

Compact Guide Cylinder Series *MGP*

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

How to Order

MGP M 25 30 Y7BW

Bearing type

| | |
|---|----------------------|
| M | Slide bearing |
| L | Ball bushing bearing |

Auto switch

| | |
|-----|---------------------------------------|
| Nil | Without auto switch (Built-in magnet) |
| S | 1 pc. |

* For the applicable auto switch model, refer to the table below.
* Auto switches are shipped together, (but not assembled). (Except D-P5DW)

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 |

Cylinder stroke (mm)
Refer to "Standard Stroke" on page 8-19-9.

Thread type

| | |
|-----|----------|
| Nil | M5 x 0.8 |
| | Rc |
| N | NPT |
| TF | G |

* For bore sizes 12 and 16, M5 x 0.8 is only available.

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) | IC circuit | | Relay, PLC | | |
| | | | | | | | | | | | | | | | 5 V | 12 V |
| Reed switch | — | Grommet | Yes | 3-wire (NPN equivalent) | — | 5 V | — | — | Z76 | ● | ● | — | — | — | — | |
| | | | | 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 | |
| | | | | 3-wire (PNP) | | | | Y7PV | Y7P | ● | ● | ○ | ○ | — | IC circuit | |
| | | | | 2-wire | | | | Y69B | Y59B | ● | ● | ○ | ○ | — | — | |
| | | | | 3-wire (NPN) | | | | Y7NVV | Y7NW | ● | ● | ○ | ○ | ○ | IC circuit | |
| | | | | 3-wire (PNP) | | | | Y7PWV | Y7PW | ● | ● | ○ | ○ | ○ | IC circuit | |
| | | | | 2-wire | | | | Y7BWV | Y7BW | ● | ● | ○ | ○ | ○ | — | |
| Water resistant (2-color indication) | — | — | — | — | 12 V | — | — | Y7BA | — | ● | ○ | ○ | — | — | | |
| Magnetic field resistant (2-color indication) | — | — | — | — | — | — | — | P5DW | — | ● | ● | ○ | — | — | | |

* Lead wire length symbols: 0.5 m..... Nil (Example) Y59A
 3 m..... L (Example) Y59AL
 5 m..... Z (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.

Specifications



| | | |
|-----------------------------------|----------------------------|----------------|
| Action | Double acting | |
| Fluid | Air | |
| Proof pressure | 1.5 MPa | |
| Maximum operating pressure | 1.0 MPa | |
| Minimum operating pressure | ø12, ø16 | 0.12 MPa |
| | ø20 to ø100 | 0.1 MPa |
| Ambient and fluid temperature | -10 to 60°C (No freezing) | |
| Piston speed <small>Note)</small> | ø12 to ø63 | 50 to 500 mm/s |
| | ø80, ø100 | 50 to 400 mm/s |
| Cushion | Rubber bumper on both ends | |
| Lubrication | Non-lube | |
| Stroke length tolerance | +1.5 0 mm | |

Note) Maximum speed with no load.

Make a model selection, considering a load according to the graph on page 8-19-11.

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 | Exclusive body (-XB10) | |
|------------------------|---|--|--------------------------|
| | Spacers are installed in the standard stroke cylinder. • ø12 to 32: Available by the 1 mm stroke interval. • ø40 to 100: Available by the 5 mm stroke interval. | Dealing with the stroke by making an exclusive body. • All bore sizes are available by the 1 mm interval. | |
| Part no. | Refer to "How to Order" for the standard model numbers. | Suffix "-XB10" to the end of standard part number. <small>Note)</small> | |
| Applicable stroke (mm) | ø12, ø16 | 1 to 249 | ø12, ø16 11 to 249 |
| | ø20, ø25, ø32 | 1 to 399 | ø20, ø25 21 to 399 |
| | ø40 to ø100 | 5 to 395 | ø32 to ø100 26 to 399 |
| Example | Part no.: MGPM20-39 A spacer 1 mm in width is installed in a MGPM20-40. C dimension is 77 mm. | Part no.: MGPM20-39-XB10 Special body manufactured for 39 stroke. C dimension is 76 mm. | |

Note) For details, refer to "Made to Order Specifications".

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 | | |
| 12 | 6 | OUT | 113 | 23 | 34 | 45 | 57 | 68 | 79 | 90 | 102 | 113 | | |
| | | IN | 85 | 17 | 26 | 34 | 43 | 51 | 60 | 68 | 77 | 85 | | |
| 16 | 8 | OUT | 201 | 40 | 60 | 80 | 101 | 121 | 141 | 161 | 181 | 201 | | |
| | | IN | 151 | 30 | 45 | 60 | 76 | 91 | 106 | 121 | 136 | 151 | | |
| 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)



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

| Symbol | Specifications |
|--------|--|
| -XA□ | Change of rod end shape |
| -XB6 | Heat resistant cylinder (150°C) |
| -XB10 | Intermediate stroke (Using exclusive body) |
| -XB13 | Low speed cylinder (5 to 50 mm/s) |
| -XC4 | With heavy duty scraper |
| -XC6 | Piston rod and rod end nut made of stainless steel |
| -XC8 | Adjustable stroke cylinder/Adjustable extension type |
| -XC9 | Adjustable stroke cylinder/Adjustable extension type |
| -XC22 | Fluoro rubber seals |
| -XC35 | With coil scraper |
| -XC69 | With shock absorber |
| -XC79 | Machining tapped hole, drilled hole and pin hole additionally. |
| -X867 | Lateral piping type (Change of plug position) |

