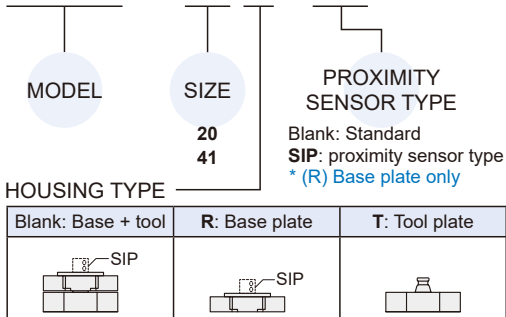


Total handing weight Size 20 : 25 kg Size 41 : 50 kg

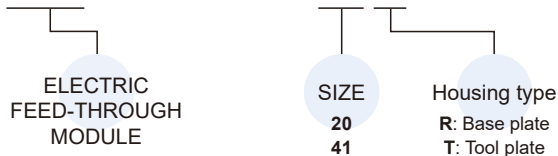
Order example of automatic tool changer

MCTC – 20 R –SIP



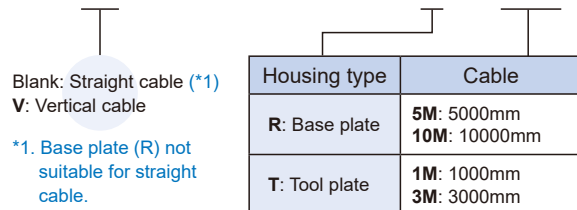
Electric feed-through module

K19 – MCTC – 20 R



Cable * Size 20 and 41 use the same cable.

KBL□ – MCTC – 20 R – 5M



Features

- High rigidity locating pins with special treatment for good service life.
- Tapered locating stud for high locating accuracy.
- Repeat accuracy $\pm 0.015\text{mm}$
- Ejection mechanism for releasing base plate (R) and tool plate (T).
- Self-locking mechanism for preventing plates from ejecting when pneumatic source was accidentally removed.
- Accurate connection change with electric module to avoid manual operation mistakes.
- ISO flange for easy-mounting on most of the robot arms.

Specification

| Model | | MCTC | |
|---------------------------------|------------------------|---------------------------------|---------|
| Size | | 20 | 41 |
| Recommended handing weight (*1) | Tool (*2) (kg) | 3.5 | 18 |
| | Workpiece (kg) | 21.5 | 32 |
| Locking force (*3) | (N) | 2300 | 4500 |
| Repeat accuracy | (mm) | ± 0.015 | |
| Max. permissible XY-axis offset | (mm) | ± 1 | ± 2 |
| Max. permissible angular offset | ($^{\circ}$) | ± 2 | |
| Operating pressure | (MPa) | 0.45~0.7 | |
| Ambient temperature | ($^{\circ}\text{C}$) | +5 ~ +60 | |
| Proximity sensor | | RJY (Please refer to page 5-14) | |
| Weight | Base plate (R) (kg) | 0.47 | 1.3 |
| | Tool plate (T) (kg) | 0.37 | 0.87 |

*1. Tool and workpiece please refer to Applications.

*2. With tool plate (T).

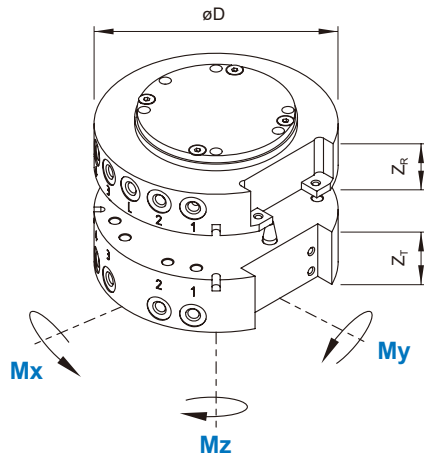
*3. Under locking condition (operating pressure 0.45 MPa).

*4. Spring, tapered locating stud, and locating pin are consumables. Please consider to replace when performing below expectations.

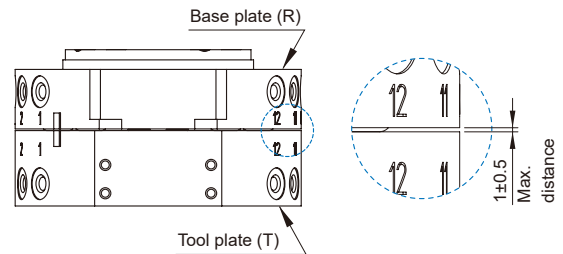
Electric feed-through module

| Model | K19-MCTC-* | | | |
|---|-------------------------------|-----|------------------------------|-----|
| Housing type | Base plate (R) | | Tool plate (T) | |
| Size | 20 | 41 | 20 | 41 |
| Min. ambient temp. ($^{\circ}\text{C}$) | 5 | | | |
| Max. ambient temp. ($^{\circ}\text{C}$) | 60 | | | |
| Number of pin contacts | 19 | | | |
| Nominal current (A) | 3/pin | | | |
| Nominal voltage (V DC) | 50 | | | |
| Electrical connection | Bayonet lock connector (male) | | Bayonet lock socket (female) | |
| Weight (g) | 85 | 118 | 91 | 119 |

