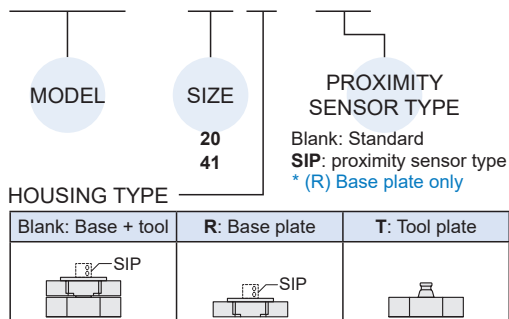




Total handing weight Size 20 : 25 kg Size 41 : 50 kg

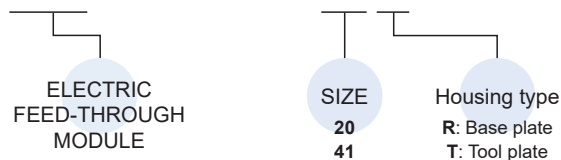
Order example of automatic tool changer

MCTC — 20 R — SIP



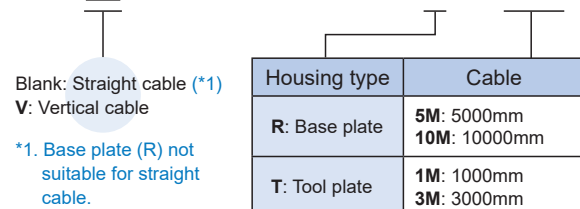
Electric feed-through module

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	(°)	± 2	
Operating pressure	(MPa)	0.45~0.7	
Ambient temperature	(°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).

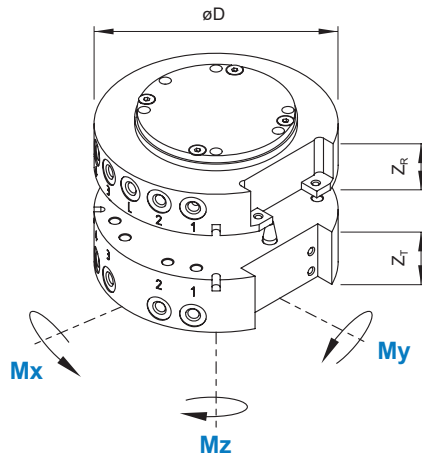
*3. Under locking condition.

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

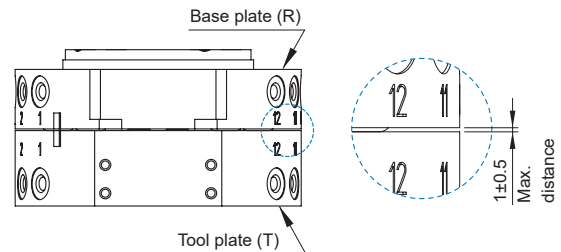
Electric feed-through module

Model	K19-MCTC-*			
Housing type	Base plate (R)		Tool plate (T)	
Size	20	41	20	41
Min. ambient temp. (°C)	5			
Max. ambient temp. (°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

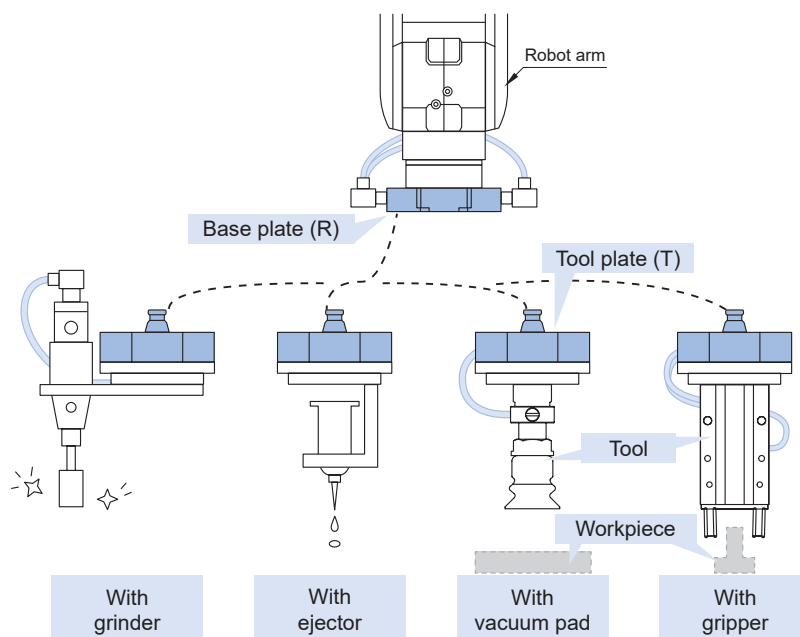


Size	ϕD	Z_R	Z_T	M_x max. (Nm)	M_y max. (Nm)	M_z max. (Nm)
20	90	18.7	23.7	161	161	209
41	130	32.3	27	447	447	616

* 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.

