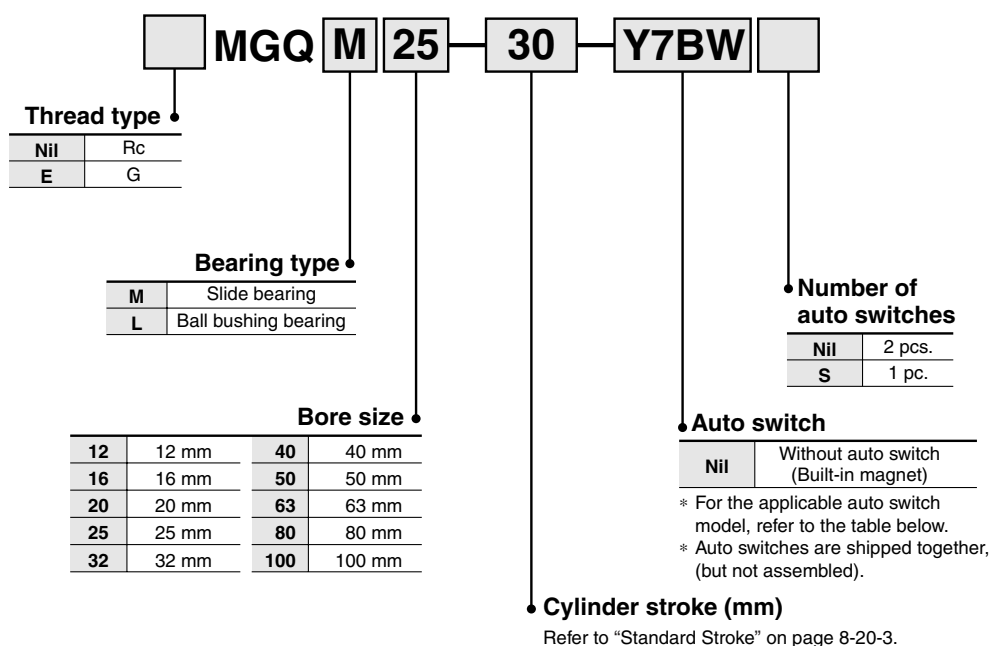


Compact Guide Cylinder

Series MGQ

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

How to Order



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 | AC | Perpendicular | In-line | 0.5 (Nil) | 3 (L) | 5 (Z) | | IC circuit | Relay, PLC |
| Reed switch | — | Grommet | Yes | 3-wire (NPN equivalent) | — | 5 V | — | — | Z76 | ● | ● | — | — | IC circuit | — |
| | | | | 2-wire | 24 V | 12 V | 100 V or less | — | Z73 | ● | ● | ● | — | — | Relay, PLC |
| Solid state switch | Diagnostic indication (2-color indication) | 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 | ● | ● | ○ | ○ | IC circuit | |
| | | | | 2-wire | | | | Y7BWV | Y7BW | ● | ● | ○ | ○ | — | |

* 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.

- Since there are other applicable auto switches than listed, refer to page 8-20-11 for details.
- For details about auto switches with pre-wire connector, refer to page 8-30-52.

Compact Guide Cylinder Series MGQ

Air cylinder integrated with guide has achieved anti-lateral load and high non-rotating accuracy.

Space-saving and compact design

Suitable as stoppers or lifters in conveyor line

2 types of guide rod bearing are available depending upon the application

Slide bearing/Ball bushing bearing



Specifications

| Bearing type | Slide bearing | | Ball bushing bearing |
|-------------------------------|---|----------------|----------------------|
| Model | MGQM | | MGQL |
| Bore size (mm) | 12, 16, 20, 25, 32, 40, 50, 63, 80, 100 | | |
| Action | Double acting | | |
| Fluid | Air | | |
| Proof pressure | 1.5 MPa | | |
| Max. operating pressure | 1.0 MPa | | |
| Min. 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 | 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 | | |

MX□

MTS

MY□

CY□

MG□

CX□

D-

-X

20-

Data

Standard Stroke

| Model | Standard stroke (mm) | Intermediate stroke (mm) |
|---|---|---|
| MGQ ^M _L 12, 16 | 10, 20, 30, 40, 50, 75, 100 | As for the intermediate strokes other than the standard strokes at left are manufactured by means of installing a spacer. ø12 to ø32 Stroke available by the 1 stroke interval ø40 to ø100 Stroke available by the 5 stroke interval (Example) |
| MGQ ^M _L 20, 25 | 20, 30, 40, 50, 75, 100 125, 150, 175, 200 | |
| MGQ ^M _L 32, 40 50, 63 80, 100 | 25, 50, 75, 100, 125 150, 175, 200 | 1. For MGQM20-21 st, MGQM20-30 st is provided with a 5 mm + 4 mm ≤ 9 mm width spacer. 2. For MGQM50-40 st, MGQM50-50 st is provided with a 10 mm width spacer. |

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

| Symbol | Specifications |
|--------|--|
| -XA□ | Change of rod end shape |
| -XB6 | Heat resistant cylinder (150°C) |
| -XB9 | Low speed cylinder (10 to 50 mm/s) |
| -XB10 | Intermediate stroke (Using exclusive body) |
| -XC18 | NPT finish piping port |
| -XC22 | Fluoro rubber seals |
| -XC56 | With knock pin holes |
| -XC79 | Machining tapped hole, drilled hole, and pin hole additionally |
| -XC168 | Helical insert thread |
| -XC367 | Bottom mounting style |
| -XC399 | Long bushing |
| -XC563 | With anti-strong magnetic field switch (D-P5DW) |

Series MGQ

Weight/Slide Bearing: MGQM12 to 100

(kg)

| Bore size (mm) | Model | Standard stroke (mm) | | | | | | | | | | | |
|----------------|---------|----------------------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| | | 10 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 125 | 150 | 175 | 200 |
| 12 | MGQM12 | 0.23 | 0.27 | — | 0.31 | 0.34 | 0.38 | 0.48 | 0.58 | — | — | — | — |
| 16 | MGQM16 | 0.34 | 0.39 | — | 0.45 | 0.50 | 0.55 | 0.68 | 0.80 | — | — | — | — |
| 20 | MGQM20 | — | 0.54 | — | 0.61 | 0.69 | 0.76 | 0.94 | 1.09 | 1.24 | 1.39 | 1.54 | 1.69 |
| 25 | MGQM25 | — | 0.83 | — | 0.93 | 1.04 | 1.13 | 1.44 | 1.68 | 1.92 | 2.16 | 2.40 | 2.64 |
| 32 | MGQM32 | — | — | 1.51 | — | — | 1.91 | 2.29 | 2.69 | 3.09 | 3.49 | 3.89 | 4.29 |
| 40 | MGQM40 | — | — | 1.65 | — | — | 2.24 | 2.46 | 2.87 | 3.28 | 3.69 | 4.10 | 4.51 |
| 50 | MGQM50 | — | — | 2.54 | — | — | 3.09 | 3.65 | 4.21 | 4.77 | 5.33 | 5.89 | 6.45 |
| 63 | MGQM63 | — | — | 3.01 | — | — | 3.63 | 4.23 | 4.85 | 5.47 | 6.09 | 6.71 | 7.33 |
| 80 | MGQM80 | — | — | 5.66 | — | — | 6.59 | 7.49 | 8.41 | 9.33 | 10.25 | 11.17 | 12.09 |
| 100 | MGQM100 | — | — | 8.96 | — | — | 10.27 | 11.57 | 12.90 | 14.23 | 15.56 | 16.89 | 18.22 |

