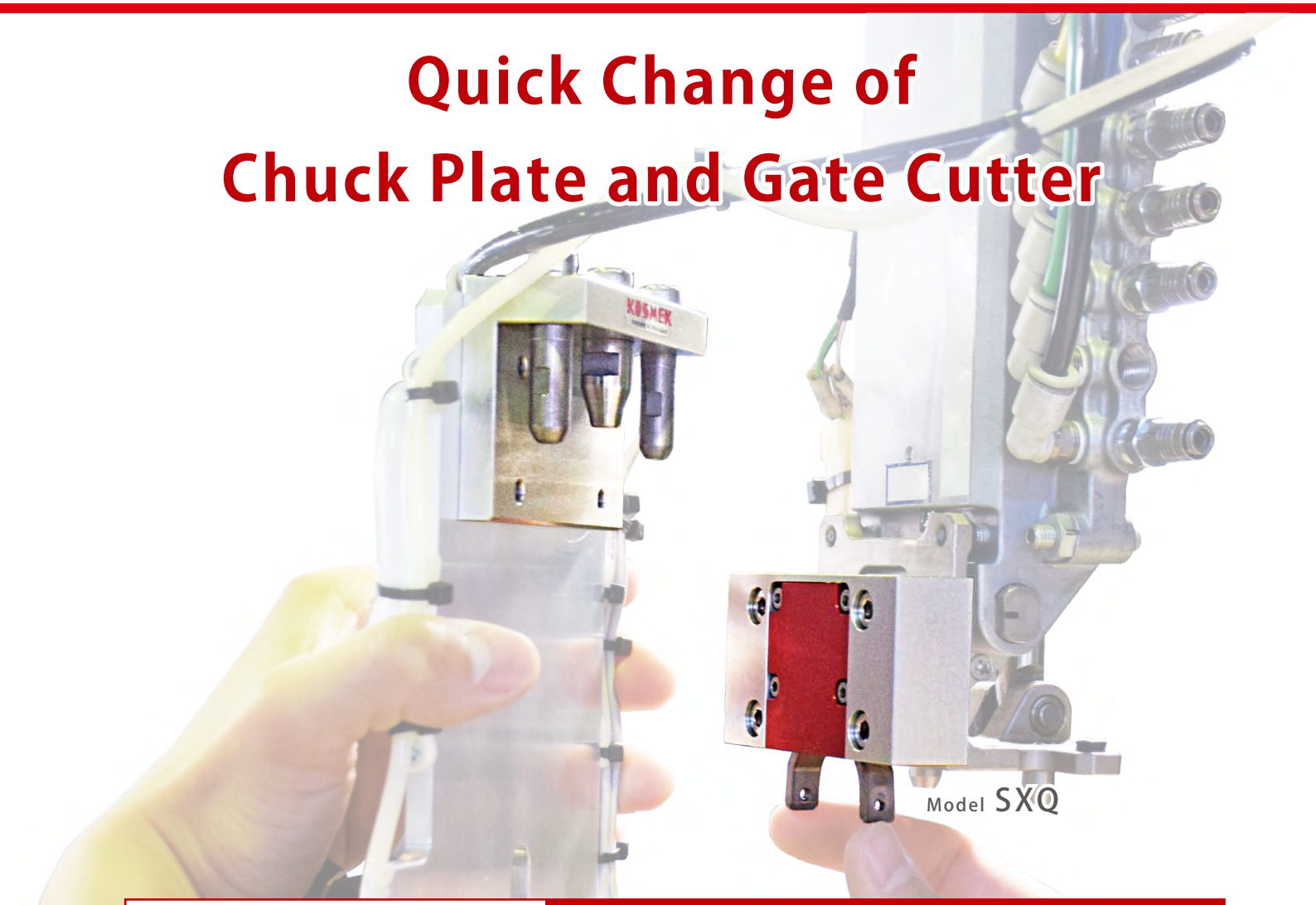
QMCS
QUICK MOLD CHANGE SYSTEMS

New

For Injection Molding Picker Robot

Quick Chuck Changer

Quick Change of Chuck Plate and Gate Cutter



Model SXQ

Tool Adapter

Master Cylinder

Model SXQ0150

New Payload 15 kg !

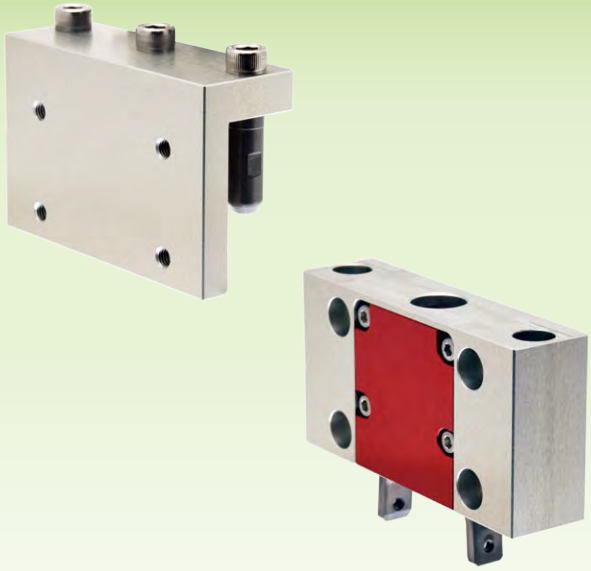
Additional Line-up !

KOSMEK
Harmony in Innovation

Quick Chuck Changer

Quick Chuck Changer

Model SXQ



Simple and Quick Change of Chuck Plate to Reduce Setup Time

Introducing Quick Chuck Changer Specially Designed for Picker Robot

PAT.P.

Application Examples

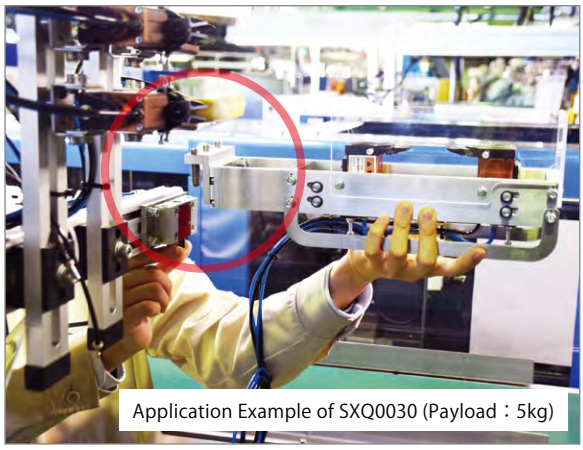
Changing Chuck Plate

Application Example of SXQ0030 (Payload：5kg)

Application Example of SXQ0030 (Payload：5kg)

Application Example of SXQ0150 (Payload：15kg)

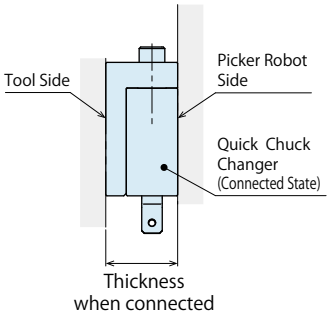
Changing Gate Cutter



Application Example of SXQ0030 (Payload：5kg)

Line-up

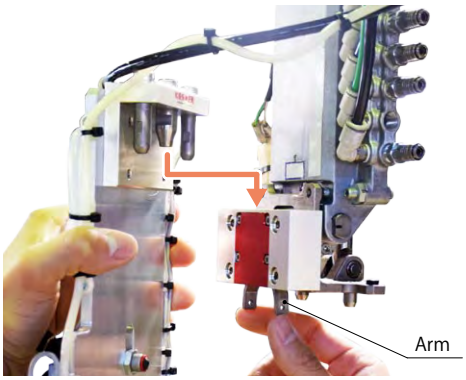
Available with Payload：5kg and 15kg!



