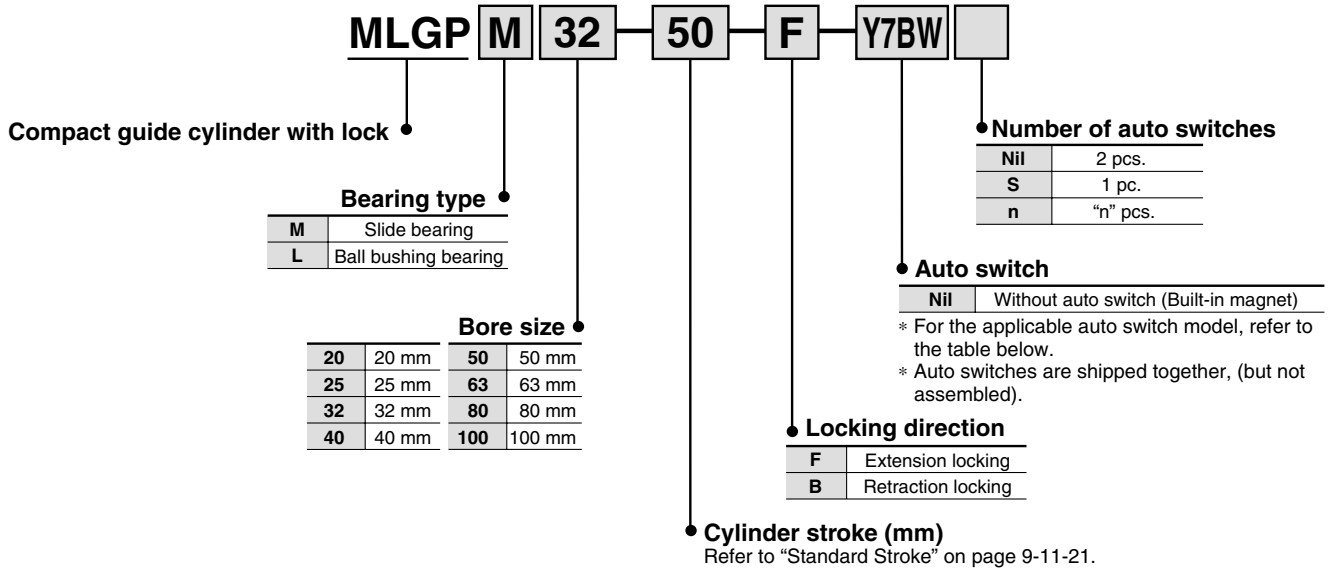


Compact Guide Cylinder with Lock

Series *MLGP*

ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

How to Order



Applicable Auto Switch/Refer to page 9-15-1 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model		Lead wire length (m)*			Pre-wire connector	Applicable load	
					DC	AC		Perpendicular	In-line	0.5 (Nil)	3 (L)	5 (Z)			
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	—	Z76	●	●	—	—	IC circuit	—
				2-wire	24 V	12 V	100 V	—	Z73	●	●	●	—	—	—
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V 12 V	—	Y69A	Y59A	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				Y7PV	Y7P	●	●	○	○	—	
				2-wire				Y69B	Y59B	●	●	○	○	—	
	3-wire (NPN)			Y7NWV				Y7NW	●	●	○	○	IC circuit		
	3-wire (PNP)			Y7PWV				Y7PW	●	●	○	○	—		
	2-wire			Y7BWV				Y7BW	●	●	○	○	—		
	Water resistant (2-color indication)			—				Y7BA	—	●	○	○	—		
Magnetic field resistant (2-color indication)	—	P5DW	—	●	●	○	—								

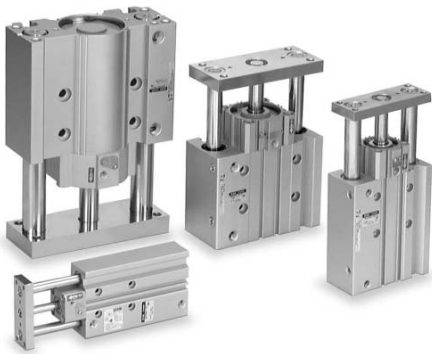
* Lead wire length symbols: 0.5 m Nil (Example) Y69A
3 m L (Example) Y69AL
5 m Z (Example) Y69AZ

* Solid state switches marked with "○" are produced upon receipt of order.
* P5DW type can only be mounted only on bore sizes ø40 through ø100.

- Since there are applicable auto switches other than the listed above, refer to page 9-11-29.
- For details about auto switches with pre-wire connector, refer to page 9-15-68.

Compact Guide Cylinder with Lock Series **MLGP**

Cylinder Specifications



Action	Double acting
Fluid	Air
Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Minimum operating pressure	0.2 MPa ^{Note)}
Ambient and fluid temperature	-10 to 60°C (No freezing)
Piston speed	50 to 400 mm/s
Cushion	Rubber bumper on both ends
Lubrication	Non-lube
Stroke length tolerance	+1.5 0 mm

Note) When the unlocking air and cylinder operating air are not common, the minimum operating pressure is 0.15 MPa. (The minimum operating pressure for the cylinder alone is 0.15 MPa.)

Lock Specifications

Bore size (mm)	20	25	32	40	50	63	80	100
Lock operation	Spring locking (Exhaust locking)							
Unlocking pressure	0.2 MPa or more							
Lock starting pressure	0.05 MPa or less							
Locking direction	One direction (Extension locking, Retraction locking)							
Maximum operating pressure	1.0 MPa							
Unlocking port size	M5 x 0.8			Rc 1/8				Rc 1/4
Holding force (Maximum static load) (N)	157	245	402	629	982	1559	2513	3927

Standard Stroke

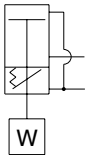
Bore size (mm)	Standard stroke (mm)
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350
32 to 80	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350
100	50, 75, 100, 125, 150, 175, 200, 250, 300, 350

Manufacture of Intermediate Stroke

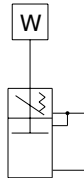
Description	Spacer installation type Spacers are installed in the standard stroke cylinders. ø20 to 32: Stroke can be modified by the 1 mm interval. ø40 to 100: Stroke can be modified by the 5 mm interval.	
Part no.	Refer to "How to Order" for the standard model numbers.	
Applicable stroke (mm)	ø20, ø25, ø32	1 to 349
	ø40 to ø80	5 to 345
	ø100	25 to 345
Example	Part no.: MLGPM20-39-F A 1 mm spacer is installed in MLGPM20-40-F. Dimension C is 77 mm.	

JIS Symbol

Extension locking



Retraction locking



Minimum Stroke for Auto Switch Mounting

No. of auto switches mounted	D-Z7□ D-Z80 D-Y59□ D-Y7P D-Y7□W	D-Y69□ D-Y7PV□	D-Y7□WV	D-Y7BAL	D-P5DWL
1 pc.	15	5	10	20	25
2 pcs.	15	5	15	20	25

Note) D-P5DWL can only be mounted on bore sizes ø40 through ø100.