Weight/Ball Bushing Bearing: MGQL12 to 100

(kg)

| Bore size (mm) | Model | Standard stroke (mm) | | | | | | | | | | | |
|----------------|---------|----------------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| | | 10 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 125 | 150 | 175 | 200 |
| 12 | MGQL12 | 0.23 | 0.26 | — | 0.29 | 0.35 | 0.38 | 0.46 | 0.53 | — | — | — | — |
| 16 | MGQL16 | 0.35 | 0.39 | — | 0.44 | 0.52 | 0.57 | 0.70 | 0.82 | — | — | — | — |
| 20 | MGQL20 | — | 0.54 | — | 0.60 | 0.70 | 0.75 | 0.90 | 1.04 | 1.18 | 1.32 | 1.46 | 1.60 |
| 25 | MGQL25 | — | 0.84 | — | 0.93 | 1.08 | 1.17 | 1.37 | 1.58 | 1.79 | 2.00 | 2.21 | 2.42 |
| 32 | MGQL32 | — | — | 1.32 | — | — | 1.67 | 2.09 | 2.45 | 2.81 | 3.17 | 3.53 | 3.89 |
| 40 | MGQL40 | — | — | 1.46 | — | — | 1.82 | 2.27 | 2.63 | 2.99 | 3.35 | 3.71 | 4.07 |
| 50 | MGQL50 | — | — | 2.11 | — | — | 2.59 | 3.19 | 3.68 | 4.17 | 4.66 | 5.15 | 5.64 |
| 63 | MGQL63 | — | — | 2.65 | — | — | 3.19 | 3.85 | 4.39 | 4.93 | 5.47 | 6.01 | 6.55 |
| 80 | MGQL80 | — | — | 5.49 | — | — | 6.38 | 7.95 | 8.79 | 9.63 | 10.47 | 11.31 | 12.15 |
| 100 | MGQL100 | — | — | 8.34 | — | — | 9.53 | 11.78 | 12.96 | 14.14 | 15.32 | 16.50 | 17.68 |

Copper-free (For CRT manufacturing process)

To prevent the influence of copper ions or halogen ions during CRT manufacturing processes, copper and fluorine materials are not used in the component parts.

Specifications

| Applicable series | MGQM | MGQL |
|-------------------|---|----------------------|
| Bearing type | Slide bearing | Ball bushing bearing |
| Bore size (mm) | 12, 16, 20, 25, 32 40, 50, 63, 80, 100 | |

How to Order

20 — MGQ **M** **Bore size** — **Stroke**

Bearing type

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

● Copper-free

⚠ Precautions

Be sure to read before handling. For Safety Instructions and Actuator Precautions, refer to pages 8-34-3 to 8-34-6.

Mounting

⚠ Warning

1. Avoid placing your hands or fingers between the plate and the body.

- Be very careful to prevent your hands or fingers from getting caught in the gap between the cylinder body and the plate when air is applied.

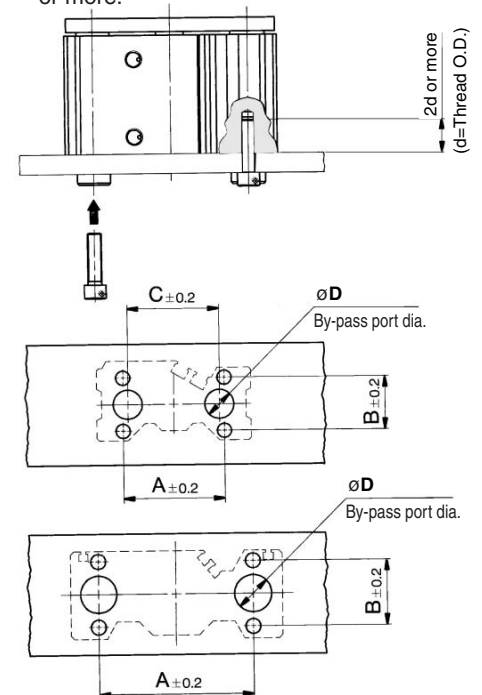
⚠ Caution

1. Do not scratch or gouge the sliding portion of the piston rod and the guide rod.

- Damaged seals, etc. will result in leakage or malfunction.

2. When mounting on the bottom of the cylinder, the guide rod protrudes from the bottom at the retraction stroke end. Therefore, drill holes for the hexagon socket bolts used for mounting purposes, and relief holes for the guide rods.

Moreover, in applications where impact occurs from a stopper, etc., the mounting bolts should be inserted to a depth of 2d or more.

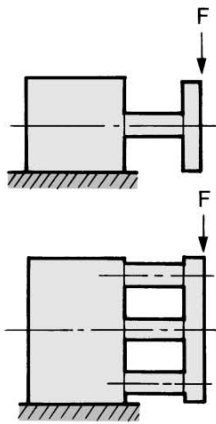


| Bore size (mm) | A (mm) | B (mm) | C (mm) | øD (mm) | | Hexagon socket head cap screw |
|----------------|--------|--------|--------|---------|------|-------------------------------|
| | | | | MGQM | MGQL | |
| 12 | 40 | 18 | 36 | 10 | 8 | M4 x 0.7 |
| 16 | 42 | 22 | 38 | 12 | 10 | M5 x 0.8 |
| 20 | 52 | 26 | 46 | 14 | 12 | M5 x 0.8 |
| 25 | 62 | 32 | 56 | 18 | 15 | M6 x 1 |
| 32 | 80 | 38 | — | 22 | 18 | M8 x 1.25 |
| 40 | 90 | 38 | — | 22 | 18 | M8 x 1.25 |
| 50 | 100 | 44 | — | 27 | 22 | M10 x 1.5 |
| 63 | 110 | 44 | — | 27 | 22 | M10 x 1.5 |
| 80 | 140 | 56 | — | 31 | 28 | M12 x 1.75 |
| 100 | 170 | 62 | — | 39 | 33 | M14 x 2 |

C dimension for a bore size of 32 to 100 is identical to the A dimension.

