

New

Manual Robotic Hand Changer

Best Suitable to Collaborative Robot
Allows for Single-Setup by Hand



Model SXR

Robotic Hand Changer Series

Manual Robotic Hand Changer

Model SXR



Manual Single-Setup Possible!

Robotic Hand Changer Best Suitable to Collaborative Robot

Best Suitable to Collaborative Robot



Master Cylinder

Tool Adapter



Single-Setup by Hand

● Operation Description (Installation/Removal Method)



Push in the two pushers to install/remove a tool.



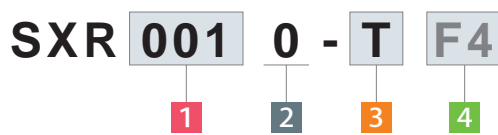
Set the tool.



Setup Completed

※ It becomes the locked state with built-in spring when releasing the pushers.

● Model No. Indication : Changer Body



1 Payload

- 001** : Payload 0.5 ~ 1 kg
- 003** : Payload 3 ~ 5 kg
- 007** : Payload 7 ~ 10 kg

2 Design No.

0 : Revision Number

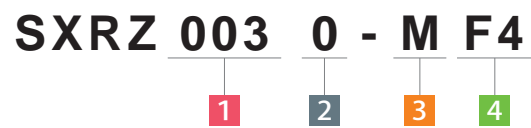
3 Category

- M** : Master Cylinder
- T** : Tool Adapter

4 Option ※ Selectable only for SXR0030-T (Tool Side)

- Blank** : Standard
- F4** : Tool Side
Applicable to Mounting Pattern 4

● Model No. Indication : Adapter Plate



1 Payload

003 : Payload 3 ~ 5 kg

2 Design No.

0 : Revision Number

3 Category

M : Adapter Plate for Master Cylinder

4 Option ※ Selectable only for SXR0030-M (Master Side)

F4 : Mounting Pattern 4 Adapter Plate

Note :

