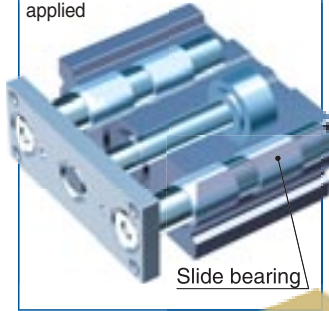


Compact Guide Cylinder (Basic type)

3 types of bearing can be selected.

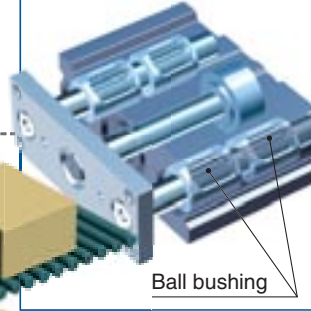
Slide bearing Series MGPM

Suitable for lateral load applications such as a stopper where shock is applied



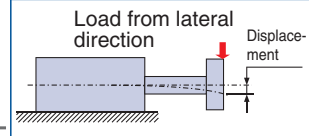
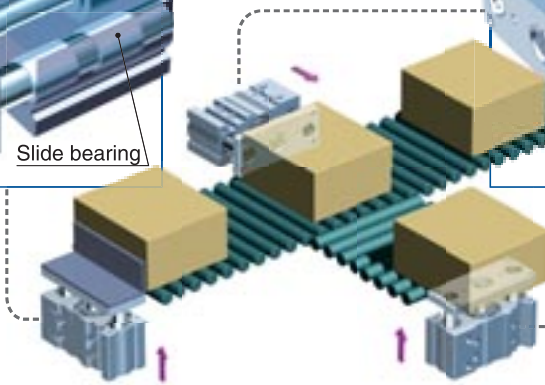
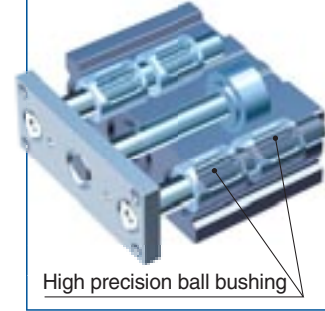
Ball bushing Series MGPL

Smooth operation suitable for pusher and lifter



High precision ball bushing Series MGPA

Suitable for minimizing plate displacement



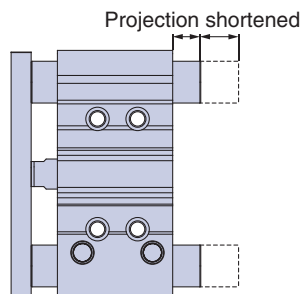
Weight reduced

Bore size	Reduction rate (%)	Weight lbs (kg)
ø12	11	0.55 (0.25)
ø16	3	0.82 (0.37)
ø20	12	1.30 (0.59)
ø25	12	3.61 (0.84)
ø32	17	3.10 (1.41)
ø40	16	3.61 (1.64)
ø50	17	6.15 (2.79)
ø63	17	7.67 (3.48)
ø80	17	11.9 (5.41)
ø100	13	20.1 (9.12)

* Compared with slide bearing type, ø12 to ø25-20 stroke

* Compared with slide bearing type, ø32 to ø100-25 stroke

Guide rod shortened



Bore size	Guide rod (mm)	
	Shortened by	New dimension
ø32	22	15.5
ø40	22	9
ø50	18	16.5
ø63	18	11.5
ø80	10.5	8
ø100	10.5	10.5

* Compared with slide bearing type, 25 stroke (ø32 to ø100)
(No projection for ø12 to ø25-25 stroke)

Performance, strength (rigidity), and mounting dimensions are equivalent to the conventional MGP series.