Operating Conditions

Allowable Lateral Load (Ordinary load)



| Bore size (mm) | Bearing type | Stroke (mm) | | | | | | | | | | | | F (N) |
|----------------|--------------|-------------|----|-----|----|----|-----|------|------|-----|-----|-----|-----|-------|
| | | 10 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | |
| 12 | MGQM | 21 | 18 | — | 15 | 13 | 12 | 9 | 8 | — | — | — | — | |
| | MGQL | 27 | 22 | — | 17 | 21 | 19 | 15 | 13 | — | — | — | — | |
| 16 | MGQM | 34 | 28 | — | 25 | 22 | 19 | 15 | 13 | — | — | — | — | |
| | MGQL | 38 | 30 | — | 26 | 37 | 33 | 28 | 23 | — | — | — | — | |
| 20 | MGQM | — | 51 | — | 44 | 38 | 34 | 57 | 49 | 42 | 37 | 33 | 30 | |
| | MGQL | — | 55 | — | 47 | 78 | 69 | 53 | 44 | 30 | 26 | 23 | 21 | |
| 25 | MGQM | — | 70 | — | 60 | 53 | 47 | 77 | 65 | 56 | 49 | 44 | 40 | |
| | MGQL | — | 71 | — | 61 | 77 | 72 | 59 | 51 | 42 | 36 | 32 | 29 | |
| 32 | MGQM | — | — | 196 | — | — | 167 | 137 | 108 | 87 | 77 | 69 | 63 | |
| | MGQL | — | — | 88 | — | — | 59 | 275 | 216 | 156 | 136 | 121 | 109 | |
| 40 | MGQM | — | — | 196 | — | — | 167 | 137 | 108 | 87 | 77 | 69 | 63 | |
| | MGQL | — | — | 88 | — | — | 59 | 275 | 216 | 156 | 136 | 121 | 109 | |
| 50 | MGQM | — | — | 294 | — | — | 255 | 215 | 176 | 138 | 123 | 111 | 101 | |
| | MGQL | — | — | 137 | — | — | 88 | 392 | 313 | 207 | 182 | 162 | 146 | |
| 63 | MGQM | — | — | 294 | — | — | 255 | 215 | 176 | 138 | 123 | 111 | 101 | |
| | MGQL | — | — | 137 | — | — | 88 | 392 | 313 | 207 | 182 | 162 | 146 | |
| 80 | MGQM | — | — | 353 | — | — | 304 | 255 | 206 | 168 | 151 | 137 | 126 | |
| | MGQL | — | — | 235 | — | — | 157 | 863 | 686 | 465 | 411 | 368 | 333 | |
| 100 | MGQM | — | — | 539 | — | — | 470 | 412 | 343 | 278 | 252 | 230 | 211 | |
| | MGQL | — | — | 470 | — | — | 313 | 1370 | 1070 | 708 | 627 | 562 | 509 | |

 MX

 MTS

 MY

 CY

 MG

 CX

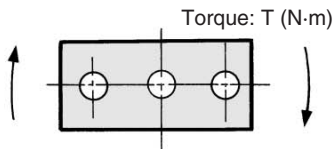
 D-

 -X

 20-

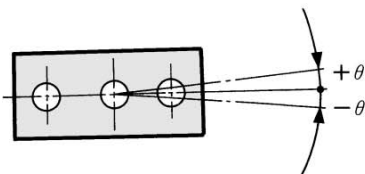
 Data

Allowable Rotational Torque of Plate



| Bore size (mm) | Bearing type | Stroke (mm) | | | | | | | | | | | | T (N-m) |
|----------------|--------------|-------------|------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|---------|
| | | 10 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | |
| 12 | MGQM | 0.29 | 0.24 | — | 0.21 | 0.18 | 0.16 | 0.13 | 0.10 | — | — | — | — | |
| | MGQL | 0.48 | 0.39 | — | 0.31 | 0.37 | 0.33 | 0.27 | 0.23 | — | — | — | — | |
| 16 | MGQM | 0.51 | 0.43 | — | 0.35 | 0.31 | 0.27 | 0.23 | 0.19 | — | — | — | — | |
| | MGQL | 0.73 | 0.58 | — | 0.48 | 0.71 | 0.64 | 0.53 | 0.44 | — | — | — | — | |
| 20 | MGQM | — | 0.91 | — | 0.78 | 0.71 | 0.63 | 1.04 | 0.88 | 0.77 | 0.68 | 0.60 | 0.55 | |
| | MGQL | — | 1.26 | — | 1.06 | 1.77 | 1.58 | 1.22 | 1.01 | 0.69 | 0.60 | 0.53 | 0.48 | |
| 25 | MGQM | — | 1.53 | — | 1.31 | 1.16 | 1.03 | 1.68 | 1.42 | 1.24 | 1.09 | 0.98 | 0.88 | |
| | MGQL | — | 1.96 | — | 1.69 | 2.16 | 2.00 | 1.65 | 1.41 | 1.18 | 1.01 | 0.90 | 0.81 | |
| 32 | MGQM | — | — | 3.92 | — | — | 2.94 | 2.45 | 3.46 | 1.72 | 1.53 | 1.37 | 1.24 | |
| | MGQL | — | — | 1.96 | — | — | 0.98 | 5.88 | 4.41 | 3.12 | 2.72 | 2.42 | 2.18 | |
| 40 | MGQM | — | — | 4.41 | — | — | 3.43 | 2.94 | 2.45 | 1.94 | 1.72 | 1.54 | 1.40 | |
| | MGQL | — | — | 2.45 | — | — | 1.47 | 6.37 | 5.39 | 3.51 | 3.06 | 2.72 | 2.45 | |
| 50 | MGQM | — | — | 7.35 | — | — | 5.88 | 4.90 | 4.41 | 3.43 | 3.06 | 2.77 | 2.52 | |
| | MGQL | — | — | 3.43 | — | — | 2.20 | 10.78 | 8.33 | 5.18 | 4.55 | 4.05 | 3.65 | |
| 63 | MGQM | — | — | 7.84 | — | — | 6.37 | 5.39 | 4.90 | 3.77 | 3.37 | 3.04 | 2.77 | |
| | MGQL | — | — | 3.92 | — | — | 2.45 | 11.76 | 9.31 | 5.69 | 5.01 | 4.46 | 4.02 | |
| 80 | MGQM | — | — | 11.76 | — | — | 9.80 | 7.84 | 6.86 | 5.88 | 5.28 | 4.79 | 4.39 | |
| | MGQL | — | — | 9.31 | — | — | 5.88 | 31.36 | 24.50 | 16.28 | 14.39 | 12.88 | 11.66 | |
| 100 | MGQM | — | — | 22.54 | — | — | 19.60 | 16.66 | 14.70 | 11.81 | 10.67 | 9.74 | 8.96 | |
| | MGQL | — | — | 21.56 | — | — | 13.72 | 63.70 | 49.00 | 30.09 | 26.65 | 23.89 | 21.63 | |

