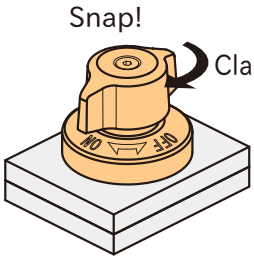
How To Use



1.Ensure that the knob is positioned at the "OFF" mark.



2.Insert the Knob-Locking Pin.

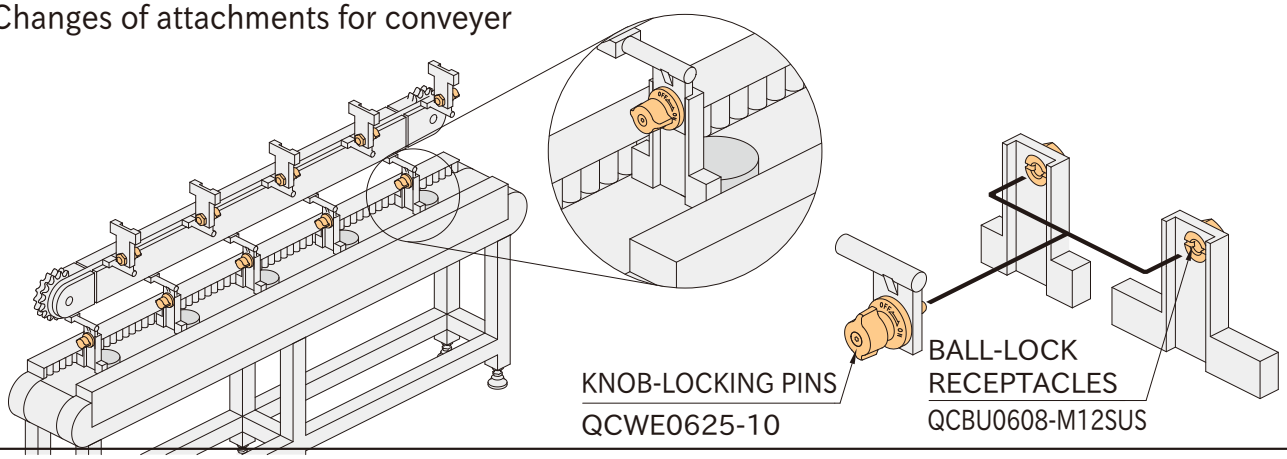


3.Turn the knob to the "ON" mark for clamping. The knob turns lightly by spring force.

Note: For unclamping, follow back these steps.

Application Example

Changes of attachments for conveyer



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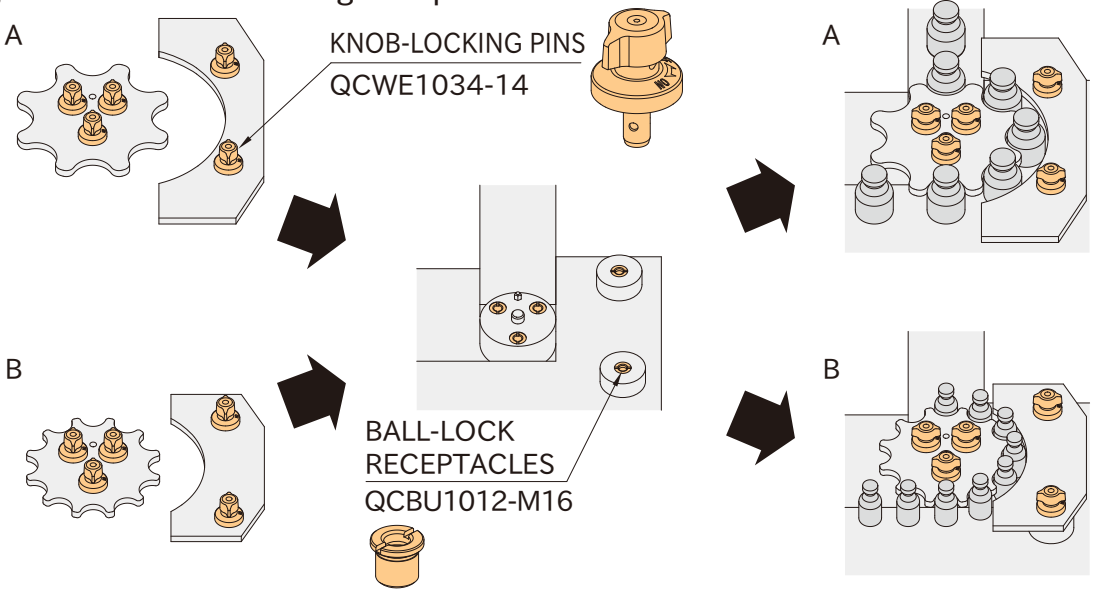
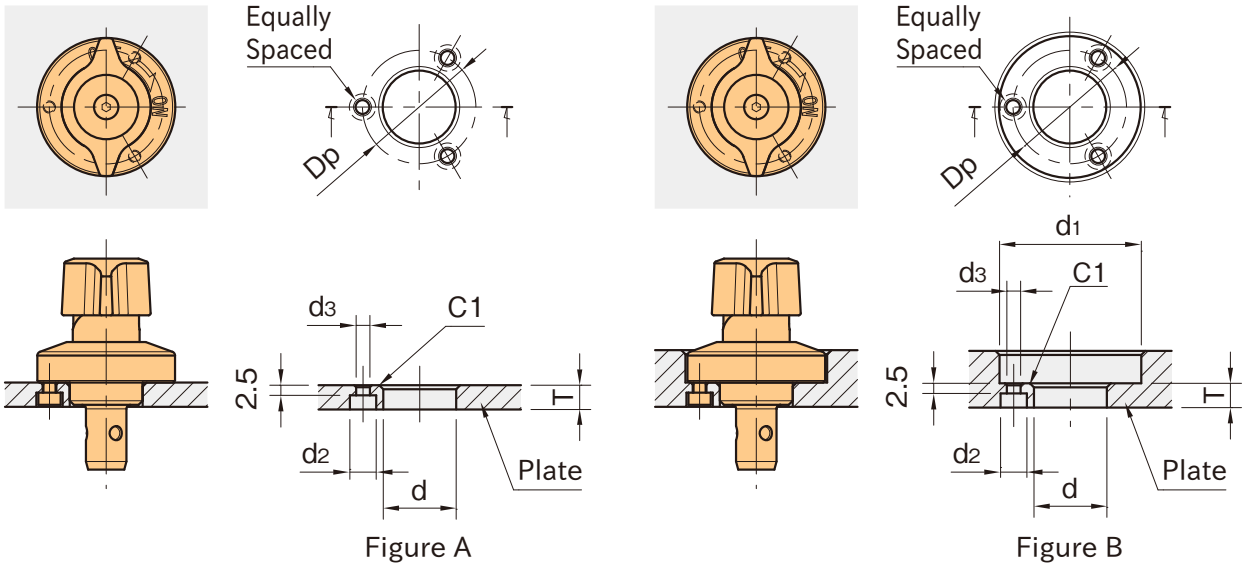
Application Example

Changes of star wheels and guide plates



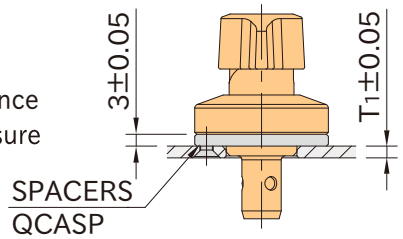
How To Install



Size		Plate Thickness	Figure	d (+0.10 +0.05)	d1	T *) (±0.2)	d2	d3	Dp
QCWE QCWE-S QCWE-SUS	0625-10	3 or more, under 6	Spacer QCASP is required.**)						
		6	A	14	—	6	4.4	2.4	21
		Over 6, 10 or less	B		26				
	1034-14	3 or more, under 6	Spacer QCASP is required.**)						
		6	A	18	—	6	6.5	3.4	28
		Over 6, 14 or less	B		35				
	1034-20	12	A		—	12			
		Over 12, 20 or less	B		35				

*) Using Position Sensor Receptacles QCWE-M-S requires a tolerance of ±0.1 for dimension T to ensure stable sensor operation.

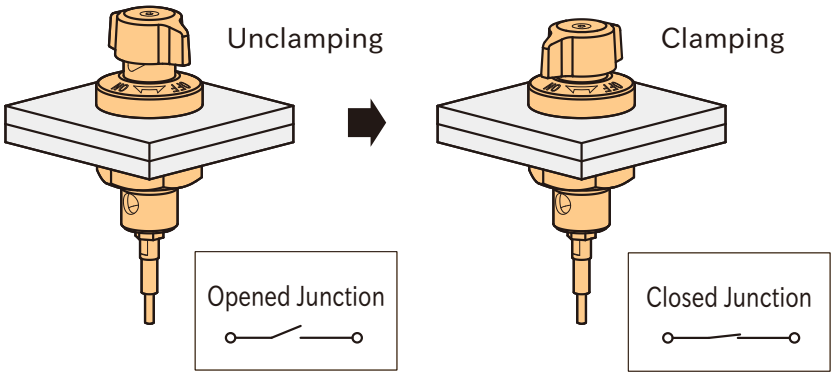
**) Combining Position Sensor Receptacles QCWE-M-S with Spacers QCASP requires a tolerance of ±0.05 for dimension T1 to ensure stable sensor operation.



QCASP SPACERS

Detection by sensor

Detection of clamping condition prevents human error and improper operation of machinery.



QCWE-M-S

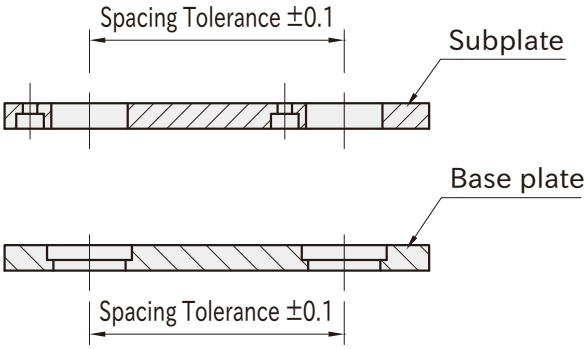
POSITION SENSOR RECEPTACLES

Reference

- "How To Install" of QCBU-M Ball-Lock Receptacle
- "How To Install" of QCWE-M-S Position Sensor Receptacles
- Spacer QCASP is required for 3mm or more, under 6mm plate thickness.

Accuracy

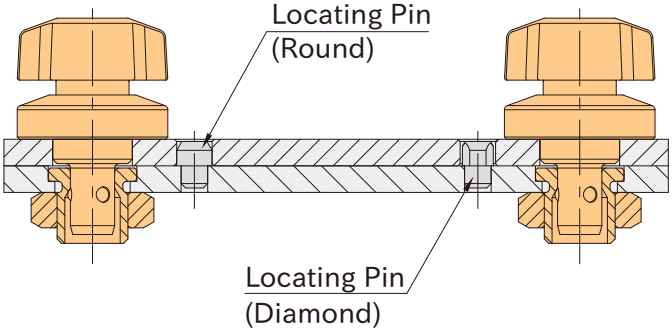
■Machining Accuracy



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

■Repeatability

Repeatability ±0.25



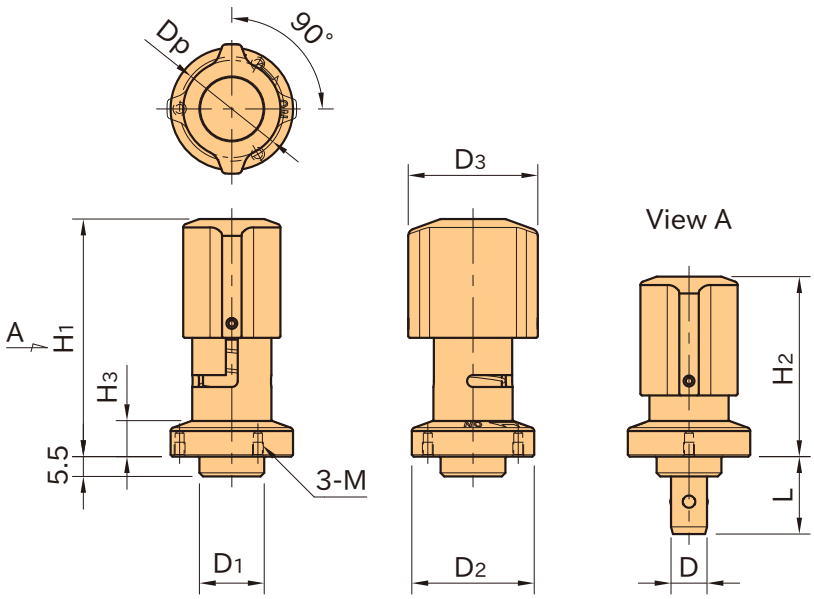
For higher accurate locating, use locating pins.

QCWEA RETRACTABLE KNOB-LOCKING PINS

RoHS Stainless Steel

Wedge

(OFF position) (ON position)



(OFF position) (ON position)

★Key Point

Retractable shank type with sensor detection of clamping condition.

Body, Shaft	Wedge	Knob	Ball	Spring
SUS303 stainless steel	SUS420J2 stainless steel Quenched and tempered	SCS13 stainless steel (Equivalent to SUS304)	SUS440C stainless steel Quenched and tempered	SUS304WPB stainless steel

Part Number	Plate Thickness	D $(^{-0.05}_{-0.10})$	D_1 (h9)	D_2	D_3	L	H_1	H_2	H_3	M	Dp	Clamping Force(N)	Holding Force (N) **	Weight (g)
QCWEA0625-10-SUS	3~10 *)	6	14	25	28	19.5	58	43.5	6.5	M2X0.4 Depth3	21	30	90	114
QCWEA1034-14-SUS	3~14 *)	10	18	34	36	21.5	66	50	10	M3X0.5 Depth4	28	50	150	232

*) Spacer QCASP is required for plate thinner than 6mm.
**) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

Part Number	Sensor Receptacles	Receptacles
QCWEA0625-10-SUS	QCWE0625-M16-S, QCWE0625-M16-SL	QCBU0608-M12, QCBU0608-M12SUS
QCWEA1034-14-SUS	QCWE1034-M20-S, QCWE1034-M20-SL	QCBU1012-M16, QCBU1012-M16SUS

Supplied With

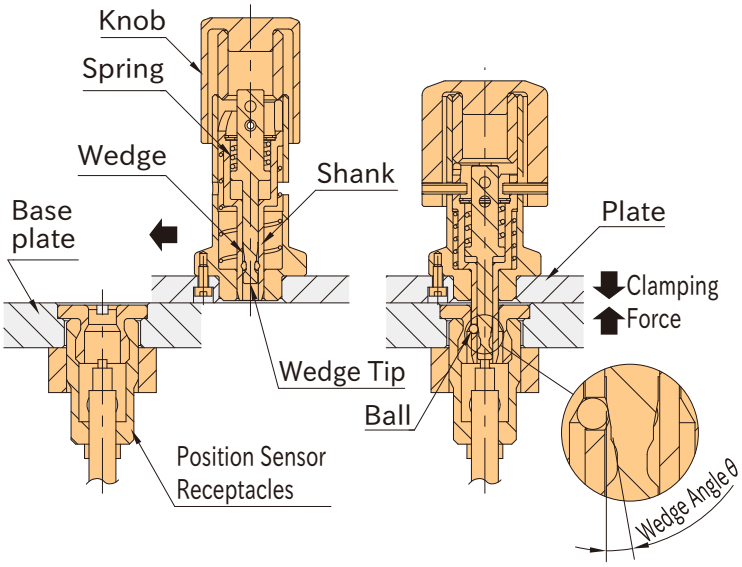
·QCWEA0625-10-SUS:
3 of socket-head cap screws(stainless steel), M2×0.4-5L
·QCWEA1034-14-SUS:
3 of socket-head cap screws(stainless steel), M3×0.5-6L

QCWE-M-S POSITION SENSOR ECEPTACLES

QCBU-M BALL-LOCK ECEPTACLES

QCBU-FL FLOATING ECEPTACLES

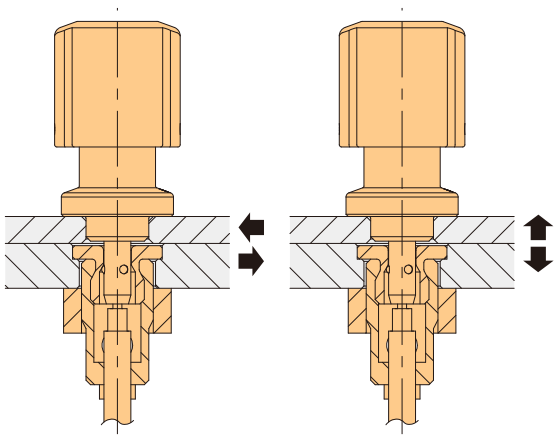
Feature



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

The wedge of the locking pin pushes out the balls against the tapered surface of the receptacle to clamp the two plates.

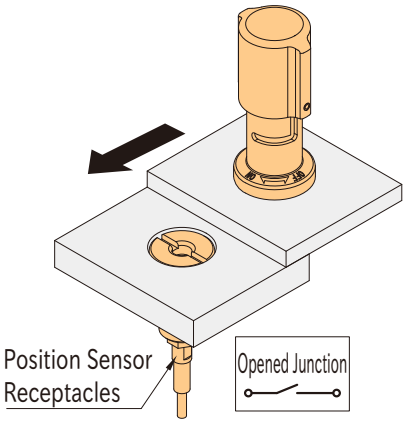
Mechanical Strength



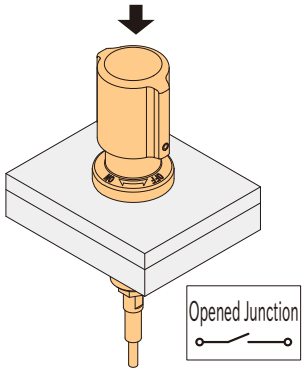
Part Number	Heatresistant Temperature(℃)	Shear Strength (N)	Tensile Strength (N)
QCWEA0625-10-SUS	180	3000	500
QCWEA1034-14-SUS		9000	1500

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

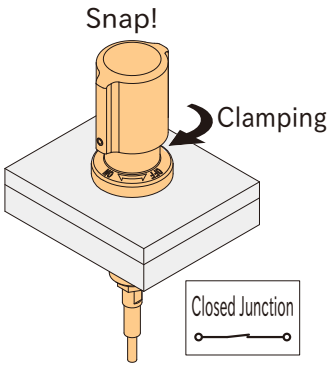
How To Use



1. Ensure that the knob is positioned at the "OFF" mark and the shank is retracted.



2. Insert Retractable Knob-locking Pin pressing the knob.

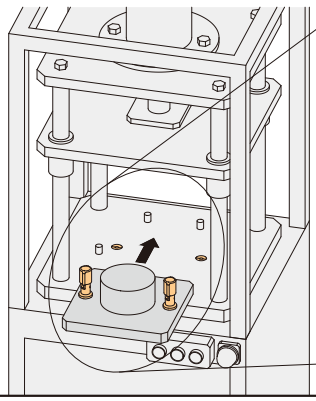


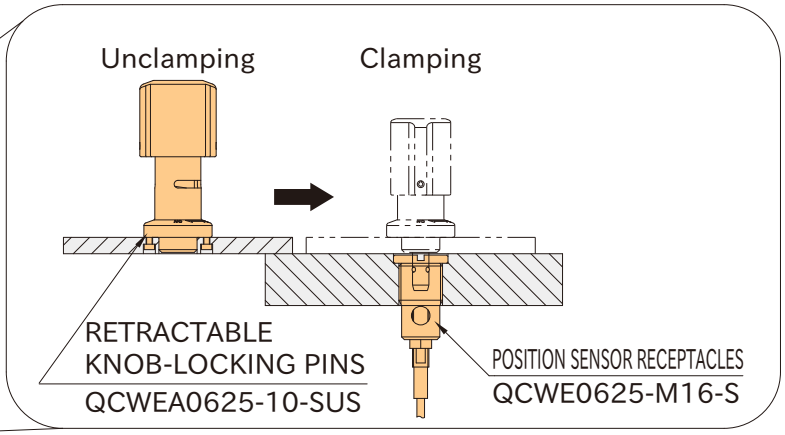
3. Turn the knob to the "ON" mark for clamping.The knob turns lightly by spring force. The tip of the wedge protrudes when clamped, providing reliable contact sensing. Note: Turning the knob to the "OFF" position automatically returns the shaft to the unclamped position by spring force.

Application Example

Changes of fixture plates

Sensor detection of fixture plate clamping



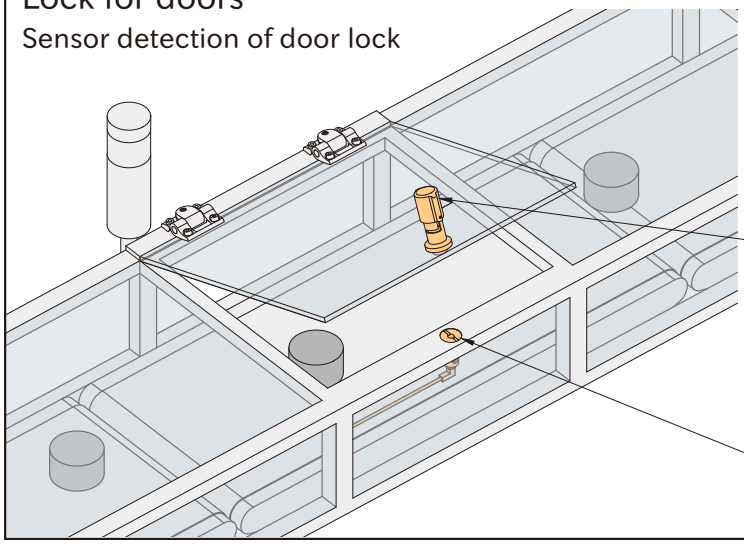


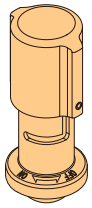
Continuing on Next Page

Application Example

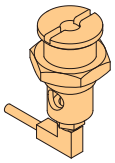
Lock for doors

Sensor detection of door lock





RETRACTABLE KNOB-LOCKING PINS
QCWEA0625-10-SUS



POSITION SENSOR RECEPTACLES
QCWE0625-M16-SL

How To Install

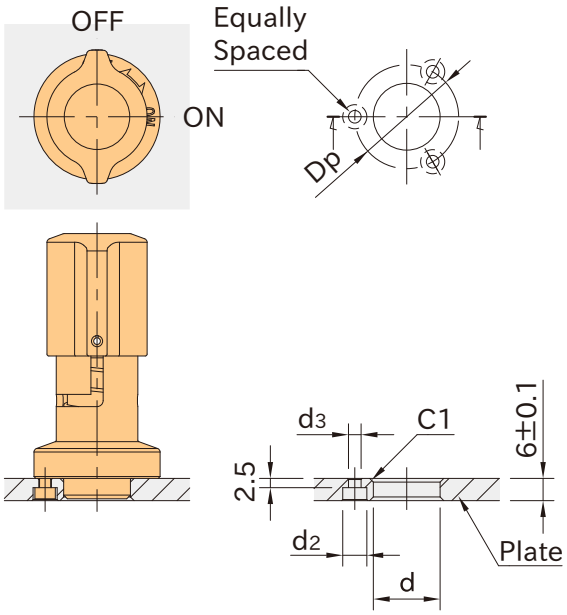


Figure A

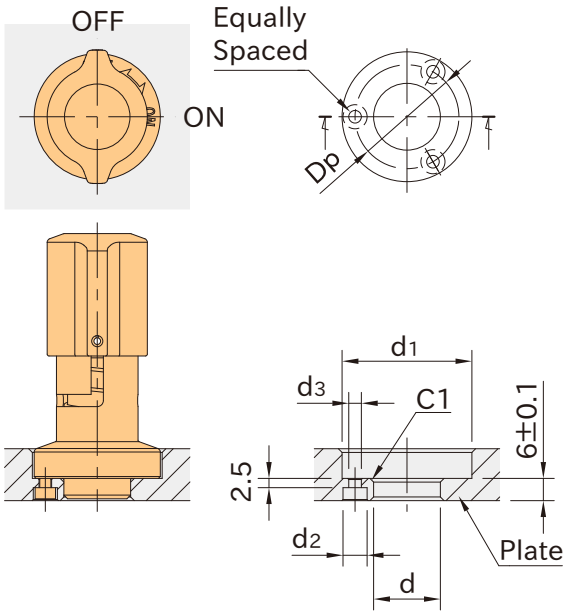
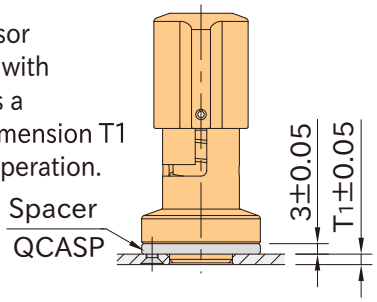


Figure B

Part Number	Plate Thickness	Figure	d (+0.10 +0.05)	d1	d2	d3	Dp
QCWEA0625-10-SUS	3 or more, under 6	Spacer QCASP is required. *)					
	6	A	14	–	4.4	2.4	21
	Over 6, 10 or less	B		26			
QCWEA1034-14-SUS	3 or more, under 6	Spacer QCASP is required. *)					
	6	A	18	–	6.5	3.4	28
	Over 6, 14 or less	B		35			

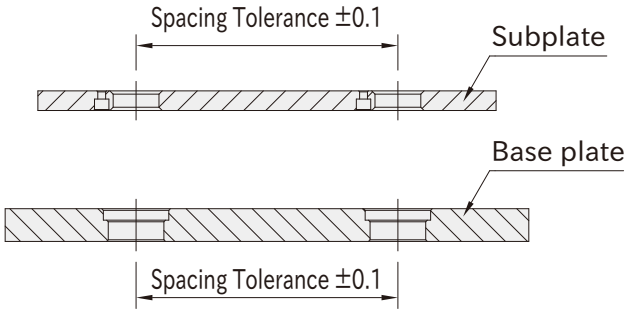
*) Combining Position Sensor Receptacles QCWE-M-S with Spacers QCASP requires a tolerance of ±0.05 for dimension T1 to ensure stable sensor operation.



QCASP SPACERS

Accuracy

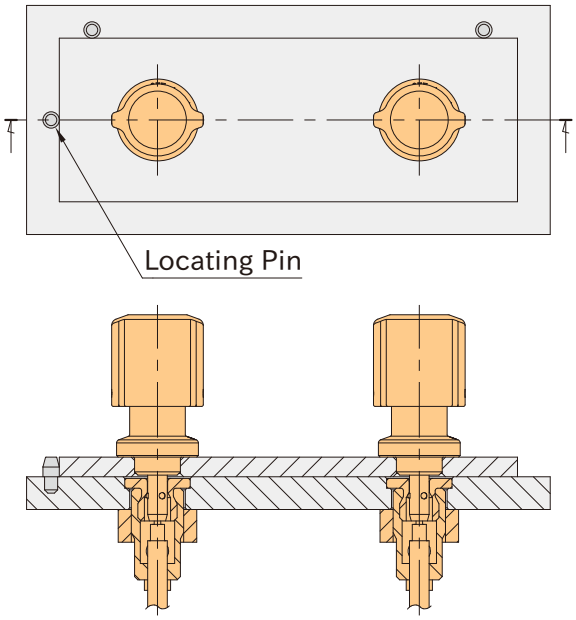
■Machining Accuracy



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

■Repeatability

Repeatability ±0.25



For higher accurate locating, use locating components.

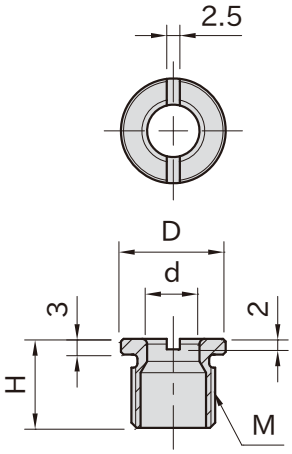
Reference

- "How To Install" of QCWE-M-S Position Sensor Receptacles and QCBU-M Ball-Lock Receptacles
- Spacer QCASP is required for 3mm or more, under 6mm plate thickness.

QCBU-M BALL-LOCK RECEPTACLES

RoHS | Stainless Steel | Heat resistance: 180°C

IMAO

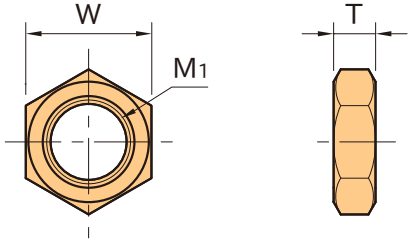


Body
SUS303 stainless steel

Part Number	Plate Thickness	d (+0.4 +0.2)	D (h9)	M	H	Weight (g)
QCBU0608-M12SUS	6 or more	6	16	M12×1.5 (Fine Thread)	15	9
QCBU1012-M16SUS		10	20	M16×1.5 (Fine Thread)	17	13

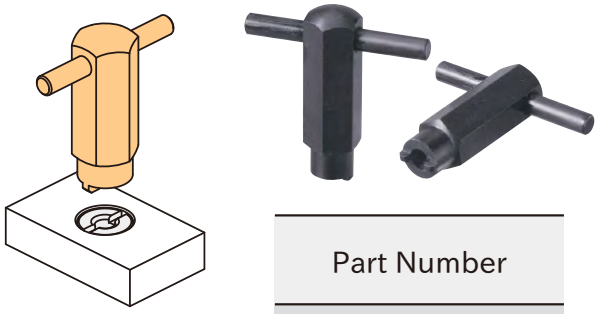
Part Number	Knob-Locking Pins	Button-Locking Pins	Retractable Knob-locking Pins
QCBU0608-M12SUS	QCWE0625-10 QCWE0625-10-SUS	QCBU0608-10-SUS QCBUS0608-10SUS	QCWEA0625-10-SUS
QCBU1012-M16SUS	QCWE1034-14 QCWE1034-20 QCWE1034-14-SUS QCWE1034-20-SUS	QCBU1012-16-SUS QCBUS1012-16SUS	QCWEA1034-14-SUS

Sold 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

Sold Separately Installation Wrench



Part Number
PW16

How To Install

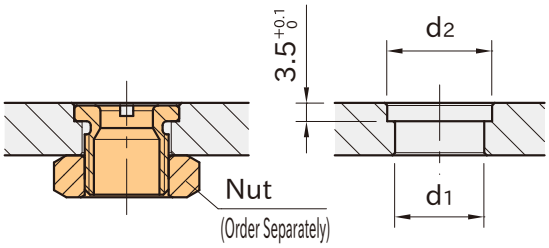


Figure A

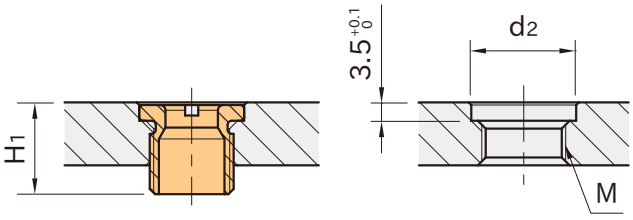
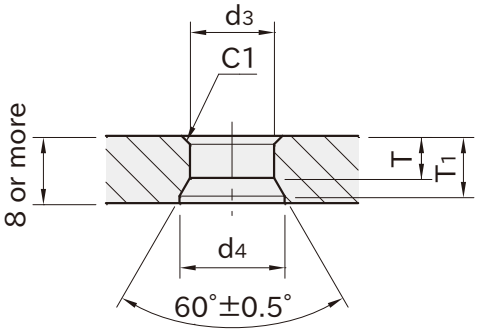


Figure B

Part Number	Plate Thickness	Figure	M	d_1	d_2 (+0.10 +0.05)	H_1
QCBU0608-M12SUS	6~10	A	—	13	16	—
	Over 10	B	M12X1.5 (Fine Thread)	—		15.5
QCBU1012-M16SUS	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 Pins can be used directly on the plate made of hard steel such as S45C.



Dimensions				Knob-Locking Pins		Button-Locking Pins		Retractable Knob-locking Pins	
d_3 (+0.4 +0.2)	d_4	T (±0.1)	T_1						
6	8 or more	4.9	(6.6)	QCWE	0625-10	QCBU-SUS	0608-10		0625-10
10	12.5 or more	5	(7.2)	QCWE-SUS	1034-14	QCBUS-SUS	1012-16	QCWEA-SUS	1034-14
					1034-20				

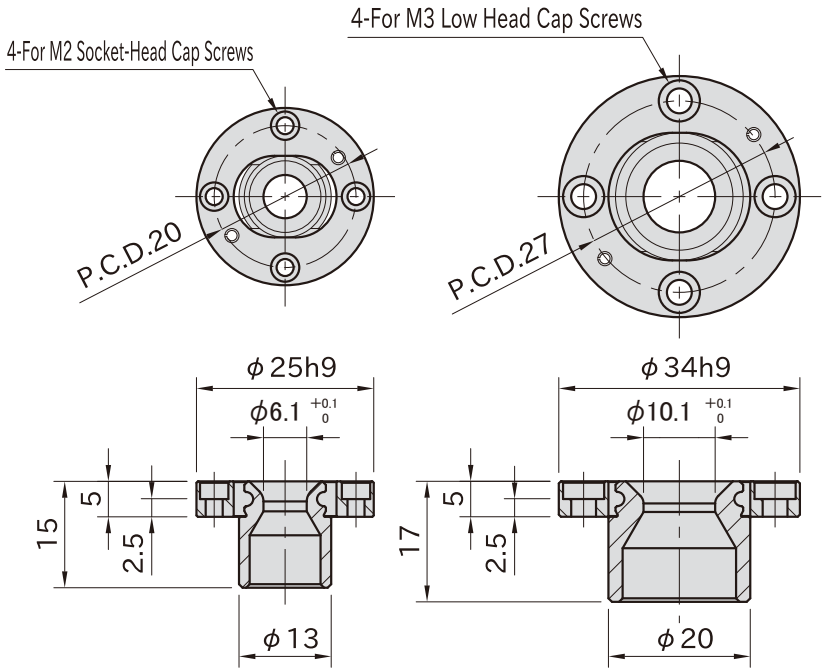
Reference

"Accuracy" of QCWE Knob-Locking Pins, QCBU QCBUS Button-Locking Pins and QCWEA-SUS Retractable Knob-locking Pins

QCBU-FL FLOATING RECEPTACLES

RoHS Stainless Steel

IMAO



QCBU0608-FL-SUS **QCBU1012-FL-SUS**

★One Point

Work with rough mounting hole spacing

Flange, Slider	Spring Pin	Pin
SUS303 stainless steel	SUS420J2 stainless steel	Stainless steel Quenched and tempered

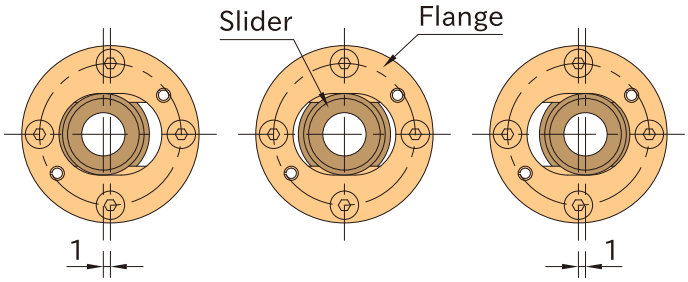
Part Number	Plate Thickness	Weight (g)	Knob-Locking Pins	Retractable Knob-locking Pins	Button-Locking Pins
QCBU0608-FL-SUS	9 or more	21	QCWE0625-10 QCWE0625-10-SUS	QCWEA0625-10-SUS	QCBU0608-10-SUS QCBUS0608-10SUS
QCBU1012-FL-SUS	10 or more	42	QCWE1034-14 QCWE1034-14-SUS QCWE1034-20 QCWE1034-20-SUS	QCWEA1034-14-SUS	QCBU1012-16-SUS QCBUS1012-16SUS

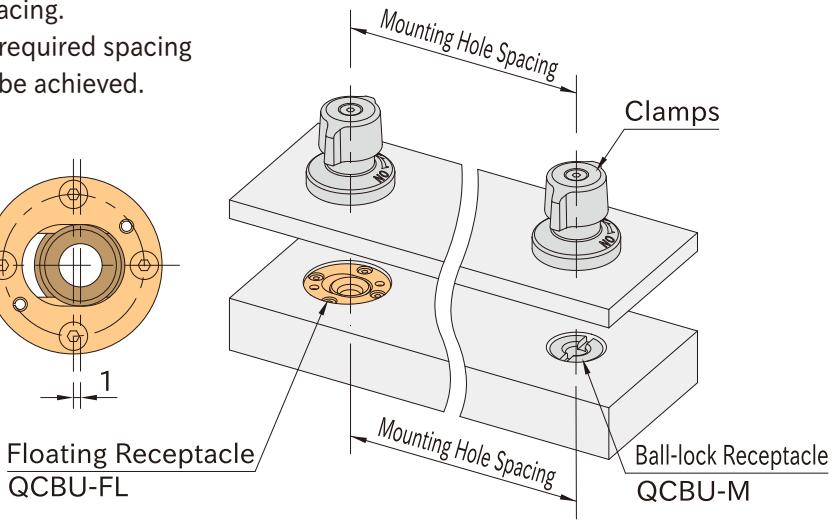
Supplied With

·QCBU0608-FL-SUS:
4 of socket-head cap screws(stainless steel), M2×0.4-5L
·QCBU1012-FL-SUS:
4 of low head cap screws(stainless steel), M3×0.5-6L

Feature

The slider, which slides 1 mm to the left and right, extends the tolerance range of the mounting hole spacing.
This allows secure mounting even when the required spacing tolerance for each applicable clamp cannot be achieved.





Technical Information

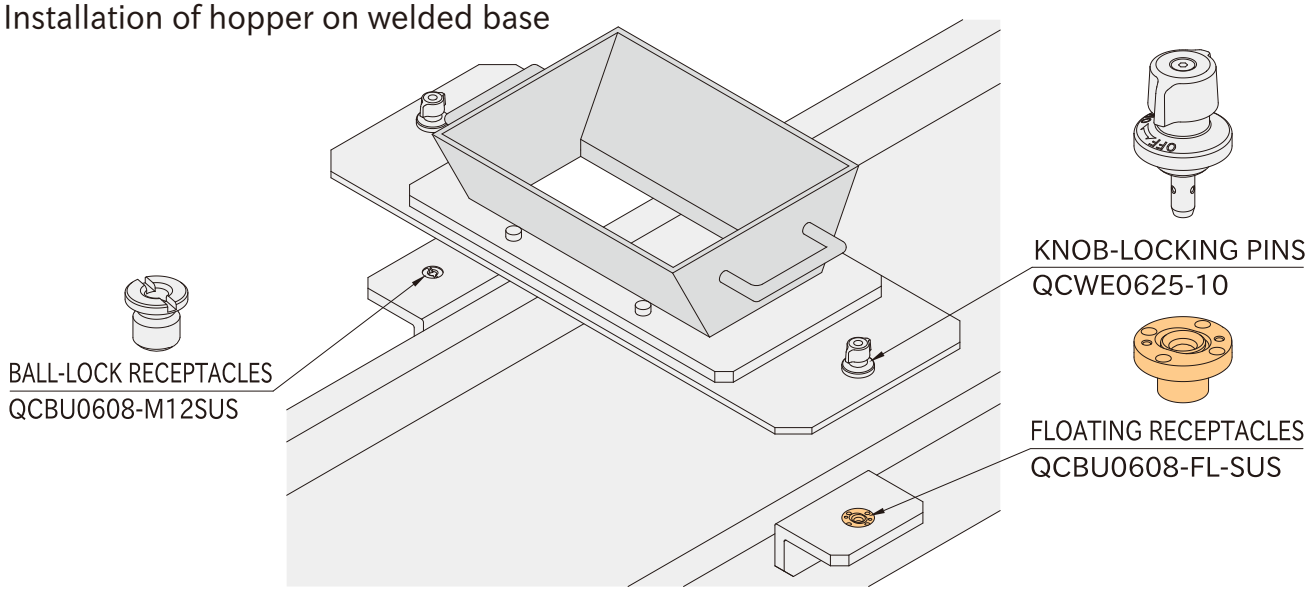
Heat resistant temperature, shear strength, and tensile strength are in accordance with the clamps used.

