

# Air Slide Table

## MXQ Series

ø6, ø8, ø12, ø16, ø20, ø25

RoHS

Integration of the guide rail and the table.

Uses a recirculating linear guide for high rigidity and high precision.

Air slide table for precision assembly processes.

- MXH
- MXS
- MXQ
- MXQ
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

### High precision, compact design

Comparison of MXQ and MXS (mm)

| Model    | Repeatability |                  | Dimensions |        |                |
|----------|---------------|------------------|------------|--------|----------------|
|          | Parallelism   | Height tolerance | Width      | Height | Overall length |
| MXQ12-30 | 0.035         | ±0.08            | 46         | 30     | 86             |
| MXS12-30 | 0.2           | ±0.2             | 50         | 32     | 80             |

### Improved load resistance

Load resistance against sudden and excessive external forces is nearly three times greater than the MXS series.

### Recirculating linear guide

Wide type linear guide block body made of martensitic stainless steel

### Improved mounting repeatability of the workpiece and body

Machining of positioning hole

### Symmetric type is also standardized.

Available for all options



### Improved strength of the end plate

End plate uses extra super duralumin. (Except the one with buffer)

### Auto switch mounting grooves designed for safety

An installed auto switch in the groove of the housing body is flush with the surface.



### Wide variety of options

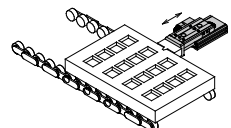
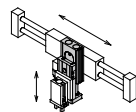
Adjuster option and function option can be combined.

| Symmetric type | Adjuster options         | Functional options        |
|----------------|--------------------------|---------------------------|
|                | With stroke adjuster<br> | With buffer mechanism<br> |
|                | With shock absorber<br>  | With end lock<br>         |
|                |                          | Axial piping type<br>     |

### Application examples

As Z-axis for picking and placing

For positioning pallets on a conveyor



- D-□
- X□



# Air Slide Table *MXQ Series*

## Series Variations

| Model         |                | Bore size (mm) | Standard stroke (mm) |    |    |    |    |    | Adjuster option |     |     | Functional option |                |               | Auto switch |             |               |
|---------------|----------------|----------------|----------------------|----|----|----|----|----|-----------------|-----|-----|-------------------|----------------|---------------|-------------|-------------|---------------|
|               |                |                | 10                   | 20 | 30 | 40 | 50 | 75 | 100             | 125 | 150 | Rubber stopper    | Shock absorber | Metal stopper |             | With buffer | With end lock |
| Standard type | Symmetric type |                |                      |    |    |    |    |    |                 |     |     |                   |                |               |             |             |               |
| MXQ 6         | MXQ6L          | 6              |                      |    |    |    |    |    |                 |     |     |                   |                |               |             |             |               |
| MXQ 8         | MXQ8L          | 8              |                      |    |    |    |    |    |                 |     |     |                   |                |               |             |             |               |
| MXQ12         | MXQ12L         | 12             |                      |    |    |    |    |    |                 |     |     |                   |                |               |             |             |               |
| MXQ16         | MXQ16L         | 16             |                      |    |    |    |    |    |                 |     |     |                   |                |               |             |             |               |
| MXQ20         | MXQ20L         | 20             |                      |    |    |    |    |    |                 |     |     |                   |                |               |             |             |               |
| MXQ25         | MXQ25L         | 25             |                      |    |    |    |    |    |                 |     |     |                   |                |               |             |             |               |

MXH

MXS

MXQ□

MXQ

MXF

MXW

MXJ

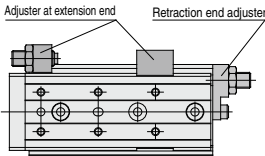
MXP

MXY

MTS

Reed auto switch  
 • D-A9□  
 • D-A9□V  
 Solid state auto switch  
 • D-M9□  
 • D-M9□V  
 2-color indicator  
 solid state auto switch  
 • D-M9□W  
 • D-M9□VW

## Adjuster Option



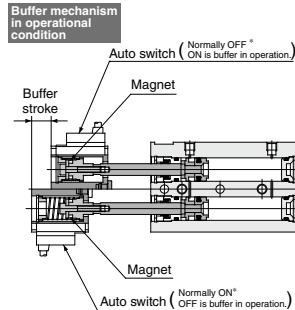
Three different types of adjusting bolt have been standardized for front end rear and double end adjusters and cushion mechanisms.

- Rubber stopper  
Standard stroke adjuster
- Shock absorber  
For use in harsh conditions.  
Absorbs the impact at the stroke end for smooth stopping.  
Improved stopping accuracy.
- Metal stopper  
Improved stopping accuracy.  
Without cushioning function for use with light loads and low speeds.

## Functional Option

### With Buffer Mechanism

- Protects workpieces and tools, etc., by eliminating impact at the end of the extension stroke.
- Buffer unit is auto switch capable.

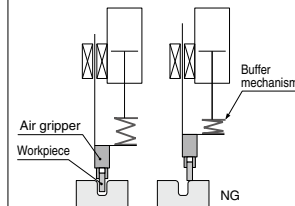


Normal condition

\* The normally ON/OFF setting is changed by changing the direction of the auto switch mounting.

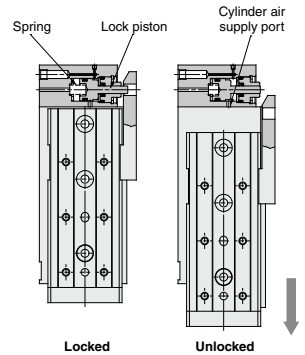
### Application Example

In workpiece insertion processes when there is a problem such as faulty positioning, the buffer mechanism absorbs the shock from the workpiece impact to prevent damage.



### With End Lock

- Holds the cylinder's home position to prevent dropping of the workpiece even if the air supply is cut off.

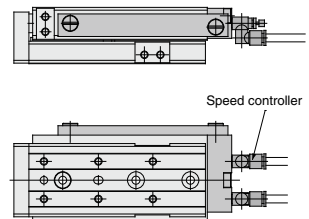


Locked

Unlocked

### Axial Piping Type

- Centralized piping in axial direction to maintain clear space around the body.



D-□

-X□

# MXQ Series

## Model Selection

### Model Selection Step

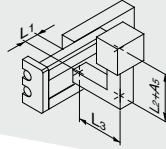
### Formula/Data

### Selection Example

#### 1 Operating Conditions

Enumerate the operating conditions considering the mounting position and workpiece configuration. Check that the load weight does not exceed the maximum allowable load weight and that the average operating speed does not exceed the operating speed range.

- Model to be used
- Type of cushion
- Workpiece mounting position
- Mounting orientation
- Average operating speed  $V_a$  (mm/s)
- Load mass  $W$  (kg): Fig. (1), Table (2)
- Overhang  $L_n$  (mm) Fig. (2)



Cylinder: MXQ16-50  
Cushion: Rubber stopper  
Workpiece table mounting  
Mounting: Horizontal wall mounting  
Average operating speed  
:  $V_a = 300$  [mm/s]  
Load mass:  $W = 1$  [kg]  
 $L_1 = 10$  mm  
 $L_2 = 30$  mm  
 $L_3 = 30$  mm

#### 2 Kinetic Energy

Find the kinetic energy  $E$  (J) of the load.

Find the allowable kinetic energy  $E_a$  (J).  
Confirm that the kinetic energy of the load does not exceed the allowable kinetic energy.

$$E = \frac{1}{2} \cdot W \cdot \left( \frac{V}{1000} \right)^2$$

Collision speed  $V = 1.4 \cdot V_a$  + Correction factor (Reference values)

$$E_a = K \cdot E \text{ max}$$

Workpiece mounting coefficient  $K$ : Fig. (3)  
Max. allowable kinetic energy  $E_{\text{max}}$ : Table (1)  
Kinetic energy ( $E$ )  $\leq$  Allowable kinetic energy ( $E_a$ )

$$E = \frac{1}{2} \cdot 1 \cdot \left( \frac{420}{1000} \right)^2 = 0.088$$

$$V = 1.4 \times 300 = 420$$

$$E_a = 1 \times 0.11 = 0.11$$

Can be used based on  $E = 0.088 \leq E_a = 0.11$

#### 3 Load Factor

##### 3-1 Load Factor of Load Mass

Find the allowable load mass  $W_a$  (kg).  
Note) No need to consider this load factor in the case of using perpendicularly in a vertical position. (Define  $\alpha_1 = 0$ )  
Find the load factor of the load weight  $\alpha_1$ .