Non-rotating Accuracy of Plate



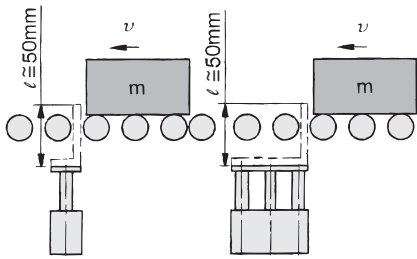
For non-rotating accuracy θ without load, use a value no more than the values in the table as a guide.

| Bore size (mm) | Non-rotating accuracy θ | |
|----------------|--------------------------------|------------------|
| | MGQM | MGQL |
| 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 | $\pm 0.04^\circ$ | $\pm 0.05^\circ$ |

Series MGQ

Operating Range when Used as Stopper

Bore Size $\phi 12$ to $\phi 25$ /MGQM12 to 25 (Slide bearing)



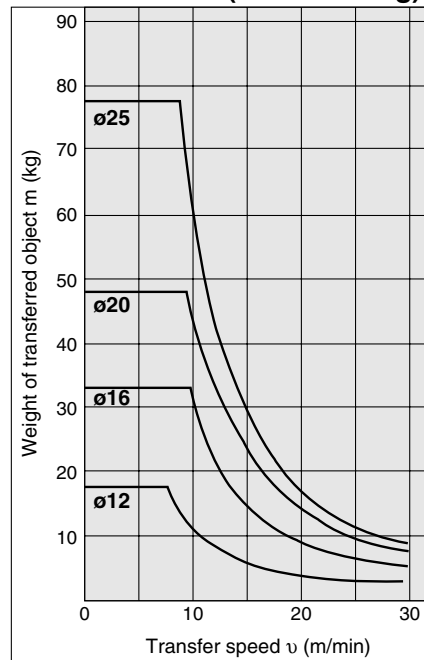
* When selecting a model with a longer l dimension, be sure to choose a bore size which is sufficiently large.

Caution on handling

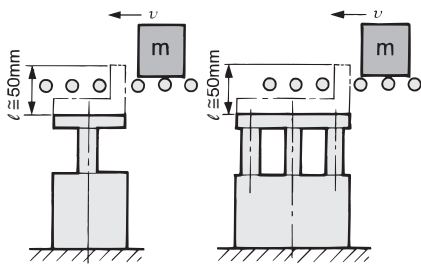
Note 1) When using as a stopper, select a model with 30 stroke or less.

Note 2) Model MGPL (Ball bushing bearing) cannot be used as a stopper.

MGQM12 to 25 (Slide bearing)



Bore Size $\phi 32$ to $\phi 100$ /MGQM32 to 100 (Slide bearing)



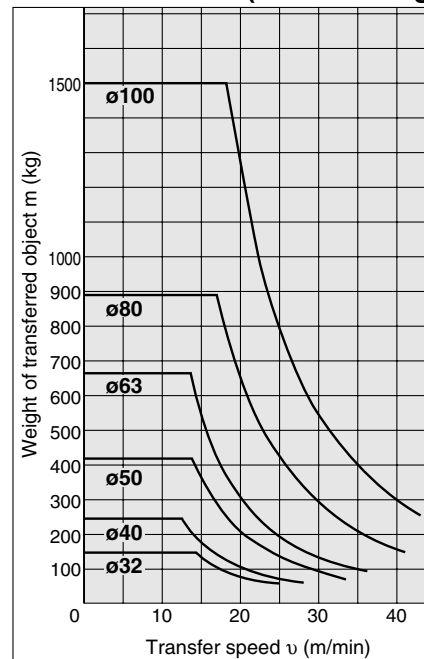
* When selecting a model with a longer l dimension, be sure to choose a bore size which is sufficiently large.

Caution on handling

Note 1) When using as a stopper, select a model with 50 stroke or less.

Note 2) Model MGPL (Ball bushing bearing) cannot be used as a stopper.

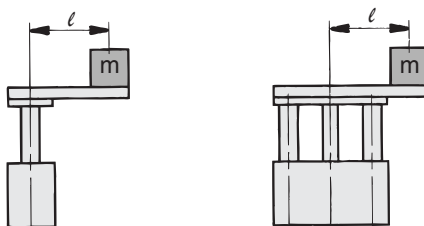
MGQM32 to 100 (Slide bearing)



Operating Range when Used as Lifter

- Select the bore size so that the total load mass is below the theoretical output (see the table below).

| Bore size (mm) | Theoretical output |
|----------------|--------------------|
| 12, 16 | 40% or below |
| 20, 25 | 50% or below |
| 32 to 100 | 60% or below |