1. Installation to a robot flange: mount SXRZ0030-MF4 (Adapter Plate) before mounting SXR0030-M (Master Cylinder).

● Specifications

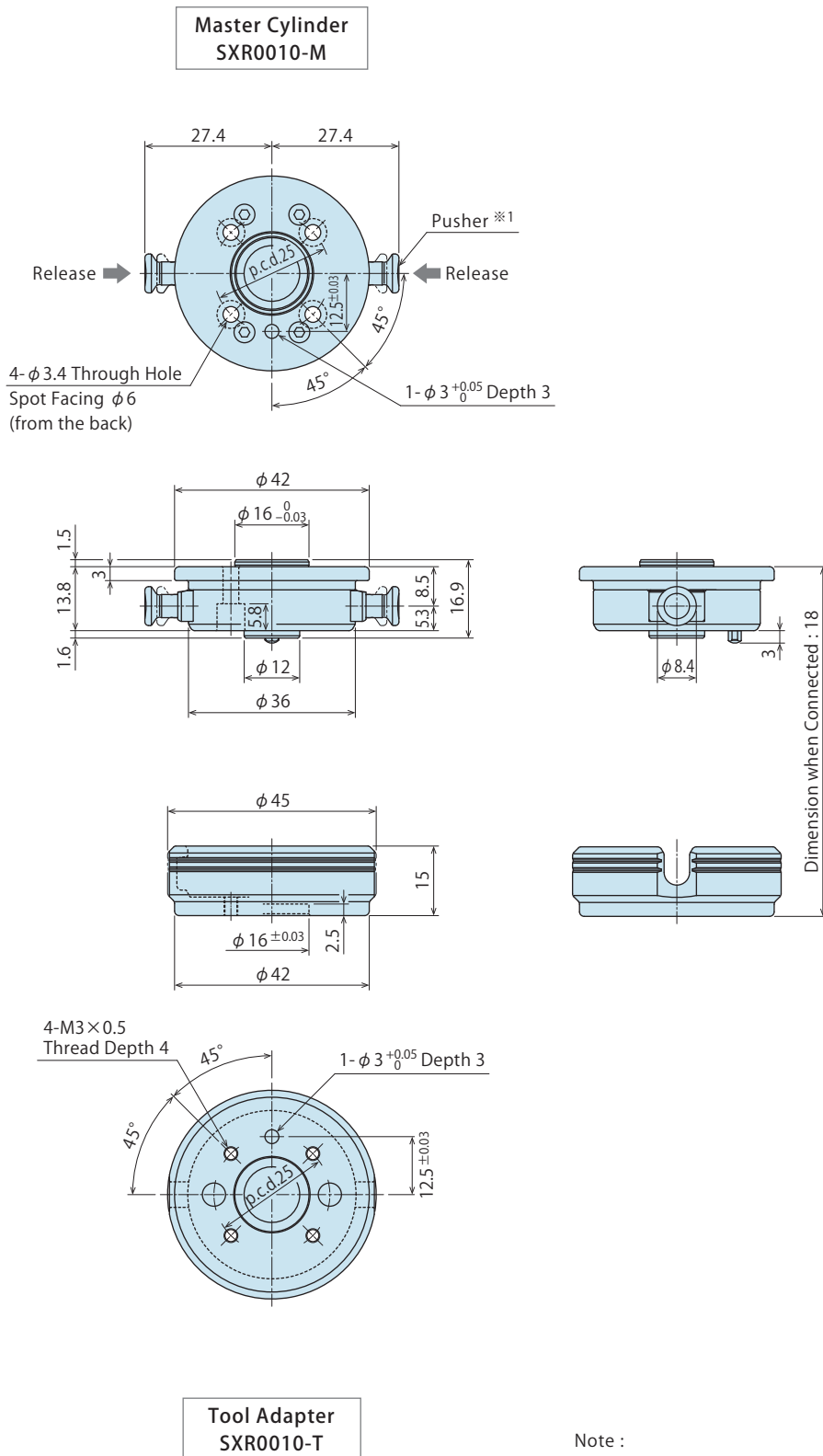
Model No.		SXR0010-□	SXR0030-□	SXR□0030-□F4	SXR0070-□
Payload	kg	0.5 ~ 1	3 ~ 5		7 ~ 10
Repeatability	mm	0.05			
Allowable	Bending	N•m	1.0	6.0	14
	Twisting	N•m	2.0	8.0	15
Product Weight (Body Part)	Master Cylinder	g	About 41	About 75	About 150
	Tool Adapter	g	About 23	About 43	About 80
	Adapter Plate ※1	g	-	-	About 58 ※1
Pusher Pressing Force (Required Releasing Force)	N	Max. 15	About 20		About 30
Operating Temperature ※2	°C	0 ~ 70			

Notes :

- ※1. It shows the weight of Adapter Plate (SXRZ0030-MF4) only.
- ※2. Touching the product under high temperature causes a burn.

External Dimensions : SXR0010

※ This drawing shows the full stroke state of SXR0010.

