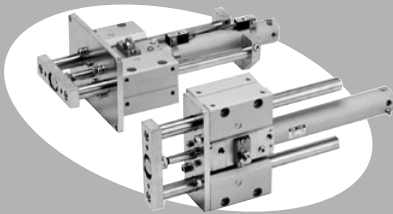
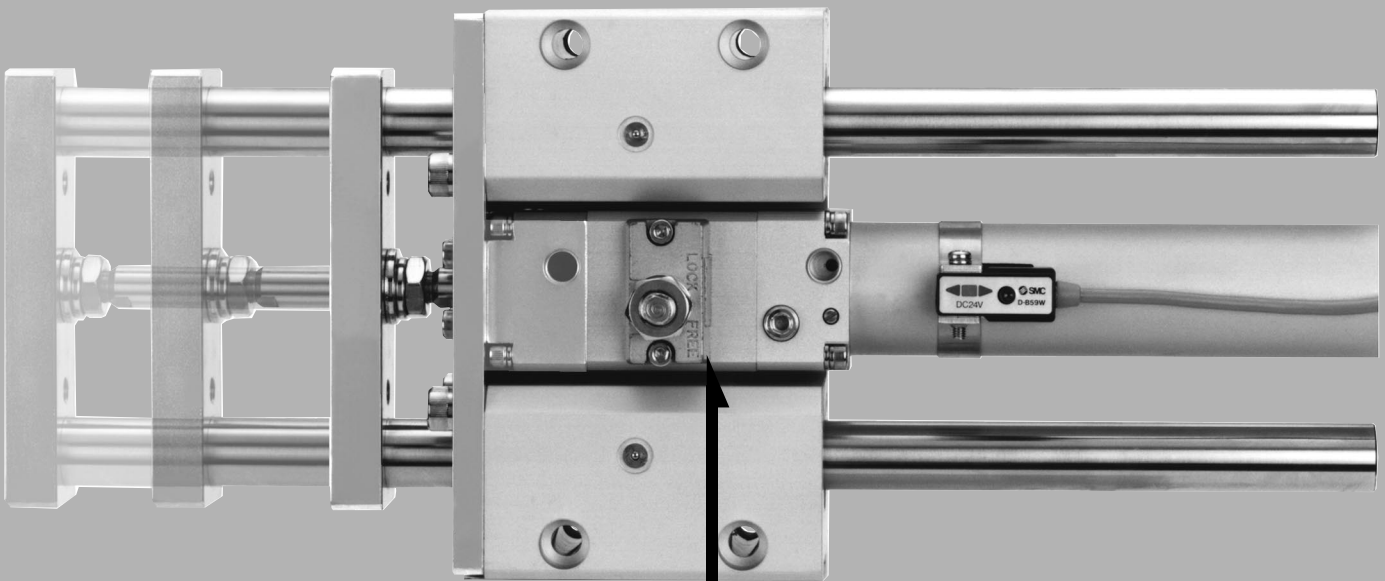


Fine Lock Cylinder with Guide Series *MLGC*

ø20, ø25, ø32, ø40

A linear transfer cylinder unit with a built-in locking mechanism and a guide rod integrated in a compact design.



High level of stopping accuracy
Three-styles of locking mechanism

Lockable in both directions

Maximum piston speed: 500mm/s

Able to operate at 50 to 500mm/s, if within the allowable kinetic energy range.

Air cushion provided as standard equipment

Enables the impact to be absorbed at the stroke end when the cylinder is operated at high speeds.

Lock style	Spring lock	Pneumatic	Spring/Pneumatic lock
Stop precision	±1.0mm	±0.5mm	
Characteristics	<ul style="list-style-type: none"> ●Works on the safety side. (Exhaust lock) 	<ul style="list-style-type: none"> ●High precision ●Holding power can be adjusted freely. 	<ul style="list-style-type: none"> ●High precision ●Holding power can be adjusted freely. ●Works on the safety side.

Possible to detect the operating position

Built-in magnet for auto switches is provided in all models.

- CL
- MLGC**
- CNA
- CB
- CV/MVG
- CXW
- CXS
- CXT
- MX
- MXU
- MXS
- MXQ
- MXF
- MXW
- MPX
- MG
- MGP
- MGQ
- MGG
- MGC
- MGF
- CY1
- MY1

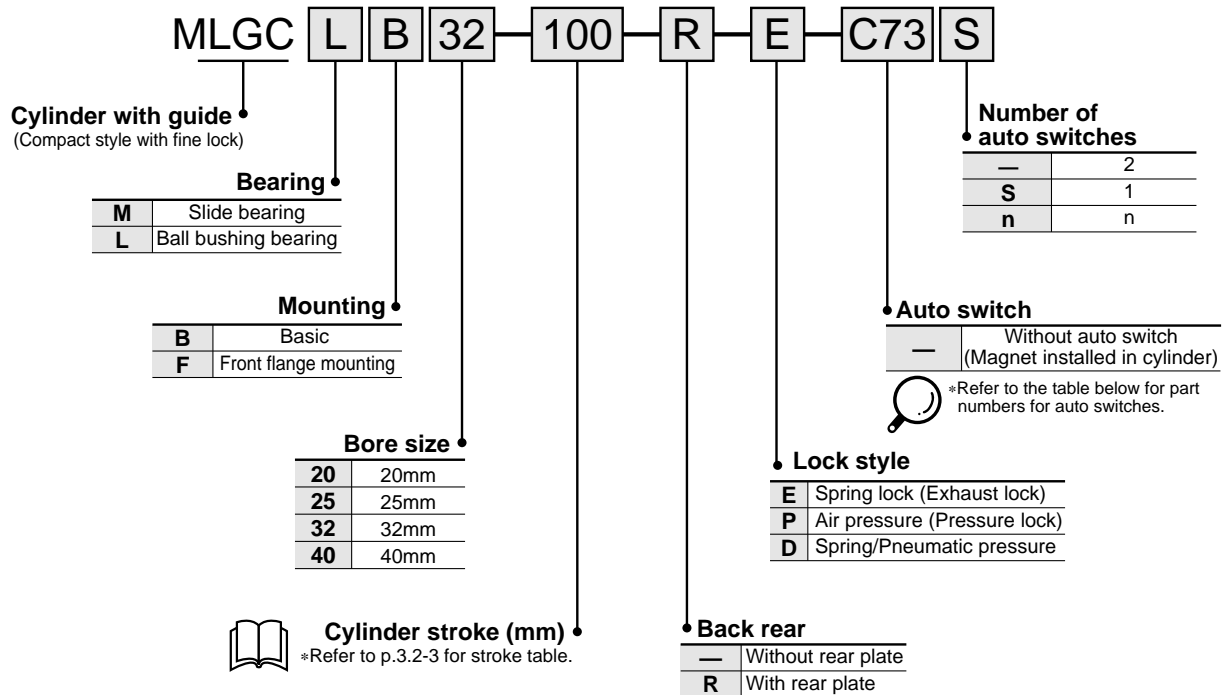
Fine Lock Cylinder with Guide

Series *MLGC*



ø20, ø25, ø32, ø40

How to Order

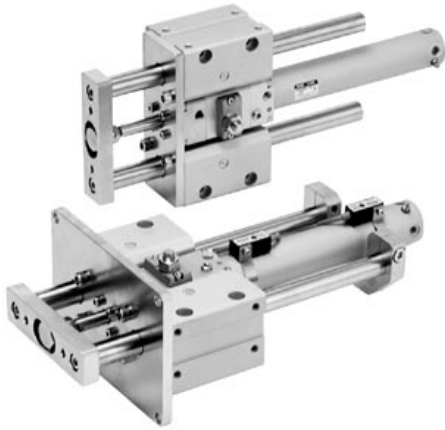


Applicable Auto Switches/Refer to p.5.3-2 for further information on auto switch.