 MX

 MTS

 MY

 CY

 MG

 CX

 D-

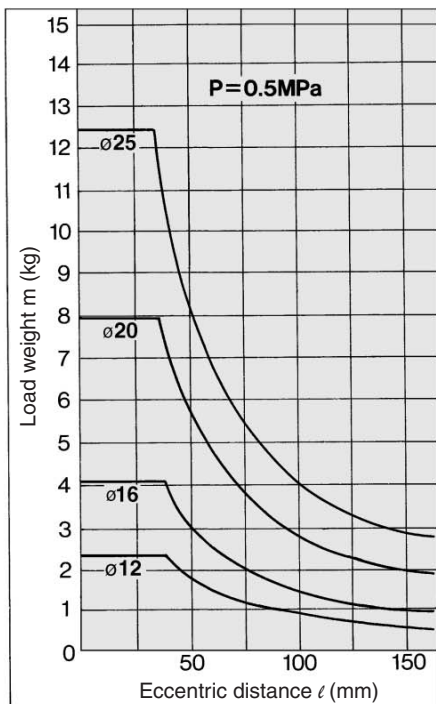
 -X

 20-

 Data

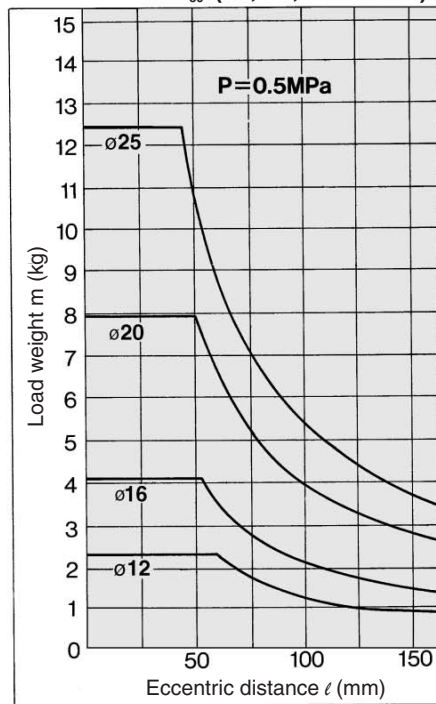
MGQM/Slide bearing

MGQM12 to 25-□

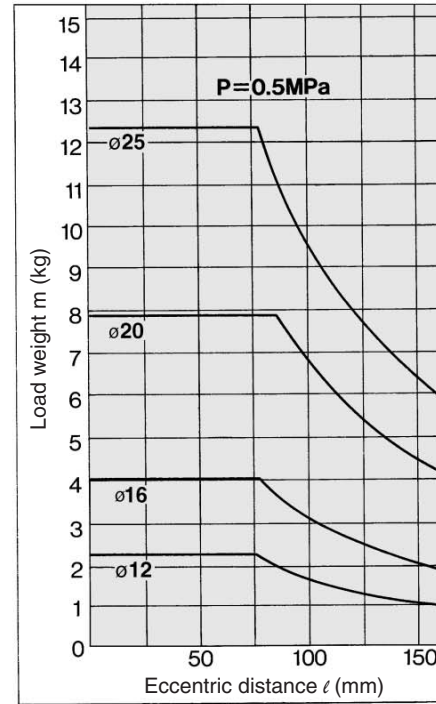


MGQM/Ball bushing bearing

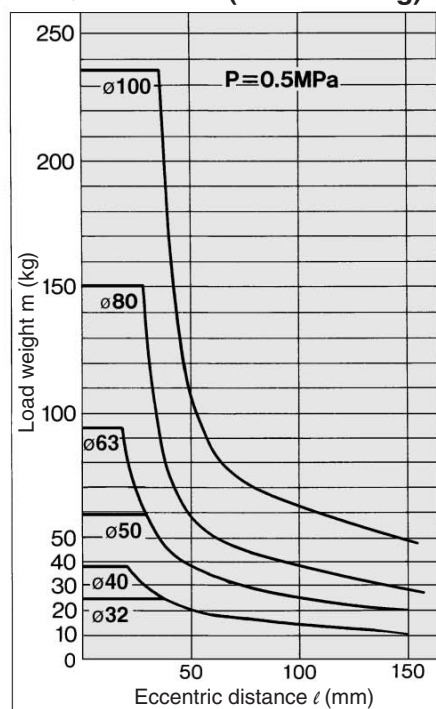
MGQL12 to 25-¹⁰/₂₀-³⁰ (10, 20, 30 Stroke)



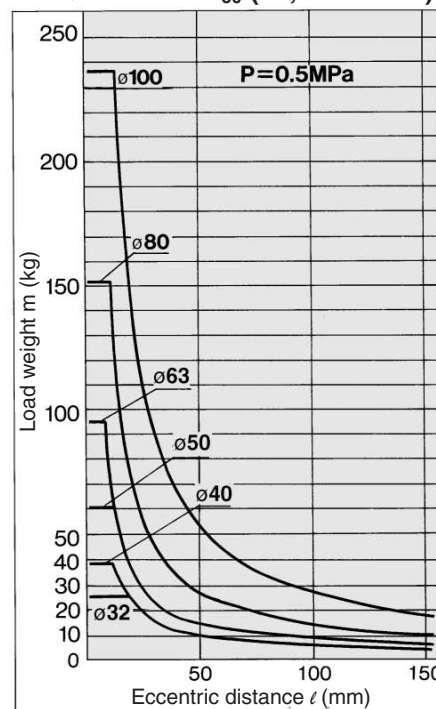
MGQL12 to 25-Over 30 stroke



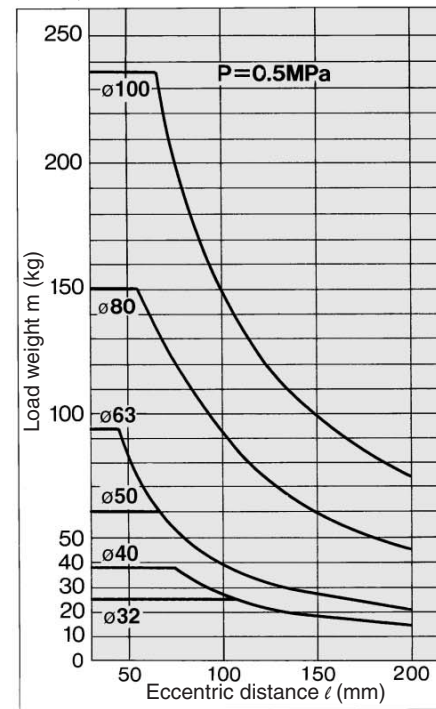
MGQM32 to 100 (Slide bearing)



MGQL32 to 100-²⁵/₅₀ (25, 50 stroke)



