

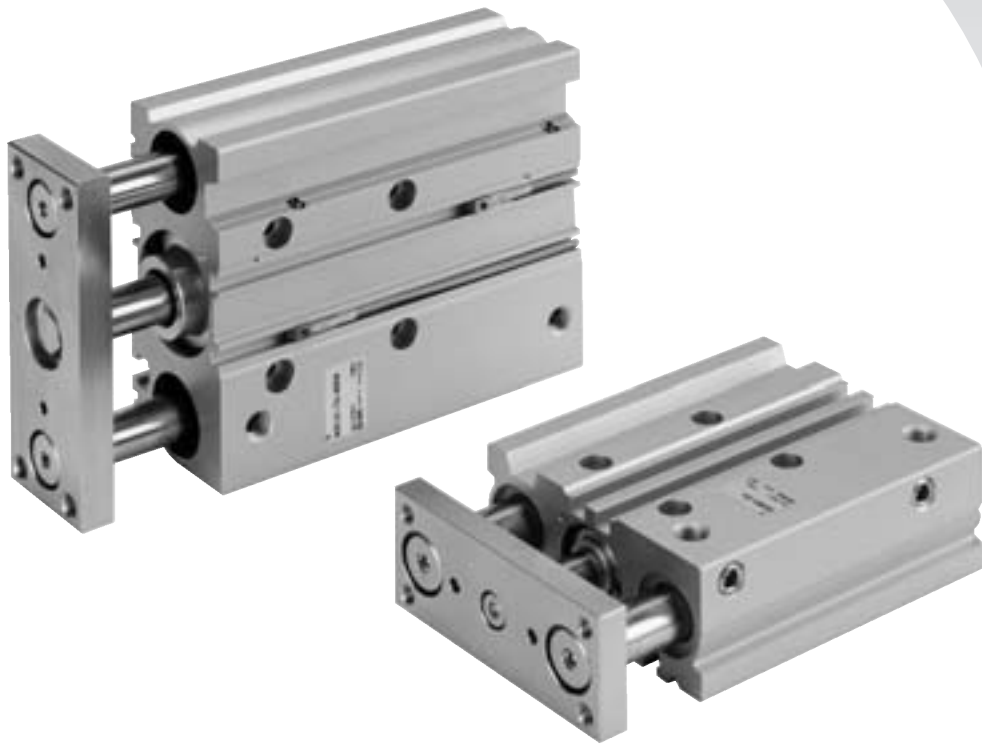
# Compact Guide Cylinder/ High Precision Ball Bushing Bearing Type

## *Series MGPA*

Basic Type (Rubber Bumper):  $\varnothing 12$ ,  $\varnothing 16$ ,  $\varnothing 20$ ,  $\varnothing 25$ ,  $\varnothing 32$ ,  $\varnothing 40$ ,  $\varnothing 50$ ,  $\varnothing 63$ ,  $\varnothing 80$ ,  $\varnothing 100$

With Air Cushion:  $\varnothing 16$ ,  $\varnothing 20$ ,  $\varnothing 25$ ,  $\varnothing 32$ ,  $\varnothing 40$ ,  $\varnothing 50$ ,  $\varnothing 63$ ,  $\varnothing 80$ ,  $\varnothing 100$

With End Lock:  $\varnothing 20$ ,  $\varnothing 25$ ,  $\varnothing 32$ ,  $\varnothing 40$ ,  $\varnothing 50$ ,  $\varnothing 63$ ,  $\varnothing 80$ ,  $\varnothing 100$



# Compact Guide Cylinder/High Precision Ball Bushing Bearing Type

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With Air Cushion:  $\varnothing 16, \varnothing 20, \varnothing 25, \varnothing 32, \varnothing 40, \varnothing 50, \varnothing 63, \varnothing 80, \varnothing 100$

With End Lock:  $\varnothing 20, \varnothing 25, \varnothing 32, \varnothing 40, \varnothing 50, \varnothing 63, \varnothing 80, \varnothing 100$

### How to Order

**Basic type (Rubber bumper) With air cushion**

**MGPA 50 [ ] - 50 [ ] - M9BW [ ] - [ ]**

Compact Guide Cylinder  
High precision ball bushing bearing type

**Bore size**

12	12 mm	40	40 mm
16	16 mm	50	50 mm
20	20 mm	63	63 mm
25	25 mm	80	80 mm
32	32 mm	100	100 mm

**Thread type**

**Cylinder stroke**  
Refer to "Standard Stroke" on page 331.

**Auto switch**

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

**Cushion type**

Nil	Rubber bumper
A	Air cushion

\* Air cushions are not available for  $\varnothing 12$ .