$$W_a = K \cdot \beta \cdot W_{\text{max}}$$

Workpiece mounting coefficient  $K$ : Fig. (3)  
Allowable load weight coefficient  $\beta$ : Graph (1)  
Max. allowable load weight  $W_{\text{max}}$ : Table (2)  
 $\alpha_1 = W/W_a$

$$W_a = 1 \times 1 \times 4 = 4$$

$$K = 1$$

$$\beta = 1$$

$$W_{\text{max}} = 4$$

$$\alpha_1 = 1/4 = 0.25$$

##### 3-2 Load Factor of the Static Moment

Find the static moment  $M$  (N-m).  
Find the allowable static moment  $M_a$  (N-m).  
Find the load factor  $\alpha_2$  of the static moment.

$$M = W \times 9.8 (L_n + A_n)/1000$$

Correction value of moment center position distance  $A_n$ : Table (3)

$$M_a = K \cdot \gamma \cdot M_{\text{max}}$$

Workpiece mounting coefficient  $K$ : Fig. (3)  
Allowable moment coefficient  $\gamma$ : Graph (2)  
Maximum allowable moment  $M_{\text{max}}$ : Table (4)  
 $\alpha_2 = M/M_a$

| Yawing                                     | Rolling                                      |
|--|--|
| Examine $M_y$ .                            | Examine $M_r$ .                              |
| $M_y = 1 \times 9.8 (10 + 30)/1000 = 0.39$ | $M_r = 1 \times 9.8 (30 + 10.5)/1000 = 0.39$ |
| $A_3 = 30$                                 | $A_6 = 10.5$                                 |
| $M_y = 1 \times 1 \times 18 = 18$          | $M_r = 36$                                   |
| $M_{y\text{max}} = 18$                     | $M_{r\text{max}} = 36$                       |
| $K = 1$                                    | $K = 1$                                      |
| $\gamma = 1$                               | $\gamma = 1$                                 |
| $\alpha_2 = 0.39/18 = 0.022$               | $\alpha_2 = 0.39/36 = 0.011$                 |

##### 3-3 Load Factor of Dynamic Moment

Find the dynamic moment  $M_e$  (N-m).  
Find the allowable dynamic moment  $M_{e_a}$  (N-m).  
Find the load factor  $\alpha_3$  of the dynamic moment.

$$M_e = 1/3 \cdot W_e \times 9.8 \cdot \frac{(L_n + A_n)}{1000}$$

Collision equivalent to impact  $W_e = \delta \cdot W \cdot V$   
 $\delta$ : Bumper coefficient  
Rubber stopper without adjuster = 4/100  
Shock absorber = 1/100  
Metal stopper = 16/100  
Correction value of moment center position distance  $A_n$ : Table (3)

$$M_{e_a} = K \cdot \gamma \cdot M_{\text{max}}$$

Workpiece mounting coefficient  $K$ : Fig. (3)  
Allowable moment coefficient  $\gamma$ : Graph (2)  
Max. allowable moment  $M_{\text{max}}$ : Table (4)  
 $\alpha_3 = M_e/M_{e_a}$

| Pitching   | Yawing   |
|--|--|
| Examine $M_p$ .  | Examine $M_y$ .  |
| $M_p = 1/3 \times 16.8 \times 9.8 \times \frac{(30 + 10.5)}{1000} = 2.2$ | $M_y = 1/3 \times 16.8 \times 9.8 \times \frac{(30 + 24.5)}{1000} = 3.0$ |
| $W_e = 4/100 \times 1 \times 420 = 16.8$                                 | $W_e = 168$  |
| $A_2 = 10.5$   | $A_4 = 24.5$   |
| $M_{e_p} = 1 \times 0.7 \times 18 = 12.6$                                | $M_{e_y} = 12.6$ (Same value as $M_{e_p}$ )                              |
| $K = 1$  |  |
| $\gamma = 0.7$   |  |
| $M_{p\text{max}} = 18$   |  |
| $\alpha_3 = 2.2/12.6 = 0.17$   | $\alpha_3 = 3.0/12.6 = 0.24$   |

##### 3-4 Sum of the Load Factors

Use is possible if the sum of the load factors does not exceed 1.

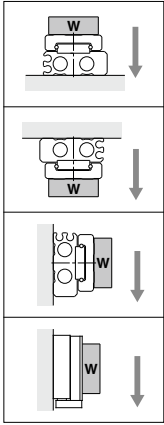
$$\sum \alpha_n = \alpha_1 + \alpha_2 + \dots + \alpha_n \leq 1$$

$$\sum \alpha_n = \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5$$

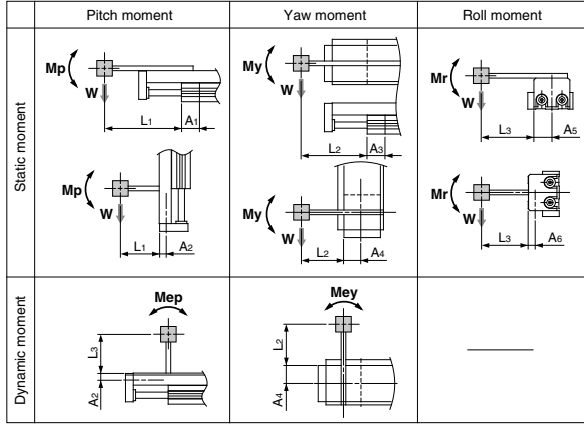
$$= 0.25 + 0.022 + 0.011 + 0.17 + 0.24 = 0.693 \leq 1$$

And it is possible to use.

**Fig. (1)**  
Load Mass: W (kg)

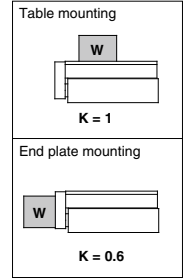


**Fig. (2)** Overhang: Ln (mm), Correction Value of Moment Center Position Distance: An (mm)



Note) Static moment: Moment generated by gravity  
Dynamic moment: Moment generated by impact when colliding with stopper

**Fig. (3)** Workpiece Mounting Coefficient: K



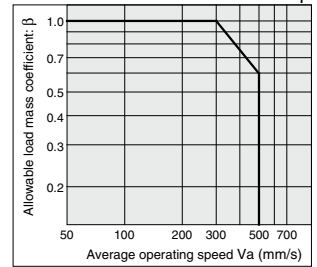
**Table (1) Allowable Kinetic Energy: Emax (J)**

| Model | Allowable kinetic energy |                 |                |               |
|-------|--------------------------|-----------------|----------------|---------------|
|       | Without adjuster         | Adjuster option |                |               |
|       |                          | Rubber stopper  | Shock absorber | Metal stopper |
| MXQ 6 | 0.018                    | 0.018           | —              | 0.009         |
| MXQ 8 | 0.027                    | 0.027           | 0.054          | 0.013         |
| MXQ12 | 0.055                    | 0.055           | 0.11           | 0.027         |
| MXQ16 | 0.11                     | 0.11            | 0.22           | 0.055         |
| MXQ20 | 0.16                     | 0.16            | 0.32           | 0.080         |
| MXQ25 | 0.24                     | 0.24            | 0.48           | 0.12          |

**Table (2)**  
Maximum Allowable Load Mass: Wmax (kg)

| Model | Maximum allowable load mass |
|-------|-----------------------------|
| MXQ 6 | 0.6                         |
| MXQ 8 | 1                           |
| MXQ12 | 2                           |
| MXQ16 | 4                           |
| MXQ20 | 6                           |
| MXQ25 | 9                           |

**Graph (1)**  
Allowable Load Mass Coefficient:  $\beta$



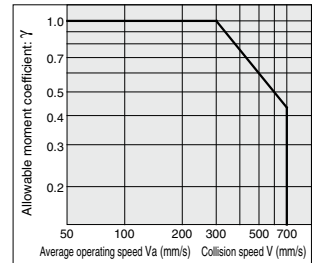
**⚠ Caution** The maximum operating speed for metal stopper is 200 mm/s.

**Table (3) Correction Value of Moment Center Position Distance: An (mm)**

| Model | Correction value of moment center position distance (Refer to Figure (2).) |      |      |      |      |      |      |     |      |      |      |      |      |
|-------|--|------|------|------|------|------|------|-----|------|------|------|------|------|
|       | A1, A3<br>Stroke (mm)  |      |      |      |      |      |      |     |      | A2   | A4   | A5   | A6   |
|       | 10   | 20   | 30   | 40   | 50   | 75   | 100  | 125 | 150  |      |      |      |      |
| MXQ 6 | 14.5   | 14.5 | 14.5 | 18.5 | 18.5 | —    | —    | —   | —    | 6    | 13.5 | 13.5 | 6    |
| MXQ 8 | 16.5   | 16.5 | 18.5 | 20.5 | 28   | 28.5 | —    | —   | —    | 7    | 16   | 16   | 7    |
| MXQ12 | 21   | 21   | 21   | 25   | 25   | 34   | 34   | —   | —    | 9    | 19.5 | 19.5 | 9    |
| MXQ16 | 27   | 27   | 27   | 30   | 33   | 42.5 | 42.5 | —   | —    | 10.5 | 24.5 | 24.5 | 10.5 |
| MXQ20 | 29.5   | 29.5 | 29.5 | 29.5 | 33.5 | 37.5 | 53.5 | 55  | 56.5 | 14   | 30   | 30   | 14   |
| MXQ25 | 35.5   | 35.5 | 35.5 | 43   | 43   | 50   | 64   | 64  | 64   | 16.5 | 37   | 37   | 16.5 |

Note) For A2, A4, A5 and A6, there is no difference in the corrected values due to the stroke.