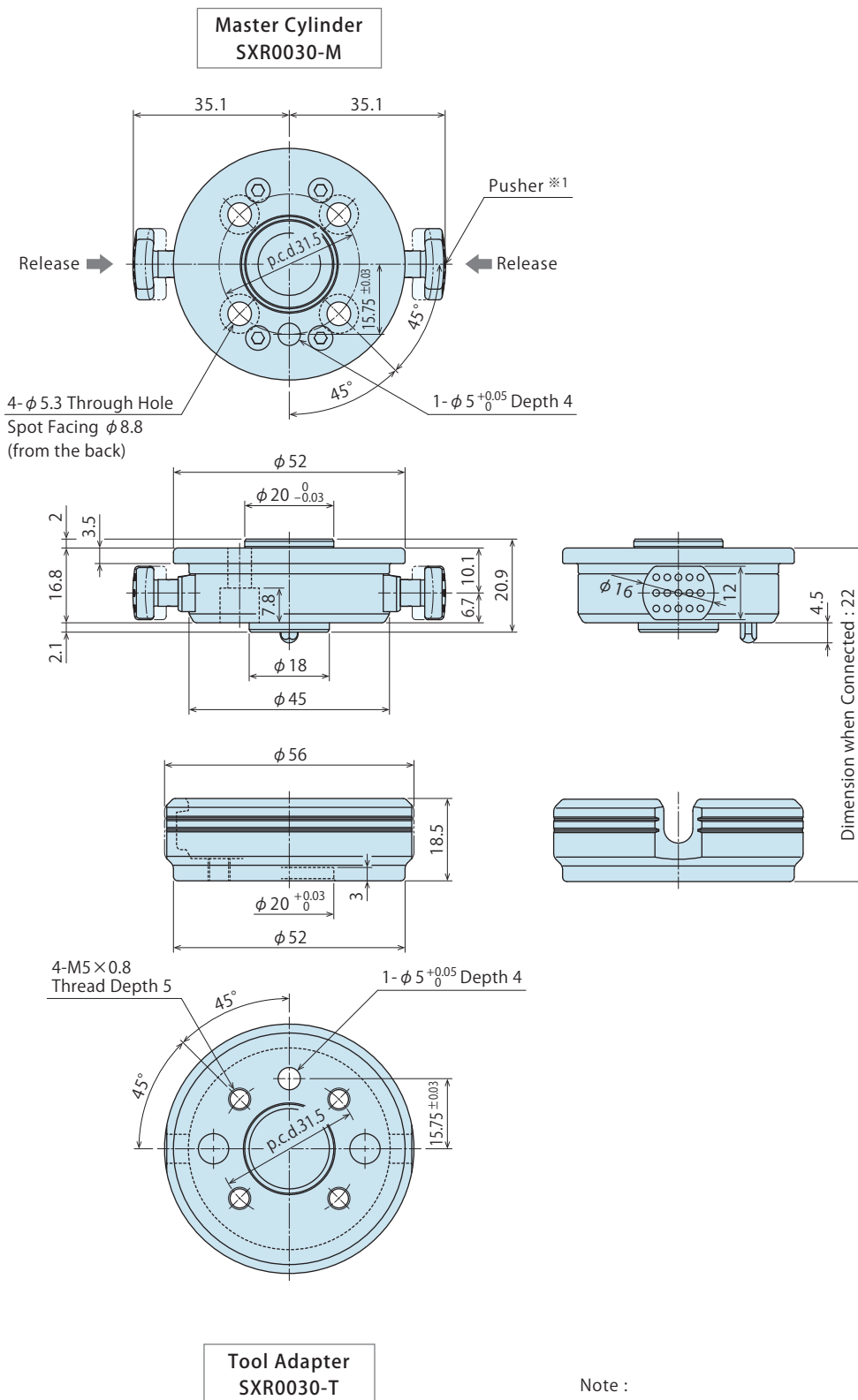


Note :

※1. It becomes the locked state with internal spring force and the released state by pushing in the two pushers.