**Made to Order Specification**  
For details, refer to page 331.

**Number of auto switches**

Nil	2 pcs.
S	1 pc.
n	n pcs.

**With end lock**

**MGPA 50 [ ] - 50 [ ] - H N - M9BW [ ] - [ ]**

Compact Guide Cylinder  
High precision ball bushing bearing type

**Bore size**

20	20 mm	50	50 mm
25	25 mm	63	63 mm
32	32 mm	80	80 mm
40	40 mm	100	100 mm

**Thread type**

Nil	Rc
N	NPT
TF	G

**Cylinder stroke**  
Refer to "Standard Stroke" on page 331.

**Auto switch**

Nil	Without auto switch (Built-in magnet)
-----	---------------------------------------

**Manual release type**

N	Non-lock type
L	Lock type

**Lock position**

H	Head end lock
R	Rod end lock

**Made to Order Specification**  
For details, refer to page 331.

**Number of auto switches**

Nil	2 pcs.
S	1 pc.
n	n pcs.

### Applicable Auto Switch/Refer to pages 1719 to 1827 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-wired connector	Applicable load		
					DC	AC	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)				
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24V	5V, 12V	—	M9NV	M9N	●	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				M9PV	M9P	●	●	●	○			
				2-wire	M9BV	M9B	●	●	●	○	○	—				
				3-wire (NPN)	M9NWV	M9NW	●	●	●	○	○	IC circuit				
	Diagnostic indication (2-color indication)			3-wire (PNP)	M9P WV	M9PW	●	●	●	○	○	IC circuit				
				2-wire	M9B WV	M9BW	●	●	●	○	○	—				
	Water resistant (2-color indication)			3-wire (NPN)	M9NAV	M9NA	○	○	●	○	○	IC circuit				
				3-wire (PNP)	M9PAV	M9PA	○	○	●	○	○	IC circuit				
				2-wire	M9BAV	M9BA	○	○	●	○	○	—				
				2-wire (Non-polar)	—	P3DW	●	—	●	●	○	—				
Magnetic field resistant (2-color indication)	—	—	P4DW	—	—	●	●	○	—							
	—	—	—	—	—	—	—	—	—							
	—	—	—	—	—	—	—	—	—							
Reed switch	—	Grommet	No	3-wire (NPN equivalent)	24V	5V	100V	A96V	A96	●	—	●	—	—	IC circuit	—
				2-wire				A93V	A93	●	—	●	—	—	—	Relay, PLC
				2-wire	A90V	A90	●	—	●	—	—	—	IC circuit	PLC		

\* Lead wire length symbols: 0.5 m..... Nil (Example) M9NV  
1 m..... M (Example) M9NVM  
3 m..... L (Example) M9NWL  
5 m..... Z (Example) M9NVZ

\* Solid state auto switches marked with "○" are produced upon receipt of order.  
\* Bore sizes 32 to 100 are available for D-P4DW.  
\* Bore sizes 25 to 100 are available for D-P3DW.

\* Since there are other applicable auto switches than listed, refer to page 336 for details.  
\* For details about auto switches with pre-wired connector, refer to pages 1784 and 1785. For D-P3DW□, refer to pages 1773-1 and 1773-2.  
\* Auto switches are shipped together (not assembled).

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# Compact Guide Cylinder High Precision Bushing Bearing Type **Series MGPA**

## Specifications



Non-rotating accuracy of plate:  $\pm 0.01^\circ$

Plate displacement amount : 0.05 mm

(MGPA  $\phi 12$ -10 st, when  
Load mass is 1.7 kg.)



**Made to Order Specifications**  
(For details, refer to pages 1829 to 2021.)

Symbol	Specifications
—XA□	Change of rod end shape
—XC4	With heavy duty scraper
—XC8	Adjustable stroke cylinder/Adjustable extension type
—XC9	Adjustable stroke cylinder/Adjustable retraction type
—XC19	With air cushion, Intermediate stroke (Spacer type)
—XC35	With coil scraper
—XC69	With shock absorber
—XC79	Machining tapped hole, drilled hole and pin hole additionally.
—XC82	Bottom mounting style
—X144	Symmetrical port position
—X867	Lateral piping type (Change of plug position)

Refer to pages 334 to 336 for cylinders with auto switches.

- Minimum auto switch mounting stroke
- Proper auto switch mounting position (detection at stroke end) and mounting height
- Operating range
- Auto switch mounting bracket: Part no.



Dimensions for all models are the same as the ball bushing bearing type. Refer to the following pages.