MGQL32 to 100-Over 50 stroke



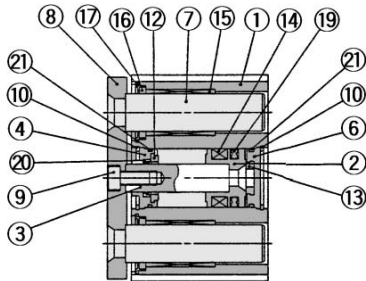
Series MGQ

Construction

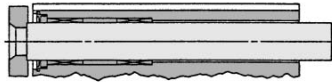
Series MGQM

Series MGQL

ø12 to ø25/MGQM12 to 25

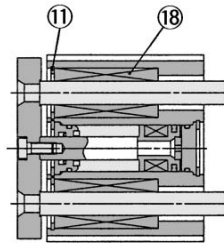


50 stroke or less

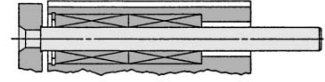


Over 50 stroke

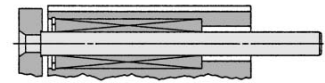
MGQL12 to 25



30 stroke or less

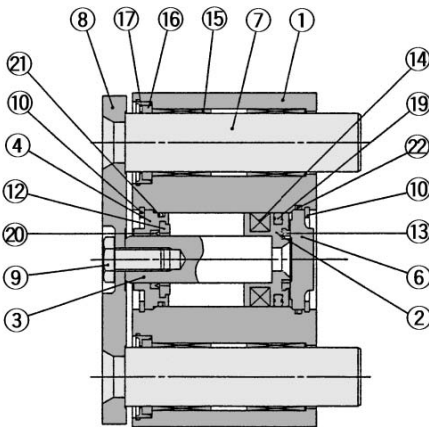


ø12, ø16 Over 30 stroke

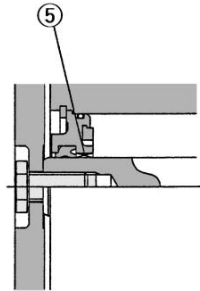


ø20, ø25 Over 30 stroke

ø32 to ø100/MGQM32 to 100

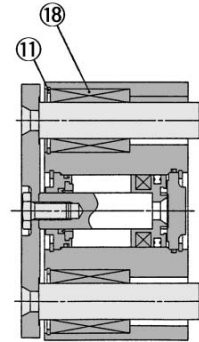


ø50 or more

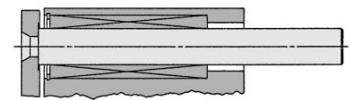


ø50 or more

MGQL32 to 100



50 stroke or less



Over 50 stroke

Component Parts

| No. | Description | Material | Note |
|-----|---------------------|---------------------------|--------------------------------|
| ① | Body | Aluminum alloy | Hard anodized |
| ② | Piston | Aluminum alloy | Chromated |
| ③ | Piston rod | ø12 to ø25 | Stainless steel |
| | | ø32 to ø100 | Carbon steel |
| ④ | Collar | ø12 to ø40 | Aluminum alloy |
| | | ø50 to ø100 | Aluminum alloy casted |
| ⑤ | Bushing | ø50 to ø100 | Phosper bronze casted |
| ⑥ | Head cover | ø12 to ø63 ø80 to ø100 | Aluminum alloy |
| | | | Colorless chromated Painted |
| ⑦ | Guide rod | MGQM | Carbon steel |
| | | MGQL | High carbon chrome steel |
| ⑧ | Plate | Carbon steel | Nickel plated |
| ⑨ | Plate mounting bolt | Carbon steel | Nickel plated |

| No. | Description | Material | Note |
|-----|---------------|--------------------|------------------|
| ⑩ | Snap ring | Carbon tool steel | Phosphate coated |
| ⑪ | Snap ring | Carbon tool steel | Phosphate coated |
| ⑫ | Bumper A | Urethane | — |
| ⑬ | Bumper B | Urethane | — |
| ⑭ | Magnet | Magnetic material | — |
| ⑮ | Slide Bearing | Lead-bronze casted | — |
| ⑯ | Felt | Felt | — |
| ⑰ | Holder | Resin | — |
| ⑱ | Ball bushing | — | — |
| ⑲ | Piston seal | NBR | — |
| ⑳ | Rod seal | NBR | — |
| ㉑ | Gasket A | NBR | — |
| ㉒ | Gasket B | NBR | — |

Replacement Parts: Seal Kit

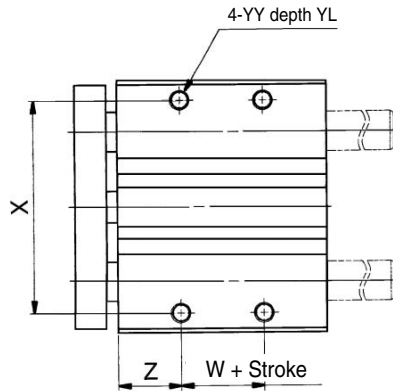
| No. | Description | Kit no. | | | | | | | | | |
|-----|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| | | ø12 | ø16 | ø20 | ø25 | ø32 | ø40 | ø50 | ø63 | ø80 | ø100 |
| ⑲ | Seal kit | MGQ12-PS | MGQ16-PS | MGQ20-PS | MGQ25-PS | MGQ32-PS | MGQ40-PS | MGQ50-PS | MGQ63-PS | MGQ80-PS | MGQ100-PS |

* Seal kit includes ⑲ to ㉒. Order the seal kit, based on each bore size.

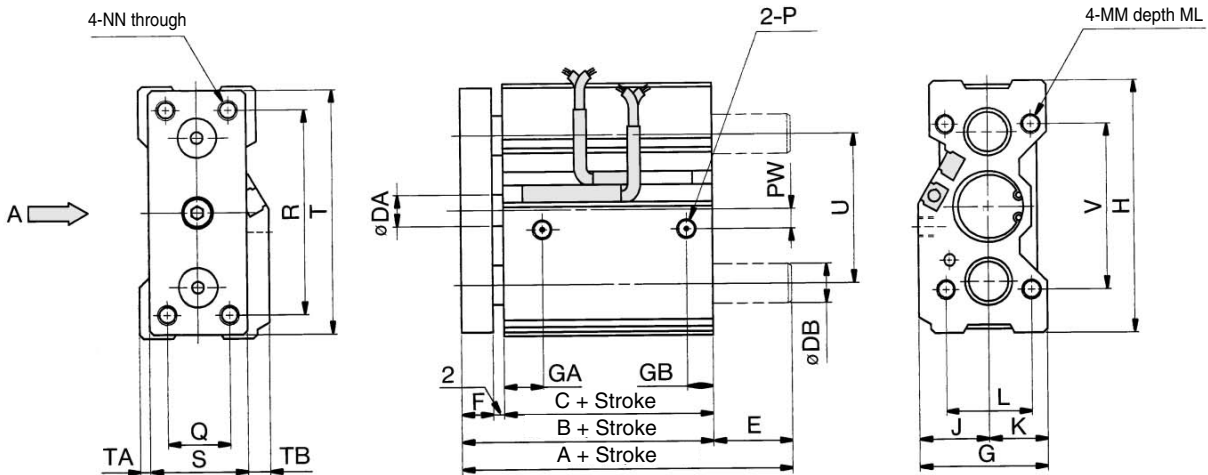
Compact Guide Cylinder Series MGQ



Bore Size
ø12 to ø25: MGQM, MGQL



View A



- MX
- MTS
- MY
- CY
- MG
- CX
- D-
- X
- 20-
- Data

MGQM, MGQL Common Dimensions

* The intermediate strokes other than the standard strokes at left are manufactured by means of installing a spacer. (Refer to page 8-20-3.)