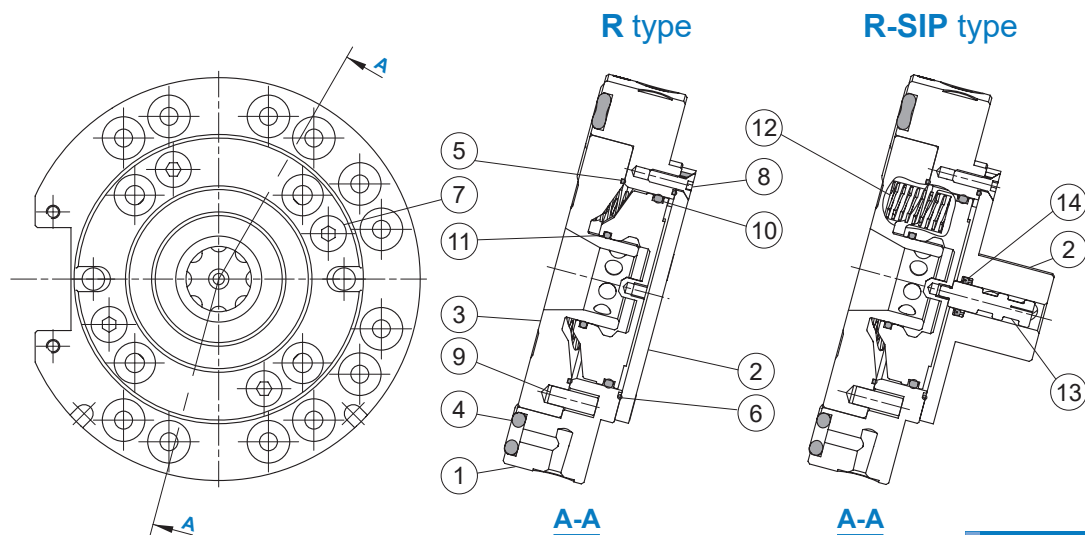


MCTC Inside structure & Parts list

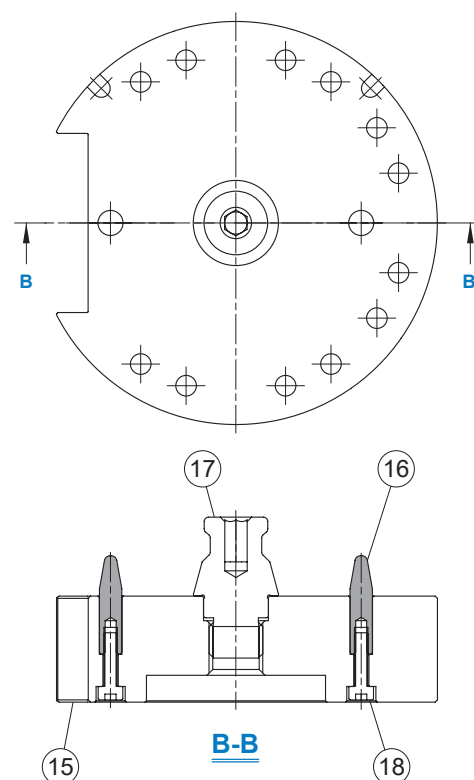
AUTOMATIC TOOL CHANGER



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.

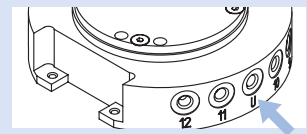
Locking mechanism

High accurate curved plate fitting for smooth combining and releasing.

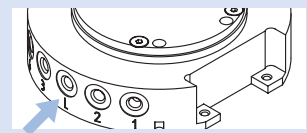
Self-locking mechanism

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

Unlock (U)



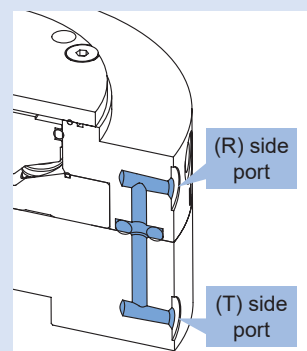
Lock (L)