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) |

MX□

MTS

MY□

CY□

MG□

CX□

D-

-X

20-

Data

Series MGP

Weight

Slide Bearing: MGPM12 to 100

(kg)

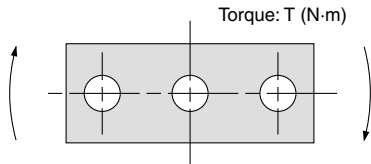
| Bore size (mm) | Model | Standard stroke (mm) | | | | | | | | | | | | | | | |
|----------------|---------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 10 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 350 | 400 |
| 12 | MGPM12 | 0.24 | 0.28 | — | 0.31 | 0.35 | 0.39 | 0.50 | 0.59 | 0.70 | 0.79 | 0.89 | 0.98 | 1.17 | — | — | — |
| 16 | MGPM16 | 0.33 | 0.38 | — | 0.43 | 0.48 | 0.53 | 0.68 | 0.80 | 0.97 | 1.09 | 1.22 | 1.35 | 1.60 | — | — | — |
| 20 | MGPM20 | — | 0.67 | — | 0.75 | 0.83 | 0.91 | 1.17 | 1.37 | 1.57 | 1.76 | 1.96 | 2.16 | 2.63 | 3.03 | 3.42 | 3.82 |
| 25 | MGPM25 | — | 0.95 | — | 1.05 | 1.16 | 1.27 | 1.65 | 1.92 | 2.19 | 2.47 | 2.74 | 3.01 | 3.67 | 4.21 | 4.76 | 5.30 |
| 32 | MGPM32 | — | — | 1.69 | — | — | 2.07 | 2.47 | 2.85 | 3.24 | 3.62 | 4.00 | 4.38 | 5.33 | 6.09 | 6.86 | 7.62 |
| 40 | MGPM40 | — | — | 1.95 | — | — | 2.37 | 2.83 | 3.25 | 3.68 | 4.10 | 4.53 | 4.95 | 5.99 | 6.85 | 7.70 | 8.55 |
| 50 | MGPM50 | — | — | 3.36 | — | — | 4.00 | 4.73 | 5.37 | 6.01 | 6.65 | 7.29 | 7.93 | 9.54 | 10.8 | 12.1 | 13.4 |
| 63 | MGPM63 | — | — | 4.18 | — | — | 4.94 | 5.78 | 6.54 | 7.29 | 8.05 | 8.80 | 9.56 | 11.4 | 12.9 | 14.4 | 15.9 |
| 80 | MGPM80 | — | — | 6.49 | — | — | 7.43 | 8.67 | 9.61 | 10.5 | 11.5 | 12.4 | 13.4 | 15.8 | 17.7 | 19.5 | 21.4 |
| 100 | MGPM100 | — | — | 10.5 | — | — | 11.9 | 13.6 | 14.9 | 16.3 | 17.6 | 18.9 | 20.2 | 23.6 | 26.2 | 28.9 | 31.5 |

Ball Bushing Bearing: MGPL12 to 100

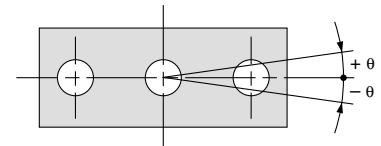
(kg)

| Bore size (mm) | Model | Standard stroke (mm) | | | | | | | | | | | | | | | |
|----------------|---------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 10 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 350 | 400 |
| 12 | MGPL12 | 0.24 | 0.27 | — | 0.30 | 0.35 | 0.39 | 0.47 | 0.56 | 0.66 | 0.74 | 0.83 | 0.91 | 1.08 | — | — | — |
| 16 | MGPL16 | 0.34 | 0.39 | — | 0.43 | 0.51 | 0.56 | 0.67 | 0.79 | 0.93 | 1.04 | 1.16 | 1.28 | 1.50 | — | — | — |
| 20 | MGPL20 | — | 0.70 | — | 0.77 | 0.89 | 0.97 | 1.14 | 1.31 | 1.52 | 1.69 | 1.87 | 2.04 | 2.42 | 2.77 | 3.12 | 3.47 |
| 25 | MGPL25 | — | 0.98 | — | 1.07 | 1.25 | 1.34 | 1.57 | 1.81 | 2.08 | 2.31 | 2.54 | 2.77 | 3.27 | 3.74 | 4.20 | 4.66 |
| 32 | MGPL32 | — | — | 1.54 | — | — | 1.85 | 2.30 | 2.62 | 2.99 | 3.31 | 3.62 | 3.94 | 4.63 | 5.26 | 5.89 | 6.52 |
| 40 | MGPL40 | — | — | 1.79 | — | — | 2.15 | 2.64 | 3.00 | 3.42 | 3.78 | 4.14 | 4.50 | 5.28 | 6.00 | 6.72 | 7.44 |
| 50 | MGPL50 | — | — | 3.11 | — | — | 3.66 | 4.41 | 4.96 | 5.60 | 6.15 | 6.70 | 7.25 | 8.48 | 9.57 | 10.7 | 11.8 |
| 63 | MGPL63 | — | — | 3.93 | — | — | 4.59 | 5.46 | 6.12 | 6.88 | 7.54 | 8.21 | 8.87 | 10.3 | 11.7 | 13.0 | 14.3 |
| 80 | MGPL80 | — | — | 6.25 | — | — | 7.39 | 8.69 | 9.51 | 10.3 | 11.1 | 12.0 | 12.8 | 14.7 | 16.3 | 18.0 | 19.6 |
| 100 | MGPL100 | — | — | 9.89 | — | — | 11.6 | 13.4 | 14.5 | 15.7 | 16.9 | 18.1 | 19.3 | 21.9 | 24.2 | 26.6 | 28.9 |