Auto Switch Mounting Bracket Part No. for D-P5DW

Bore size (mm)	Mounting bracket part no.	Note
40, 50, 63, 80, 100	BMG1-040	Switch mounting bracket Hexagon socket head cap screw (M2.5 x 0.45 x 8) 2 pcs. Hexagon socket head cap screw (M3 x 0.5 x 16) 2 pcs. Spring washer (Nominal size 3)

Theoretical Output



Bore size (mm)	Rod size (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	10	OUT	314	63	94	126	157	188	220	251	283	314
		IN	236	47	71	94	118	142	165	189	212	236
25	12	OUT	491	98	147	196	246	295	344	393	442	491
		IN	378	76	113	151	189	227	265	302	340	378
32	16	OUT	804	161	241	322	402	482	563	643	724	804
		IN	603	121	181	241	302	362	422	482	543	603
40	16	OUT	1257	251	377	503	629	754	880	1006	1131	1257
		IN	1056	211	317	422	528	634	739	845	950	1056
50	20	OUT	1963	393	589	785	982	1178	1374	1570	1767	1963
		IN	1649	330	495	660	825	990	1154	1319	1484	1649
63	20	OUT	3117	623	935	1247	1559	1870	2182	2494	2805	3117
		IN	2803	561	841	1121	1402	1682	1962	2242	2523	2803
80	25	OUT	5027	1005	1508	2011	2514	3016	3519	4022	4524	5027
		IN	4536	907	1361	1814	2268	2722	3175	3629	4082	4536
100	30	OUT	7854	1571	2356	3142	3927	4712	5498	6283	7069	7854
		IN	7147	1429	2144	2859	3574	4288	5003	5718	6432	7147

Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm²)

CL

CL1

MLGC

CNG

MNB

CNA

CNS

CLS

CLQ

MLGP

RLQ

MLU

ML1C

D-

-X

20-

Data

Series MLGP

Weight

Slide Bearing: MLGPM20 to 100

(kg)

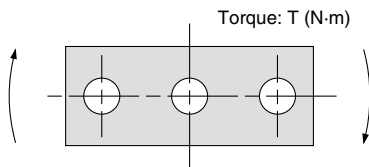
Bore size (mm)	Standard stroke (mm)													
	20	25	30	40	50	75	100	125	150	175	200	250	300	350
20	0.84	—	0.92	1.00	1.08	1.34	1.54	1.74	1.93	2.13	2.33	2.80	3.20	3.59
25	1.22	—	1.32	1.43	1.54	1.92	2.19	2.46	2.74	3.01	3.28	3.94	4.48	5.03
32	—	2.09	—	—	2.47	2.87	3.25	3.64	4.02	4.40	4.78	5.73	6.49	7.26
40	—	2.44	—	—	2.86	3.32	3.74	4.17	4.59	5.02	5.44	6.48	7.34	8.19
50	—	4.13	—	—	4.77	5.50	6.14	6.78	7.42	8.06	8.70	10.4	11.6	12.9
63	—	5.23	—	—	5.99	6.83	7.59	8.34	9.10	9.85	10.7	12.5	14.0	15.5
80	—	8.50	—	—	9.44	10.7	11.7	12.6	13.6	14.5	15.5	17.9	19.8	21.6
100	—	—	—	—	15.3	17.0	18.3	19.7	21.0	22.3	23.6	27.0	29.6	32.3

Ball Bushing Bearing: MLGPL20 to 100

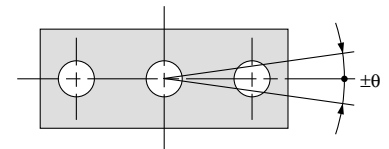
(kg)

Bore size (mm)	Standard stroke (mm)													
	20	25	30	40	50	75	100	125	150	175	200	250	300	350
20	0.86	—	0.93	1.05	1.13	1.30	1.47	1.68	1.85	2.03	2.20	2.58	2.93	3.28
25	1.22	—	1.31	1.49	1.58	1.81	2.05	2.32	2.55	2.78	3.01	3.51	3.98	4.44
32	—	1.89	—	—	2.20	2.65	2.97	3.34	3.66	3.97	4.29	4.98	5.61	6.24
40	—	2.16	—	—	2.58	3.07	3.43	3.85	4.21	4.57	4.93	5.71	6.43	7.15
50	—	3.69	—	—	4.33	5.08	5.63	6.27	6.82	7.37	7.92	9.15	10.3	11.4
63	—	4.77	—	—	5.53	6.40	7.06	7.82	8.48	9.15	9.81	11.3	12.7	14.0
80	—	8.11	—	—	9.25	10.6	11.4	12.2	13.0	13.9	14.7	16.6	18.2	19.9
100	—	—	—	—	14.7	16.5	17.6	18.8	20.0	21.2	22.4	25.0	27.3	29.7

Allowable Rotational Torque of Plate



Non-rotating Accuracy of Plate



Note) For non-rotating accuracy θ without load, use a value no more than the values in the table as a guide.

Bore size (mm)	Bearing type	Stroke													
		20	25	30	40	50	75	100	125	150	175	200	250	300	350
20	MLGPM	0.77	—	0.70	0.64	0.59	1.62	1.42	1.27	1.15	1.05	0.97	0.83	0.73	0.65
	MLGPL	0.75	—	0.68	1.49	1.41	1.24	1.11	1.29	1.18	1.08	1.00	0.86	0.76	0.67
25	MLGPM	1.24	—	1.13	1.04	0.97	2.49	2.20	1.98	1.79	1.64	1.51	1.30	1.15	1.02
	MLGPL	1.23	—	1.14	2.26	2.14	1.90	1.71	1.96	1.79	1.65	1.53	1.33	1.17	1.04
32	MLGPM	—	4.89	—	—	4.13	4.82	4.29	3.87	3.53	3.24	2.99	2.60	2.30	2.06
	MLGPL	—	4.22	—	—	3.64	4.07	3.67	5.37	4.97	4.62	4.31	3.80	3.39	3.06
40	MLGPM	—	5.29	—	—	4.49	5.25	4.68	4.23	3.86	3.54	3.28	2.85	2.52	2.26
	MLGPL	—	4.53	—	—	3.93	4.41	3.98	5.84	5.41	5.03	4.70	4.15	3.70	3.34
50	MLGPM	—	10.06	—	—	8.66	10.13	9.12	8.29	7.60	7.01	6.51	5.70	5.06	4.56
	MLGPL	—	6.40	—	—	5.57	7.76	7.04	9.75	9.05	8.43	7.88	6.96	6.22	5.60
63	MLGPM	—	11.13	—	—	9.60	11.27	10.15	9.24	8.48	7.83	7.28	6.37	5.67	5.11
	MLGPL	—	6.91	—	—	6.02	8.48	7.69	10.73	9.95	9.27	8.67	7.65	6.83	6.14
80	MLGPM	—	16.70	—	—	14.67	19.10	17.41	15.99	14.79	13.75	12.85	11.36	10.18	9.23
	MLGPL	—	9.44	—	—	16.88	17.92	16.51	15.28	14.20	13.24	12.37	10.89	9.66	8.62
100	MLGPM	—	—	—	—	26.17	30.70	28.23	26.12	24.31	22.73	21.35	19.03	17.17	15.64
	MLGPL	—	—	—	—	21.11	29.10	26.98	25.10	23.43	21.93	20.57	18.21	16.22	14.53