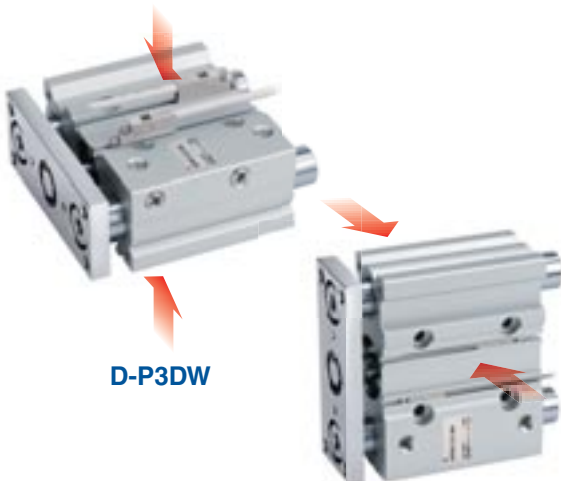
Small auto switches or magnetic field resistant auto switches can be mounted on 2 surfaces.

D-M9□

D-A9□

D-P3DW

* The D-Y7 and D-Z7 auto switches are not mountable.



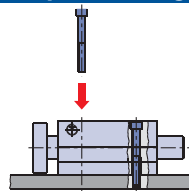
D-P3DW

D-M9□

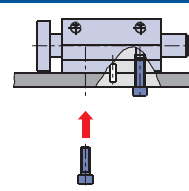
4 types of mounting are possible.

Easy positioning
Knock pin holes provided on each mounting surface

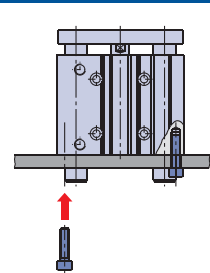
1. Top mounting



2. Side mounting

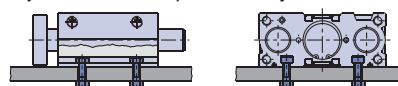


4. Bottom mounting



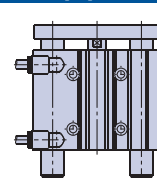
3. T-slot side mounting

Easy adjustment of workpiece and cylinder mounting

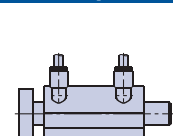


Piping is possible from 2 directions.

1. Top ported



2. Side ported



Series MGP Model Selection

Selection Conditions

Mounting orientation	Vertical		Horizontal	
Maximum speed (mm/s)	200 or less	400	200 or less	400
Graph (Slide bearing type)	(1), (2)	(3), (4)	(13), (14)	(15), (16)
Graph (Ball bushing type)	(5) to (8)	(9) to (12)	(17), (18)	(19), (20)

Selection Example 1 (Vertical Mounting)

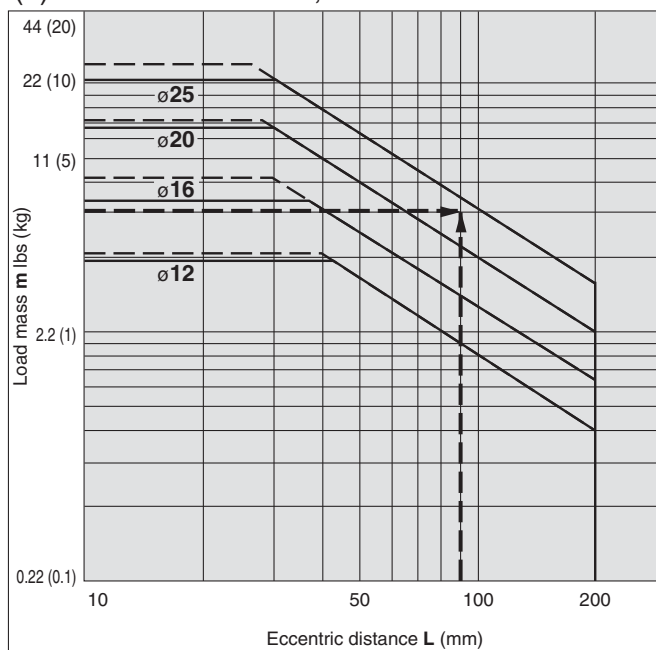
Selection conditions

Mounting: Vertical
Bearing type: Ball bushing
Stroke: 30 stroke
Maximum speed: 200 mm/s
Load mass: 6.6 lbs (3 kg)
Eccentric distance: 90 mm

Find the point of intersection for the load mass of 3 kg and the eccentric distance of 90 mm on graph (5), based on vertical mounting, ball bushing, 30 stroke, and the speed of 200 mm/s.