Allowable Rotational Torque of Plate



Non-rotating Accuracy of Plate



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

| Bore size (mm) | Bearing type | Stroke (mm) | | | | | | | | | | | | | | | |
|----------------|--------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 10 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 350 | 400 |
| 12 | MGPM | 0.39 | 0.32 | — | 0.27 | 0.24 | 0.21 | 0.43 | 0.36 | 0.31 | 0.27 | 0.24 | 0.22 | 0.19 | — | — | — |
| | MGPL | 0.61 | 0.45 | — | 0.35 | 0.58 | 0.50 | 0.37 | 0.29 | 0.24 | 0.20 | 0.18 | 0.16 | 0.12 | — | — | — |
| 16 | MGPM | 0.69 | 0.58 | — | 0.49 | 0.43 | 0.38 | 0.69 | 0.58 | 0.50 | 0.44 | 0.40 | 0.36 | 0.30 | — | — | — |
| | MGPL | 0.99 | 0.74 | — | 0.59 | 0.99 | 0.86 | 0.65 | 0.52 | 0.43 | 0.37 | 0.32 | 0.28 | 0.23 | — | — | — |
| 20 | MGPM | — | 1.05 | — | 0.93 | 0.83 | 0.75 | 1.88 | 1.63 | 1.44 | 1.28 | 1.16 | 1.06 | 0.90 | 0.78 | 0.69 | 0.62 |
| | MGPL | — | 1.26 | — | 1.03 | 2.17 | 1.94 | 1.52 | 1.34 | 1.17 | 1.03 | 0.93 | 0.76 | 0.65 | 0.56 | 0.49 | — |
| 25 | MGPM | — | 1.76 | — | 1.55 | 1.38 | 1.25 | 2.96 | 2.57 | 2.26 | 2.02 | 1.83 | 1.67 | 1.42 | 1.24 | 1.09 | 0.98 |
| | MGPL | — | 2.11 | — | 1.75 | 3.37 | 3.02 | 2.38 | 1.97 | 2.05 | 1.78 | 1.58 | 1.41 | 1.16 | 0.98 | 0.85 | 0.74 |
| 32 | MGPM | — | — | 6.35 | — | — | 5.13 | 5.69 | 4.97 | 4.42 | 3.98 | 3.61 | 3.31 | 2.84 | 2.48 | 2.20 | 1.98 |
| | MGPL | — | — | 5.95 | — | — | 4.89 | 5.11 | 4.51 | 6.34 | 5.79 | 5.33 | 4.93 | 4.29 | 3.78 | 3.38 | 3.04 |
| 40 | MGPM | — | — | 7.00 | — | — | 5.66 | 6.27 | 5.48 | 4.87 | 4.38 | 3.98 | 3.65 | 3.13 | 2.74 | 2.43 | 2.19 |
| | MGPL | — | — | 6.55 | — | — | 5.39 | 5.62 | 4.96 | 6.98 | 6.38 | 5.87 | 5.43 | 4.72 | 4.16 | 3.71 | 3.35 |
| 50 | MGPM | — | — | 13.0 | — | — | 10.8 | 12.0 | 10.6 | 9.50 | 8.60 | 7.86 | 7.24 | 6.24 | 5.49 | 4.90 | 4.43 |
| | MGPL | — | — | 9.17 | — | — | 7.62 | 9.83 | 8.74 | 11.6 | 10.7 | 9.83 | 9.12 | 7.95 | 7.02 | 6.26 | 5.63 |
| 63 | MGPM | — | — | 14.7 | — | — | 12.1 | 13.5 | 11.9 | 10.7 | 9.69 | 8.86 | 8.16 | 7.04 | 6.19 | 5.52 | 4.99 |
| | MGPL | — | — | 10.2 | — | — | 8.48 | 11.0 | 9.74 | 13.0 | 11.9 | 11.0 | 10.2 | 8.84 | 7.80 | 6.94 | 6.24 |
| 80 | MGPM | — | — | 21.9 | — | — | 18.6 | 22.9 | 20.5 | 18.6 | 17.0 | 15.6 | 14.5 | 12.6 | 11.2 | 10.0 | 9.11 |
| | MGPL | — | — | 15.1 | — | — | 23.3 | 22.7 | 20.6 | 18.9 | 17.3 | 16.0 | 14.8 | 12.9 | 11.3 | 10.0 | 8.94 |
| 100 | MGPM | — | — | 38.8 | — | — | 33.5 | 37.5 | 33.8 | 30.9 | 28.4 | 26.2 | 24.4 | 21.4 | 19.1 | 17.2 | 15.7 |
| | MGPL | — | — | 27.1 | — | — | 30.6 | 37.9 | 34.6 | 31.8 | 29.3 | 27.2 | 25.3 | 22.1 | 19.5 | 17.3 | 15.5 |

| Bore size (mm) | Non-rotating accuracy θ | |
|----------------|--------------------------------|------------------|
| | MGPM | MGPL |
| 12 | | |
| 16 | $\pm 0.08^\circ$ | $\pm 0.10^\circ$ |
| 20 | | |
| 25 | $\pm 0.07^\circ$ | $\pm 0.09^\circ$ |
| 32 | | |
| 40 | $\pm 0.06^\circ$ | $\pm 0.08^\circ$ |
| 50 | | |
| 63 | $\pm 0.05^\circ$ | $\pm 0.06^\circ$ |
| 80 | | |
| 100 | $\pm 0.04^\circ$ | $\pm 0.05^\circ$ |