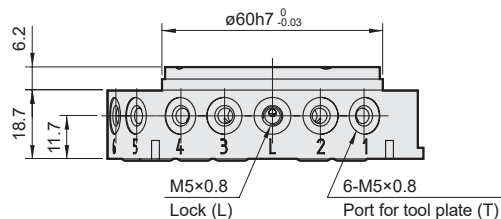
Air inlet

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

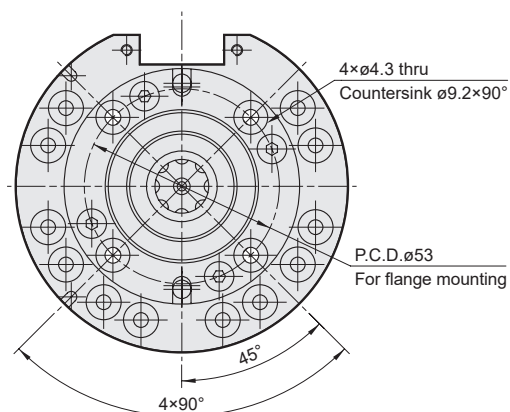
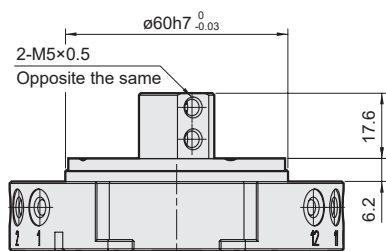
* Ports with identification number for piping.