Style	Special function	Electrical entry	Indicator	Wiring (Output)	Load voltage		Auto switch model			Lead wire length (m)*				Applicable load										
					DC	AC	Direction of switch mounting screw		0.5 (—)	3 (L)	5 (Z)	None (N)												
							In-line	Perp.																
Reed switch	—	Grommet	Yes	3 wire (Equiv. NPN)	—	5V	—	C76	—	B76	●	●	—	—	I.C.	—								
								100V	C73	—	B73	●	●	●	—	—	Relay, PLC							
									—	B53	—	—	●	●	●	—	—	PLC						
		12V						100V, 200V	B54	—	—	●	●	●	—	—	—							
								200V or less	B64	—	—	●	●	—	—	—								
		Connector						—	No	Yes	2 wire	24V	5V, 12V	100V or less	C80	—	B80	●	●	—	—	I.C.	Relay, PLC	
12V	—		C73C	—	B73C	●	●								●	—	—							
5V, 12V	24V or less		C80C	—	B80C	●	●								●	●	—	I.C.						
Grommet	Diagnostic indication (2 color)	Yes	No	2 wire	24V	—	—	B59W	—						—	●	●	—	—	—				
								3 wire (NPN)	5V, 12V						H7A1	G59	G79	●	●	○	—	I.C.		—
															3 wire (PNP)	H7A2	G5P	—	●	●	○	—		
Connector	—	No						Yes	2 wire	24V	12V	—	H7B	K59	K79	●	●	○	—	—				
													H7C	—	K79C	●	●	●	●	—	—			
Grommet	Diagnostic indication (2 color)	Yes											No	3 wire (NPN)	24V	5V, 12V	—	H7NW	G59W	—	●	●	○	—
			3 wire (PNP)	H7PW	G5PW	—	●											●	○	—	I.C.			
			2 wire	H7BW	K59W	—	●											●	○	—	—			
				H7BA	G5BA	—	—											●	○	—	—			
			Water resistant (2 color)	G5NT	—	—	—	●	○	—	I.C.													
			With timer	H7NF	G59F	—	●	●	○	—	—													
Latch w/ diagnostic output (2 color)	H7LF	—	—	●	●	○	—	—																
Latch with diagnostic output (2 color)	—	—	—	4 wire (PNP)	—	—	—	—	—	—	—	—												

*Symbols for lead wire length 0.5m Ex) B80C 5m Z Ex) B80CZ
3mL Ex) B80CL — N Ex) B80CN
*Solid state switches marked with a "○" are manufactured upon receipt of order.

Fine Lock Cylinder with Guide *Series MLGC*



Specifications

Model		MLGC□□20	MLGC□□25	MLGC□□32	MLGC□□40
Base cylinder		CDLG1BA20	CDLG1BA25	CDLG1BA32	CDLG1BA40
Bore size (mm)		20	25	32	40
Action		Double acting			
Fluid		Air			
Proof pressure		1.5MPa			
Max. operating pressure		1.0MPa			
Min. operating pressure		0.2MPa (Horizontal, No load)			
Ambient and fluid temperature		-10 to +60°C			
Piston speed		50 to 500mm/s*			
Cushion		Air cushion			
Lubrication of base cylinder		Non-lube			
Thread tolerance		JIS 2nd class			
Tolerance of stroke length		+1.9 +0.2mm			
Non-rotating accuracy (Deflection of guide rod is not included.)	Slide bearing	±0.06°	±0.05°	±0.05°	±0.04°
	Ball bushing bearing	±0.04°	±0.04°	±0.04°	±0.04°
Piping port size	Cylinder port	M5 X 0.8		Rc(PT) 1/8	
	Lock port	Rc(PT) 1/8			
Lock style		<input type="checkbox"/> Spring lock (Exhaust lock) <input type="checkbox"/> Pneumatic lock (Pressurized lock)		<input type="checkbox"/> Spring/Pneumatic lock	

* Constraints associated with the allowable kinetic energy are imposed on the speeds at which the piston can be locked. To lock the piston in the stationary state for the purpose of drop prevention, the piston can be locked at a maximum speed of 750mm/s.

Fine Lock Specifications

Lock style	Spring lock (Exhaust lock)	Spring/Pneumatic lock	Pneumatic lock (Pressurized lock)
Fluid	Air		
Max. operating press.	0.5MPa		
Lock releasing press.	0.3MPa or more		0.1MPa or more
Lock starting press.	0.25MPa or less		0.05MPa or less
Lock direction	Both directions		

Stroke

Model	Bearing	Bore size (mm)	Standard stroke (mm)	Long stroke (mm)
MLGCM	Slide bearing	20	75, 100, 125, 150, 200	250, 300, 350, 400
		25		350, 400, 450, 500
MLGCL	Ball bushing bearing	32	75, 100, 125, 150, 200, 250, 300	350, 400, 450, 500, 600
		40		350, 400, 450, 500, 600, 700, 800

* Middle strokes and short strokes other than shown above are made to order.

Theoretical Force



Bore size (mm)	Rod diameter (mm)	Operating direction	Piston area (mm ²)	Operating pressure (MPa)								
				0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
20	8	OUT	314	62.8	94.2	126	157	188	220	251	283	314
		IN	264	52.8	79.2	106	132	158	185	211	238	264
25	10	OUT	491	98.2	147	196	246	295	344	393	442	491
		IN	412	82.4	124	165	206	247	288	330	371	412
32	12	OUT	804	161	241	322	402	482	563	643	724	804
		IN	691	138	207	276	346	415	484	553	622	691
40	16	OUT	1260	252	378	504	630	756	882	1010	1130	1260
		IN	1060	212	318	424	530	636	742	848	954	1060

Note) Theoretical force (N) = Pressure (MPa) X Piston area (mm²)