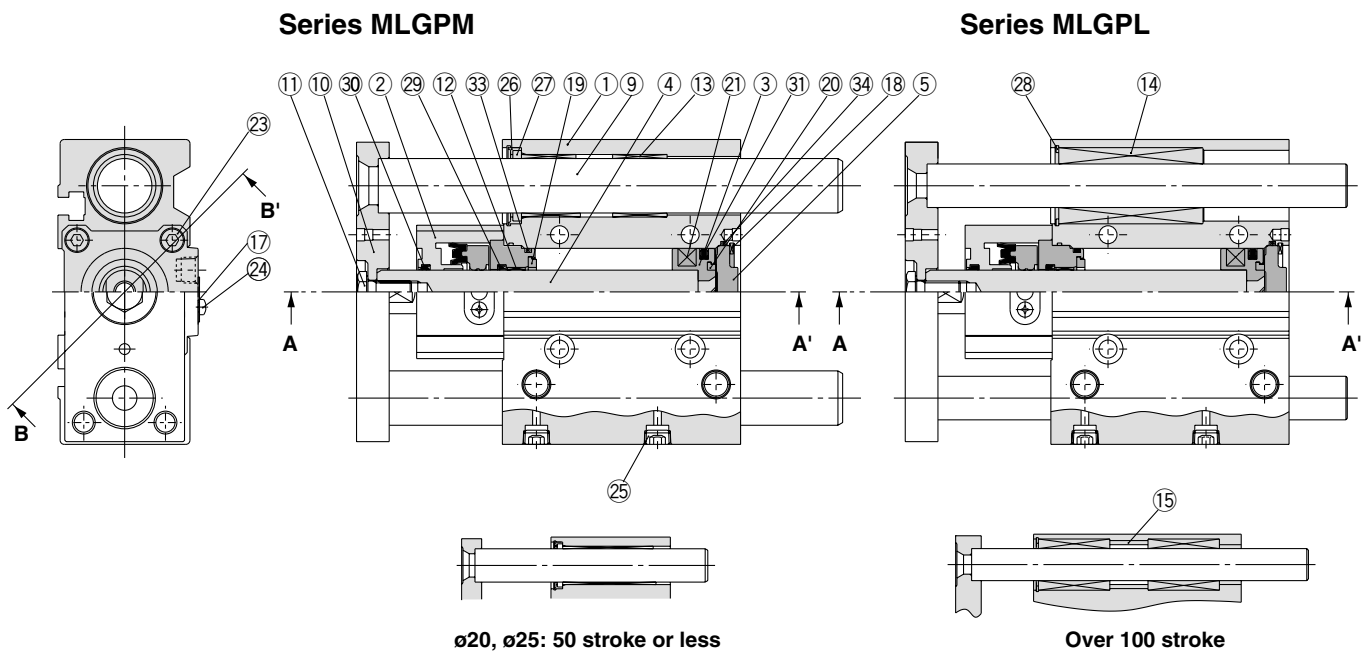
T (N-m)

Bore size (mm)	Non-rotating accuracy θ	
	MLGPM	MLGPL
20	$\pm 0.07^\circ$	$\pm 0.09^\circ$
25	$\pm 0.07^\circ$	$\pm 0.09^\circ$
32	$\pm 0.06^\circ$	$\pm 0.08^\circ$
40	$\pm 0.06^\circ$	$\pm 0.08^\circ$
50	$\pm 0.05^\circ$	$\pm 0.06^\circ$
63	$\pm 0.05^\circ$	$\pm 0.06^\circ$
80	$\pm 0.04^\circ$	$\pm 0.05^\circ$
100	$\pm 0.04^\circ$	$\pm 0.05^\circ$

Note) Do not apply rotational force in a locked condition, as this will cause damage to the lock mechanism or decrease of the product life.

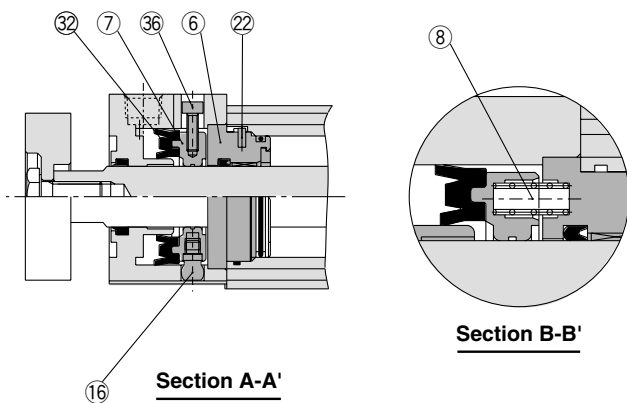
Compact Guide Cylinder with Lock Series **MLGP**

Construction: $\varnothing 20$, $\varnothing 25$, $\varnothing 32$

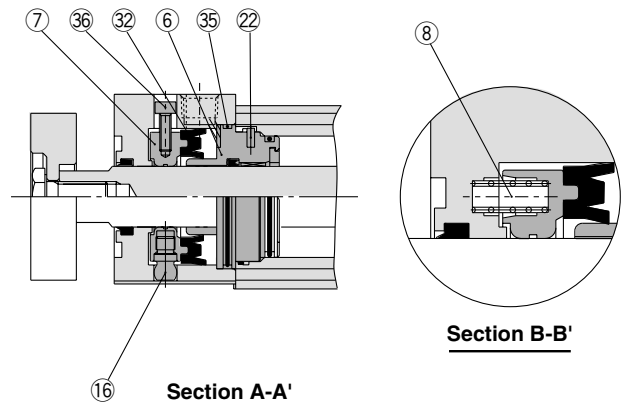


- CL
- CL1
- MLGC
- CNG
- MNB
- CNA
- CNS
- CLS
- CLQ
- MLGP**
- RLQ
- MLU
- ML1C
- D-
- X
- 20-
- Data

Extension locking (Type F)



Retraction locking (Type B)