External Dimensions : SXR0030

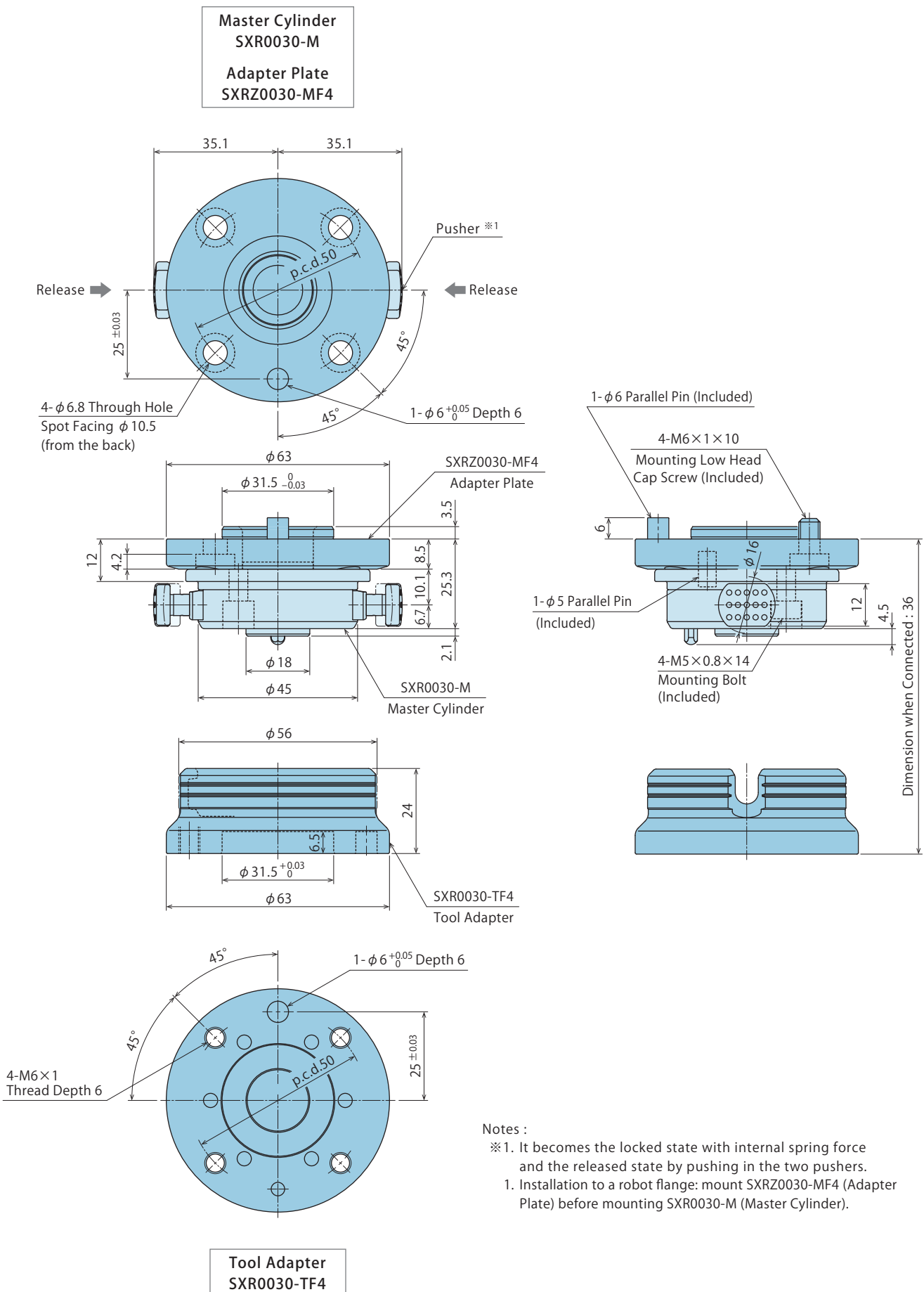
※ This drawing shows the full stroke state of SXR0030.



Note :
 ※1. It becomes the locked state with internal spring force and the released state by pushing in the two pushers.

● External Dimensions : SXR0030-M+SXRZ0030-MF4 / SXR0030-TF4 (Applicable to Mounting Pattern 4)

※ This drawing shows the full stroke state of SXR0030-M+SXRZ0030-MF4 / SXR0030-TF4.