**Graph (2)**  
Allowable Moment Coefficient:  $\gamma$



Note) Use the average operating speed when calculating static moment.  
Use the collision speed when calculating dynamic moment.

**Table (4) Maximum Allowable Moment: Mmax (N·m)**

| Model | Pitch/Yaw moment: Mpmay/Mymax |     |     |     |     |     |     |     |     |     | Roll moment: Mrmax |     |     |     |     |     |     |     |  |  |
|-------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----|-----|-----|-----|-----|-----|-----|--|--|
|       | Stroke (mm)                   |     |     |     |     |     |     |     |     |     | Stroke (mm)        |     |     |     |     |     |     |     |  |  |
|       | 10                            | 20  | 30  | 40  | 50  | 75  | 100 | 125 | 150 | 10  | 20                 | 30  | 40  | 50  | 75  | 100 | 125 | 150 |  |  |
| MXQ 6 | 1.4                           | 1.4 | 1.4 | 2.8 | 2.8 | —   | —   | —   | —   | 3.5 | 3.5                | 3.5 | 5.1 | 5.1 | —   | —   | —   | —   |  |  |
| MXQ 8 | 2.0                           | 2.0 | 2.8 | 3.7 | 7.9 | 7.9 | —   | —   | —   | 5.1 | 5.1                | 6.0 | 6.9 | 7.4 | 7.4 | —   | —   | —   |  |  |
| MXQ12 | 4.7                           | 4.7 | 4.7 | 7.2 | 15  | 15  | —   | —   | —   | 11  | 11                 | 11  | 13  | 13  | 14  | —   | —   | —   |  |  |
| MXQ16 | 13                            | 13  | 13  | 13  | 18  | 23  | 42  | 42  | —   | 31  | 31                 | 31  | 31  | 36  | 41  | 41  | 41  | —   |  |  |
| MXQ20 | 19                            | 19  | 19  | 19  | 27  | 36  | 84  | 84  | 84  | 47  | 47                 | 47  | 47  | 57  | 66  | 75  | 75  | 75  |  |  |
| MXQ25 | 32                            | 32  | 32  | 32  | 52  | 52  | 78  | 140 | 140 | 81  | 81                 | 81  | 81  | 110 | 110 | 130 | 130 | 130 |  |  |

**Symbol**

| Symbol                     | Definition  | Unit | Symbol | Definition                      | Unit |
|----------------------------|---|------|--------|---------------------------------|------|
| An (n = 1 to 6)            | Correction value of moment center position distance | mm   | Va     | Average operating speed         | mm/s |
| E                          | Kinetic energy                                      | J    | W      | Load mass                       | kg   |
| Emax                       | Allowable kinetic energy                            | J    | Wa     | Allowable load mass             | kg   |
| Ln (n = 1 to 3)            | Overhang  | mm   | We     | Weight equivalent to impact     | kg   |
| M (Mp, My, Mr)             | Static moment (Pitch, Yaw, Roll)                    | N·m  | Wmax   | Max. allowable load mass        | kg   |
| Ma (Map, May, Mar)         | Allowable static moment (Pitch, Yaw, Roll)          | N·m  | α      | Load factor                     | —    |
| Me (Mep, Mey)              | Dynamic moment (Pitch, Yaw)                         | N·m  | β      | Allowable load mass coefficient | —    |
| Mea (Meap, Meay)           | Allowable dynamic moment (Pitch, Yaw)               | N·m  | γ      | Allowable moment coefficient    | —    |
| Mmax (Mpmay, Mymax, Mrmax) | Maximum allowable moment (Pitch, Yaw, Roll)         | N·m  | K      | Workpiece mounting coefficient  | —    |
| V                          | Collision speed                                     | mm/s |        |                                 |      |

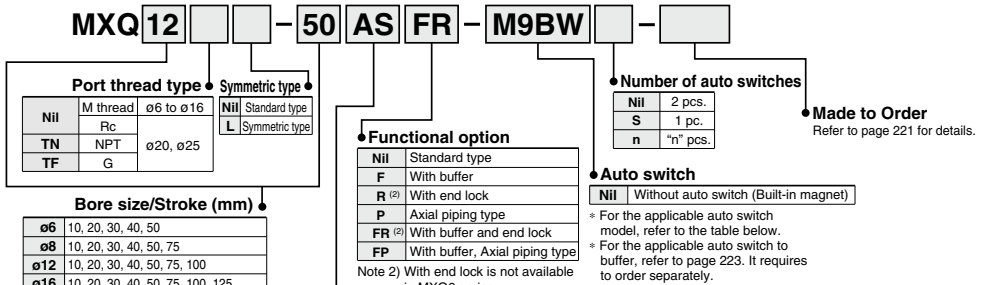
# Air Slide Table

# MXQ Series

ø6, ø8, ø12, ø16, ø20, ø25



## How to Order



### Adjuster option

|                     |   |
|---------------------|---|
| Nil                 | Without adjuster  |
| AS                  | Extension end rubber stopper                                |
| AT                  | Retraction end rubber stopper                               |
| A                   | Double end rubber stopper                                   |
| BS <sup>(1)</sup>   | Extension end absorber                                      |
| BT <sup>(1)</sup>   | Retraction end absorber                                     |
| B <sup>(1)</sup>    | Double absorber   |
| CS                  | Extension end metal stopper                                 |
| CT                  | Retraction end metal stopper                                |
| C                   | Double metal stopper  |
| ASBT <sup>(1)</sup> | Extension end rubber stopper + Retraction end absorber      |
| ASCT                | Extension end rubber stopper + Retraction end metal stopper |
| BSAT <sup>(1)</sup> | Extension end absorber + Retraction end rubber stopper      |
| BSCT <sup>(1)</sup> | Extension end absorber + Retraction end metal stopper       |
| CSAT                | Extension end metal stopper + Retraction end rubber stopper |
| CSBT <sup>(1)</sup> | Extension end metal stopper + Retraction end absorber       |

Note 1) With shock absorber is not available in MXQ6 series.

### Option Combinations

| Adjuster option | Functional option | Nil              | F | R | P                | FR               | FP               |
|-----------------|-------------------|------------------|---|---|------------------|------------------|------------------|
|                 |                   | Nil              | ○ | ○ | ○                | ○                | ○                |
| AS              | ○                 | ○ <sup>(3)</sup> | ○ | ○ | ○                | ○ <sup>(3)</sup> | ○ <sup>(3)</sup> |
| AT              | ○                 | ○                | x | x | x                | x                | x                |
| A               | ○                 | ○ <sup>(3)</sup> | x | x | x                | x                | x                |
| BS              | ○                 | x                | ○ | ○ | x                | x                | x                |
| BT              | ○                 | ○                | x | x | x                | x                | x                |
| B               | ○                 | x                | x | x | x                | x                | x                |
| CS              | ○                 | ○ <sup>(3)</sup> | ○ | ○ | ○ <sup>(3)</sup> | ○ <sup>(3)</sup> | ○ <sup>(3)</sup> |
| CT              | ○                 | ○                | x | x | x                | x                | x                |
| C               | ○                 | ○ <sup>(3)</sup> | x | x | x                | x                | x                |
| ASBT            | ○                 | ○ <sup>(3)</sup> | x | x | x                | x                | x                |
| ASCT            | ○                 | ○ <sup>(3)</sup> | x | x | x                | x                | x                |
| BSAT            | ○                 | x                | x | x | x                | x                | x                |
| BSCT            | ○                 | x                | x | x | x                | x                | x                |
| CSAT            | ○                 | ○ <sup>(3)</sup> | x | x | x                | x                | x                |
| CSBT            | ○                 | ○ <sup>(3)</sup> | x | x | x                | x                | x                |

Note 3) With the combination of buffer mechanism and extension end stroke adjuster, the buffer stroke decreases by the amount of stroke adjusted with the extension end stroke adjuster.