| Bore size (mm) | Standard stroke (mm) | B | C | DA | F | G | GA | GB | H | J | K | L | MM | ML | NN | P | PW | Q | R | S | T | TA | TB | U | V | W | X | YY | YL | Z |
|----------------|---|------|------|----|---|----|------|-----|----|----|----|----|----------|----|----------|----------|----|----|----|----|----|-----|-----|----|----|----|----|----------|----|----|
| 12 | 10, 20, 30, 40, 50, 75, 100 | 39 | 29 | 6 | 8 | 29 | 11 | 7.5 | 58 | 16 | 13 | 18 | M4 x 0.7 | 10 | M4 x 0.7 | M5 x 0.8 | 7 | 14 | 48 | 22 | 56 | 5 | 5 | 36 | 40 | 5 | 50 | M4 x 0.7 | 7 | 12 |
| 16 | 10, 20, 30, 40, 50, 75, 100 | 43 | 33 | 8 | 8 | 33 | 11 | 8 | 64 | 18 | 15 | 22 | M5 x 0.8 | 13 | M5 x 0.8 | M5 x 0.8 | 5 | 16 | 52 | 25 | 62 | 2.5 | 5.5 | 38 | 42 | 7 | 54 | M5 x 0.8 | 8 | 13 |
| 20 | 20, 30, 40, 50, 75, 100, 125, 150, 175, 200 | 47 | 37 | 10 | 8 | 36 | 10.5 | 8.5 | 74 | 19 | 17 | 26 | M5 x 0.8 | 13 | M5 x 0.8 | Rc 1/8 | 7 | 18 | 60 | 30 | 72 | 2 | 4 | 46 | 52 | 10 | 64 | M5 x 0.8 | 8 | 13 |
| 25 | 20, 30, 40, 50, 75, 100, 125, 150, 175, 200 | 47.5 | 37.5 | 12 | 8 | 42 | 11.5 | 9 | 88 | 21 | 21 | 32 | M6 x 1.0 | 15 | M6 x 1.0 | Rc 1/8 | 8 | 26 | 70 | 38 | 86 | 2 | 2 | 56 | 62 | 10 | 76 | M6 x 1.0 | 9 | 14 |

MGQM (Slide bearing) A, DB, E Dimensions

| Bore size (mm) | Symbol Stroke | A | | DB | E | |
|----------------|------------------|---------------|---------|----|---------------|---------|
| | | 50 st or less | Over 50 | | 50 st or less | Over 50 |
| 12 | | 39 | | 8 | 0 | |
| 16 | | 43 | | 10 | 0 | |
| 20 | | 47 | 61.5 | 12 | 0 | 14.5 |
| 25 | | 47.5 | 62 | 16 | 0 | 14.5 |

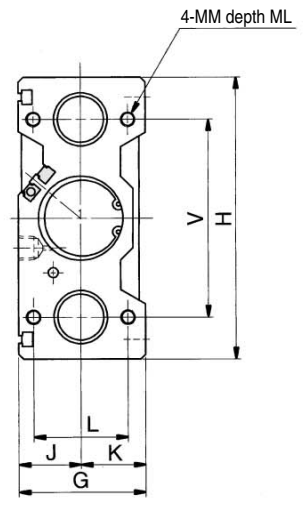
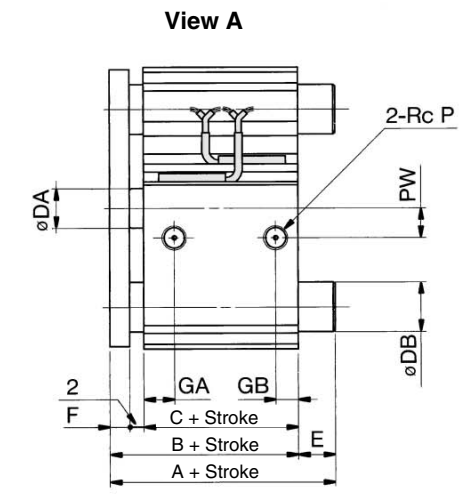
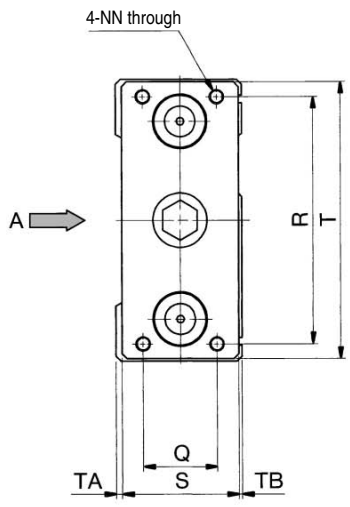
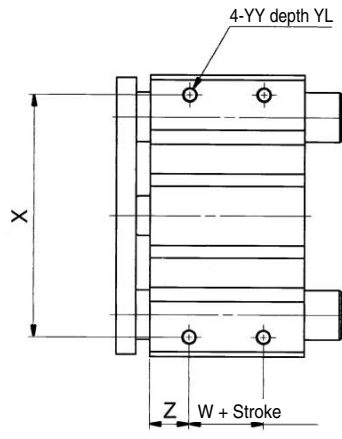
MGQL (Ball bushing bearing) A, DB, E Dimensions

| Bore size (mm) | Symbol Stroke | A | | DB | E | |
|----------------|------------------|---------------|------------|----|---------------|------------|
| | | 30 st or less | Over 30 st | | 30 st or less | Over 30 st |
| 12 | | 43 | 55 | 6 | 4 | 16 |
| 16 | | 49 | 65 | 8 | 6 | 22 |
| 20 | | 57 | 74 | 10 | 10 | 27 |
| 25 | | 63.5 | 79.5 | 13 | 16 | 32 |

Series MGQ



Bore Size
ø32 to ø100: MGQM, MGQL



Note 1) The intermediate strokes other than the standard strokes at left are manufactured by means of installing a spacer. (Refer to page 8-20-3.)
 Note 2) Strokes exceeding standard stroke can be manufactured. (Refer to page 8-31-1.)