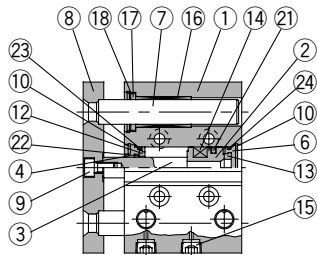
Construction

Series MGPM

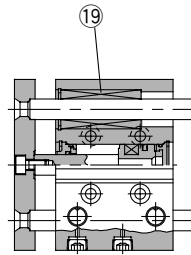
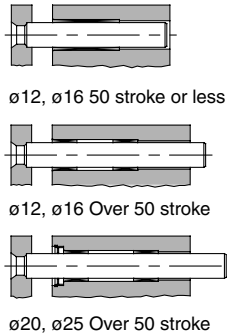
Series MGPL

MGPM12 to 25

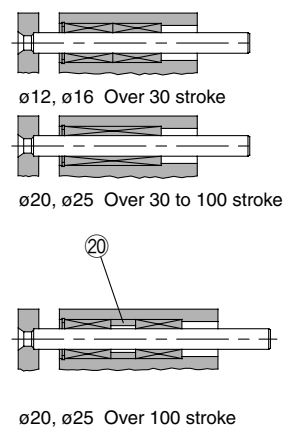
MGPL12 to 25



50 stroke or less

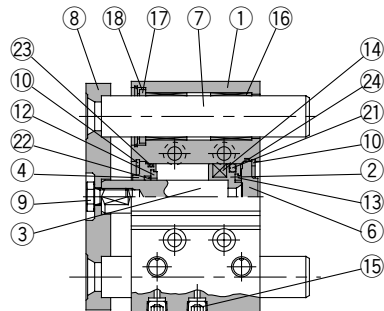


30 stroke or less

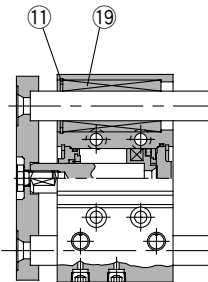
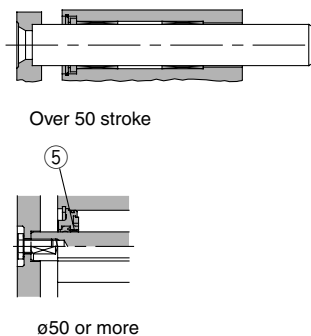


MGPM32 to 100

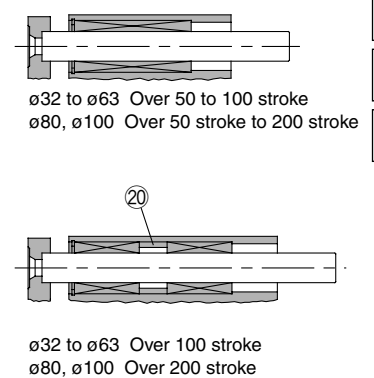
MGPL32 to 100



50 stroke or less



50 stroke or less



Component Parts

| No. | Description | Material | Note |
|-----|---------------------|-----------------------|---|
| ① | Body | Aluminum alloy | Hard anodized |
| ② | Piston | Aluminum alloy | Chromated |
| ③ | Piston rod | Stainless steel | $\phi 12$ to $\phi 25$ |
| | | Carbon steel | $\phi 32$ to $\phi 100$ Hard chrome plated |
| ④ | Collar | Aluminum alloy | $\phi 12$ to $\phi 40$ Clear anodized |
| | | Aluminum alloy casted | $\phi 50$ to $\phi 100$ Painted |
| ⑤ | Bushing | Lead bronze casting | $\phi 50$ to $\phi 100$ |
| ⑥ | Head cover | Aluminum alloy | $\phi 12$ to $\phi 63$ Colorless chromated |
| | | | $\phi 80$ to $\phi 100$ Painted |
| ⑦ | Guide rod | Carbon steel | Hard chrome plated |
| ⑧ | Plate | Carbon steel | Nickel plated |
| ⑨ | Plate mounting bolt | Carbon steel | Nickel plated |
| ⑩ | Snap ring | Carbon tool steel | Phosphate coated |
| ⑪ | Snap ring | Carbon tool steel | Phosphate coated |

| No. | Description | Material | Note |
|-----|---|--------------------|--|
| ⑫ | Bumper A | Urethane | |
| ⑬ | Bumper B | Urethane | |
| ⑭ | Magnet | Magnetic material | |
| ⑮ | Plug (M-5P) Hexagon socket head taper plug | Brass | $\phi 12, \phi 16$ Nickel plated |
| | | Carbon steel | $\phi 20$ to $\phi 100$ Nickel plated |
| ⑯ | Slide Bearing | Lead-bronze casted | |
| ⑰ | Felt | Felt | Except $\phi 12, \phi 16$ |
| ⑱ | Holder | Resin | Except $\phi 12, \phi 16$ |
| ⑲ | Ball bushing | | |
| ⑳ | Spacer | Aluminum alloy | |
| ㉑* | Piston seal | NBR | |
| ㉒* | Rod seal | NBR | |
| ㉓* | Gasket A | NBR | |
| ㉔* | Gasket B | NBR | |