○ : Available, x : Not available

### Applicable Auto Switch/Refer to pages 1119 to 1245 for the detailed specifications of auto switches.

| Type                                | Special function | Electrical entry | Indicating light | Wiring (Output)         | Load voltage        |                     | Auto switch model  |         | Lead wire length (m) |     |     | Pre-wired connector | Applicable load |            |
|-------------------------------------|------------------|------------------|------------------|-------------------------|---------------------|---------------------|--------------------|---------|----------------------|-----|-----|---------------------|-----------------|------------|
|                                     |                  |                  |                  |                         | DC                  | AC                  | Perpendicular      | In-line | 0.5                  | 1   | 3   |                     |                 | 5          |
|                                     |                  |                  |                  |                         |                     |                     |                    |         | (Nil)                | (M) | (L) |                     |                 | (Z)        |
| Solid state switch                  | —                | Grommet          | Yes              | 3-wire (NPN)            | 5 V, 12 V           | —                   | M9NV               | M9N     | ●                    | ●   | ●   | ○                   | IC circuit      | Relay, PLC |
|                                     |                  |                  |                  | 3-wire (PNP)            |                     |                     | M9PV               | M9P     | ●                    | ●   | ●   | ○                   |                 |            |
|                                     |                  |                  |                  | 2-wire                  | M9BV                |                     | M9B                | ●       | ●                    | ●   | ○   |                     |                 |            |
|                                     | 3-wire (NPN)     |                  |                  | M9NVW                   | M9NW                |                     | ●                  | ●       | ●                    | ○   |     |                     |                 |            |
|                                     | 3-wire (PNP)     |                  |                  | M9PVW                   | M9PW                |                     | ●                  | ●       | ●                    | ○   |     |                     |                 |            |
|                                     | 2-wire           |                  |                  | M9BWW                   | M9BW                |                     | ●                  | ●       | ●                    | ○   |     |                     |                 |            |
| Water resistant (2-color indicator) | —                | Grommet          | Yes              | 3-wire (NPN)            | 5 V, 12 V           | M9NAV <sup>*1</sup> | M9NA <sup>*1</sup> | ○       | ○                    | ●   | ○   | IC circuit          | —               |            |
|                                     |                  |                  |                  | 3-wire (PNP)            |                     | M9PAV <sup>*1</sup> | M9PA <sup>*1</sup> | ○       | ○                    | ●   | ○   |                     |                 |            |
|                                     |                  |                  |                  | 2-wire                  | M9BAV <sup>*1</sup> | M9BA <sup>*1</sup>  | ○                  | ○       | ●                    | ○   |     |                     |                 |            |
| Reed switch                         | —                | Grommet          | No               | 3-wire (NPN equivalent) | —                   | 5 V                 | A96V               | A96     | ●                    | —   | ●   | —                   | IC circuit      | —          |
|                                     |                  |                  |                  | 2-wire                  | 24 V                | 12 V                | A93V <sup>*2</sup> | A93     | ●                    | ●   | ●   | ●                   | —               | —          |
|                                     |                  |                  |                  |                         | 100 V or less       |                     | A90V               | A90     | ●                    | —   | ●   | —                   | IC circuit      | —          |

\*1 Water resistant type auto switches are mountable on the above models, but in such case SMC cannot guarantee water resistance.

\*2 1 m lead wire is only applicable to the D-A93.

\* Lead wire length symbols: 0.5 m ..... Nil (Example) M9NW 3 m ..... L (Example) M9NLW  
1 m ..... M (Example) M9NWM 5 m ..... Z (Example) M9NZW \* Solid state auto switches marked with "○" are produced upon receipt of order.

\* Since there are other applicable auto switches than listed, refer to page 256 for details.

\* For details about auto switches with pre-wired connector, refer to pages 1192 and 1193.

\* Auto switches are shipped together (not assembled).



**Made to Order: Individual Specifications**  
(For details, refer to pages 257 to 259.)

| Symbol | Specifications   |
|--------|--|
| -X7    | PTFE grease  |
| -X9    | Grease for food processing equipment                         |
| -X11   | Adjusting bolt, long specification (Adjustment range: 15 mm) |
| -X12   | Adjusting bolt, long specification (Adjustment range: 25 mm) |
| -X16   | Heat treated metal stopper bolt (Adjustment range: 5 mm)     |
| -X17   | Heat treated metal stopper bolt (Adjustment range: 15 mm)    |
| -X18   | Heat treated metal stopper bolt (Adjustment range: 25 mm)    |
| -X33   | Without built-in auto switch magnet                          |
| -X39   | Fluororubber seal  |
| -X42   | Anti-corrosive specifications for guide unit                 |
| -X45   | EPDM seal  |

For clean room specifications, refer to "Pneumatic Clean Series" catalog (CAT.E02-23).

**Moisture Control Tube IDK Series**



When operating an actuator with a small diameter and a short stroke at a high frequency, the dew condensation (water droplet) may occur inside the piping depending on the conditions.

Simply connecting the moisture control tube to the actuator will prevent dew condensation from occurring. For details, refer to [the IDK series in the Best Pneumatics No.6](#).

**Specifications**

| Bore size (mm)  | 6   | 8 | 12 | 16 | 20                     | 25 |
|---|---|---|----|----|------------------------|----|
| Piping port size  | M5 x 0.8  |   |    |    | Rc 1/8, NPT 1/8, G 1/8 |    |
| Fluid   | Air   |   |    |    |                        |    |
| Action  | Double acting   |   |    |    |                        |    |
| Operating pressure  | 0.15 to 0.7 MPa   |   |    |    |                        |    |
| Proof pressure  | 1.05 MPa  |   |    |    |                        |    |
| Ambient and fluid temperature                                     | -10 to 60°C   |   |    |    |                        |    |
| Operating speed range (Average operating speed) <sup>(Note)</sup> | 50 to 500 mm/s<br>(Adjuster option/Metal stopper: 50 to 200 mm/s)   |   |    |    |                        |    |
| Cushion   | Rubber bumper (Standard, Adjuster option/Rubber stopper)<br>Shock absorber (Adjuster option/Shock absorber)<br>None (Adjuster option/Metal stopper) |   |    |    |                        |    |
| Lubrication   | Non-lube  |   |    |    |                        |    |
| Auto switch   | Reed auto switch (2-wire, 3-wire)<br>Solid state auto switch (2-wire, 3-wire)<br>2-color indicator solid state auto switch (2-wire, 3-wire)         |   |    |    |                        |    |
| Stroke length tolerance   | +1<br>0 mm  |   |    |    |                        |    |

(Note) Average operating speed: Speed that the stroke is divided by a period of time from starting the operation to reaching the end.

**Option**

|                   |                       |                                   |  |
|-------------------|-----------------------|-----------------------------------|--|
| Adjuster option   | Rubber stopper        | Extension end (AS)                | Stroke adjustment range 0 to 5 mm                        |
|                   |                       | Retraction end (AT)               |  |
|                   |                       | Both ends (A)                     |  |
|                   | Shock absorber        | Extension end (BS)                | With shock absorber is not available in the MXQ6 series. |
|                   |                       | Retraction end (BT)               |  |
|                   |                       | Both ends (B)                     |  |
| Metal stopper     | Extension end (CS)    | Stroke adjustment range 0 to 5 mm |  |
|                   | Retraction end (CT)   |                                   |  |
|                   | Both ends (C)         |                                   |  |
| Functional option | With buffer (F)       |                                   | With end lock is not available in the MXQ6 series.       |
|                   | With end lock (R)     |                                   |  |
|                   | Axial piping type (P) |                                   |  |

\* For details of adjuster and functional option, refer to "Option Specifications" on pages 222 and 223.

**Standard Stroke**

| Model        | Standard stroke (mm)                  |
|--------------|---------------------------------------|
| <b>MXQ 6</b> | 10, 20, 30, 40, 50                    |
| <b>MXQ 8</b> | 10, 20, 30, 40, 50, 75                |
| <b>MXQ12</b> | 10, 20, 30, 40, 50, 75, 100           |
| <b>MXQ16</b> | 10, 20, 30, 40, 50, 75, 100, 125      |
| <b>MXQ20</b> | 10, 20, 30, 40, 50, 75, 100, 125, 150 |
| <b>MXQ25</b> | 10, 20, 30, 40, 50, 75, 100, 125, 150 |