MGQM, MGQL Common Dimensions

| Bore size (mm) | Standard stroke (mm) | B | C | DA | F | G | GA | GB | H | J | K | L | MM | ML | NN | P | PW | Q | R | S | T | TA | TB | V | W | X | YY | YL | Z |
|----------------|----------------------|------|------|----|----|-----|------|------|-----|------|------|----|------------|----|------------|-----|----|----|-----|-----|-----|-----|-----|-----|----|-----|------------|------|----|
| 32 | | 47.5 | 37.5 | 16 | 8 | 51 | 12.5 | 9 | 114 | 25 | 26 | 38 | M8 x 1.25 | 20 | M8 x 1.25 | 1/8 | 15 | 30 | 96 | 48 | 112 | 2 | 1 | 80 | 5 | 100 | M8 x 1.25 | 11 | 16 |
| 40 | 25, 50 | 54 | 44 | 16 | 8 | 51 | 14 | 10 | 124 | 25 | 26 | 38 | M8 x 1.25 | 20 | M8 x 1.25 | 1/8 | 21 | 30 | 106 | 48 | 122 | 2 | 1 | 90 | 10 | 110 | M8 x 1.25 | 11 | 17 |
| 50 | 75, 100 | 56 | 44 | 20 | 10 | 59 | 14 | 11 | 140 | 29 | 30 | 44 | M10 x 1.5 | 25 | M10 x 1.5 | 1/4 | 27 | 40 | 120 | 56 | 138 | 2 | 1 | 100 | 10 | 124 | M10 x 1.5 | 12.5 | 17 |
| 63 | 125, 150 | 61 | 49 | 20 | 10 | 72 | 16.5 | 13.5 | 150 | 35.5 | 36.5 | 44 | M10 x 1.5 | 25 | M10 x 1.5 | 1/4 | 33 | 50 | 130 | 69 | 148 | 2 | 1 | 110 | 10 | 132 | M10 x 1.5 | 15 | 19 |
| 80 | 175, 200 | 74.5 | 56.5 | 25 | 16 | 92 | 19 | 15.5 | 188 | 45.5 | 46.5 | 56 | M12 x 1.75 | 30 | M12 x 1.75 | 3/8 | 37 | 60 | 160 | 88 | 185 | 2.5 | 1.5 | 140 | 15 | 166 | M12 x 1.75 | 18 | 21 |
| 100 | | 84 | 66 | 30 | 16 | 112 | 23 | 19 | 224 | 55.5 | 56.5 | 62 | M14 x 2 | 35 | M14 x 2 | 3/8 | 40 | 80 | 190 | 108 | 221 | 2.5 | 1.5 | 170 | 15 | 200 | M14 x 2 | 21 | 25 |

MGQM (Slide bearing) A, DB, E Dimensions

| Bore size (mm) | A | DB | E |
|----------------|------|----|------|
| 32 | 71.5 | 20 | 24 |
| 40 | 71.5 | 20 | 17.5 |
| 50 | 81 | 25 | 25 |
| 63 | 81 | 25 | 20 |
| 80 | 93 | 28 | 18.5 |
| 100 | 105 | 36 | 21 |

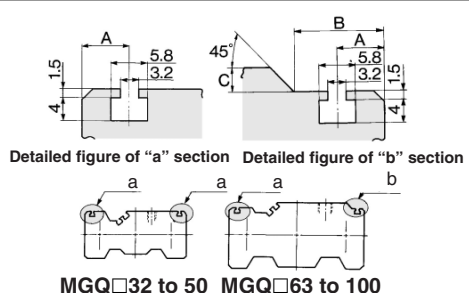
MGQL (Ball bushing bearing) A, DB, E Dimensions

| Bore size (mm) | A | | DB | E | |
|----------------|---------------|------------|----|---------------|------------|
| | 50 st or less | Over 50 st | | 50 st or less | Over 50 st |
| 32 | 53 | 90 | 16 | 5.5 | 42.5 |
| 40 | 54 | 90 | 16 | 0 | 36 |
| 50 | 60 | 102 | 20 | 4 | 46 |
| 63 | 61 | 102 | 20 | 0 | 41 |
| 80 | 84 | 143 | 25 | 9.5 | 68.5 |
| 100 | 89 | 153 | 30 | 5 | 69 |

Grooves (Except ø12, ø16, ø20, ø25)

Use grooves section "a" and section "b" in the figure below of the cylinder body for firmly fixing in the following case. (Applicable bolt size is M3.)

- These grooves can be used for firmly fixing the tying bands of lead wires of the auto switch, etc., and also terminal boards, etc., to the main body of the cylinder.
- When the terminal block is fixed on a cylinder directly.



| Model | A | B | C |
|---------|----|------|------|
| MGQ□32 | 8 | — | — |
| MGQ□40 | 8 | — | — |
| MGQ□50 | 8 | — | — |
| MGQ□63 | 8 | 19.5 | 6.5 |
| MGQ□80 | 10 | 25 | 7 |
| MGQ□100 | 10 | 29.5 | 14.5 |

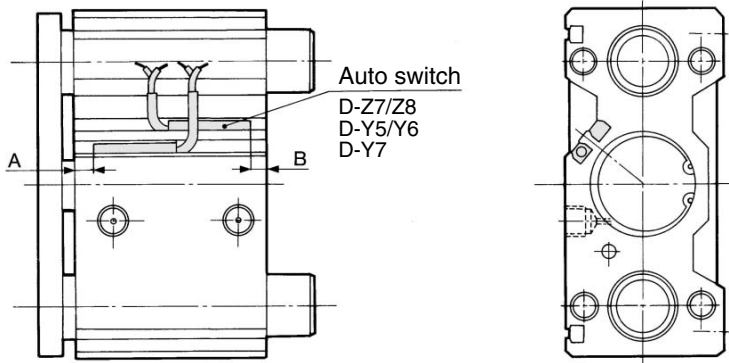
MGQ□32 to 50 MGQ□63 to 100



Proper Auto Switch Mounting Position (Detection at stroke end)

Minimum Stroke for Auto Switch

| | D-Z7□/Z80 | D-Y5□/Y6□/Y7□(V) | D-Y7□W(V) |
|--------|-----------|------------------|-----------|
| 1 pc. | 5 | 5 | 10 |
| 2 pcs. | 10 | 5 | 15 |



| Bore size (mm) | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|----------------|-----|-----|----|-----|-----|-----|------|----|------|------|
| A | 1.5 | 4.5 | 4 | 4.5 | 5.5 | 9.5 | 7.5 | 10 | 13 | 17.5 |
| B | 3 | 4 | 8 | 8 | 7 | 9.5 | 11.5 | 14 | 18.5 | 23.5 |

Operating Range

| Auto switch model | Applicable bore size (mm) | | | | | | | | | |
|-------------------|---------------------------|----|----|-----|-----|-----|----|----|----|------|
| | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| D-Z7□/Z80 | 5 | 6 | 6 | 6.5 | 8.5 | 8.5 | 9 | 10 | 10 | 11.5 |
| D-Y5□□/Y6□□/Y7□□ | | | | | | | | | | |

Other than the applicable auto switches listed in "How to Order", the following auto switches can be mounted. For detailed specifications, refer to page 8-30-1.

| 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. For details, refer to page 8-30-32.

MX□

MTS

MY□

CY□

MG□

CX□

D-

-X

20-

Data