Max. allowable moment



Max. distance when locking

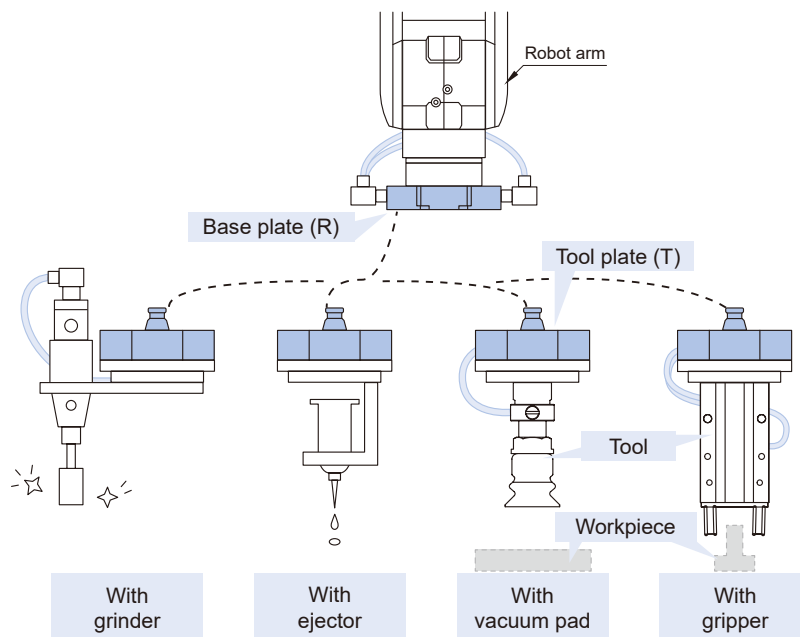


| Size | $\varnothing D$ | Z_R | Z_T | Mx max. (Nm) | My max. (Nm) | Mz max. (Nm) |
|------|-----------------|-------|-------|--------------|--------------|--------------|
| 20 | 90 | 18.7 | 23.7 | 161 | 161 | 209 |
| 41 | 130 | 32.3 | 27 | 447 | 447 | 616 |

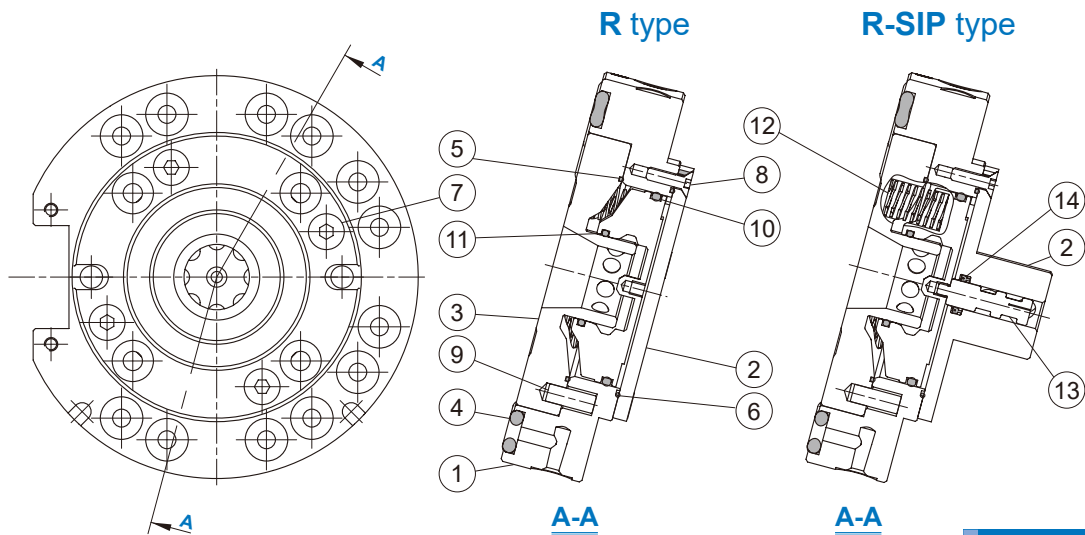
* Only for locking state.

Applications

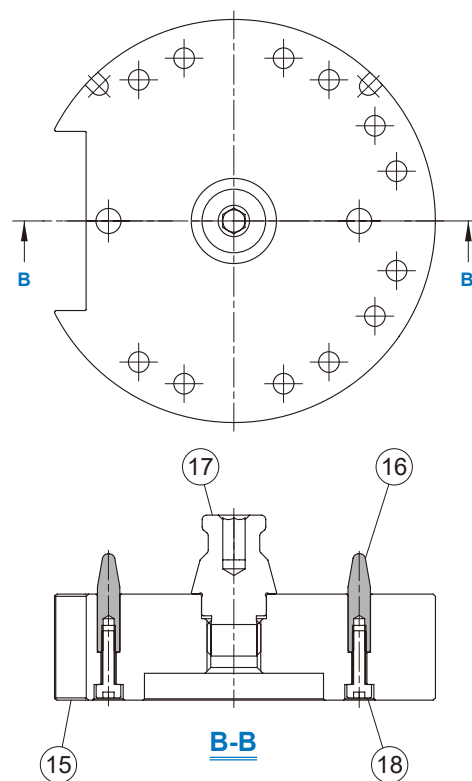
1. MCTC can be used on any type of robot arm.
2. The main feature is the quick tool exchange with good repeat accuracy.
3. MCTC can be used for various applications within max. 50 kg (Size 41) total load as shown below.



Base plate



Tool plate



Material – Base plate (R)

| No. | Part name | Material | Q'y / Size | | Repair kits (inclusion) |
|-----|-----------------|--------------------|------------|----|-------------------------|
| | | | 20 | 41 | |
| 1 | Body | Aluminum alloy | 1 | | |
| 2 | Cover | Aluminum alloy | 1 | | |
| 3 | Locator | Composite material | 1 | | |
| 4 | O-ring | NBR | 12 | 10 | ● |
| 5 | O-ring | NBR | 1 | | ● |
| 6 | O-ring | NBR | 1 | | ● |
| 7 | Bolt | Stainless steel | 4 | | |
| 8 | Bolt | Stainless steel | 4 | | |
| 9 | Pin | Carbon steel | 1 | | |
| 10 | O-ring | NBR | 1 | | ● |
| 11 | O-ring | NBR | 1 | | ● |
| 12 | Spring | Spring steel | 6 | | ● |
| 13 | Detection shaft | Stainless steel | 1* | | |
| 14 | Packing | NBR | 1* | | ● |

* Only for base plate – proximity sensor type (R-SIP).