Note

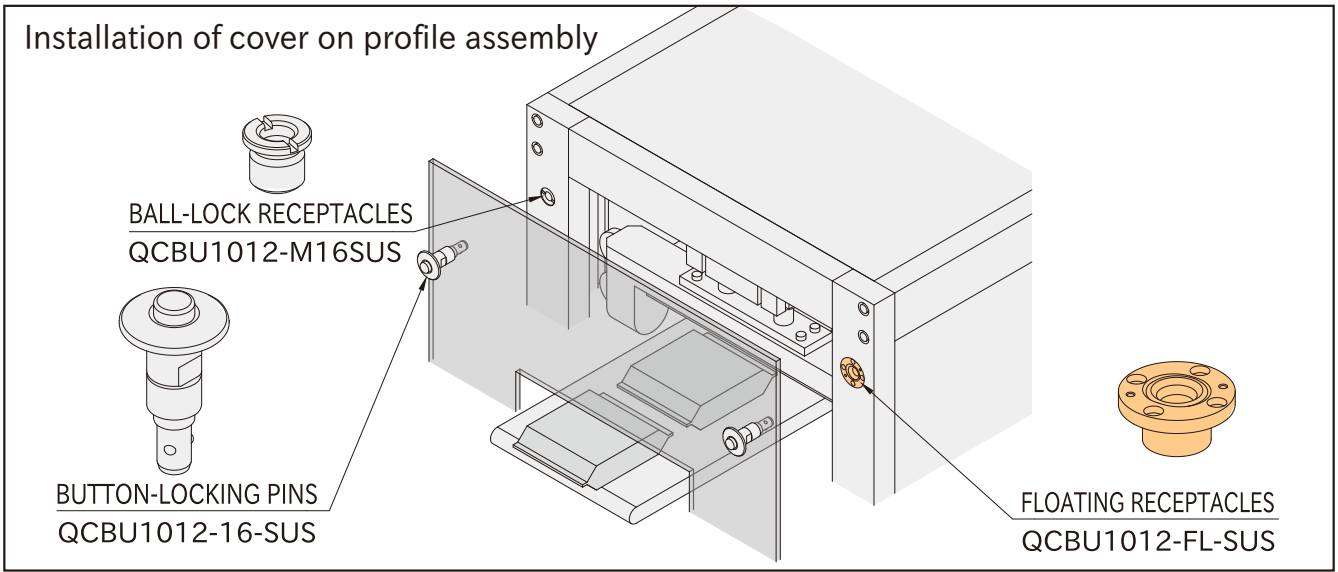
Use this product in pairs with QCBU-M receptacles for use with two applicable clamps.

Application Example

Installation of hopper on welded base



Installation of cover on profile assembly



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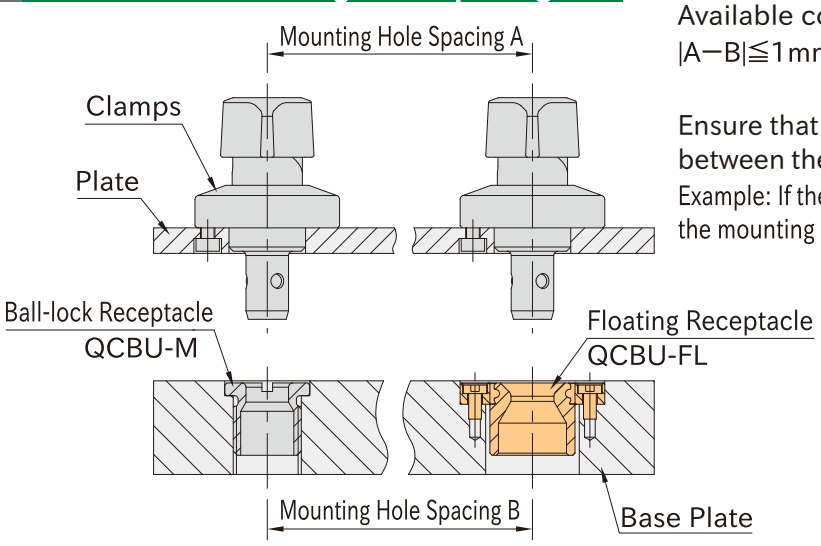
How To Set Mounting Hole Spacing



Available conditions:
|A−B|≦1mm

Ensure that the difference in mounting hole spacing between the plate and the base plate is within 1mm.
Example: If the mounting hole spacing of the plate is 100±0.1, the mounting hole spacing of the base can be up to 100±0.9.

How To Install

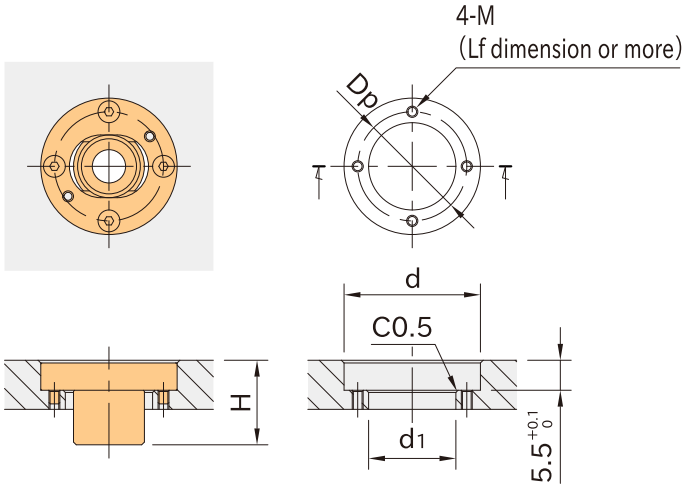


Figure A

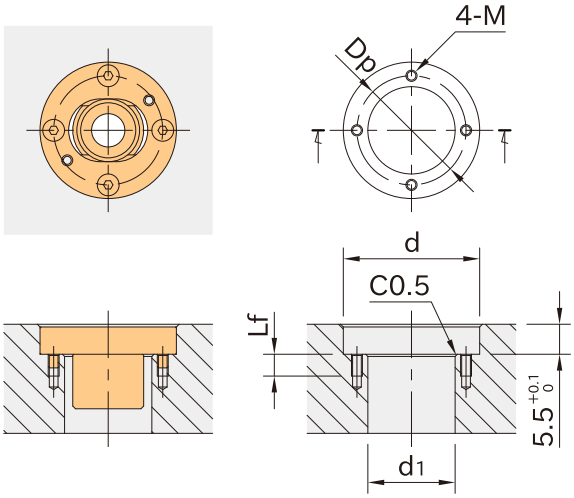


Figure B

Part Number	Plate Thickness	Figure	d (+0.10 +0.05)	d1 (+0.1 0)	M	Dp	Lf	H
QCBU0608-FL-SUS	9 or more, under 16	A	25	16	M2×0.4	20	4	15.5
	16 or more	B						-
QCBU1012-FL-SUS	10 or more, under 18	A	34	22	M3×0.5	27	5	17.5
	18 or more	B						-

Accuracy

Repeatability is in accordance with the clamps used.

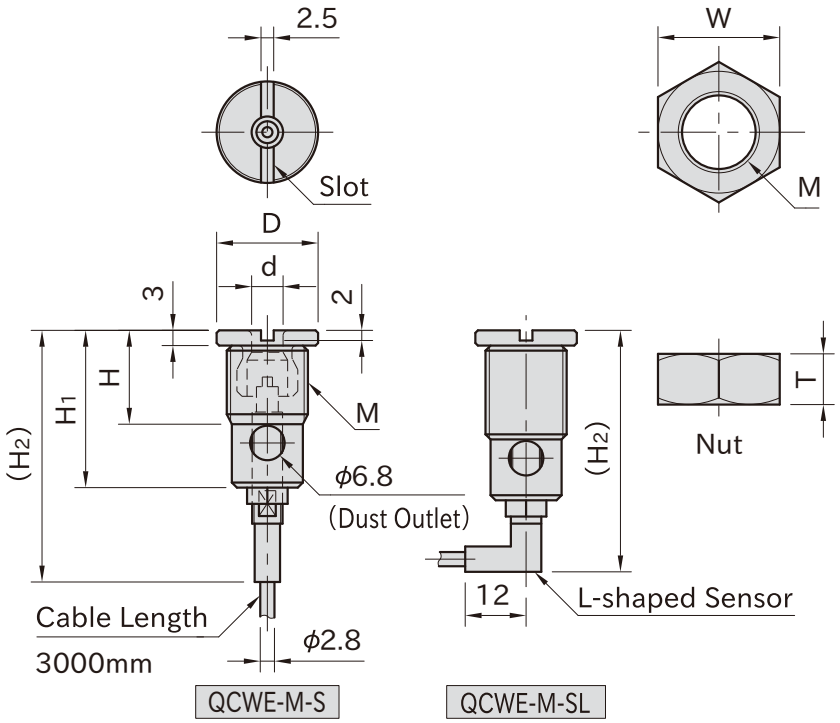
Reference

- QCWE KNOB-LOCKING PINS
- QCBU QCBUS BUTTON-LOCKING PINS
- QCWEA-SUS RETRACTABLE KNOB-LOCKING PINS
- QCBU-M BALL-LOCK RECEPTACLES

QCWE-M-S POSITION SENSOR RECEPTACLES

RoHS Stainless Steel

IMAO



The positional relationship of a slot, dust outlet, and L-shaped sensor may vary.

★Key Point

Clamping can be detected by sensor.

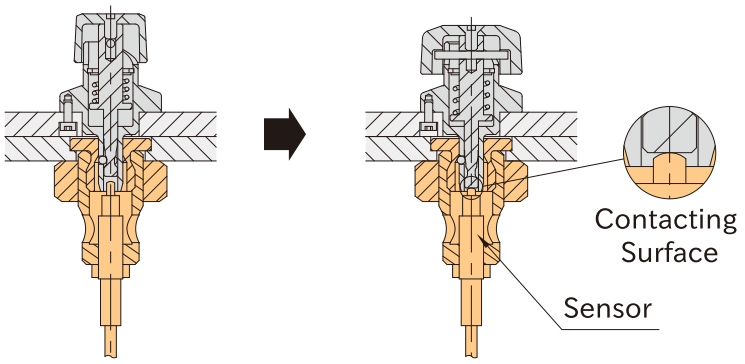
Body	Nut
SUS303 stainless steel	Stainless steel

Part Number	Plate Thickness	d ($^{+0.1}_{0}$)	D (h9)	M	H	H_1	H_2	T	W	Weight (g)
QCWE0625-M16-S	6 or more	6.2	20	M16×1.5 (Fine Thread)	18.5	31	50	10	24	60
QCWE0625-M16-SL					21.5	33.5	48	5	22	80
QCWE1034-M20-S		10.2	25	M20×1.5 (Fine Thread)	20.5	33.5	55	12	30	100
QCWE1034-M20-SL					25.5	38	53	5	27	105

Part Number	Knob-Locking Pins	Retractable Knob-locking Pins
QCWE0625-M16-S	QCWE0625-10 QCWE0625-10S QCWE0625-10-SUS	QCWEA0625-10-SUS
QCWE0625-M16-SL		
QCWE1034-M20-S	QCWE1034-14, QCWE1034-20 QCWE1034-14S, QCWE1034-20S QCWE1034-14-SUS, QCWE1034-20-SUS	QCWEA1034-14-SUS
QCWE1034-M20-SL		

Feature

- The sensor reacts when the tip of Knob-Locking Pin pushes the contacting surface down.
- Detection of clamping condition prevents human error and improper operation of machinery.



How To Install

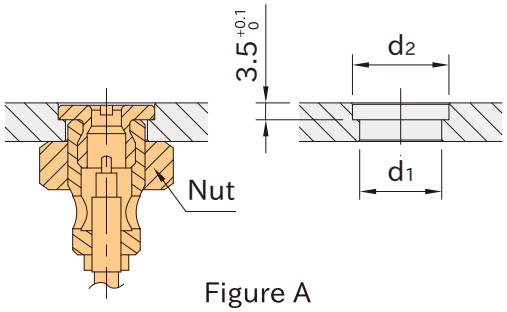


Figure A

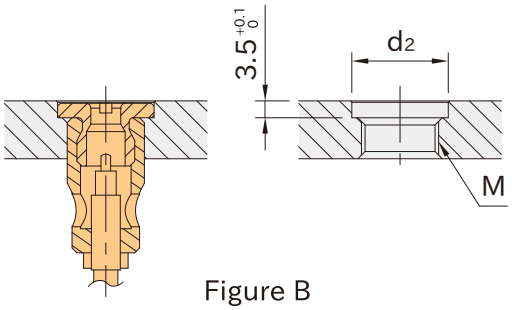


Figure B

Part Number	Plate Thickness	Figure	M	d_1	d_2 $(^{+0.10}_{+0.05})$
QCWE0625-M16-S	6~10	A	–	17	20
	Over 10	B	M16×1.5(Fine Thread)	–	
QCWE0625-M16-SL	6~16	A *)	–	17	
QCWE1034-M20-S	6~10	A	–	21	25
	Over 10	B	M20×1.5(Fine Thread)	–	
QCWE1034-M20-SL	6~20	A *)	–	21	

*) QCWE-M-SL cannot be installed by screwing as in Figure B

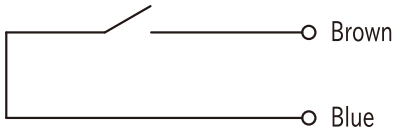
Technical Information

Contact type sensor

- Working temperature: 0 to 80℃(without freezing)
- Switch structure: Dry contact
- Output mode: Normally Open(NO)
- Steady current: under 10mA(In-rush current under 20mA)
- Contact rating: DC5-24V
- Cable: 3000mm, Oil resistance, Duplex, ϕ2.8, Bending radius R7
- Protection class: IP65(Sensor part)

■ Circuit diagram

Normally Open(NO)



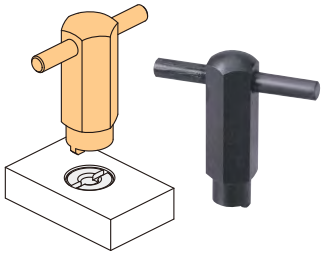
Reference

- "Accuracy" of QCWE Knob-Locking Pins
- "Accuracy" of QCWEA Retractable Knob-locking Pins

Note:

- To ensure proper operation of receptacles and QCWE Knob-Locking Pins/ QCWEA Retractable Knob-locking Pins, observe the above mounting hole dimensions.
- Removal of adjusted sensor joint may cause malfunction of the products.
- Blow out the dust in the receptacle to prevent malfunction.
- Position Sensor Receptacles can be used only with QCWE Knob-Locking Pins and QCWEA Retractable Knob-locking Pins.
- Do not use this product as a detection device for personal safety.

Sold Separately Installation Wrench

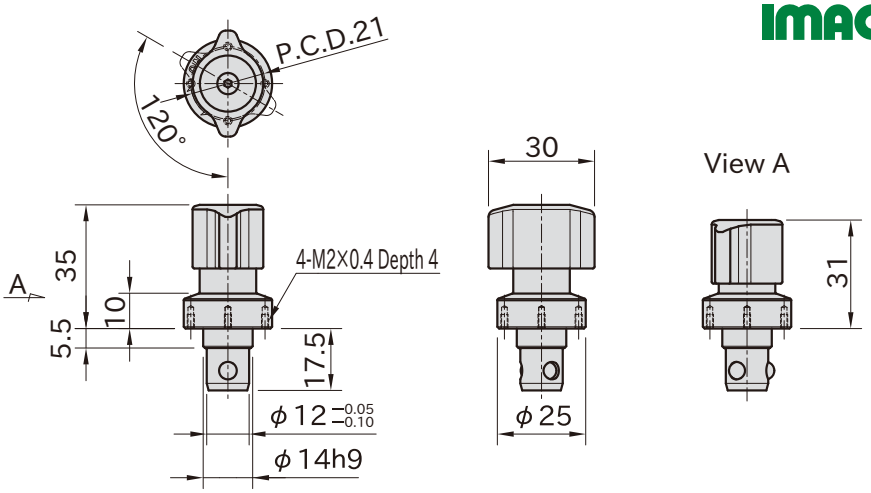


Part Number
PW16

QCWES HEAVY DUTY KNOB-LOCKING PINS

RoHS

Wedge

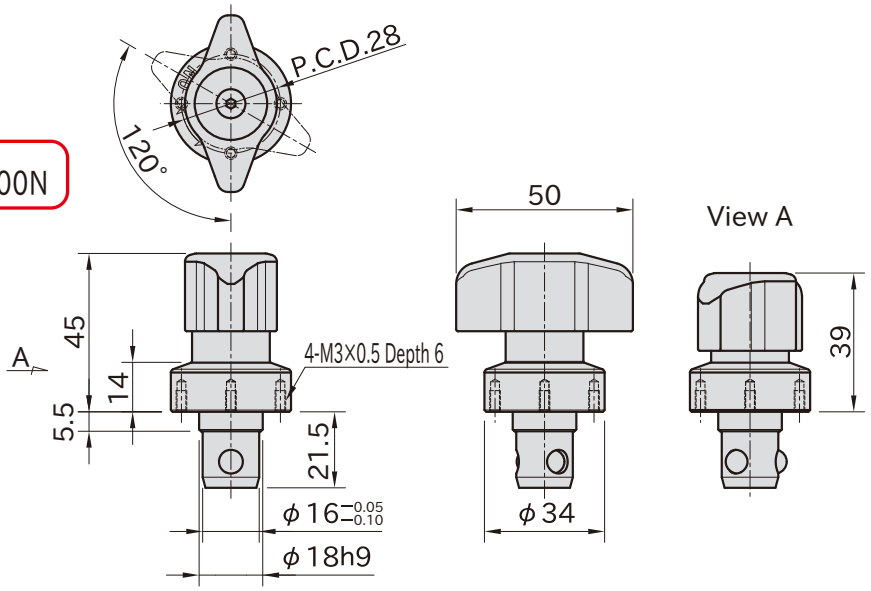


(OFF position) (ON position)

QCWES1225-16S

★Key Point

Strong clamping with 1000N / 2000N



(OFF position) (ON position)

QCWES1634-20S

Body	Wedge	Knob	Ball	Spring A	Spring B
SCM440 steel Electroless nickel plated	SCM435 steel Electroless nickel plated Quenched and tempered	SCS13 stainless steel (Equivalent to SUS304)	SUS440C stainless steel Quenched and tempered	Equivalent to SWOSC-V steel	SUS304WPB stainless steel

Part Number	Plate Thickness	Clamping Force (N)	Holding Force (N) **)	Weight (g)	Locking Receptacles
QCWES1225-16S	6~16 *)	1000	2500	150	QCWES1225-B
QCWES1634-20S	6~20 *)	2000	5000	290	QCWES1634-B

*) The tolerance should be within ±0.05 for 6mm-thick plates.

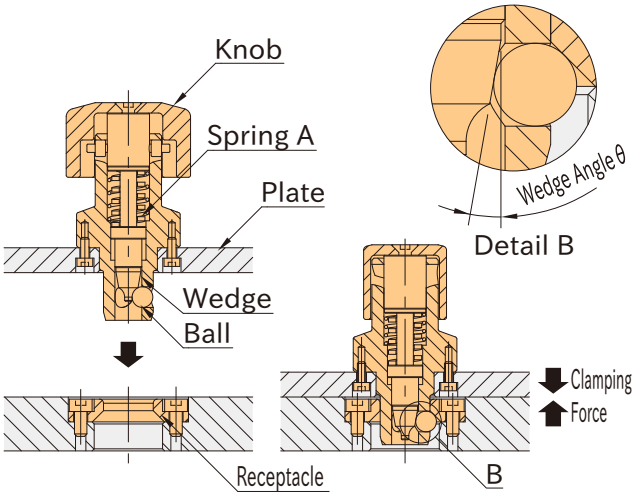
**) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

Supplied With

- QCWES1225-16S:
  4 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCWES1634-20S:
  4 of socket-head cap screws(stainless steel), M3×0.5-6L

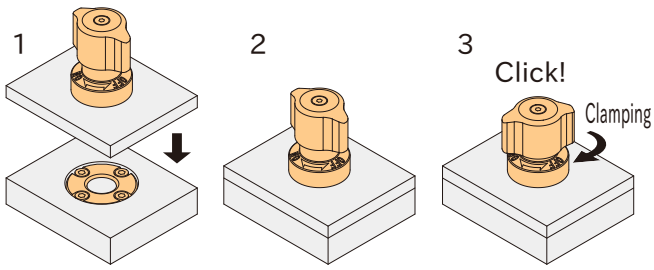
QCWES-B LOCKING RECEPTACLES

Feature



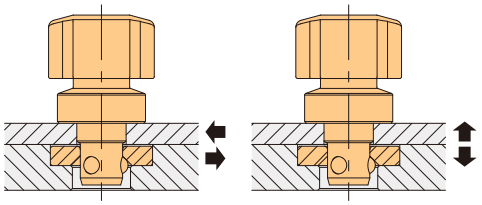
The wedge of the locking pin pushes out the balls against the tapered surface of the receptacle to clamp the two plates.

How To Use



1.Ensure that the knob is positioned at the "OFF" mark.
2.Insert the Knob-Locking Pin
3. Turn the knob to the "ON" mark for clamping. The knob clicks when it is clamped. For unclamping, follow back these steps.The knob turns back to the "OFF" mark by spring force.

Mechanical Strength

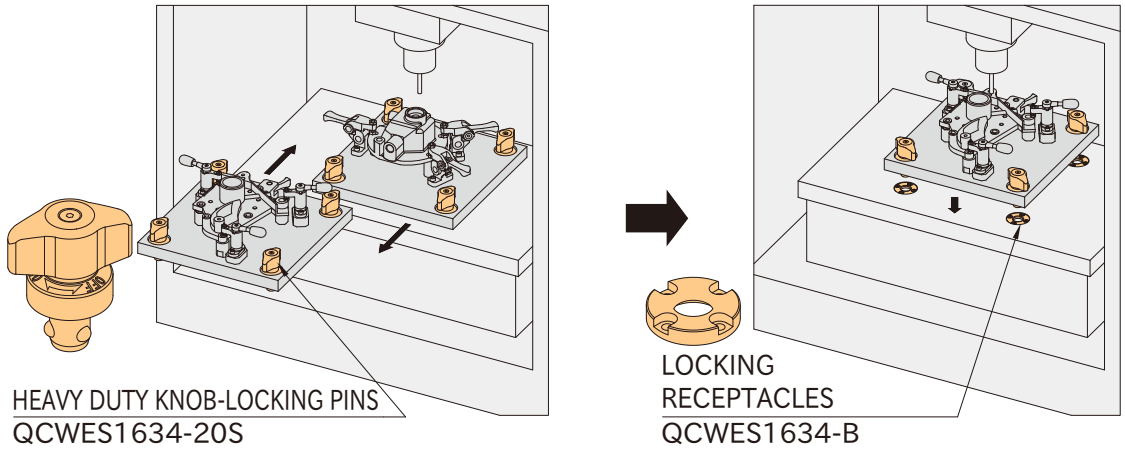


Part Number	Heat-resistant Temperature (℃)	Shear Strength (N)	Tensile Strength (N)
QCWES1225-16S	180	10000	4000
QCWES1634-20S		15000	8000

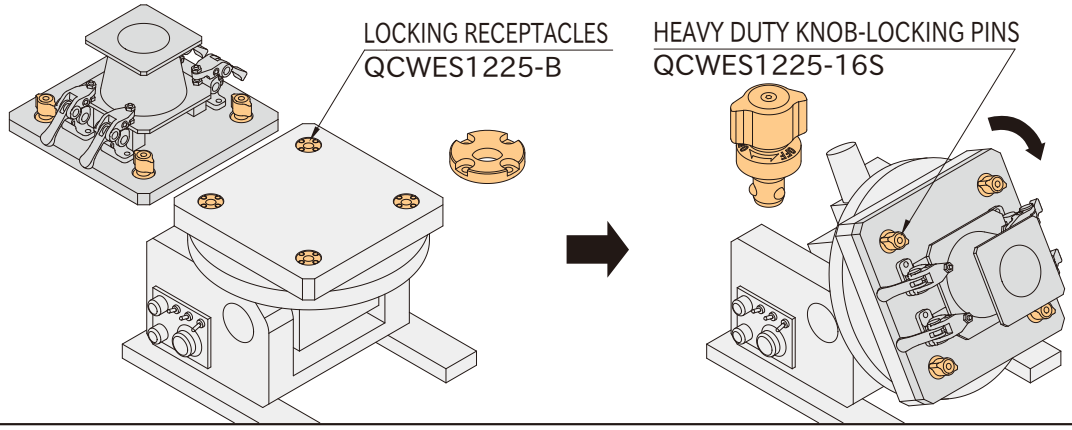
Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

Application Example

Changes of machining fixture



Changes of welding fixture

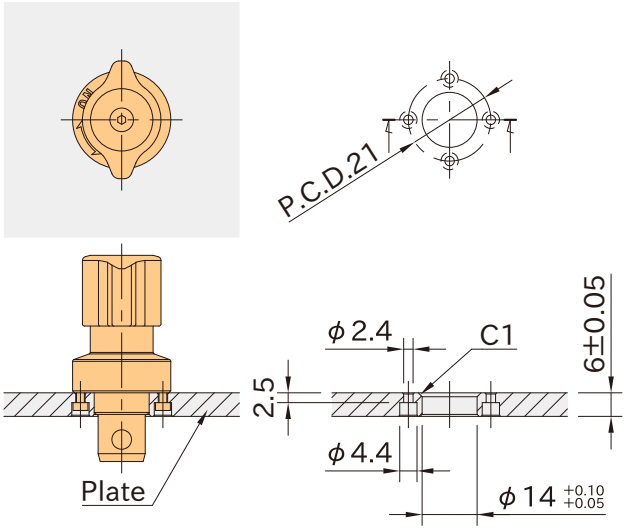


Continuing on Next Page

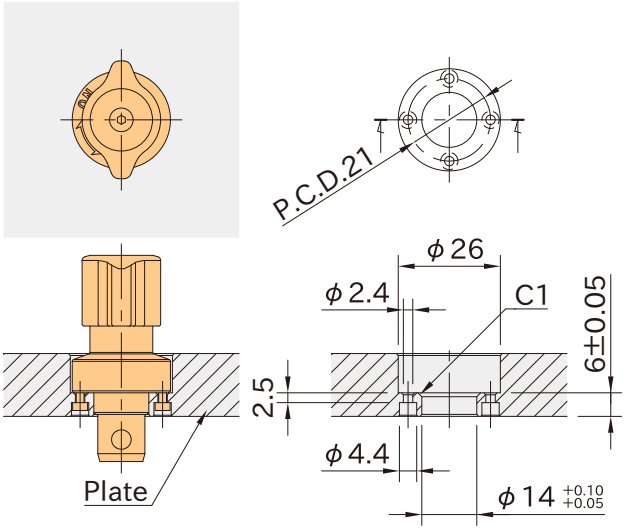
How To Install

QCWES1225-16S

For 6mm plate

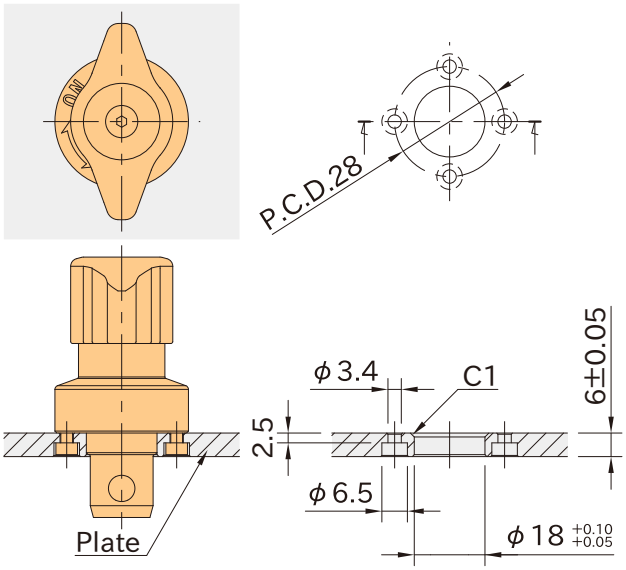


For over 6mm to 16mm plate

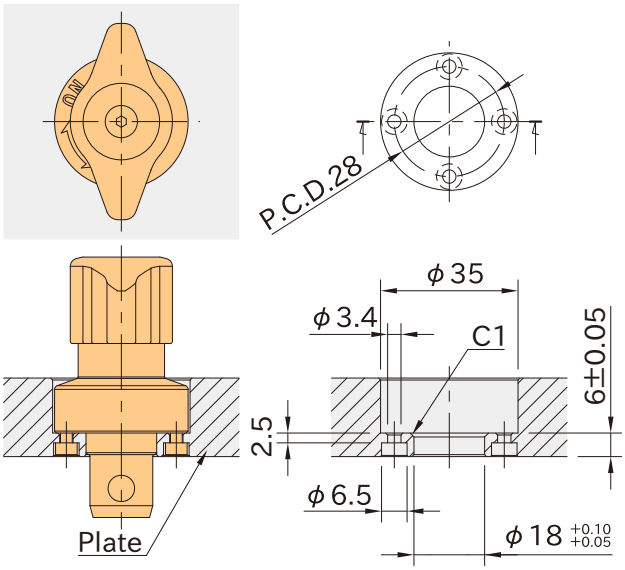


QCWES1634-20S

For 6mm plate

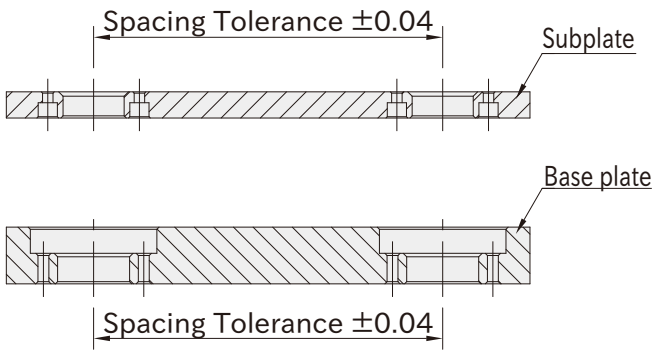


For over 6mm to 20mm plate



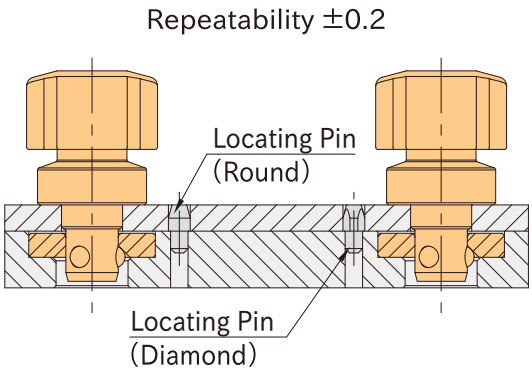
Accuracy

■Machining Accuracy



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

■Repeatability

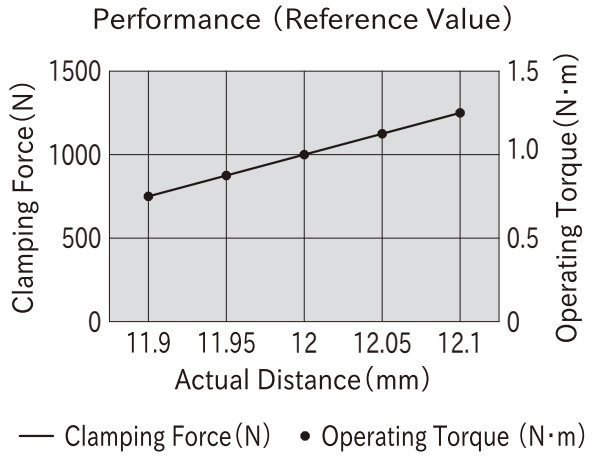


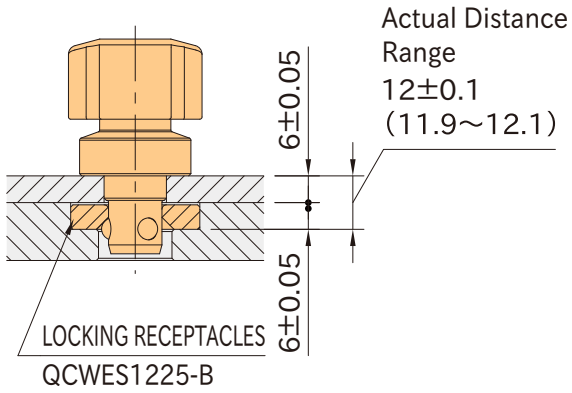
For higher accurate locating, use locating pins.

Performance Curve

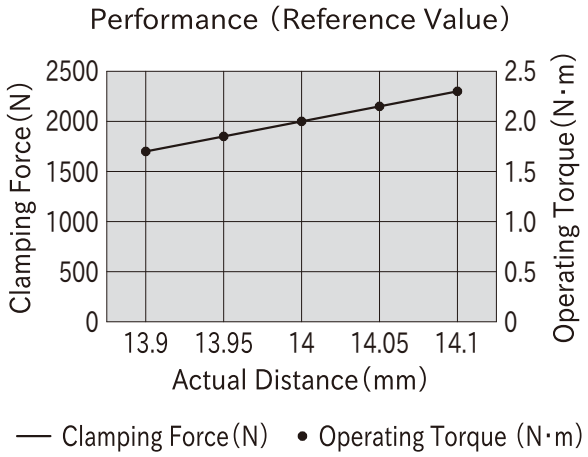
■Actual Mounting Distance vs. Clamping Force and Operating Torque

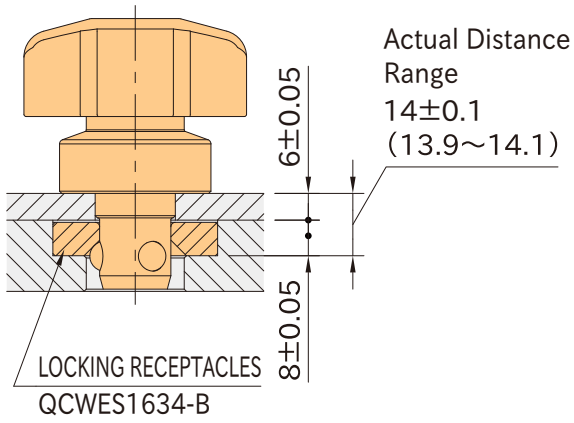
QCWES1225-16S





QCWES1634-20S





Reference

"How To Install" of QCWES-B Locking Receptacles

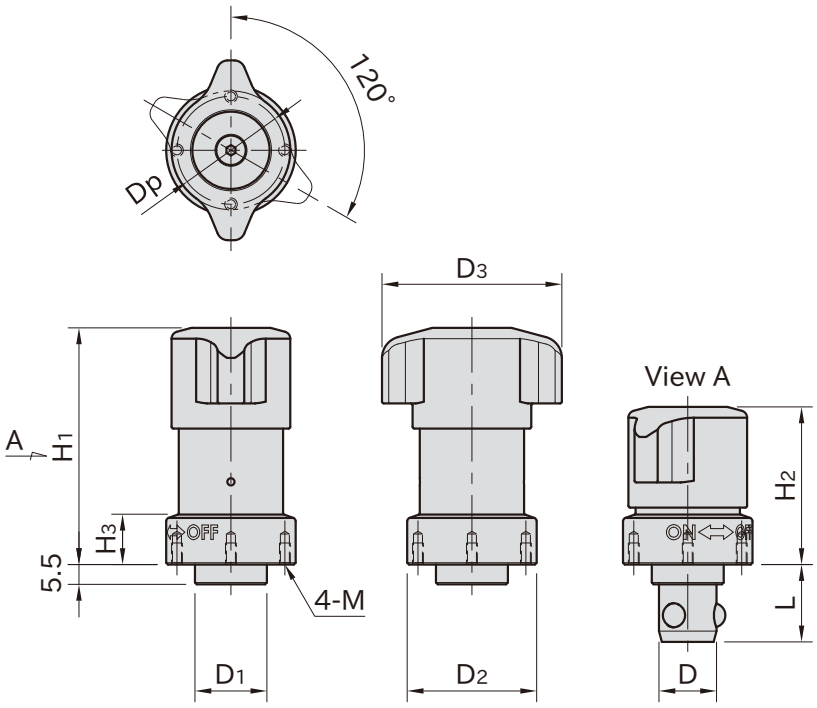
QCWESA RETRACTABLE HEAVY DUTY KNOB-LOCKING PINS

RoHS

IMAO

Wedge

(OFF position) (ON position)



(OFF position) (ON position)

★Key Point

Retractable shaft allows sliding movement with clamping forces of 1000 N and 2000 N

Body	Shank	Wedge	Knob	Ball	Spring A	Spring B
SUS303 stainless steel	SCM440 steel Electroless nickel plated	SCM435 steel Electroless nickel plated Quenched and tempered	SCS13 stainless steel (Equivalent to SUS304)	SUS440C stainless steel Quenched and tempered	Equivalent to SWOSC-V steel	SUS304WPB stainless steel

Part Number	Plate Thickness	D $(^{-0.05}_{-0.10})$	D_1 (h9)	D_2	D_3	L	H_1	H_2	H_3	M	Dp
QCWESA1227-16S	6~16 *)	12	16	27	35	17.5	52	35	10	M2x0.4Depth4	23
QCWESA1636-20S	6~20 *)	16	20	36	50	21.5	66	44	14	M3x0.5Depth6	30

Part Number	Clamping Force (N)	Holding Force (N) **)	Weight (g)	Locking Receptacles
QCWESA1227-16S	1000	2500	190	QCWES1225-B
QCWESA1636-20S	2000	5000	320	QCWES1634-B

*) The tolerance should be within ±0.05 for 6mm-thick plates.

**) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

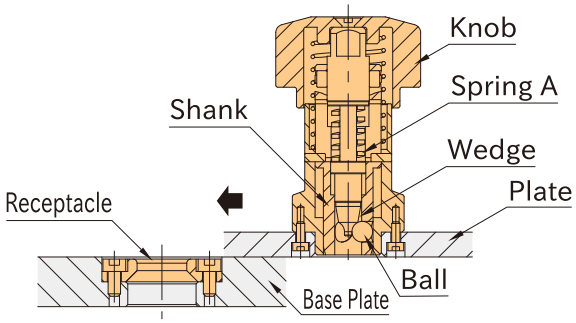
Supplied with

·QCWESA1227-16S:
4 of socket-head cap screws(stainless steel), M2X0.4-5L

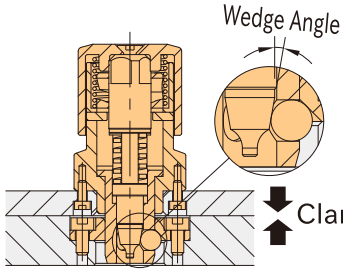
·QCWESA1636-20S:
4 of socket-head cap screws(stainless steel), M3X0.5-6L

QCWES-B LOCKING RECEPTACLES

Feature

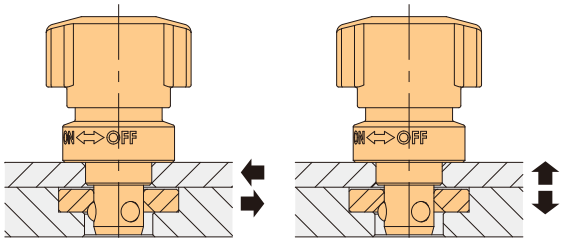


The shank retracts at the unclamping position to enable operations without interference with the base plate.



The wedge of the locking pin pushes out the balls against the tapered surface of the receptacle to clamp the two plates.

