



Safety Precautions

Be sure to read this section before use.

Refer to page 2 for general information of the cylinder, and to page 320 for general information of the cylinder switch.

Linear slide cylinder LCG Series

Design & selection

1. Common

CAUTION

- When selecting the cylinder, follow the "LCG selection guide" on pages 162 to 165.
- Protect the cylinder with a cover to prevent damage and malfunction in a place where it is exposed to water or oil drops, or corrosive conditions.

■ Precautions for mounting the switch

- When using the T□V switch with a stroke adjusting stopper (S3**/S4**/S5**/S6**) or shock absorber stopper (A3**/A4**/A5**/A6**), install the switch on the opposite side to the stopper. Otherwise the switch on the head end will make contact with the stopper.
- Be careful of the lead wire direction when designing the 30 mm or less stroke length since a switch is installed in each groove of the body.
- Putting a strong magnet close to the product may cause magnetization of the table, which may result in an accidental operation of the switch.

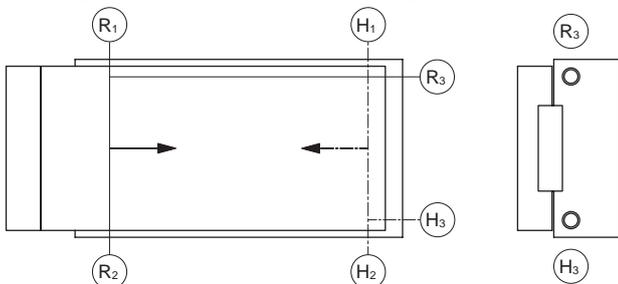
Mounting installation & adjustment

1. Common; when piping

CAUTION

- Apply adhesive to the M3 and M5 plugs (hexagon socket set screws) when changing the piping port position (Low strength adhesives such as LOCTITE 222/221 or Three Bond 1344 is recommended)

■ Piping port position and operating direction



Ⓡ shows the rod end pressurizing port and Ⓜ the head end pressurizing port. When the product is shipped from the factory, ports other than Ⓡ and Ⓜ (Ⓡ and Ⓜ depending on the stopper position when a stopper is attached) are sealed with plugs.

■ Rear piping

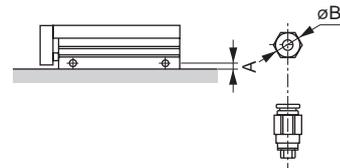
Rear piping (Ⓡ and Ⓜ ports in the figure above) is possible except for the position locking. Remove the plugs sealing the Ⓡ and Ⓜ ports and seal the Ⓡ and Ⓜ ports with the plugs shown in the table on the right.

Descriptions	Plug
LCG-6	Seal the Ⓡ and Ⓜ ports with the plugs removed from the Ⓡ and Ⓜ ports.
LCG-8	M5 × 5 (hexagon socket set screw)
LCG-12	
LCG-16	
LCG-20	R1/8 (hexagon socket head tapered screw plug)
LCG-25	Seal the Ⓡ and Ⓜ ports with the plugs removed from the Ⓡ and Ⓜ ports.

You should prepare two plugs specified in the table above for those of ø8 to 20.

■ Precautions for piping

Be sure to install a speed controller during piping. The available fittings are as below.



Descriptions Bore size (mm)	Port diameter	Port location dimensions A	Applicable fitting	Fitting O.D. B
ø6	M3	4	SC3W-M3-4-P7*	ø8 or less
			SC3W-M3-3.2-P7*	
			GWS3-M3-S-P7*	
ø8		5.5	SC3W-M5-4-P7*	ø11 or less
			SC3W-M5-6-P7*	
ø12		5.5	GWS4-M5-S-P7*	ø13 or less
			GWS4-M5-P7*	
ø16	M5	6.5	SC3W-M5-4-P7*	ø15 or less
			SC3W-M5-6-P7*	
			GWS4-M5-S-P7*	
			GWS4-M5-P7*	
ø20	Rc1/8	8	GWL4-M5-P7*	ø15 or less
			GWS6-M5-P7*	
ø25		9	SC3W-6-4,6,8-P7*	ø15 or less
			GWS4-6-P7*	
			GWS8-6-P7*	
			GWL6-6-P7*	
			GWS6-6-P7*	
			GWL4-6-P7*	

2. Common; when installing

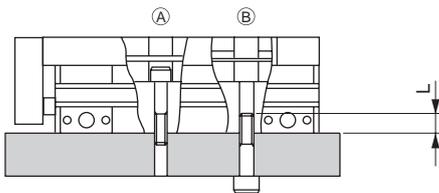
⚠ CAUTION

■ Do not damage the surface flatness by denting or scratching the body (tube) mounting surface or the table surface.

In addition, make sure that the flatness of the mating surface for body and table mounting is 0.02 mm or less.

■ Observe the following bolt insertion lengths and tightening torque when mounting the body.