Material – Tool plate (T)

| No. | Part name | Material | Q'y | Repair kits (inclusion) |
|-----|-----------------------|-----------------|-----|-------------------------|
| 15 | Body | Aluminum alloy | 1 | |
| 16 | Locating pin | Alloy steel | 2 | ● |
| 17 | Tapered locating stud | Stainless steel | 1 | ● |
| 18 | Bolt | Stainless steel | 2 | ● |

Order example of repair kits

| Size | Base plate (R) | Base plate (R) – proximity sensor type (R-SIP) | Tool plate (T) |
|------|----------------|--|----------------|
| 20 | PS-MCTC-20R | PS-MCTC-20R-SIP | PS-MCTC-20T |
| 41 | PS-MCTC-41R | PS-MCTC-41R-SIP | PS-MCTC-41T |

Base plate (R)

Thread (×2)

For inductive proximity sensor.

Ejection Mechanism

Eject the plates with piston force smoothly without interference.

Tool plate (T)

Tapered locating stud

Tapered locating stud for high locating accuracy.

Locating pin (×2)

Tempered locating pin for good non-rotating accuracy.

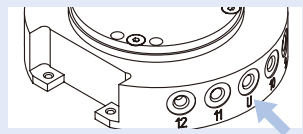
Locking mechanism

High accurate curved plate fitting for smooth combining and releasing.

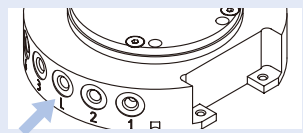
Self-locking mechanism

Prevent the plates from releasing with high tension springs when the pneumatic source is accidentally removed.

Unlock (U)



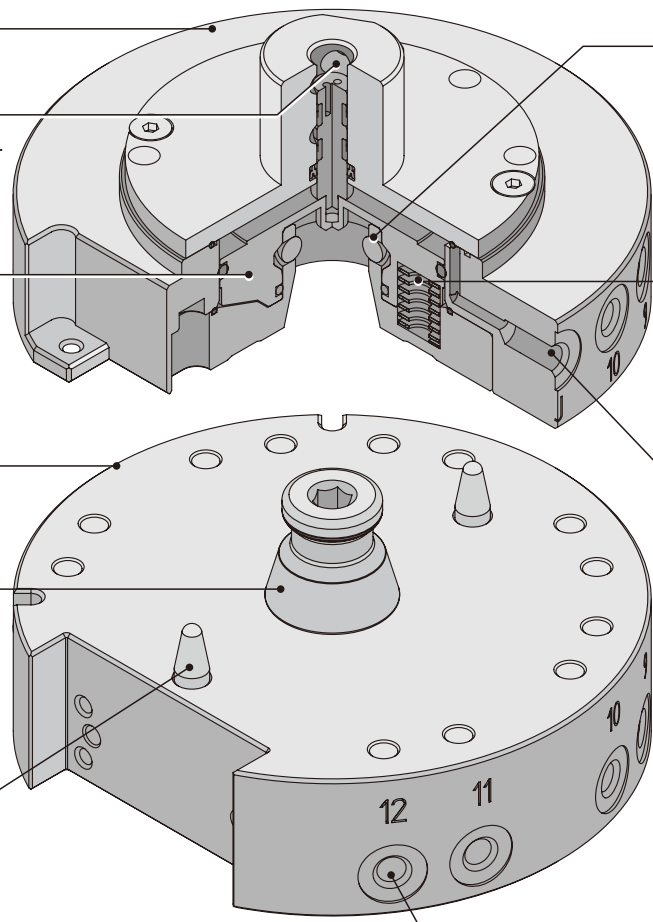
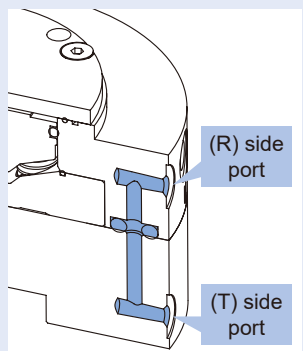
Lock (L)



Air inlet

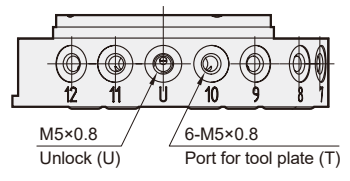
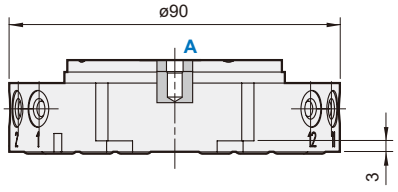
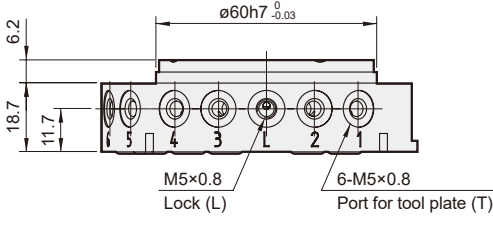
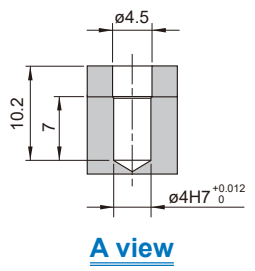
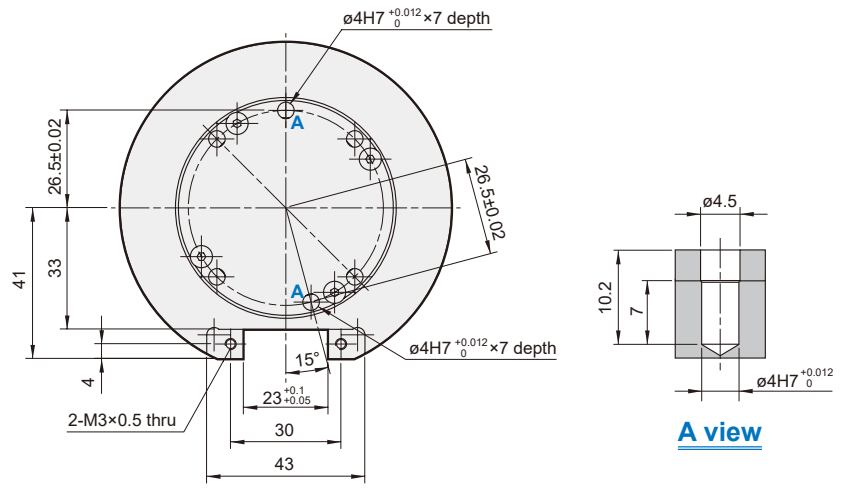
Without interfering contours due to the integration into the housing. Also suitable for vacuum.