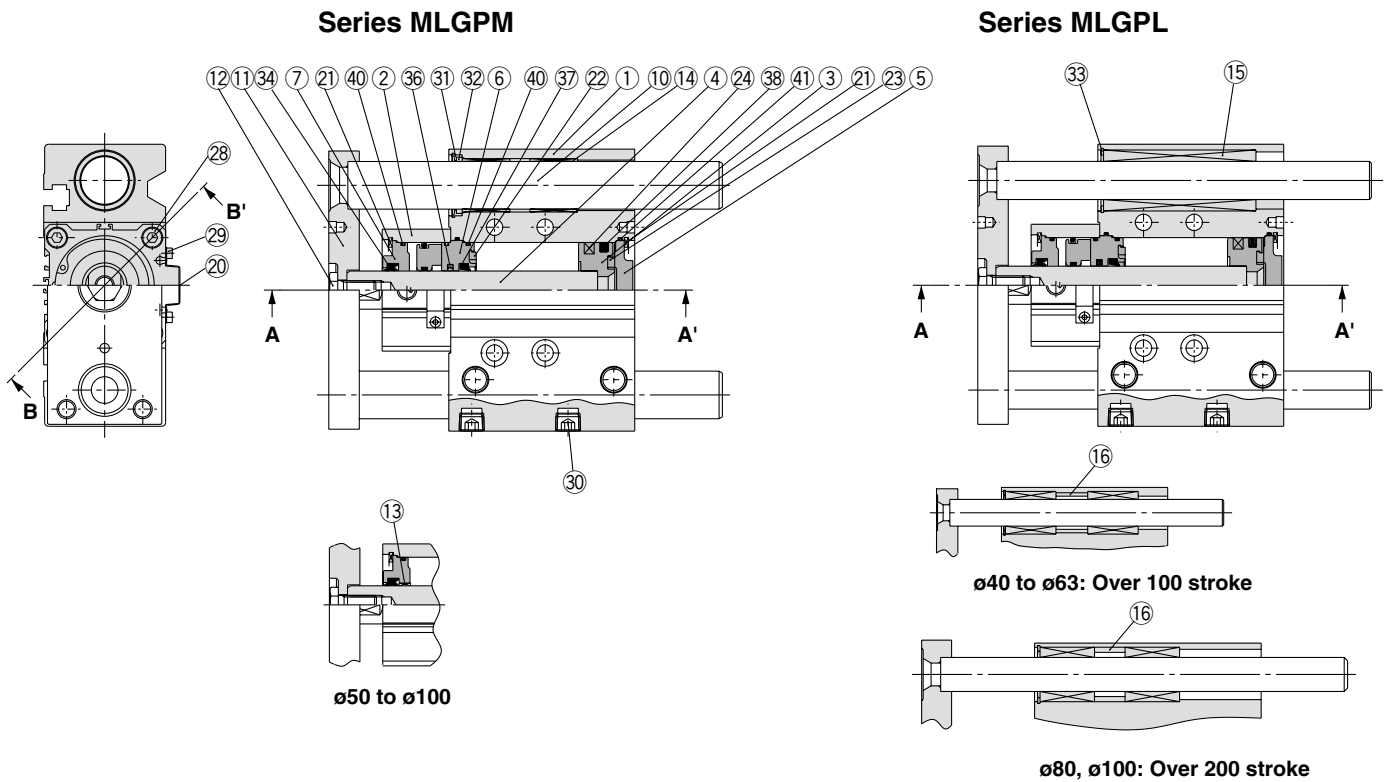
Component Parts

No.	Description	Material	Note
①	Body	Aluminum alloy	Hard anodized
②	Lock body	Aluminum alloy	Hard anodized
③	Piston	Aluminum alloy	Chromated
④	Piston rod	$\varnothing 20, 25$ $\varnothing 32$	Stainless steel Carbon steel
⑤	Head cover	Aluminum alloy	Painted
⑥	Intermediate collar	Type F Type B	Aluminum alloy
⑦	Lock ring	Carbon steel	Heat treated
⑧	Brake spring	Steel wire	Zinc chromated
⑨	Guide rod	Type M Type L	Carbon steel High carbon chrome bearing steel
⑩	Plate	Rolled steel	Nickel plated
⑪	Plate mounting bolt	Chromium molybdenum steel	Nickel plated
⑫	Bushing	$\varnothing 20, 25$ $\varnothing 32$	Oil-impregnated sintered alloy Lead-bronze casted
⑬	Slide bearing	Lead-bronze casted	
⑭	Ball bushing	—	
⑮	Spacer	Aluminum alloy	Chromated
⑯	Pivot	Chromium molybdenum steel	Heat treated/Electroless nickel plated

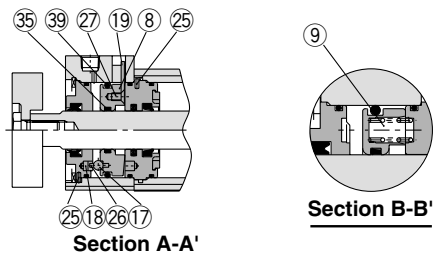
No.	Description	Material	Note
⑰	Dust cover	Stainless steel	
⑱	Type C snap ring for hole	Carbon tool steel	Phosphate coated
⑲	Bumper A	Urethane	
⑳	Bumper B	Urethane	
㉑	Plastic magnet	—	
㉒	Parallel pin	Carbon steel	
㉓	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated
㉔	Dust cover holding bolt	Carbon steel	Nickel plated
㉕	Hexagon socket head taper screw plug	Carbon steel	Nickel plated
㉖	Holder	Resin	
㉗	Felt	Felt	
㉘	Type C snap ring for hole	Carbon tool steel	Phosphate coated
㉙	Rod seal	NBR	
㉚	Scraper	NBR	
㉛	Piston seal	NBR	
㉜	Lock ring seal	NBR	
㉝	Gasket A	NBR	
㉞	Gasket B	NBR	
㉟	Lock body gasket	NBR	
㊱	Unlocking bolt	Chromium molybdenum steel	Nickel plated

Series MLGP

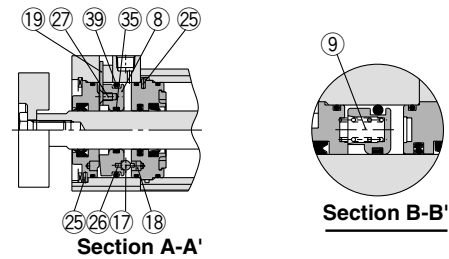
Construction: $\phi 40$ to $\phi 100$



Extension locking (Type F)



Retraction locking (Type B)



Component Parts

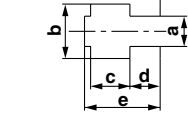
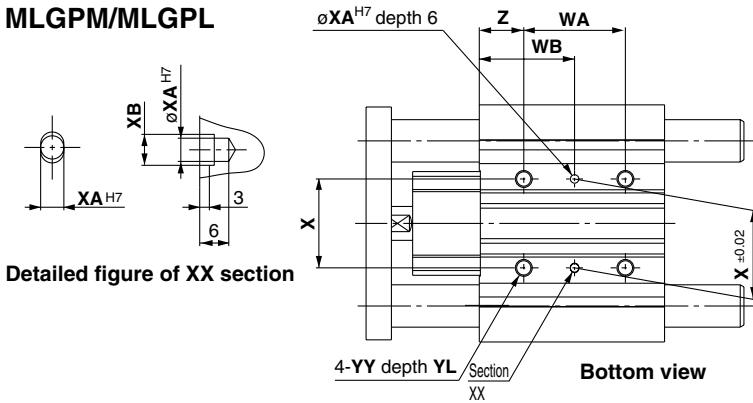
No.	Description	Material	Note	
①	Body	Aluminum alloy	Hard anodized	
②	Lock body	Aluminum alloy	Hard anodized	
③	Piston	Aluminum alloy	Chromated	
④	Piston rod	Carbon steel	Hard chrome plated	
⑤	Head cover	$\phi 40$ to 63	Aluminum alloy	Painted
		$\phi 80, 100$	Aluminum alloy casted	Chromated/Painted
⑥	Intermediate collar	Aluminum alloy	Chromated	
⑦	Collar	$\phi 40$	Aluminum alloy	Hard anodized
		$\phi 50$ to 100	Aluminum alloy casted	Chromated/Painted
⑧	Lock ring	Carbon steel	Heat treated	
⑨	Brake spring	Steel wire	Zinc chromated	
⑩	Guide rod	Type M	Carbon steel	Hard chrome plated
		Type L	High carbon chrome bearing steel	Heat treated/Hard chrome plated
⑪	Plate	Rolled steel	Nickel plated	
⑫	Plate mounting bolt	Chromium molybdenum steel	Nickel plated	
⑬	Bushing	Lead-bronze casted	$\phi 50$ to 100	
⑭	Slide bearing	Lead-bronze casted		
⑮	Ball bushing	—		
⑯	Spacer	Aluminum alloy	Chromated	
⑰	Pivot pin	Carbon steel	Heat treated/Zinc chromated	
⑱	Pivot key	Carbon steel	Heat treated/Zinc chromated	
⑲	Lever	Stainless steel		
⑳	Dust cover	$\phi 40$ to 63	Rolled steel	Nickel plated
		$\phi 80, 100$	Stainless steel	