Mechanical Strength

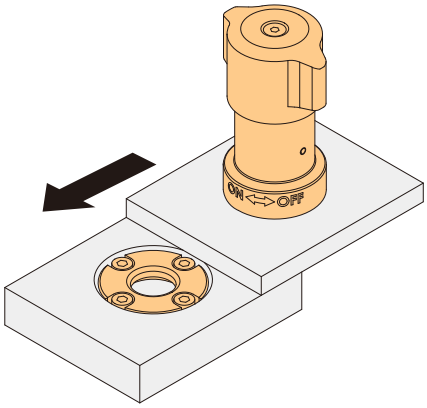


Shear Strength　　Tensile Strength

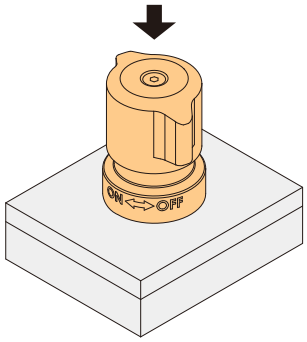
Part Number	Heat-resistant Temperature(℃)	Shear Strength (N)	Tensile Strength (N)
QCWESA1227-16S	180	10000	4000
QCWESA1636-20S		15000	8000

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

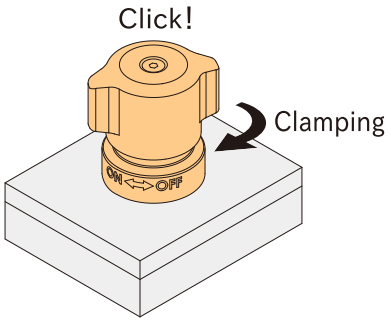
How To Use



1. Ensure that the knob is positioned at the"OFF" mark.



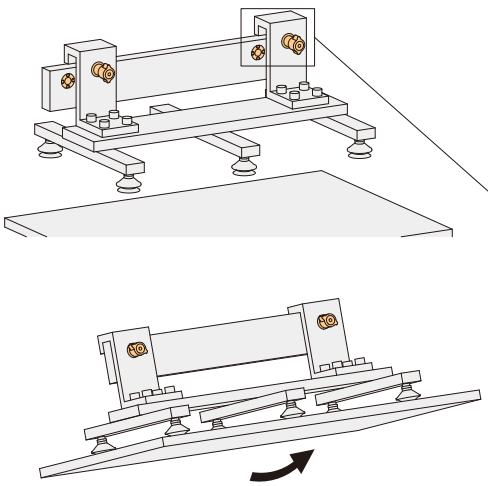
2. Insert the clamp pressing the knob.

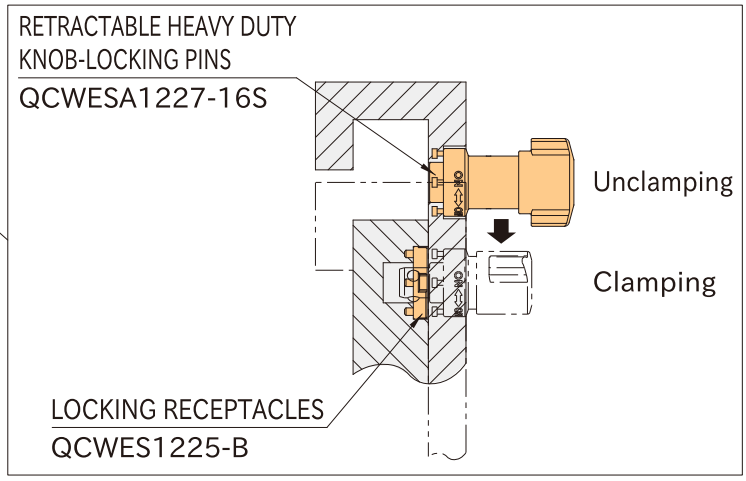


3. Turn the knob to the "ON" mark for clamping. The knob clicks when clamped. Turning the knob to the "OFF" position, the shank returns automatically to the unclamping position by the spring.

Application Example

Changes of large conveying unit





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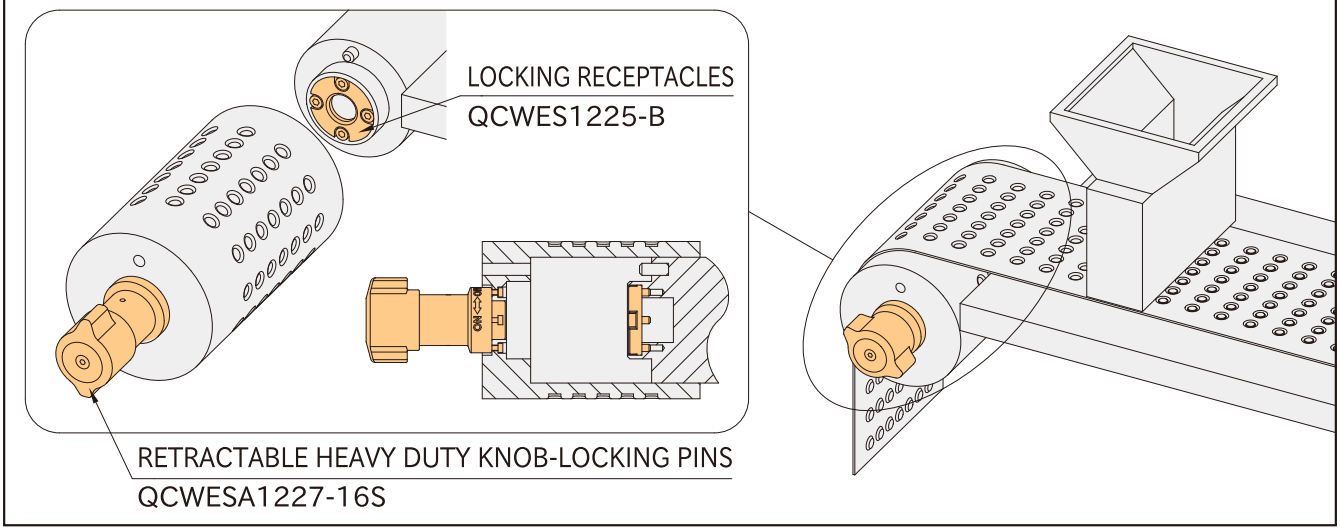
Application Example

Changes of rollers for blister packaging



How To Install

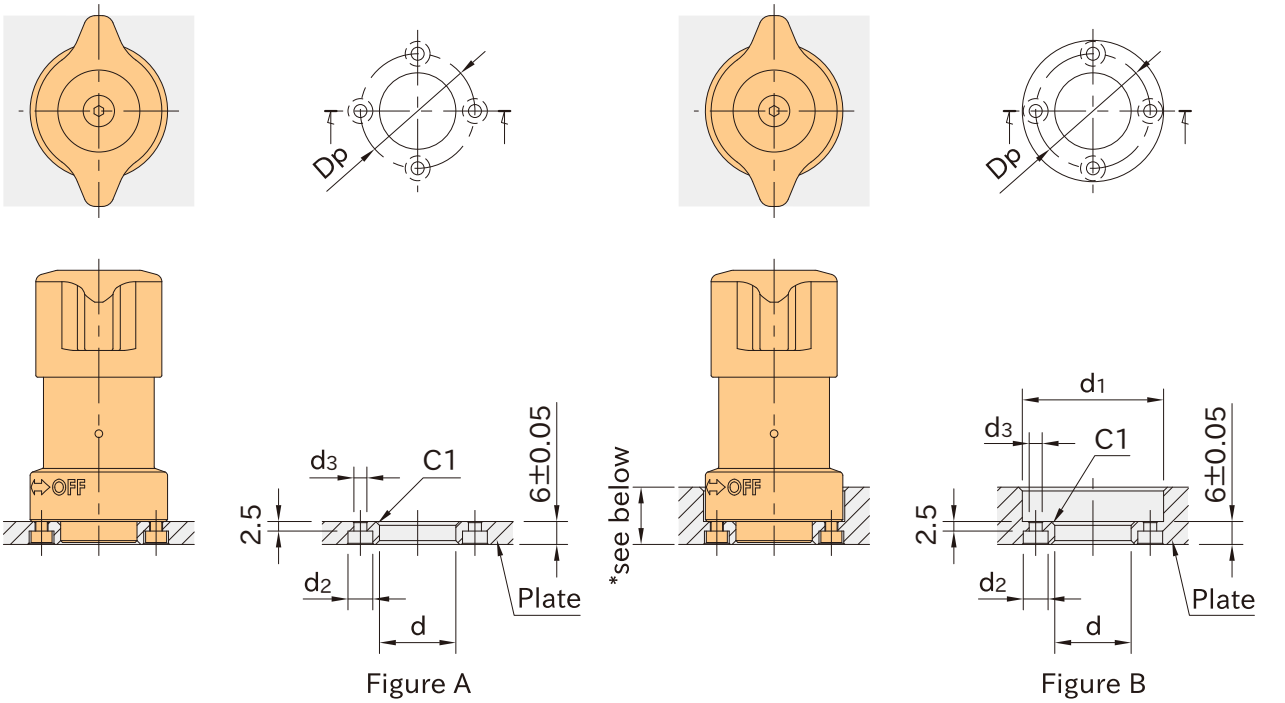


Figure A

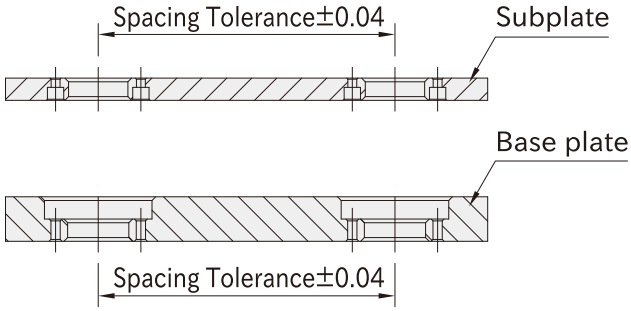
Figure B

Part Number	Plate Thickness	Figure	d $(^{+0.10}_{+0.05})$	d_1	d_2	d_3	Dp
QCWESA1227-16S	6	A	16	—	4.4	2.4	23
	Over 6, 16 or less	B		28			
QCWESA1636-20S	6	A	20	—	6.5	3.4	30
	Over 6, 20 or less	B		37			

*) Height to center of ON/OFF mark: QCWESA1227-16S : 12mm, QCWESA1636-20S : 15mm
For use with thick plates than above, add an ON/OFF mark as needed.

Accuracy

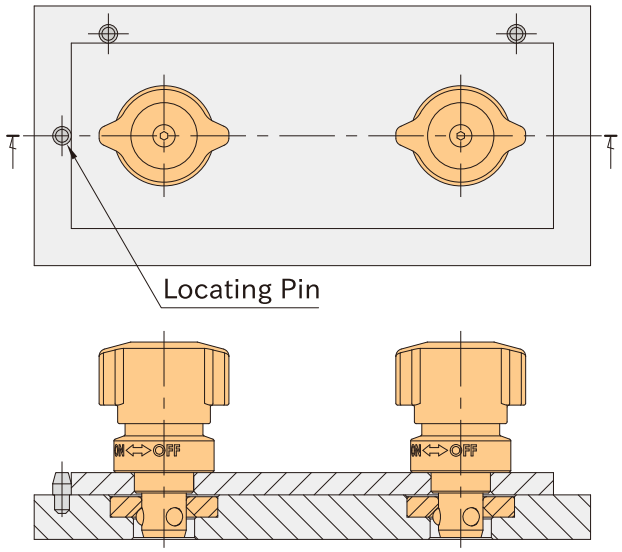
■Machining Accuracy



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

■Repeatability

Repeatability ±0.2

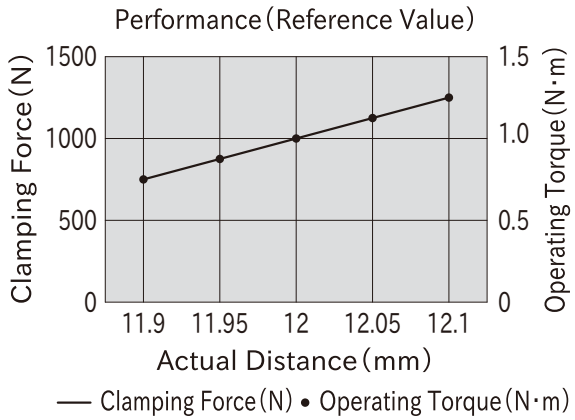


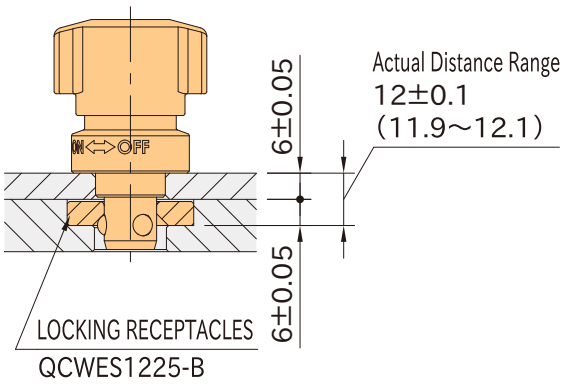
For higher accurate locating, use locating pins.

Performance Curve

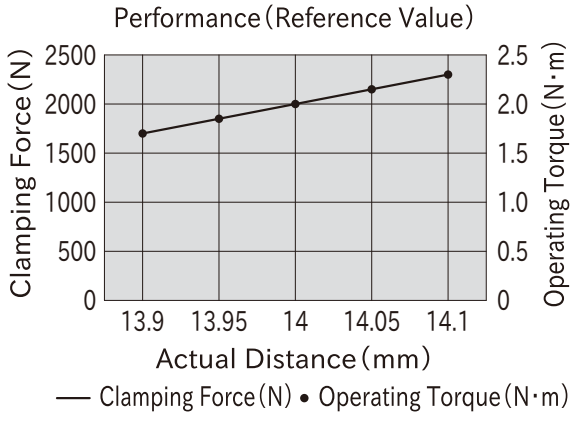
■Actual Mounting Distance vs. Clamping Force and Operating Torque

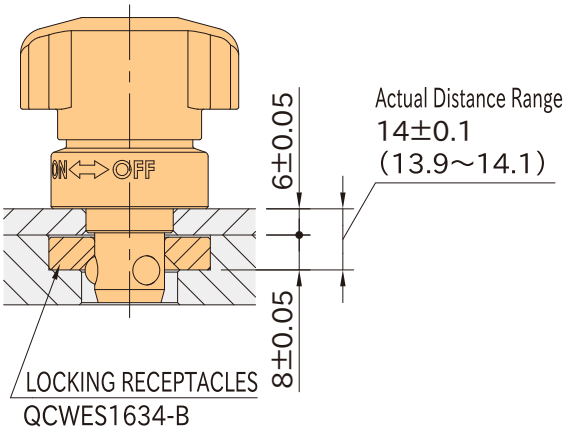
QCWESA1227-16S





QCWESA1636-20S

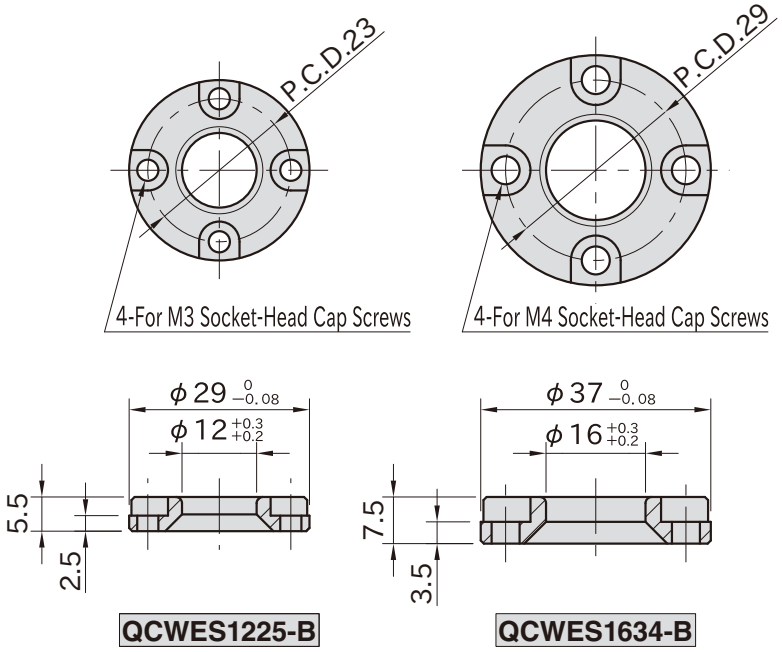




Reference

"How To Install" of QCWES-B Locking Receptacles

QCWES-B LOCKING RECEPTACLES



QCWES1225-B **QCWES1634-B**

Body
SCM435 steel Electroless nickel plated Quenched & tempered

Part Number	Plate Thickness	Weight (g)	Heavy Duty Knob-Locking Pins	Retractable Heavy Duty Knob-Locking Pins
QCWES1225-B	10 or more	28	QCWES1225-16S	QCWESA1227-16S
QCWES1634-B	13 or more	60	QCWES1634-20S	QCWESA1636-20S

Supplied With

- QCWES1225-B:
  4 of socket-head cap screws(stainless steel), M3×0.5-6L
- QCWES1634-B:
  4 of socket-head cap screws(stainless steel), M4×0.7-8L

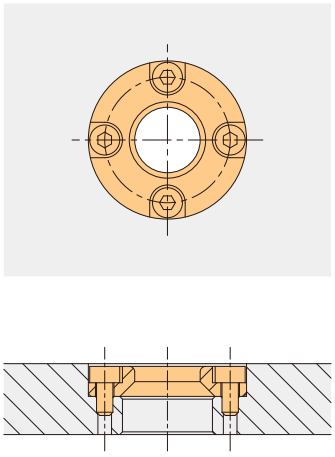
Reference

- "Accuracy" of QCWES Heavy Duty Knob-Locking Pins
- "Accuracy" of QCWESA Retractable Heavy Duty Knob-Locking Pins

How To Install

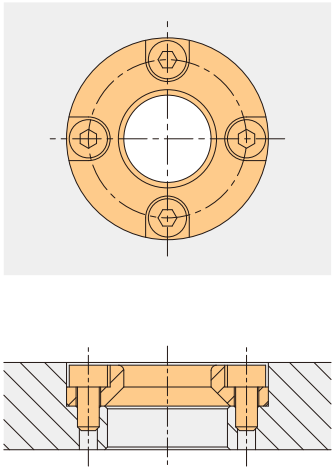
QCWES1225-B

Plate thickness should be 10mm or more.

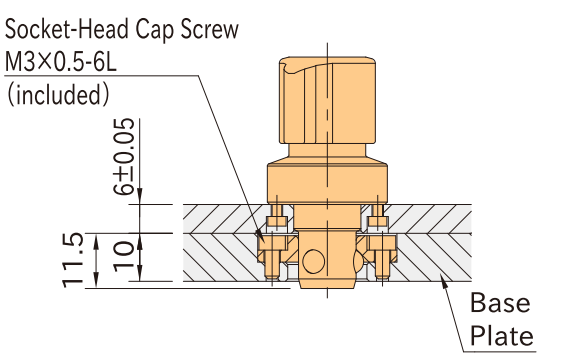


QCWES1634-B

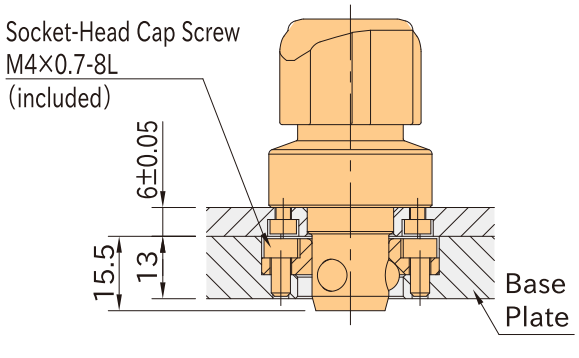
Plate thickness should be 13mm or more.



Note



QCWES1225-16S **QCWESA1227-16S**



QCWES1634-20S **QCWESA1636-20S**

The shaft of Heavy Duty Knob-Locking Pins can protrude from the base plate depending on the thickness of the base plate.

QCPC PIN HOLDING CLAMPS

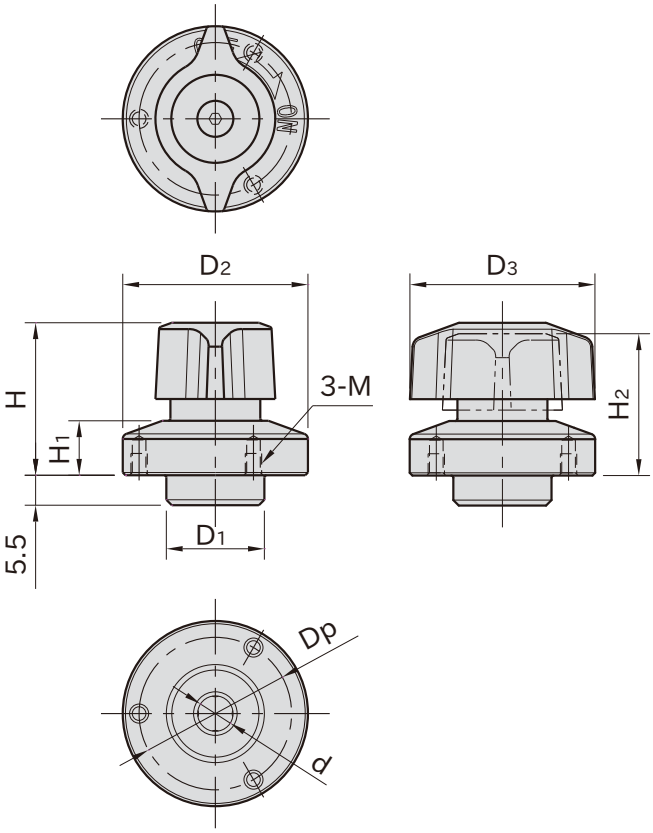
RoHS Stainless Steel

Wedge

QCPC
(Plastic Knob)

Stainless Steel

QCPC-SUS
(Stainless Steel)



★Key Point

Minimises space requirement with clamping pins.

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

Size		Plate Thickness	d (+0.4 +0.2)	D1 (h9)	D2	D3	H	H1	H2	M	Dp	Clamping Force (N)	Holding Force (N)**	Clamping Pins
QCPC QCPC-SUS	0625-10	3~10 *)	6	14	25	25	23	6.5	22	M2×0.4 Depth 3	21	7	110	QCPC0625-M4-SUS
	0834-14	3~14 *)	8	18	34	34	28	10	26.5	M3×0.5 Depth 4	28	9	150	QCPC0834-M5-SUS

*) Spacer QCASP is required for thinner plate than 6mm.
**) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

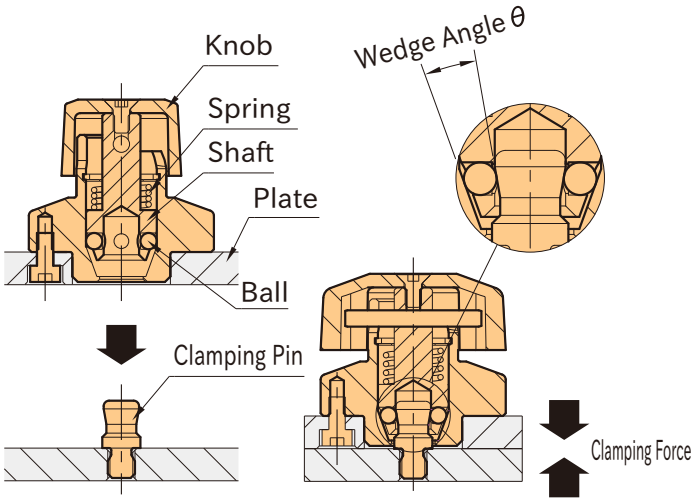
QCPC (Plastic Knob)		QCPC-SUS (Stainless Steel)	
Part Number	Weight (g)	Part Number	Weight (g)
QCPC0625-10	35	QCPC0625-10-SUS	45
QCPC0834-14	85	QCPC0834-14-SUS	105

QCPC-M CLAMPING PINS

Supplied With

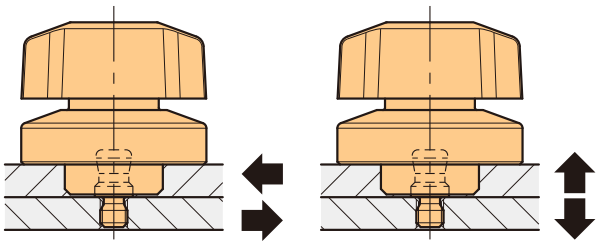
·QCPC QCPC-SUS 0625-10:
: 3 of socket-head cap screws(stainless steel), M2×0.4-5L
·QCPC QCPC-SUS 0834-14:
: 3 of socket-head cap screws(stainless steel), M3 0.5-6L

Feature



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

Mechanical Strength

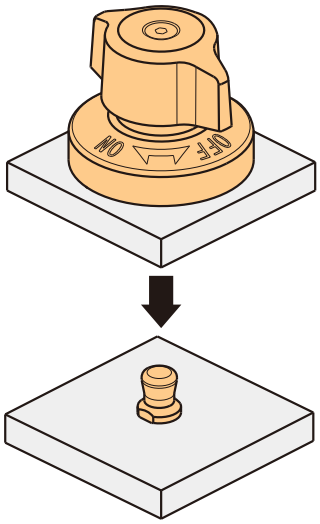


Shear Strength　　Tensile Strength

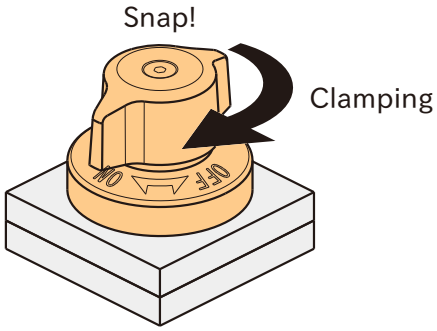
Size		Heatresistant Temperature (℃)	Shear Strength (N)	Tensile Strength (N)
QCPC	0625-10	130	1100	250
	0834-14		1800	400
QCPC-SUS	0625-10	180	1100	250
	0834-14		1800	400

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

How To Use



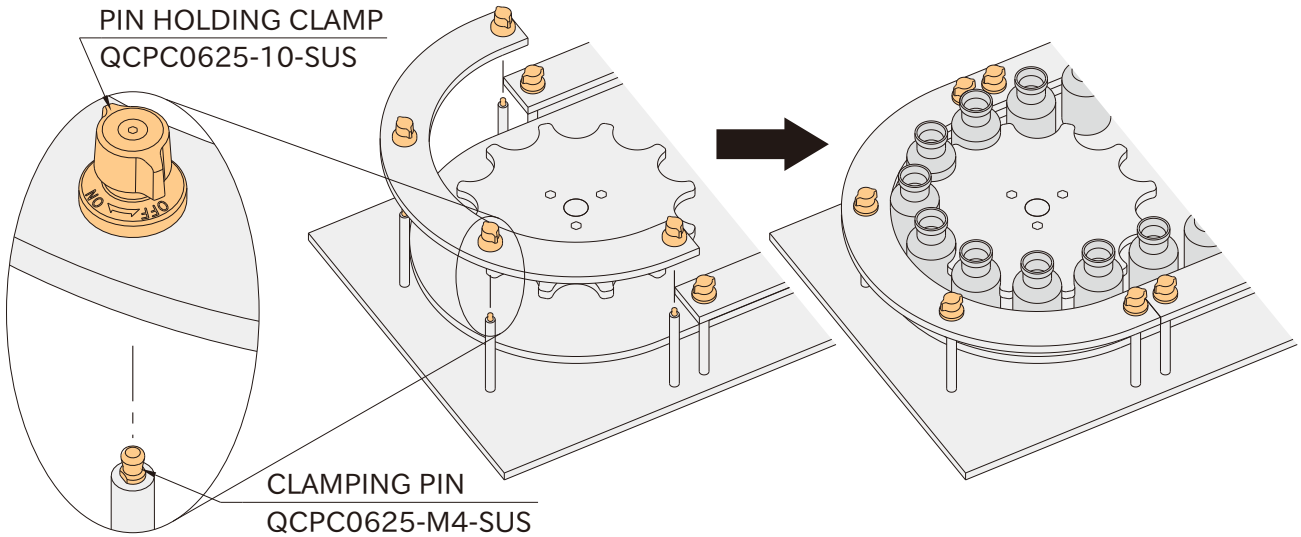
1. Ensure that the knob is positioned at the "OFF" mark and put Pin Holding Clamp over the Clamping Pin.



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

Application Example

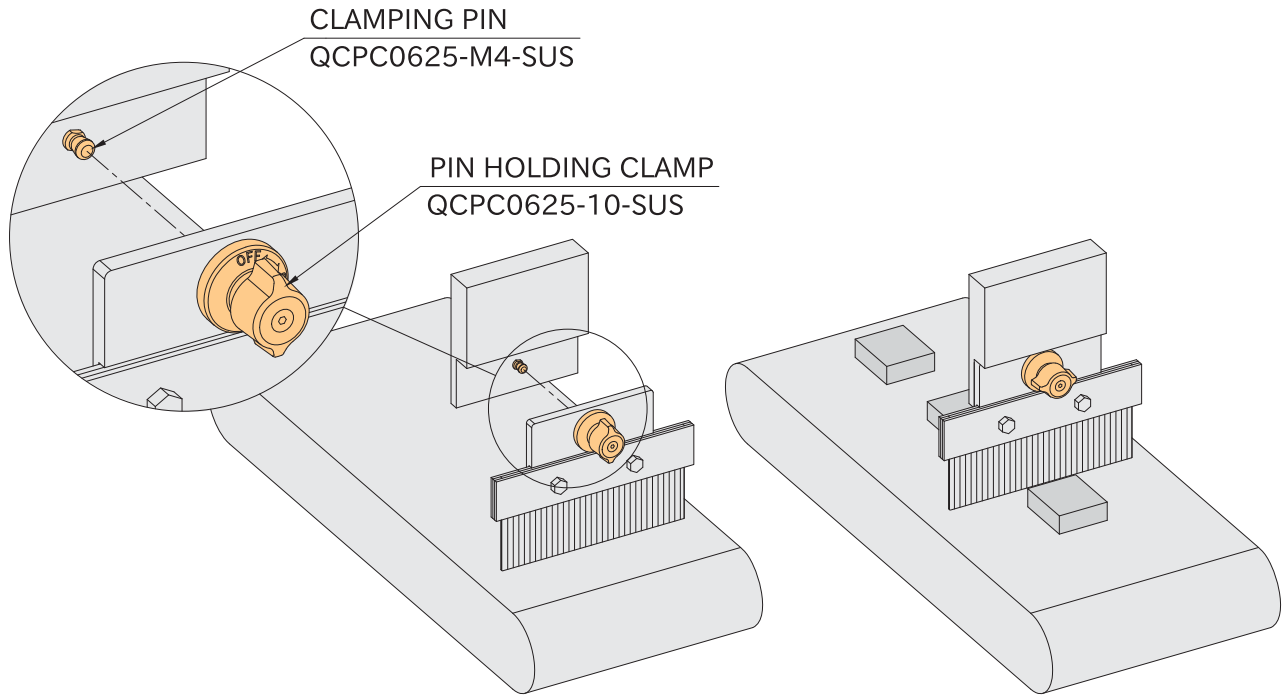
Changes of guides around star wheels



Continuing on Next Page

Application Example

Changes of static electricity removal brush



How To Install

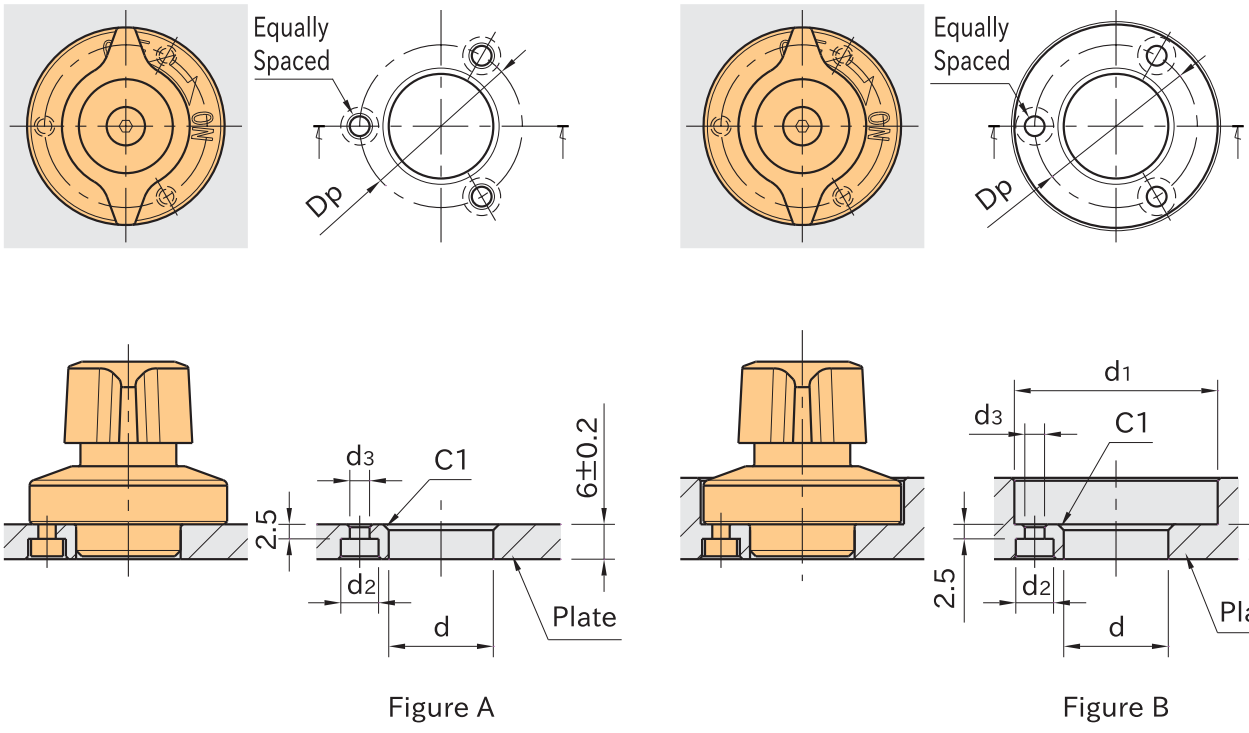


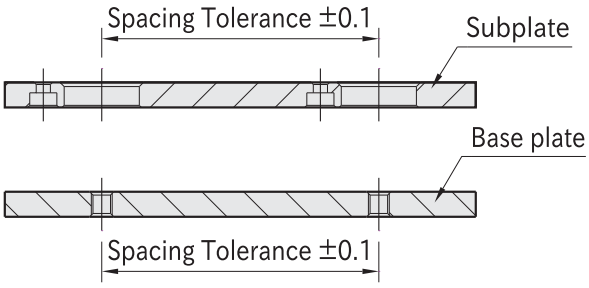
Figure A

Figure B

Size		Proper Plate Thickness	Figure	d (+0.10 +0.05)	d1	d2	d3	Dp
QCPC QCPC-SUS	0625-10	3 or more, under 6	Spacer QCASP is required.					
		6	A	14	—	4.4	2.4	21
		Over 6, 10 or less	B		26			
	0834-14	3 or more, under 6	Spacer QCASP is required.					
		6	A	18	—	6.5	3.4	28
		Over 6, 14 or less	B		35			

Accuracy

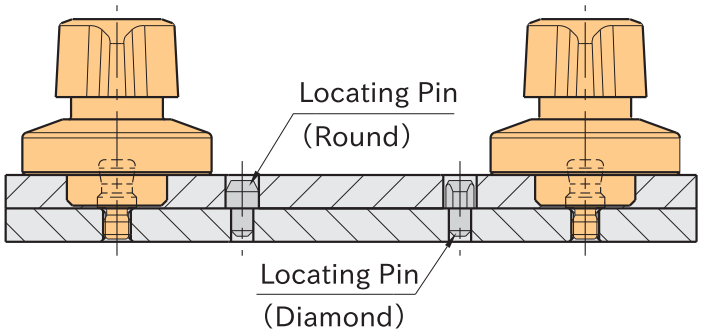
■Machining Accuracy



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

■Repeatability

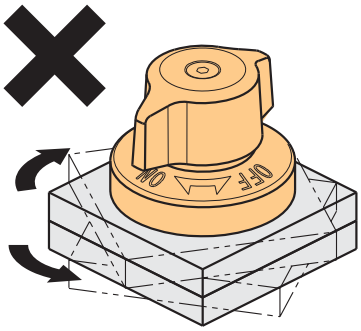
Repeatability ±0.25



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.



Reference

・"How To Install" of QCPC-M Clamping Pins
・Spacer QCASP is required for 3mm or more, under 6mm plate thickness.

QCASP SPACERS

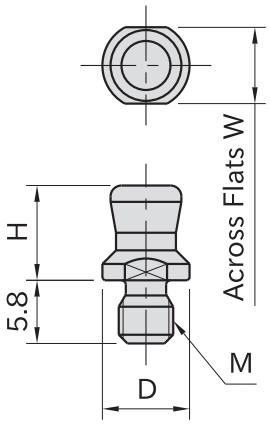
QCPC-M CLAMPING PINS

RoHS Stainless Steel Heat resistance: 180°C

IMAO

QCPC0625-M4-SUS

QCPC0834-M5-SUS



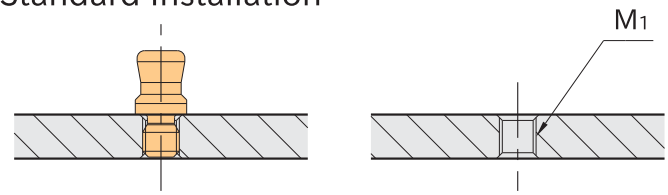
Body
SUS630 stainless steel Precipitation hardened

Part Number	D $^{(-0.05)}_{(-0.10)}$	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 QCPC0625-10-SUS	QCOW0616-10SUS QCOWS0616-10SUS
QCPC0834-M5-SUS	8	M5×0.8	8.7	7	3	QCPC0834-14 QCPC0834-14-SUS	—

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

How To Install

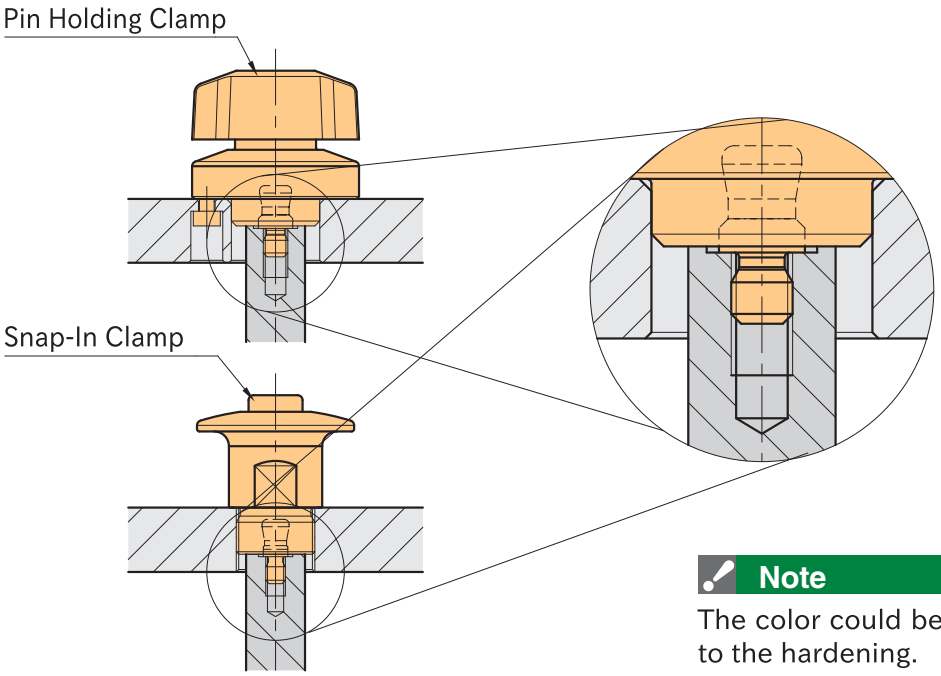
Standard Installation

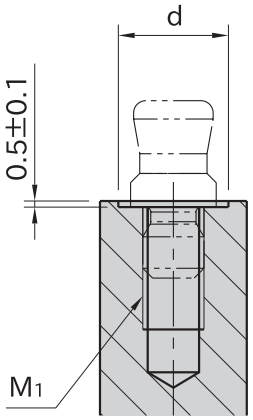


Part Number	M_1	d
QCPC0625-M4-SUS	M4×0.7	7
QCPC0834-M5-SUS	M5×0.8	9

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.