CL
MLGC
CNA
CB
CV/MVG
CXW
CXS
CXT
MX
MXU
MXS
MXQ
MXF
MXW
MXP
MG
MGP
MGQ
MGG
MGC
MGF
CY1
MY1

Series MLGC

Allowable Kinetic Energy

R: Rod side, H: Head side

Bore size (mm)	Effective cushion length (mm)	Allowable kinetic energy J (kgf/cm)
20	R: 7, H: 7.5	R: 0.35 (3.58), H: 0.42 (4.24)
25	R: 7, H: 7.5	R: 0.56 (5.67), H: 0.65 (6.66)
32	7.5	0.91 (9.3)
40	8.7	1.8 (18)

When a large load is involved and a large kinetic energy is created as the piston moves at a high speed, the air cushion that is included in the basic cylinder utilizes pneumatic pressure to absorb the impact of the piston at the end of its stroke, thus preventing the vibration from being transferred to the surroundings. Thus, the intended purpose of the air cushion is not to decelerate the piston as it approaches the end of its stroke. Apply the following formula to obtain the kinetic energy of the load.

$$E_K = \frac{M}{2} v^2$$

E_K : Kinetic energy (J)
 M : Load weight (kg) + Weight of movable part (kg)
 v : Piston speed (m/s)

Allowable Kinetic Energy When Locking

Bore size (mm)	20	25	32	40
Piston speed (m/s)	0.26	0.42	0.67	1.19
J {kgf cm}	{2.7}	{4.3}	{6.8}	{12.1}

In terms of specific load conditions, the allowable kinetic energy indicated in the table above is equivalent to a 50% load ratio at 0.5MPa, and a piston speed of 300mm/sec. Therefore, if the operating conditions are below these values, calculations are unnecessary.

① Apply the following formula to obtain the kinetic energy of the load.

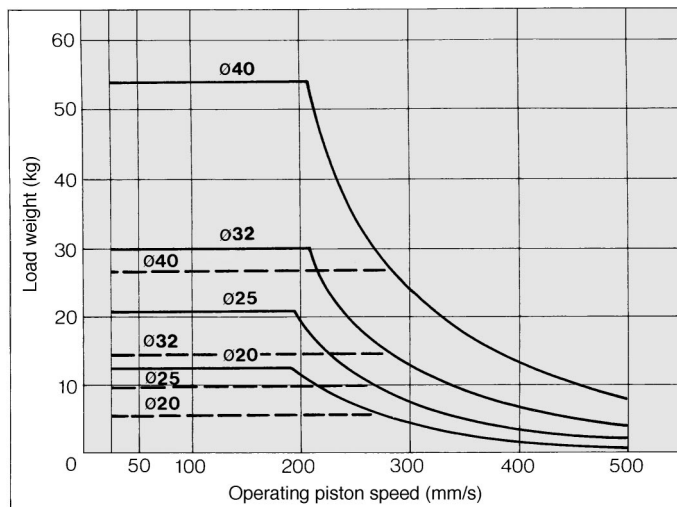
$$E_K = \frac{1}{2} m v^2$$

E_K : load's kinetic energy (J)
 m : load mass (kg) (mass of load + mass of moving parts)
 v : piston speed (m/s) (average speed X 1.2)

② The piston speed will exceed the average speed immediately before locking. To determine the piston speed for the purpose of obtaining the kinetic energy of the load, use 1.2 times the average speed as a guide.

③ The relation between speed and the load for each bore size is shown below. The area below the line is the allowable range.

④ During locking, the lock mechanism must absorb the thrust of the cylinder, in addition to the kinetic energy of the load. Therefore, in order to insure the proper braking force, even within a given allowable kinetic energy level, there is an upper limit to the size of the load. Thus, a horizontally mounted cylinder must be operated below the solid line, and a vertically mounted cylinder must be operated below the dotted line.

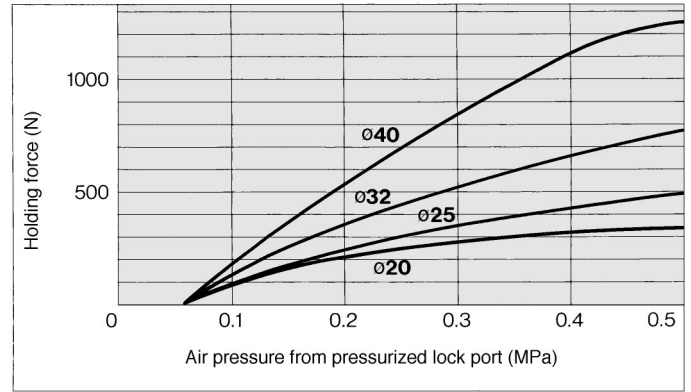


Holding Force of Spring Lock (Max. Static Load)

Bore size (mm)	20	25	32	40
Holding force N	196	313	443	784

Note) Holding force in the piston rod direction is decreased by 15%.

Holding Force of Pneumatic Lock (Max. static load)



The holding force is the lock's ability to hold a static load that does not involve vibrations or shocks, after it is locked without a load. Therefore, to use the cylinder near the upper limit of the constant holding force, be aware of the following:

- If the piston rod slips because the lock's holding force has been exceeded, the brake shoe could become damaged, resulting in a reduced holding force or shortened life.
- To use the lock for drop prevention purposes, the load to be attached to the cylinder must be within 35% of the cylinder's holding force.
- Do not use the cylinder in the locked state to sustain a load that involves shocks.

Stopping Accuracy (Not including tolerance of control system.) Unit: mm

Lock style	Piston speed (mm/s)			
	50	100	300	500
Spring lock (Exhaust lock)	±0.4	±0.5	±1.0	±2.0
Pneumatic lock (Pressurized lock)	±0.2	±0.3	±0.5	±1.5
Spring/Pneumatic lock				

Conditions Load: 25% of the thrust under pressure of 0.5MPa Solenoid valve: Mounted to lock port

How to Manually Disengage The Lock, and Change from The Unlocked to The Locked State

<Manually disengaging the lock>

The lock of a fine-lock series cylinder can be disengaged manually through the procedure described below. However, make sure to disengage the lock pneumatically when operating the cylinder.

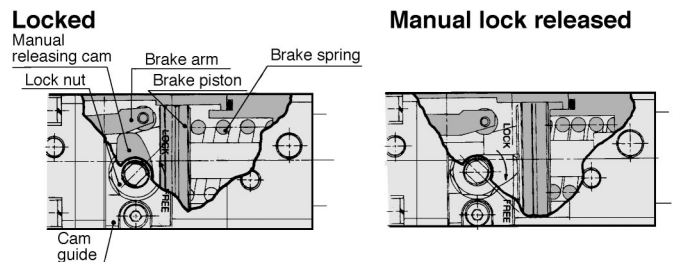
Note) A manual disengagement of the lock could create a greater cylinder sliding resistance than a pneumatically disengaged lock.

- ① Loosen the lock nut.
- ② Supply air pressure of 0.3MPa or higher to the unlocking port.
- ③ Turn the chamfering part of the manual unlocking cam until it stops at the FREE position that is marked on the cam guide.
- ④ While keeping the chamfering part in place, tighten the lock nut.

<Changing from the unlocked to the locked state>

The lock is disengaged at the time the cylinder is shipped from the factory, therefore, make sure to perform this operation before operating the cylinder.