* Ports with identification number for piping.



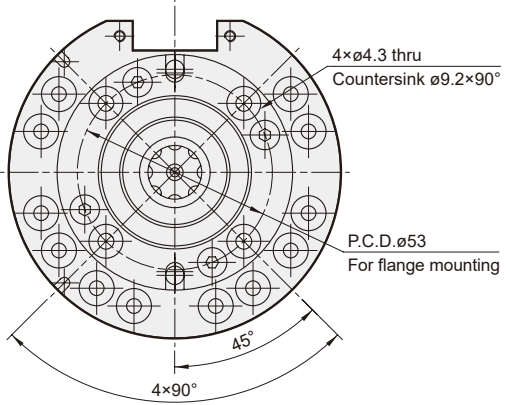
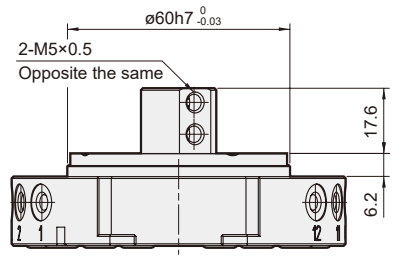
R

Base plate

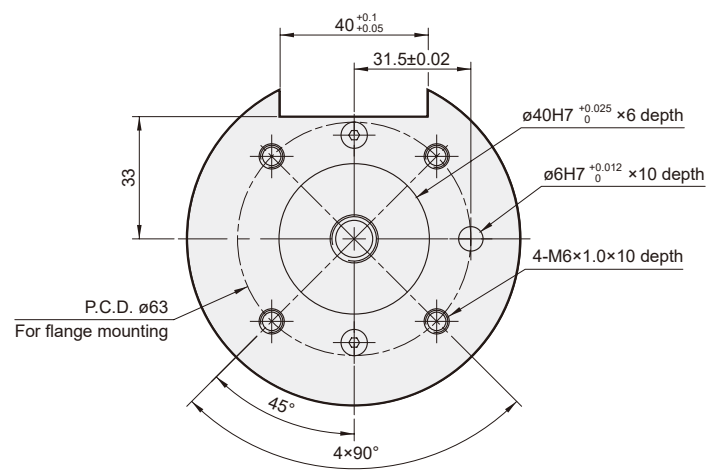
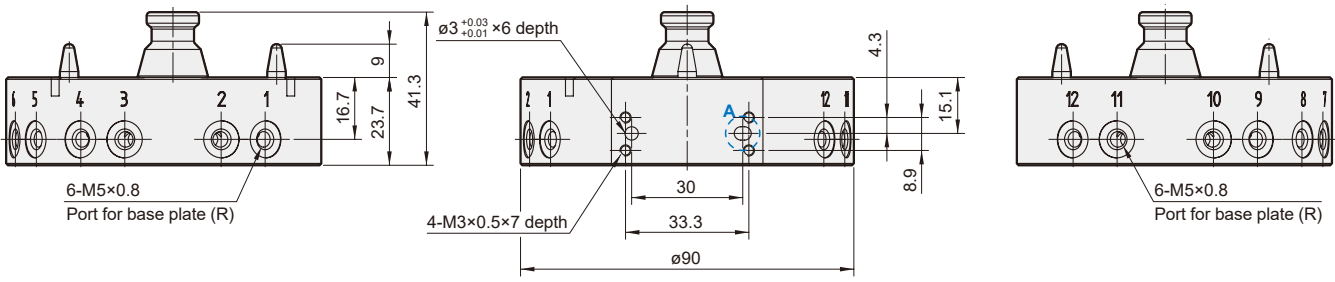
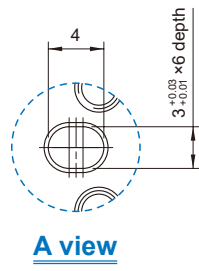
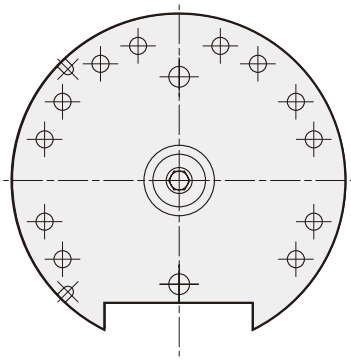