Model No.	SXQ0030 Tool Adapter / Master Cylinder	SXQ0150 Tool Adapter / Master Cylinder
Payload	~ 5 kg	~ 15 kg
Product Weight (Connected State)	350 g	500 g
Thickness when connected	28 mm	30 mm
Disconnection Method	Without unlock holding function	With unlock holding function
Connection Method	Able to connect by pushing the tool adapter into the master cylinder.	
Picker Robot Mounting Dimensions	Common ※1 You can select the mounting dimensions of picker robot manufactured either by STAR SEIKI CO., LTD. or Yushin Company.※2	

※1. However, it is not possible to connect different types of a master cylinder and a tool adapter.
※2. For other picker robots, please design and mount an adapter plate between a picker robot and a changer.

Features



Push in the chuck plate to the end of the picker robot.

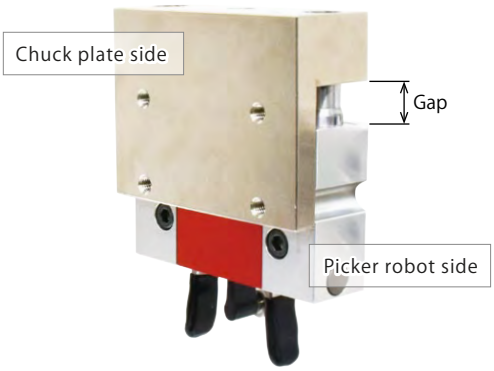
※ No need to pinch the arms when connecting. It can be connected even when holding the chuck plate with both hands.

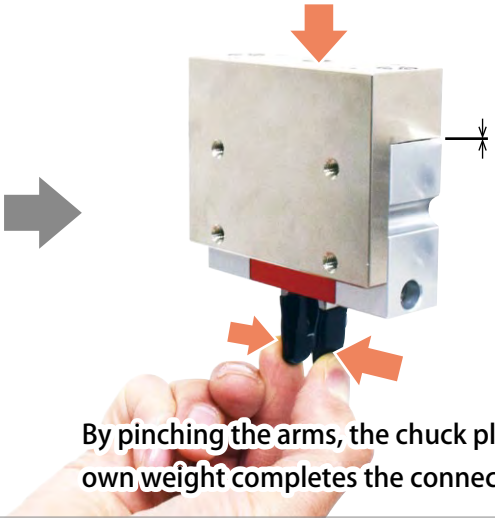
Connection is completed without any tools.

No tools required, reducing setup time. It eliminates the need to pick up or search for tools.

※ Common for SXQ0030 and SXQ0150.

OR





Put the chuck plate on the end of the picker robot.

By pinching the arms, the chuck plate's own weight completes the connection.

※ Common for SXQ0030 and SXQ0150.

Features

with Locating Function

Repeatability 0.05mm ※1

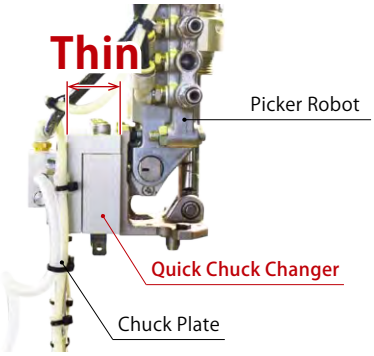
※1. Repeatability：0.1mm
for SXQ0150 (Payload：15kg)

- Adjusting the mounting position of the end of arm tooling is not required.
- No need to teach the picker robot again.

Drastically reduce setup time!

Direct mounting is possible for some picker robots.

Adapter plate is not required, so the thickness of changer part can be minimized.

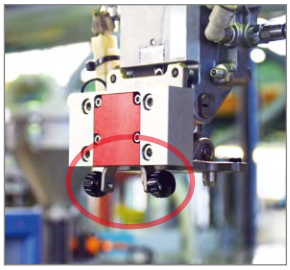


● Features：SXQ0030 (Payload：5kg)

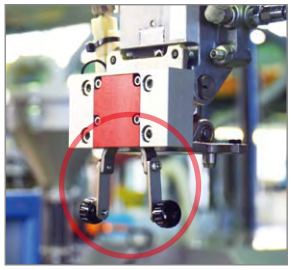
Releasing arms can be customized for more flexible use.※2

In case it is hard to reach releasing arms due to the shape of a chuck plate, they can be customized by mounting attachments to extra tapped holes for more flexible use.
(Attachments should be mounted by customer.)

※2. Available only for SXQ0030 (Payload：5kg) .



Ex. 1) Making arms thicker so that it is easier to push.

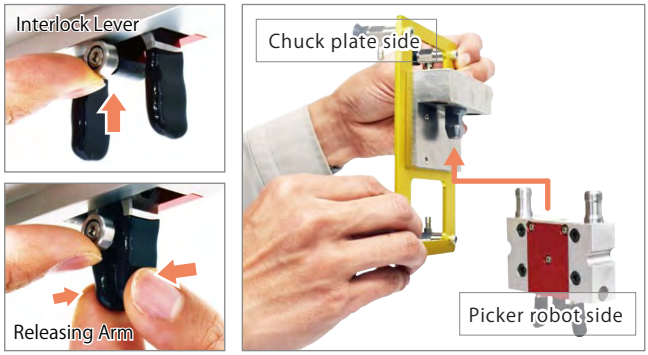


Ex. 2) Making arms longer so that it is easier to reach.

● Features：SXQ0150 (Payload：15kg)

The chuck plate can be removed with both hands for safety.※3

The interlock lever allows the changer to remain unlocked, making it possible to safely remove even large and heavy chuck plates by holding the chuck plate with both hands.



With lifting the interlock lever, pinch the releasing arms to keep the changer unlocked.

Coated arms for easy gripping※3

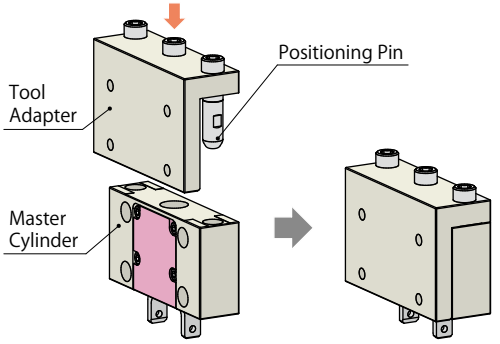
Coating on unique arm shape based on ergonomics.
Easier to grip and less slippery.

※3. Available only for SXQ0150 (Payload：15kg).

Coating on arms

Action Description：SXQ0030 (Payload：5kg)

Connecting Procedure



① Push in the tool adapter along the positioning pin.

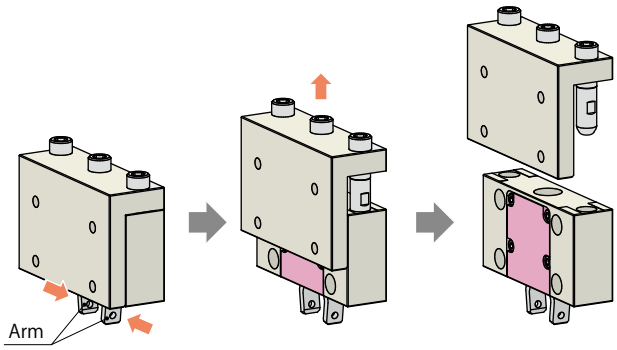
② Connection is completed.

OR

①´-1 Pinch the arms after setting the tool adapter on the master cylinder.

①´-2 Release the arms after confirming that the tool adapter and the master cylinder are connected.

Disconnecting Procedure



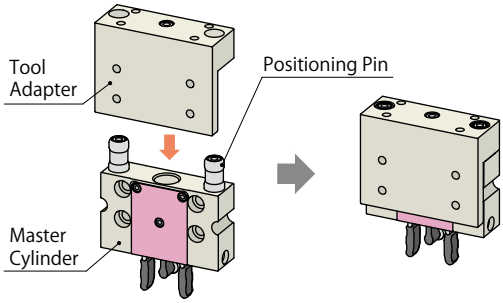
① Pinch the arms with your fingers.