MXH

MXS

MXQ

MXQ

MXF

MXW

MXJ

MXP

MXY

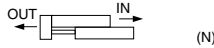
MTS

D-

-X

# MXQ Series

## Theoretical Output



The dual rod ensures an output twice that of current cylinders. (N)

| Bore size (mm) | Rod size (mm) | Operating direction | Piston area (mm <sup>2</sup> ) | Operating pressure (MPa) |     |     |     |     |     |
|----------------|---------------|---------------------|--------------------------------|--------------------------|-----|-----|-----|-----|-----|
|                |               |                     |                                | 0.2                      | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
| 6              | 3             | OUT                 | 57                             | 11                       | 17  | 23  | 29  | 34  | 40  |
|                |               | IN                  | 42                             | 8                        | 13  | 17  | 21  | 25  | 29  |
| 8              | 4             | OUT                 | 101                            | 20                       | 30  | 40  | 51  | 61  | 71  |
|                |               | IN                  | 75                             | 15                       | 23  | 30  | 38  | 45  | 53  |
| 12             | 6             | OUT                 | 226                            | 45                       | 68  | 90  | 113 | 136 | 158 |
|                |               | IN                  | 170                            | 34                       | 51  | 68  | 85  | 102 | 119 |
| 16             | 8             | OUT                 | 402                            | 80                       | 121 | 161 | 201 | 241 | 281 |
|                |               | IN                  | 302                            | 60                       | 91  | 121 | 151 | 181 | 211 |
| 20             | 10            | OUT                 | 628                            | 126                      | 188 | 251 | 314 | 377 | 440 |
|                |               | IN                  | 471                            | 94                       | 141 | 188 | 236 | 283 | 330 |
| 25             | 12            | OUT                 | 982                            | 196                      | 295 | 393 | 491 | 589 | 687 |
|                |               | IN                  | 756                            | 151                      | 227 | 302 | 378 | 454 | 529 |

Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm<sup>2</sup>)

## Weight

| Model        | Standard stroke (mm) |      |      |      |      | Additional weight of adjuster option |      |      |      |  |  | Extra for option                              |             |               |                                    |     |     |             |
|--------------|----------------------|------|------|------|------|--------------------------------------|------|------|------|--|--|---|-------------|---------------|------------------------------------|-----|-----|-------------|
|              | 10                   | 20   | 30   | 40   | 50   | 75                                   | 100  | 125  | 150  | Rubber stopper<br>Extension end Retraction end | Shock absorber<br>Extension end Retraction end | Metal stopper<br>Extension end Retraction end | With buffer | With end lock | Axial piping type (S: Stroke (mm)) |     |     |             |
| <b>MXQ 6</b> | 100                  | 120  | 140  | 180  | 200  | —                                    | —    | —    | —    | 6  | 5  | —   | —           | 10            | 5                                  | 25  | —   | 13 + 0.2 S  |
| <b>MXQ 8</b> | 140                  | 170  | 210  | 250  | 315  | 385                                  | —    | —    | —    | 10   | 10   | 30  | 23          | 10            | 35                                 | 40  | —   | 26 + 0.2 S  |
| <b>MXQ12</b> | 335                  | 340  | 380  | 450  | 480  | 645                                  | 735  | —    | —    | 25   | 23   | 47  | 30          | 35            | 23                                 | 70  | 100 | 43 + 0.2 S  |
| <b>MXQ16</b> | 595                  | 600  | 660  | 725  | 820  | 980                                  | 1240 | 1390 | —    | 45   | 40   | 75  | 53          | 60            | 40                                 | 105 | 160 | 55 + 0.2 S  |
| <b>MXQ20</b> | 1085                 | 1085 | 1085 | 1180 | 1380 | 1720                                 | 2310 | 2600 | 2890 | 80   | 65   | 170   | 120         | 115           | 65                                 | 130 | 310 | 166 + 0.5 S |
| <b>MXQ25</b> | 1725                 | 1725 | 1725 | 1925 | 2370 | 2715                                 | 3395 | 4235 | 4680 | 130  | 110  | 220   | 140         | 180           | 110                                | 200 | 560 | 240 + 0.5 S |

## Option Specifications

### Stroke Adjustment Range of Adjuster Option (Identical for extension and retraction ends)

| Type                | Stroke adjustment range              |
|---------------------|--------------------------------------|
| Rubber stopper      | 0 to 5 mm                            |
| With shock absorber | Refer to the dimensions on page 252. |
| Metal stopper       | 0 to 5 mm                            |

\* Optional wide adjustment range adjuster are available with rubber stopper and metal stopper.

### How to Order Stroke Adjuster (Accessory)

**MXQ-AS 12 L-X11**

**Adjuster option**

| AS | Rubber stopper | Extension end Retraction end |
|----|----------------|------------------------------|
| AT | stopper        | Retraction end               |
| BS | Shock absorber | Extension end                |
| BT | absorber       | Retraction end               |
| CS | Metal stopper  | Extension end                |
| CT | stopper        | Retraction end               |

**Symmetric type**

| Nil | Standard type  |
|-----|----------------|
| L   | Symmetric type |

**Applicable bore size**

|    |     |
|----|-----|
| 6  | ø6  |
| 8  | ø8  |
| 12 | ø12 |
| 16 | ø16 |
| 20 | ø20 |
| 25 | ø25 |

**Adjustment range**

| Nil  | 5 mm  | Standard      |
|------|-------|---------------|
| -X11 | 15 mm | Semi-standard |
| -X12 | 25 mm |               |

Note 1) -X12 (adjusting range: 25 mm) is not available in the MXQ6 series.

Note 2) -X11 and -X12 are not available with shock absorber.

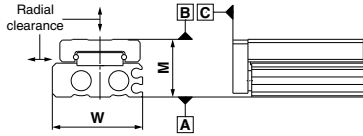
Note 3) With Shock absorber is not available in the MXQ6 series.

Note 4) For dimensions, refer to pages 250 to 254.

For the symmetric type, refer to the external dimensions symmetrically. (Symmetric type is what the direction of the adjusting bolt is reversed.)



## Table Accuracy



| Model                                  | MXQ6                             | MXQ8    | MXQ12   | MXQ16    | MXQ20    | MXQ25    |
|--|----------------------------------|---------|---------|----------|----------|----------|
| B side parallelism to A side           | Refer to Table (1).              |         |         |          |          |          |
| B side traveling parallelism to A side | Refer to Graph (1).              |         |         |          |          |          |
| C side perpendicularity to A side      | 0.05 mm <sup>2</sup>             |         |         |          |          |          |
| M dimension tolerance                  | ±0.08 mm (±0.1 mm) <sup>*1</sup> |         |         |          |          |          |
| W dimension tolerance                  | ±0.1 mm                          |         |         |          |          |          |
| Radial internal clearance (μm)         | -4 to 0                          | -4 to 0 | -6 to 0 | -10 to 0 | -12 to 0 | -14 to 0 |

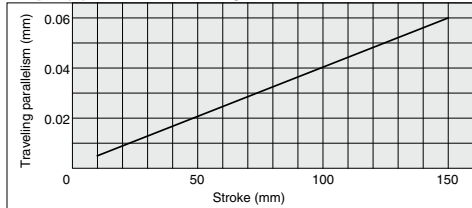
- \*1) ±0.1 mm for 75 mm or longer stroke  
\*2) Perpendicularity range

| Model | X  |
|-------|----|
| MXQ 6 | 13 |
| MXQ 8 | 15 |
| MXQ12 | 18 |
| MXQ16 | 21 |
| MXQ20 | 25 |
| MXQ25 | 28 |

Table (1) B Side Parallelism to A Side (mm)

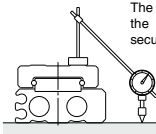
| Model | Stroke (mm) |       |       |       |       |       |       |       |       |
|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|
|       | 10          | 20    | 30    | 40    | 50    | 75    | 100   | 125   | 150   |
| MXQ 6 | 0.025       | 0.03  | 0.035 | 0.04  | 0.045 | —     | —     | —     | —     |
| MXQ 8 | 0.025       | 0.03  | 0.035 | 0.04  | 0.055 | 0.065 | —     | —     | —     |
| MXQ12 | 0.03        | 0.03  | 0.035 | 0.04  | 0.045 | 0.065 | 0.075 | —     | —     |
| MXQ16 | 0.035       | 0.035 | 0.04  | 0.045 | 0.05  | 0.065 | 0.08  | 0.095 | —     |
| MXQ20 | 0.04        | 0.04  | 0.04  | 0.045 | 0.055 | 0.07  | 0.095 | 0.105 | 0.125 |
| MXQ25 | 0.045       | 0.045 | 0.045 | 0.05  | 0.06  | 0.07  | 0.09  | 0.115 | 0.125 |

Graph (1) B Side Traveling Parallelism to A Side (mm)



### Traveling parallelism:

The amount of deflection on a dial gauge when the table travels a full stroke with the body secured on a reference base surface.