MCTC-20R-SIP

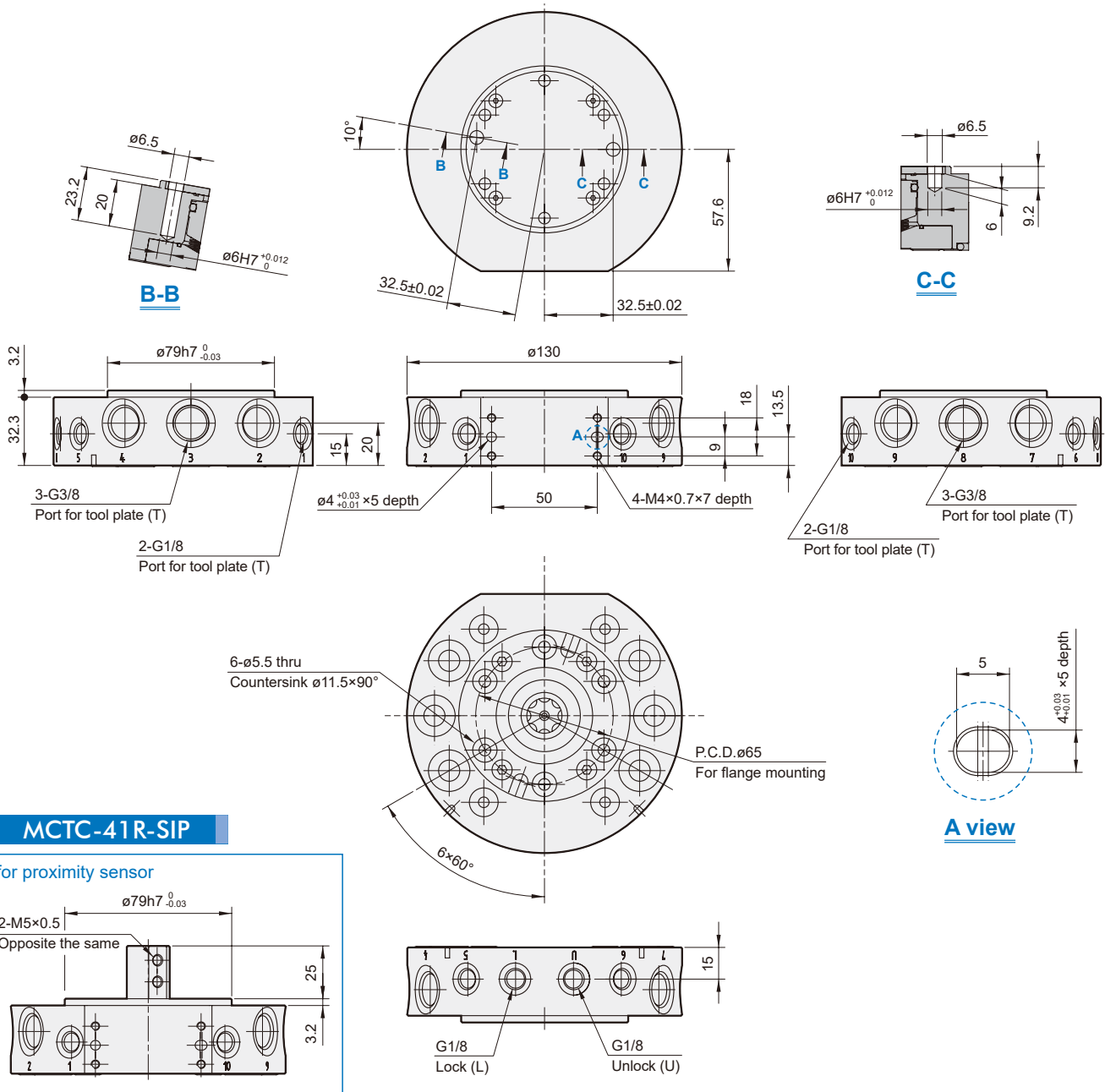
for proximity sensor



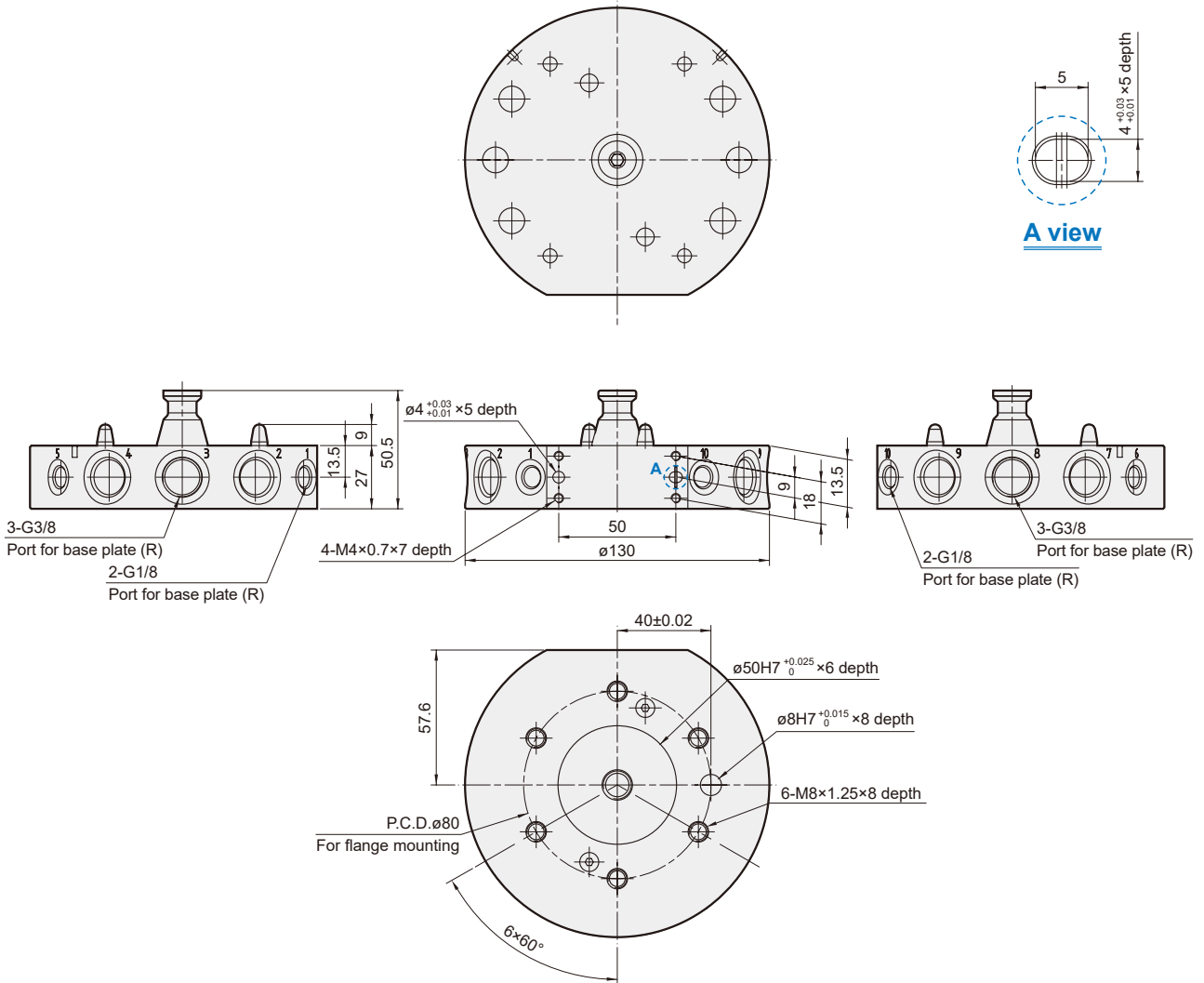
T Tool plate



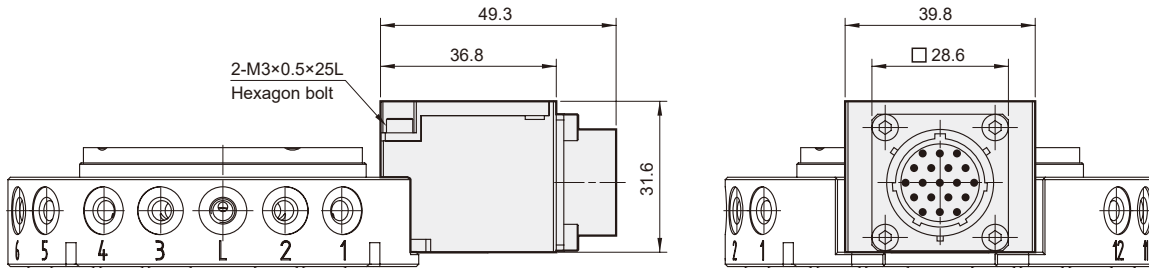
R Base plate



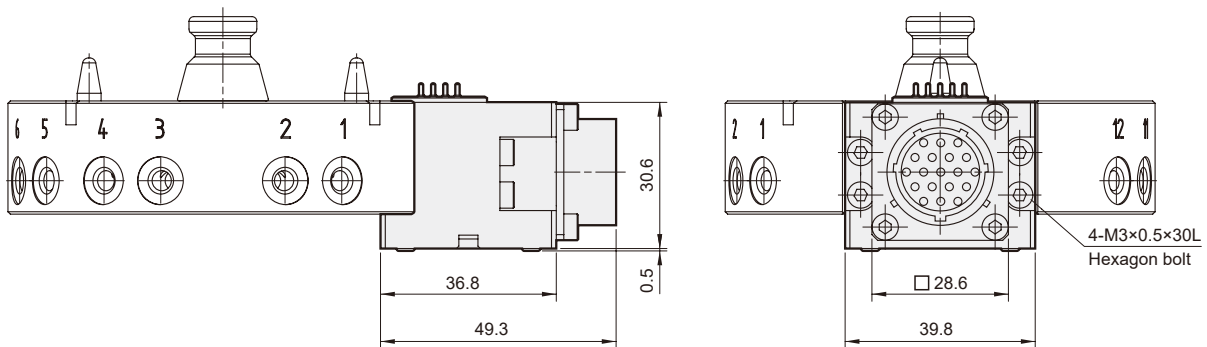
T Tool plate



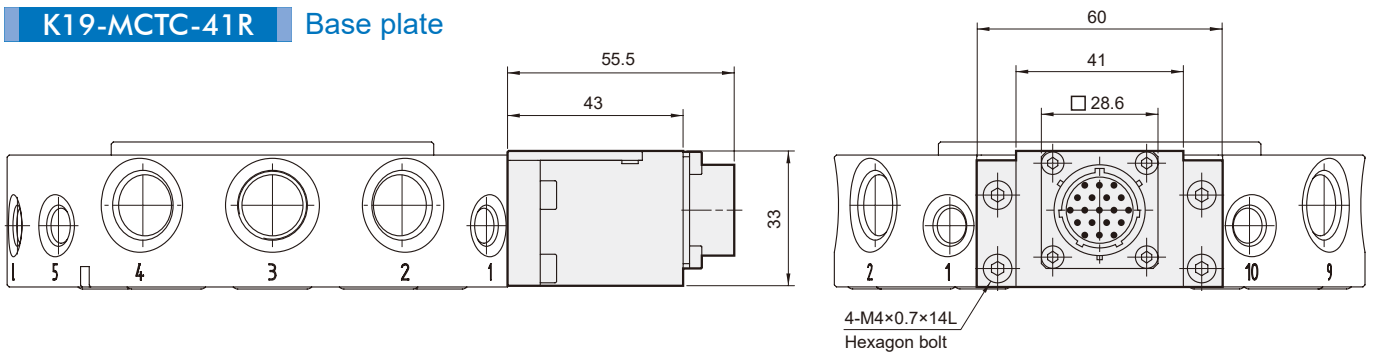
K19-MCTC-20R Base plate



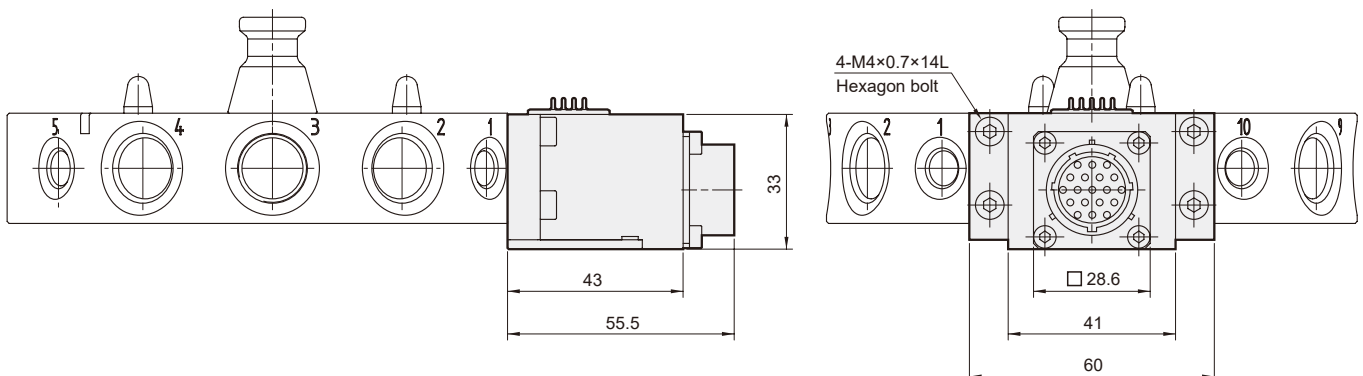
K19-MCTC-20T Tool plate



K19-MCTC-41R Base plate



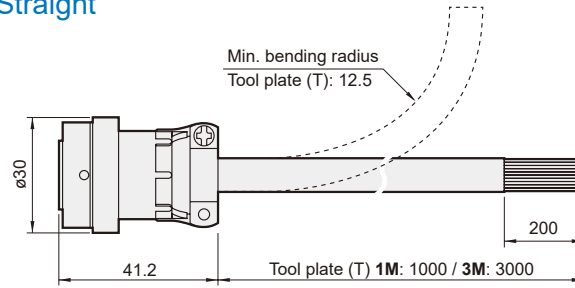
K19-MCTC-41T Tool plate



KBL-MCTC-20T

Straight

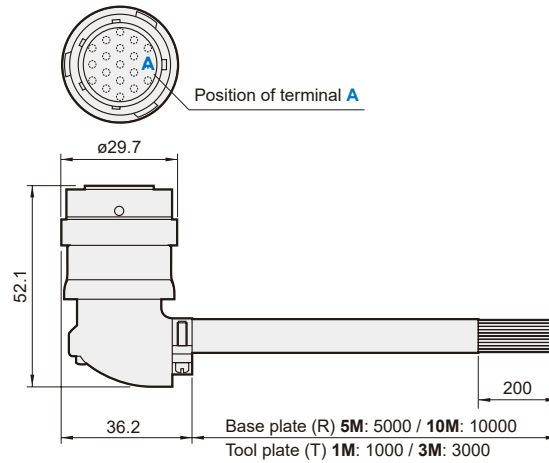
Size 20 and 41 use the same cable



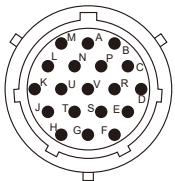
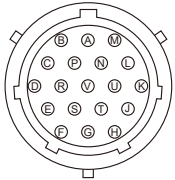
KBLV-MCTC-20R/T

Vertical

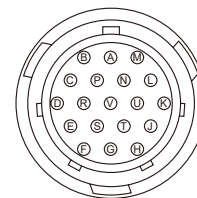
Size 20 and 41 use the same cable