② Pull out the tool adapter with pinching the arms.

③ Disconnection is completed.

Action Description：SXQ0150 (Payload：15kg)

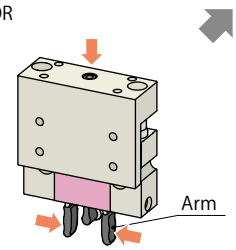
Connecting Procedure



① Push in the tool adapter along the positioning pin.

② Connection is completed.

OR

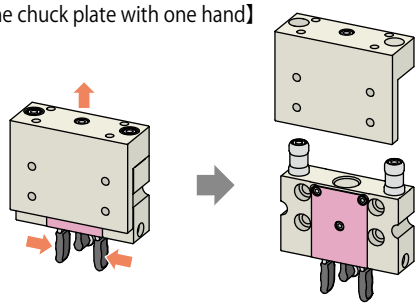


①´-1 Pinch the arms after setting the tool adapter on the master cylinder.

①´-2 Release the arms after confirming that the tool adapter and the master cylinder are connected.

Disconnecting Procedure

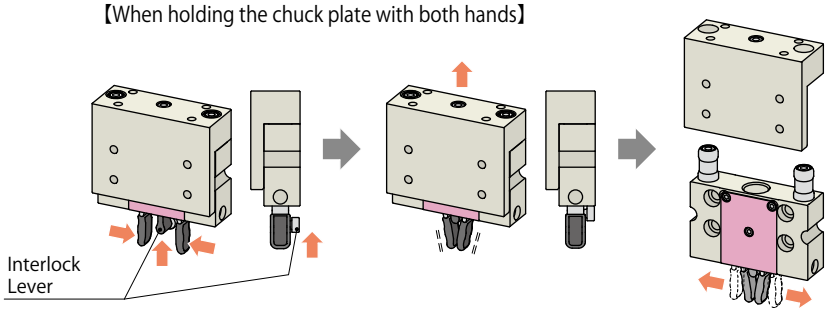
【When holding the chuck plate with one hand】



① Pull out the tool adapter with pinching the arms.

② Disconnection is completed.

【When holding the chuck plate with both hands】



① Pinch the arms with your fingers with lifting the interlock lever.

② Pull out the tool adapter after confirming that the arms are held closed.

③ Disconnection is completed. (The arms open when the tool adapter is pulled out.)

Notes：

1. Use the interlock lever only when the chuck plate is too heavy to disconnect with one hand.
   Also, once the arms are held closed, make sure to disconnect it by pulling out the tool adapter.
   This product is not locked when its arms are closed. If using it whithout locking, the connection between the tool adapter and the master cylinder may be released by the operation of the picker robot, which is extremely dangerous.

Model No. Indication

Master Cylinder

Tool Adapter

SXQ 003 0 - M Y

1 2 3 4

SXQ 003 0 - T Y

1 2 3 4

1 Payload

003 : ～ 5 kg
015 : ～15 kg

2 Design No.

0 : Revision Number

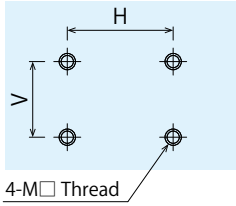
3 Category

M : Master Cylinder
T : Tool Adapter

4 Applicable Picker Robot

S : Picker Robot manufactured by STAR SEIKI CO., LTD.
(Mounting Dimension: H 50mm × V 20mm, M6×1 Thread)

Y : Picker Robot manufactured by Yushin Company
(Mounting Dimension: H 50mm × V 27mm, M5×0.8 Thread)



Note :
※1. For other picker robots, please design and mount an adapter plate between a picker robot and a changer. Use the accessory or design an adapter plate according to the design dimensions.

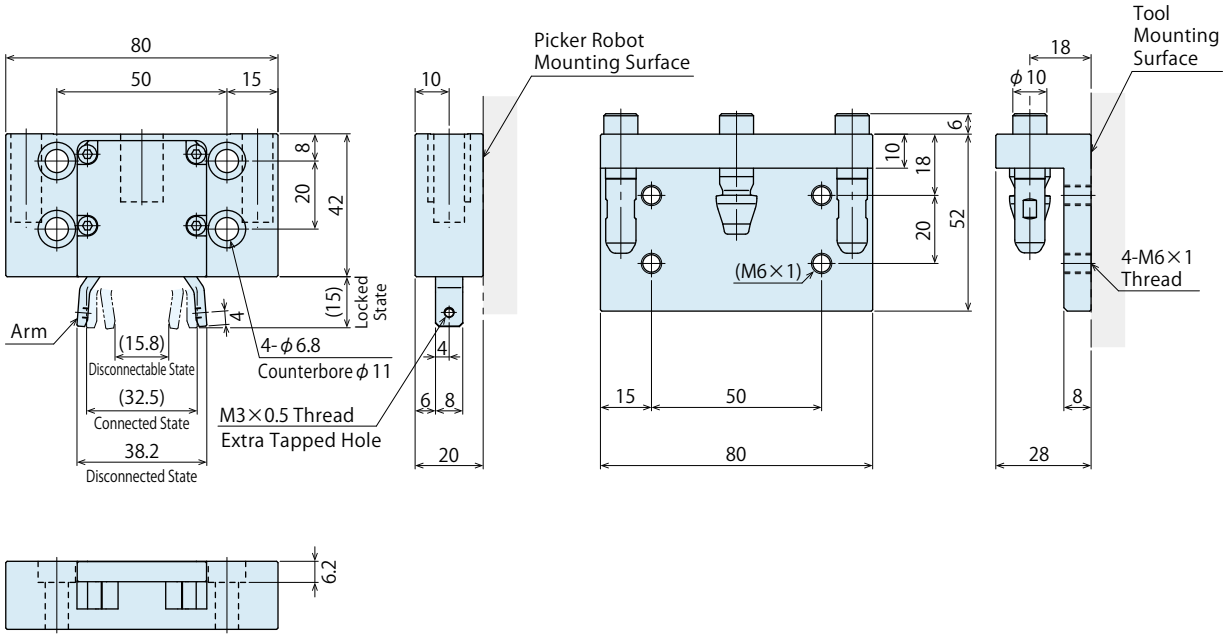
Specifications

Model No.			SXQ0030	SXQ0150
Payload		kg	～5	～15
Repeatability		mm	0.05	0.1
Allowable Static Moment	Bending	N･m	4	12
	Twisting	N･m	10	32
Product Weight	Master Side	g	170	280
	Tool Side	g	180	220
Lock Releasing Force (Arm Part)		N	About 20	About 20
Operating Temperature		℃	0～70	

External Dimensions : SXQ0030 (Payload : 5kg)