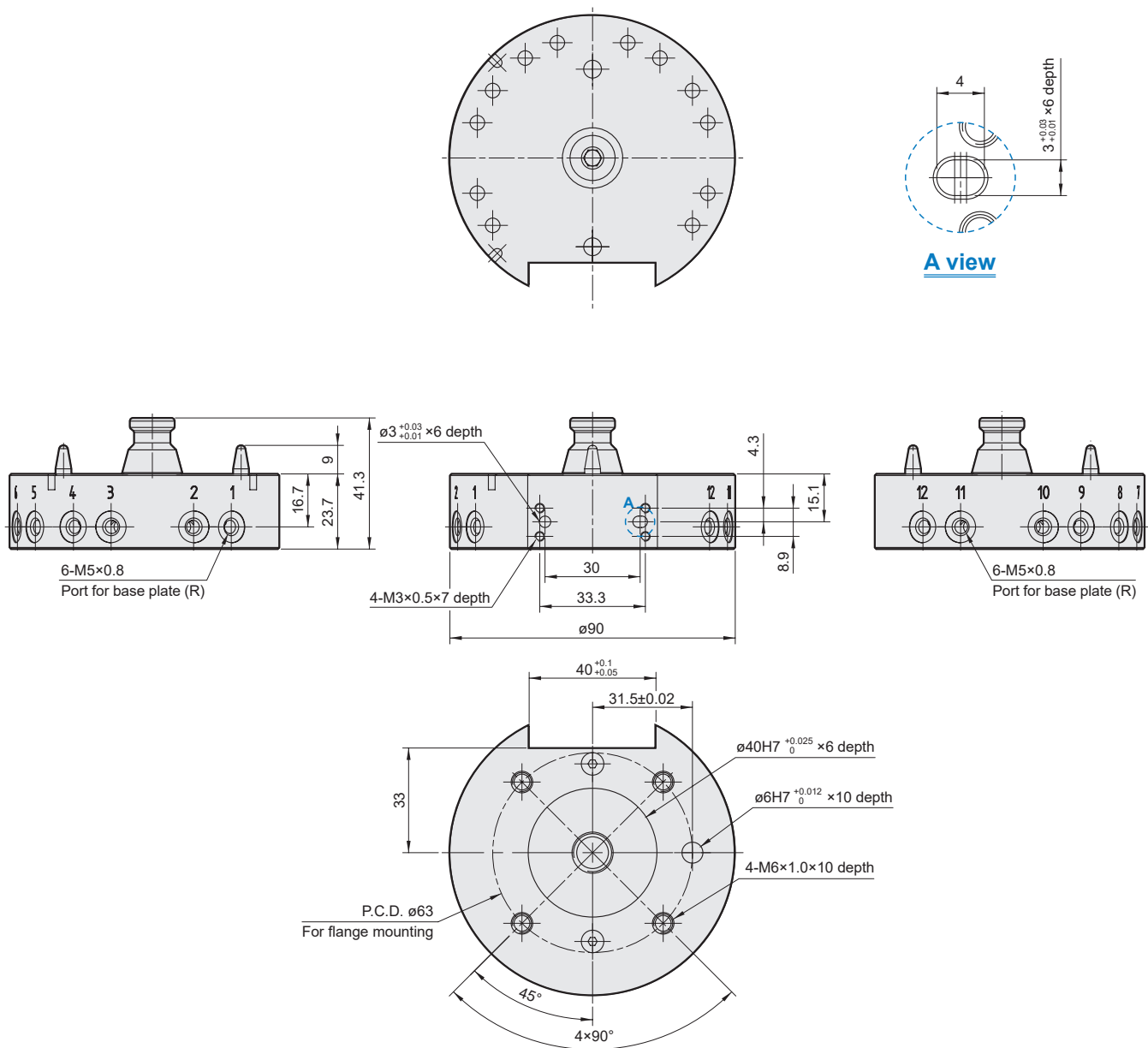
Base plate



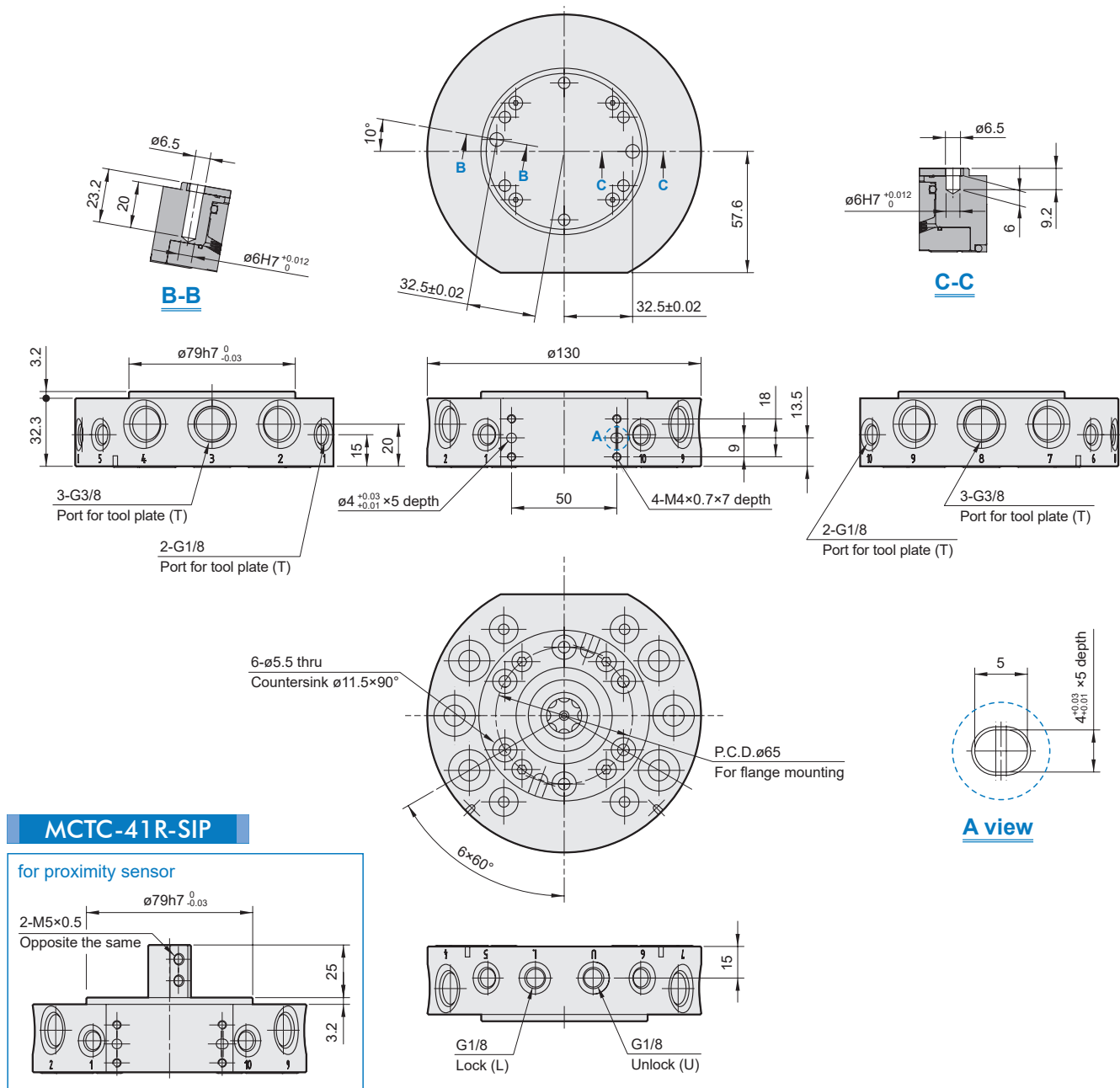
for proximity sensor



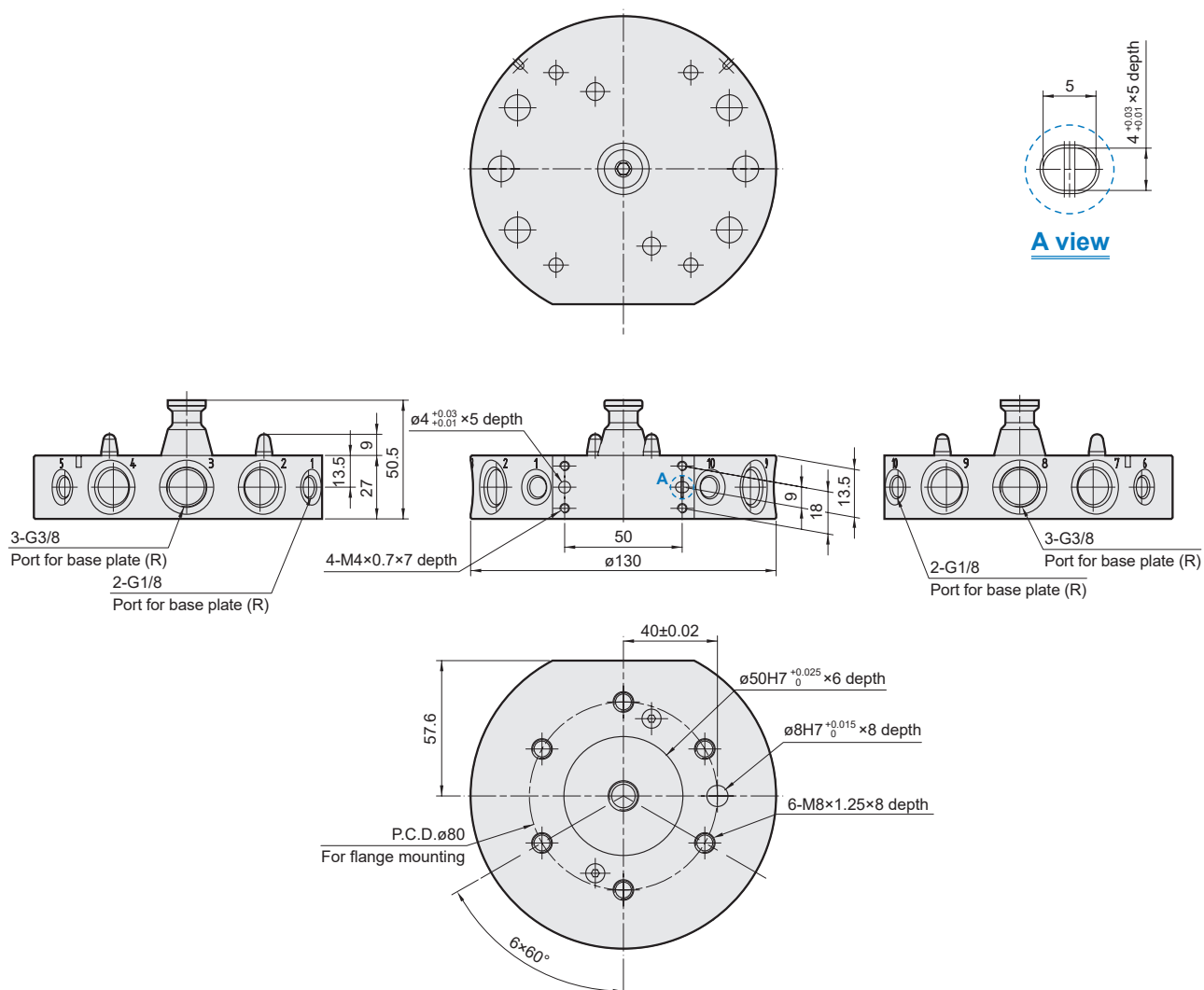
T Tool plate



R Base plate



T Tool plate

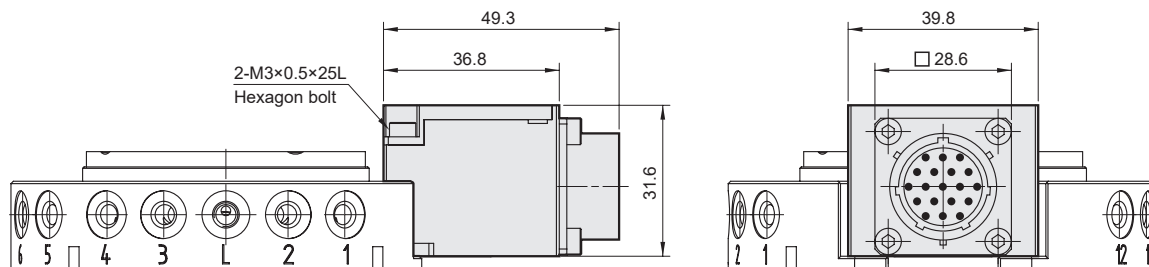


MCTC Dimensions – Electric feed - through module

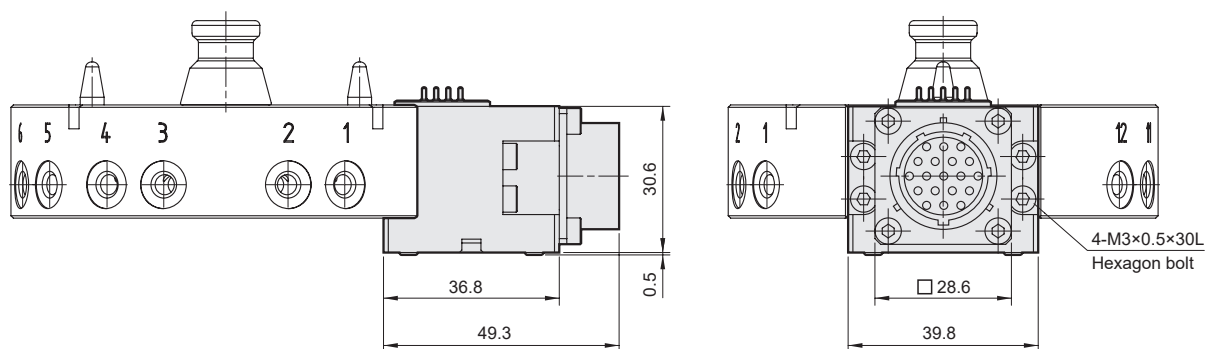
AUTOMATIC TOOL CHANGER



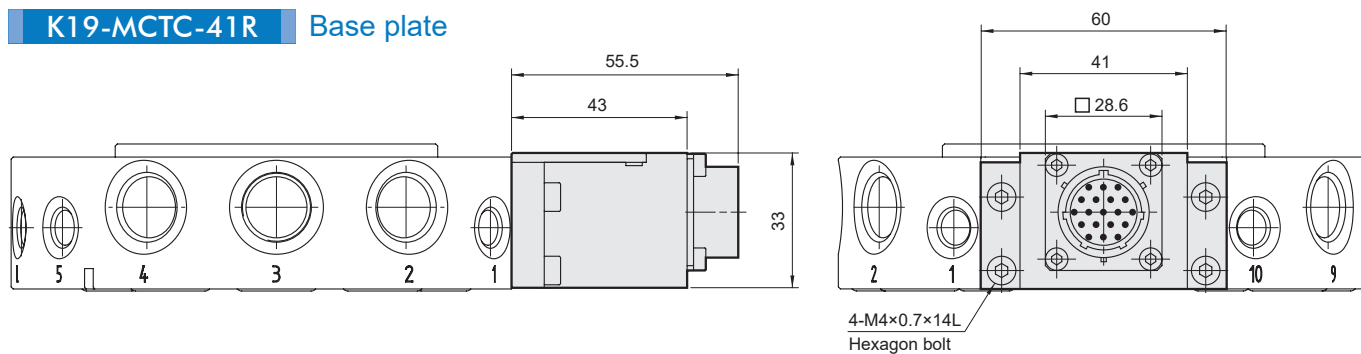
K19-MCTC-20R Base plate