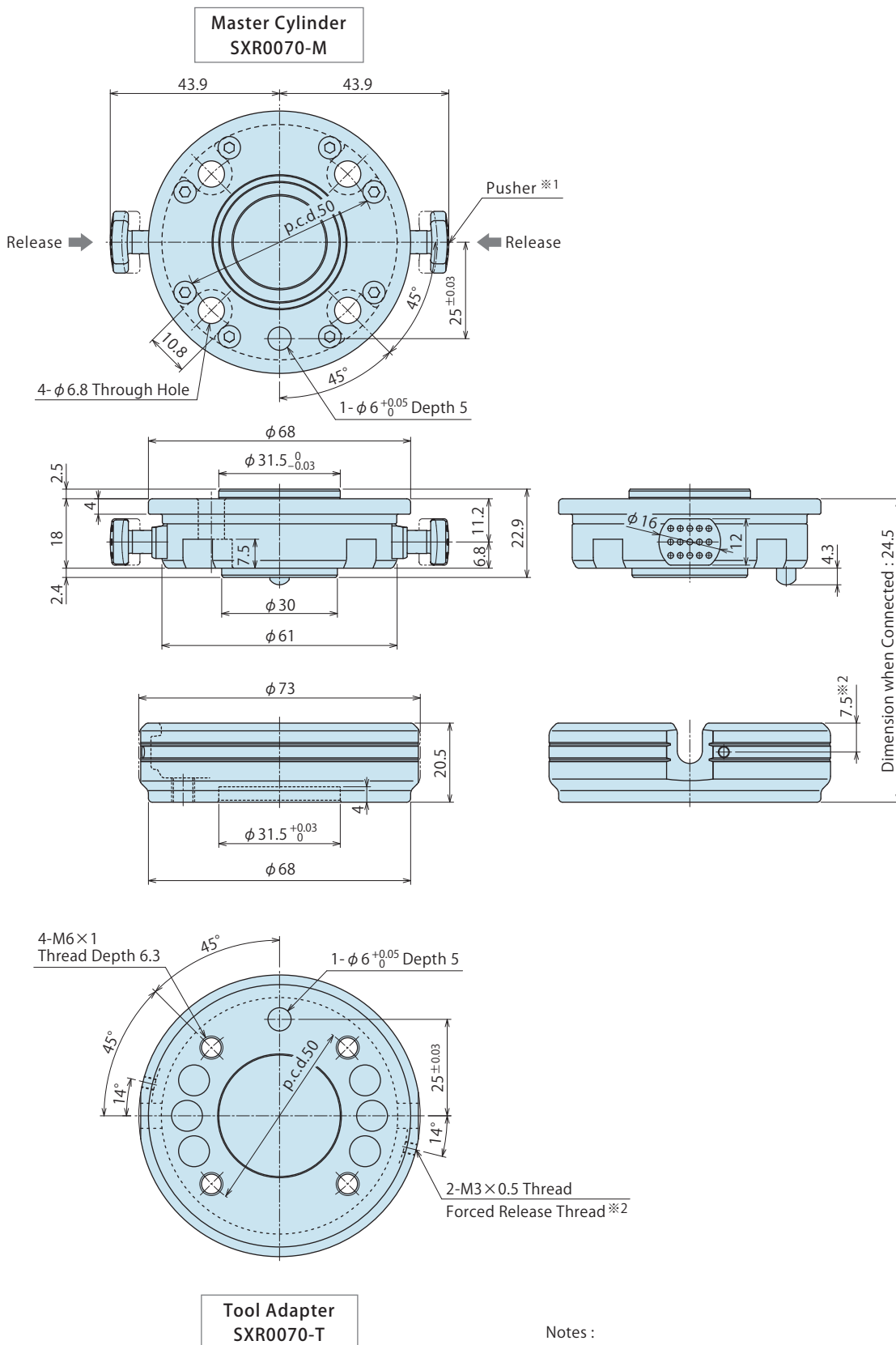


Notes :

- ※1. It becomes the locked state with internal spring force and the released state by pushing in the two pushers.
- 1. Installation to a robot flange: mount SXRZ0030-MF4 (Adapter Plate) before mounting SXR0030-M (Master Cylinder).

External Dimensions : SXR0070

※ This drawing shows the full stroke state of SXR0070.