## Shock Absorber Specifications

| Shock absorber model                 | RB0805    | RB0806 | RB1007 | RB1411 | RB1412 |       |
|--------------------------------------|-----------|--------|--------|--------|--------|-------|
| Applicable slide table               | MXQ8      | MXQ12  | MXQ16  | MXQ20  | MXQ25  |       |
| Max. energy absorption (J)           | 0.98      | 2.94   | 5.88   | 14.7   | 19.6   |       |
| Stroke absorption (mm)               | 5         | 6      | 7      | 11     | 12     |       |
| Max. collision speed (mm/s)          | 50 to 500 |        |        |        |        |       |
| Max. operating frequency (cycle/min) | 80        | 80     | 70     | 45     | 45     |       |
| Max. allowable thrust (N)            | 245       | 245    | 422    | 814    | 814    |       |
| Ambient temperature range (°C)       | -10 to 60 |        |        |        |        |       |
| Spring force (N)                     | Extended  | 1.96   | 1.96   | 4.22   | 6.86   | 6.86  |
|                                      | Retracted | 3.83   | 4.22   | 6.86   | 15.30  | 15.98 |
| Weight (g)                           | 15        | 15     | 25     | 65     | 65     |       |

Note) The shock absorber service life is different from that of the MXQ cylinder depending on operating conditions. Refer to the RB Series Specific Product Precautions for the replacement period.



## With End Lock Specifications

| Model             | MXQ8           | MXQ12 | MXQ16 | MXQ20 | MXQ25 |
|-------------------|----------------|-------|-------|-------|-------|
| Bore size (mm)    | 8              | 12    | 16    | 20    | 25    |
| Piston speed      | 50 to 500 mm/s |       |       |       |       |
| Holding force (N) | 25             | 60    | 110   | 160   | 250   |

Note) For caution on end lock, refer to page 263.



## Buffer Mechanism Specifications

| Model                  | MXQ6  | MXQ8 | MXQ12 | MXQ16 | MXQ20 | MXQ25 |
|------------------------|---|------|-------|-------|-------|-------|
| Bore size (mm)         | 6   | 8    | 12    | 16    | 20    | 25    |
| Piston speed           | 50 to 500 mm/s (Horizontal mounting 50 to 300 mm/s) |      |       |       |       |       |
| Buffer stroke (mm)     | 5   |      |       | 10    |       |       |
| Buffer stroke load (N) | Stroke at 0 (mm)                                    | 3    | 5     | 10    | 13    | 21    |
|                        | Maximum stroke                                      | 6    | 8     | 13    | 17    | 29    |

Note 1) For caution on handling the one with buffer mechanism, refer to page 263.

Note 2) The buffer stroke decreases by the amount of stroke adjusted with the extension end stroke adjuster.

## Applicable Auto Switch to Buffer

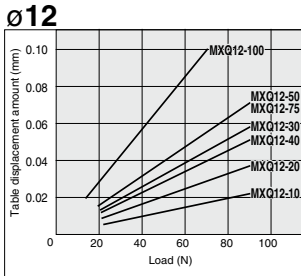
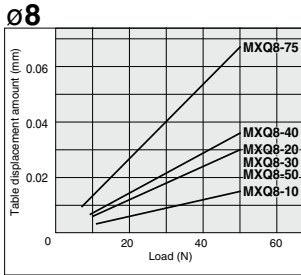
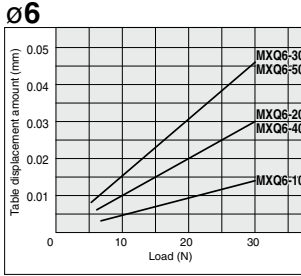
| Type               | model  | Specifications                  | Electrical entry direction |
|--------------------|--------|---------------------------------|----------------------------|
| Solid state switch | D-M9BV | With light, 2-wire              | Vertical                   |
|                    | D-M9NV | With light, 3-wire, Output: NPN |                            |
|                    | D-M9PV | With light, 3-wire, Output: PNP |                            |

\* The auto switch for buffer must be ordered separately.

## Table Deflection (Reference Values)

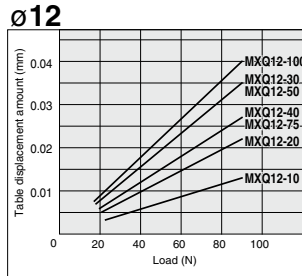
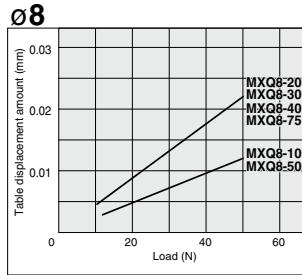
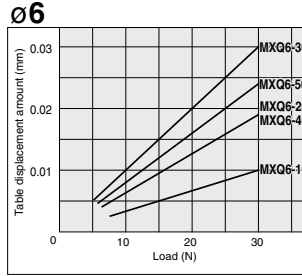
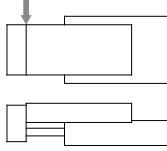
### Table displacement due to pitch moment load

Table displacement when loads are applied to the section marked with the arrow at the full stroke.



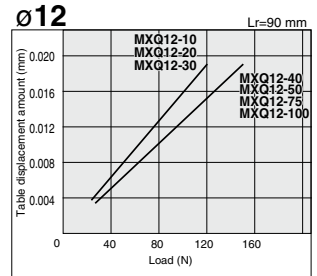
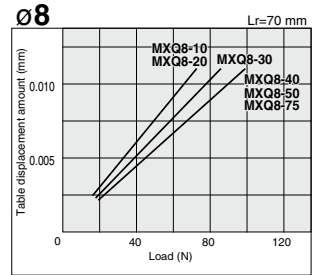
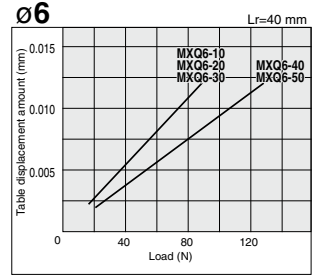
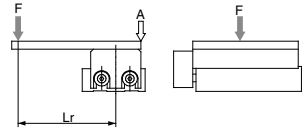
### Table displacement due to yaw moment load

Table displacement when loads are applied to the section marked with the arrow at the full stroke.



### Table displacement due to roll moment load

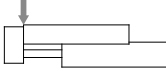
Table displacement of section A when loads are applied to the section F with the slide table retracted.



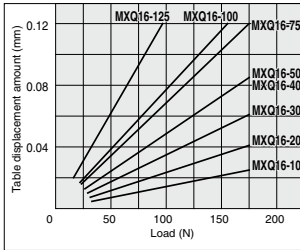
The graphs below show the table displacement when the static moment load is applied to the table. The graphs do not show the loadable mass. Refer to the Model Selection for the loadable mass.

## Table displacement due to pitch moment load

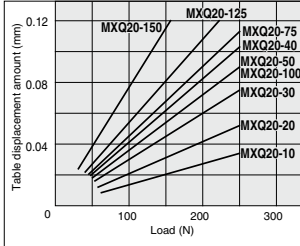
Table displacement when loads are applied to the section marked with the arrow at the full stroke.



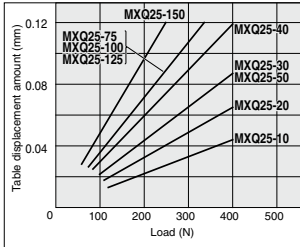
**Ø16**



**Ø20**

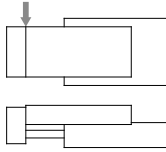


**Ø25**

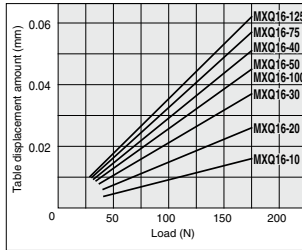


## Table displacement due to yaw moment load

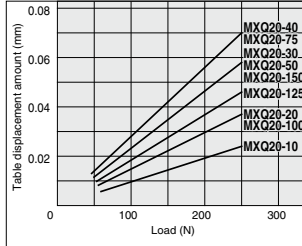
Table displacement when loads are applied to the section marked with the arrow at the full stroke.



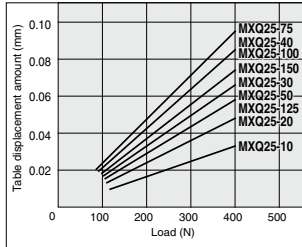
**Ø16**



**Ø20**

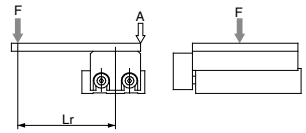


**Ø25**

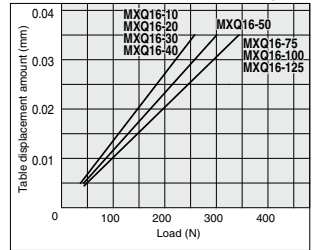


## Table displacement due to roll moment load

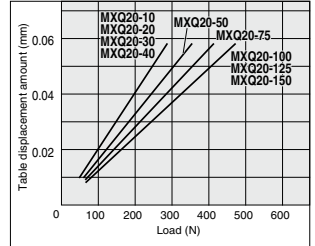
Table displacement of section A when loads are applied to the section F with the slide table retracted.