Basic Type (Rubber Bumper) → P.286 to 288  
With Air Cushion → P.304 to 306  
With End Lock → P.314 to 316

Action	Double acting	
Fluid	Air	
Proof pressure	1.5 MPa	
Max. operating pressure	1.0 MPa	
Ambient and fluid temperature	-10 to 60°C (No freezing)	
Piston speed	$\phi 12$ to $\phi 63$	50 to 500 mm/s
	$\phi 80$ , $\phi 100$	50 to 400 mm/s
Lubrication	Non-lube	
Stroke length tolerance	$^{+1.5}_0$ mm	

## Minimum Operating Pressure

### Basic Type (Rubber Bumper)

Bore size (mm)	Min. operating pressure
$\phi 12$ , $\phi 16$	0.12 MPa
$\phi 20$ to $\phi 100$	0.1 MPa

### With Air Cushion

Bore size (mm)	Min. operating pressure
$\phi 16$	0.15 MPa
$\phi 20$ to $\phi 100$	0.12 MPa

### With End Lock

Bore size (mm)	Min. operating pressure
$\phi 20$ to $\phi 100$	0.15 MPa

## Standard Stroke

### Basic Type (Rubber Bumper)

Bore size (mm)	Standard stroke (mm)
12, 16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
32, 40, 50, 63, 80, 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

### With Air Cushion

Bore size (mm)	Standard stroke (mm)
16	25, 50, 75, 100, 125, 150, 175, 200, 250
20, 25, 32, 40, 50, 63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
80, 100	50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

### With End Lock

Bore size (mm)	Standard stroke (mm)
20, 25, 32, 40, 50, 63, 80, 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

## Manufacture of Intermediate Stroke

### Basic Type (Rubber Bumper)

Description	Spacer installation type Spacers are installed in the standard stroke cylinder.	
Part no.	Refer to "How to Order" for the standard specification.	
Applicable stroke	$\phi 12$ , $\phi 16$	1 to 249
	$\phi 20$ to $\phi 32$	1 to 399
	$\phi 40$ to $\phi 100$	5 to 395
Example	Part no.: MGPA20-39 A spacer 1 mm in width is installed in a MGPA20-40. C dimension is 77 mm.	

### With Air Cushion

Description	1 mm interval are available by replacing collars of a standard stroke cylinder. Minimum manufacturable stroke $\phi 16$ to $\phi 63$ : 15mm $\phi 80$ , $\phi 100$ : 20mm Select a rubber bumper type, because the cushion effect is not obtainable for less than this stroke.	
Part no.	Suffix "-XC19" to the end of standard part number.	
Applicable stroke	$\phi 16$	15 to 249
	$\phi 20$ to $\phi 63$	15 to 399
	$\phi 80$ , $\phi 100$	20 to 399
Example	Part no.: MGPA20-35A-XC19 A 15 mm width collar is installed in MGPA20-50A. C dimension is 112 mm.	

### With End Lock

Description	Spacer installation type 5 mm interval are available by installing a spacer on a standard stroke cylinder.	
Part no.	Refer to "How to Order" for the standard specification.	
Applicable stroke	5 to 395	
Example	Part no.: MGPA20-35-HN A spacer 15 mm in width is installed in a MGPA20-50-HN. C dimension is 112 mm.	

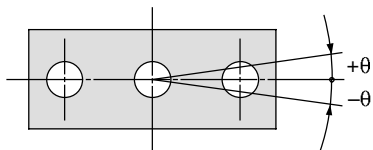
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# Series MGPA

## Non-rotating Accuracy of Plate

For non-rotating accuracy  $\theta$  without load, use a value no more than the values in the table as a guide.



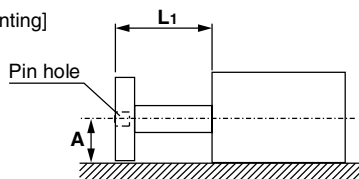
Bore size (mm)	Non-rotating accuracy $\theta$
12	$\pm 0.01^\circ$
16	
20	
25	
32	
40	
50	
63	
80	
100	

## ⚠ Caution

### Positioning accuracy for pin hole on the plate

Dispersion of dimensions when machining each component will be accumulated in the plate pin hole positioning accuracy when mounting this cylinder. Below values are referred as a guide.

[Side mounting]

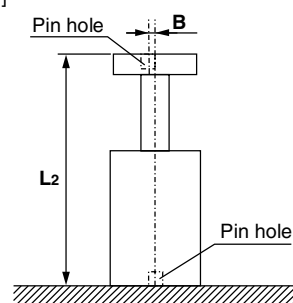


$$A = \text{Catalog dimension} \pm (0.1 + L1 \times 0.0008) \text{ [mm]}$$

\* : To be 0.15 for  $\phi 80, 100$ .