Replacement Parts: Seal Kit

| Bore size (mm) | Kit no. | Contents |
|----------------|----------|------------------------------|
| 12 | MGP12-PS | Set of nos. above ㉑, ㉒, ㉓, ㉔ |
| 16 | MGP16-PS | |
| 20 | MGP20-PS | |
| 25 | MGP25-PS | |
| 32 | MGP32-PS | |

| Bore size (mm) | Kit no. | Contents |
|----------------|-----------|------------------------------|
| 40 | MGP40-PS | Set of nos. above ㉑, ㉒, ㉓, ㉔ |
| 50 | MGP50-PS | |
| 63 | MGP63-PS | |
| 80 | MGP80-PS | |
| 100 | MGP100-PS | |

* Seal kit includes ㉑ to ㉔. Order the seal kit, based on each bore size.

MX

MTS

MY

CY

MG

CX

D-

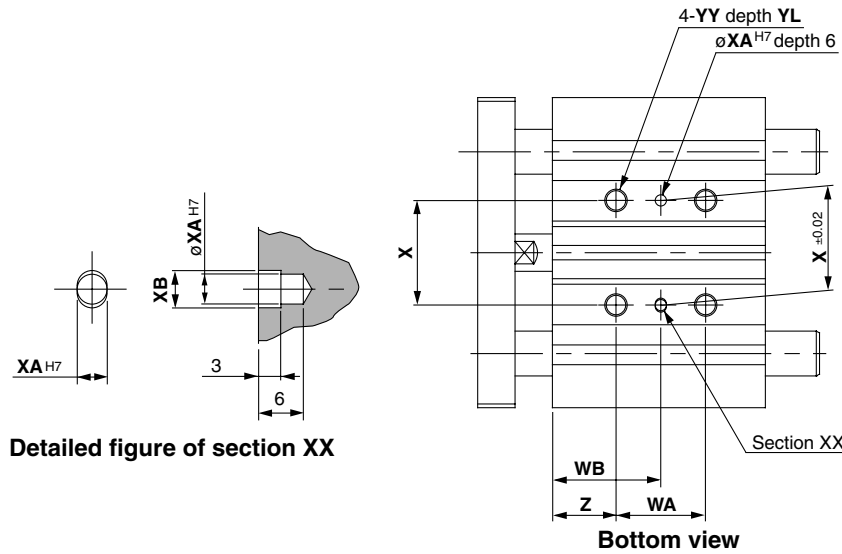
-X

20-

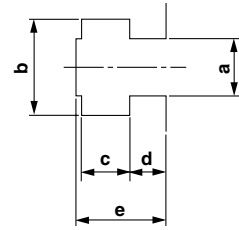
Data

Series MGP

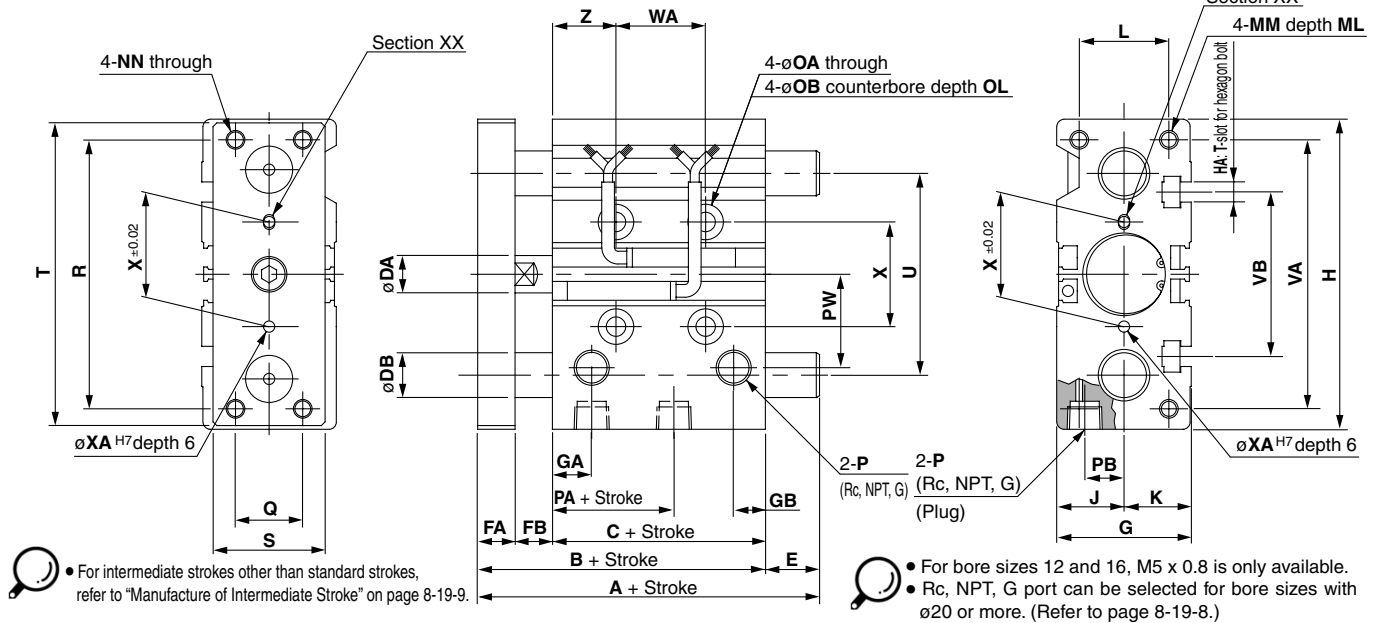
MGPM, MGPL: $\phi 12$ to $\phi 25$



T-slot dimensions



| 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 |



MGPM, MGPL 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 | PA | PB | PW |
|----------------|---|------|-----------------------------|----|----|----|----|------|-----|----|-----|----|----|----|----------|----|----------|-----|----------|-----|----------|------|----------|------|
| | | 12 | 10, 20, 30, 40, 50, 75, 100 | 42 | 29 | 6 | 8 | 5 | 26 | 11 | 7.5 | 58 | M4 | 13 | 13 | 18 | M4 x 0.7 | 10 | M4 x 0.7 | 4.3 | 8 | 4.5 | M5 x 0.8 | 13 |
| 16 | 125, 150, 175, 200, 250 | 46 | 33 | 8 | 8 | 5 | 30 | 11 | 8 | 64 | M4 | 15 | 15 | 22 | M5 x 0.8 | 12 | M5 x 0.8 | 4.3 | 8 | 4.5 | M5 x 0.8 | 15 | 10 | 19 |
| 20 | 20, 30, 40, 50, 75, 100 125, 150, 175, 200 250, 300, 350, 400 | 53 | 37 | 10 | 10 | 6 | 36 | 10.5 | 8.5 | 83 | M5 | 18 | 18 | 24 | M5 x 0.8 | 13 | M5 x 0.8 | 5.6 | 9.5 | 5.5 | 1/8 | 12.5 | 10.5 | 25 |
| 25 | | 53.5 | 37.5 | 12 | 10 | 6 | 42 | 11.5 | 9 | 93 | M5 | 21 | 21 | 30 | M6 x 1.0 | 15 | M6 x 1.0 | 5.6 | 9.5 | 5.5 | 1/8 | 12.5 | 13.5 | 28.5 |

| Bore size (mm) | Q | R | S | T | U | VA | VB | WA | | | | WB | | | | X | XA | XB | YY | YL | Z | | |