- ① Loosen the lock nut.
 - ② Turn the chamfering part of the manual unlocking cam to the LOCK position that is marked on the cam guide.
 - ③ While keeping the chamfering part in place, tighten the lock nut.
- Note) To prevent the manual unlocking cam from rotating approximately 180°, do not rotate the chamfering part excessively.



LOCK and FREE marks are indicated onto the cam guide.

Recommended Circuit of Air Pressure

Refer to p.3.1-25 (Series CLG1) for the specification shown above.

Weight

(kg)

Bore size (mm)		20	25	32	40
Basic weight	Basic	2.6	4.07	4.17	7.28
	Front flange mounting	3.24	4.92	5.03	8.55
Bearing weight	Slide bearing	0.44	0.6	0.6	1.32
	Ball bushing bearing	0.28	0.35	0.35	0.88
Additional weight with rear plate		0.3	0.49	0.49	0.86
Additional weight per 50 strokes		0.21	0.32	0.34	0.54
Additional weight of long stroke		0.01	0.01	0.02	0.03

Calculation example:

MLGCLB32-500-R-D (Basic, Ball bushing bearing, With rear plate, ø32, 500st)

Basic weight 4.17 (Basic style)
 Bearing weight 0.35 (Ball bushing bearing)
 Additional weight with rear plate 0.49
 Additional weight of stroke 0.34/50 stroke
 Stroke 500 stroke
 Additional weight of long stroke 0.02
 $4.17 + 0.35 + 0.49 + 0.34 \times 500 / 50 + 0.02 = 8.43\text{kg}$

Weight of Movable Parts

(kg)

Bore size (mm)	20	25	32	40
Basic weight of movable parts	0.62	1.1	1.1	2.07
Additional weight with rear plate	0.3	0.49	0.49	0.86
Additional weight per 50 strokes	0.16	0.25	0.25	0.39

Calculation example of movable part:

MLGCLB32-500-R-D

Basic weight of movable parts 1.1
 Additional weight with rear plate 0.49
 Additional weight of stroke 0.34/50 stroke
 Stroke 500 stroke
 $1.1 + 0.49 + 0.25 \times 500 / 50 = 4.09\text{kg}$

⚠ Precautions

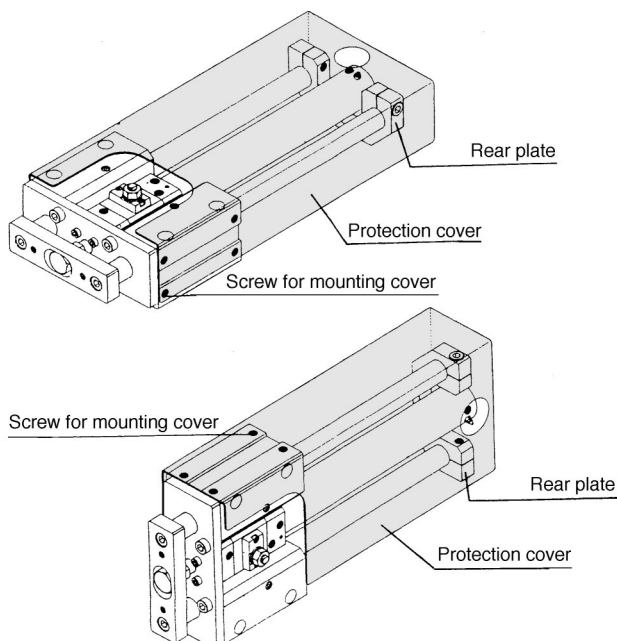
Be sure to read before handling. Refer to p.0-39 to 0-46 for Safety Instructions and common precautions.

Precautions on Handling

⚠ Warning

- ① **Install a protective cover (if equipped with rear plate).**
 Because the rear plate affects a reciprocal movement, make sure to avoid getting your hands caught between the cylinder and the rear plates during handling or operation. If this product is to be installed on the outside of the equipment, safety measures must be taken, such as installing a protective cover.

Setting examples of protection cover



Mounting/Adjustment

⚠ Caution

- ① **Do not scratch or gouge the sliding portion of the guide rod by striking it with an object or getting an object trapped in it.**
 Because the outer circumference of the guide rod is manufactured with precise tolerances, even a slight deformation, scratch, or gouge can lead to faulty operation or reduced durability.
- ② **To install a guide body, use one with a mounting surface that has a high degree of flatness.**
 If the guide rod is twisted or bent, its operating resistance will become very high, causing its bearings to wear prematurely and its performance to be lowered.
- ③ **Install the cylinder in an area in which it can be serviced easily.**
 Provide sufficient space around the cylinder so as not to obstruct maintenance service.
- ④ **Do not adjust the rod stroke by moving the rear plates, as doing so will cause the rear plates to come into direct contact with the guide body or the rod cover.**
 The resulting impact cannot be absorbed easily, the stroke position cannot be maintained, and faulty operation may ensue.
- ⑤ **Greasing the bearings**
 To prevent foreign particles from mixing with the grease, use a grease applicator that has a check valve. Use a high-quality lithium soap-based No.2 grease.

⚠ Caution

- ① **Precautions for handling the fine-lock cylinder**
 For details, make sure to refer to "Fine Lock Cylinder (CLG1 Series)" on p.3.1-4 and 3.1-5.

