



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

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

How to Order

MGP A 50 [] 50 Y7BW []

Number of auto switches

Nil	2 pcs.
S	1 pc.

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	140 mm

Auto switch

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

* For the applicable auto switch model, refer to the table below.

* Auto switches are shipped together, (but not assembled). (Except D-P5DW)

Thread type ●

Nil	Rc
N	NPT
TF	G

Cylinder stroke (mm) ●

Refer to "Standard Stroke" on page 8-19-59.

Applicable Auto Switch/Refer to page 8-30-1 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	●	●	●	—	—	Relay, PLC
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	●	●	○	○	IC circuit	
				2-wire				Y69B	Y59B	●	●	○	○	—	
	3-wire (NPN)			Y7NWV	Y7NW	●		●	○	○	IC circuit				
	3-wire (PNP)			Y7PWV	Y7PW	●		●	○	○	IC circuit				
	2-wire			Y7BWV	Y7BW	●		●	○	○	—				
Diagnostic indication (2-color indication)	Water resistant (2-color indication)	Magnetic field resistant (2-color indication)	2-wire	12 V	—	—	Y7BA	—	●	○	○	—	—		
—						P5DW	—	●	●	○	—				

* Lead wire length symbols: 0.5 m..... Nil
3 m..... L
5 m..... Z

(Example) Y59A
(Example) Y59AL
(Example) Y59AZ

* Solid state switches marked with "○" are produced upon receipt of order.

* D-P5DW type can be mounted only on bore sizes 40 to 100.

- Since there are other applicable auto switches than listed, refer to page 8-19-20 for details.
- For details about auto switches with pre-wire connector, refer to page 8-30-52.

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



Non-rotating accuracy of plate: $\pm 0.01^\circ$
 Plate displacement amount : 0.05 mm
 (MGPA $\phi 12$ -10 st, when
 Load weight is 1.7 kg.)



Made to Order Specifications (For details, refer to page 8-31-1.)

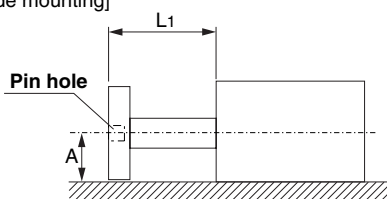
Symbol	Specifications
-XC4	With heavy duty scraper
-XC8	Adjustable stroke cylinder/Adjustable extension type
-XC9	Adjustable stroke cylinder/Adjustable retraction type
-XC35	With coil scraper
-XC79	Machining tapped hole, drilled hole, and pin hole additionally.

⚠ 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]

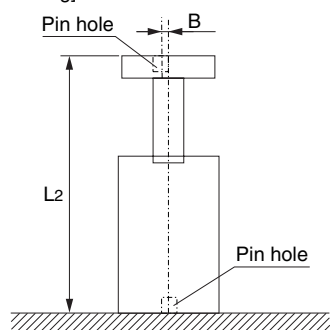


$$A = \text{Catalog dimension} \pm (0.1^* + L1 \times 0.0008) \text{ [mm]}$$

* : 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]



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

Specifications

Action	Double acting	
Fluid	Air	
Proof pressure	1.5 MPa	
Max. operating pressure	1.0 MPa	
Min. operating pressure	$\phi 12, \phi 16$	0.12 MPa
	$\phi 20$ to $\phi 100$	0.1 MPa
Ambient and fluid temperature	-10 to 60°C (No freezing)	
Piston speed	$\phi 12$ to $\phi 63$	50 to 500mm/s
	$\phi 80, \phi 100$	50 to 400mm/s
Cushion	Rubber bumper on both ends	
Lubrication	Non-lube	
Stroke length tolerance	$+1.5$ 0 mm	
Bearing type	High precision ball bushing bearing	

Standard Stroke

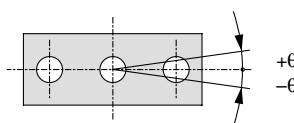
Bore size (mm)	Standard stroke (mm)
12, 16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
32 to 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

Manufacture of Intermediate Stroke

Description	Spacer installation type Spacers are installed in the standard stroke cylinder. $\phi 12$ to 32 : Available in 1 mm stroke increments $\phi 40$ to 100 : Available in 5 mm stroke increments	
Part no.	For standard part numbers and ordering procedures, refer to page 8-19-58.	
Applicable stroke (mm)	$\phi 12, \phi 16$	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.	

Non-rotating Accuracy of Plate

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



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



Dimensions and the related things about auto switch are the same as standard type MGPL series. Refer to pages 8-19-8 to 8-19-24.