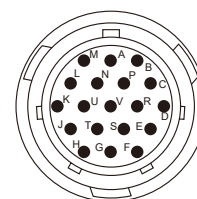
19 Pin layout

| Electric | Way | Color | Cable | |
|--|-----|-------------|--------------|---|
| <p>Base plate (R) Bayonet lock connector (Male)</p>  <p>Tool plate (T) Bayonet lock socket (Female)</p>  | A | <---< <---< | White | A |
| | B | <---< <---< | Brown | B |
| | C | <---< <---< | Green | C |
| | D | <---< <---< | Yellow | D |
| | E | <---< <---< | Gray | E |
| | F | <---< <---< | Pink | F |
| | G | <---< <---< | Blue | G |
| | H | <---< <---< | Red | H |
| | J | <---< <---< | Black | J |
| | K | <---< <---< | Violet | K |
| | L | <---< <---< | Gray/Pink | L |
| | M | <---< <---< | Red/Blue | M |
| | N | <---< <---< | White/Green | N |
| | P | <---< <---< | Brown/Green | P |
| | R | <---< <---< | White/Yellow | R |
| | S | <---< <---< | Yellow/Brown | S |
| | T | <---< <---< | White/Gray | T |
| | U | <---< <---< | Gray/Brown | U |
| | V | <---< <---< | White/Pink | V |

Base plate (R)
(Female)



Tool plate (T)
(Male)

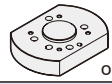
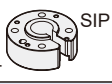
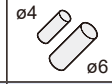



Accessory kits of ISO adapter board

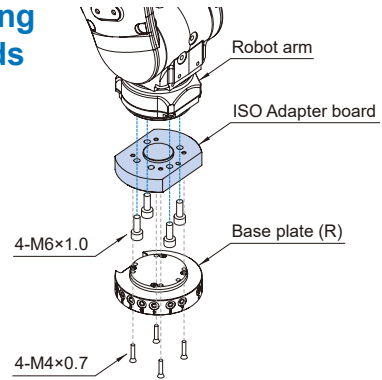
* for base plate (R)

AK – MCTC – 20R – SIP – A50

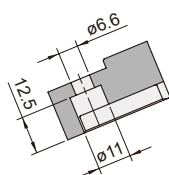
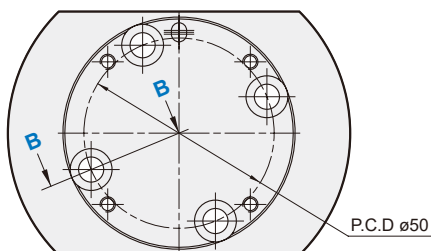
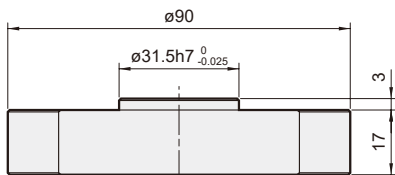
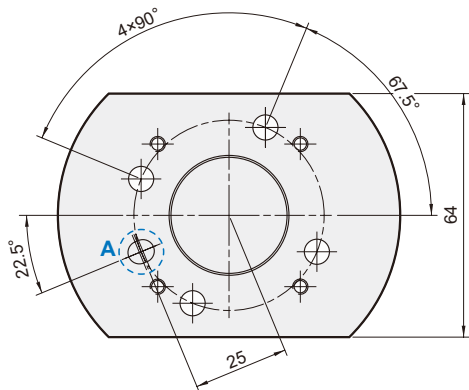
PROXIMITY
SENSOR TYPE
Blank: Standard type
SIP: Proximity sensor type

| | | | |
|---|---|---|---|
|  |  |  |  |
| ISO Adapter board | Pin (each 1) | Bolt (x4) | Bolt (x4) |