Notes :

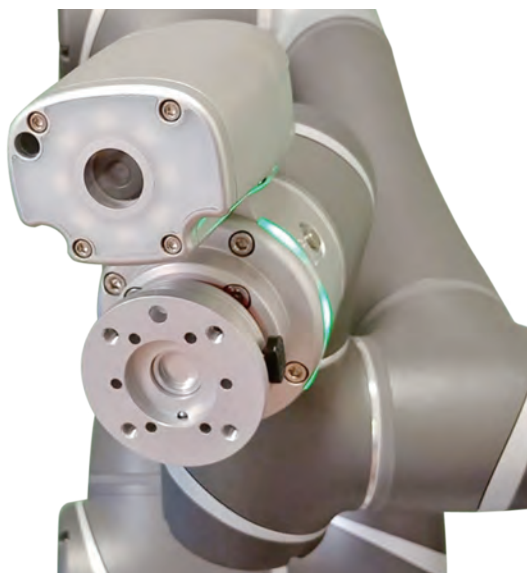
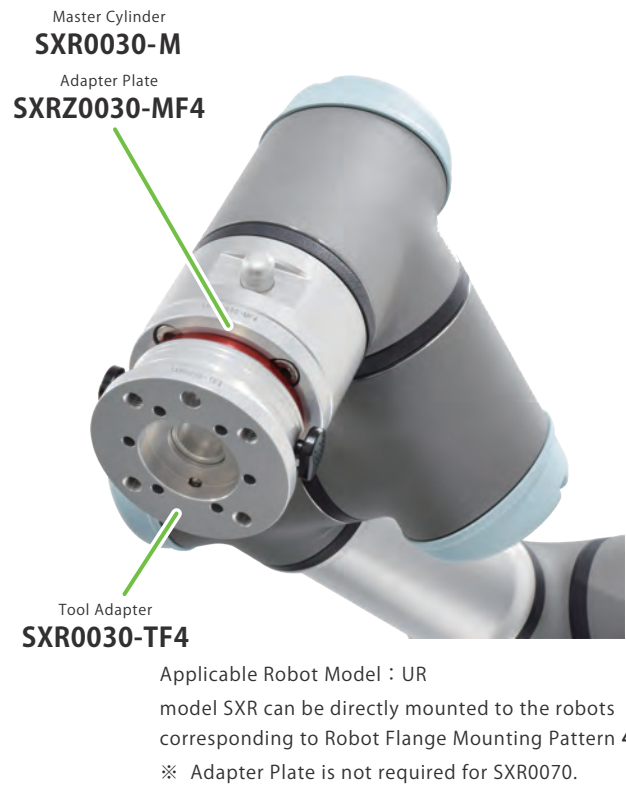
- ※1. It becomes the locked state with internal spring force and the released state by pushing in the two pushers.
- ※2. The forced release thread is used only for the time of abnormality. For further information, please refer to P.11 Notes on Design 4) Hand Change (Attaching and Detaching).

 MEMO

● Mounting Pattern (Based on ISO9409-1) and SXR Combination

		SXR Combination		
		Master Cylinder	Adapter Plate	Tool Adapter
Mounting Pattern	2	SXR0030-M	-	SXR0030-T
	4	SXR0030-M	SXRZ0030-MF4	SXR0030-TF4
	4	SXR0070-M	-	SXR0070-T
	Not Applicable	SXR0010-M	-	SXR0010-T