CL

MLGC

CNA

CB

CV/MVG

CXW

CXS

CXT

MX

MXU

MXS

MXQ

MXF

MXW

MPX

MG

MGP

MGQ

MGG

MGC

MGF

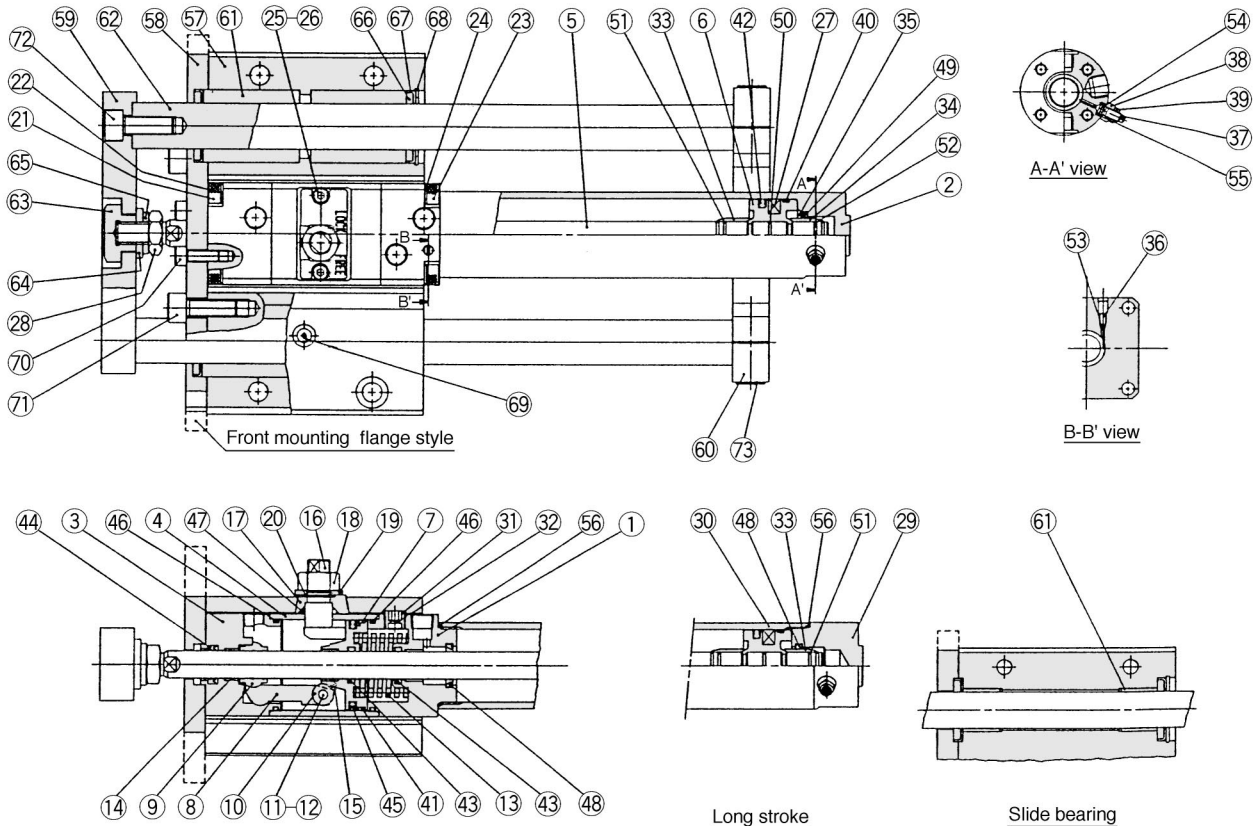
CY1

MY1

Series MLGC

Construction

Ball bushing bearing



Component Parts

No.	Description	Material	Notes
①	Rod cover	Aluminum alloy	White hard anodized
②	Tube cover	Aluminum alloy	White hard anodized
③	Cover	Carbon steel	Nitrate chrome plated
④	Middle cover	Aluminum alloy	White hard anodized
⑤	Piston rod	Carbon steel	Hard chrome plated SUS for ø20/ø25
⑥	Piston	Aluminum alloy	Chromate
⑦	Brake piston	Carbon steel	Nitrided
⑧	Brake arm	Carbon steel	Nitrided
⑨	Brake shoe	Special brake lining	
⑩	Roller	Carbon steel	Nitrided
⑪	Pin	Carbon steel	Heat treatment
⑫	Set ring	Carbon tool steel	Nickel plated
⑬	Brake spring	Spring steel wire	Dacrodized For spring lock and spring/air pressure lock
⑭	Bushing	Oil impregnated sintered alloy	ø40: Zinc bronze die casted
⑮	Bushing	Oil impregnated sintered alloy	ø40: Zinc bronze die casted
⑯	Manual locking releasing cam	Chrome molybdenum steel	Nickel plated
⑰	Cam guide	Carbon steel	Nitrate, Painted
⑱	Lock nut	Rolled steel	Nickel plated
⑲	Flat washer	Rolled steel	Nickel plated
⑳	Set ring	Carbon tool steel	Nickel plated
㉑	Socket head cap screw	Chrome molybdenum steel	Nickel plated
㉒	Spring washer	Steel wire	Nickel plated
㉓	Socket head cap screw	Chrome molybdenum steel	Hard anodized
㉔	Spring washer	Steel wire	Nickel plated
㉕	Socket head cap screw	Chrome molybdenum steel	Nickel plated
㉖	Spring washer	Steel wire	Nickel plated
㉗	Rubber magnet	Synthetic rubber	
㉘	Rod end nut	Rolled steel	Nickel plated
㉙	Head cover	Aluminum alloy	White hard anodized
㉚	Cylinder tube	Aluminum alloy	Hard anodized
㉛	Hexagon socket head plug	Carbon steel	Nickel plated
㉜	Element	Bronze	
㉝	Cushion ring A	Brass	
㉞	Cushion ring B	Brass	With cushion ring A except std stroke of ø20 and ø25
㉟	Packing retainer	Rolled steel	Nickel plated Not attached to long stroke
㊱	Cushion valve A	Brass	Electroless nickel plated
㊲	Cushion valve B	Rolled steel	Electroless nickel plated
㊳	Valve retainer	Rolled steel	Electroless nickel plated
㊴	Lock nut	Rolled steel	Electroless nickel plated

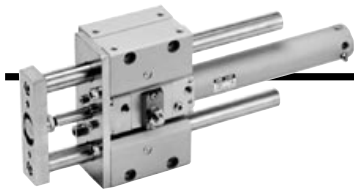
Component Parts

No.	Description	Material	Notes
④①	Wear ring	Resin	
④②	Wear ring	Resin	
④③	Piston packing	NBR	
④④	Rod seal A	NBR	
④⑤	Rod seal B	NBR	
④⑥	Brake piston seal	NBR	
④⑦	Middle cover gasket	NBR	
④⑧	Cam gasket	NBR	
④⑨	Cushion seal A	Urethane	
④⑩	Cushion seal B	Urethane	(2)
④⑪	Piston gasket	NBR	
④⑫	Cushion ring gasket A	NBR	
④⑬	Cushion ring gasket B	NBR	(3)
④⑭	Valve seal A	NBR	
④⑮	Valve seal B	NBR	
④⑯	Gasket for valve retainer	NBR	
④⑰	Cylinder tube gasket	NBR	
④⑱	Guide body	Aluminum alloy	White anodized
④⑲	Small flange	Rolled steel	Nickel plated
④⑲	Large flange	Rolled steel	Nickel plated
④⑲	Front plate	Rolled steel	Matt nickel plated
④⑲	Rear plate	Cast iron	Matt nickel plated
④⑲	Slide bearing	Special brake lining	For slide bearing
④⑲	Ball bushing bearing	—	For ball bushing bearing
④⑲	Guide rod	Carbon steel	Hard chrome plated For slide bearing
④⑲	End meal fittings	Carbon steel	Quenched hard chrome plated For ball bushing bearing
④⑲	Washer	Rolled steel	Nickel plated
④⑲	Spring washer	Steel wire	Nickel plated
④⑲	Felt	Felt	
④⑲	Holder	Stainless steel	
④⑲	C type set ring for hole	Carbon tool steel	Nickel plated
④⑲	Ball cup	—	Nickel plated
④⑲	Socket head cap screw	Chrome molybdenum steel	Nickel plated
④⑲	Socket head cap screw	Chrome molybdenum steel	Nickel plated
④⑲	Socket head cap screw	Chrome molybdenum steel	Nickel plated
④⑲	Socket head cap screw	Chrome molybdenum steel	Nickel plated



Note 1) Consult SMC when disassembling fine lock unit part.
 Note 2) Common with cushion packing A except for standard stroke of ø20 and ø25.
 Note 3) Common with cushion ring gasket A except for standard stroke of ø20 and ø25.