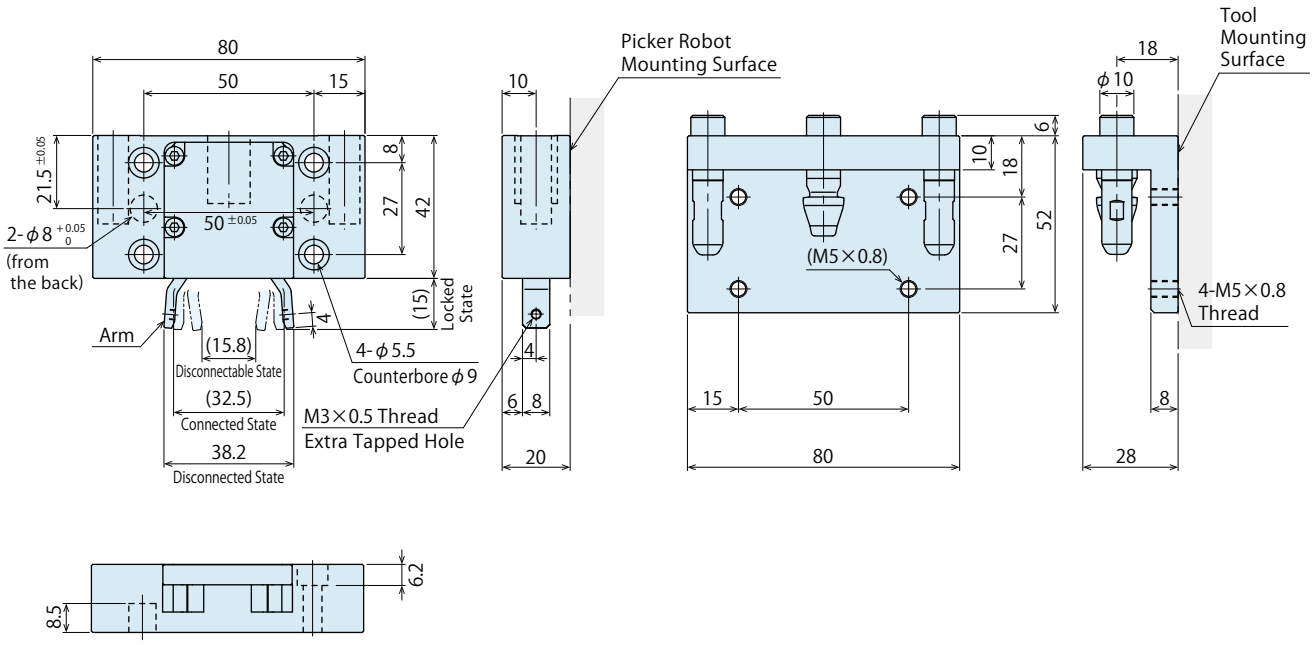
Master Cylinder
Model No. : **SXQ0030-MS**

Tool Adapter
Model No. : **SXQ0030-TS**



Master Cylinder
Model No. : **SXQ0030-MY**

Tool Adapter
Model No. : **SXQ0030-TY**



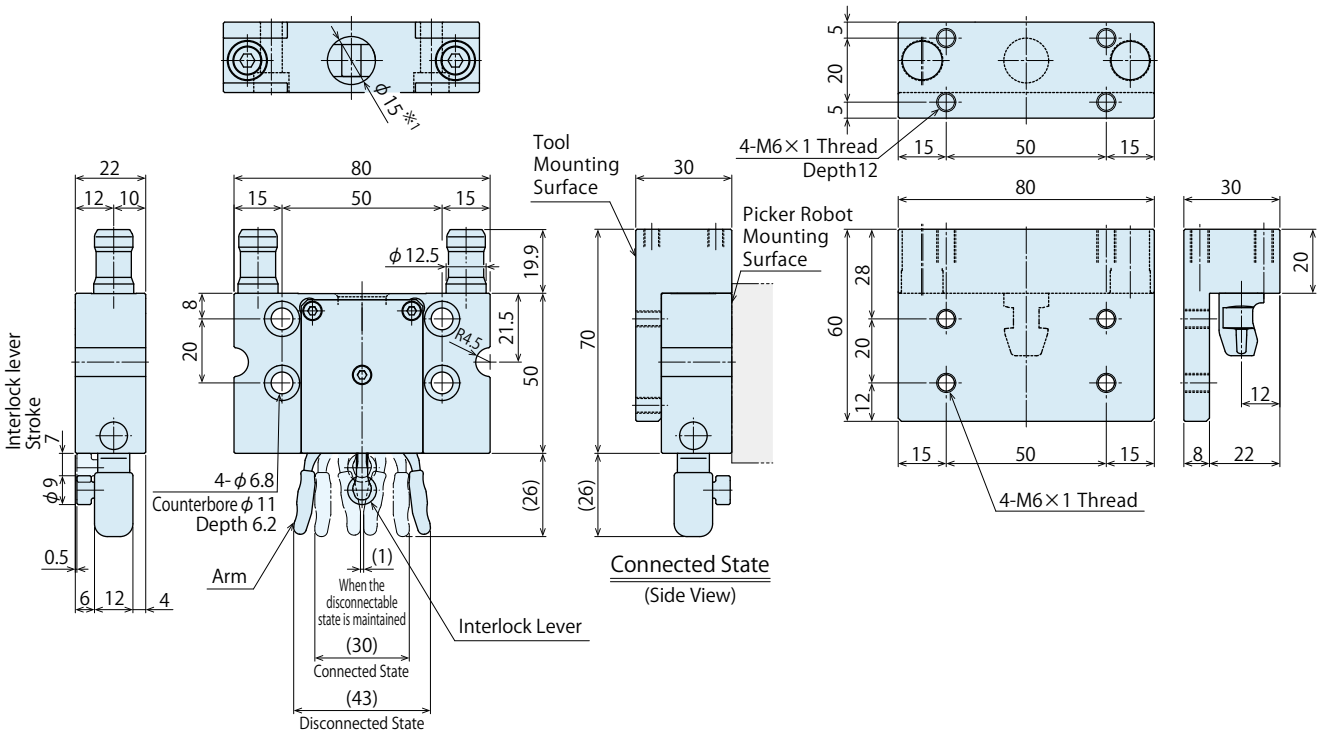
Notes :

1. This product becomes locked state with internal spring force by pushing the tool adapter into the master cylinder, or by setting the tool adapter on the master cylinder, pinching the arms, and releasing the arms after connection.
2. Be careful not to pinch your fingers or hands as the space between the arms becomes narrow during the locking action.

External Dimensions：SXQ0150 (Payload：15kg)

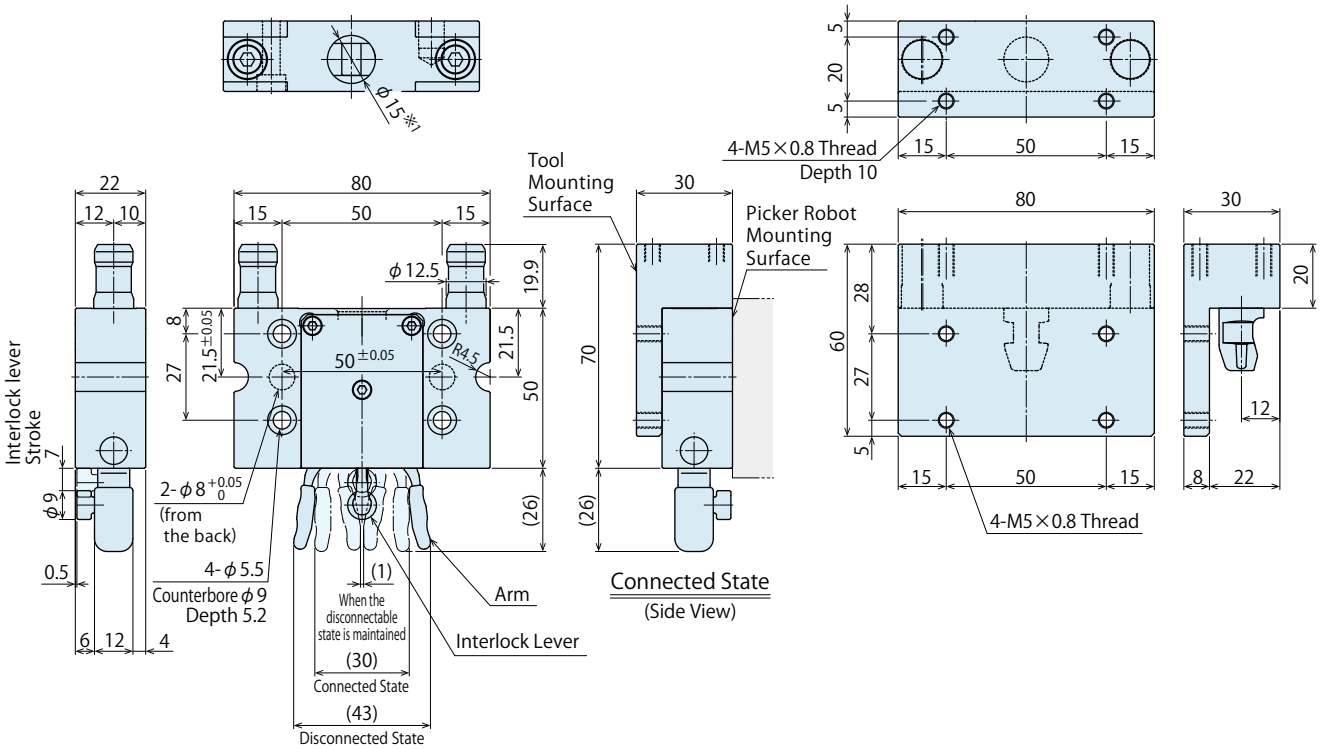
Master Cylinder
Model No.：**SXQ0150-MS**