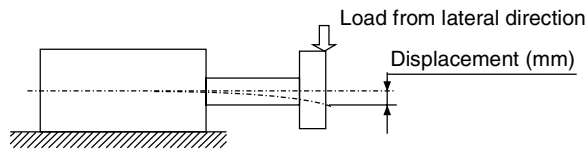
Note) Displacement by load and self-weight deflection by plate and guide rod are not included.

[Bottom mounting]

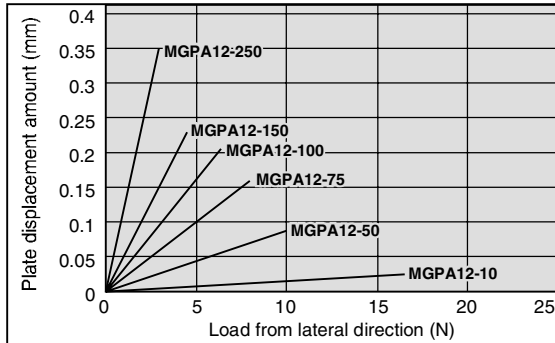


$$B = \pm (0.045 + L2 \times 0.0016) \text{ [mm]}$$

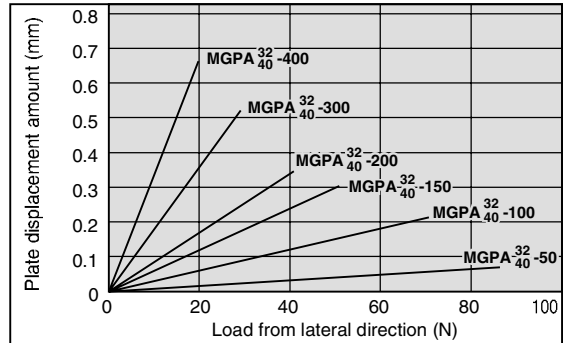
**Plate Displacement Amount (Reference Values)**