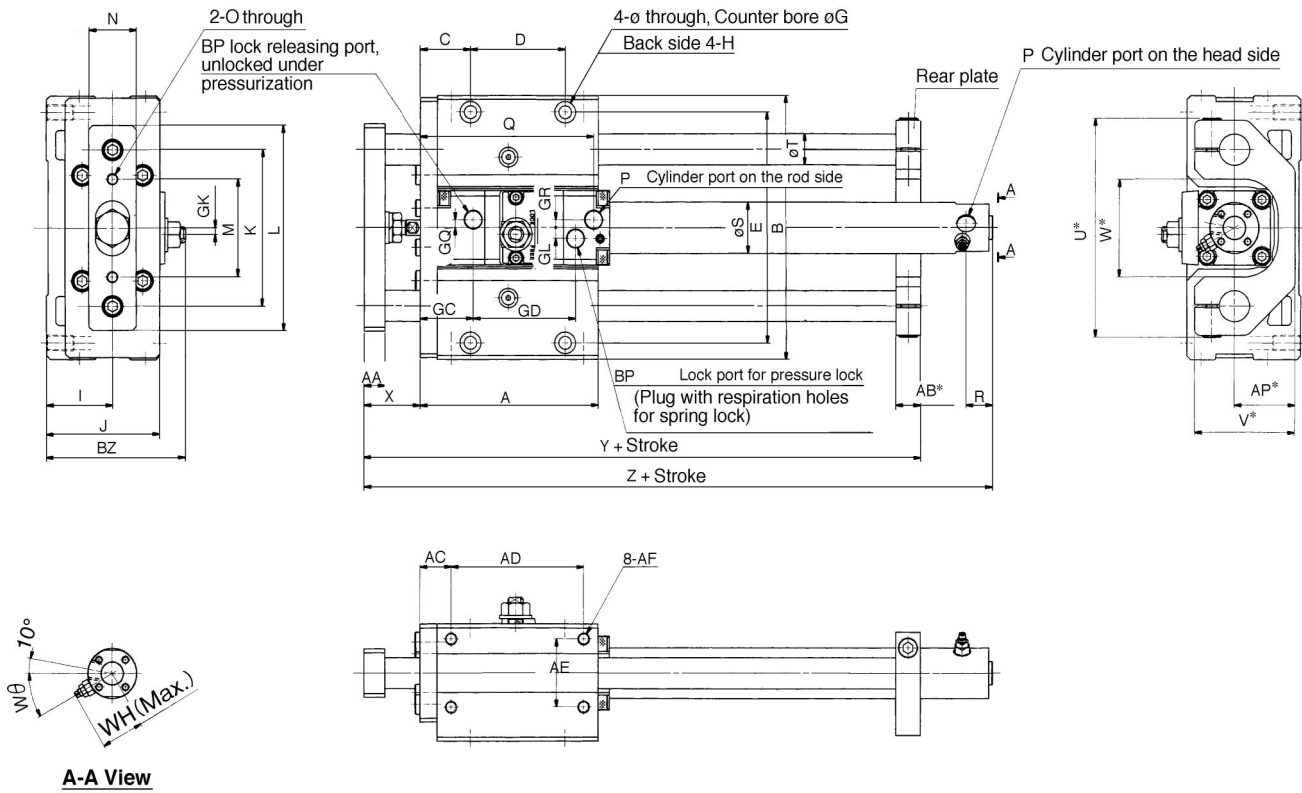
Fine Lock Cylinder with Guide *Series MLGC*



Basic/With Rear Plate



MLGC□B□-□-□-□



- CL
- MLGC**
- CNA
- CB
- CV/MVG
- CXW
- CXS
- CXT
- MX
- MXU
- MXS
- MXQ
- MXF
- MXW
- MXP
- MG
- MGP
- MGQ
- MGG
- MGC
- MGF
- CY1
- MY1

Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB	AC	AD	AE	AF	AP	B	BP	BZ	C	D	E	F	G	GC
20	75, 100, 125, 150, 200	94	11	13	16.5	70	35	M6 X 1 depth 12	32	135	Rc(PT) ¹ / ₈	73.5	26.5	50	118	6.8	11 depth 8	28
25	75, 100, 125, 150, 200, 250, 300	104	15	16	19	75	40	M8 X 1.25 depth 16	37	160	Rc(PT) ¹ / ₈	86.5	31.5	50	140	8.6	14 depth 10	29
32		104	15	16	19	75	40	M8 X 1.25 depth 16	37	160	Rc(PT) ¹ / ₈	86.5	31.5	50	140	8.6	14 depth 10	30
40		142	18	19	22	110	45	M10 X 1.5 depth 20	42	194	Rc(PT) ¹ / ₈	95	37	80	170	10.5	17 depth 12	35

Bore size (mm)	GD	GK	GL	GQ	GR	H	I	J	K	L	M	N	O	P	Q	R	S
20	54	3.5	5.5	4	4	M8 X 1.25 depth 14	35	60	80	105	50	25	M6 X 1	M5 X 0.8	93	12	26
25	62	4	9	7	7	M10 X 1.5 depth 18	40	70	95	125	60	32	M8 X 1.25	M5 X 0.8	103	12	31
32	62	4	9	7	7	M10 X 1.5 depth 18	40	70	95	125	60	32	M8 X 1.25	Rc(PT) ¹ / ₈	104	12	38
40	67	4	11	8	8	M12 X 1.75 depth 21	45	82.5	115	150	75	38	M8 X 1.25	Rc(PT) ¹ / ₈	115	12	47

Bore size (mm)	T	U	V	W	WH	Wθ	X	Y	Z
20	16	112	53	50	23	30*	30	146	182
25	20	132	63	60	25	30*	37	167	199
32	20	132	63	60	28.5	25*	37	167	202
40	25	162	73	70	33	20*	44	210	227

Without rear plate

Bore size (mm)	Y
20	129
25	146
32	146
40	191

Long stroke

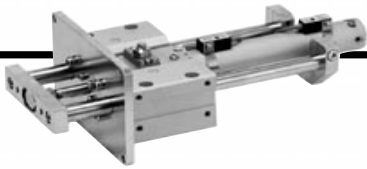
Bore size (mm)	Stroke range (mm)	R	Z
20	250 to 400	14	190
25	350 to 500	14	207
32	350 to 600	14	210
40	350 to 800	15	236

Note) Dimensions marked with "*" are not required for back plate non attached style.