No.	Description	Material	Note	
⑳	Type C snap ring for hole	Carbon tool steel	Phosphate coated	
㉑	Bumper A	Urethane		
㉒	Bumper B	Urethane		
㉓	Plastic magnet	—		
㉔	Parallel pin	Carbon steel		
㉕	Spring pin	Carbon steel		
㉖	Hexagon socket countersunk head screw	Chromium molybdenum steel	Nickel plated	
㉗	Hexagon socket head cap screw	Chromium molybdenum steel	Nickel plated	
㉘	Dust cover holding bolt	$\phi 40$ to 63	Chromium molybdenum steel	Nickel plated
		$\phi 80, 100$	Carbon steel	Nickel plated
㉙	Hexagon socket head taper screw plug	Carbon steel	Nickel plated	
㉚	Holder	Resin		
㉛	Felt	Felt		
㉜	Type C snap ring for hole	Carbon tool steel	Phosphate coated	
㉝	Rod seal A	NBR		
㉞	Rod seal B	NBR		
㉟	Rod seal C	NBR		
㊱	Scraper	NBR		
㊲	Piston seal	NBR		
㊳	Brake piston seal	NBR		
㊴	Gasket A	NBR		
㊵	Gasket B	NBR		

Compact Guide Cylinder with Lock Series **MLGP**

Dimensions: $\varnothing 20$, $\varnothing 25$, $\varnothing 32$

MLGPM/MLGPL



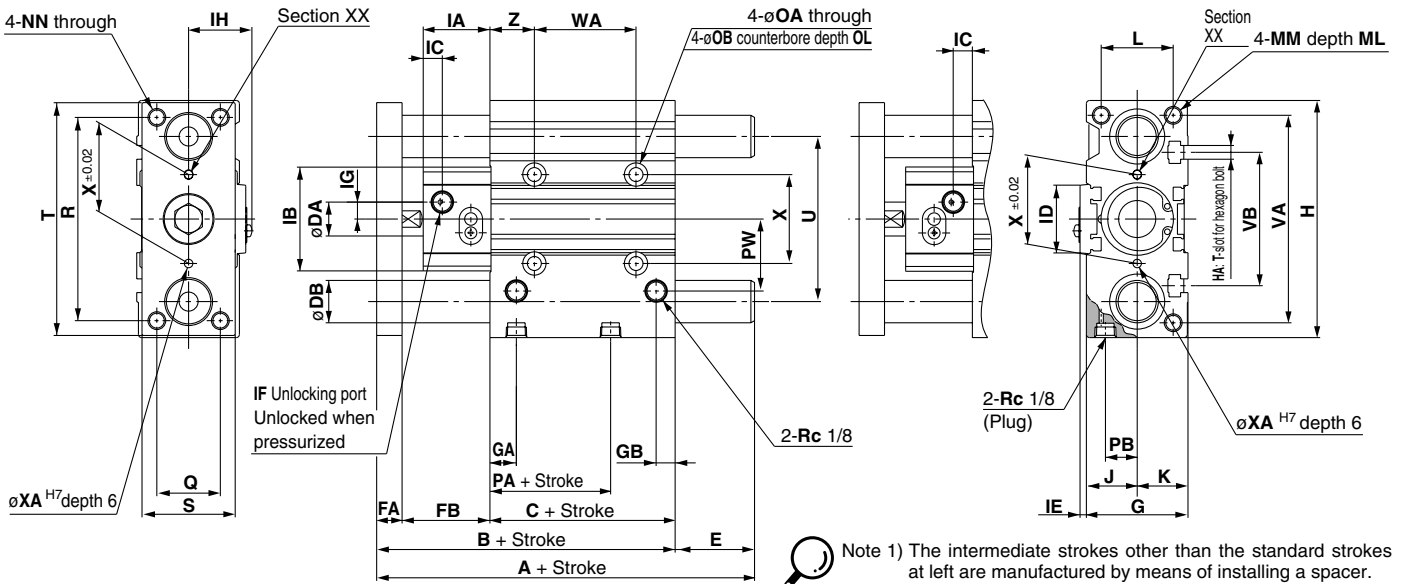
T-slot dimensions

Bore size (mm)	a	b	c	d	e
20	5.4	8.4	4.5	2.8	7.8
25	5.4	8.4	4.5	3	8.2
32	6.5	10.5	5.5	3.5	9.5

Extension locking



Retraction locking



Note 1) The intermediate strokes other than the standard strokes at left are manufactured by means of installing a spacer. Intermediate strokes for $\varnothing 20$ to $\varnothing 32$ are available by the 1 mm interval.

Note 2) For intermediate strokes, dimensions **A**, **B**, **C**, **E**, **PA**, **WA**, and **WB** will be the same as the standard stroke with a longer one.

Common Dimensions: MVGPM/MVGPL

Bore size (mm)	Standard stroke (mm)	B	C	DA	FA	FB	G	GA	GB	H	HA	IA	IB	IC		ID	IE	IF	IG	IH	J	K	L
														Extension locking	Retraction locking								
20	20, 30, 40, 50, 75, 100, 125	79.5	37	10	10	32.5	36	10.5	8.5	83	M5	26.5	36	9.5	6	—	—	M5 x 0.8	6.5	21.2	18	18	24
25	150, 175, 200, 250, 300, 350	84	37.5	12	10	36.5	42	11.5	9	93	M5	30.5	40	10	7.5	—	—	M5 x 0.8	7	23.2	21	21	30
32	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350	91	37.5	16	12	41.5	48	12.5	9	112	M6	31.5	49	9	9	32	3	Rc 1/8	8	30.2	24	24	34

Bore size (mm)	MM	ML	NN	OA	OB	OL	PA	PB	PW	Q	R	S	T	U	VA	VB	WA						
																	st ≤ 25	st ≤ 30	25 < st ≤ 100	30 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 300	300 < st ≤ 350
20	M5 x 0.8	13	M5 x 0.8	5.6	9.5	5.5	12.5	10.5	25	18	70	30	81	54	72	44	—	24	—	44	120	200	300
25	M6 x 1.0	15	M6 x 1.0	5.6	9.5	5.5	12.5	13.5	28.5	26	78	38	91	64	82	50	—	24	—	44	120	200	300
32	M8 x 1.25	20	M8 x 1.25	6.6	11	7.5	15	34	30	96	44	110	78	98	63	24	—	48	—	124	200	300	

Bore size (mm)	WB						X	XA	XB	YY	YL	Z	
	st ≤ 25	st ≤ 30	25 < st ≤ 100	30 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 300							300 < st ≤ 350
20	—	29	—	39	77	117	167	28	3	3.5	M6 x 1.0	12	17
25	—	29	—	39	77	117	167	34	4	4.5	M6 x 1.0	12	17
32	33	—	45	—	83	121	171	42	4	4.5	M8 x 1.25	16	21

A, DB, E Dimensions: MLGPM (Slide bearing)