|----------------|----|----|----|----|----|----|----|---------------|----------------------|-----------------------|-----------------------|-------------|---------------|----------------------|-----------------------|-----|-----|----|----|-----|----------|-----------------------|-------------|
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | 30 st or less | Over 30 st to 100 st | Over 100 st to 200 st | Over 200 st to 300 st | Over 300 st | 30 st or less | Over 30 st to 100 st | Over 100 st to 200 st | | | | | | | Over 200 st to 300 st | Over 300 st |
| 12 | 14 | 48 | 22 | 56 | 41 | 50 | 37 | 20 | 40 | 110 | 200 | — | 15 | 25 | 60 | 105 | — | 23 | 3 | 3.5 | M5 x 0.8 | 10 | 5 |
| 16 | 16 | 54 | 25 | 62 | 46 | 56 | 38 | 24 | 44 | 110 | 200 | — | 17 | 27 | 60 | 105 | — | 24 | 3 | 3.5 | M5 x 0.8 | 10 | 5 |
| 20 | 18 | 70 | 30 | 81 | 54 | 72 | 44 | 24 | 44 | 120 | 200 | 300 | 29 | 39 | 77 | 117 | 167 | 28 | 3 | 3.5 | M6 x 1.0 | 12 | 17 |
| 25 | 26 | 78 | 38 | 91 | 64 | 82 | 50 | 24 | 44 | 120 | 200 | 300 | 29 | 39 | 77 | 117 | 167 | 34 | 4 | 4.5 | M6 x 1.0 | 12 | 17 |

MGPM (Slide bearing) A, DB, E Dimensions

| Bore size (mm) | A | | | DB | E | | |
|----------------|---------------|----------------------|-------------|----|---------------|----------------------|-------------|
| | 50 st or less | Over 50 st to 100 st | Over 100 st | | 50 st or less | Over 50 st to 100 st | Over 100 st |
| | 12 | 42 | 60.5 | | 85 | 8 | 0 |
| 16 | 46 | 64.5 | 95 | 10 | 0 | 18.5 | 49 |

MGPL (Ball bushing bearing) A, DB, E Dimensions

| Bore size (mm) | A | | | DB | E | | |
|----------------|---------------|----------------------|-------------|----|---------------|----------------------|-------------|
| | 30 st or less | Over 30 st to 100 st | Over 100 st | | 30 st or less | Over 30 st to 100 st | Over 100 st |
| | 12 | 43 | 55 | | 85 | 6 | 1 |
| 16 | 49 | 65 | 95 | 8 | 3 | 19 | 49 |