Note

The color could be different from the picture due to the hardening.

IMAO® fixtureworks®

QCPCS HEAVY DUTY PIN HOLDING CLAMPS

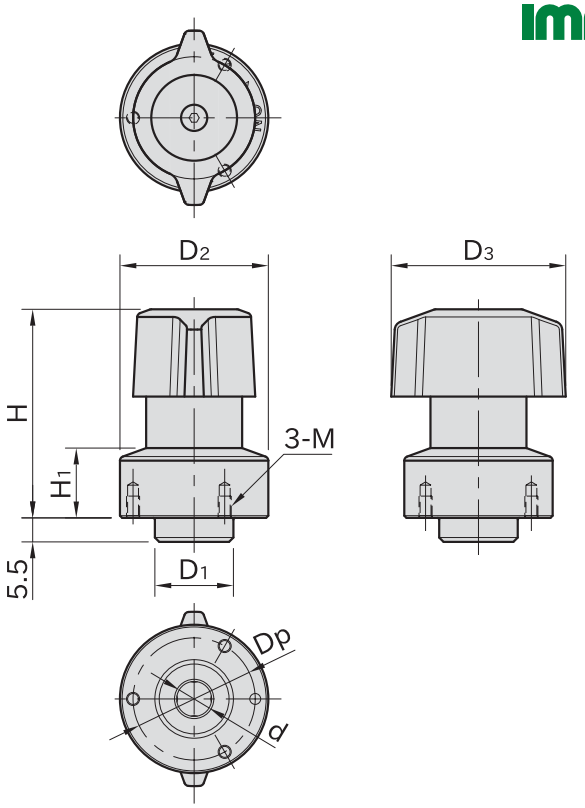
RoHS Stainless Steel

Wedge

QCPCS QCPCS-SUS (OFF position)

Stainless Steel

QCPCS (ON position)



★Key Point

Minimises space requirement with clamping pins.

Type	Body	Wedge	Knob	Ball	Spring
QCPCS	SUS303 stainless steel	SUS630 stainless steel Precipitation hardened	Polyamide (glass-fiber reinforced) Black	SUS440C stainless steel Quenched and tempered	SUS304WPB stainless steel
QCPCS-SUS			SCS13 stainless steel (Equivalent to SUS304)		

Size		Proper Plate Thickness	d (+0.4 +0.2)	D1 (h9)	D2	D3	H	H1	M	Dp	Clamping Force (N)	Holding Force (N)**	Proper Clamping Pins
QCPCS QCPCS-SUS	0625-20	3~20 *)	6	14	25	30	40	14.7	M2×0.4 Depth 4	21	150	450	QCPCS 0625-M4-SUS QCPCSF0625-M5-SUS QCPCSF0625-M6-SUS
	0834-20	3~20 *)	8	18	34	40	48	16	M3×0.5 Depth 5	28	250	750	QCPCS 0834-M5-SUS QCPCSF0834-M6-SUS

*) Spacer QCASP is required for thinner plate than 6mm.

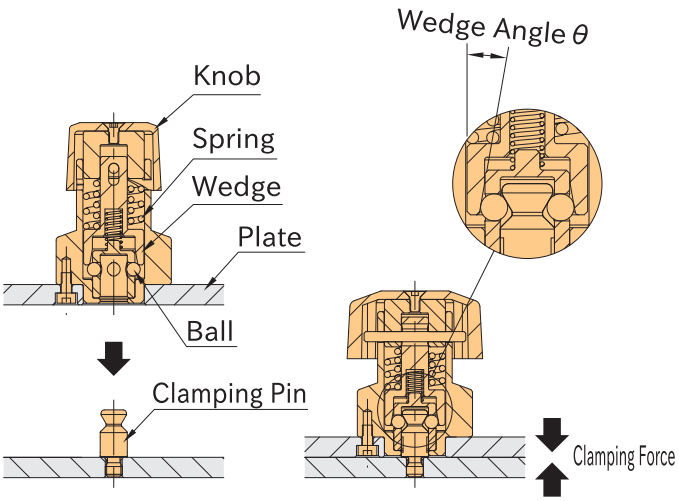
**) The holding force limits the gap between plates within 0.1 mm, even if the fastener receives a tensile force exceeding the clamping force.

QCPCS (Plastic Knob)		QCPCS-SUS (Stainless Steel)	
Part Number	Weight (g)	Part Number	Weight (g)
QCPCS0625-20	85	QCPCS0625-20-SUS	100
QCPCS0834-20	165	QCPCS0834-20-SUS	195

Supplied With

- QCPCS QCPCS-SUS 0625-20:
  3 of socket-head cap screws(stainless steel), M2×0.4-5L
- QCPCS QCPCS-SUS 0834-20:
  3 of socket-head cap screws(stainless steel), M3×0.5-6L

Feature

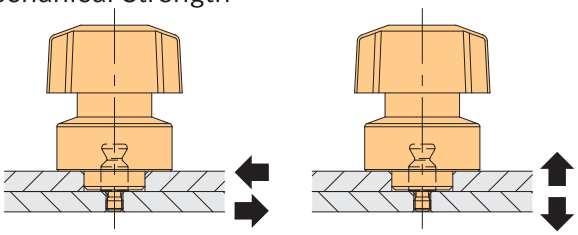


Four balls hold the Clamping Pin to pull the plate for clamping.

Technical Information

・Heatresistant Temperature QCPCS 130℃
QCPCS-SUS 180℃

・Mechanical Strength

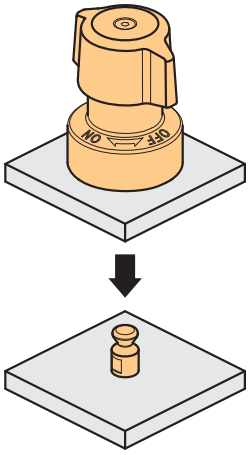


Shear Strength　　Tensile Strength

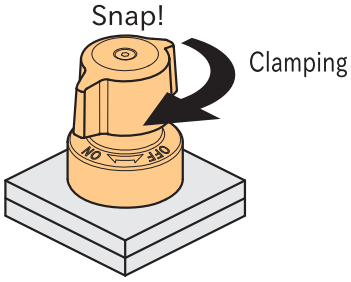
Size		Clamping Pin Size	Shear Strength (N)	Tensile Strength (N)
QCPCS / QCPCS-SUS	0625-20	QCPCS 0625-M4-SUS	1100	1800
		QCPCSF0625-M5-SUS	1800	
		QCPCSF0625-M6-SUS	2500	
	0834-20	QCPCS 0834-M5-SUS	1800	2400
		QCPCSF0834-M6-SUS	2500	

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

How To Use



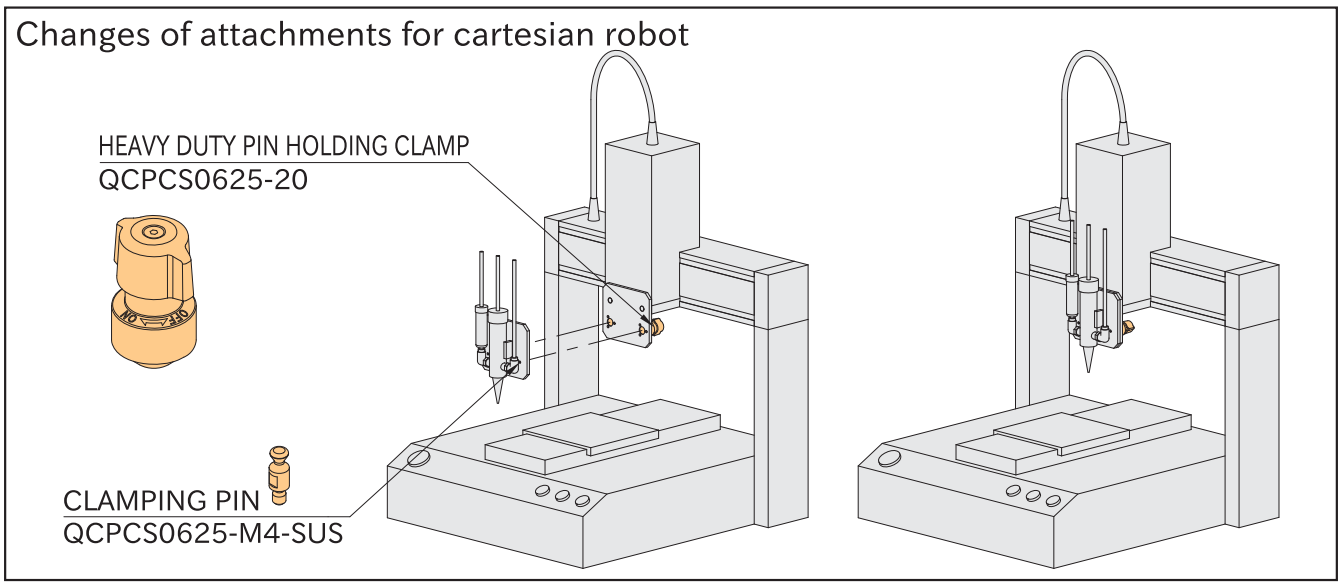
1. Ensure that the knob is positioned at the "OFF" mark and put Pin Holding Clamp over the Clamping Pin.



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

Application Example

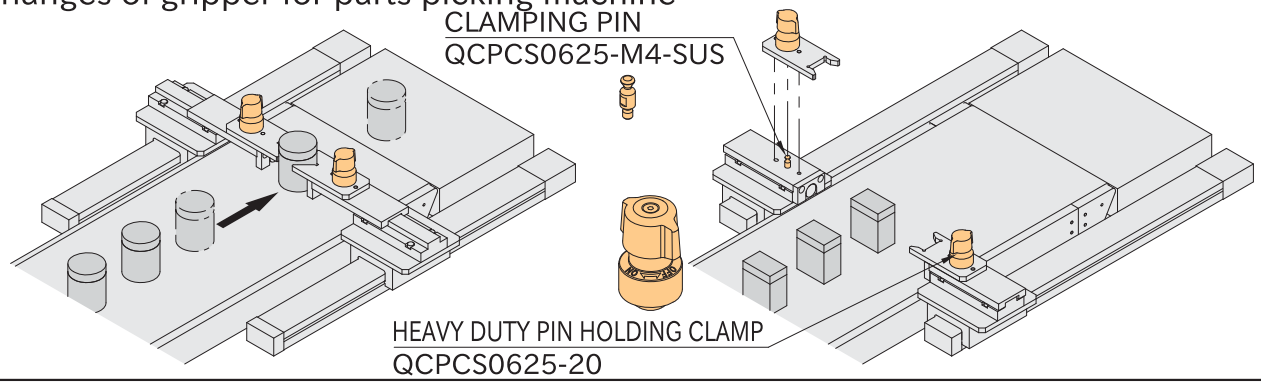
Changes of attachments for cartesian robot



Continuing on Next Page

Application Example

Changes of gripper for parts picking machine



How To Install

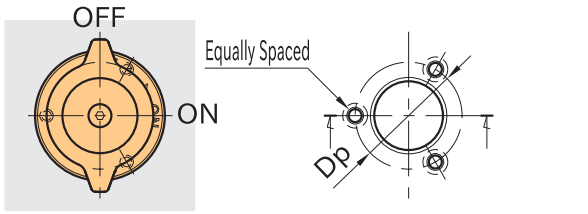


Figure A

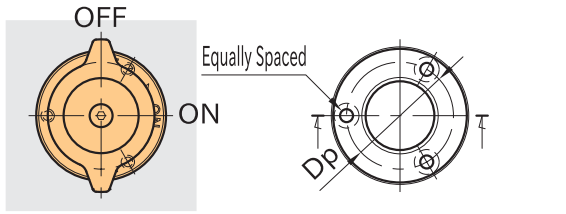


Figure B

Size		Clamping Pin Size	Proper Plate Thickness	Figure	d (+0.10 +0.05)	T (±0.2)	d1	d2	d3	Dp
QCPCS QCPCS-SUS	0625-20	QCPCS 0625-M4-SUS	3 or more, under 6	Spacer QCASP is required.						
			6	A	14	6	–	4.4	2.4	21
			Over 6, 20 or less	B			26			
		QCPCSF0625-M5-SUS	9 ***)	A		9	–			
		QCPCSF0625-M6-SUS	Over 9, 20 or less	B			26			
	0834-20	QCPCS 0834-M5-SUS	3 or more, under 6	Spacer QCASP is required.						
			6	A	18	6	–	6.5	3.4	28
			Over 6, 20 or less	B			35			
		QCPCSF0834-M6-SUS	9 ***)	A		9	–			
			Over 9, 20 or less	B			35			

QCPCS-M / QCPCSF-M

CLAMPING PINS

QCASP

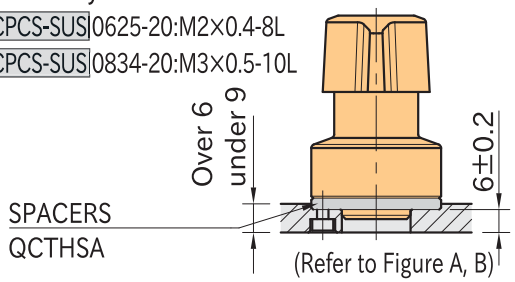
SPACERS

QCTHSA

SPACERS

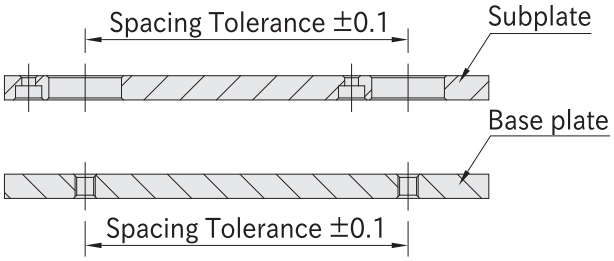
***)For plates with thickness between 6 - 9 mm, QCPCSF-M Clamping Pins are applicable with QCTHSA Spacers.
Hexagon socket head cap screws for fixing are to be provided by customer.

- QCPCS QCPCS-SUS 0625-20:M2×0.4-8L
- QCPCS QCPCS-SUS 0834-20:M3×0.5-10L



Accuracy

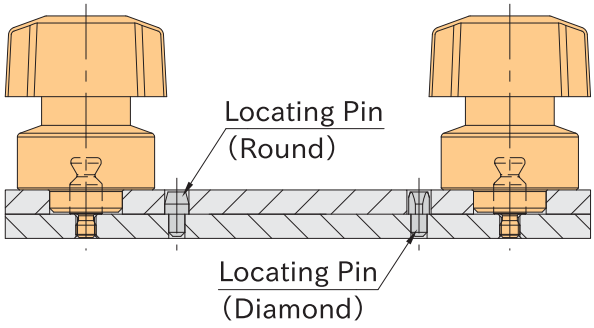
■Machining Accuracy



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.

Reference

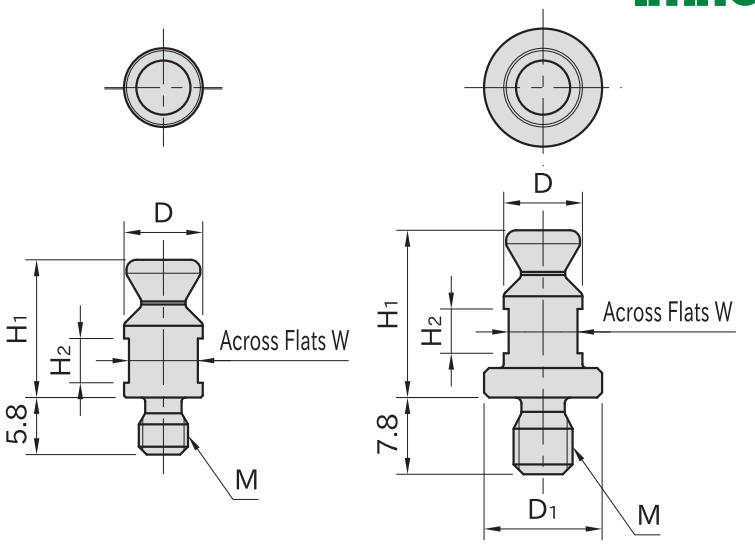
- "How To Install" of QCPCS-M, QCPCSF-M Clamping Pin.
- Spacer QCASP is required for 3mm or more, under 6mm plate thickness.

QCPCS-M / QCPCSF-M CLAMPING PINS

RoHS | Stainless Steel | Heat resistance: 180°C

IMAO

QCPCS-M QCPCSF-M



QCPCS-M QCPCSF-M

★Key Point

Mounting thread size: M4 to M6

Body
SUS630 stainless steel Precipitation hardened

QCPCS-M

Part Number	D (-0.05 / -0.10)	M	H1	H2	W	Weight (g)	Proper Heavy Duty Pin Holding Clamps
QCPCS0625-M4-SUS	6	M4×0.7	13	4	5	3	QCPCS0625-20 QCPCS0625-20-SUS
QCPCS0834-M5-SUS	8	M5×0.8	14	4.5	7	5	QCPCS0834-20 QCPCS0834-20-SUS

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

QCPCSF-M

Part Number	D (-0.05 / -0.10)	D1	M	H1	H2	W	Weight (g)	Proper Heavy Duty Pin Holding Clamps
QCPCSF0625-M5-SUS	6	9	M5×0.8	16	4	5	4	QCPCS0625-20 QCPCS0625-20-SUS
QCPCSF0625-M6-SUS			M6×1				5	
QCPCSF0834-M6-SUS	8	12	M6×1	17	4.5	7	8	QCPCS0834-20 QCPCS0834-20-SUS

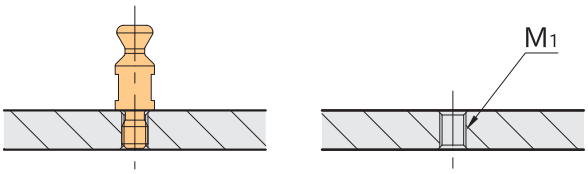
Note: Refer to the product pages of clamps for machining accuracy and repeatability.

Note

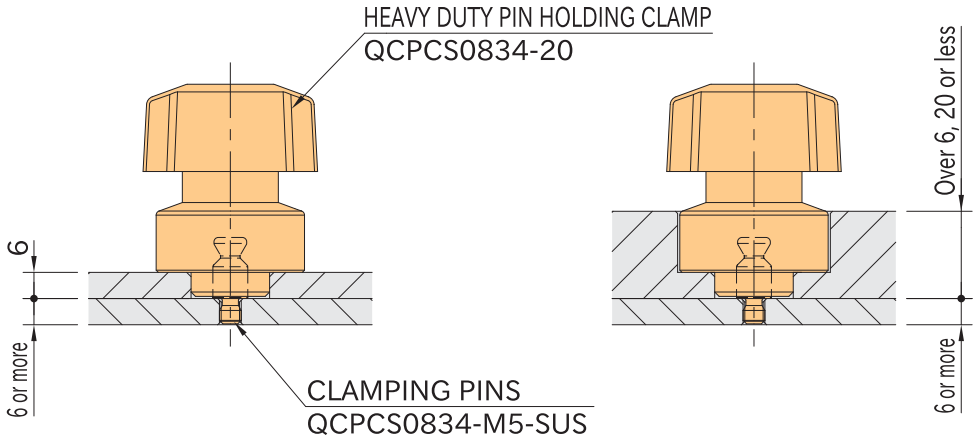
The color could be different from the picture due to the hardening.

How To Install

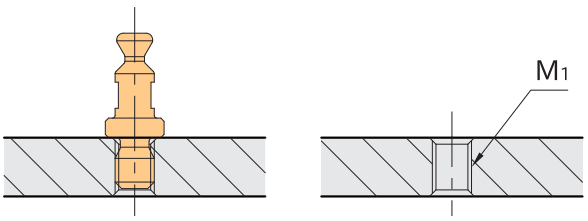
QCPCS-M



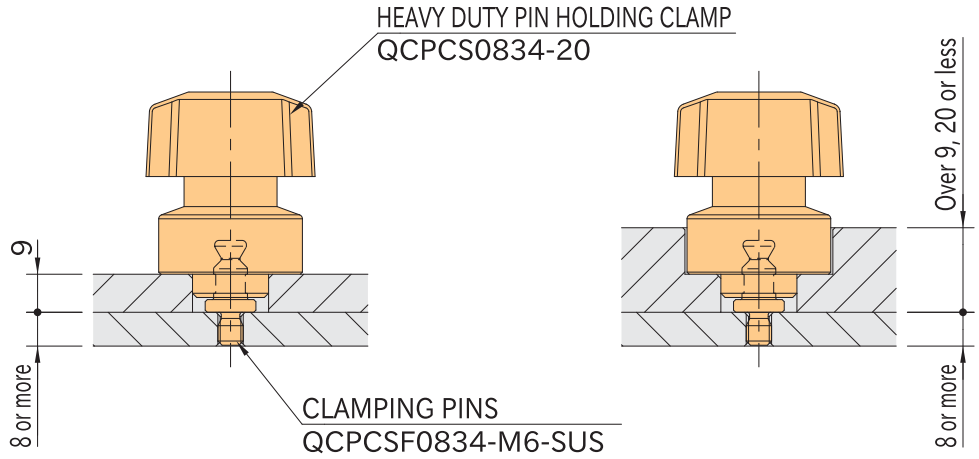
Part Number	M1
QCPCS0625-M4-SUS	M4x0.7
QCPCS0834-M5-SUS	M5x0.8



QCPCSF-M



Part Number	M1
QCPCSF0625-M5-SUS	M5x0.8
QCPCSF0625-M6-SUS	M6x1
QCPCSF0834-M6-SUS	



QCBU / QCBUS BUTTON-LOCKING PINS

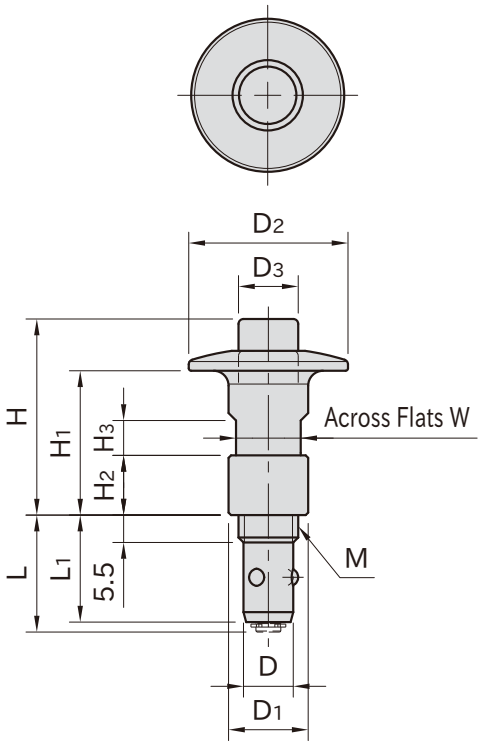
RoHS | Stainless Steel | Heat resistance: 180°C

IMAO

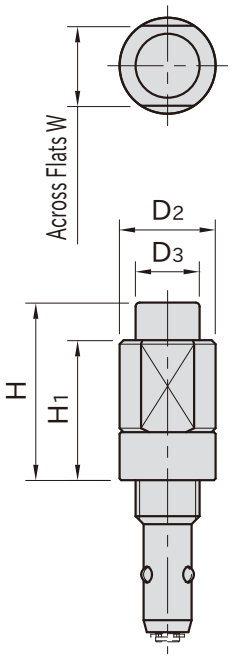
Wedge

QCBU-SUS

QCBUS-SUS
(Cylindrical)



QCBU-SUS



QCBUS-SUS
(Cylindrical)

★Key Point

Secure clamping with wedge

Part Number		Body	Button	Ball	Coiled Spring	Snap Ring	O-Ring
QCBU-SUS QCBUS-SUS	0608-10	SUS303 stainless steel	SUS420J2stainlesssteel Electrolessnickel plated Quenched and tempered	SUS440C stainless steel Quenched and tempered	SUS304WPB stainless steel	Stainless steel	FKM fluororubber
	1012-16						–

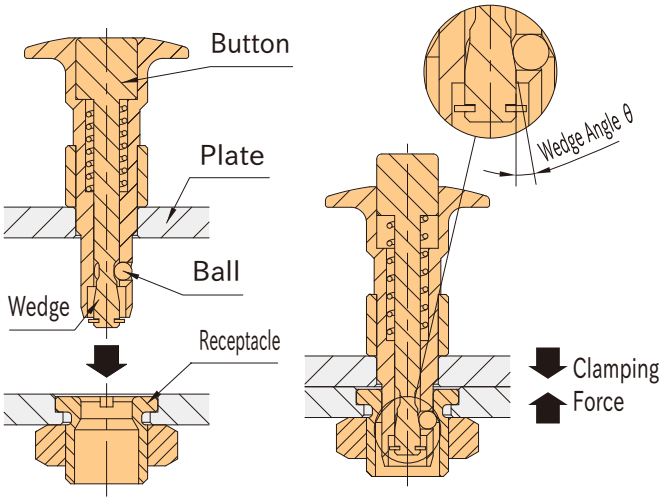
Part Number		Plate Thickness	D $(^{-0.05}_{-0.10})$	M	D_1	L	L_1	H_2	W	Clamping Force(N)	Holding Force (N) *)
QCBU-SUS	0608-10	6~10	6	M 8X1.25	12	21	19	6	10	30	90
QCBUS-SUS	1012-16	6~16	10	M12X1.5 (Fine Thread)	16	23.5	21.5	12	13	50	150

*) Exceeding the holding force creates a gap of greater than 0.1mm between plates.

Part Number		Receptacles	Floating Receptacles
QCBU-SUS	0608-10	QCBU0608-M12SUS	QCBU0608-FL-SUS
QCBUS-SUS	1012-16	QCBU1012-M16SUS	QCBU1012-FL-SUS

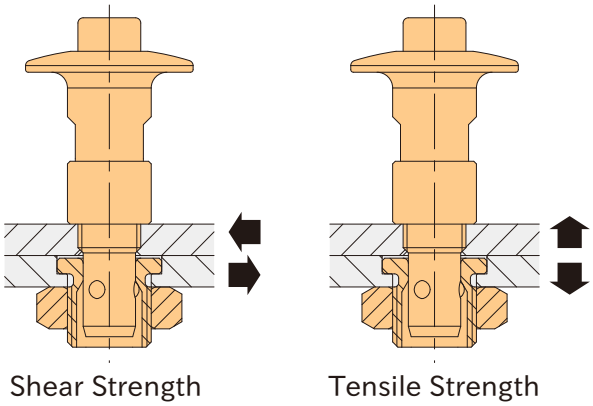
QCBU-SUS							QCBUS-SUS (Cylindrical)						
Part Number	D_2	D_3	H	H_1	H_3	Weight (g)	Part Number	D_2	D_3	H	H_1	H_3	Weight (g)
QCBU0608-10-SUS	23	8	26	18	5.5	30	QCBUS0608-10SUS	12	8	22	17.5	11.5	30
QCBU1012-16-SUS	32	12	39.5	29	7	75	QCBUS1012-16SUS	16	11	34.5	28	16	50

Feature



The wedge of the locking pin pushes out the balls against the tapered surface of the receptacle to clamp the two plates.

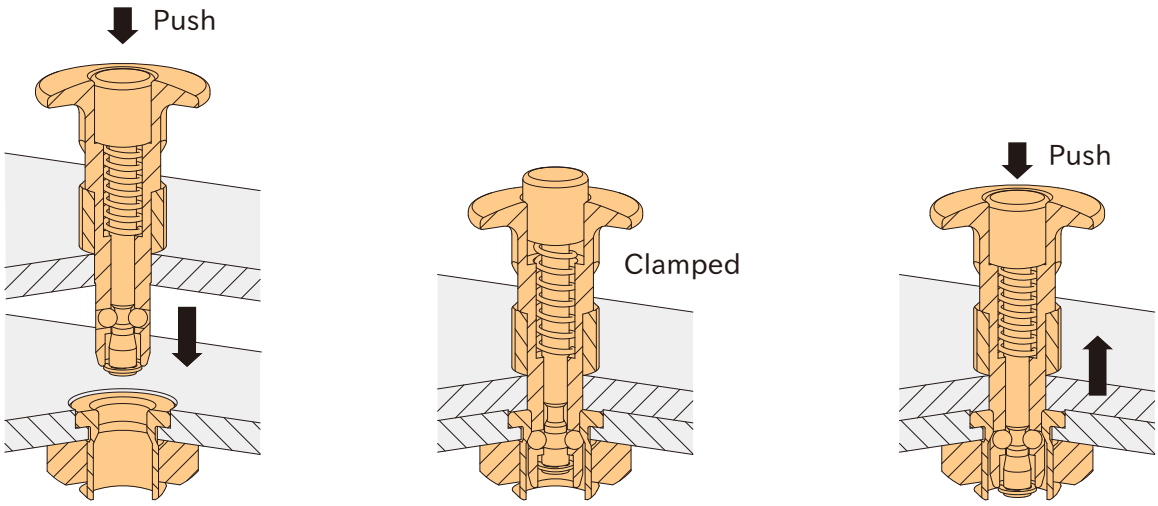
Mechanical Strength



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

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

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
	
QCBU-FL	**FLOATING RECEPTACLES**
	

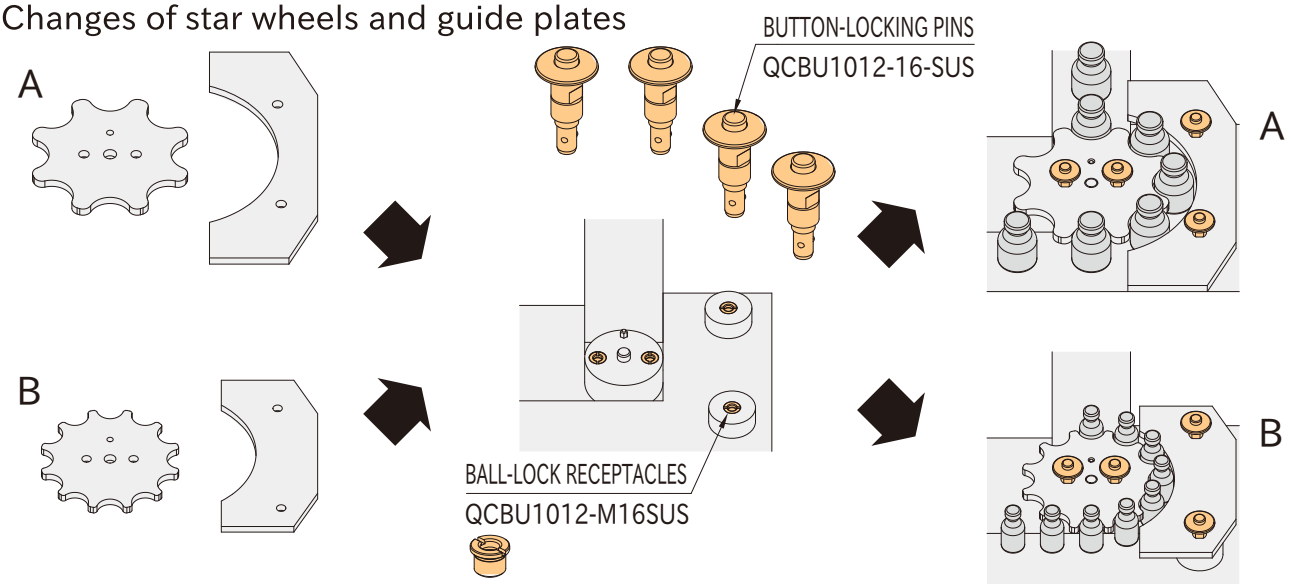
Note

For cylindrical QCBUS-SUS Button-Locking Pins, prepare handles or knobs separately to facilitate the operation.

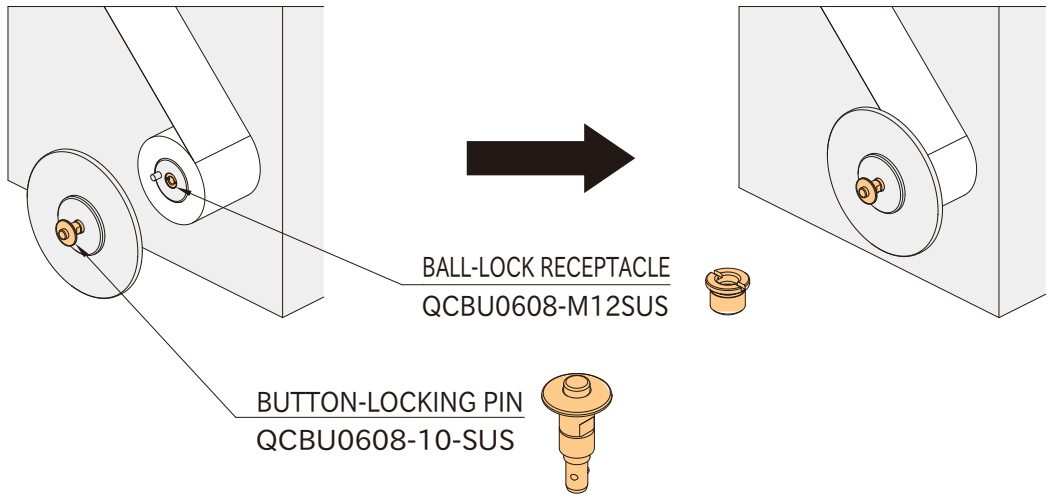
Continuing on Next Page

Application Example

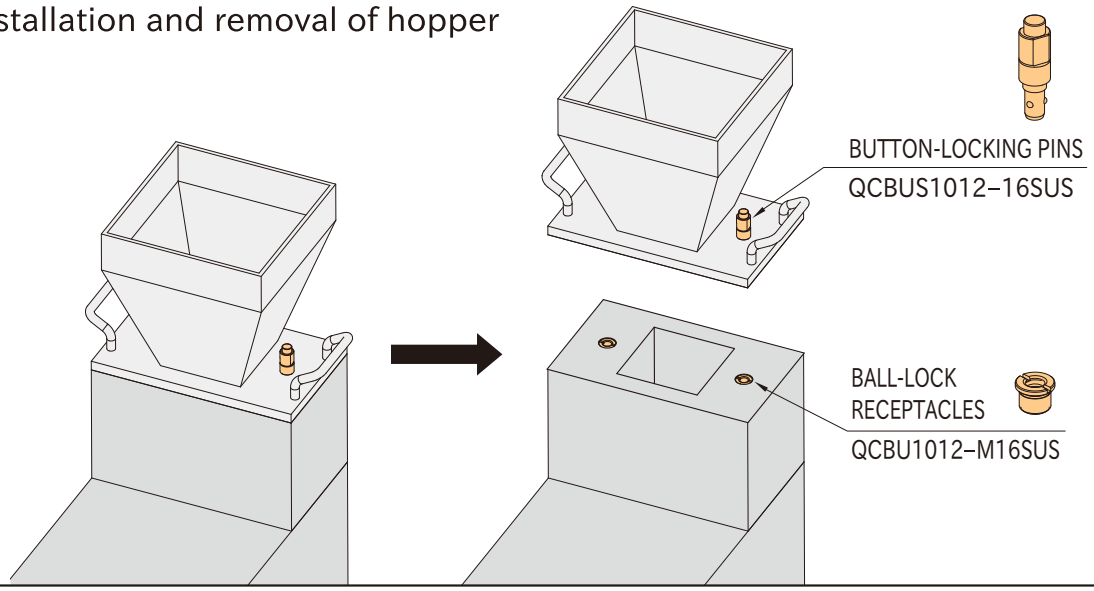
Changes of star wheels and guide plates



Installation and removal of stopper plate for rolls

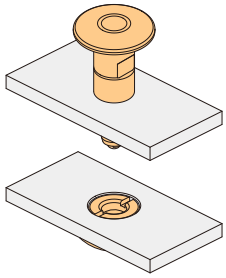


Installation and removal of hopper



How To Install

Fixed Installation



Part Number		Plate Thickness	Figure	M	d_2
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

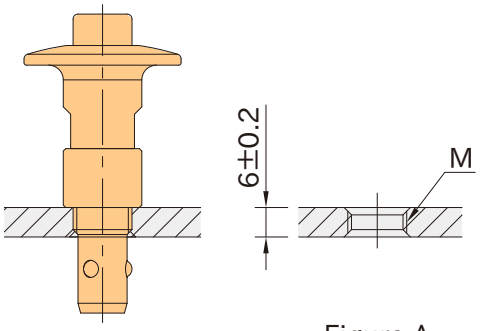


Figure A

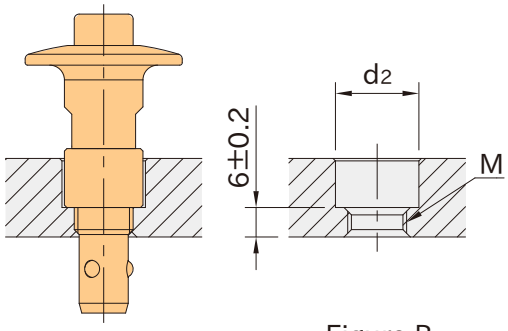
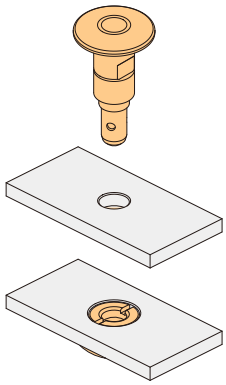


Figure B

Unfixed Installation for QCBU-SUS type



Part Number	Plate Thickness	Figure	d_1 $(^{+0.1}_{0})$	d_2
QCBU0608-10-SUS	6	C	8	—
	Over 6, 10 or less	D		13
QCBU1012-16-SUS	6	C	12	—
	Over 6, 16 or less	D		17

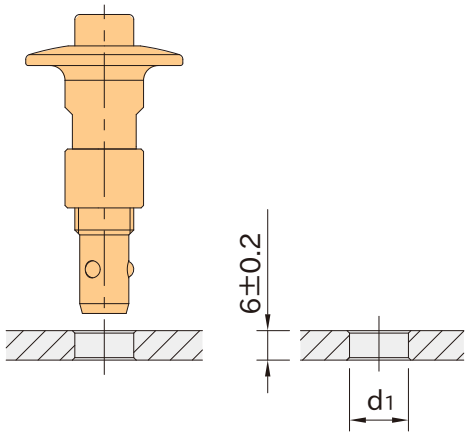


Figure C

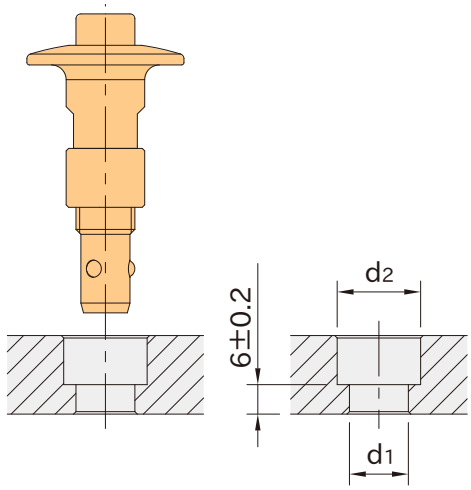
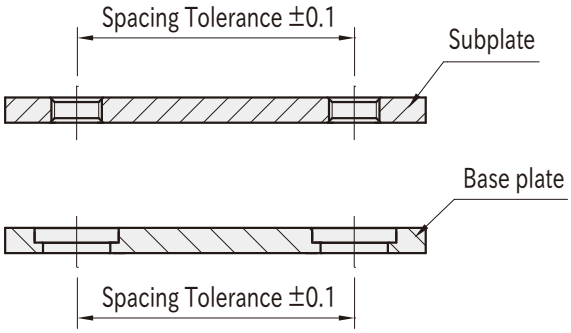


Figure D

Continuing on Next Page

Accuracy

■Machining Accuracy

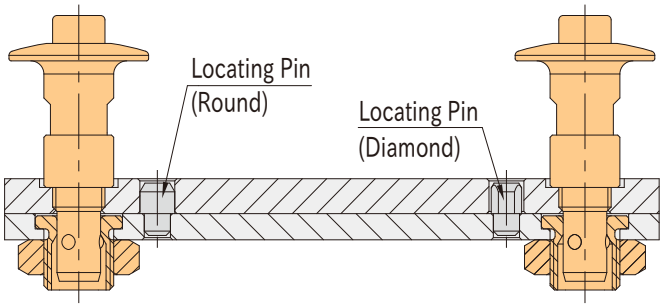


Spacing tolerance on both the subplate and the base plate should be ±0.1.