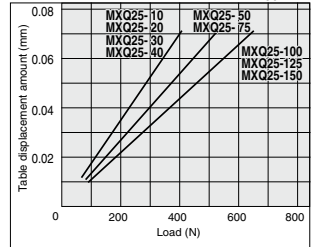
**Ø16**



**Ø20**



**Ø25**



**MXH**

**MXS**

**MXQ**

**MXQ**

**MXF**

**MXW**

**MXJ**

**MXP**

**MXY**

**MTS**

**D-□**

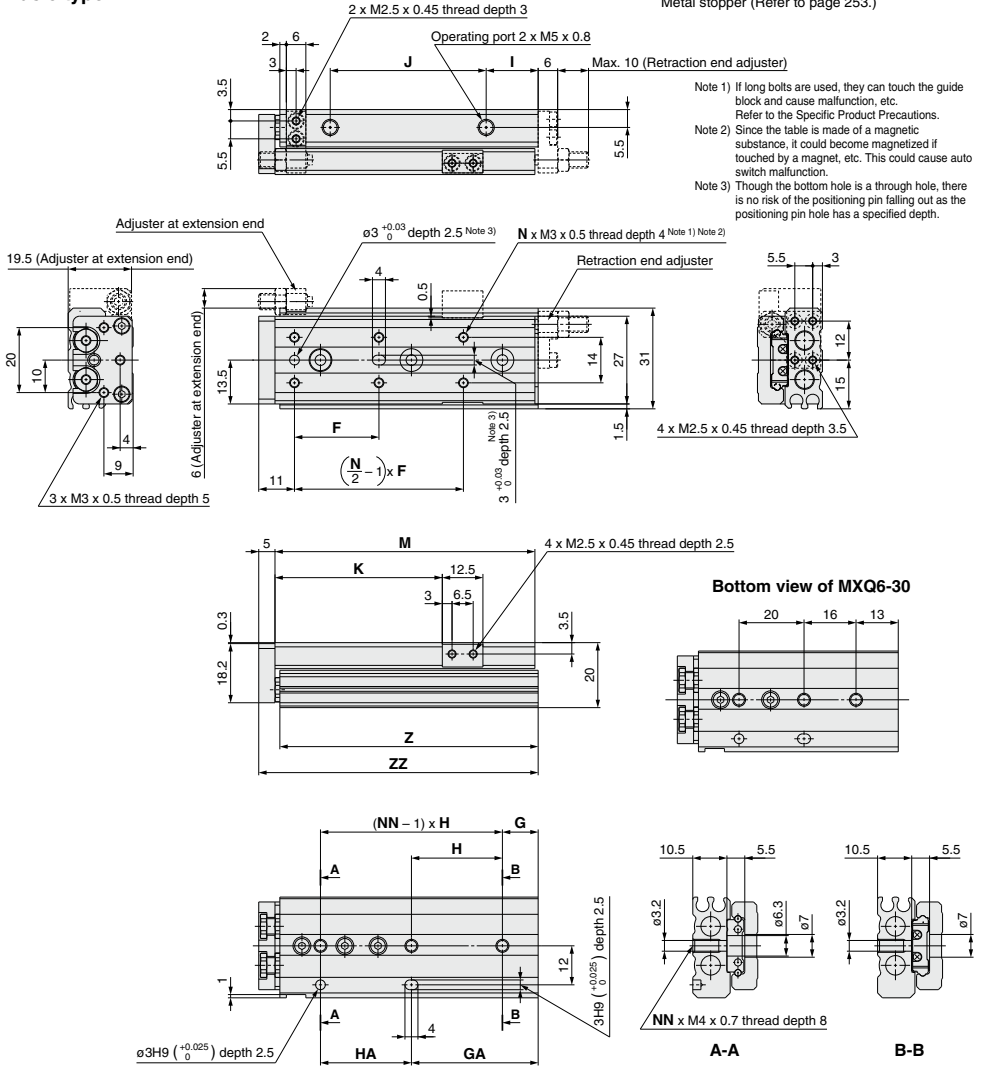
**-X□**

# MXQ Series

## Dimensions: MXQ6

### Basic type

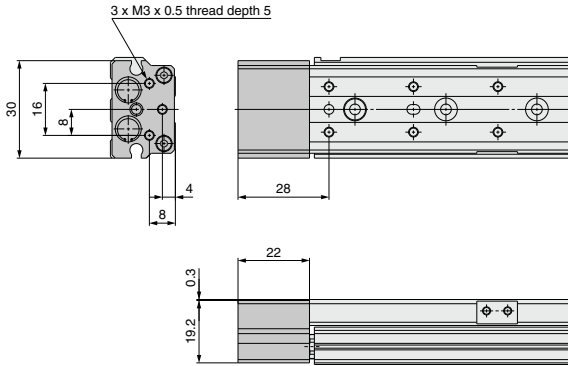
\* For detailed dimensions about the stroke adjuster, refer to the option for the stroke adjuster.  
 Rubber stopper (Refer to page 250.)  
 Metal stopper (Refer to page 253.)



| Model   | F  | N | G      | H      | NN | GA | HA | I  | J  | K    | M  | Z    | ZZ |
|---------|----|---|--------|--------|----|----|----|----|----|------|----|------|----|
| MXQ6-10 | 22 | 4 | 6      | 23     | 2  | 13 | 16 | 9  | 17 | 21.5 | 42 | 41.5 | 48 |
| MXQ6-20 | 25 | 4 | 13     | 26     | 2  | 13 | 26 | 9  | 27 | 31.5 | 52 | 51.5 | 58 |
| MXQ6-30 | 21 | 6 | (Note) | (Note) | 3  | 29 | 20 | 9  | 37 | 41.5 | 62 | 61.5 | 68 |
| MXQ6-40 | 26 | 6 | 11     | 28     | 3  | 39 | 28 | 16 | 48 | 51.5 | 80 | 79.5 | 86 |
| MXQ6-50 | 27 | 6 | 21     | 28     | 3  | 49 | 28 | 9  | 65 | 61.5 | 90 | 89.5 | 96 |

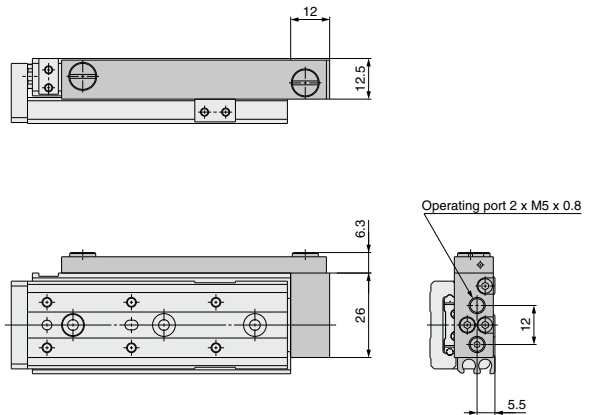
Note) Refer to the bottom view of MXQ6-30.

**With buffer (ø6): MXQ6-□□F**



\* Other dimensions are the same as basic type.

**Axial piping type (ø6): MXQ6-□□P**



\* Other dimensions are the same as basic type.

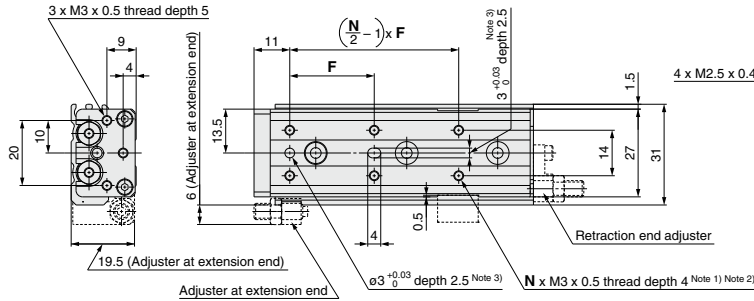
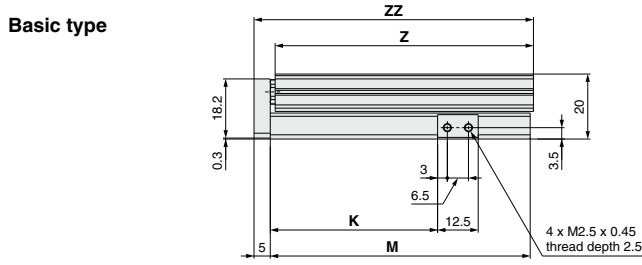
|            |
|------------|
| MXH        |
| MXS        |
| MXQ□       |
| <b>MXQ</b> |
| MXF        |
| MXW        |
| MXJ        |
| MXP        |
| MXY        |
| MTS        |

|     |
|-----|
| D-□ |
| -X□ |

# MXQ Series

## Dimensions: MXQ6L/Symmetric Type

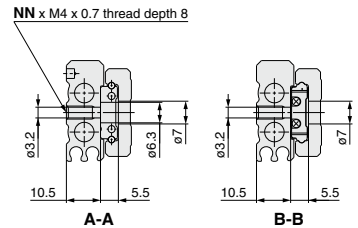
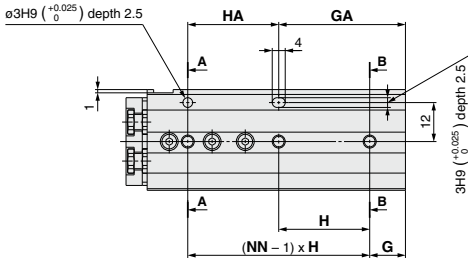
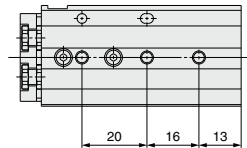
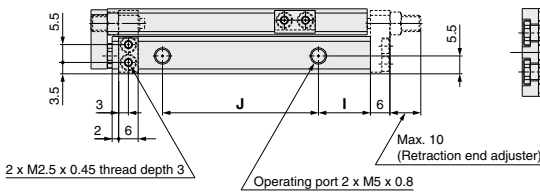
### Basic type