Tool Adapter
Model No.：**SXQ0150-TS**



Master Cylinder
Model No.：**SXQ0150-MY**

Tool Adapter
Model No.：**SXQ0150-TY**



Notes：

1. This product becomes locked state with internal spring force by pushing the tool adapter into the master cylinder, or by setting the tool adapter on the master cylinder, pinching the arms, and releasing the arms after connection.
2. Use the interlock lever only when the chuck plate is too heavy to disconnect with one hand.
   Also, once the arms are held closed, make sure to disconnect it by pulling out the tool adapter.
   This product is not locked when its arms are closed. If using it whithout locking, the connection between the tool adapter and the master cylinder may be released by the operation of the picker robot, which is extremely dangerous.

※1. Do not put your fingers in the master cylinder φ15 hole. It is dangerous because your fingers may be caught by internal locking mechanism.

Accessory : Adapter Plate

Model No. Indication

For Master Cylinder

SXQZ0 H 0 - M S

1 2 3 4

For Tool Adapter

SXQZ0 H 0 - T S

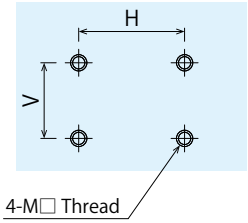
1 2 3 4

1 Applicable Picker Robot

H : Picker Robot manufactured by HARMO CO., LTD.
(Mounting Dimension: H 70mm × V 40mm, M6×1 Thread)

S : Picker Robot manufactured by STAR SEIKI CO., LTD.
(Mounting Dimension: H 130mm × V 40mm, M8×1.25 Thread)

Y : Picker Robot manufactured by Yushin Company
(Mounting Dimension: H 80mm × V 40mm, M6×1 Thread)



2 Design No.

0 : Revision Number

3 Category

M : For Master Cylinder

T : For Tool Adapter

4 Quick Chuck Changer

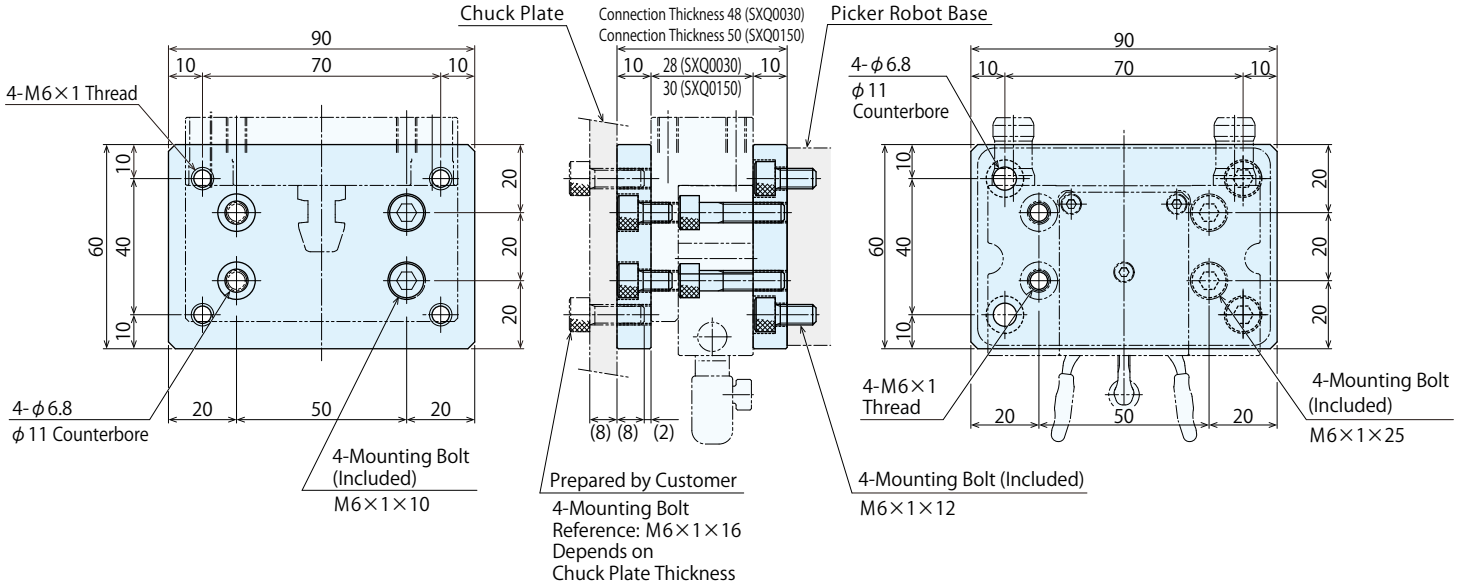
S : Picker Robot manufactured by STAR SEIKI CO., LTD.
(Mounting Dimension: H 50mm × V 20mm, M6×1 Thread)
(Applicable Model No. : SXQ0030-□S / SXQ0150-□S) (In case of 1 **H** / **S**)

Y : Picker Robot manufactured by Yushin Company
(Mounting Dimension: H 50mm × V 27mm, M5×0.8 Thread)
(Applicable Model No. : SXQ0030-□Y / SXQ0150-□Y) (In case of 1 **H** / **Y**)