Note: To expand the tolerance range of mounting hole spacing, use QCBU-FL floating receptacles. See QCBU-FL Floating Receptacles product pages for details.

■Repeatability

Repeatability is ±0.25 for both fixed and unfixed installations.



For higher accurate locating, use locating pins.

Reference

”How To Install” of QCBU-M Ball-Lock Receptacles and QCBU-FL Floating Receptacles

IMAO® fixtureworks®

QCOW / QCOWS SNAP-IN CLAMPS

RoHS Stainless Steel Heat resistance: 180°C

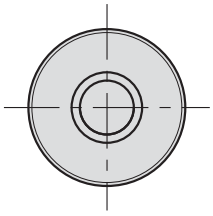
IMAO

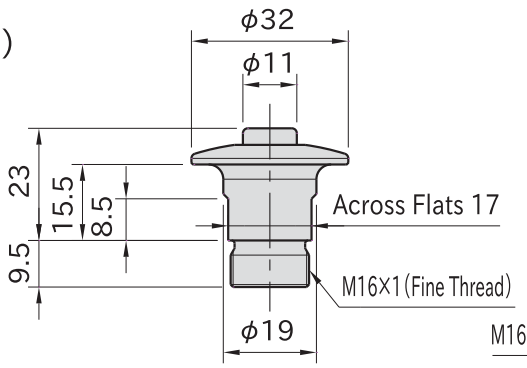
Wedge

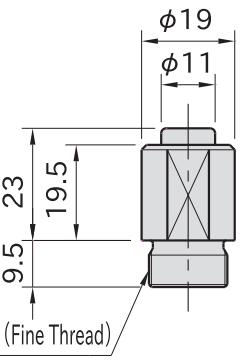
Body/Button	Ball	Spring	O-Ring
SUS303 stainless steel	SUS440C stainless steel Quenched and tempered	SUS304WPB stainless steel	FKM Fluororubber

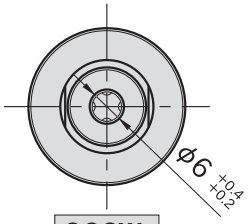
QCOW
(Stainless Steel)

QCOWS
(Cylindrical, Stainless Steel)

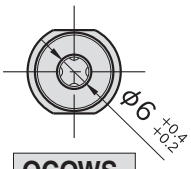








QCOW
(Stainless Steel)



QCOWS
(Cylindrical, Stainless Steel)

★Key Point
Quick & easy snap-in operation

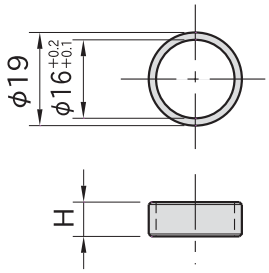
Part Number	Proper Plate Thickness	Clamping Force (N)	Holding Force (N)*)	Weight (g)	Proper Clamping Pin
QCOW 0616-10SUS	3~10	6	100	65	QCPC0625-M4-SUS
QCOWS0616-10SUS	3~27			50	

*) The holding force limits the gap between plates within 0.1 mm, even if the fastener receives a tensile force exceeding the clamping force.

QCOW SPACERS

RoHS Stainless Steel Heat resistance: 180°C

IMAO

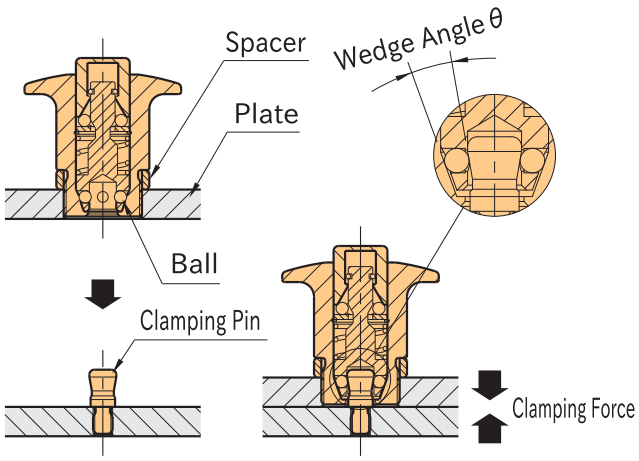


Spacer
SUS303 stainless steel

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

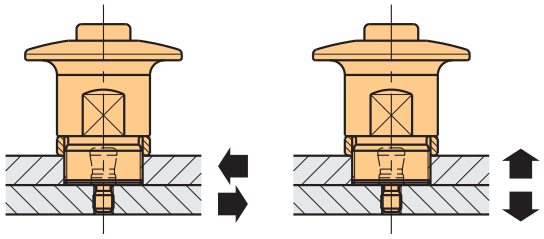
Feature



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

Technical Information

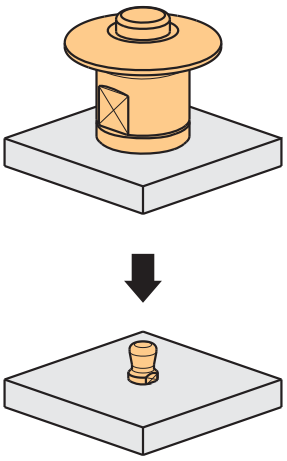
- Heatresistant Temperature 180℃
- Mechanical Strength



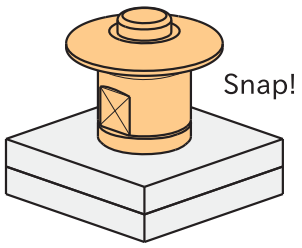
Shear Strength 1100N Tensile Strength 250N

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

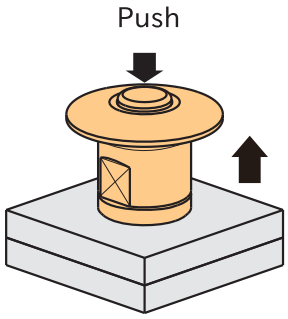
How To Use



1. Put Snap-In Clamp over the Clamping Pin. No need to push the button.

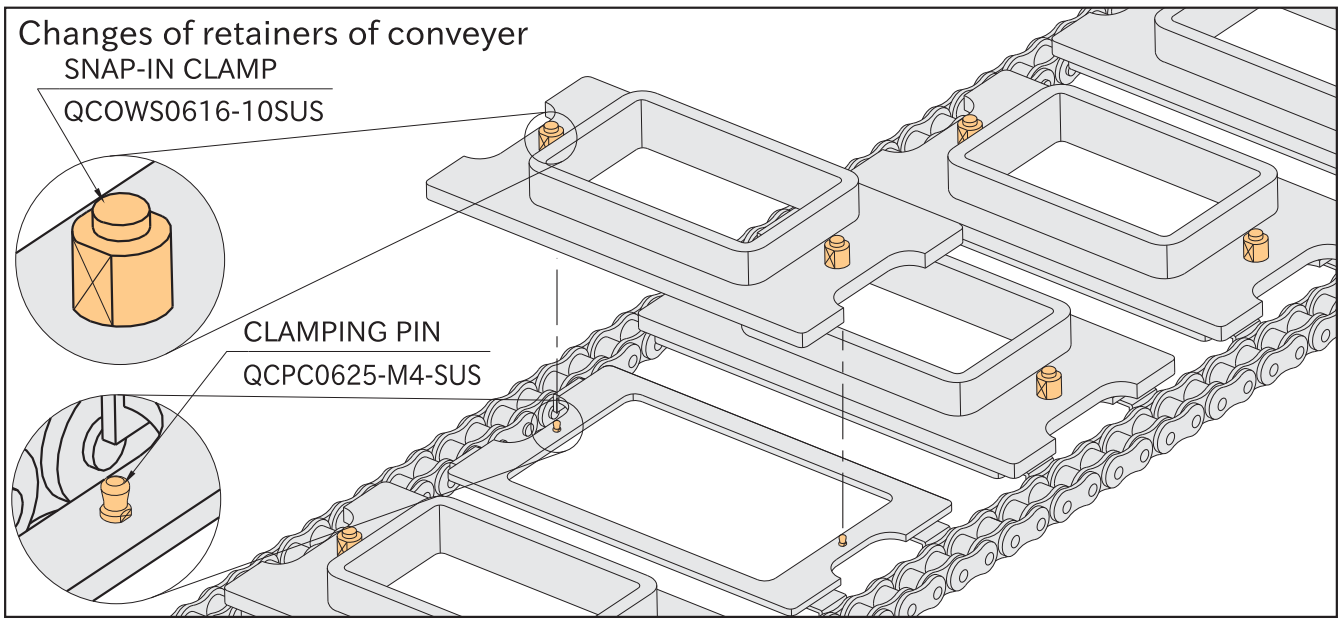


2. Clamped instantly as the pin is inserted.



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

Application Example



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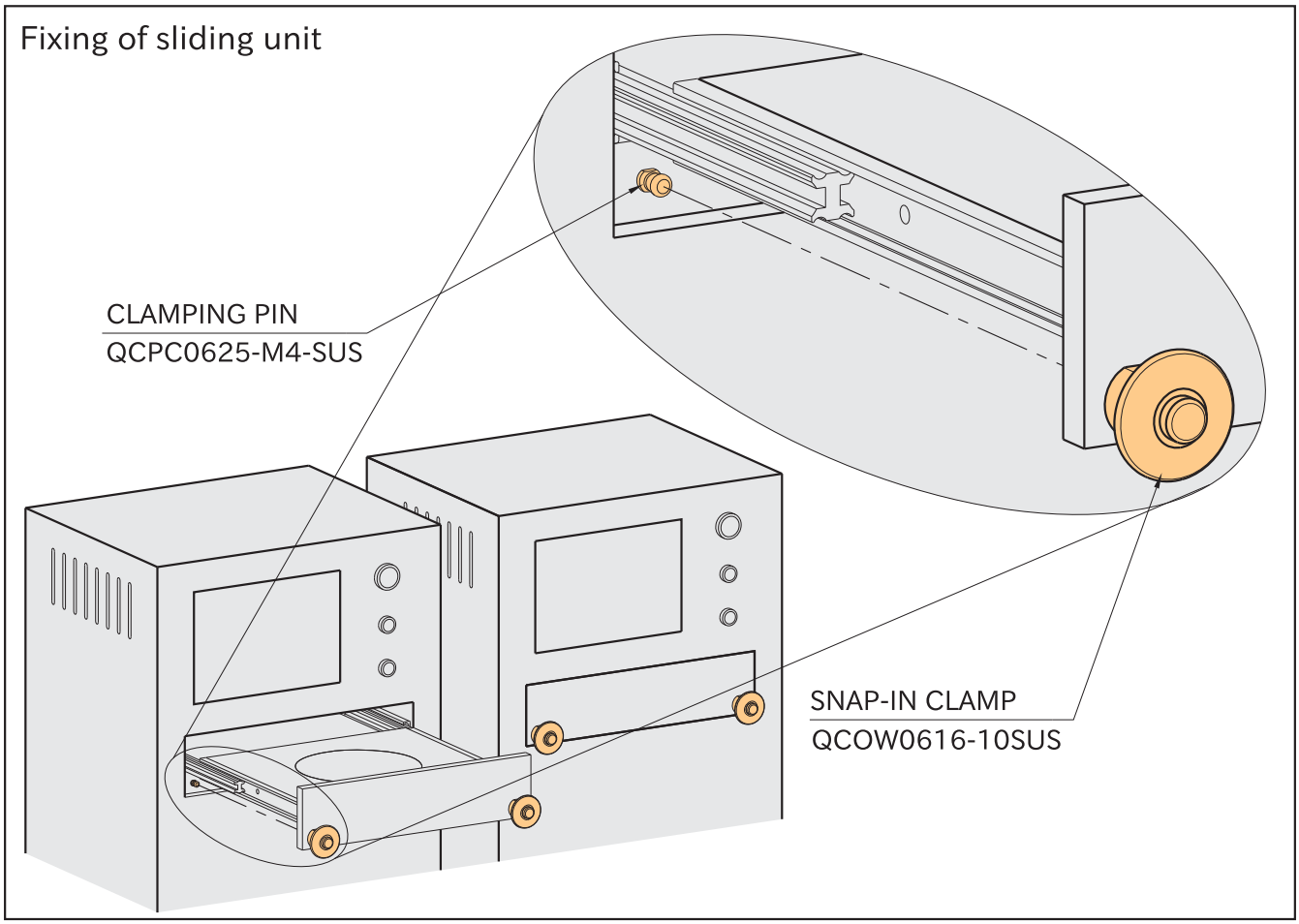
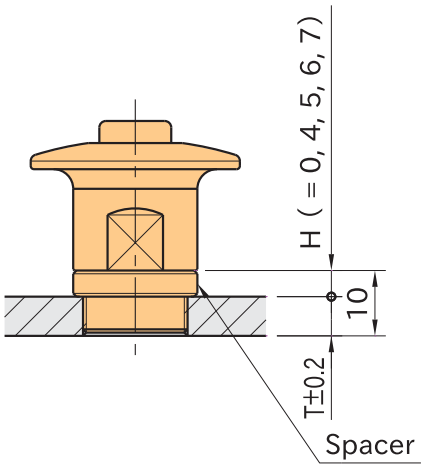
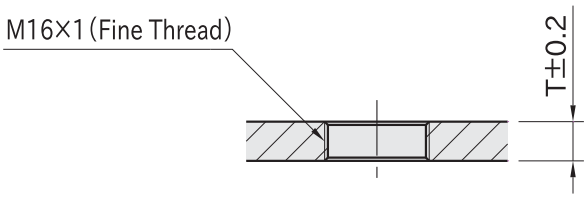
Application Example



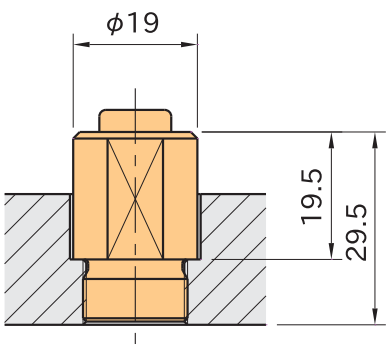
How To Install

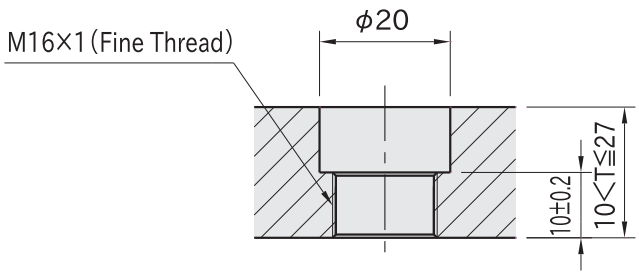
For 3 to 10mm-thick plate





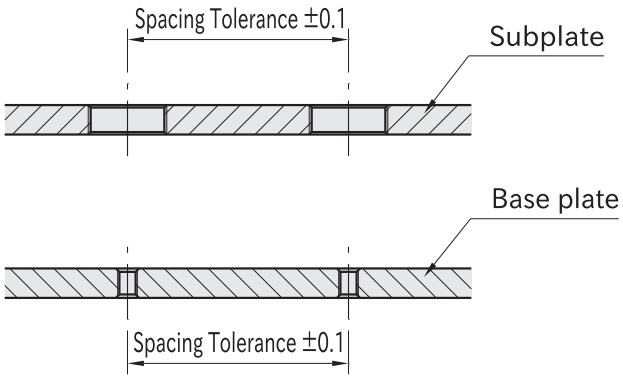
For over 10mm-thick plate





Accuracy

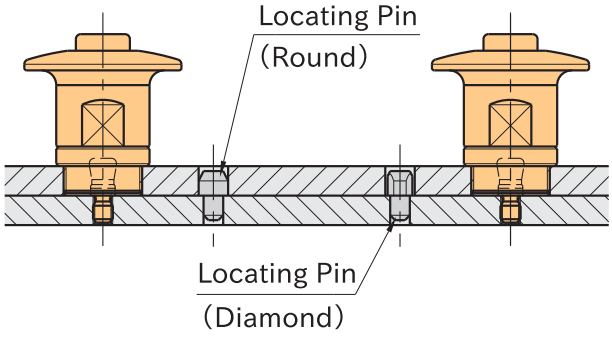
■Machining Accuracy



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.

Reference

"How To Install" of QCPC-M Clamping Pins

QCHC-N HOLE HOLDING CLAMPS

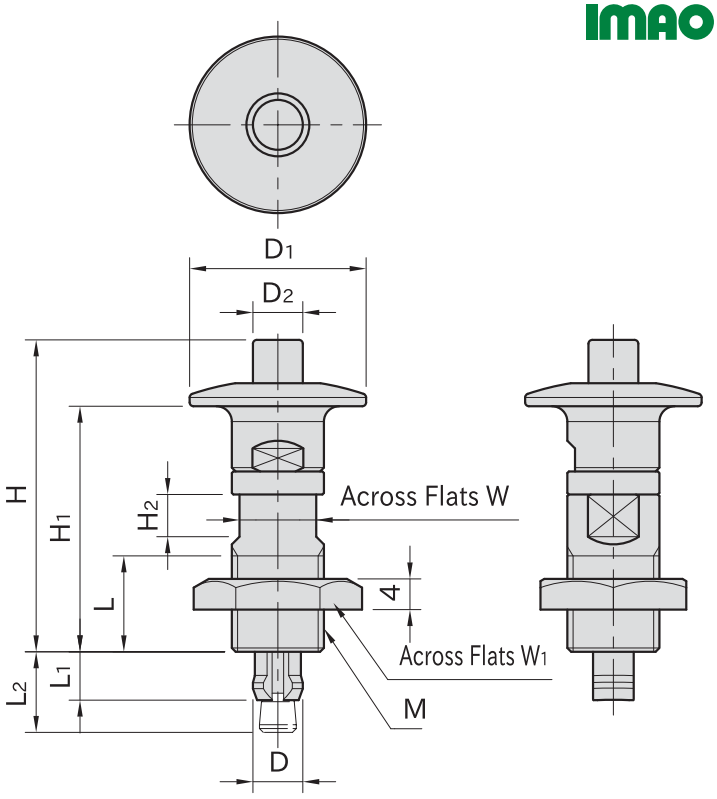
RoHS | Stainless Steel | Heat resistance: 180°C

IMAO

Wedge

QCHC-N-3

QCHC-N-6



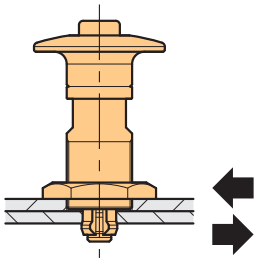
★Key Point
Receptacle is not required.

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

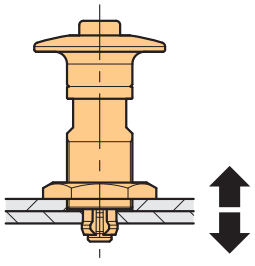
Part Number	Proper Base Plate Thickness	Proper Plate Thickness	D	M	D1	D2	H	L	H1	L1	L2	H2	W	W1	Clamping Force(N)	Holding Force (N)*)	Weight (g)
QCHC0612N-3-SUS	3	3～ 8	6.5	M12×1 (Fine Thread)	23	6.5	40	12.5	32	6.5	10.5	5.5	10	19	3	30	41
QCHC0612N-6-SUS	6						37		29	9.5	13.5						40
QCHC0816N-3-SUS	3	3～12	8.5	M16×1 (Fine Thread)	32	10	51	16.5	41.5	6.5	11	7	14	24	6	60	88
QCHC0816N-6-SUS	6						48		38.5	9.5	14						86

*) The holding force limits the gap between plates within 0.1 mm, even if the fastener receives a tensile force exceeding the clamping force.

Technical Information



Shear Strength

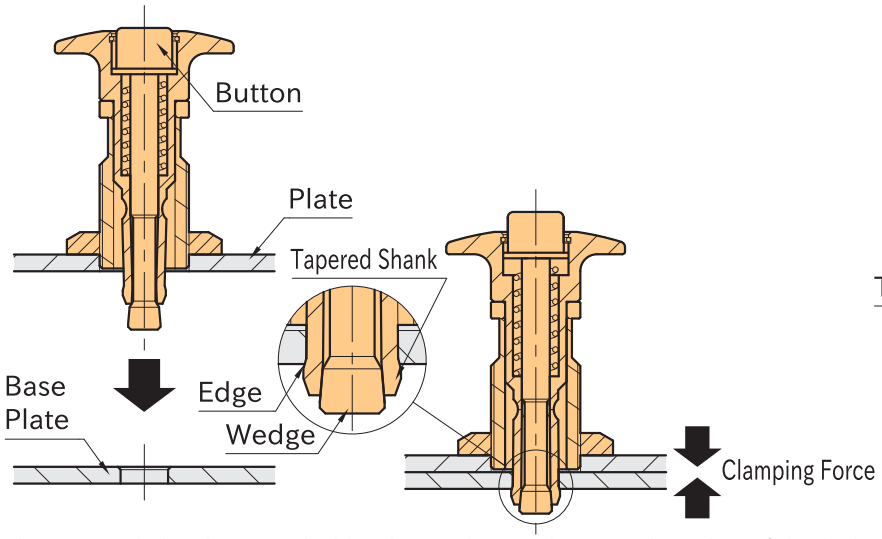


Tensile Strength

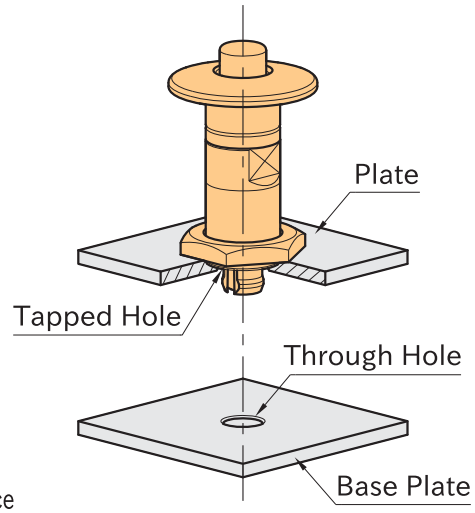
Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

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

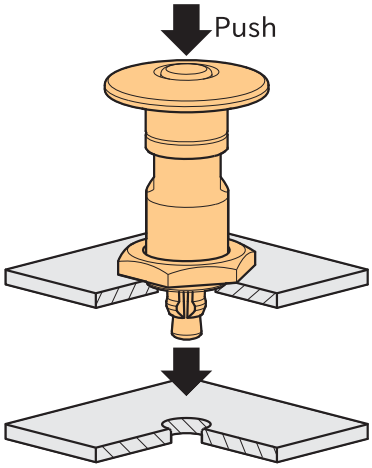


The tapered shank expanded by the wedge pushes out the edge of the hole on the base plate, and the two plates are clamped.

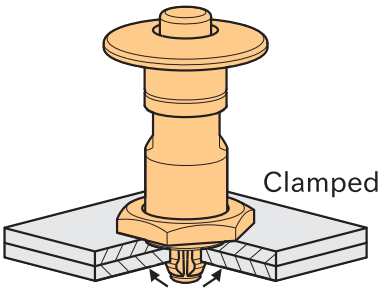


Just a tapped hole and a through hole are required.

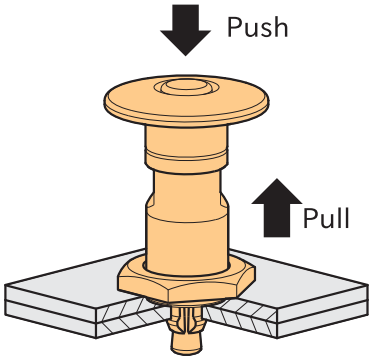
How To Use



1. Insert Hole Holding Clamp pressing the button.



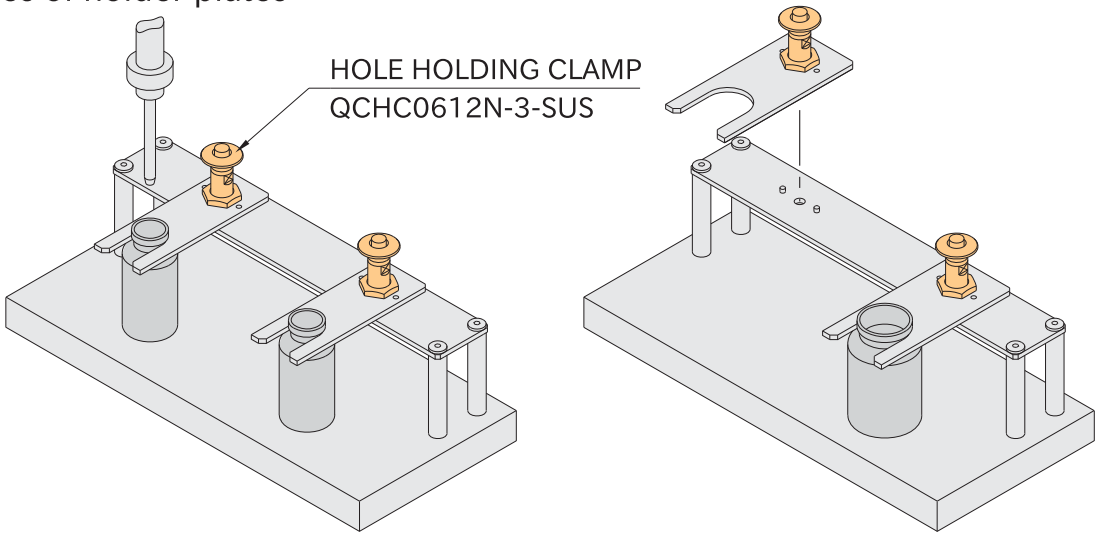
2. The slitted part on the shank expands once the but ton is released, and the plate is clamped.



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

Application Example

Changes of holder plates



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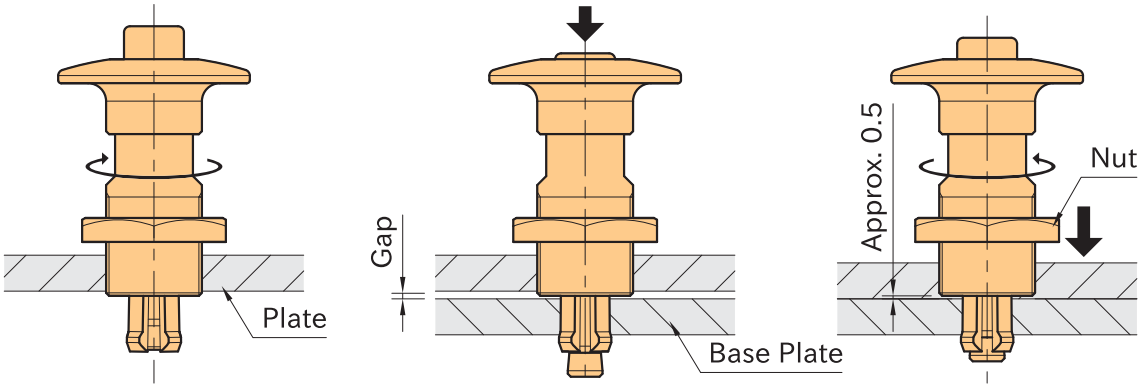
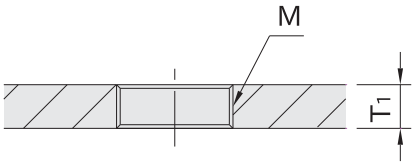
How To Install



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.

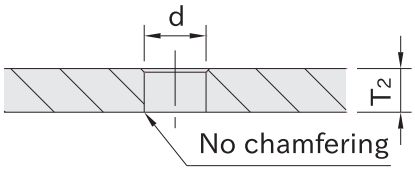
■Mounting Hole on Plate



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

■Mounting Hole on Baseplate

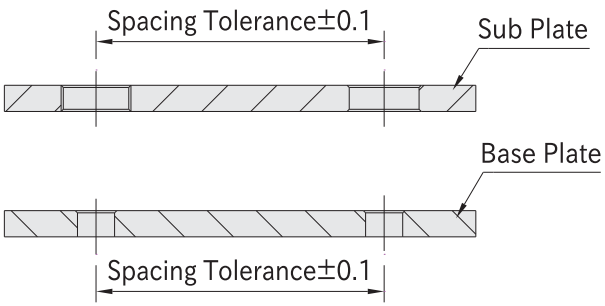
Use hard metals such as stainless steels for the base plate.



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

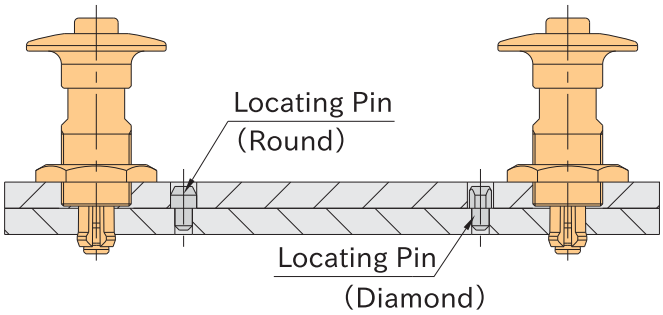
■Machining Accuracy



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.

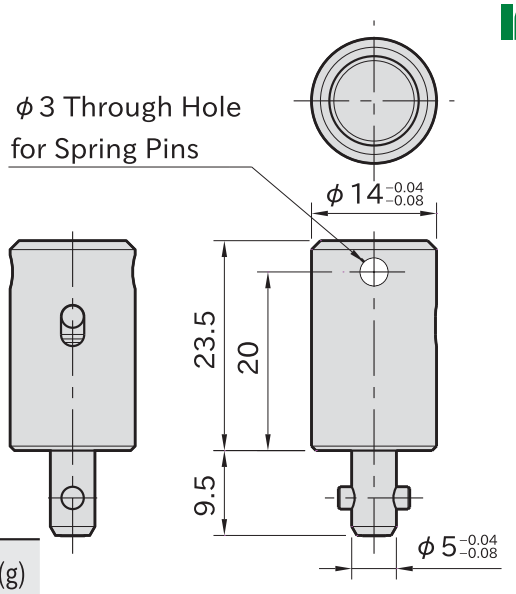
IMAO® fixtureworks®

QCSJ SHAFT COUPLING CLAMP

RoHS Heat resistance: 180°C

IMAO

★Key Point
Multipurpose coupling element



Part Number	Clamping Force(N)	Holding Force(N)*)	Weight(g)
QCSJ0514A	90	90	25

*) The holding force limits the gap between plates within 0.1 mm.

Body/Shank	Pin	Spring
S45C steel Electroless nickel plated	SUS304 stainless steel	Equivalent to SWOSC-V steel

Note

Spring pins are not supplied.

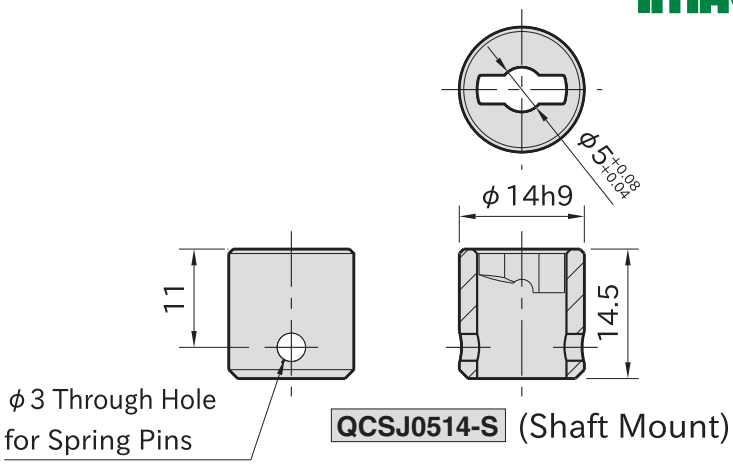
QCSJ-S / QCSJ-B CAM RECEPTACLES

RoHS

IMAO

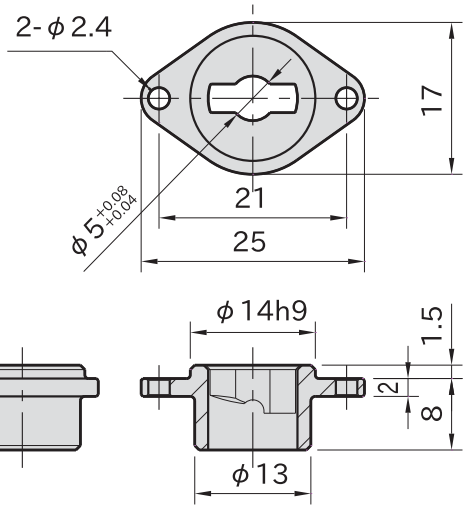
QCSJ0514-S
(Shaft Mount)

QCSJ0514-B
(Plate Mount)



QCSJ0514-S (Shaft Mount)

Body
SCM440 steel Quenched and tempered Electroless nickel plated



QCSJ0514-B (Plate Mount)

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

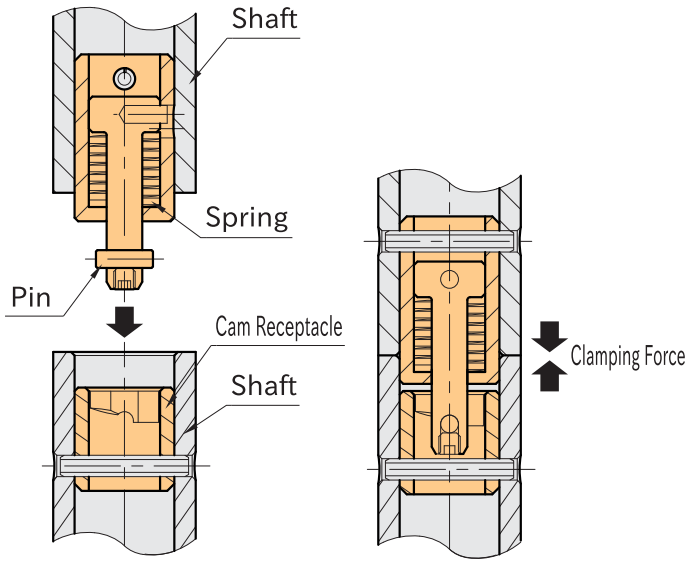
Supplied With

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

Note

Spring pins to mount QCSJ0514-S are not supplied.