Bore size (mm)	A			DB	E		
	st ≤ 50	50 < st ≤ 200	200 < st		st ≤ 50	50 < st ≤ 200	200 < st
20	79.5	111	148.5	12	0	31.5	69
25	84	115.5	152.5	16	0	31.5	68.5
32	128.5	133.5	171.5	20	37.5	42.5	80.5

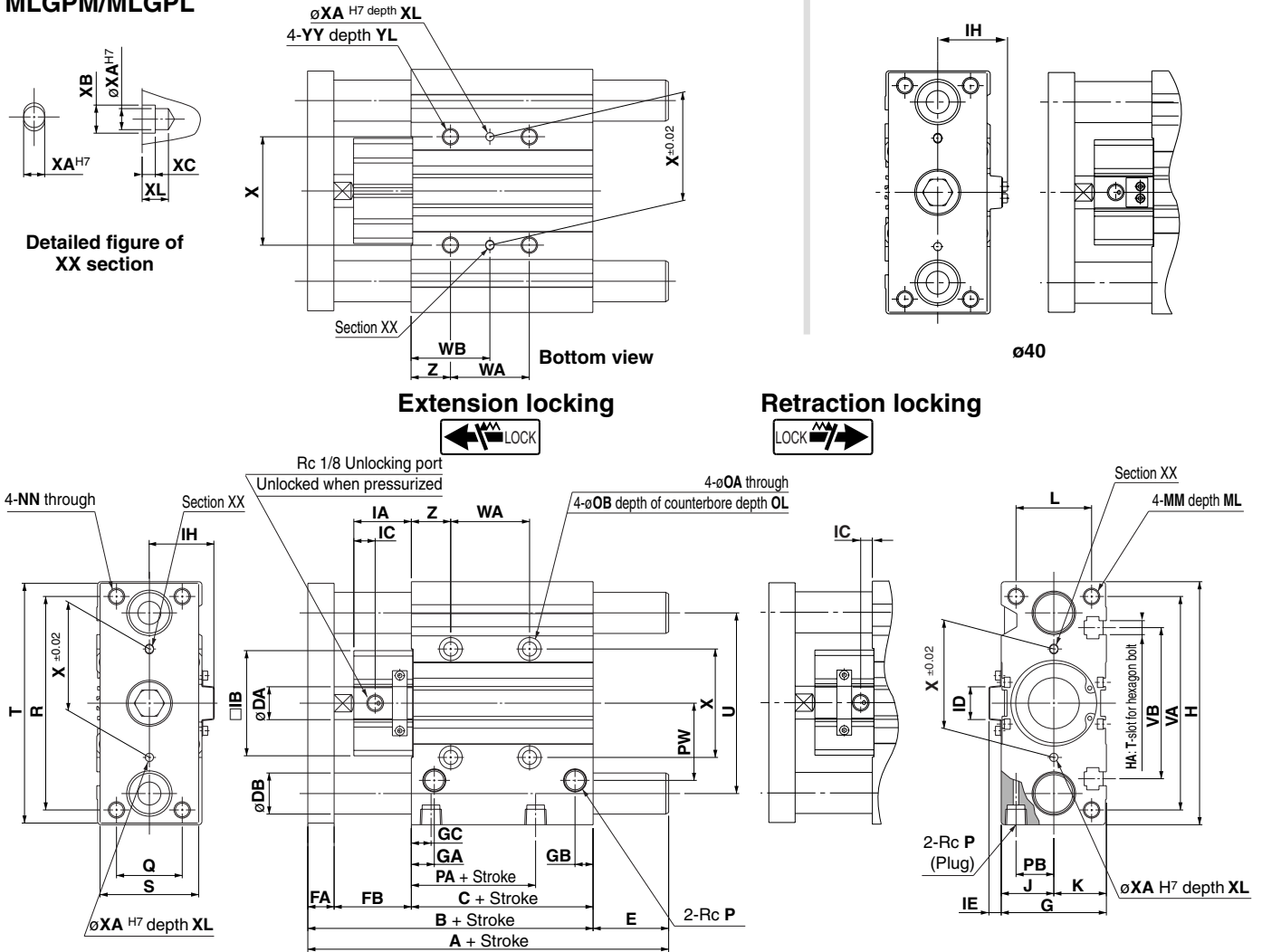
A, DB, E Dimensions: MLGPL (Ball bushing bearing)

Bore size (mm)	A						DB	E					
	st ≤ 30	st ≤ 50	30 < st ≤ 100	50 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 350		st ≤ 30	st ≤ 50	30 < st ≤ 100	50 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 350
20	89.5	—	106.5	—	130.5	148.5	10	10	—	27	—	51	69
25	100	—	116	—	135	152.5	13	16	—	32	—	51	68.5
32	—	112.5	—	129.5	149.5	171.5	16	—	21.5	—	38.5	58.5	80.5

Series MLGP

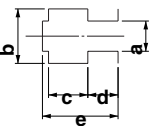
Dimensions: $\phi 40$, $\phi 50$, $\phi 63$

MLGPM/MLGPL



- Note 1) The intermediate strokes other than the standard strokes at left are manufactured by means of installing a spacer. Intermediate strokes for $\phi 40$ to $\phi 63$ are available by the 5 mm interval.
- Note 2) For intermediate strokes, dimensions **A**, **B**, **C**, **E**, **PA**, **WA**, and **WB** will be the same as the standard stroke with a longer one.

T-slot dimensions



Bore size (mm)	a	b	c	d	e
40	6.5	10.5	5.5	4	11
50	8.5	13.5	7.5	4.5	13.5
63	11	17.8	10	7	18.5

Common Dimensions: MVGPM/MVGPL

Bore size (mm)	Standard stroke (mm)	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	IA	IB	IC		ID	IE	IH	J	K	L
															Extension locking	Retraction locking						
40	25, 50, 75, 100, 125, 150	100	44	16	12	44	54	14	10	14	120	M6	34	52	11	6.5	14	4	34.5	27	27	40
50	175, 200, 250, 300, 350	107	44	20	16	47	64	14	11	12	148	M8	35	64	13	6.8	19	7	39.5	32	32	46
63		115	49	20	16	50	78	16.5	13.5	16.5	162	M10	38	77	16.5	7.5	19	6.5	46	39	39	58

Bore size (mm)	MM	ML	NN	OA	OB	OL	P	PA	PB	PW	Q	R	S	T	U	VA	VB	WA				
																		st ≤ 25	25 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 300	300 < st ≤ 350
40	M8 x 1.25	20	M8 x 1.25	6.6	11	7.5	1/8	13	18	38	30	104	44	118	86	106	72	24	48	124	200	300
50	M10 x 1.5	22	M10 x 1.5	8.6	14	9	1/4	9	21.5	47	40	130	60	146	110	130	92	24	48	124	200	300
63	M10 x 1.5	22	M10 x 1.5	8.6	14	9	1/4	14	28	55	50	130	70	158	124	142	110	28	52	128	200	300

Bore size (mm)	WB					X	XA	XB	XC	XL	YY	YL	Z
	st ≤ 25	25 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 300	300 < st ≤ 350								
40	34	46	84	122	172	50	4	4.5	3	6	M8 x 1.25	16	22
50	36	48	86	124	174	66	5	6	4	8	M10 x 1.5	20	24
63	38	50	88	124	174	80	5	6	4	8	M10 x 1.5	20	24