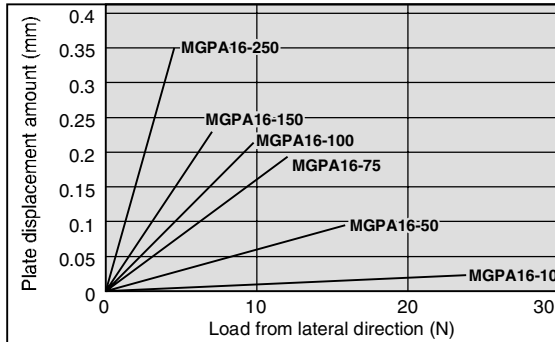
**MGPA12**



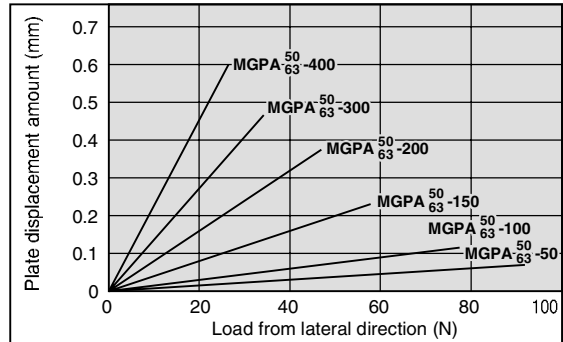
**MGPA32/40**



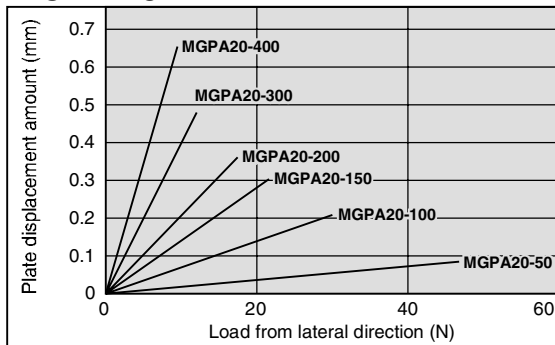
**MGPA16**



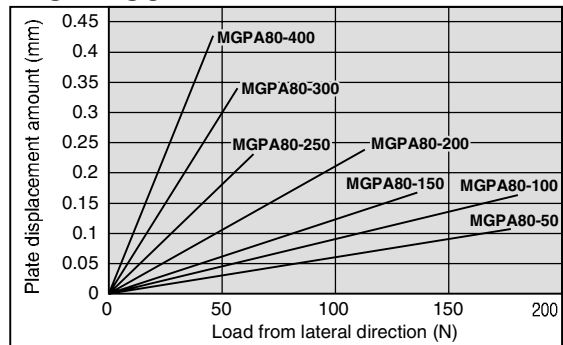
**MGPA50/63**



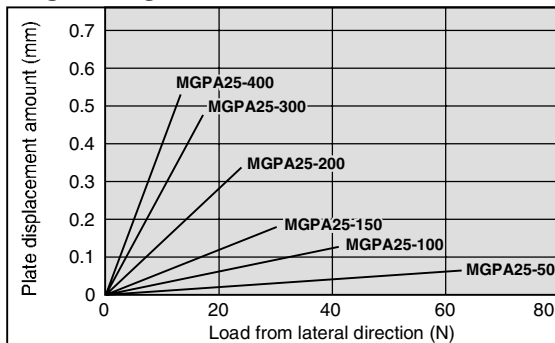
**MGPA20**



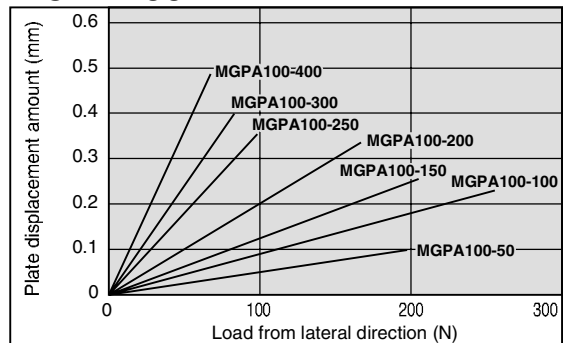
**MGPA80**



**MGPA25**



**MGPA100**



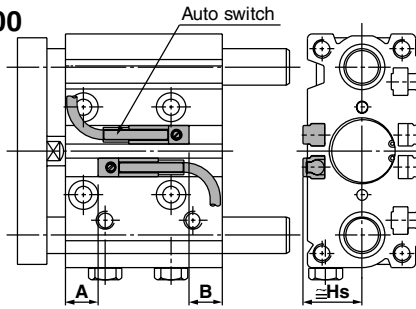
Note 1) The guide rod and self-weight for the plate are not included in the above displacement values.

Note 2) Regarding the allowable rotational torque and the operating range as a lifter, refer to pages 272 to 288 in the standard type of Series MGPL, since it is identical.

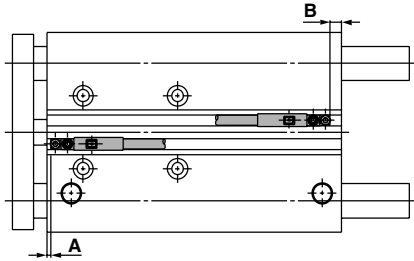
# Series MGP

## Auto Switch Proper Mounting Position (Detection at Stroke End) and Its Mounting Height

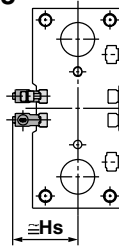
- For D-A9□      For D-Z7□       $\phi 12$  to  $\phi 100$   
 For D-A9□V      For D-Z80  
 For D-M9□      For D-Y59□  
 For D-M9□V      For D-Y69□  
 For D-M9□W      For D-Y7P  
 For D-M9□WV      For D-Y7PV  
 For D-M9□AL      For D-Y7□W  
 For D-M9□AVL      For D-Y7□WV  
                                  For D-Y7BA



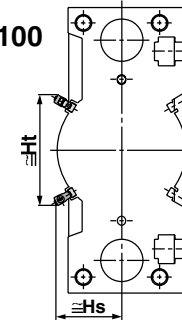
For D-P3DW□ (\* Cannot be mounted on bore sizes  $\phi 20$  or less.)



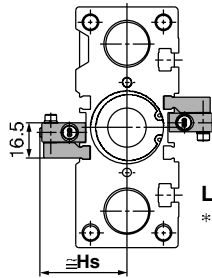
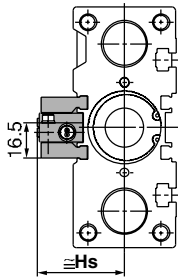
$\phi 25$  to  $\phi 63$



$\phi 80, \phi 100$



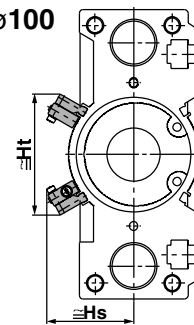
For D-P4DW (\* Cannot be mounted on bore sizes  $\phi 25$  or less.)  
 $\phi 32$  to  $\phi 63$



Less than 25 to 75 strokes

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

$\phi 80, \phi 100$



### Auto Switch Proper Mounting Position

Applicable cylinder series: MGP, MGPS (Heavy duty guide rod type)  
 MGPA (High precision ball bushing/Basic type) (mm)