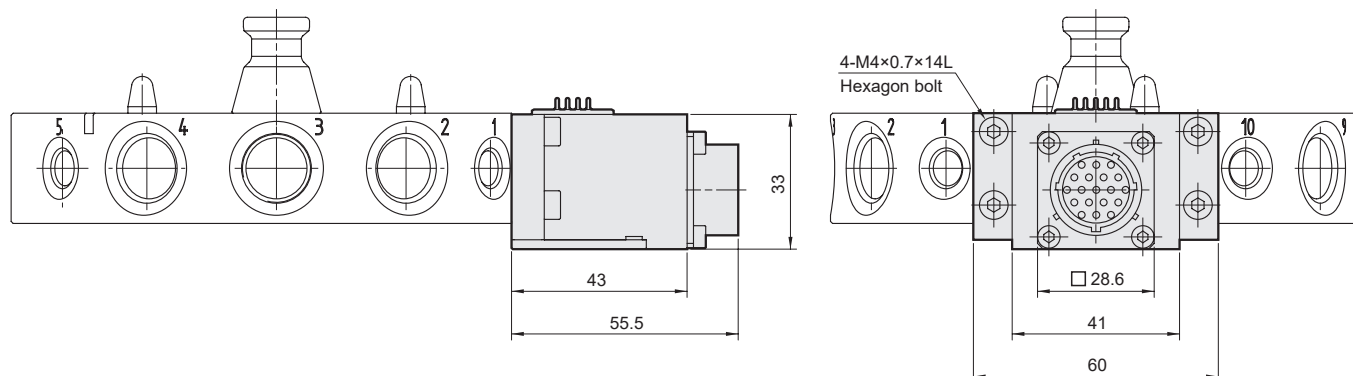
K19-MCTC-20T Tool plate



K19-MCTC-41R Base plate



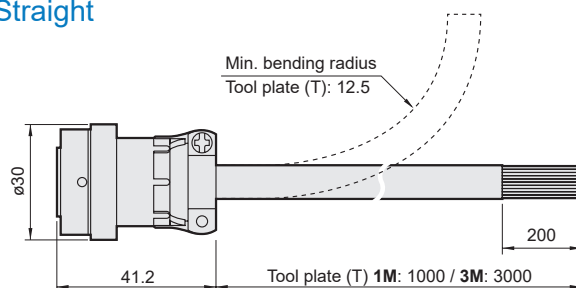
K19-MCTC-41T Tool plate



KBL-MCTC-20T

Straight

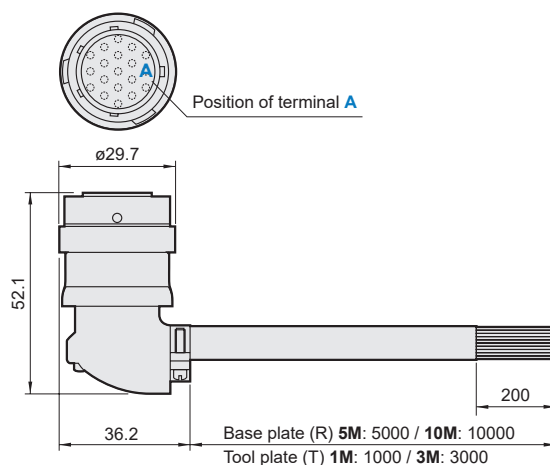
Size 20 and 41 use the same cable



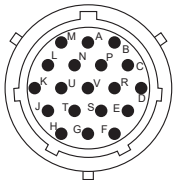
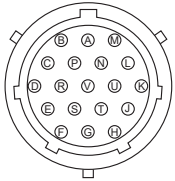
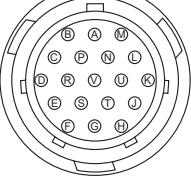
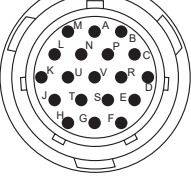