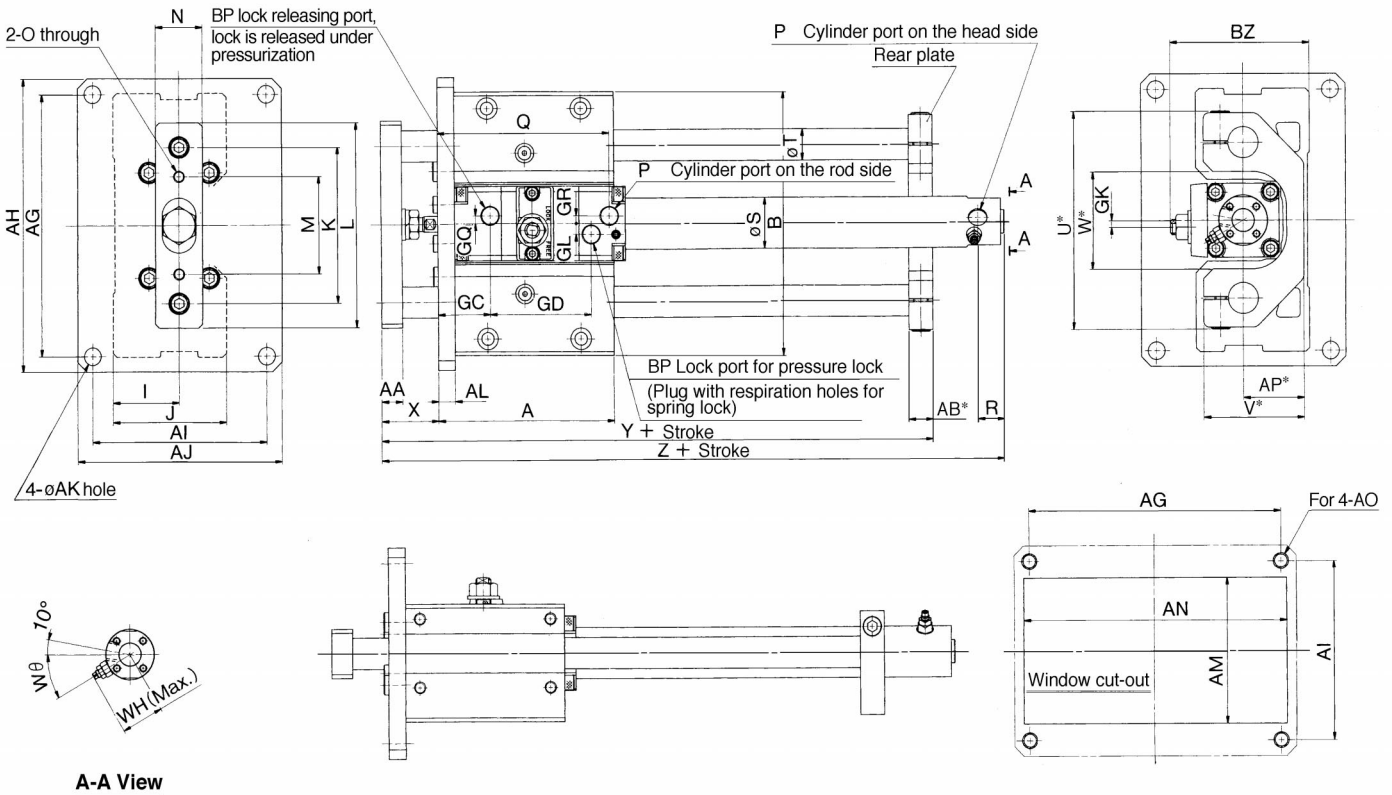
MLGC□B□Bore size-R.....SMLGC□Bore size, #1 (#1+#4)
MLGC□B□Bore size.....SMLGC□Bore size, #3 (#3+#4)

Series MLGC



Front Flange Mounting/With Rear Plate

MLGC□F□-□-R-□



A-A View

Mounting seat dimensions

Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	B	BP	BZ	GC	GD	GK
20	75, 100, 125, 150, 200	94	11	13	134	150	92	108	9	9	75	140	M8	32	135	Rc(PT) 1/8	73.5	28	54	3.5
25	75, 100, 125, 150, 200, 250, 300	104	15	16	160	176	110	125	9	9	88	165	M8	37	160	Rc(PT) 1/8	86.5	29	62	4
32		104	15	16	160	176	110	125	9	9	88	165	M8	37	160	Rc(PT) 1/8	86.5	30	62	4
40		142	18	19	190	210	115	135	11	12	96	200	M10	42	194	Rc(PT) 1/8	95	35	67	4

Bore size (mm)	GL	GQ	GR	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
20	5.5	4	4	35	60	80	105	50	25	M6 X 1	M5 X 0.8	93	12	26	16	112	53	50
25	9	7	7	40	70	95	125	60	32	M8 X 1.25	M5 X 0.8	103	12	31	20	132	63	60
32	9	7	7	40	70	95	125	60	32	M8 X 1.25	Rc(PT) 1/8	104	12	38	20	132	63	60
40	11	8	8	45	82.5	115	150	75	38	M8 X 1.25	Rc(PT) 1/8	115	12	47	25	162	73	70

Bore size (mm)	WH	WØ	X	Y	Z
20	23	30°	30	146	182
25	25	30°	37	167	199
32	28.5	25°	37	167	202
40	33	20°	44	210	227

Without rear plate

Bore size (mm)	Y
20	129
25	146
32	146
40	191

Long stroke

Bore size (mm)	Stroke range (mm)	R	Z
20	250 to 400	14	190
25	350 to 500	14	207
32	350 to 600	14	210
40	350 to 800	15	236

Note) Dimensions marked with "*" are not required for rear plate non attached style.

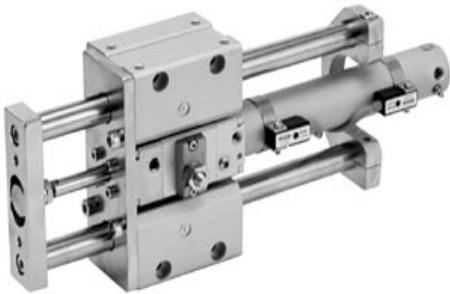


MLGC□Bore size-R.....SMLGC□Bore size, #2 (#1+#2+#4)

Auto Switch Specifications



Refer to p.5.3-2 for further information on auto switch single body.