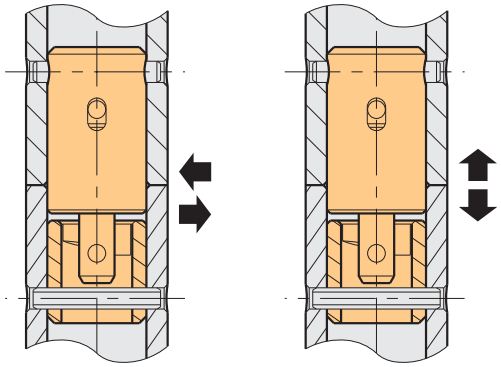
Feature



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

Technical Information

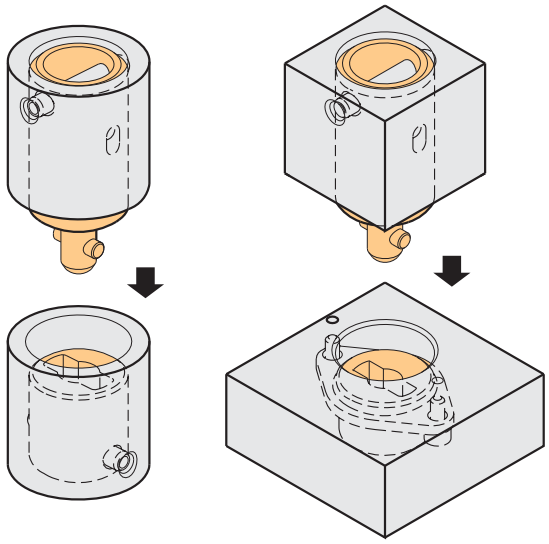
・Heatresistant Temperature 180℃
・Mechanical Strength



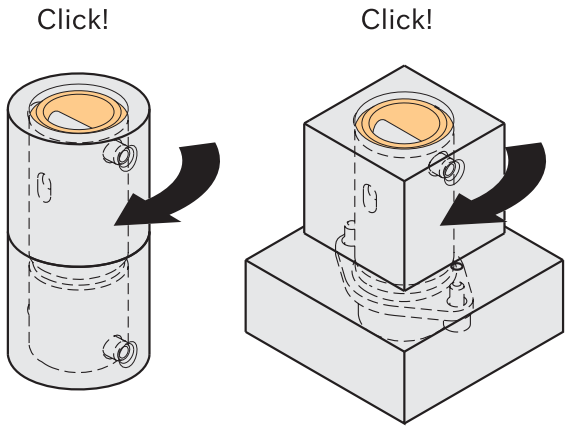
Shear Strength 1800N Tensile Strength 1200N

Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

How To Use

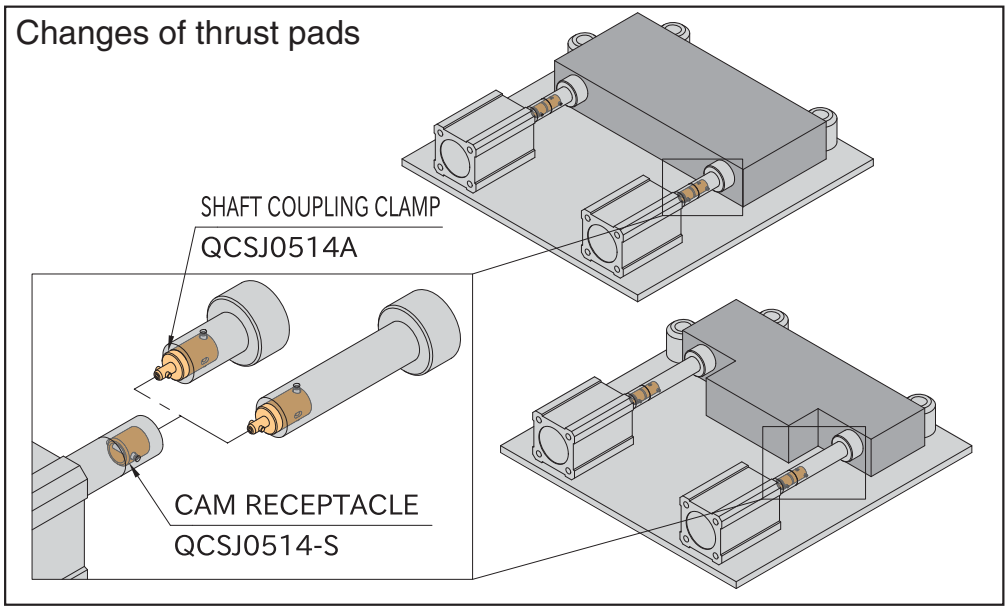


1. Insert the shaft into the keyway of Cam Receptacle.



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

Application Example



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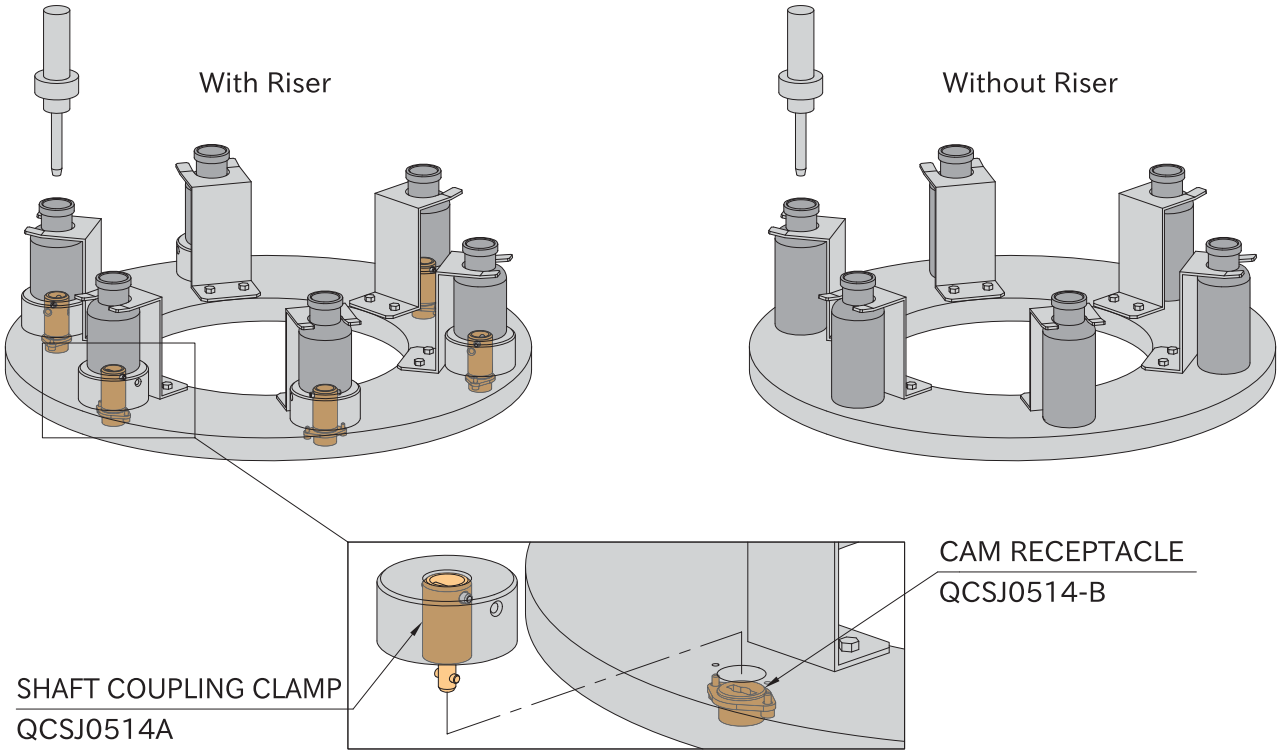
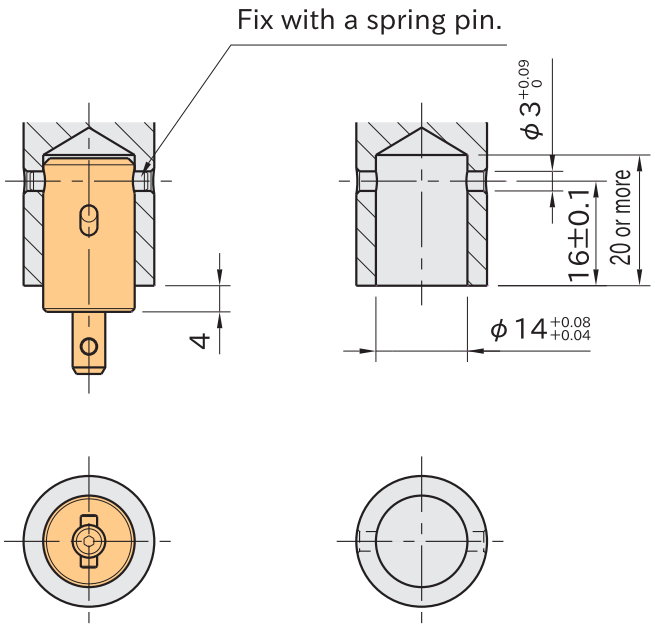
Application Example

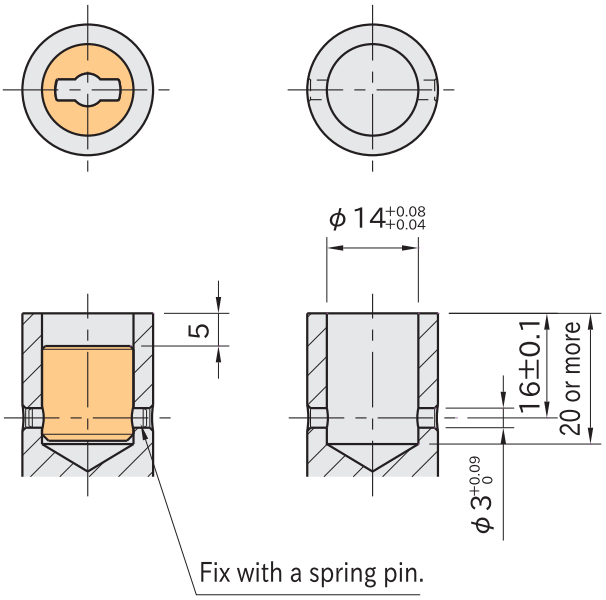
Changes of riser



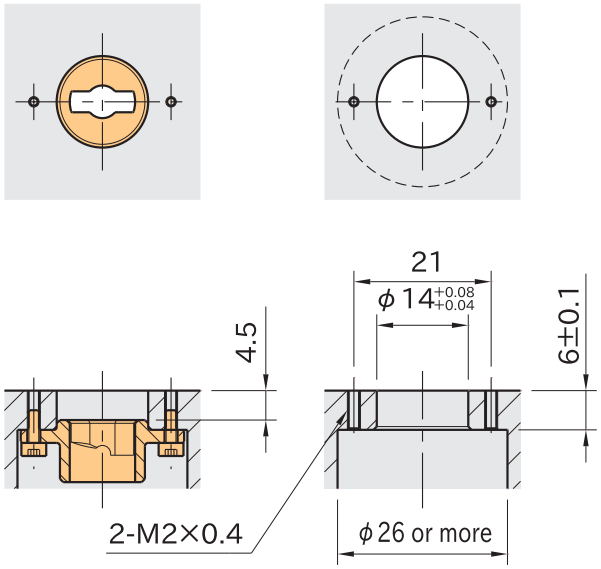
How To Install Shaft Coupling Clamp



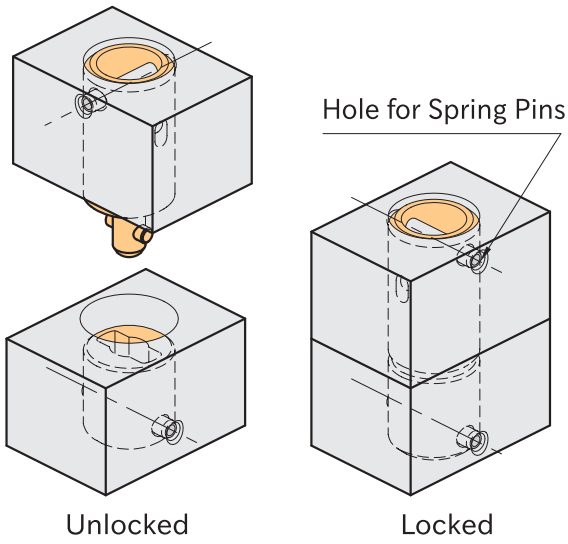
How To Install Cam Receptacle(Shaft Mount)



How To Install Cam Receptacle(Plate Mount)



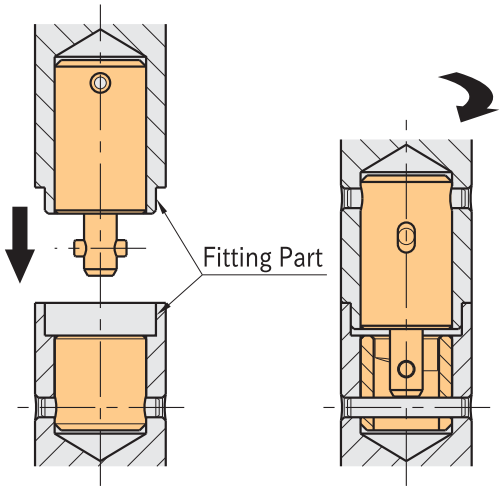
Note



Pay attention to the direction of holes for spring pins.

Repeatability

Repeatability ±0.08



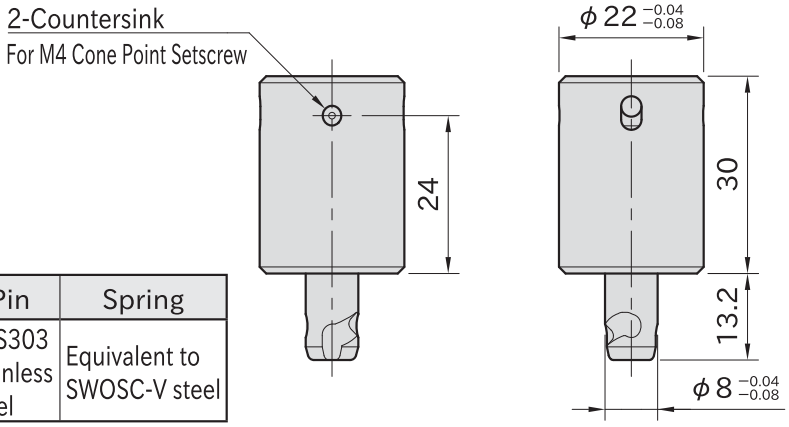
Prepare male and female fittings for higher accurate locating.

QCSJS HEAVY DUTY SHAFT COUPLING CLAMP

RoHS Heat resistance: 180°C

IMAO

★Key Point
Strong clamping by the spring



Body	Shank	Pin	Spring
S45C steel Electroless nickel plated	SKS3 steel Electroless nickel plated Quenched and tempered	SUS303 stainless steel	Equivalent to SWOSC-V steel

Part Number	Clamping Force (N)	Holding Force(N)*)	Weight (g)	Proper Locking Receptacle	Proper Locking Receptacle
QCSJS0822A	400	400	76	QCSJS0822-S	QCTHS0834-B

*) The holding force limits the gap between plates within 0.1 mm.

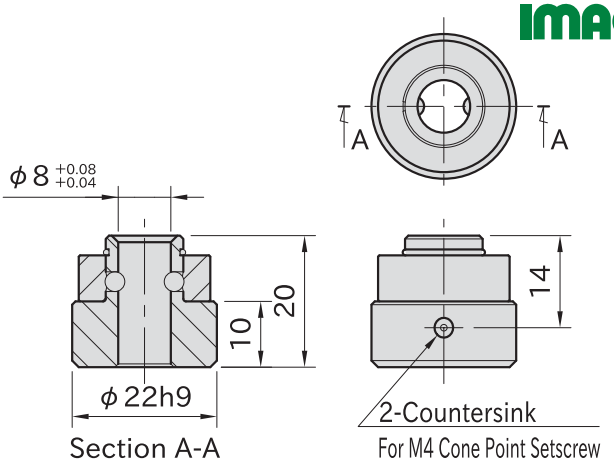
Supplied With

2 of cone point setscrews(stainless steel), M4×0.7-5L

QCSJS-S LOCKING RECEPTACLE

RoHS

IMAO



Part Number	Weight (g)
QCSJS0822-S	42

Body	Ball	Collar	Retaining Ring
S45C steel Electroless nickel plated	SUS440C stainless steel Quenched and tempered	SKS3 steel Electroless nickel plated Quenched and tempered	SUS304WPB stainless steel

Supplied With

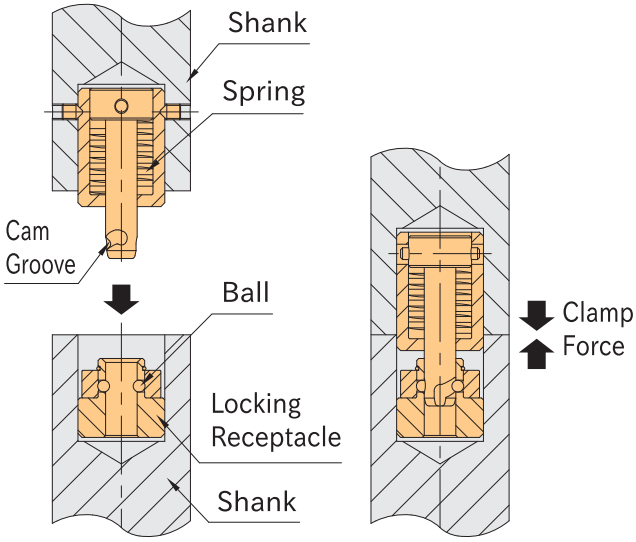
2 of cone point setscrews(stainless steel), M4×0.7-5L

QCTHS-B Locking Receptacle

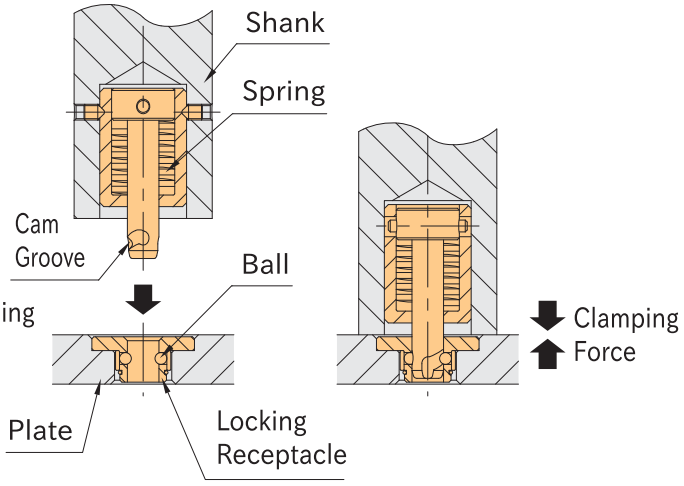
Feature

When the cam groove moves along the balls inside the receptacle, the spring gets compressed to clamp the shafts.

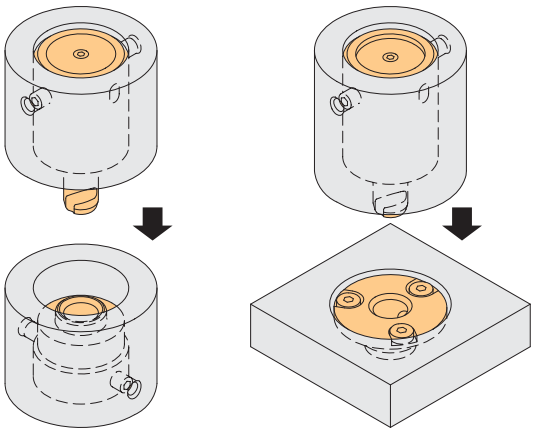
Installation on Shaft



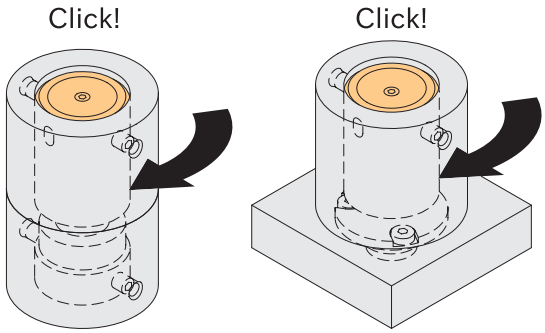
Installation on Plate



How To Use



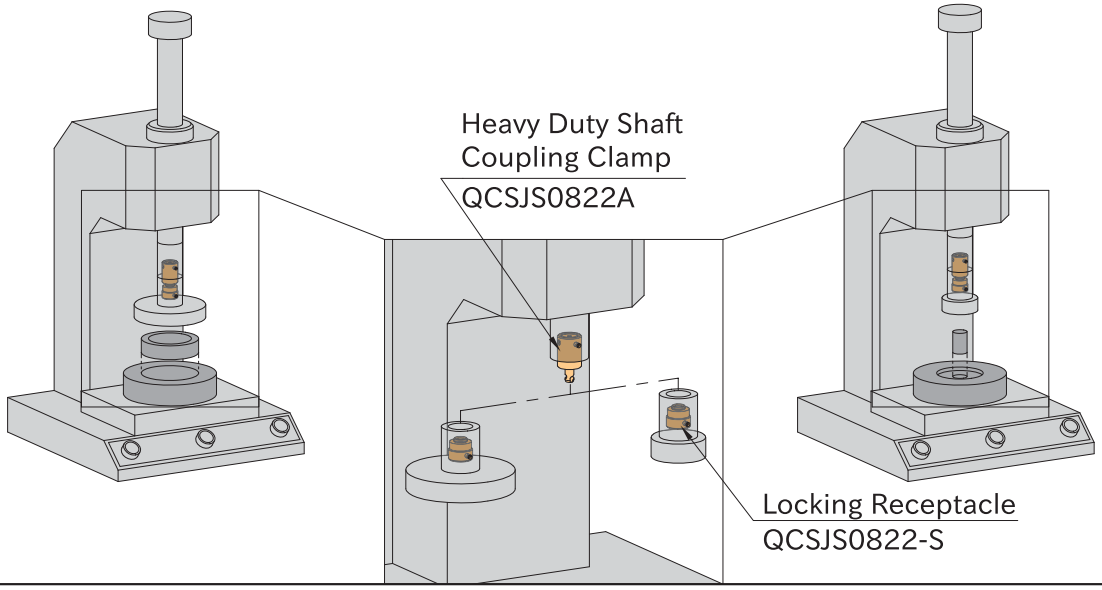
1. Align the cam groove with the ball in Locking Receptacle and insert.



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

Application Example

Change of the press machine attachment



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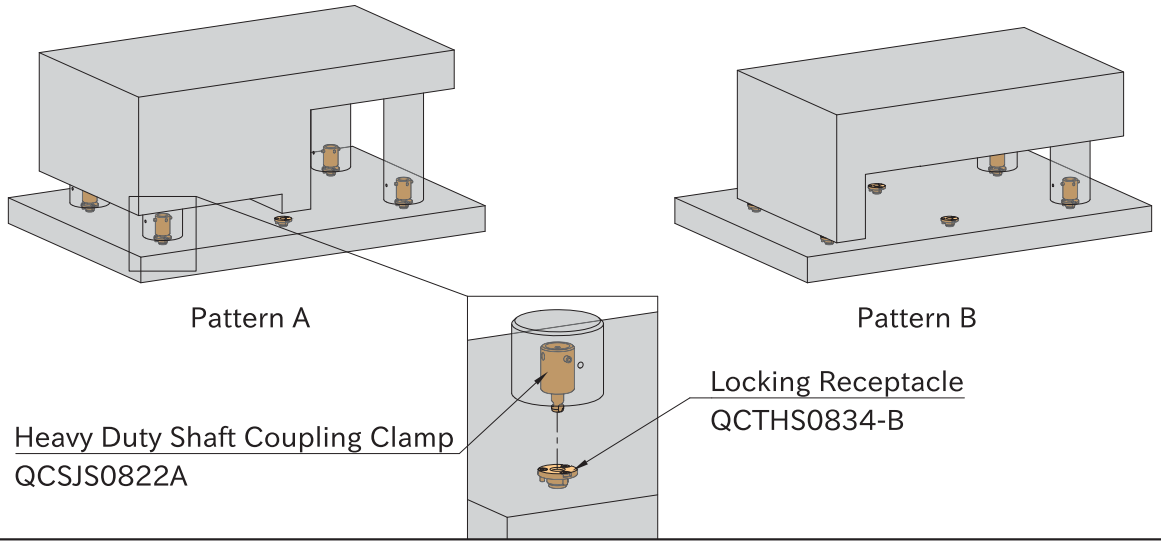
Application Example

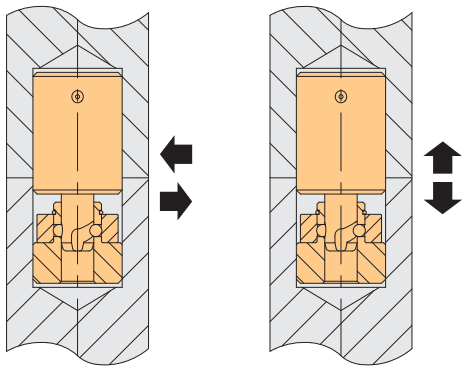
Change of riser



Technical Information

Installation on Shaft

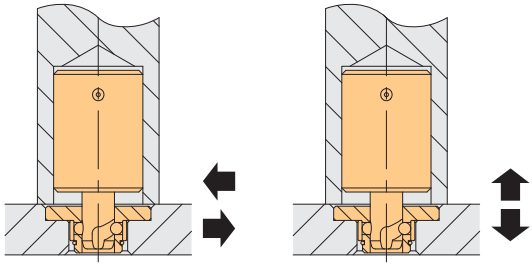
- Heartresistant Temperature 180
- Mechanical Strength



Shear Strength 4800N Tensile Strength 1600N

Installation on Plate

- Heartresistant Temperature 180
- Mechanical Strength

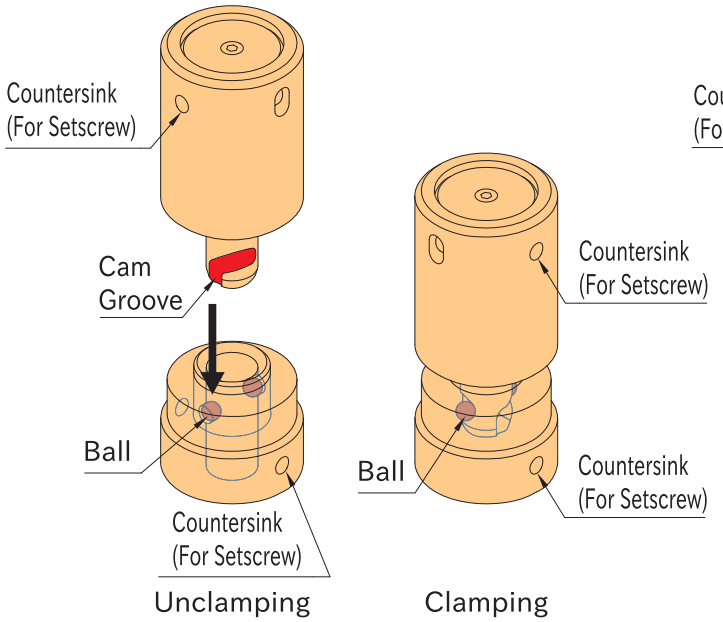


Shear Strength 4800N Tensile Strength 1600N

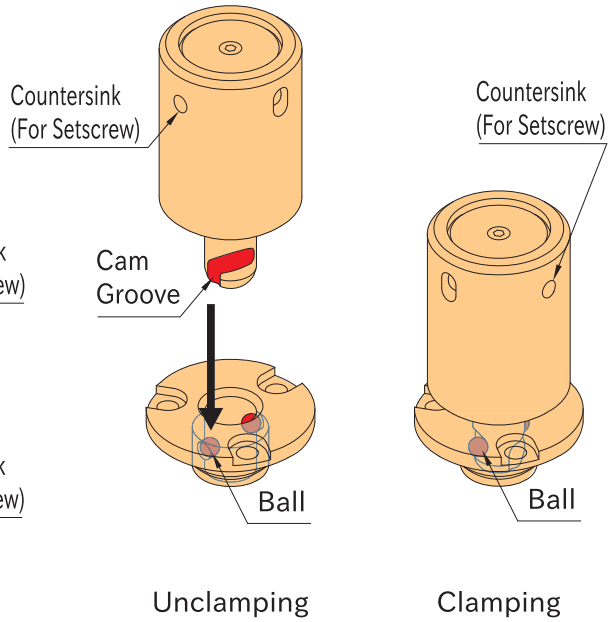
Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

Mounting Direction

Installation on Shaft



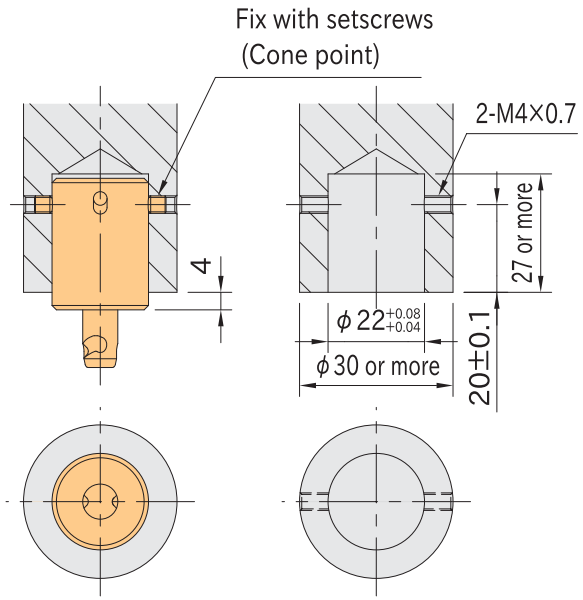
Installation on Plate



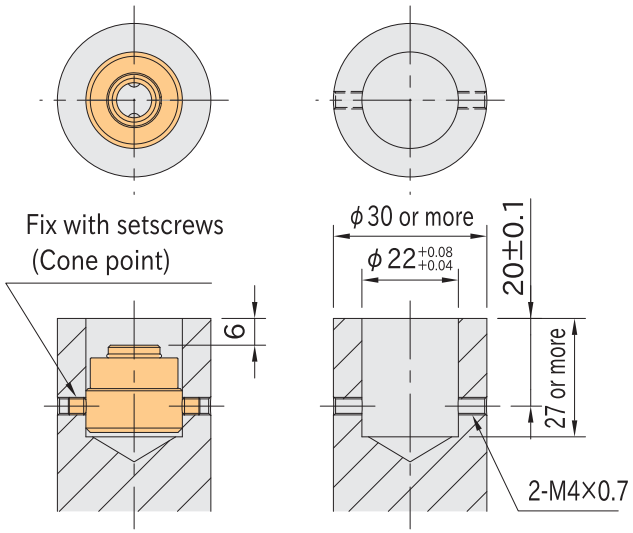
How To Install

Installation on Shaft

Heavy Duty Shaft Coupling Clamp

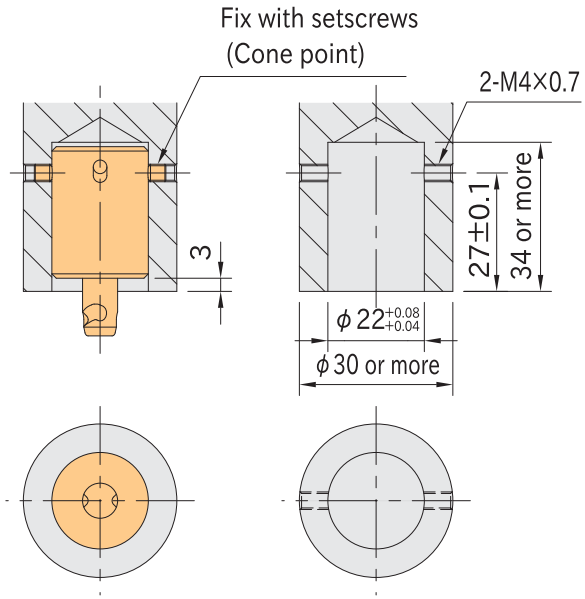


Locking Receptacle (QCSJS0822-S)

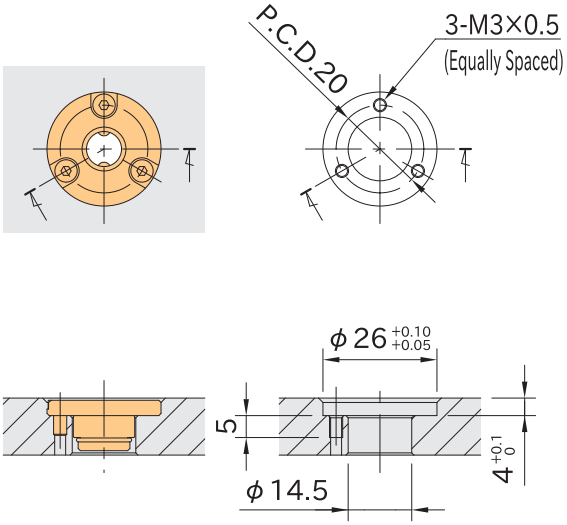


Installation on Plate

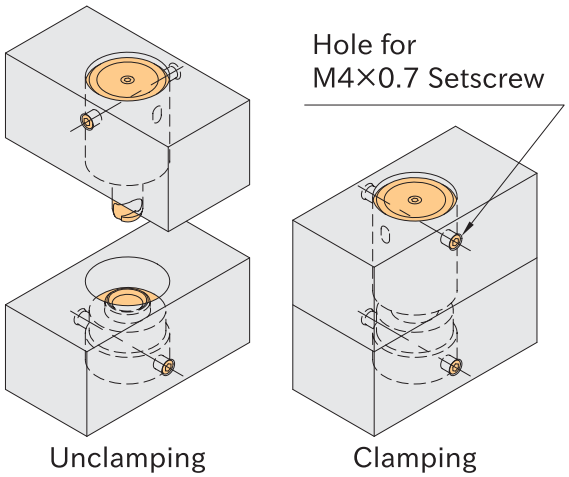
Heavy Duty Shaft Coupling Clamp



Locking Receptacle (QCTHS0834-B)
Plate thickness should be 9mm or more.



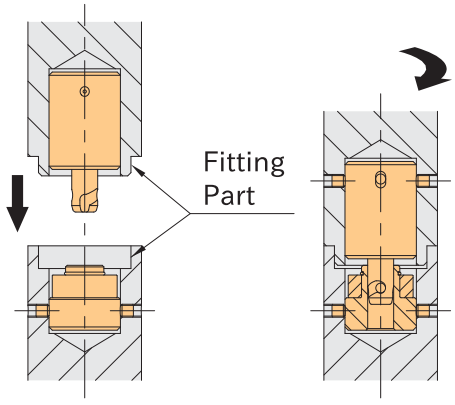
Note



Decide the mounting hole position depending on the clamped part direction.

Repeatability

Repeatability ±0.08



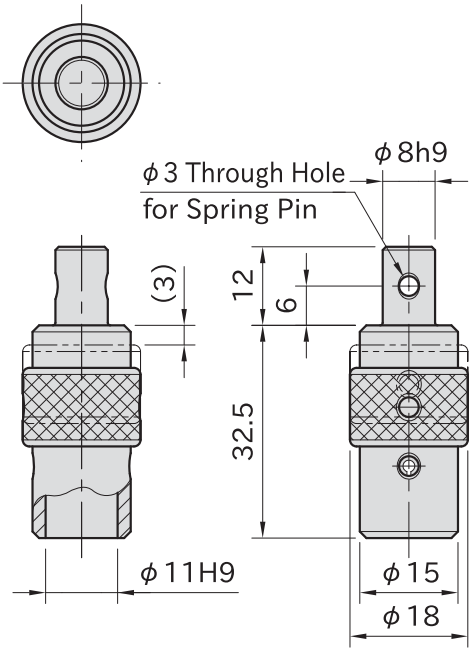
Prepare male and female fittings for higher accurate locating.

QCSJLK SHAFT COUPLING CLAMP WITH SAFETY LOCK

RoHS Stainless Steel Heat resistance: 180°C

IMAO

★Key Point
Safety lock for
axial & rotational force



Part Number	Weight (g)
QCSJLK1118A	41

Body/Collar	Pin	Spring
SUS303 stainless steel	SUS420J2 stainless steel	SUS304WPB stainless steel

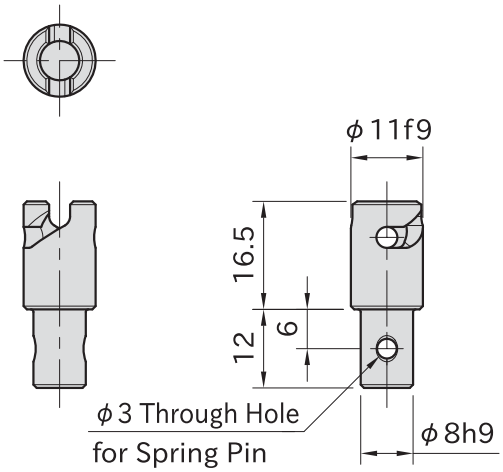
Note

Spring pin for fixing the shaft is not supplied.

QCSJLK-S LOCKING RECEPTACLE

RoHS Stainless Steel Heat resistance: 180°C

IMAO



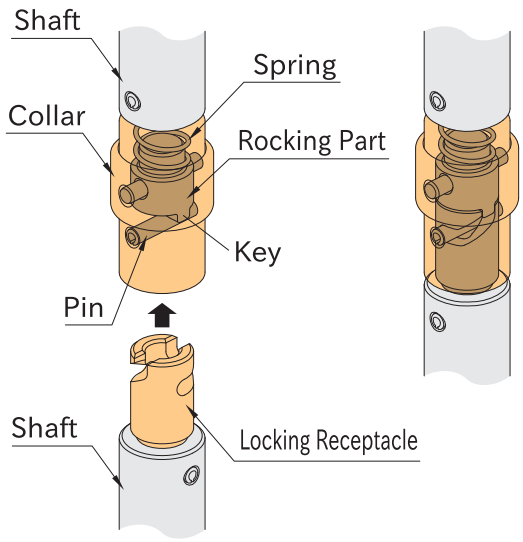
Part Number	Weight (g)
QCSJLK1118-S	13

Body
SUS303 stainless steel

Note

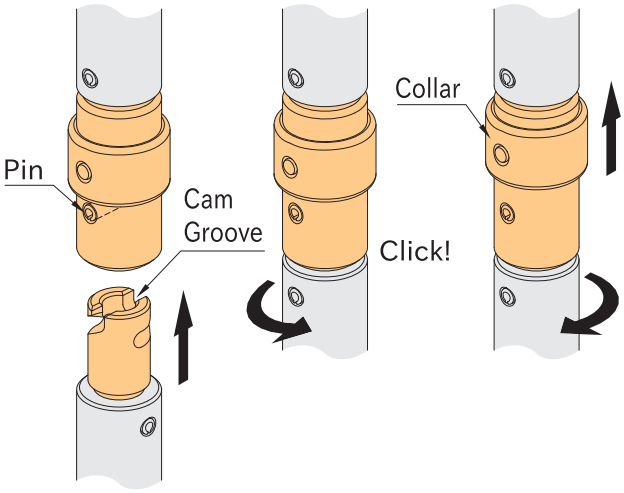
Spring pin for fixing the shaft is not supplied.

Feature



The pin cannot be pulled out when it reaches the end of the cam groove. The keys on the locking part stop the rotation.

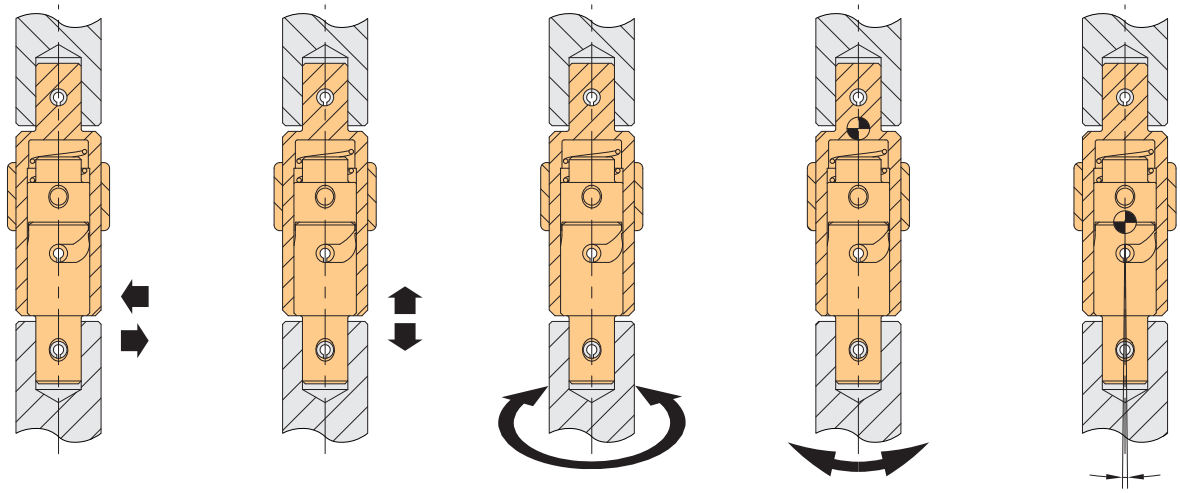
How To Use



1. Align the cam groove with the pin and insert.
2. Turn the shaft for 90˚ to clamp and it clicks when clamped.
3. Push up the collar for unclamping and turn the shaft by 90˚.