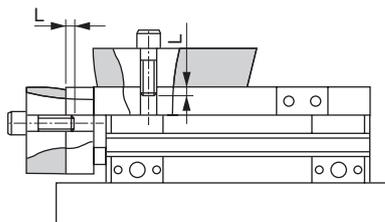
[Fig. 1]



Descriptions	A		B		
	Applicable bolts	Tightening torque (N·m)	Applicable bolts	Tightening torque (N·m)	Max. insertion length L (mm)
LCG-6	M3 × 0.5	0.6 to 1.1	M4 × 0.7	1.4 to 2.4	6
LCG-8	M3 × 0.5	0.6 to 1.1	M4 × 0.7	1.4 to 2.4	6
LCG-12	M4 × 0.7	1.4 to 2.4	M5 × 0.8	2.9 to 5.1	8
LCG-16	M5 × 0.8	2.9 to 5.1	M6 × 1.0	4.8 to 8.6	9
LCG-20	M5 × 0.8	2.9 to 5.1	M6 × 1.0	4.8 to 8.6	9
LCG-25	M6 × 1.0	4.8 to 8.6	M8 × 1.25	12.0 to 21.6	12

■ Observe the following bolt insertion lengths and tightening torque when installing the jig on the slide table or end plate.

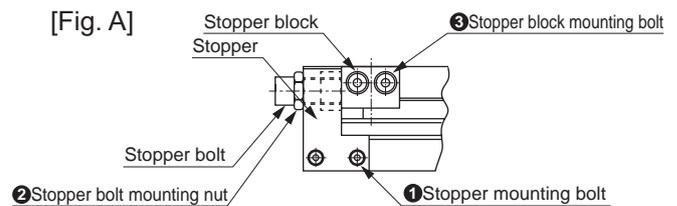
[Fig. 2]



Descriptions	Table			End plate		
	Applicable bolts	Tightening torque (N·m)	Max. insertion length L (mm)	Applicable bolts	Tightening torque (N·m)	Insertion length L (mm)
LCG-6	M3 × 0.5	0.6	3	M3 × 0.5	0.6	4.5 to 6
LCG-8	M3 × 0.5	0.6	3	M3 × 0.5	0.6	4.5 to 7
LCG-12	M4 × 0.7	1.4	4	M4 × 0.7	1.4	6 to 9
LCG-16	M5 × 0.8	2.9	5	M5 × 0.8	2.9	7.5 to 9
LCG-20	M5 × 0.8	2.9	5	M5 × 0.8	2.9	7.5 to 11
LCG-25	M6 × 1.0	4.8	6	M6 × 1.0	4.8	9 to 11

■ Observe the following tightening torque of bolts and nuts of the stopper.

[Fig. A]

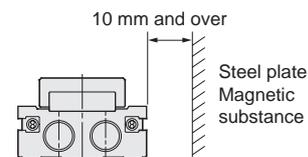


Cushion rubber stopper with hexagon socket set screw

Model No.	① Stopper mounting bolt (N·m)	② Stopper bolt mounting nut (N·m)	③ Stopper block mounting bolt (N·m)
LCG-6	0.4 to 0.5	1.2 to 2.0	0.6 to 0.8
LCG-8	0.4 to 0.5	1.2 to 2.0	0.6 to 0.8
LCG-12	0.6 to 0.8	1.2 to 2.0	0.6 to 0.8
LCG-16	0.6 to 0.8	3.0 to 4.0	1.4 to 1.8
LCG-20	2.9 to 3.5	4.5 to 6.0	1.4 to 1.8
LCG-25	2.9 to 3.5	4.5 to 6.0	2.9 to 3.5

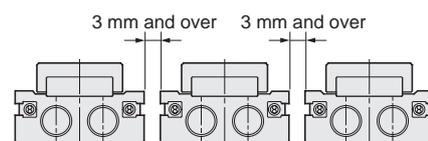
■ The cylinder switch may malfunction if there is a magnetic substance such as a metal plate installed adjacently. To ensure safe operation, keep it 10 mm and over away from the cylinder surface or change the installation surface of the cylinder switch.

(Common for all port sizes)



■ The cylinder switches may accidentally function if the cylinders are close to each other. Keep the distance below between the surfaces of the cylinders.

(Common for all port sizes)



■ When using a positioning hole, use a pin of the dimensions which does not require press fitting. If a pin is press fitted, the load of press fitting may damage or distort the linear guide, lowering the accuracy.

The recommended tolerance of a pin is JIS tolerance m6 or less.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E
MN4E
4GA/B
M4GA/B
MN4GA/B
F.R. (module unit)
Clean F.R
Precision R
Press gauge
Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

During use & maintenance

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R (module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

1. Common

CAUTION

- Apply AFF grease (THK) to the guide rail surface after six months or when the number of operation cycles reaches one million, whichever comes first.

- Note that the table is not fully corrosion-proof.

The table is made of martensite stainless steel (ø6 to ø16) or alloy steel (ø20 and ø25). It may rust in an environment where the temperature and humidity is high or condensation may occur on the product surface.