Auto switch model	D-M9□		D-A9□		D-Z7□/Z80		D-P3DW□		D-P4DWL	
	A	B	A	B	A	B	A	B	A	B
12	6	8	2	4	1	3	—	—	—	—
16	9	9	5	5	4	4	—	—	—	—
20	9.5	12.5	5.5	8.5	4.5	7.5	—	—	—	—
25	9.5	13	5.5	9	4.5	8	1.5	5	—	—
32	10.5	12	6.5	8	5.5	7	2.5	4	5	6.5
40	14.5	14.5	10.5	10.5	9.5	9.5	6.5	6.5	9	9
50	12.5	16.5	8.5	12.5	7.5	11.5	4.5	8.5	7	11
63	15	19	11	15	10	14	7	11	9.5	13.5
80	18	23.5	14	19.5	13	18.5	10	15.5	12.5	18
100	22.5	28.5	18.5	24.5	17.5	23.5	14.5	20.5	17	23

Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

### Auto Switch Proper Mounting Position

Applicable cylinder series: MGP (Air cushion)  
 MGPA (High precision ball bushing/Air cushion) (mm)

Auto switch model	D-M9□		D-A9□		D-Z7□/Z80		D-P3DW□		D-P4DWL	
	A	B	A	B	A	B	A	B	A	B
16	22.5	20.5	18.5	16.5	17.5	15.5	—	—	—	—
20	31	16	27	12	26	11	—	—	—	—
25	27.5	20	23.5	16	22.5	15	19.5	12	—	—
32	21	26.5	17	22.5	16	21.5	13	18.5	15.5	21
40	31	23	27	19	26	18	23	15	25.5	17.5
50	32	22	28	18	27	17	24	14	26.5	16.5
63	33	26	29	22	28	21	25	18	27.5	20.5
80	30	36.5	26	32.5	25	31.5	22	28.5	24.5	31
100	33.5	42.5	29.5	38.5	28.5	37.5	25.5	34.5	28	37

Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

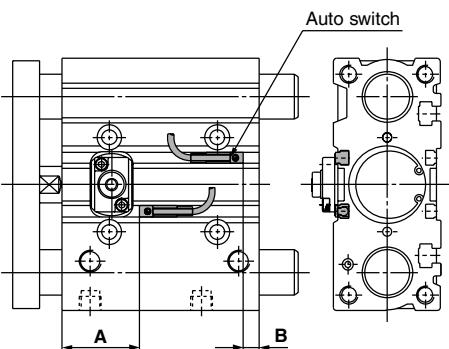
### Auto Switch Mounting Height

Auto switch model	D-A9□/M9□/M9□W/M9□AL		D-A9□V		D-M9□V		D-Y69□		D-P3DW□		D-P4DWL	
	D-Z7□/Z80/Y59□/Y7P		D-M9□WV		D-M9□WV		D-Y7PV		Hs		Ht	
Bore size (mm)	D-Y7□W/Y7BAL		D-M9□AVL		D-Y7□WV		D-Y7□WV					
12	Hs		Hs		Hs		Hs		Hs		Hs	
16	13.5		17		19.5		15		—		—	
20	16		19.5		22		17.5		—		—	
25	18.5		22		24.5		20		—		—	
32	20.5		24		26		21.5		30		—	
40	23		26.5		29		24.5		33		41.5	
50	27		30.5		33		28.5		37		44.5	
63	32.5		36		38.5		34		42.5		50	
80	39.5		43		45.5		41		49.5		57	
100	40		43		45		41		48		61	
	50		53		83		51		58		71	
									85.5		96.5	

## Auto Switch Proper Mounting Position (Detection at Stroke End) and Its Mounting Height

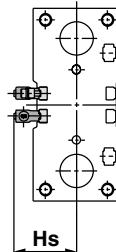
### With rod end lock

- For D-A9□      For D-Z7□
- For D-A9□V      For D-Z80
- For D-M9□      For D-Y59□
- For D-M9□V      For D-Y69□
- For D-M9□W      For D-Y7P
- For D-M9□WV      For D-Y7PV
- For D-M9□AL      For D-Y7□W
- For D-M9□AVL      For D-Y7□WV
- For D-M9□AVL      For D-Y7BA



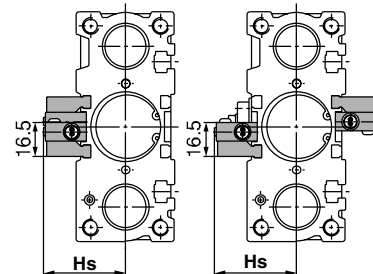
**For D-P3DW□**  
(\* Cannot be mounted on bore sizes ø20 or less.)