External Dimensions

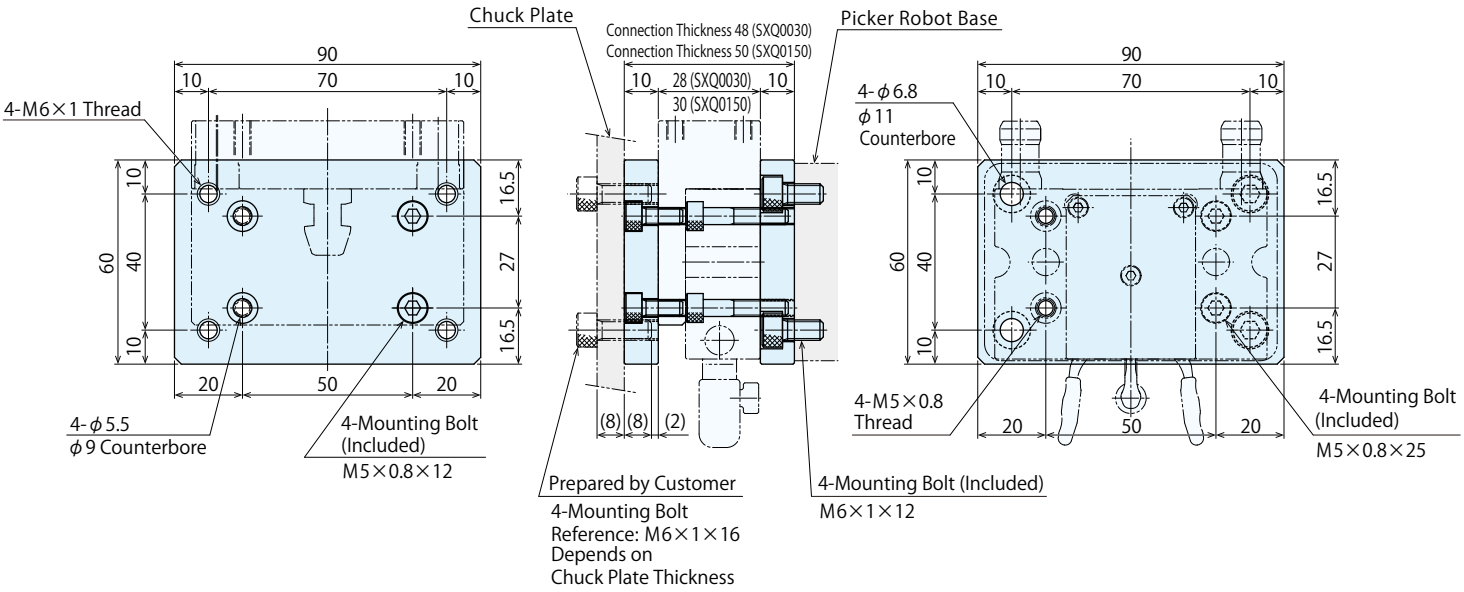
For Tool Adapter
Model No. : **SXQZ0H0-TS**
Weight : 150g

For Master Cylinder
Model No. : **SXQZ0H0-MS**
Weight : 150g



For Tool Adapter
Model No. : **SXQZ0H0-TY**
Weight : 150g

For Master Cylinder
Model No. : **SXQZ0H0-MY**
Weight : 150g



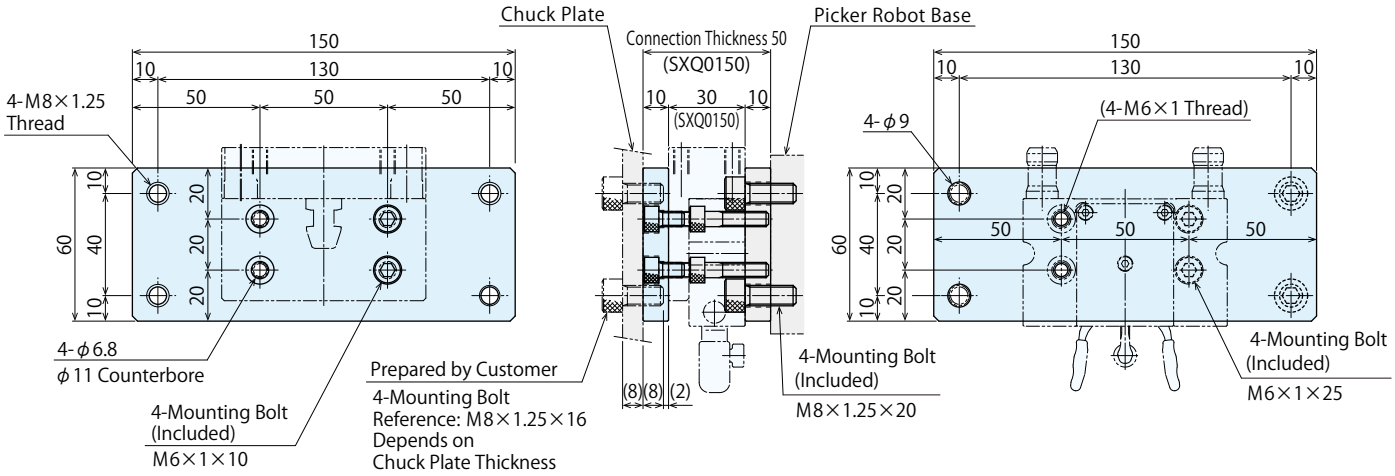
Note :
1. Material : A2017, Surface Finishing : Anodized Aluminum Coating

For Tool Adapter
Model No. : **SXQZ0S0-TS**

Weight : 240g

For Master Cylinder
Model No. : **SXQZ0S0-MS**

Weight : 240g

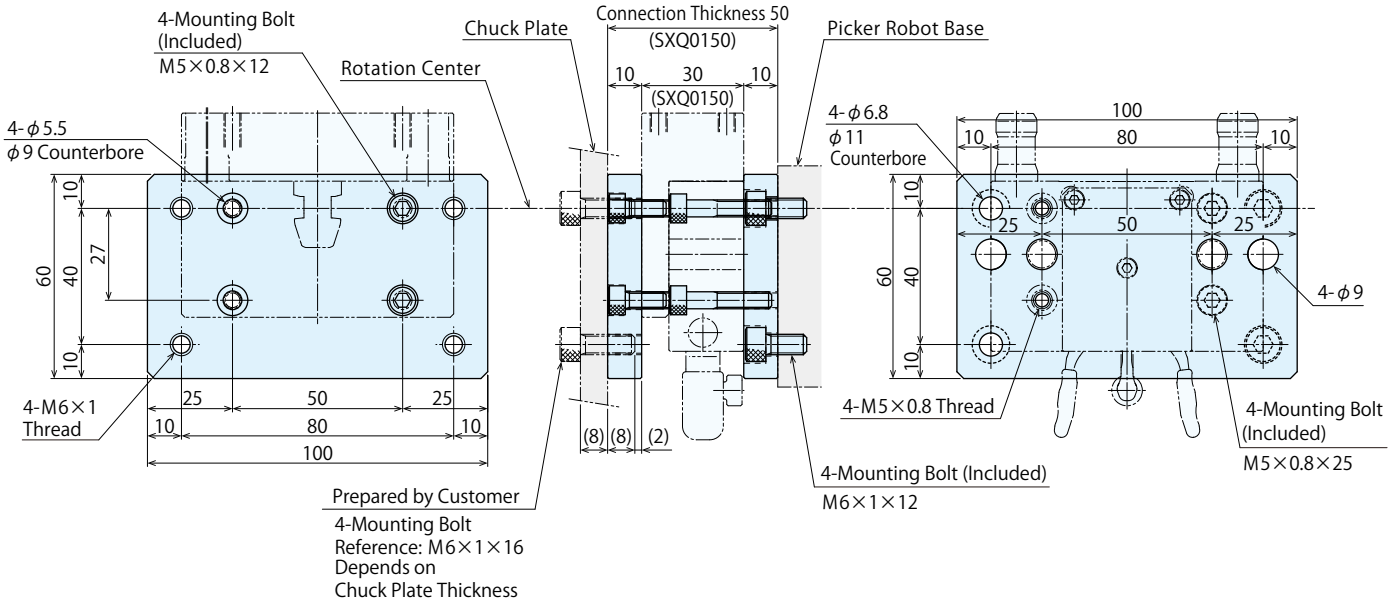


For Tool Adapter
Model No. : **SXQZ0Y0-TY**

Weight : 160g

For Master Cylinder
Model No. : **SXQZ0Y0-MY**

Weight : 160g

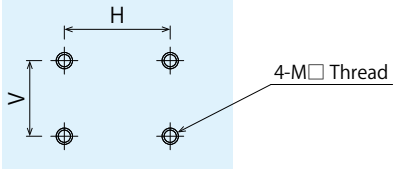


Note :

1. Material : A2017, Surface Finishing : Anodized Aluminum Coating

Adapter Plate Design Dimensions

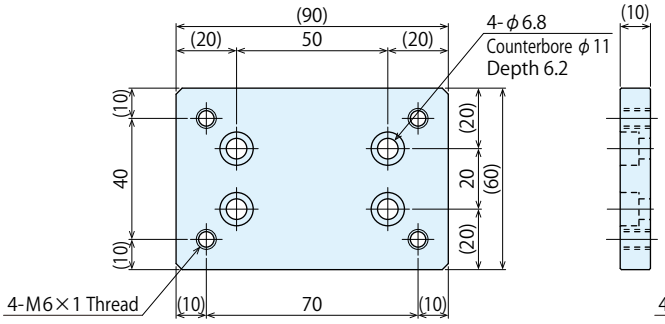
※ Dimensions in ( ) are reference.