→MGPL25-30 is selected.

(5) Less than 40 stroke, V = 200 mm/s or less



Selection Example 2 (Horizontal Mounting)

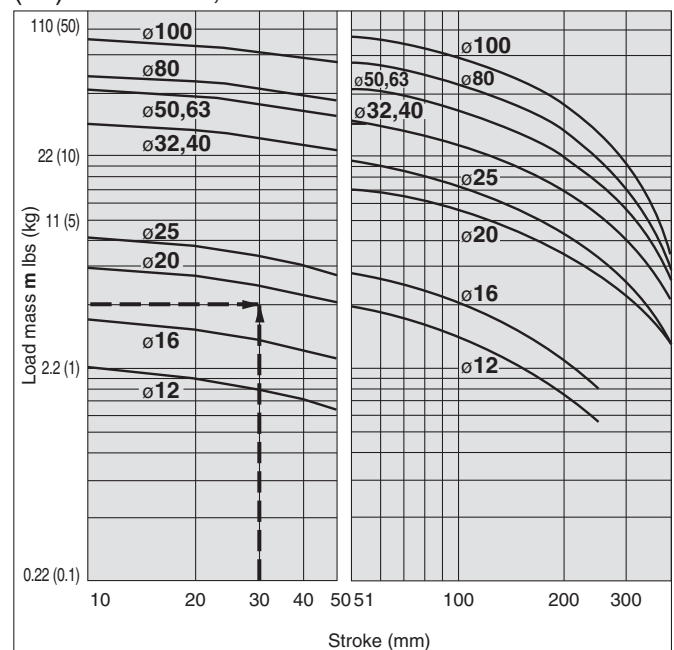
Selection conditions

Mounting: Horizontal
Bearing type: Slide bearing
Distance between plate and load center of gravity: 50 mm
Maximum speed: 200 mm/s
Load mass: 4.4 lbs (2 kg)
Stroke: 30 stroke

Find the point of intersection for the load mass of 2 kg and 30 stroke on graph (13), based on horizontal mounting, slide bearing, the distance of 50 mm between the plate and load center of gravity, and the speed of 200 mm/s.

→MGPM20-30 is selected.

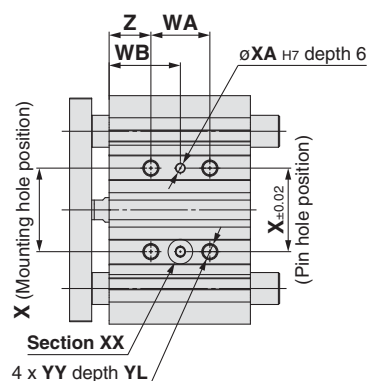
(13) L = 50 mm, V = 200 mm/s or less



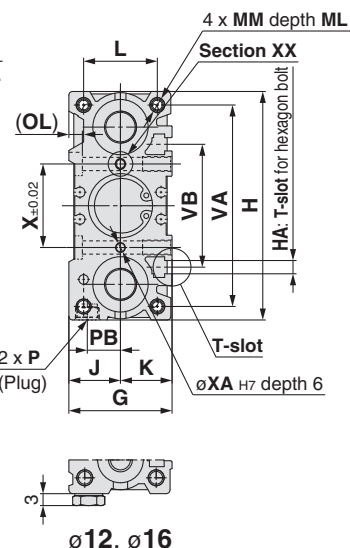
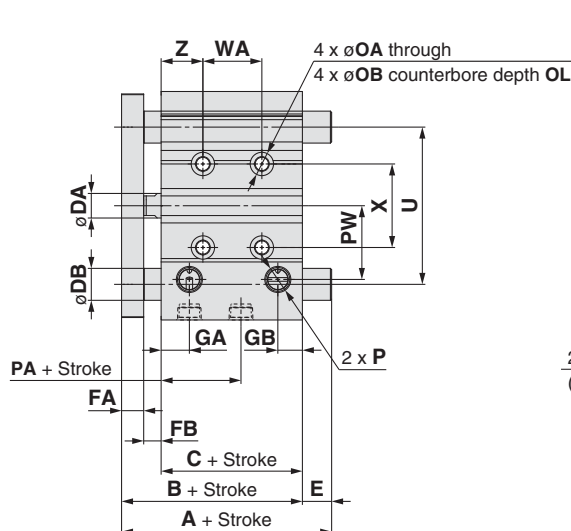
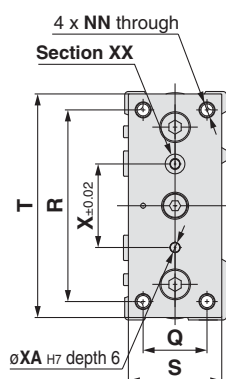
· When the maximum speed exceeds 200 mm/s, the allowable load mass is determined by multiplying the value shown in the graph at 400 mm/s by the coefficient listed in the table below.