KBLV-MCTC-20R/T

Vertical

Size 20 and 41 use the same cable



19 Pin layout

Electric	Way	Color	Cable
Base plate (R) Bayonet lock connector (Male)  Tool plate (T) Bayonet lock socket (Female) 	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) 	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

Accessory kits of ISO adapter board

* for base plate (R)

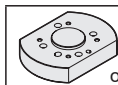
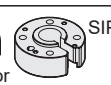
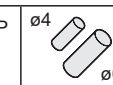
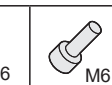
AK – MCTC – 20R – SIP – A50

PROXIMITY
SENSOR TYPE

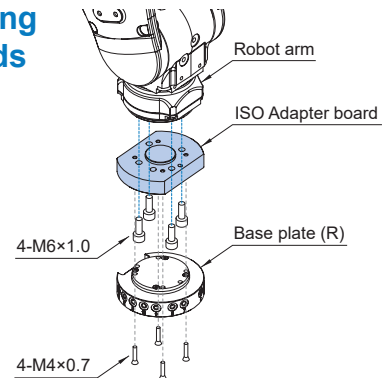
ADAPTER
BOARD P.C.D

Blank: Standard type

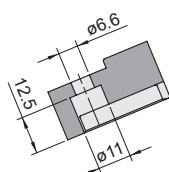
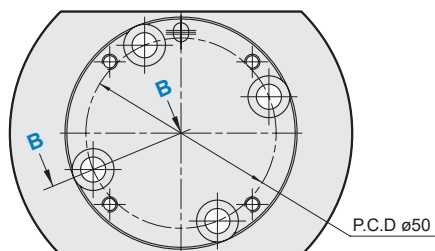
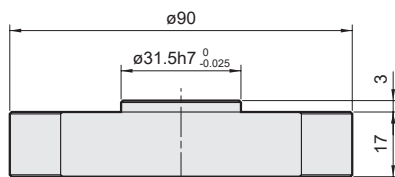
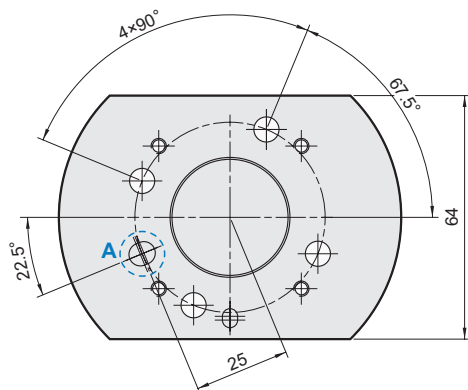
SIP: Proximity sensor type