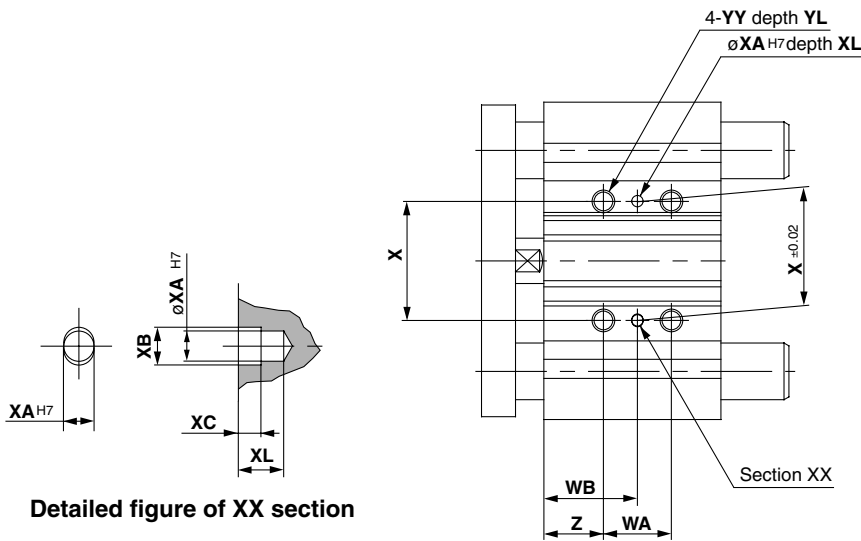
MGPM (Slide bearing) A, DB, E Dimensions

| Bore size (mm) | A | | | DB | E | | |
|----------------|---------------|----------------------|-------------|----|---------------|----------------------|-------------|
| | 50 st or less | Over 50 st to 200 st | Over 200 st | | 50 st or less | Over 50 st to 200 st | Over 200 st |
| | 20 | 53 | 84.5 | | 122 | 12 | 0 |
| 25 | 53.5 | 85 | 122 | 16 | 0 | 31.5 | 68.5 |

MGPL (Ball bushing bearing) A, DB, E Dimensions

| Bore size (mm) | A | | | | DB | E | | | |
|----------------|---------------|----------------------|-----------------------|-------------|----|---------------|----------------------|-----------------------|-------------|
| | 30 st or less | Over 30 st to 100 st | Over 100 st to 200 st | Over 200 st | | 30 st or less | Over 30 st to 100 st | Over 100 st to 200 st | Over 200 st |
| | 20 | 63 | 80 | 104 | | 122 | 10 | 10 | 27 |
| 25 | 69.5 | 85.5 | 104.5 | 122 | 13 | 16 | 32 | 51 | 68.5 |

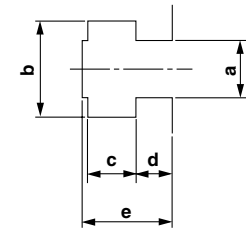
MGPM, MGPL: $\phi 32$ to $\phi 63$



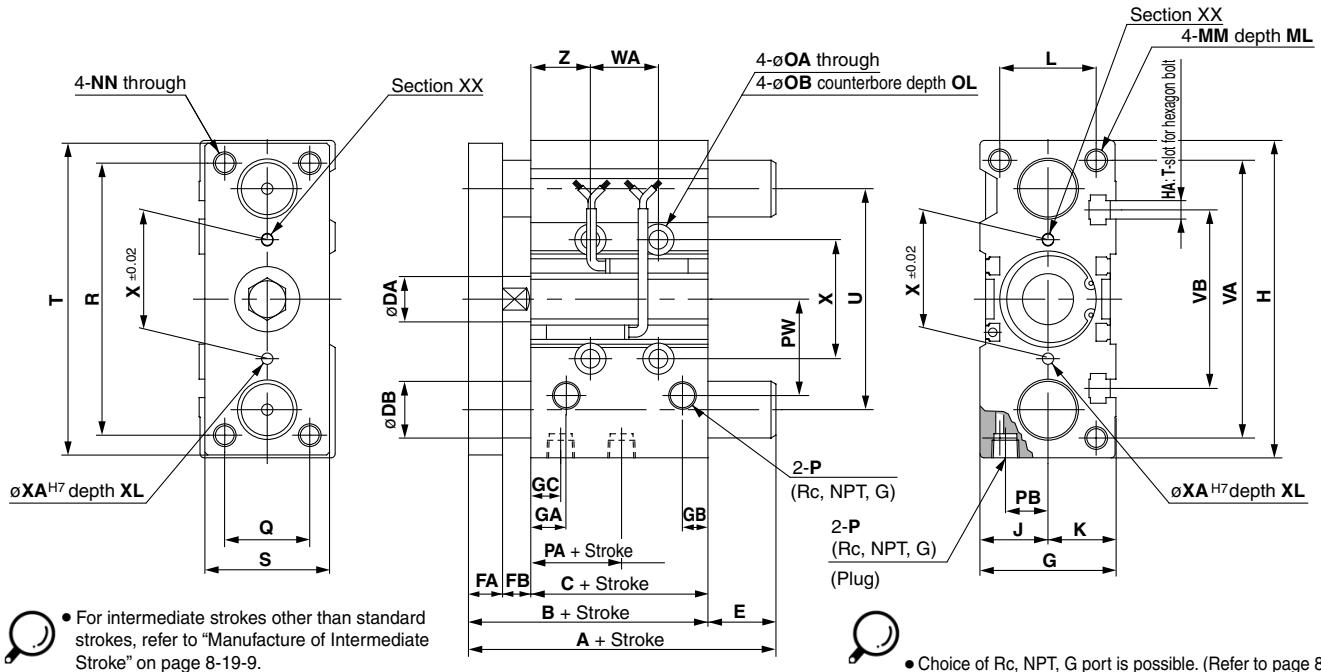
Detailed figure of XX section

Bottom view

T-slot dimensions



| Bore size (mm) | a | b | c | d | e |
|----------------|-----|------|-----|-----|------|
| 32 | 6.5 | 10.5 | 5.5 | 3.5 | 9.5 |
| 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 |



• For intermediate strokes other than standard strokes, refer to "Manufacture of Intermediate Stroke" on page 8-19-9.