Technical Information

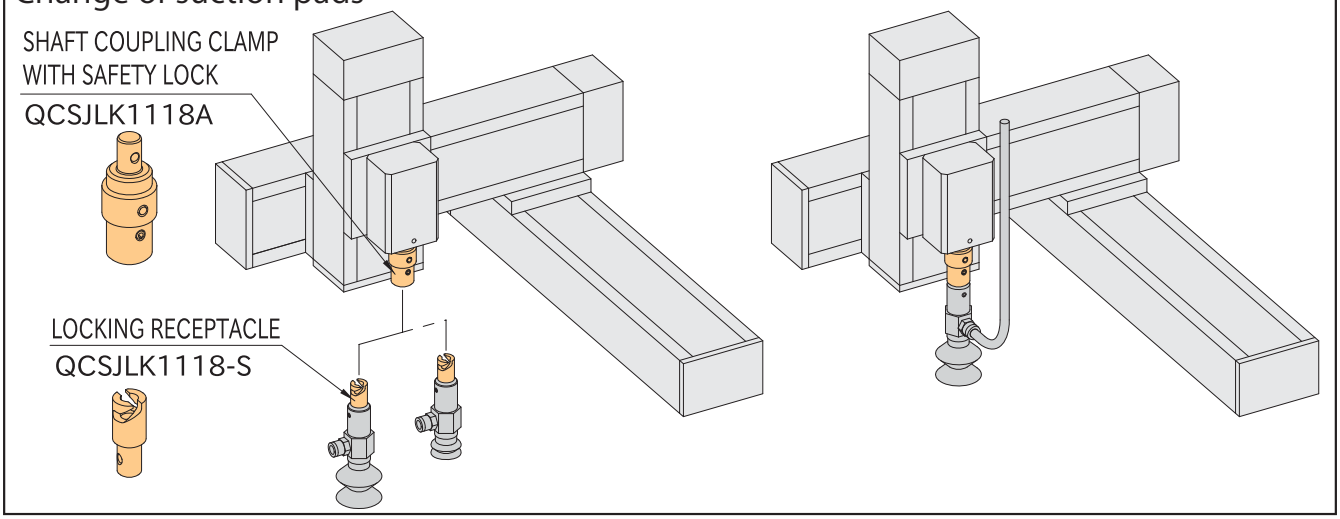
・Heatresistant Temperature 180℃
・Mechanical Strength/Allowable Torque/Runout Angle



Shear Strength 2000N | Tensile Strength 1200N | Allowable Torque 10N・m | Allowable Bending Moment 15N・m | Runout Angle Max. 0.9˚

Application Example

Change of suction pads



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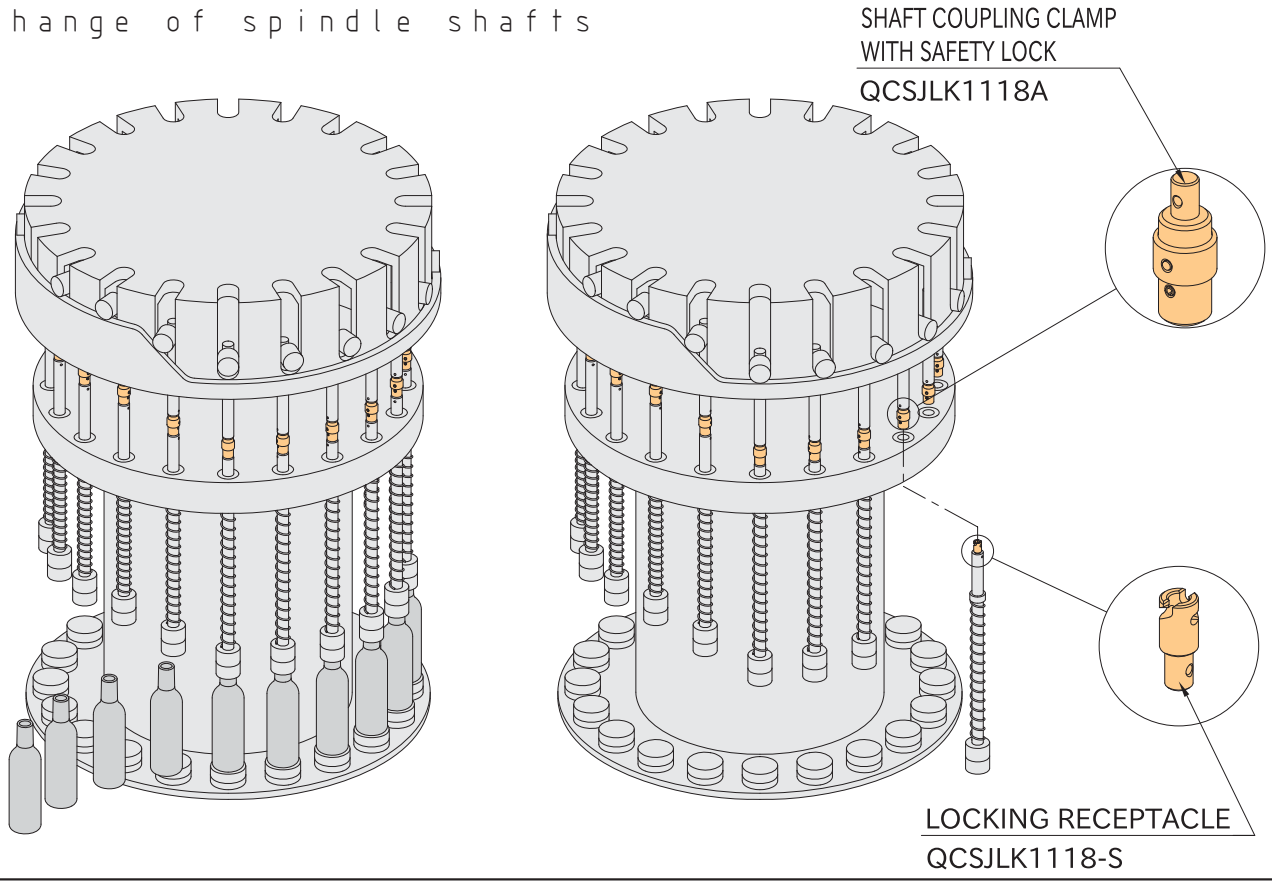
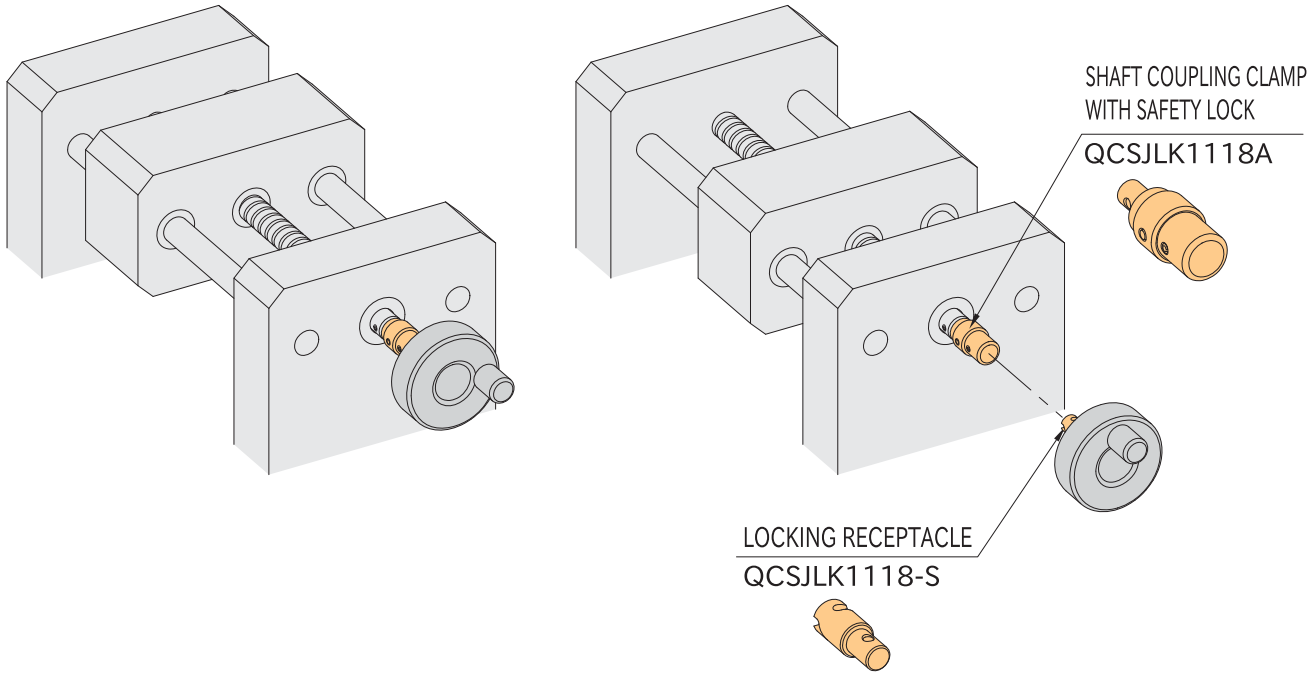
Application Example

Change of spindle shafts

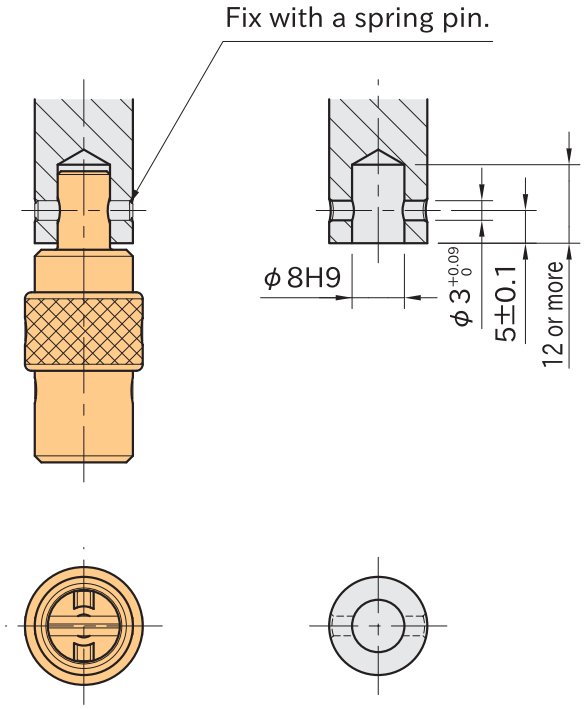


Detachment of handwheel to prevent accidental operation

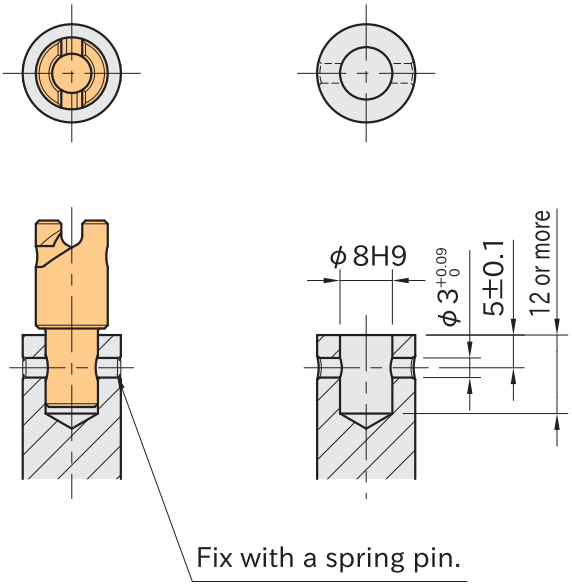


How To Install

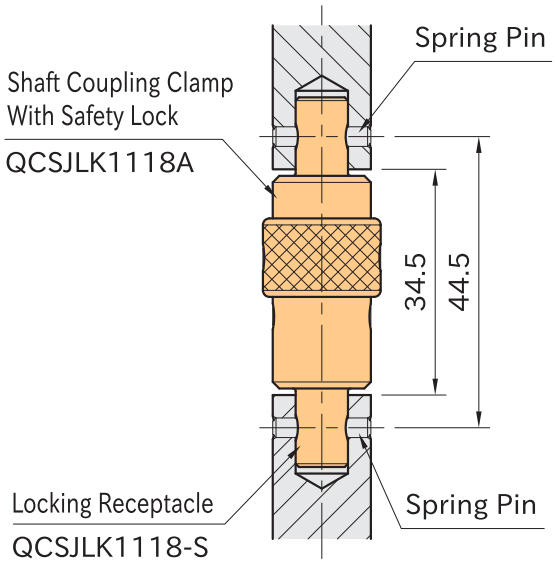
Shaft Coupling Clamp With Safety Lock



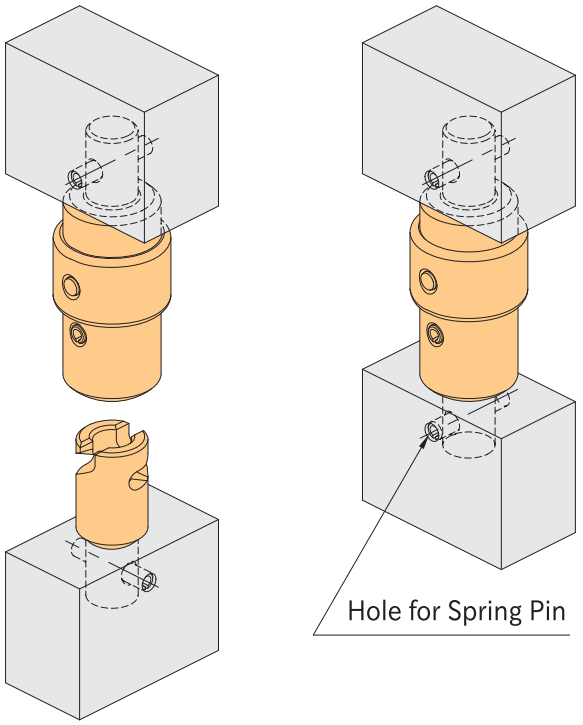
Locking Receptacle



Installation Dimension



Note



Decide the mounting hole position depending on the part direction at the locking position.

QCBA / QCBAS BALL-LOCK CLAMPING RECEPTACLES

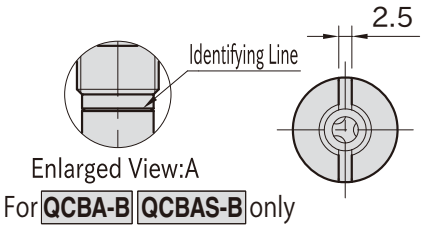
RoHS Heat resistance: 180°C

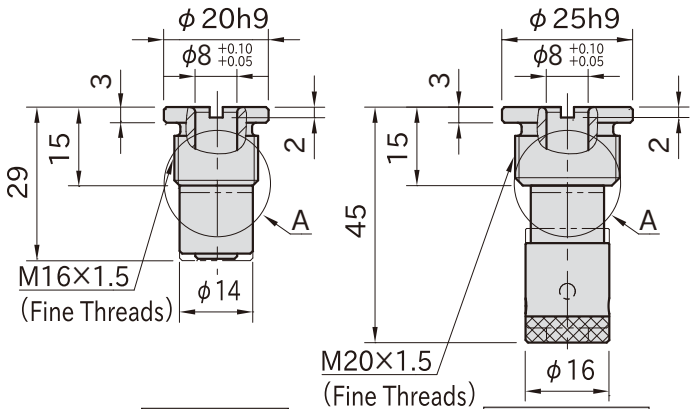
IMAO

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





QCBA0816 (Standard)

QCBAS0820 (Safety Lock)

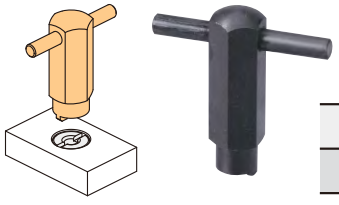
QCBA0816 (Standard)

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

QCBAS0820 (Safety Lock)

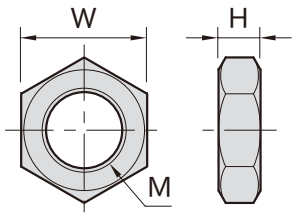
Part Number	Clamping Force (N)	Weight (g)
QCBAS0820A	7	65
QCBAS0820B	15	

Order Separately Installation Wrench



Part Number
PW16

Order Separately Nut (Stainless Steel)



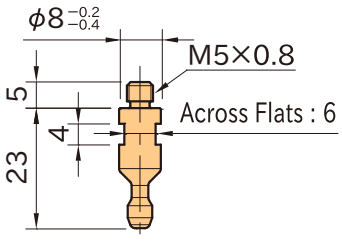
Part Number	M (Fine Threads)	H	W	Proper Ball-Lock Clamping Receptacles
NDX16-NUT-SUS	M16×1.5	8	24	QCBA0816
NDX20-NUT-SUS	M20×1.5	10	30	QCBAS0820

QCBA-M BALL-LOCK CLAMPING PINS

RoHS Heat resistance: 180°C

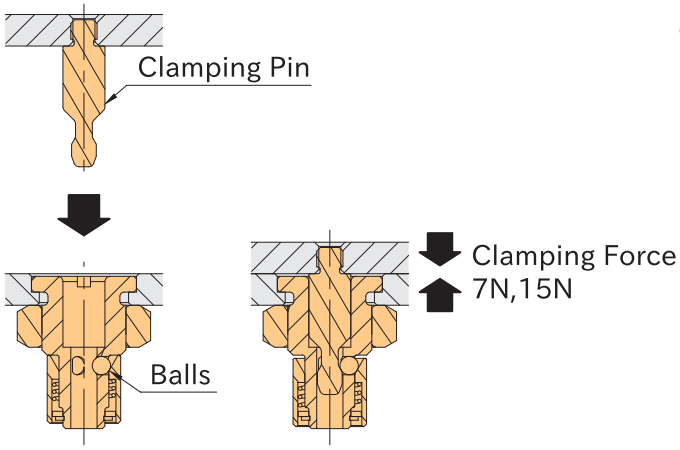
IMAO

Part Number	Weight (g)
QCBA0816-M5	7



Body
S45C steel Quenched and tempered Electroless nickel plated

Feature



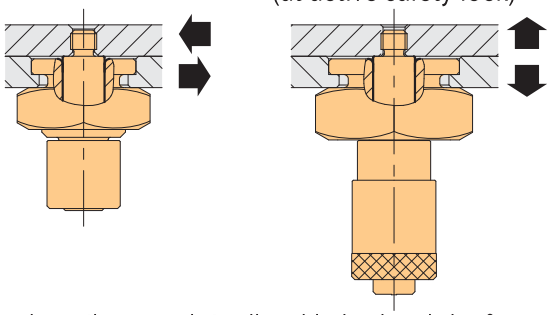
The 3 balls pull in the clamping pin.

Technical Information

- Heat resistance 180℃
- Mechanical Strength

Shear Strength 1800N

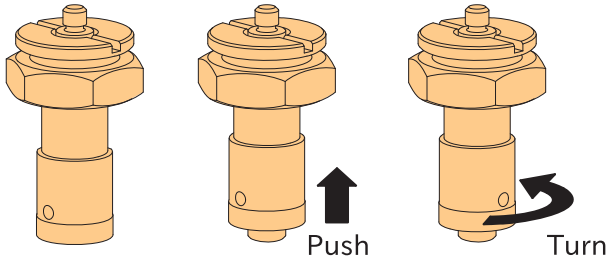
Tensile Strength 1800N
(at active safety lock)



Shear and tensile strength is allowable load and the fastener could break when it receives bigger load.

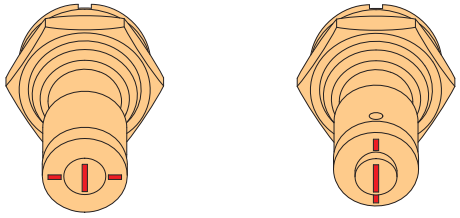
When the fastener receives tensile load that is bigger than its clamping force, there is a gap between the plates.

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



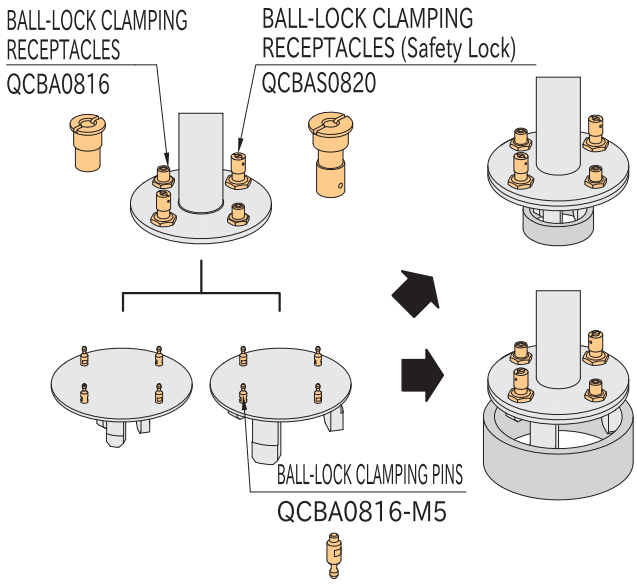
Inactive Mode

Active Mode

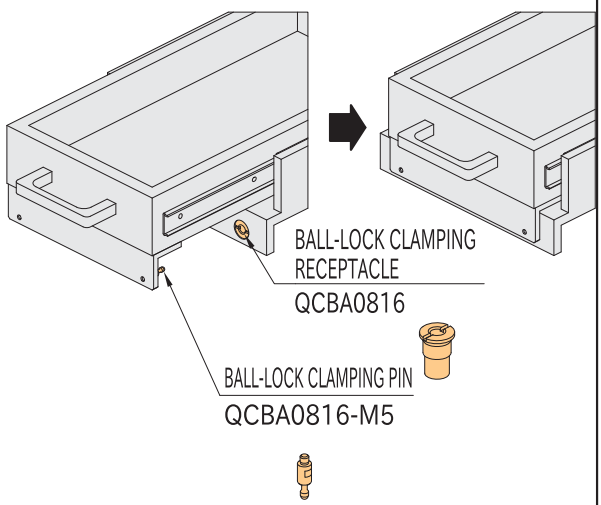
When the mark lines on the end of the locking knob are aligned, the safety lock is active.

Application Example

Changes of chuck of handling machines



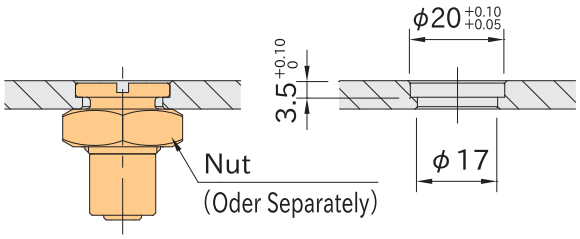
End fixing of sliding uints



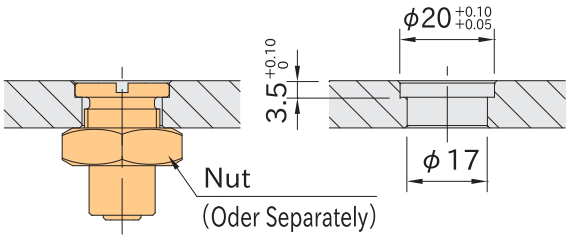
Continuing to next page

How To Install (Standard)

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

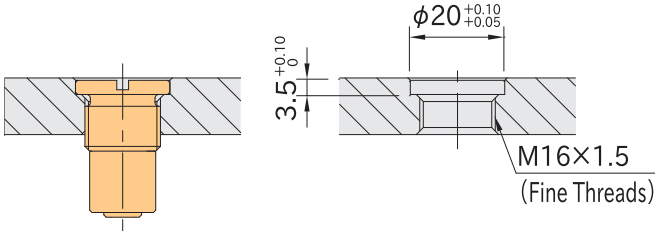


6mm

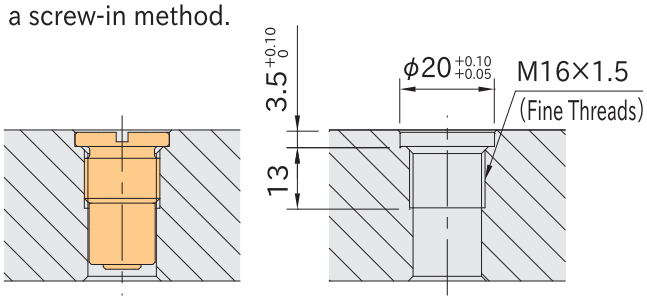


10mm

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



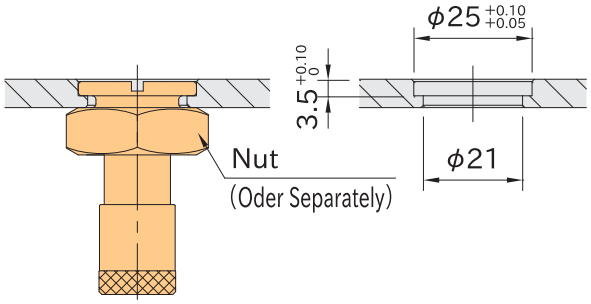
Installation in a subplate



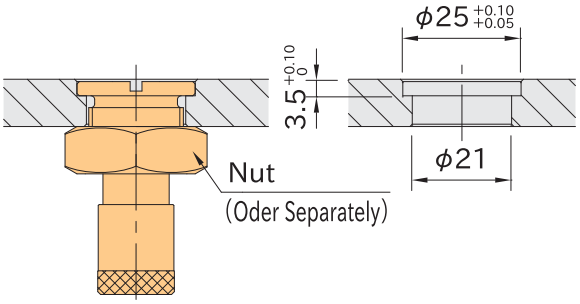
Installation in a block

How To Install (Safety Lock)

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

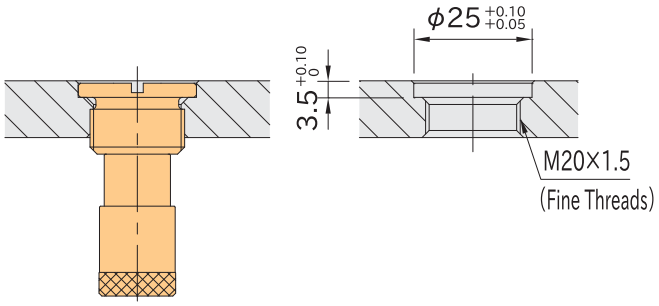


6mm

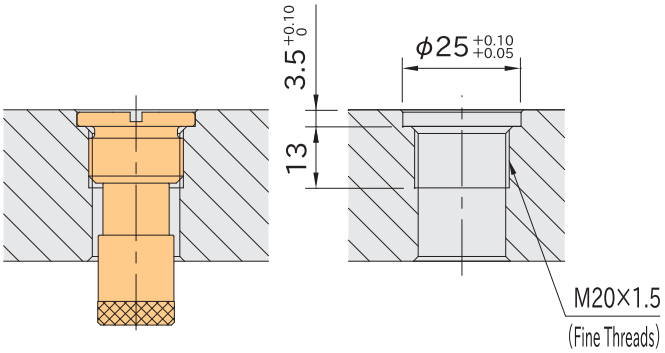


10mm

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



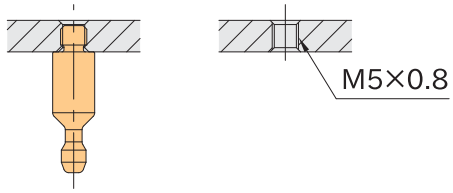
Installation in a subplate



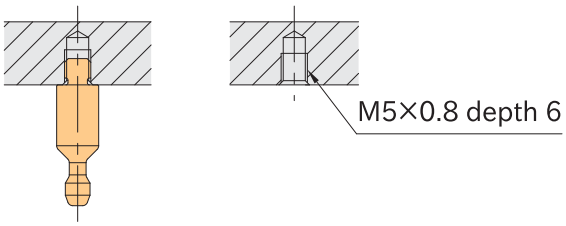
Installation in a block

How To Install (Ball-Lock Clamping Pins)

Plate thickness should be 6mm or more.



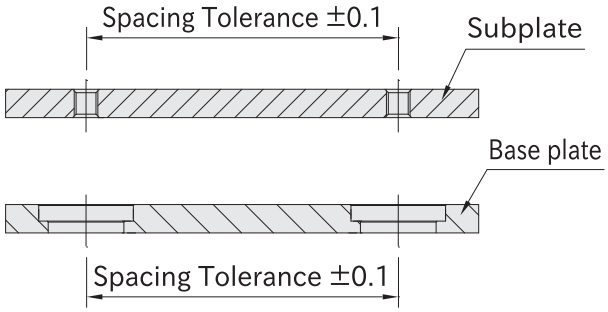
6mm Plate



Over 6mm Plate

Accuracy

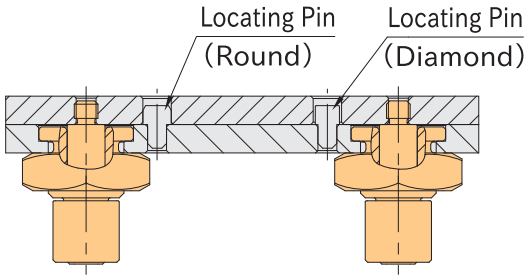
■Machining Accuracy



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

■Repeatability

Repeatability ±0.25

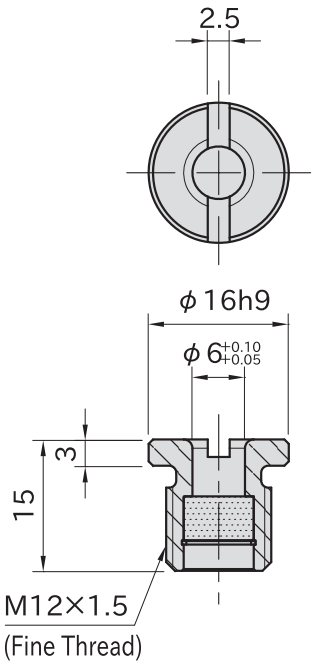


For higher accurate locating, use locating pins.

QCMA MAGNET-LOCK CLAMPING RECEPTACLE

RoHS Stainless Steel

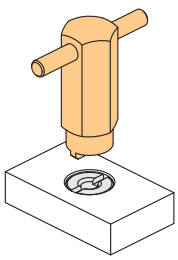
IMAO



Body	Magnet
SUS304 stainless steel	Neodymium

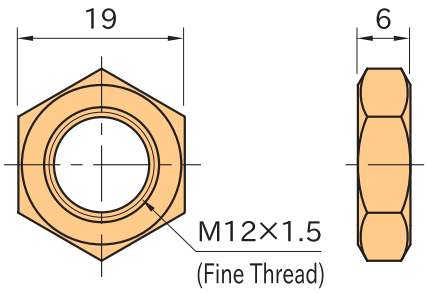
Part Number	Clamping Force (N)	Weight (g)
QCMA0612A	7	12

Order Separately Installation Wrench



Part Number
PW16

Order Separately Nut (Stainless Steel)

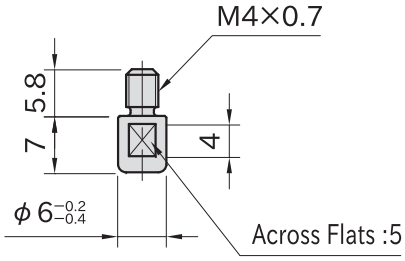


Part Number
NDX12-NUT-SUS

QCMA-M MAGNET-LOCK CLAMPING PIN

RoHS

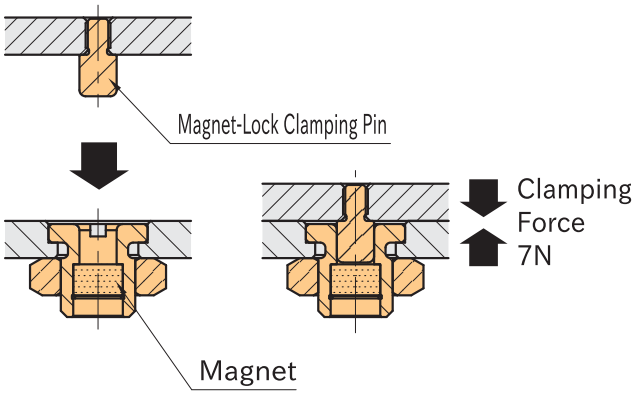
IMAO



Body
S45C steel Electroless nickel plated

Part Number	Weight (g)
QCMA0612-M4	2

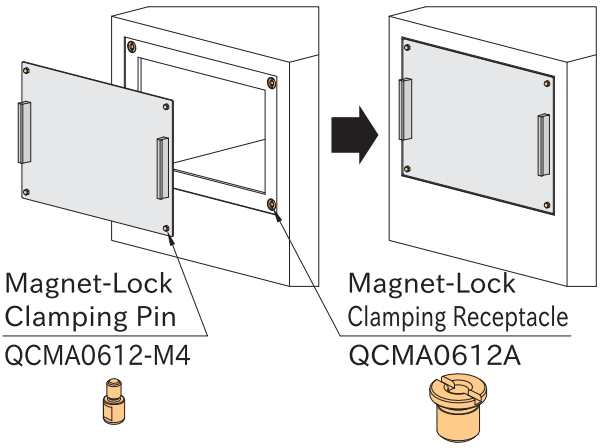
Feature



The magnet pulls in the clamping pin.

Application Example

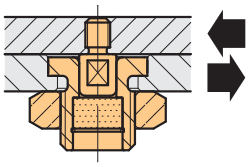
Installation/removal of maintenance cover plate of machines



Technical Information

・Heat resistance 80℃
・Mechanical Strength

Shear Strength 900N



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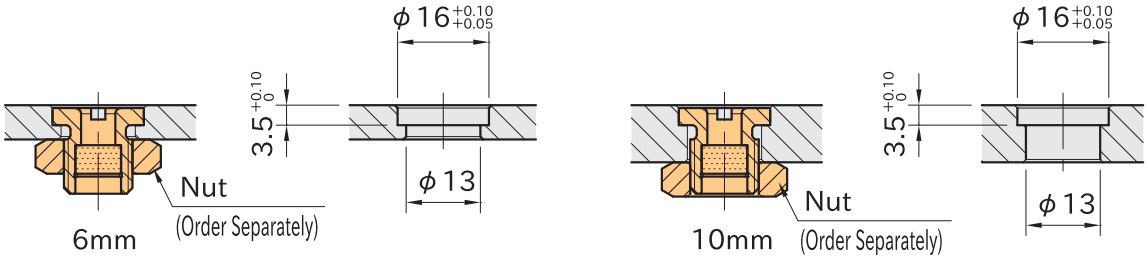
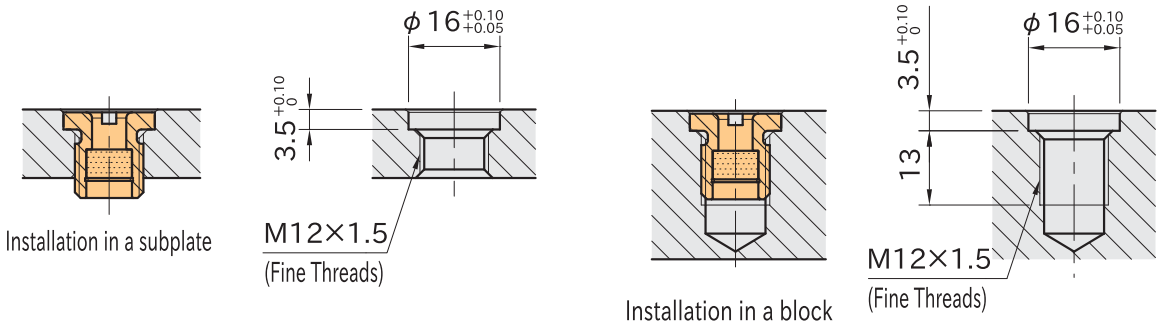
How To Install Magnet-Lock Clamping Receptacle

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

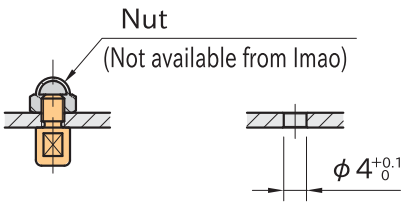


For installation in a subplate of thickness over 10mm, use a screw-in method.

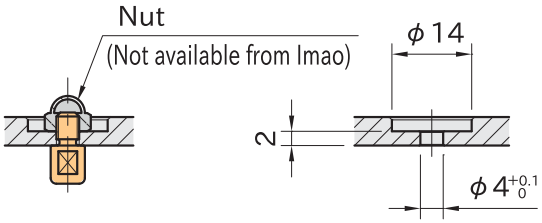


How To Install Magnet-Lock Clamping Pin

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

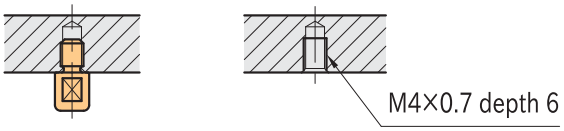


Installation in a plate of thickness ranging from 2 to 2.6mm.



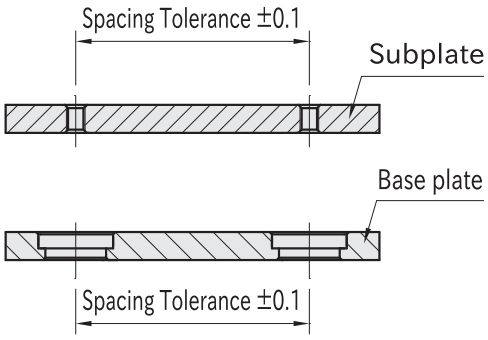
Installation in subplates of thickness ranging from over 2.6mm to 6mm.

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



Accuracy

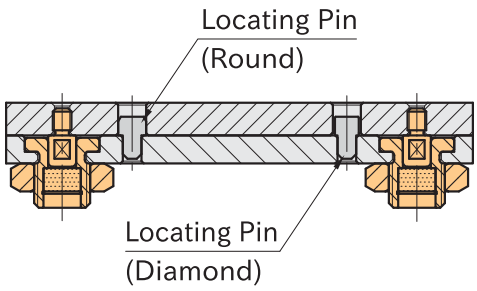
■Machining Accuracy



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

■Repeatability

Repeatability ±0.25

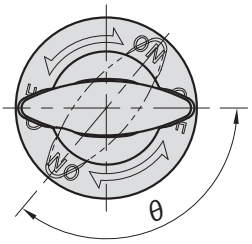


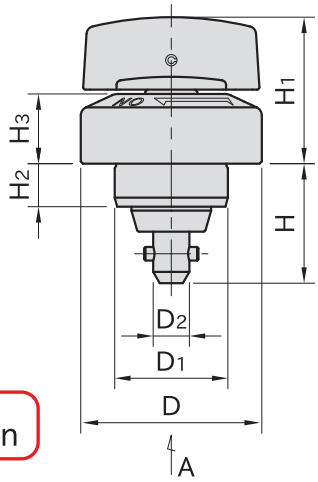
For higher accurate locating, use locating pins.

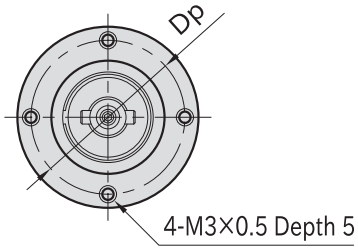
CP723 ONE-TOUCH FLEX LOCATOR CLAMPERS (Knob)

RoHS

IMAO







View A

Body / Shank	Tapered Pin	Knob	Pin
SCM440 steel Black oxide finished	SCM440 steel Nitrocarburized	SCS13 stainless steel (Equivalent to SUS304)	SUS304 stainless steel

★Key Point
Space saving operation

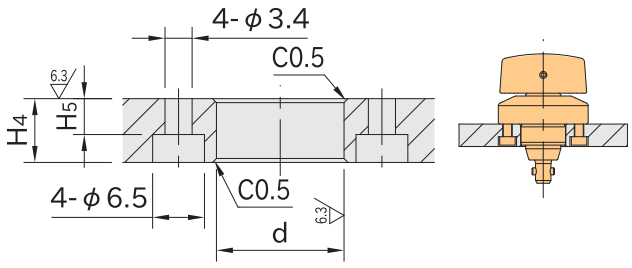
Part Number	D_1 (g6)	H_2	D	H_1	H_3	D_2	H	θ	Dp
CP723-0632R-04	16	7.5	32	27	12	5.5	22	120°	25.5
CP723-0840R-06	25	9.5	40	32	15.5	8	26	130°	34

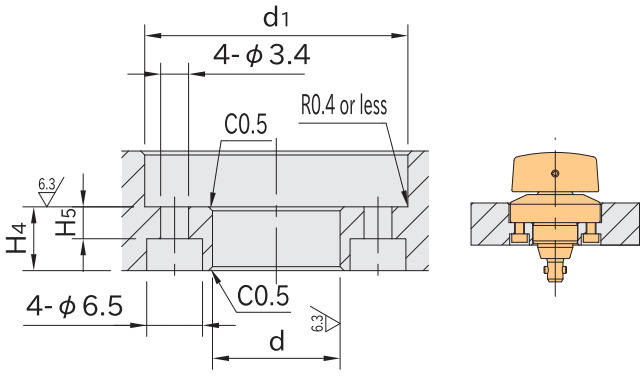
Part Number	Clamping Force(N)	Lifting Force (N) *)	Weight (g)	Proper One-Touch Flex Locator Bushing
CP723-0632R-04	350	30	96	CP727-0632R
CP723-0840R-06	600	100	211	CP727-0840R

*) 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)

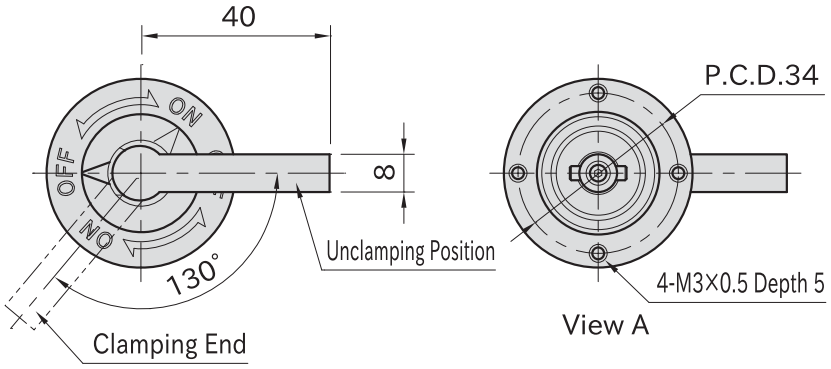
CP722 ONE-TOUCH FLEX LOCATOR CLAMPERS

RoHS

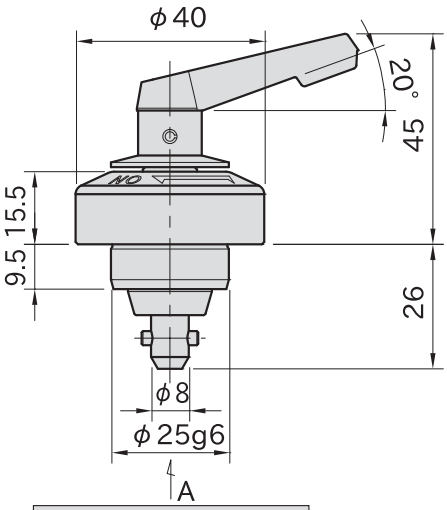
IMAO

Body / Shank	Tapered Pin	Handle	Pin
SCM440 steel Black Oxide Finished	SCM440 Nitrocarburized	ZDC1 die-cast zinc Silver-gray painted	SUS303 stainless steel

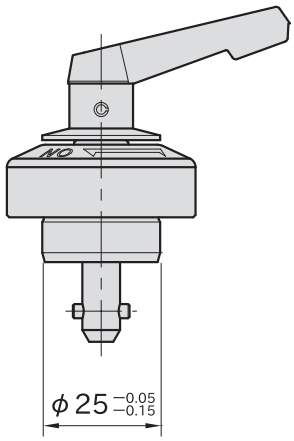
CP722-0840R-06



CP722-0840R-06N



CP722-0840R-06



CP722-0840R-06N

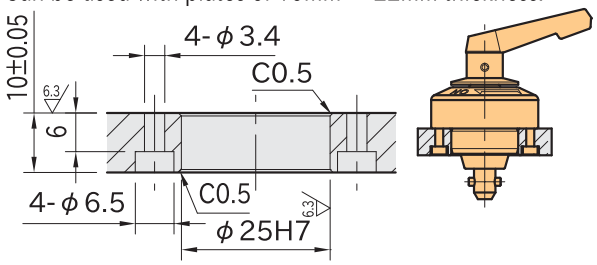
Part Number	Tapered Pin	Clamping Force (N)	Lifting Force (N)*)	Weight (g)	Proper One-Touch Flex Locator Bushing
CP722-0840R-06	With	600	100	220	CP727-0840R
CP722-0840R-06N	Without	700	—	215	

*) The lifting force is the power of the inner spring of the body to push up the movable tapered pin.