			
ISO Adapter board	Pin (each 1)	Bolt (×4)	Bolt (×4)

Mounting methods



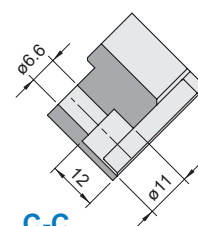
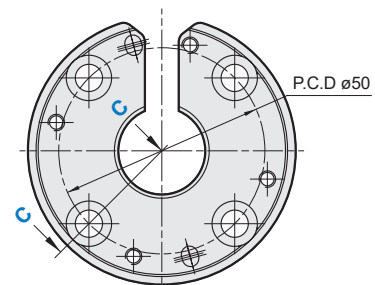
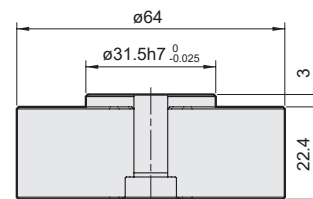
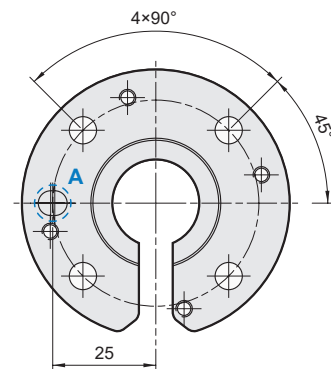
A50



B-B

SIP-A50

Proximity sensor type



C-C

Accessory kits of ISO adapter board

* for base plate (R)

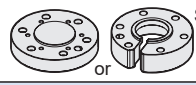
AK – MCTC – 41R – SIP – A80

PROXIMITY
SENSOR TYPE

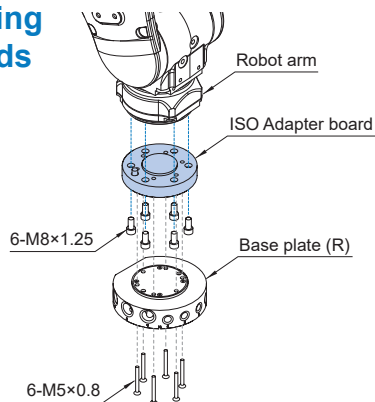
ADAPTER
BOARD P.C.D

Blank: Standard type

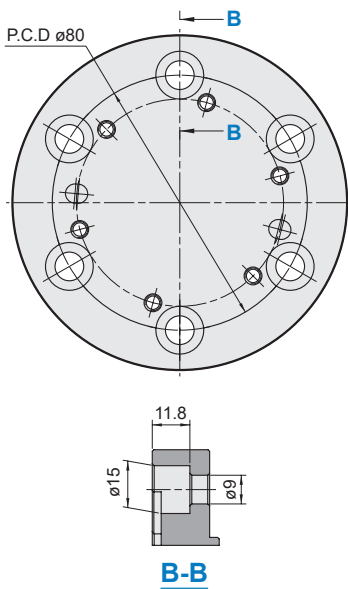
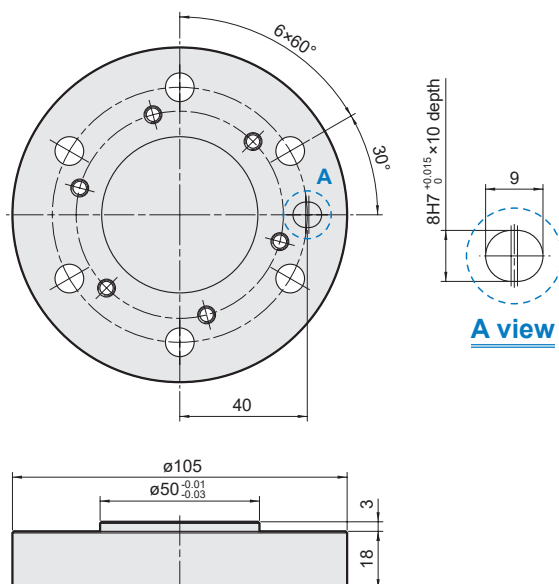
SIP: Proximity sensor type

	SIP			
ISO Adapter board		Pin (ø6x2, ø8x1)	Bolt (x6) M8	Bolt (x6) M5

Mounting methods



A80



SIP-A80

Proximity sensor type