Max. speed	Up to 300 mm/s	Up to 400 mm/s	Up to 500 mm/s
Coefficient	1.7	1	0.6

ø12 to ø25/MGPM, MGPL, MGPA



Section XX details		T-slot dimensions				
		(mm)				
Bore size (mm)		a	b	c	d	e
12		4.4	7.4	3.7	2	6.2
16		4.4	7.4	3.7	2.5	6.7
20		5.4	8.4	4.5	2.8	7.8
25		5.4	8.4	4.5	3	8.2



- * The use of a slot (width XA, length XB, depth 3) allows for a relaxed pin pitch tolerance, with the pin hole (øXA_{H7}, depth 6) as the reference, without affecting mounting accuracy.
- * For intermediate strokes other than standard strokes, refer to "Manufacture of Intermediate Strokes" on page 4.
- * For bore sizes with ø12 and ø16, only M5 x 0.8 is available.
- * Choice of Rc, NPT, G port is available for bore sizes with ø20 or more. (Refer to page 3.)

MGPM, MGPL, MGPA Common Dimensions

Bore size (mm)	Standard stroke (mm)	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P		
																					Nil	TN	TF
12	10,20,30,40,50,75,100	42	29	6	7	6	26	10	7	58	M4	13	13	18	M4 x 0.7	10	M4 x 0.7	4.3	8	4.5	M5 x 0.8	—	—
16	125,150,175,200,250	46	33	8	7	6	30	10.5	7.5	64	M4	15	15	22	M5 x 0.8	12	M5 x 0.8	4.3	8	4.5	M5 x 0.8	—	—
20	20,30,40,50,75,100,125,150	53	37	10	8	8	36	11.5	9	83	M5	18	18	24	M5 x 0.8	13	M5 x 0.8	5.4	9.5	5.5	Rc1/8	NPT1/8	G1/8
25	175,200,250,300,350,400	53.5	37.5	10	9	7	42	11.5	10	93	M5	21	21	30	M6 x 1.0	15	M6 x 1.0	5.4	9.5	5.5	Rc1/8	NPT1/8	G1/8

MGPM (Slide bearing) A, DB, E Dimensions (mm)

Bore size (mm)	A				DB	E			
	50 st or less	Over 50 st 100 st or less	Over 100 st 200 st or less	Over 200 st		50 st or less	Over 50 st 100 st or less	Over 100 st 200 st or less	Over 200 st
12	42	60.5	82.5	82.5	8	0	18.5	40.5	40.5
16	46	64.5	92.5	92.5	10	0	18.5	46.5	46.5
20	53	77.5	110	110	12	0	24.5	57	57
25	53.5	77.5	109.5	109.5	16	0	24	56	56

MGPL (Ball bushing) MGPA (High precision ball bushing) A, DB, E Dimensions (mm)

Bore size (mm)	A				DB	E			
	30 st or less	Over 30 st 100 st or less	Over 100 st 200 st or less	Over 200 st		30 st or less	Over 30 st 100 st or less	Over 100 st 200 st or less	Over 200 st
12	43	55	84.5	84.5	6	1	13	42.5	42.5
16	49	65	94.5	94.5	8	3	19	48.5	48.5
20	59	76	100	117.5	10	6	23	47	64.5
25	65.5	81.5	100.5	117.5	13	12	28	47	64