ø25 to ø63



**For D-P4DW**  
(\* Cannot be mounted on bore sizes ø25 or less.)

ø32 to ø63



### Auto Switch Proper Mounting Position

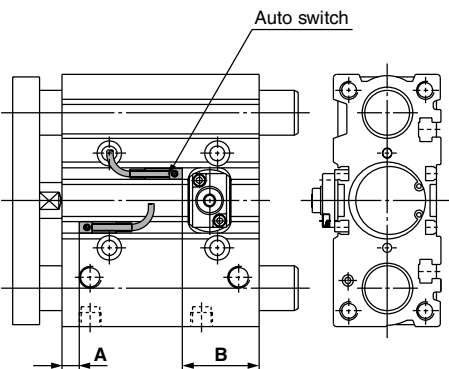
(mm)

Auto switch model	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□AL D-M9□AVL		D-A9□ D-A9□V		D-Z7□/Z80 D-Y59□/Y7P D-Y69□/Y7PV D-Y7□W D-Y7□WV D-Y7BAL		D-P3DW□		D-P4DWL	
	A	B	A	B	A	B	A	B	A	B
20	40	7	36	3	35	2	—	—	—	—
25	40.5	7	36.5	3	35.5	2	32.5	0	—	—
32	37.5	10	33.5	6	32.5	5	29.5	2	32	4.5
40	43.5	10.5	39.5	6.5	38.5	5.5	35.5	2.5	38	5
50	44.5	9.5	40.5	5.5	39.5	4.5	36.5	1.5	39	4
63	47	12	43	8	42	7	39	4	41.5	6.5
80	68	23.5	64	19.5	63	18.5	60	15.5	62.5	18
100	72.5	28.5	68.5	24.5	67.5	23.5	64.5	20.5	67	23

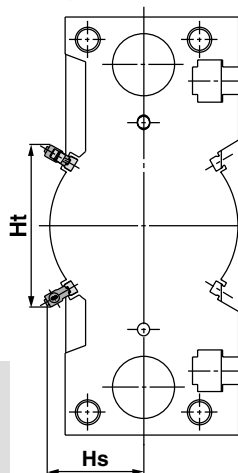
Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

### With head end lock

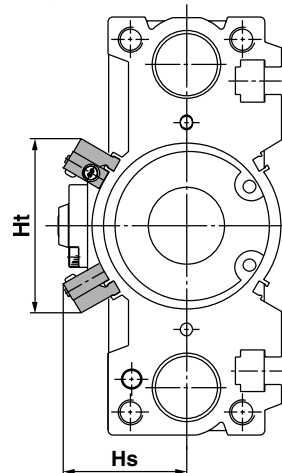
- For D-A9□      For D-Z7□
- For D-A9□V      For D-Z80
- For D-M9□      For D-Y59□
- For D-M9□V      For D-Y69□
- For D-M9□W      For D-Y7P
- For D-M9□WV      For D-Y7PV
- For D-M9□AL      For D-Y7□W
- For D-M9□AVL      For D-Y7□WV
- For D-M9□AVL      For D-Y7BA



ø80, ø100



ø80, ø100



For 25 stroke

\* For bore sizes ø40 to 63 with two auto switches, one switch is mounted on each side.

### Auto Switch Mounting Height

(mm)

Bore size	Hs	Ht
25	30	—
32	33	—
40	37	—
50	42.5	—
63	49.5	—
80	48	78.5
100	58	90

### Auto Switch Mounting Height

(mm)

Bore size	Hs	Ht
32	41.5	—
40	44.5	—
50	50	—
63	57	—
80	61	84.5
100	71	96.5

### Auto Switch Proper Mounting Position

(mm)

Auto switch model	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□AL D-M9□AVL		D-A9□ D-A9□V		D-Z7□/Z80 D-Y59□/Y7P D-Y69□/Y7PV D-Y7□W D-Y7□WV D-Y7BAL		D-P3DW□		D-P4DWL	
	A	B	A	B	A	B	A	B	A	B
20	9	38	5	34	4	33	—	—	—	—
25	9.5	38	5.5	34	4.5	33	1.5	30	—	—
32	10.5	37	6.5	33	5.5	32	2.5	29	5	31.5
40	14.5	39.5	10.5	35.5	9.5	34.5	6.5	31.5	9	34
50	12.5	41.5	8.5	37.5	7.5	36.5	4.5	33.5	7	36
63	15	44	11	40	10	39	7	36	9.5	38.5
80	18	73.5	14	69.5	13	68.5	10	65.5	12.5	68
100	22.5	78.5	18.5	74.5	17.5	73.5	14.5	70.5	17	73

Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

### Mounting of Auto Switch

## ⚠ Caution

In the case of 25 st or less with head side end lock type, it might not insert auto switch from the rod side. In this case, install it after removing the plate temporarily.

Regarding the plate removal and the way of assembly, please consult with SMC.