Mounting methods



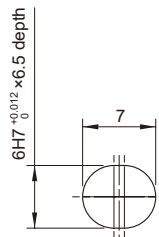
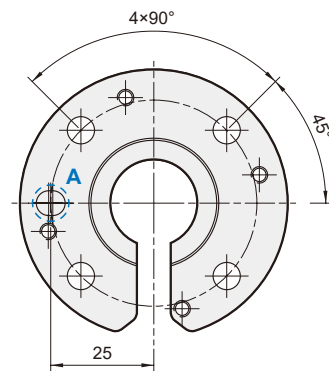
A50



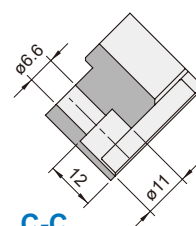
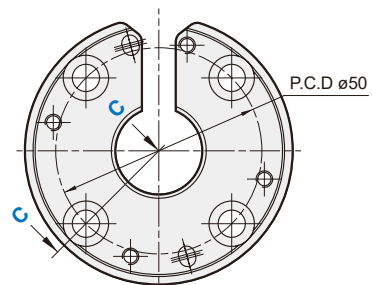
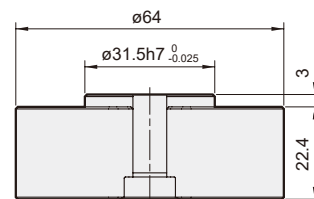
B-B

SIP-A50

Proximity sensor type



A view



C-C

AUTOMATIC TOOL CHANGER

Accessory kits of ISO adapter board

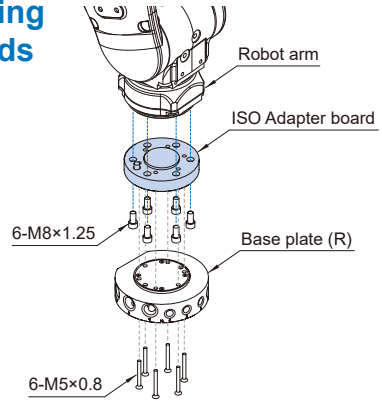
* for base plate (R)

AK – MCTC – 41R – SIP – A80

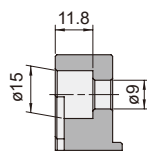
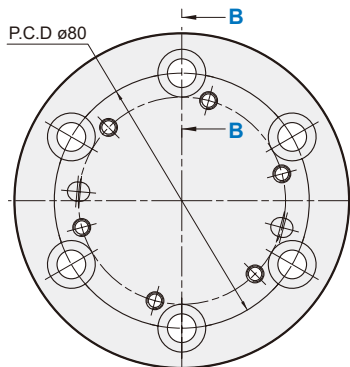
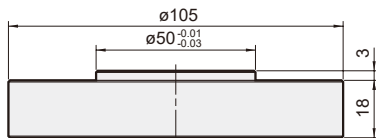
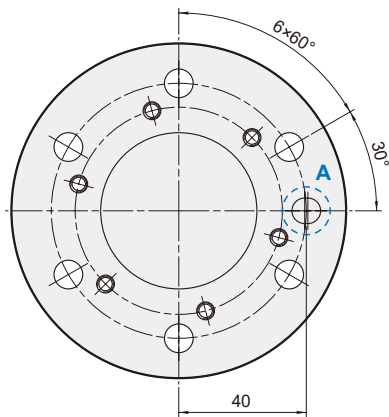
PROXIMITY
SENSOR TYPE
Blank: Standard type
SIP: Proximity sensor type

| | | | | |
|-------------------|-----|------------------|-----------|-----------|
| | SIP | | | |
| ISO Adapter board | or | Pin (ø6×2, ø8×1) | Bolt (×6) | Bolt (×6) |

Mounting methods



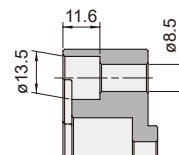
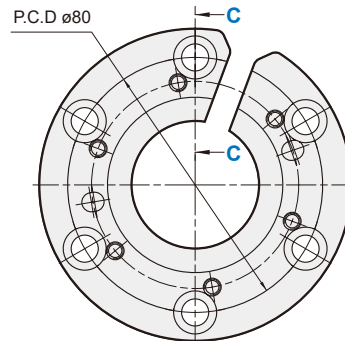
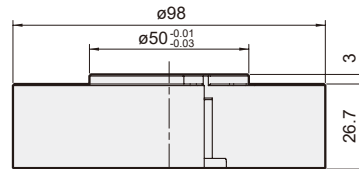
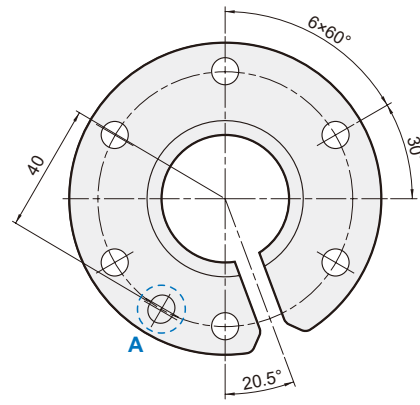
A80



B-B

SIP-A80

Proximity sensor type



C-C