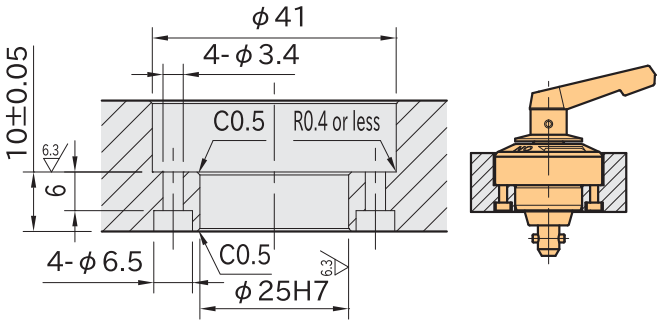
How To Use

■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.

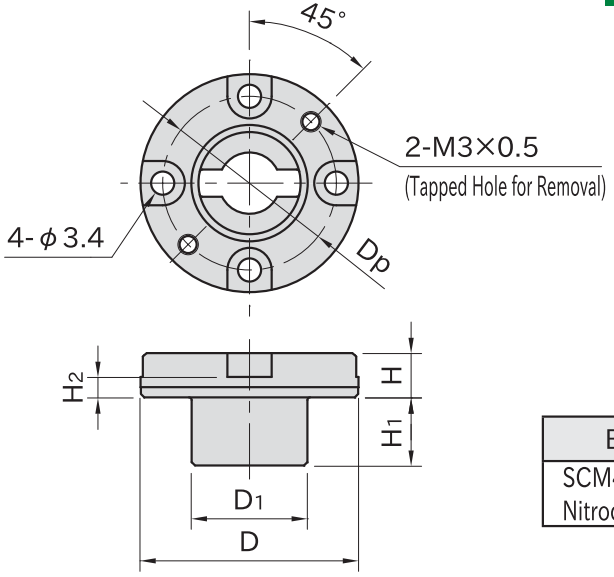
Reference

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

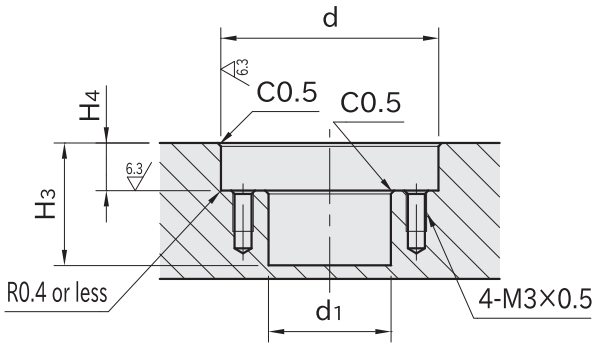


Body
SCM440 steel Nitrocarburized

Part Number	D (g6)	H	D1	H1	H2	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

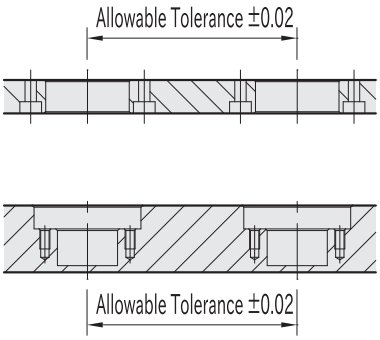
How To Use

■Mounting Hole Dimension



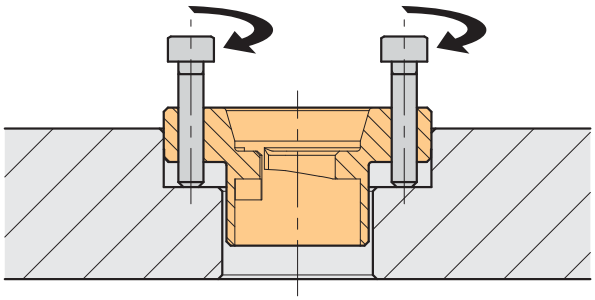
Part Number	d (H7)	H4 (±0.05)	d1	H3
CP727-0632R	28	6	13.5	15
CP727-0840R	32	7	18	18

■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)

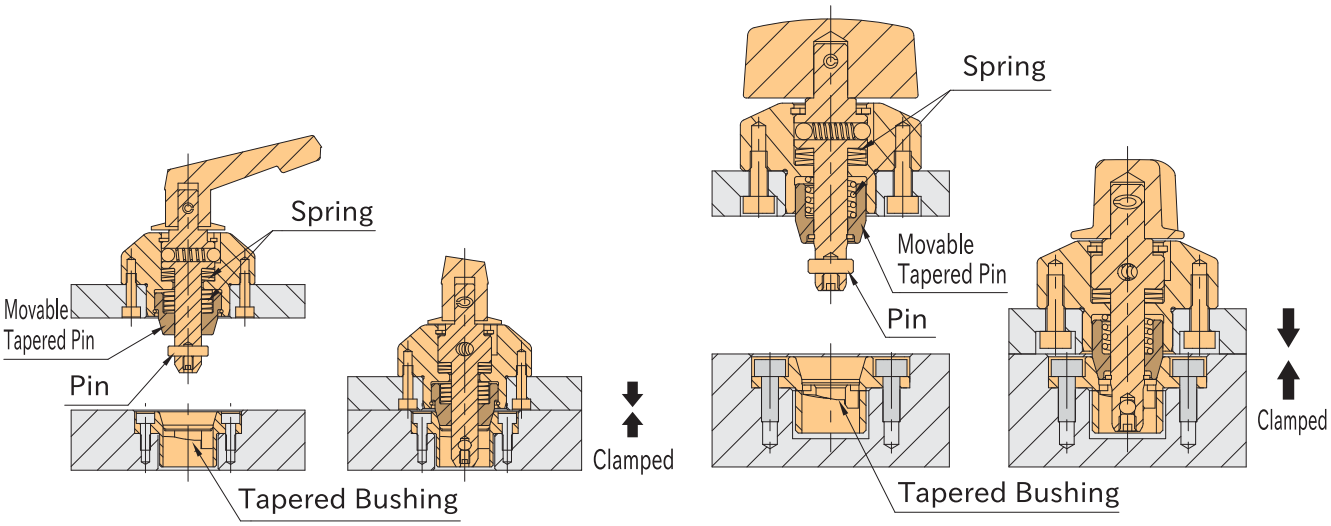
Reference

How To Use ONE-TOUCH FLEX LOCATORS (Handle / Knob)

IMAO® fixtureworks®

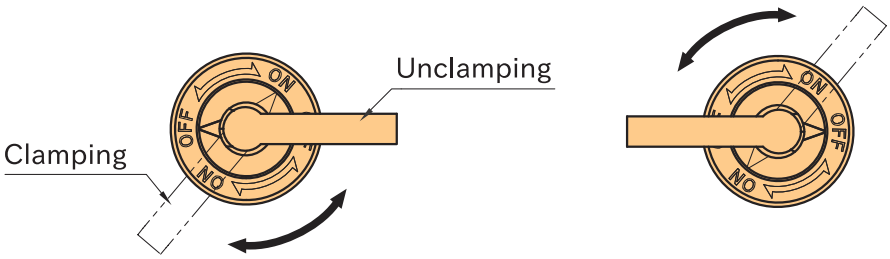
How To Use ONE-TOUCH FLEX LOCATORS (Handle / Knob)

Feature

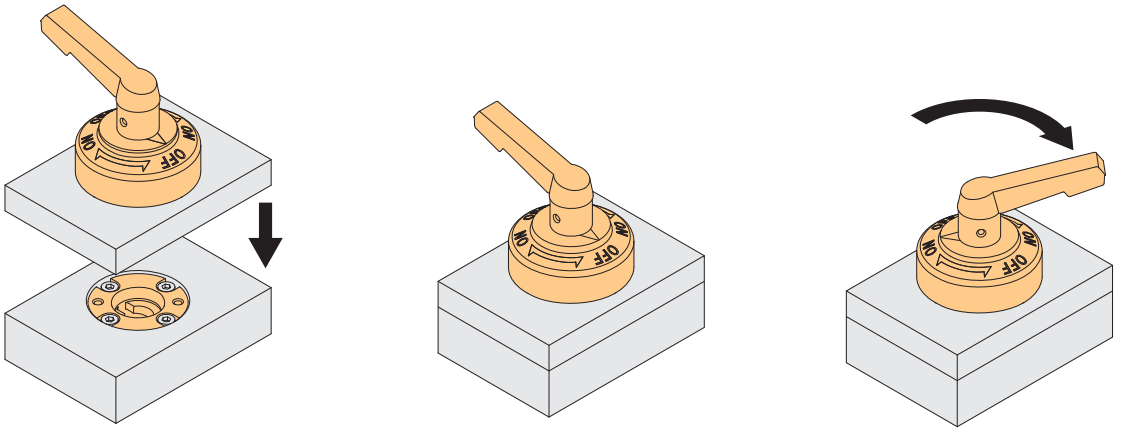


・The plates are located by fitting of the tapered pin and the tapered bushing.
・The pin contacts the cam surface inside the bushing, and it compresses the inner spring, then the plates are clamped.
Note: CP722-0840R-06N does not have locating function.

Two pair of clamping and unclamping positions of handle can be chosen for CP722.



How To Operate

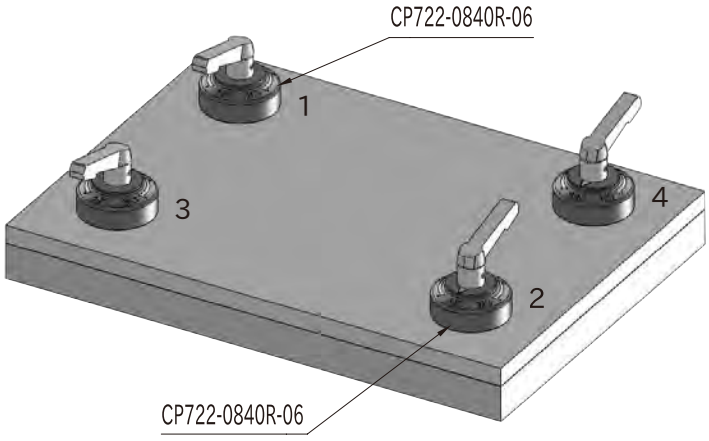


1. Ensure the handle is positioned at "OFF" mark.
2. Insert the clamper to the bushing.
3. Turn the handle to "ON" mark for clamping.

*) Follow back these steps for unclamping.
*) Same operation for Knob style.

Tightening Order

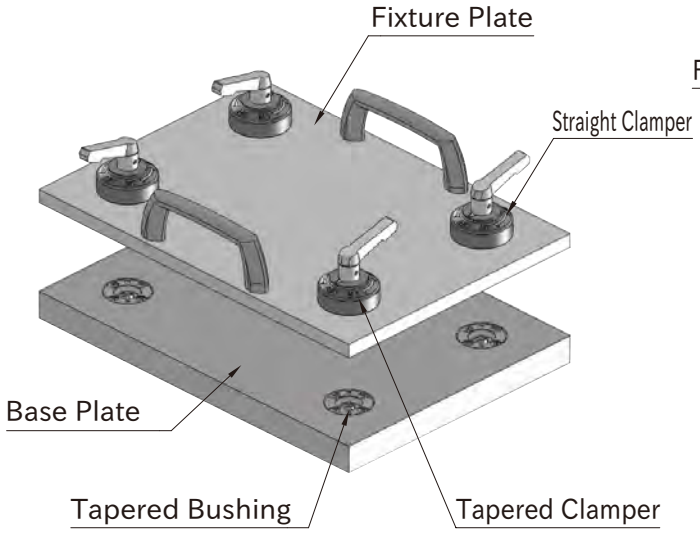
1.Ensure the handle is positioned at "OFF" mark and lift down the fixture plate.
2.Turn the handle and clamp in order of 1→2→3→4.
*) For unclamping, ensure the handle is positioned at "OFF" mark and disassemble the fixture plate.



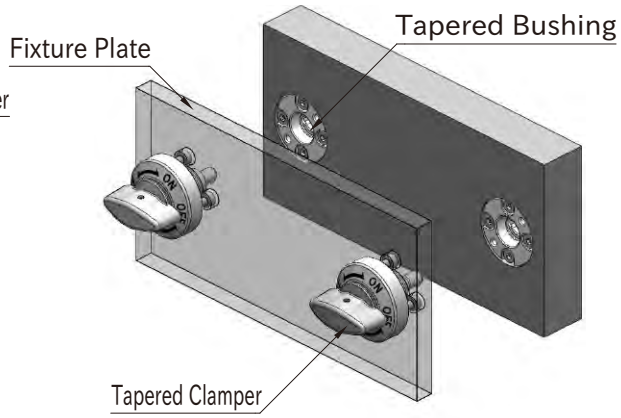
If the handles are not tightened in the correct order, the locating repeatability may exceed 10 μm.

How To Use

■Horizontal Assembly of Fixture Plate



■Vertical Assembly of Fixture Plate



Note: Ensure not to lift the fixture plate up and down with gripping the handle of the clampers.

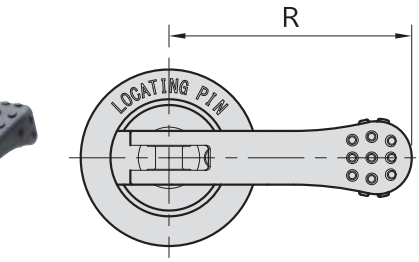
Size		Horizontal Assembly		Vertical Assembly	
		Max. Loading Weight (kg)	Locating Repeatability	Max. Loading Weight (kg)	Locating Repeatability
CP723 CP727	0632R	12	10μm	12	20μm
CP722 CP723 CP727	0840R	40		40	

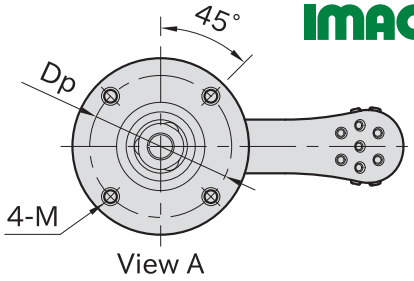
Note: These values shown above are when 2 pairs of tapered clampers and tapered bushings are used. When 4 pairs of tapered clampers and tapered bushings are used, the maximum loading weight is double the above values.
Note: The maximum loading weight is the entire sum of the weight of fixture plates, fixtures and workpieces.
Note: When used in excess of the maximum loading weight, the locating repeatability may exceed the above values.

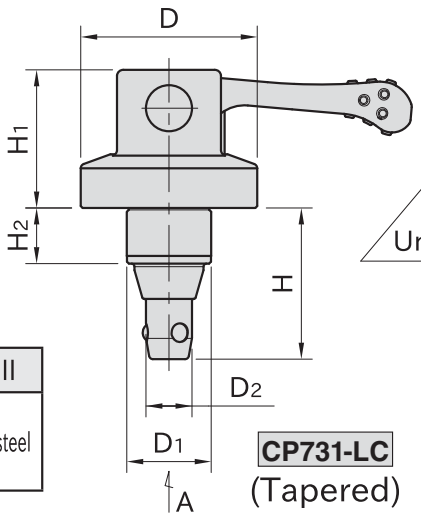
CP731 ONE-TOUCH FLEX LOCATOR CLAMPERS (Cam Handle)

CP731-LC (Tapered)

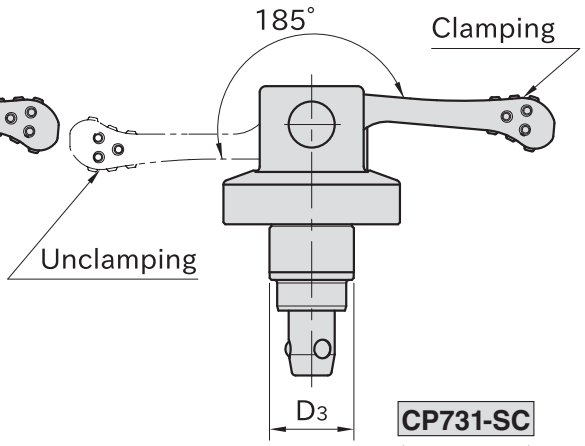
CP731-SC (Straight)







CP731-LC (Tapered)



CP731-SC (Straight)

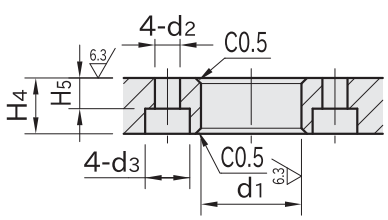
Body	Cam Handle	Ball
SCM440 steel Nitrocarburized	SCM440 steel Black oxide finished Quenched & tempered	SUJ2 steel

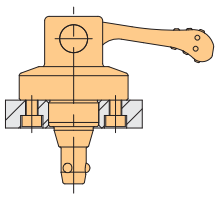
Part Number	D_1 (g6)	D_3 $(^{-0.02}_{-0.06})$	H_2	D	H_1	D_2	H	M	Dp	R	Cam Handle
CP731-0939LC	18	–	9.5	39	30	9	30	M4×0.7 Depth 6	30	50	QLCA-05
CP731-0939SC	–	18									
CP731-1246LC	22	–	14.5	46	36	12	40		37	63	QLCA-06
CP731-1246SC	–	22									
CP731-1656LC	28	–	19.5	56	42	16	51	M5×0.8 Depth 7	45	80	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

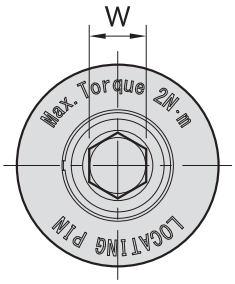
Reference

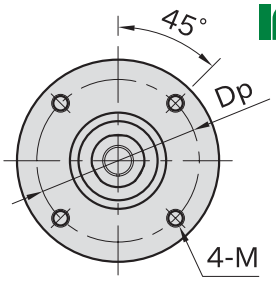
How To Use ONE-TOUCH FLEX LOCATORS (Hexagon Head / Cam Handle)

CP730 ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head)

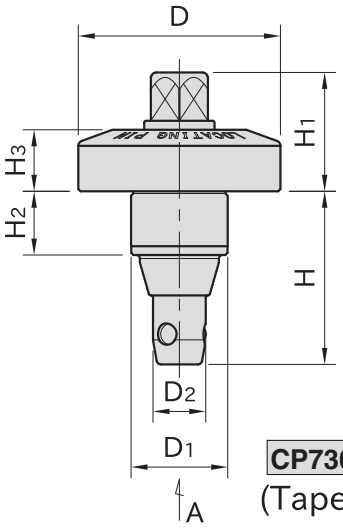
CP730-LH
(Tapered)

CP730-SH
(Straight)

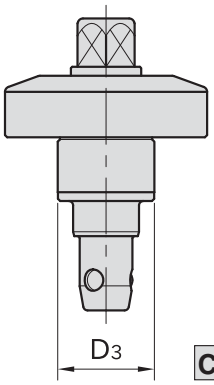




View A



CP730-LH
(Tapered)



CP730-SH
(Straight)

Body	Clamping Screw	Ball
SCM440 steel Nitrocarburized	SCM435 steel Black oxide finished Quenched & tempered	SUJ2 steel

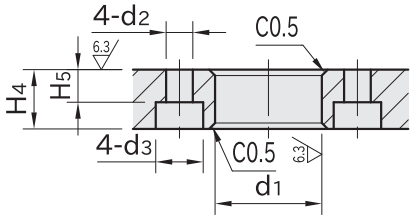
Part Number	D_1 (g6)	D_3 $(^{-0.02}_{-0.06})$	H_2	D	H_1	H_3	D_2	H	W	M	Dp
CP730-0939LH	18	–	9.5	39	22	12	9	30	10	M4×0.7 Depth 6	30
CP730-0939SH	–	18									
CP730-1246LH	22	–									
CP730-1246SH	–	22									
CP730-1656LH	28	–	19.5	56	34	16	16	51	17	M5×0.8 Depth 7	45
CP730-1656SH	–	28									

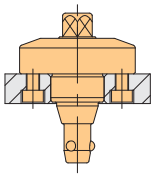
Part Number	Clamping Force (N)	Allowable Screw Torque (N·m)*)	Weight (g)	Proper Bushing
CP730-0939LH	1700	2	134	CP735-0939L
CP730-0939SH			133	CP735-0939S
CP730-1246LH	3000	4	241	CP735-1246L
CP730-1246SH			239	CP735-1246S
CP730-1656LH	4500	7	457	CP735-1656L
CP730-1656SH			453	CP735-1656S

*)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)

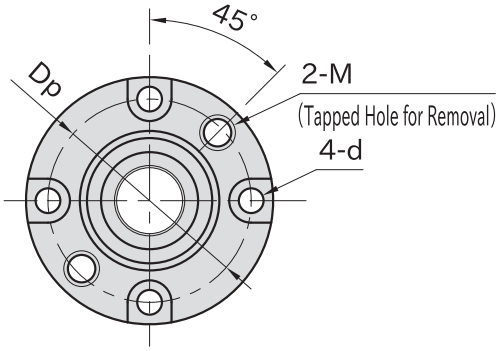
Related Product

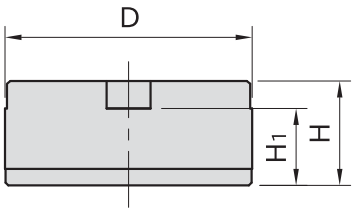
CP-TCW ADJUSTABLE-TORQUE WRENCHES are available for tightening.

CP735 ONE-TOUCH FLEX LOCATOR BUSHINGS

(Tapered Type)

(Straight Type)





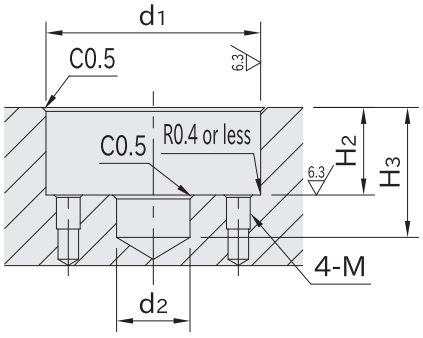
Type	Body	Tapered Bushing
CP735-L	SCM440 steel Black oxide finished	SCM440 steel Nitrocarburized
CP735-S	Quenched & tempered	–

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.

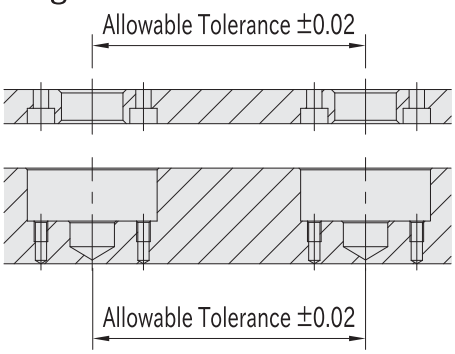
How To Use

■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



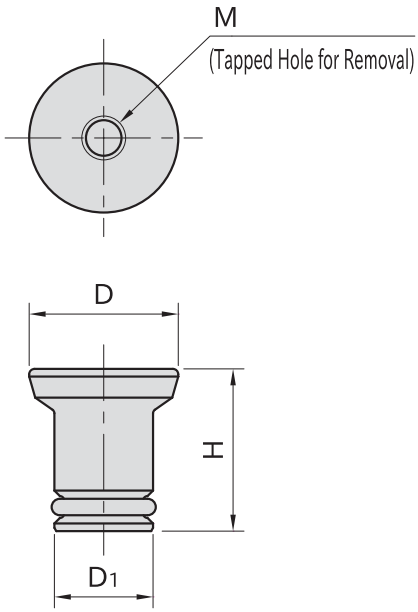
Related Product

- 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



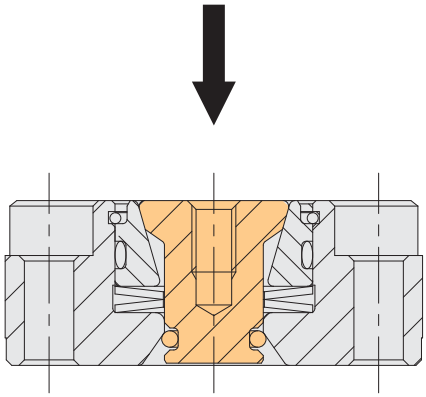
Body	O-Ring
A5052 aluminum Red	NBR nitrile rubber

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

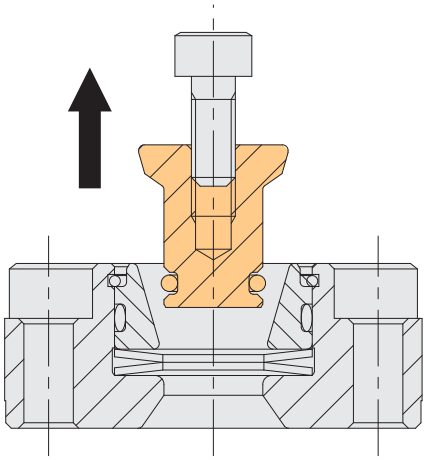
■How to Install

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.



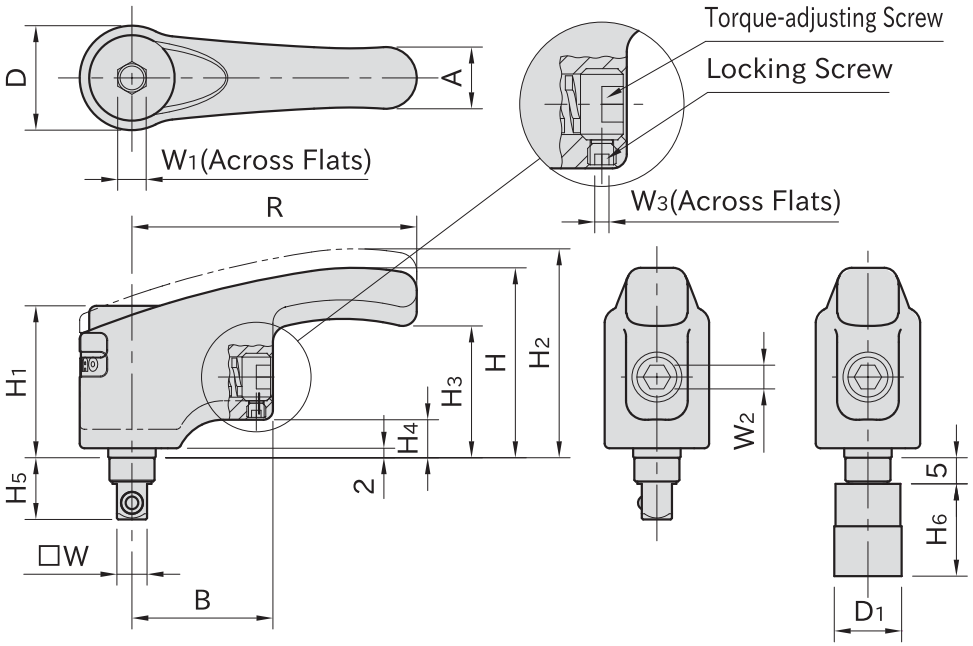
CP-TCW ADJUSTABLE-TORQUEWRENCHES

RoHS

IMAO

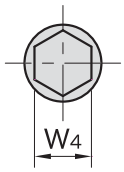
Without Socket

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	H1	H2	H3	H4	H5	A	B	W1	W2	W3
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

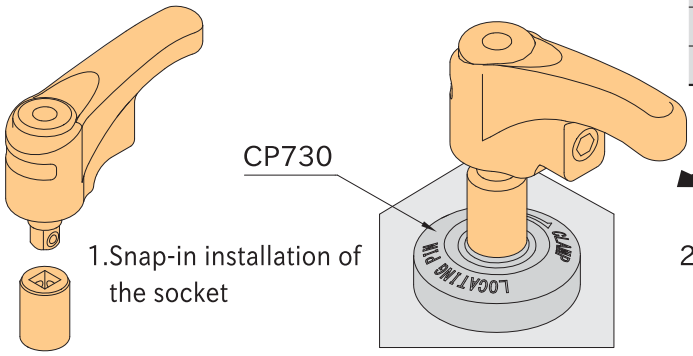
Part Number	Weight (g)
CP-TCW 6	166
CP-TCW 8	284
CP-TCW10	467

■With Socket

Part Number	W4	D1	H6	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).

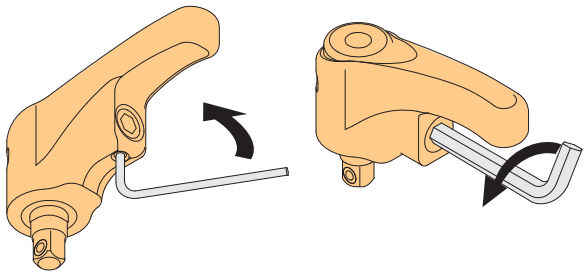


2.Turn the handle to clamp.
The handle clicks to indicate completed tightening at desired torque.

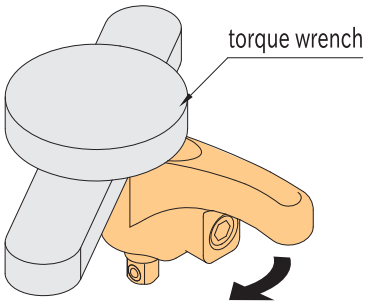
Part Number	Proper ONE-TOUCH FLEX LOCATOR CLAMPERS	
CP-TCW 6-S	CP730-0939LH	CP730-0939SH
CP-TCW 8-S	CP730-1246LH	CP730-1246SH
CP-TCW 10-S	CP730-1656LH	CP730-1656SH

How To Set Torque

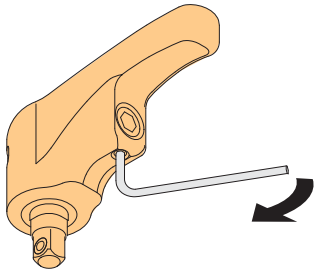
The preset torque is roughly set to its maximum tightening torque.



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.

Reference

See ATCL ADJUSTABLE-TORQUE HANDLES page for further information.

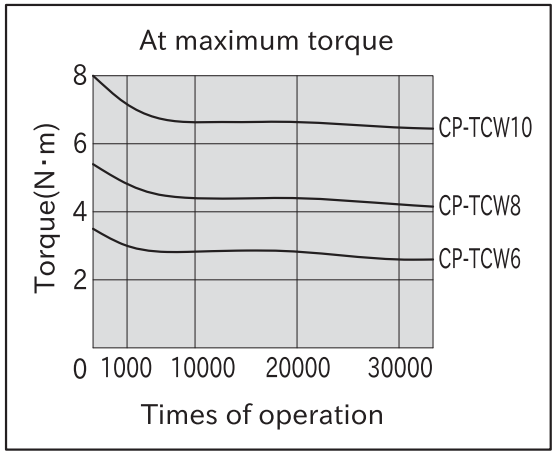
Related Product

CP730 ONE-TOUCH FLEX LOCATOR CLAMPERS (Hexagon Head)

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.

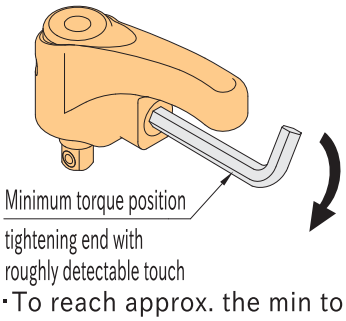
Torque Performance Graph



Note

- Do not overtighten or overloosen the torque-adjusting screw.

■Reference Torque Adjusting Range

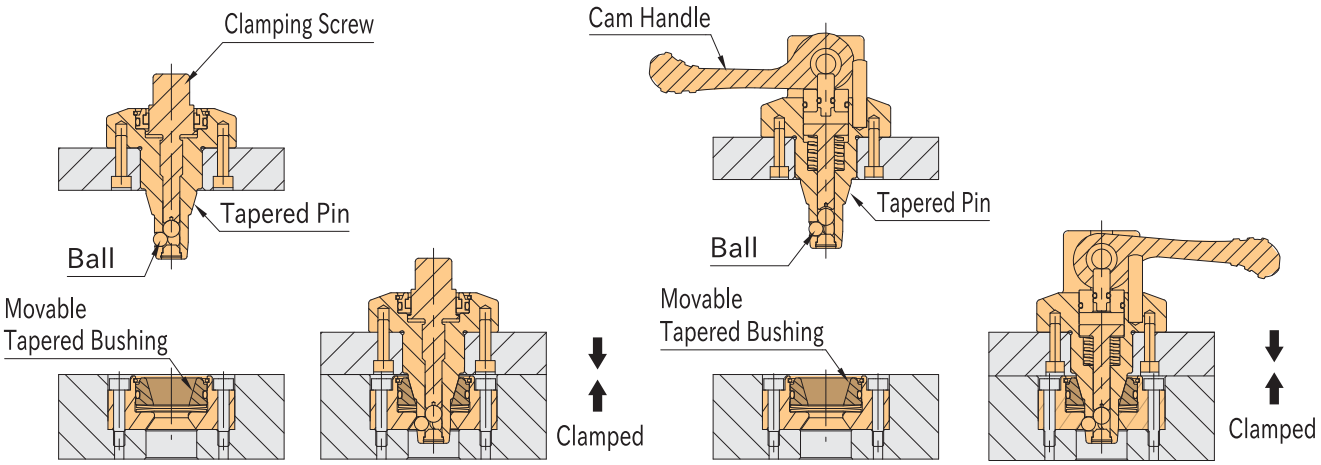


Size		Rotation
CP-TCW / CP-TCW-S	6	3/4
	8	1
	10	3/4

- 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.

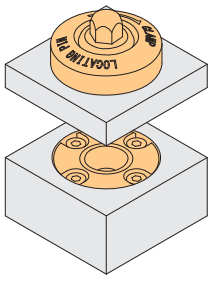
How To Use ONE-TOUCH FLEX LOCATORS (Hexagon Head / Cam Handle)

Feature

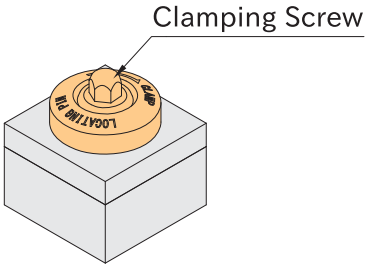


・The plate is located by fitting of the tapered parts.
・When the clamping screw or the cam handle is tightened, the balls goes out and the movable tapered bushing goes down. The fixture plate contacts with the base plate.
・For clamping screw, 2 turns tightening is enough.
Note: No locating function on the combination of straight pin and straight bushing.

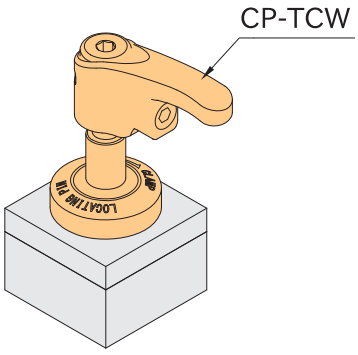
How To Operate



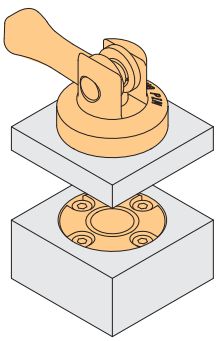
1. Ensure the balls are retracted.



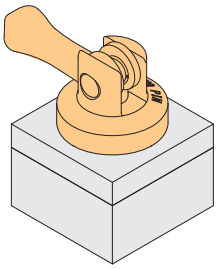
2. Insert the clamper to the bushing.



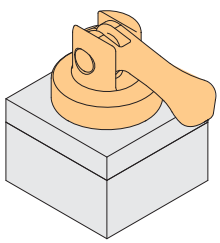
3. Tighten the clamping screw within the allowable torque.
Note: For unclamping, follow back these steps.



1. Ensure that the cam handle is loosened.

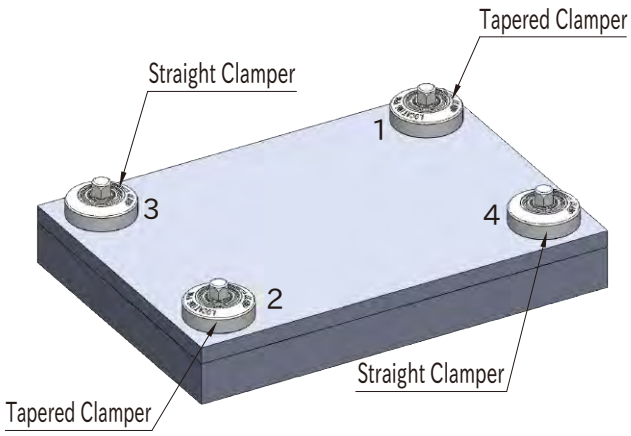


2. Insert the clamper to the bushing.



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.

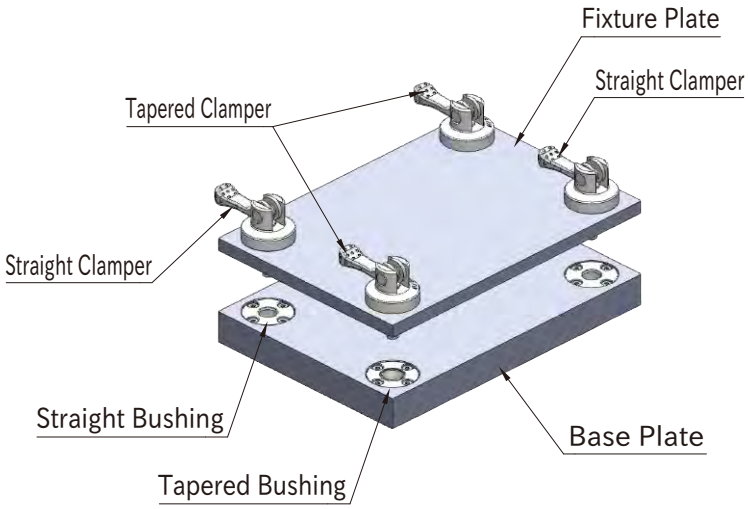
CP731

・Tighten the cam handles in order of 1→2→3→4.

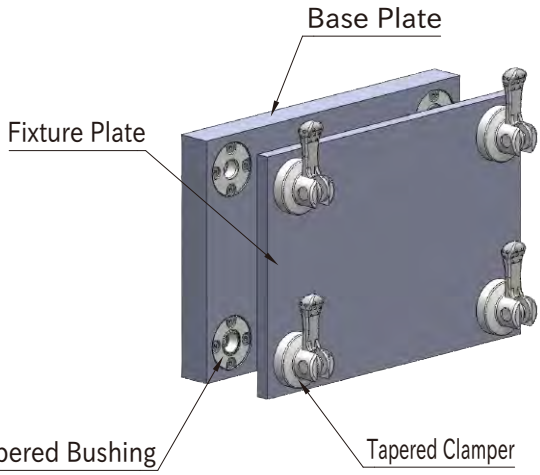
If the screws are not tightened in the correct order, the locating repeatability may exceed 8μm.

How To Use

■Horizontal Assembly



■Vertical Assembly



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.

Size		Horizontal Assembly		Vertical Assembly	
		Max. Loading Weight (kg)	Locating Repeatability	Max. Loading Weight (kg)	Locating Repeatability
CP730 CP735	0939	120	8μm	40	10μm
	1246	180		60	
	1656	280		100	
CP731 CP735	0939	120		25	
	1246	180		40	
	1656	280		60	

Note: These values shown above are when 2 pairs of tapered clampers and tapered bushings are used. When 4 pairs of tapered clampers and tapered bushings are used, the maximum loading weight is double the above values.
Note: The maximum loading weight is the entire sum of the weight of fixture plates, fixtures and workpieces.
Note: When used in excess of the maximum loading weight, the locating repeatability may exceed the above values.

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