# Series MGP

## Minimum Auto Switch Mounting Stroke

		(mm)										
Auto switch model	No. of auto switches mounted	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
D-A9□	1 pc.	10			5							
	2 pcs.	15			10							
D-A9□V D-M9□V	1 pc.	5										
	2 pcs.	10										
D-M9□	1 pc.	15	10			5						
	2 pcs.	15				10						
D-M9□W	1 pc.	15	10									
	2 pcs.	15	10									
D-M9□WV D-M9□AVL	1 pc.	10										
	2 pcs.	10										
D-M9□AL	1 pc.	15			10			5				
	2 pcs.				15							
D-Z7□ D-Z80	1 pc.	10				5						
	2 pcs.	15				10						
D-Y59□ D-Y7P	1 pc.	10				5						
	2 pcs.	15				10						
D-Y69□ D-Y7PV	1 pc.	5										
	2 pcs.	5										
D-Y7□W D-Y7□WV	1 pc.	10										
	2 pcs.	15										
D-Y7BAL	1 pc.	15			10							
	2 pcs.				15							
D-P3DW□	1 pc.	—			15							
	2 pcs.	—			15							
D-P4DWL	1 pc.	—			10							
	2 pcs., different side	—			20							
	2 pcs., same side	—			75							
		—										

- \* D-P3DW can be mounted on bore size ø25 to ø100.
- \* D-P4DW can be mounted on bore size ø32 to ø100.
- \* The air cushion type is available in ø16 to ø100.
- \* The heavy duty guide rod type is available in ø50 and ø80.

## Operating Range

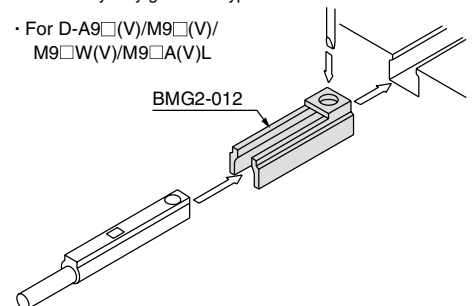
Auto switch model	Bore size (mm)									
	12	16	20	25	32	40	50	63	80	100
D-A9□/A9□V	7	9.5	9	9	9	9.5	9.5	11	10.5	10.5
D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL	4	5	5.5	5	6	5.5	6	6.5	6	7
D-Z7□/Z80	7.5	10	10	10	10.5	10.5	10.5	11.5	11.5	12
D-Y59□/Y69□ D-Y7P/Y7PV D-Y7□W/Y7□WV D-Y7BAL	5.5	7.5	7.5	7	6.5	6	7	8	9.5	10
D-P3DW□	—	—	—	6	5.5	5.5	5.5	6.5	7.5	7.5
D-P4DWL	—	—	—	—	5	4	4	5	4	4

- \* Since the operating range is provided as a guideline including hysteresis, it cannot be guaranteed (assuming approximately ±30% dispersion). It may vary substantially depending on an ambient environment.
- \* The air cushion type is available in ø16 to ø100.
- \* Cylinders with an end lock are available in ø20 to ø100.
- \* The heavy duty guide rod type is available in ø50 and ø80.

## Auto Switch Mounting Bracket: Part No.

Auto switch model	Bore size (mm)		
	ø12 to ø20	ø25	ø32 to ø100
D-A9□/A9□V D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL	BMG2-012		
D-P3DW□	—	BMG5-025S	
D-P4DWL	—	BMG1-040	

- \* The air cushion type is available in ø16 to ø100.
- \* Cylinders with an end lock are available in ø20 to ø100.
- \* The heavy duty guide rod type is available in ø50 and ø80.



- \* For D-A9□(V)/M9□(V)/M9□W(V)/M9□A(V)L

Besides the models listed in How to Order, the following auto switches are applicable.

For detailed specifications, refer to pages 1719 to 1827.

Auto switch type	Model	Electrical entry (Fetching direction)	Features
Reed	D-Z73, Z76	Grommet (In-line)	—
	D-Z80		Without indicator light
Solid state	D-Y69A, Y69B, Y7PV	Grommet (Perpendicular)	—
	D-Y7NWV, Y7PWV, Y7BWV		Diagnostic indication (2-color indication)
	D-Y59A, Y59B, Y7P		—
	D-Y7NW, Y7PW, Y7BW	Grommet (In-line)	Diagnostic indication (2-color indication)
	D-Y7BAL		Water resistant (2-color indication)
	D-P5DWL		Magnetic field resistant (2-color indication)

- \* For solid state auto switches, auto switches with a pre-wired connector are also available. Refer to pages 1784 and 1785 for details.
- \* Normally closed (NC = b contact), solid state auto switch (D-F9G/F9H/Y7G/Y7H type) are also available. For details, refer to pages 1746 and 1748.

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