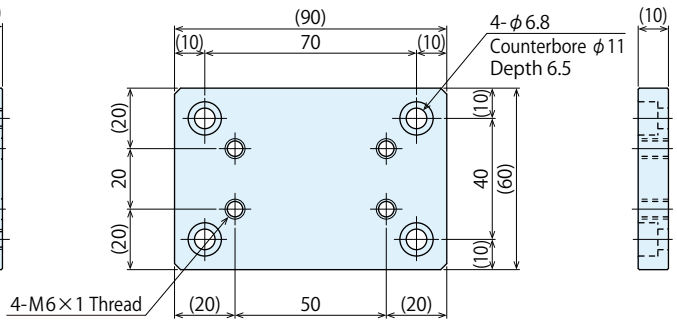
Picker Robot Side Mounting Dimensions ：For Picker Robot manufactured by HARMO CO., LTD.
(Mounting Dimensions：H 70mm × V 40mm, M6×1 Thread)

Quick Chuck Changer Side Mounting Dimensions：For Picker Robot manufactured by STAR SEIKI CO., LTD.
(Mounting Dimensions：H 50mm × V 20mm, M6×1 Thread)

For Tool Adapter
Applicable Model No.：SXQ0030-TS / SXQ0150-TS



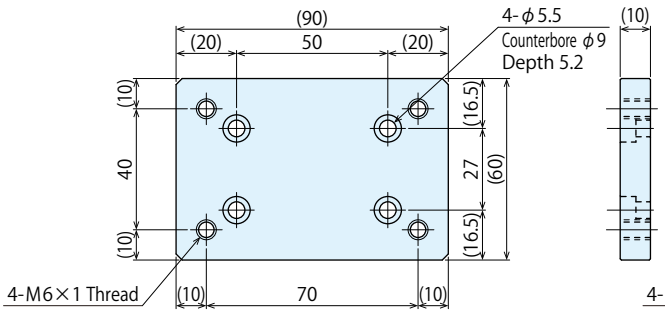
For Master Cylinder
Applicable Model No.：SXQ0030-MS / SXQ0150-MS



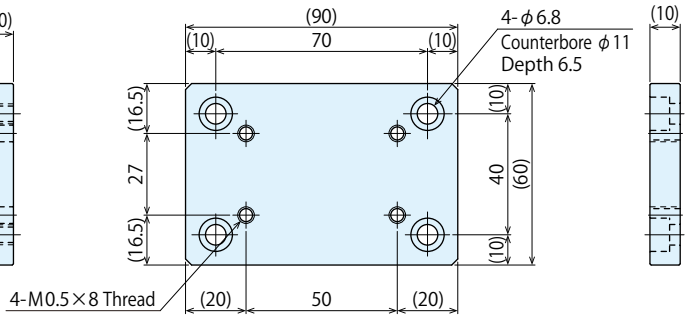
Picker Robot Side Mounting Dimensions ：For Picker Robot manufactured by HARMO CO., LTD.
(Mounting Dimensions：H 70mm × V 40mm, M6×1 Thread)

Quick Chuck Changer Side Mounting Dimensions：For Picker Robot manufactured by Yushin Company
(Mounting Dimensions：H 50mm × V 27mm, M5×0.8 Thread)

For Tool Adapter
Applicable Model No.：SXQ0030-TY / SXQ0150-TY



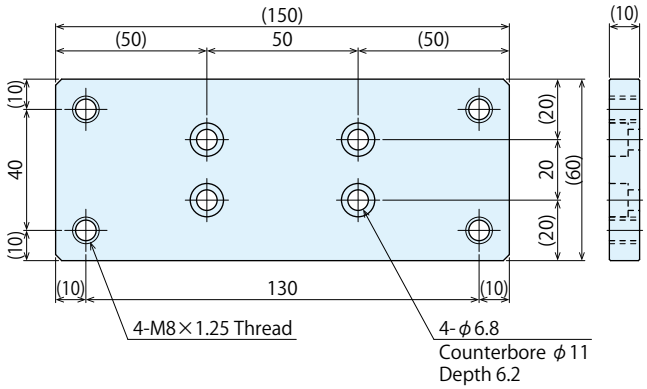
For Master Cylinder
Applicable Model No.：SXQ0030-MY / SXQ0150-MY



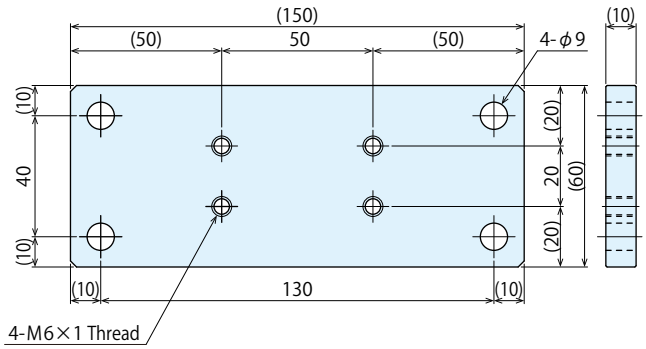
Picker Robot Side Mounting Dimensions : For Picker Robot manufactured by STAR SEIKI CO., LTD.
(Mounting Dimensions : H 130mm × V 40mm, M8×1.25 Thread)

Quick Chuck Changer Side Mounting Dimensions : For Picker Robot manufactured by STAR SEIKI CO., LTD.
(Mounting Dimensions : H 50mm × V 20mm, M6×1 Thread)

For Tool Adapter
Applicable Model No. : SXQ0030-TS / SXQ0150-TS



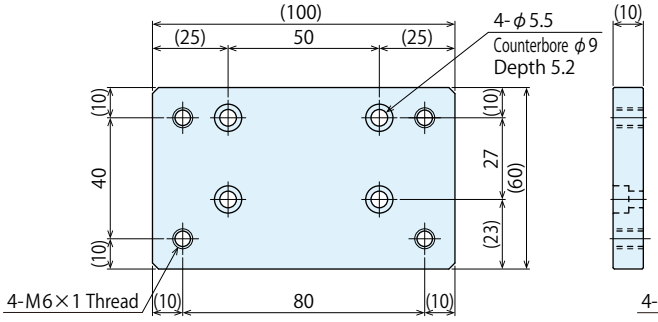
For Master Cylinder
Applicable Model No. : SXQ0030-MS / SXQ0150-MS



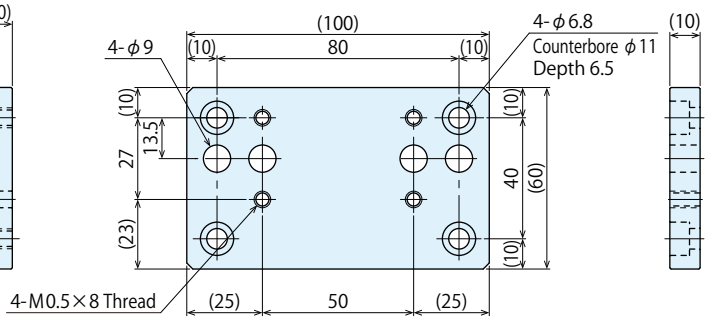
Picker Robot Side Mounting Dimensions : For Picker Robot manufactured by Yushin Company
(Mounting Dimensions : H 80mm × V 40mm, M6×1 Thread)

Quick Chuck Changer Side Mounting Dimensions : For Picker Robot manufactured by Yushin Company
(Mounting Dimensions : H 50mm × V 27mm, M5×0.8 Thread)

For Tool Adapter
Applicable Model No. : SXQ0030-TY / SXQ0150-TY



For Master Cylinder
Applicable Model No. : SXQ0030-MY / SXQ0150-MY



Cautions

Notes for Design

1) Check Specifications
- Please use the product according to the specifications.
- This product becomes locked state with internal spring force by pushing the tool adapter into the master cylinder, or by setting the tool adapter on the master cylinder, pinching the arms, and releasing the arms after connection.