• Choice of Rc, NPT, G port is possible. (Refer to page 8-19-8.)

MGPM, MGPL Common Dimensions

| Bore size (mm) | Standard stroke (mm) | B | C | DA | FA | FB | G | GA | GB | GC | H | HA | J | K | L | MM | ML | NN | OA | OB | OL | P | PA | PB | PW | Q |
|----------------|----------------------|----|------------------|------|------|----|----|------|------|------|-----|------|-----|----|----|-----------|----|-----------|-----|-----------|-----|-----|-----|------|----|----|
| | | 32 | 25, 50, 75, 100, | 59.5 | 37.5 | 16 | 12 | 10 | 48 | 12.5 | 9 | 12.5 | 112 | M6 | 24 | 24 | 34 | M8 x 1.25 | 20 | M8 x 1.25 | 6.6 | 11 | 7.5 | 1/8 | 7 | 15 |
| 40 | 125, 150, 175, 200 | 66 | 44 | 16 | 12 | 10 | 54 | 14 | 10 | 14 | 120 | M6 | 27 | 27 | 40 | M8 x 1.25 | 20 | M8 x 1.25 | 6.6 | 11 | 7.5 | 1/8 | 13 | 18 | 38 | 30 |
| 50 | 250, 300, 350, 400 | 72 | 44 | 20 | 16 | 12 | 64 | 14 | 11 | 12 | 148 | M8 | 32 | 32 | 46 | M10 x 1.5 | 22 | M10 x 1.5 | 8.6 | 14 | 9 | 1/4 | 9 | 21.5 | 47 | 40 |
| 63 | | 77 | 49 | 20 | 16 | 12 | 78 | 16.5 | 13.5 | 16.5 | 162 | M10 | 39 | 39 | 58 | M10 x 1.5 | 22 | M10 x 1.5 | 8.6 | 14 | 9 | 1/4 | 14 | 28 | 55 | 50 |

| Bore size (mm) | R | S | T | U | VA | VB | WA | | | | | WB | | | | | X | XA | XB | XC | XL | YY | YL | Z |
|----------------|-----|----|-----|-----|-----|-----|---------------|----------------------|-----------------------|-----------------------|-------------|---------------|----------------------|-----------------------|-----------------------|-------------|----|----|-----|----|----|-----------|----|----|
| | | | | | | | 25 st or less | Over 25 st to 100 st | Over 100 st to 200 st | Over 200 st to 300 st | Over 300 st | 25 st or less | Over 25 st to 100 st | Over 100 st to 200 st | Over 200 st to 300 st | Over 300 st | | | | | | | | |
| 32 | 96 | 44 | 110 | 78 | 98 | 63 | 24 | 48 | 124 | 200 | 300 | 33 | 45 | 83 | 121 | 171 | 42 | 4 | 4.5 | 3 | 6 | M8 x 1.25 | 16 | 21 |
| 40 | 104 | 44 | 118 | 86 | 106 | 72 | 24 | 48 | 124 | 200 | 300 | 34 | 46 | 84 | 122 | 172 | 50 | 4 | 4.5 | 3 | 6 | M8 x 1.25 | 16 | 22 |
| 50 | 130 | 60 | 146 | 110 | 130 | 92 | 24 | 48 | 124 | 200 | 300 | 36 | 48 | 86 | 124 | 174 | 66 | 5 | 6 | 4 | 8 | M10 x 1.5 | 20 | 24 |
| 63 | 130 | 70 | 158 | 124 | 142 | 110 | 28 | 52 | 128 | 200 | 300 | 38 | 50 | 88 | 124 | 174 | 80 | 5 | 6 | 4 | 8 | M10 x 1.5 | 20 | 24 |

MGPM (Slide bearing) A, DB, E Dimensions

| Bore size (mm) | A | | | DB | E | | |
|----------------|---------------|----------------------|-------------|----|---------------|----------------------|-------------|
| | 50 st or less | Over 50 st to 200 st | Over 200 st | | 50 st or less | Over 50 st to 200 st | Over 200 st |
| 32 | 97 | 102 | 140 | 20 | 37.5 | 42.5 | 80.5 |
| 40 | 97 | 102 | 140 | 20 | 31 | 36 | 74 |
| 50 | 106.5 | 118 | 161 | 25 | 34.5 | 46 | 89 |
| 63 | 106.5 | 118 | 161 | 25 | 29.5 | 41 | 84 |

MGPL (Ball bushing bearing) A, DB, E Dimensions

| Bore size (mm) | A | | | | DB | E | | | |
|----------------|---------------|----------------------|-----------------------|-------------|----|---------------|----------------------|-----------------------|-------------|
| | 50 st or less | Over 50 st to 100 st | Over 100 st to 200 st | Over 200 st | | 50 st or less | Over 50 st to 100 st | Over 100 st to 200 st | Over 200 st |
| 32 | 81 | 98 | 118 | 140 | 16 | 21.5 | 38.5 | 58.5 | 80.5 |
| 40 | 81 | 98 | 118 | 140 | 16 | 15 | 32 | 52 | 74 |
| 50 | 93 | 114 | 134 | 161 | 20 | 21 | 42 | 62 | 89 |
| 63 | 93 | 114 | 134 | 161 | 20 | 16 | 37 | 57 | 84 |