● Collaborative Robot Installation Examples



Applicable Robot Model : TM ROBOT



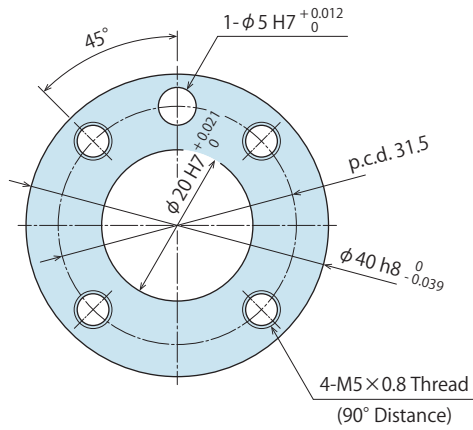
Applicable Robot Model : ASSISTA

● Standard Shape of Mounting Pattern

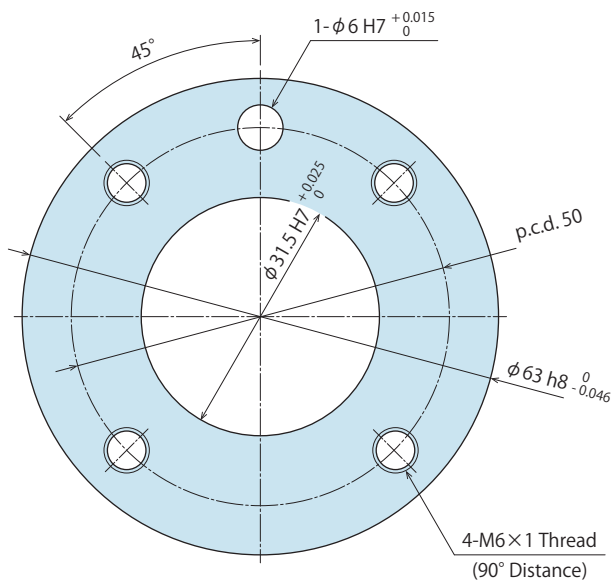
Notes :

1. Please refer to the following drawings and external dimensions of SXR when designing an adapter plate.
2. The drawings are for reference. Please design an adapter plate considering plate thickness, mounting direction, robot environment and others according to specifications and dimensions of each robot.

Mounting Pattern Number : 2



Mounting Pattern Number : 4



Cautions

Notes for Design

- Check Specifications
 - Please use each product according to the specifications.
 - This product becomes locked state with internal spring force and released state by pushing in two pushers.
(Please push in the pushers when locking from full stroke state.)
- Combination of Master Cylinder and Tool Adapter
 - The combination of master cylinder and tool adapter should be as follows.

Master Cylinder	Tool Adapter
SXR0010-M	SXR0010-T
SXR0030-M	SXR0030-T
	SXR0030-TF4
SXR0070-M	SXR0070-T

- Allowable Static Moment
 - The allowable static moment should be within the range of the bending moment and the twisting moment.

Model No.	Bending Moment	Twisting Moment
SXR0010	1 N·m	2 N·m
SXR0030	6 N·m	8 N·m
SXR0070	14 N·m	15 N·m

In case both the bending moment and the twisting moment are applied to the product, please calculate the combined moment with the following calculation formula.

Also, please select the size sufficient for the moment.

$$\sqrt{\text{Combined Moment} = (\text{Bending Moment}^2 + \text{Twisting Moment}^2)}$$

- Hand Change (Attaching and Detaching)
 - Connect the master cylinder and the tool adaptor horizontally. Connecting with a tilt may cause a twist or a bite of the device. Clamping with a bite will increase the pusher pressing force required for releasing.
In case of SXR0070, it may sometimes be difficult to release manually. The tool adapter has the forced release thread. Mount a bolt and press the pusher to release SXR forcibly.
- Hand Change (Attaching and Detaching) in a Horizontal Direction
 - In case of attaching/detaching the manual robotic hand changer horizontally, make sure not to apply excessive moment. Please select the size sufficient for the payload.

Installation Notes

- Installation/Removal of Master Cylinder/Tool Adapter
 - Tighten the mounting bolt with the following torque.
When mounting, use the locating pins and tighten them with bolts evenly not to incline the master cylinder and tool adapter. Moment characteristic will not be guaranteed without locating pins.

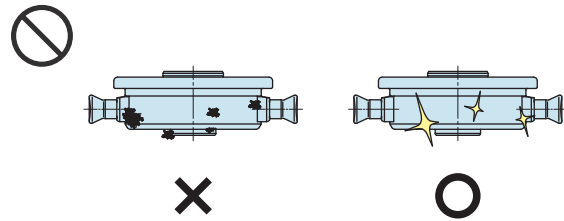
	Model No.	Bolt Size	Bolt Qty.	Tightening Torque
Master Cylinder	SXR0010-M	M3×0.5	4	1.3 N·m
	SXR0030-M	M5×0.8	4	6.3 N·m
	SXR0070-M	M6×1	4	10 N·m
Tool Adapter	SXR0010-T	M3×0.5	4	1.3 N·m
	SXR0030-T	M5×0.8	4	6.3 N·m
	SXR0030-TF4	M6×1	4	10 N·m
	SXR0070-T	M6×1	4	10 N·m
Adapter Plate	SXRZ0030-MF4	M6×1	4	5.3 N·m