MX

MTS

MY

CY

MG

CX

D-

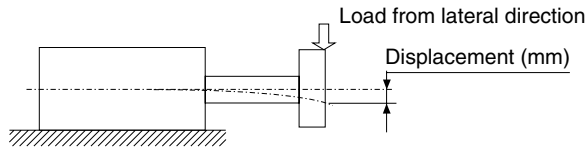
-X

20-

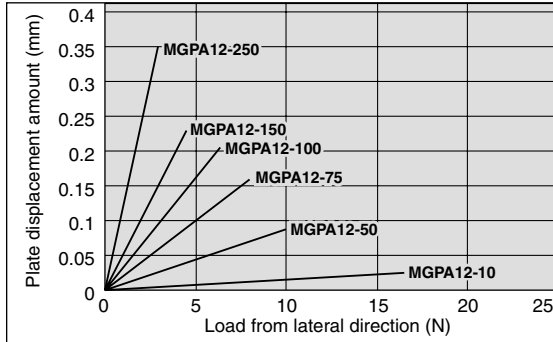
Data

Series MGPA

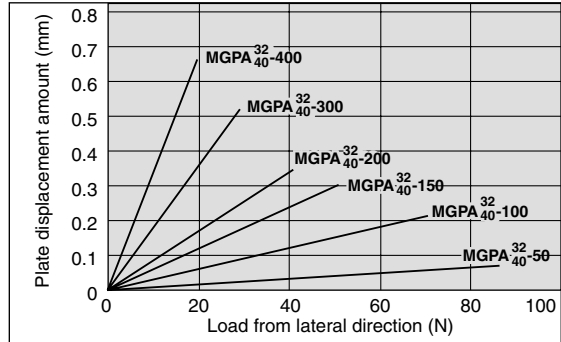
Plate Displacement Amount (Reference values)



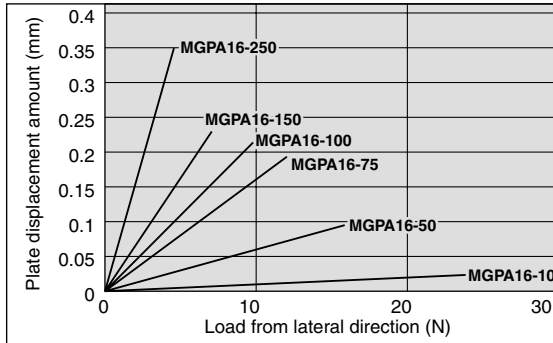
MGPA12



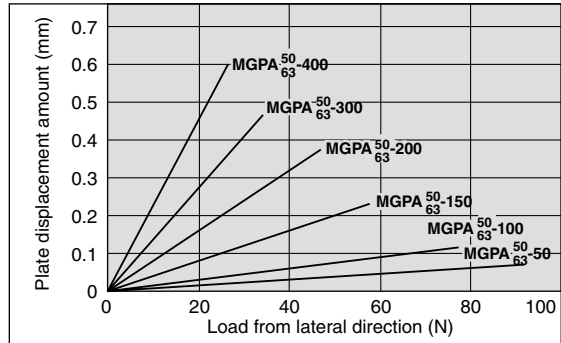
MGPA32/40



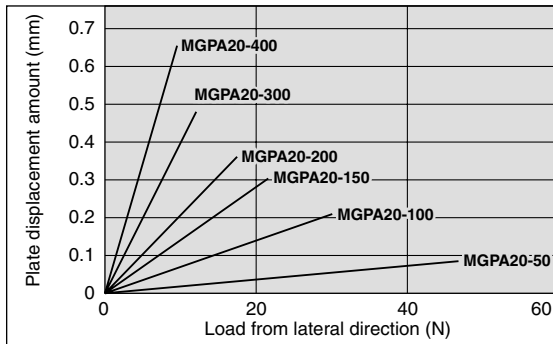
MGPA16



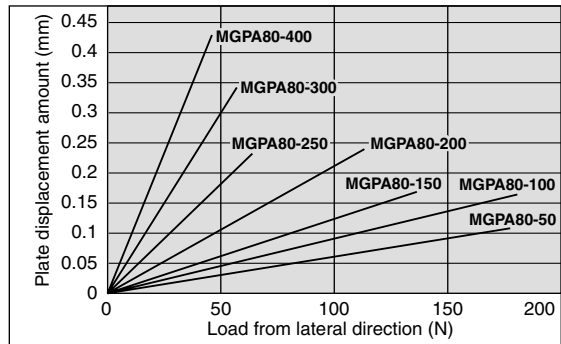
MGPA50/63



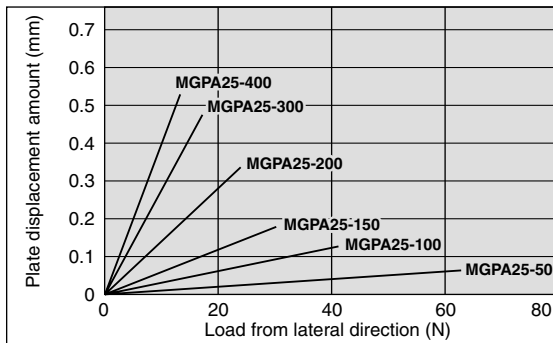
MGPA20



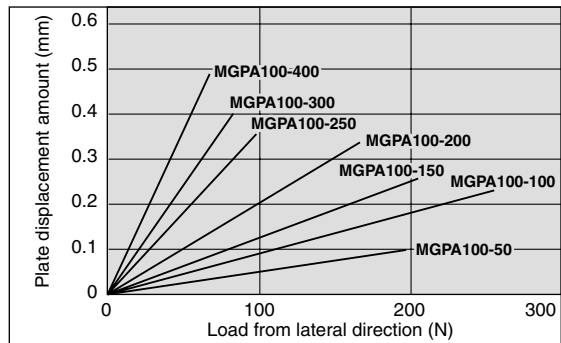
MGPA80



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 8-19-8 to 8-19-24 in the standard type of Series MGPL, since it is identical.