Applicable Auto Switches

Bore size (mm)	Applicable auto switch	Electrical entry (Function)	Page
20	Reed switch	D-B5/B6	Grommet
		D-B7/B8	Grommet
		D-B73C/B80C	Connector
		D-C7/C8	Grommet
		D-C73C/C80C	Connector
		D-B59W	Grommet (Indication with 2 color)
25 32 40	Solid state switch	D-G5/K5	Grommet
		D-G5NTL	Grommet (With timer)
		D-G7/K7	Grommet
		D-K79C	Connector
		D-H7	Grommet
		D-H7C	Connector
		D-G5□W/K59W	Grommet (Indication with 2 color)
		D-G5BAL	Grommet (2 color, Water proof)
		D-G59F	Grommet (2 color, With diagnoses output)
		D-H7□W	Grommet (Indication with 2 color)
		D-H7BAL	Grommet (2 color, Water proof)
		D-H7□F	Grommet (2 color, With diagnoses output)

CL

MLGC

CNA

CB

CV/MVG

CXW

CXS

CXT

MX

MXU

MXS

MXQ

MXF

MXW

MXP

MG

MGP

MGQ

MGG

MGC

MGF

CY1

MY1

Precautions

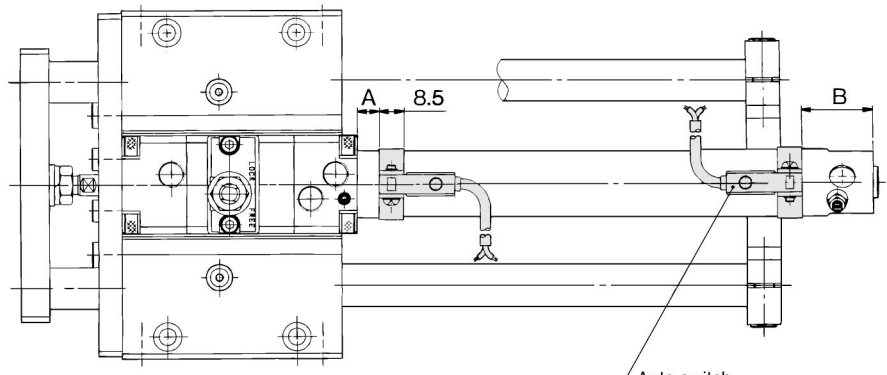
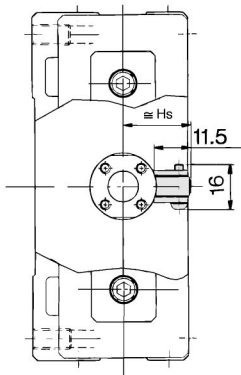
Read carefully before handling.

Refer to p.0-39 to 0-46 for common precautions of auto switch.

Series MLGC

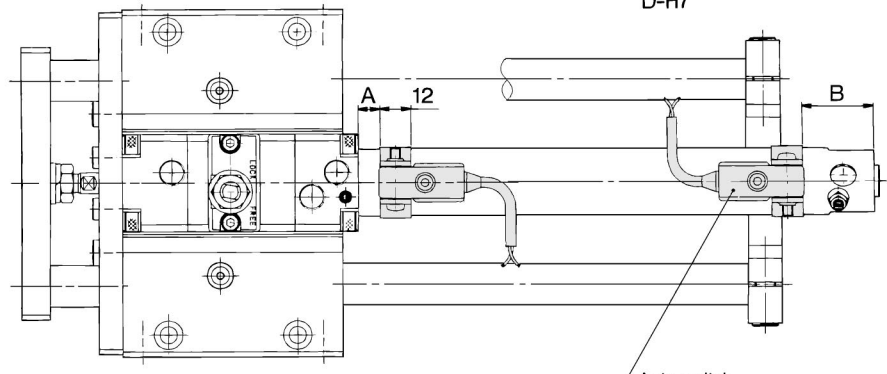
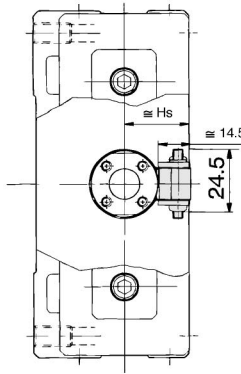
Proper Mounting Positions of Auto Switch (Stroke End)

D-C7/C8
D-H7



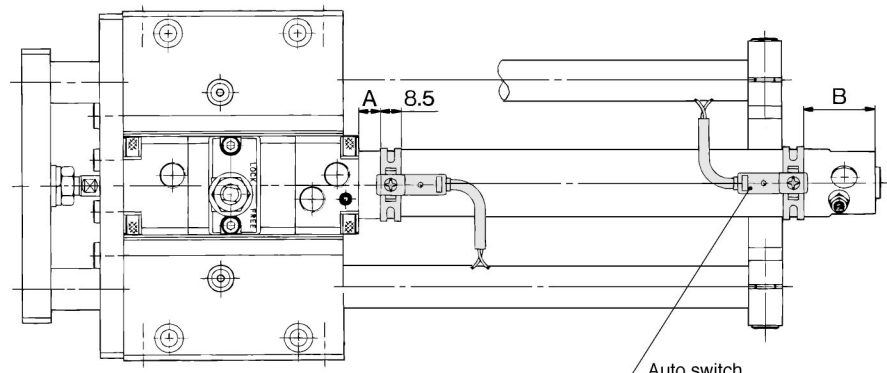
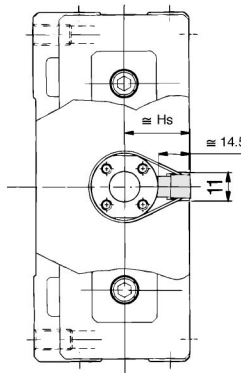
Auto switch
D-C7/C8
D-H7

D-B5/B6
D-G5/K5



Auto switch
D-B5/B6
D-G5/K5

D-B7/B8
D-G7/K7



Auto switch
D-B7/B8
D-G7/K7

Setting Positions of Auto Switch

(mm)

Mounting Height of Auto Switch

(mm)

Model	D-B7/B8 D-B73C D-B80C D-G7/K7 D-K79C		D-C7/C8 D-C73C D-C80C		D-B5/B6 D-G5□W D-K59W D-G5BAL D-G59F		D-B59W		D-H7 D-H7C		D-H7□W D-H7□F D-H7BAL		D-G5 D-K5 D-G5NTL		D-C7/C8 D-H7 D-H7□W D-H7□F D-H7BAL	D-C73C D-C80C	D-B7/B8 D-B73C D-B80C D-G7/K7 D-K79C D-H7C		D-G5/K5 D-G5□W D-K59W D-G5NTL D-B5/B6 D-B59W D-G5BAL D-G59F
	A	B	A	B	A	B	A	B	A	B	A	B	A	B			Hs	Hs	
20	10	21.5 (29.5)	9	20.5 (28.5)	3	15 (22.5)	6	17.5 (25.5)	8	19.5 (27.5)	6.5	18 (26)	4.5	16 (24)	Hs	24.5	27	27.5	
25	10	21.5 (29.5)	9	20.5 (28.5)	3	15 (22.5)	6	17.5 (25.5)	8	19.5 (27.5)	6.5	18 (26)	4.5	16 (24)	27	29.5		30	
32	11	22.5 (30.5)	10	21.5 (29.5)	4	15.5 (23.5)	7	18.5 (26.5)	9	20.5 (28.5)	7.5	19 (27)	5.5	17 (25)	30.5	33		33.5	
40	15.5	25 (34)	14.5	24 (33)	8.5	20 (27)	11.5	21 (30)	13.5	23 (32)	12	21.5 (30.5)	10	19.5 (28.5)	35	37.5		38	

* Values in parentheses are for long stroke style.