● Notes on Handling

- 1) Be careful not to drop a tool when changing (attaching and detaching) the hand.
 - Ensure that a fall prevention measure of a tool is in place before releasing the manual robotic hand changer. Otherwise it may cause damage to the tool or an accident.
- 2) It should be operated by qualified personnel.
 - The product and devices should be operated and maintained by qualified personnel.
- 3) Do not operate or remove the product unless the safety protocols are ensured.
 - ① The machine and equipment can only be inspected or prepared when it is confirmed that the preventive devices are in place.
 - ② Before the product is removed, make sure that the above-mentioned safety devices are in place.
 - ③ After stopping the product, do not remove until the temperature drops.
 - ④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.
- 4) Do not disassemble or modify.
 - If the product is taken apart or modified, the warranty will be voided even within the warranty period.

● Maintenance • Inspection

- 1) Removal of the Product and Shut-off of Pressure Source
 - Before removing the product, make sure that safety devices and preventive devices are in place.
Make sure there is no abnormality in the bolts and other respective parts before restarting.
- 2) Cleaning of Master Cylinder and Tool Adapter
 - Use of the master cylinder/tool adapter when they are contaminated with dirt or viscous substances will cause locating accuracy failure and malfunction.



- 3) Regularly tighten mounting bolts to ensure proper use.
- 4) Make sure there is smooth action without an irregular noise.
 - Especially when it is restarted after left unused for a long period, make sure it can be operated properly.
- 5) The product should be stored in the cool and dark place without direct sunshine or moisture.
- 6) Please contact us for overhaul and repair.

● Warranty

- 1) Warranty Period
 - The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.
- 2) Warranty Scope
 - If the product is damaged or malfunctioned during the warranty period due to a faulty design, materials or workmanship, we will replace or repair the defective part at our expense.
Defects or failures caused by the following are not covered.
 - ① If the stipulated maintenance and inspection are not carried out.
 - ② If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
 - ③ If it is used or handled in inappropriate way by the operator.
(Including damage caused by the misconduct of the third party.)
 - ④ If the defect is caused by reasons other than our responsibility.
 - ⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
 - ⑥ Other caused by natural disasters or calamities not attributable to our company.
 - ⑦ Parts or replacement expenses due to parts consumption and deterioration.
(Such as rubber, plastic, seal material and some electric components.)

Damages excluding from direct result of a product defect shall be excluded from the warranty.

● MEMO

 **MEMO**

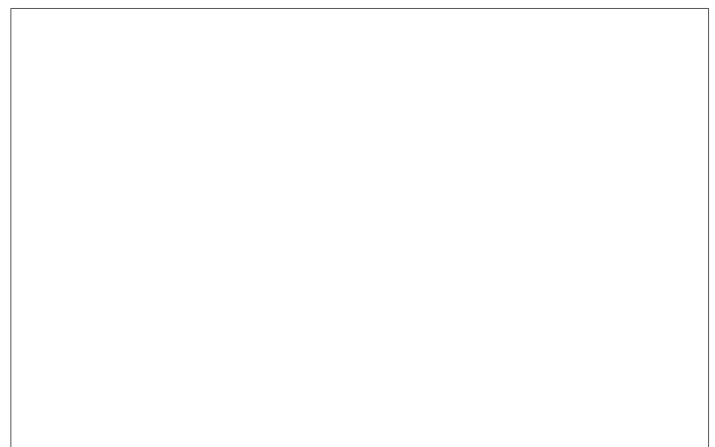


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- For Further Information on Unlisted Specifications and Sizes, Please call us.
- Specifications in this Leaflet are Subject to Change without Notice.