Dimensions A, DB, E: MLGPM (Slide bearing)

Bore size (mm)	A			DB	E		
	st ≤ 50	50 < st ≤ 200	200 < st ≤ 350		st ≤ 50	50 < st ≤ 200	200 < st ≤ 350
40	131	136	174	20	31	36	74
50	141.5	153	196	25	34.5	46	89
63	144.5	156	199	25	29.5	41	84

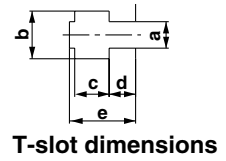
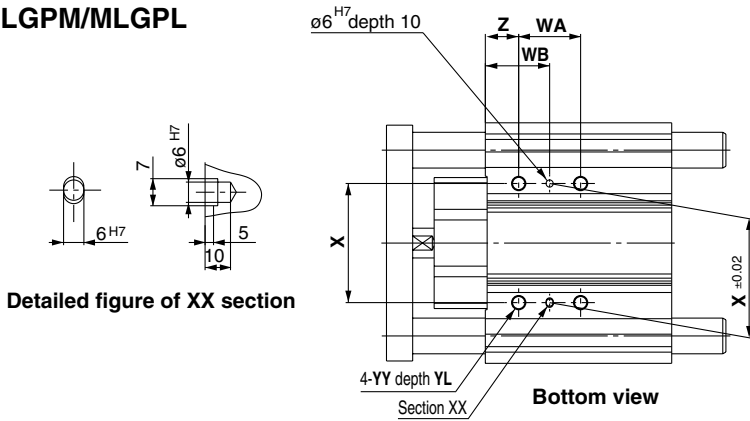
Dimensions A, DB, E: MLGPL (Ball bushing bearing)

Bore size (mm)	A				DB	E			
	st ≤ 50	50 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 350		st ≤ 50	50 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 350
40	115	132	152	174	16	15	32	52	74
50	128	149	169	196	20	21	42	62	89
63	131	152	172	199	20	16	37	57	84

Compact Guide Cylinder with Lock Series **MLGP**

Dimensions: ø80, ø100

MLGPM/MLGPL

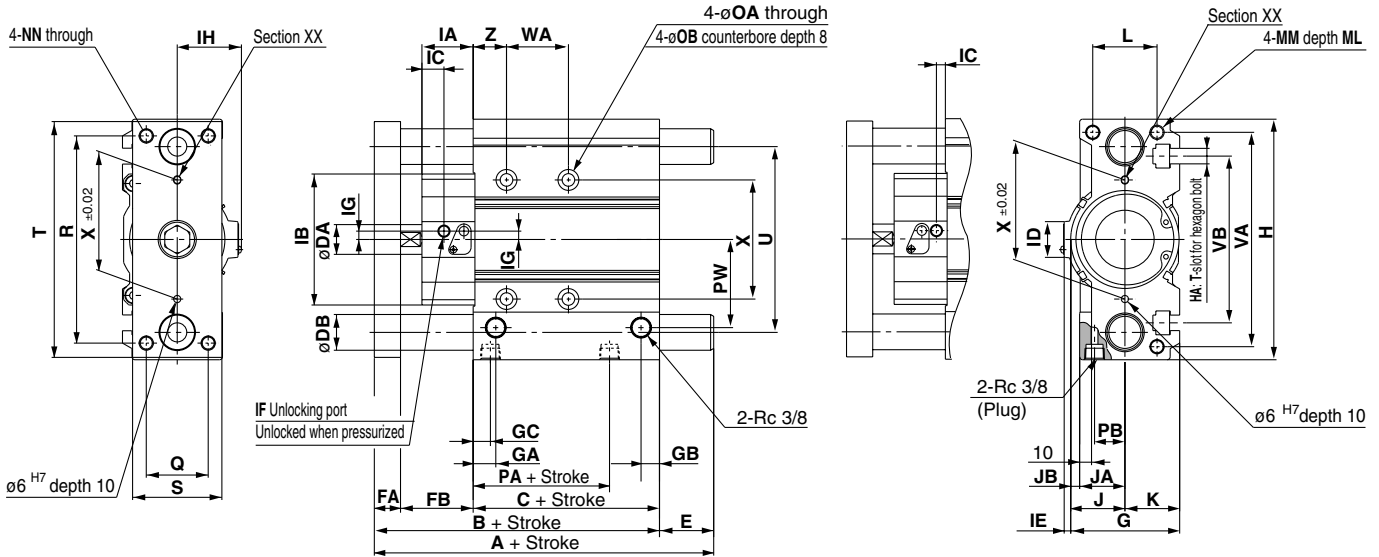


Bore size (mm)	a	b	c	d	e
80	13.3	20.3	12	8	22.5
100	15.3	23.3	13.5	10	30

Extension locking



Retraction locking



Note 1) The intermediate strokes other than the standard strokes at left are manufactured by means of installing a spacer. Intermediate strokes for ø80 and ø100 are available by the 5 mm interval.

Note 2) For intermediate strokes, dimensions **A**, **B**, **C**, **E**, **PA**, **WA**, and **WB** will be the same as the standard stroke with a longer one.

Common Dimensions: MLGPM/MLGPL

Bore size (mm)	Standard stroke (mm)	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	IA	IB	IC		ID	IE	IF	IG	IH	J	JA
															Extension locking	Retraction locking							
80	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350	139.5	56.5	25	22	61	91.5	19	15.5	14.5	202	M12	43	110	18.5	7.5	30	5.5	Rc 1/8	7	54.2	45.5	38
100	50, 75, 100, 125, 150, 175, 200, 250, 300, 350	167.5	66	30	25	76.5	111.5	23	19	18	240	M14	1.5	137	23	11	50	5.5	Rc 1/4	15	64.2	55.5	45

Bore size (mm)	JB	K	L	MM	ML	NN	OA	OB	PA	PB	PW	Q	R	S	T	U	VA	VB	WA						
																			st ≤ 25	st ≤ 50	25 < st ≤ 100	50 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 300	300 < st ≤ 350
80	7.5	46	54	M12 x 1.75	25	M12 x 1.75	10.6	17.5	14.5	25.5	74	52	174	75	198	156	180	140	28	—	52	—	128	200	300
100	10.5	56	62	M14 x 2.0	31	M14 x 2.0	12.5	20	17.5	32.5	89	64	210	90	236	188	210	166	—	50	—	72	124	200	300

Bore size (mm)	WB						X	YY	YL	Z	
	st ≤ 25	st ≤ 50	25 < st ≤ 100	50 < st ≤ 100	100 < st ≤ 200	200 < st ≤ 300					300 < st ≤ 350
80	42	—	54	—	92	128	178	100	M12 x 1.75	24	28
100	—	60	—	71	97	135	185	124	M14 x 2.0	28	35

Dimensions A, DB, E: MLGPM (Slide bearing)

Bore size (mm)	A			DB	E		
	st ≤ 50	50 < st ≤ 200	200 < st ≤ 350		st ≤ 50	50 < st ≤ 200	200 < st ≤ 350
80	158	185	236	30	18.5	45.5	96.5
100	188.5	213.5	254.5	36	21	46	87

Dimensions A, DB, E: MLGPL (Ball bushing bearing)