2) Combination of Master Cylinder and Tool Adapter
- The combination of master cylinder and tool adapter should be as follows.

Master Cylinder	Tool Adapter
SXQ0030-MY	**SXQ0030-TY**
	SXQ0030-TS
SXQ0030-MS	**SXQ0030-TY**
	SXQ0030-TS
SXQ0150-MY	**SXQ0150-TY**
	SXQ0150-TS
SXQ0150-MS	**SXQ0150-TY**
	SXQ0150-TS

3) Allowable Static Moment
- The allowable static moment should be within the range of the bending moment and the twisting moment.
  Also, please select the size sufficient for the moment.

Model No.	Bending Moment	Twisting Moment
SXQ0030	4 N·m	10 N·m
SXQ0150	12 N·m	32 N·m

4) Chuck Plate Change (Attaching and Detaching)
- Connect the master cylinder and the tool adapter along the positioning pin.
  Connecting with a tilt may cause damage on the locating part leading to insufficient repeatability.
  Also, when attaching and detaching, be careful with the posture of the quick chuck changer and not to apply excessive moment.

Installation Notes

1) Installation and Removal of Master Cylinder / Tool Adapter
- Tighten the mounting bolt with the following torque.
  When mounting, tighten the bolts evenly not to incline the master cylinder and the tool adapter.

Model No.		Bolt Size	Bolt Qty	Tightening Torque
Master Cylinder	**SXQ0030-MY**	M5×0.8	4	6.3 N·m
	SXQ0030-MS	M6×1	4	10 N·m
	SXQ0150-MY	M5×0.8	4	6.3 N·m
	SXQ0150-MS	M6×1	4	10 N·m
Tool Adapter	**SXQ0030-TY**	M5×0.8	4	6.3 N·m
	SXQ0030-TS	M6×1	4	10 N·m
	SXQ0150-TY	M5×0.8	4	6.3 N·m
	SXQ0150-TS	M6×1	4	10 N·m

Notes on Handling

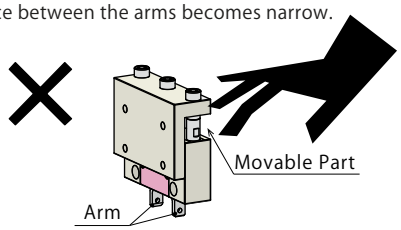
1) Be careful not to drop a chuck plate when changing (attaching and detaching) the chuck plate.
- Ensure that a fall prevention measure of a chuck plate is in place before releasing the quick chuck changer. Otherwise it may cause damage to the chuck plate or an accident.

2) It should be operated by qualified personnel.
- Machines and devices should be operated and maintained by qualified personnel.

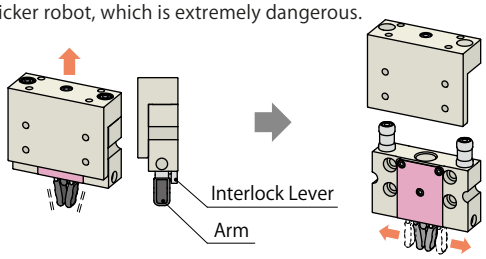
3) Do not operate or remove the product unless the safety protocols are ensured.
① Machines and devices can only be inspected or prepared when it is confirmed that the safety devices are in place.
② Before the product is removed, make sure that the above-mentioned safety devices are in place.
③ After stopping the product, do not remove until the temperature cools down.
④ Make sure there is no trouble/issue 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.

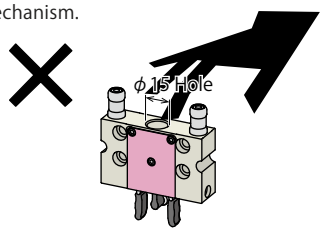
5) Be careful not to pinch your fingers or hands during locking action.
- Do not place your hand on the movable part during locking action. Also, be careful not to pinch your fingers or hands as the space between the arms becomes narrow.



6) For SXQ0150, use the interlock lever only when the chuck plate is too heavy to disconnect with one hand. Also, once the arms are held closed, make sure to disconnect it by pulling out the tool adapter. This product is not locked when its arms are closed. If using it whithout locking, the connection between the tool adapter and the master cylinder may be released by the operation of the picker robot, which is extremely dangerous.



7) For SXQ0150, do not put your fingers in the master cylinder ϕ15 hole. It is dangerous because your fingers may be caught by internal locking mechanism.



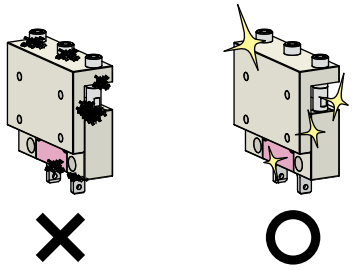
Maintenance and Inspection

1) Notes on Product Removal

- Before removing the product, make sure that safety devices and preventive devices are in place.
  Also, make sure there is no trouble/issue in the bolts and respective parts before restarting.

2) Cleaning of Master Cylinder and Tool Adapter

- Use of the master cylinder and the 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 apply the grease periodically.
(Grease applied at shipment: Equal to STABURAGS NBU 8 EP made by NOK.)

7) 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.

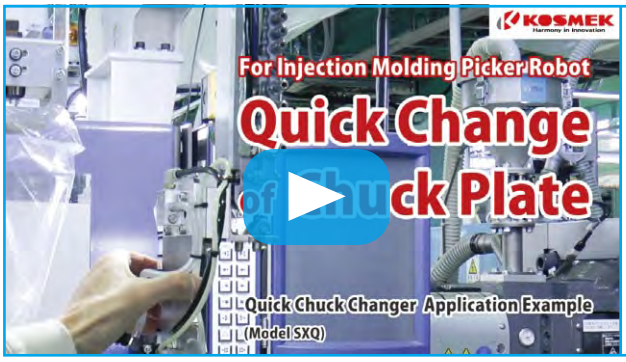
2) Warranty Scope

- 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 judgement, 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.

See the Video and CAD data>>>

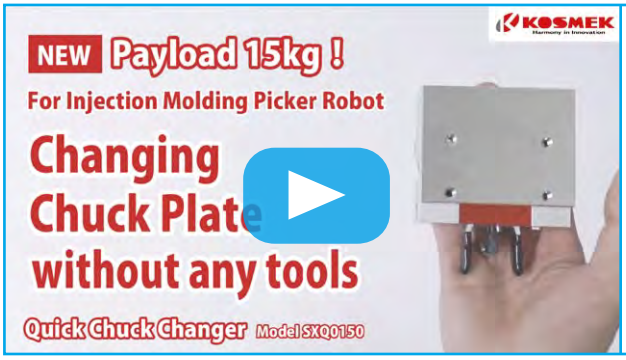


Application example video of SXQ0030 (Payload：5kg) installed to an actual picker robot is available on our website.

http://www.kosmek.co.jp/php_file/video_products.php?id=114&lang=2

Chuck Plate Change Over Time Comparison: Standard Mounting vs SXQ0030 (Payload：5kg) is available on our website.

http://www.kosmek.co.jp/php_file/video_products.php?id=164&lang=2



A video explaining the operation and safety of SXQ0150 (Payload: 15 kg) is available on our website.

http://www.kosmek.co.jp/php_file/video_products.php?id=148&lang=2

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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.

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