Bore size (mm)	A				DB	E			
	st ≤ 25	25 < st ≤ 50	50 < st ≤ 200	200 < st ≤ 350		st ≤ 25	25 < st ≤ 50	50 < st ≤ 200	200 < st ≤ 350
80	152.5	173	203	236	25	13	33.5	63.5	96.5
100	—	198.5	231.5	254.5	30	—	31	64	87

CL

CL1

MLGC

CNG

MNB

CNA

CNS

CLS

CLQ

MLGP

RLQ

MLU

ML1C

D-

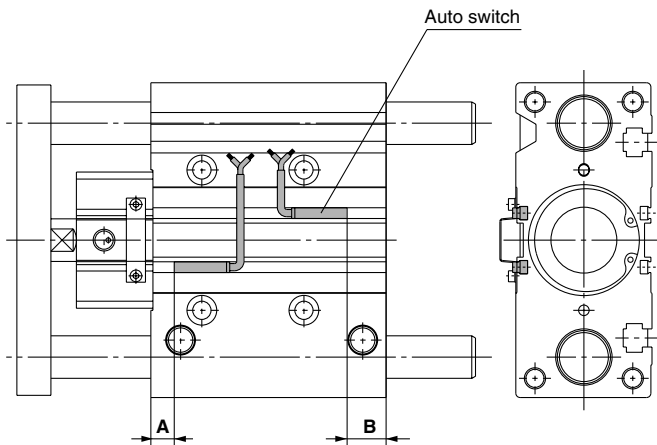
-X

20-

Data

Series MLGP

Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height



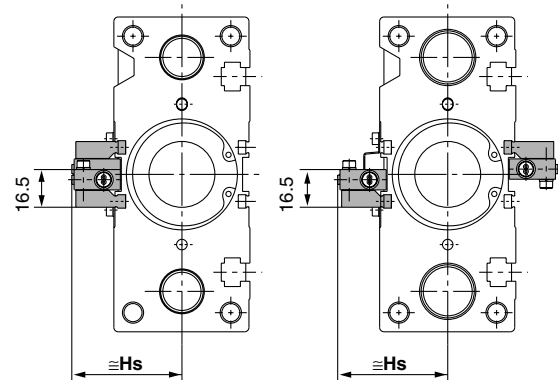
Proper Auto Switch Mounting Position

Bore size (mm)	A	B	Bore size (mm)	A	B
20	4	8	50	7.5 (7)	11.5 (11)
25	4.5	8	63	10 (9.5)	14 (13.5)
32	5.5	7	80	13 (12.5)	18.5 (18)
40	9.5 (9)	9.5 (9)	100	17.5 (17)	23.5 (23)

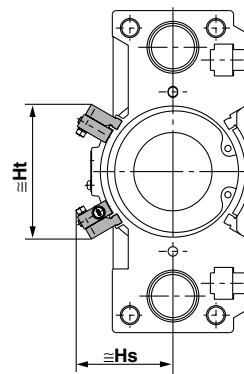
Note) Values inside () are for D-P5DWL, which can only be mounted on bores sizes $\phi 40$ through $\phi 100$.

For D-P5DWL (* Cannot be mounted on bore size $\phi 32$ or less.)

$\phi 40$ to $\phi 63$



$\phi 80, \phi 100$



For 25 stroke

* For bore sizes $\phi 40$ through 63 with two switches, one switch is mounted on each side.

Auto Switch Mounting Height

Bore size (mm)	Hs	Ht
40	44.5	—
50	50	—
63	57	—
80	61	84.5
100	71	96.5

Mounting of Auto Switch

Caution

Auto Switch Mounting Tool

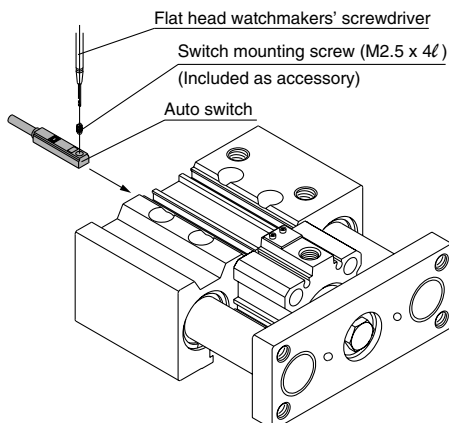
- When tightening the auto switch mounting screw (included with auto switch), use a watchmakers' screwdriver with a handle about 5 to 6 mm in diameter.

Tightening Torque

- Tighten with a torque of about 0.05 to 0.10 N·m. As a guide, it should be turned about 90° past the point at which tightening

Inserting Direction for Mounting

- Auto switches can only be inserted from the head side.



For D-P5DWL

Caution

Auto Switch Mounting Tool

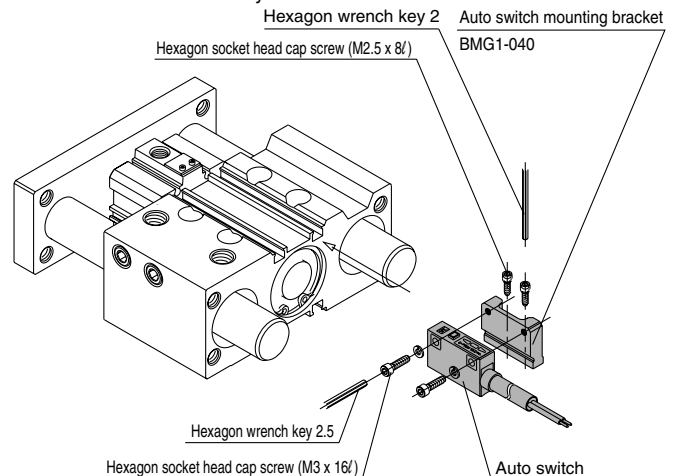
- When tightening the hexagon socket head cap screws of the auto switch, use hexagon wrench key 2 and 2.5 with the appropriate screws.

Tightening Torque

- Tighten M2.5 screws with a torque of about 0.5 to 0.7 N·m, and M3 screws with a torque of about 0.5 to 0.7 N·m

Inserting Direction for Mounting

- Auto switches can only be inserted from the head side.



Compact Guide Cylinder with Lock Series **MLGP**

Operating Range

Auto switch model	Bore size (mm)							
	20	25	32	40	50	63	80	100
D-Z7□/Z80	10	10	10.5	10.5	10.5	11.5	11.5	12
D-Y5□/Y6□ D-Y7P/Y7PV D-Y7□W/Y7□WV	7.5	7	6.5	6	7	8	9.5	10
D-Y7BAL	5	5	6	6	6	6	6	6.5
D-P5DWL	—	—	—	4	4	5	4	4

* Since this is a guideline including hysteresis, not meant to be guaranteed. (Assuming approximately $\pm 30\%$ dispersion) There may be the case it will vary substantially depending on an ambient environment.

Other than the applicable auto switches listed in “How to Order”, the following auto switches can be mounted. For detailed specifications, refer to page 9-15-1.

Type	Model	Electrical entry (Fetching direction)	Features
Reed switch	D-Z80	Grommet (In-line)	Without indicator light

* Normally closed (NC = b contact), solid state switch (D-Y7G/Y7H type) are also available.

CL

CL1

MLGC

CNG

MNB

CNA

CNS

CLS

CLQ

MLGP

RLQ

MLU

ML1C

D-

-X

20-

Data