\* For detailed dimensions about the stroke adjuster, refer to the option for the stroke adjuster.  
 Rubber stopper (Refer to page 250.)  
 Metal stopper (Refer to page 253.)

- Note 1) If long bolts are used, they can touch the guide block and cause malfunction, etc.  
 Refer to the Specific Product Precautions.
- Note 2) Since the table is made of a magnetic substance, it could become magnetized if touched by a magnet, etc. This could cause auto switch malfunction.
- Note 3) Though the bottom hole is a through hole, there is no risk of the positioning pin falling out as the positioning pin hole has a specified depth.

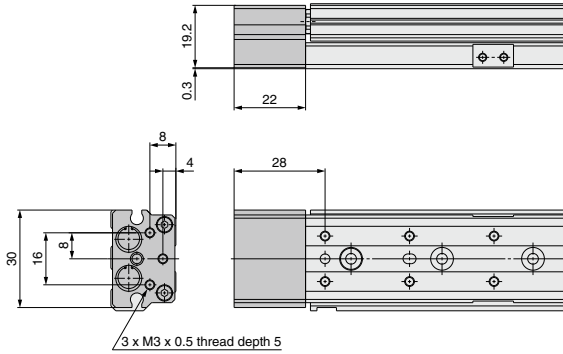
### Bottom view of MXQ6L-30



| Model    | F  | N | G     | H     | NN | GA | HA | I  | J  | K    | M  | Z    | ZZ |
|----------|----|---|-------|-------|----|----|----|----|----|------|----|------|----|
| MXQ6L-10 | 22 | 4 | 6     | 23    | 2  | 13 | 16 | 9  | 17 | 21.5 | 42 | 41.5 | 48 |
| MXQ6L-20 | 25 | 4 | 13    | 26    | 2  | 13 | 26 | 9  | 27 | 31.5 | 52 | 51.5 | 58 |
| MXQ6L-30 | 21 | 6 | Note) | Note) | 3  | 29 | 20 | 9  | 37 | 41.5 | 62 | 61.5 | 68 |
| MXQ6L-40 | 26 | 6 | 11    | 28    | 3  | 39 | 28 | 16 | 48 | 51.5 | 80 | 79.5 | 86 |
| MXQ6L-50 | 27 | 6 | 21    | 28    | 3  | 49 | 28 | 9  | 65 | 61.5 | 90 | 89.5 | 96 |

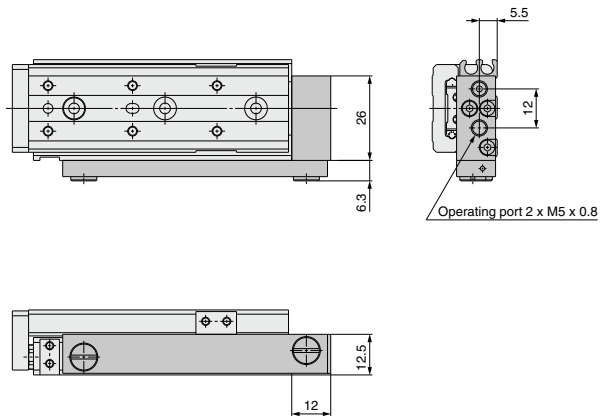
Note) Refer to the bottom view of MXQ6L-30.

With buffer (ø6): MXQ6L-□□F



\* Other dimensions are the same as basic type.

Axial piping type (ø6): MXQ6L-□□P



\* Other dimensions are the same as basic type.

|            |
|------------|
| MXH        |
| MXS        |
| MXQ□       |
| <b>MXQ</b> |
| MXF        |
| MXW        |
| MXJ        |
| MXP        |
| MXY        |
| MTS        |

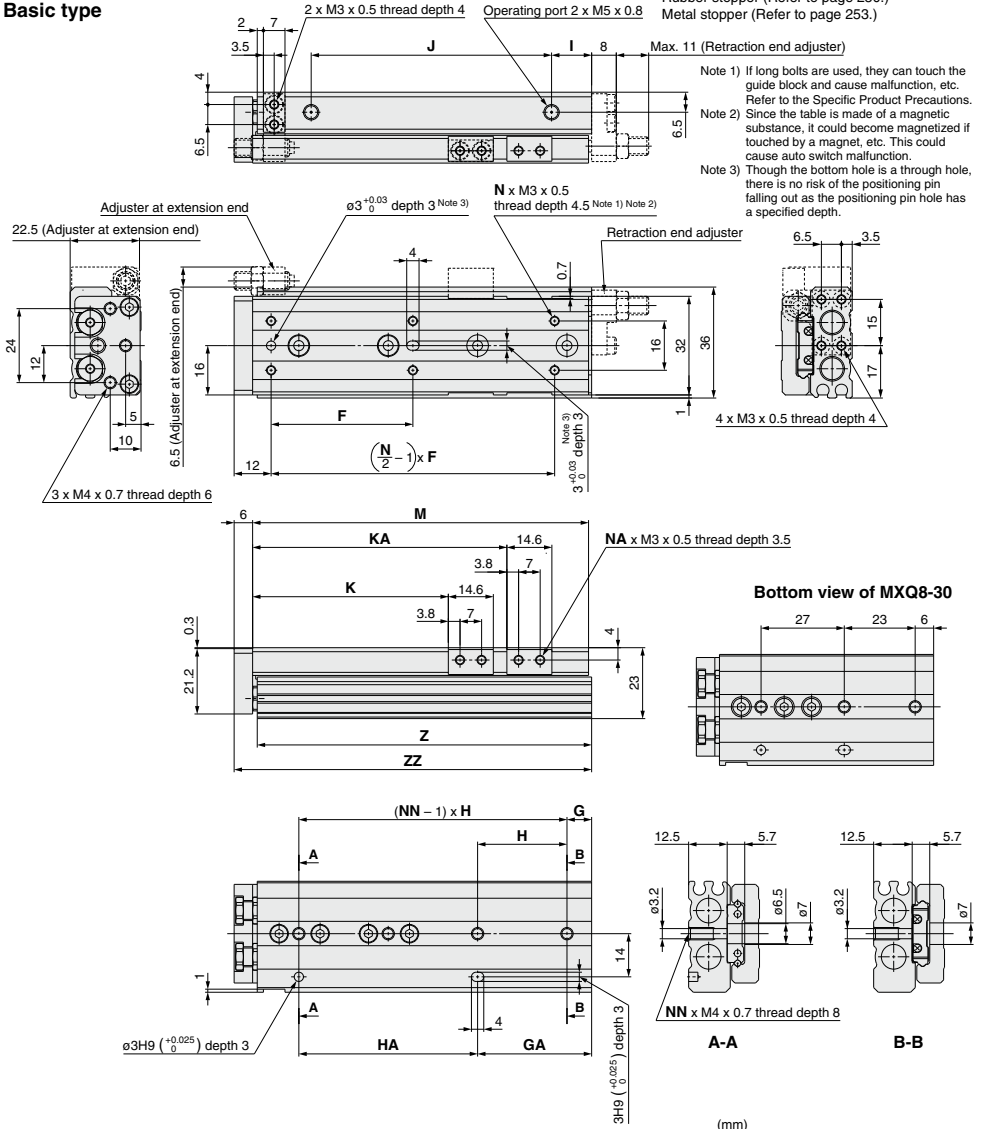
|     |
|-----|
| D-□ |
| -X□ |

# MXQ Series

## Dimensions: MXQ8

\* For detailed dimensions about the stroke adjuster, refer to the option for the stroke adjuster.  
 Rubber stopper (Refer to page 250.)  
 Metal stopper (Refer to page 253.)

### Basic type

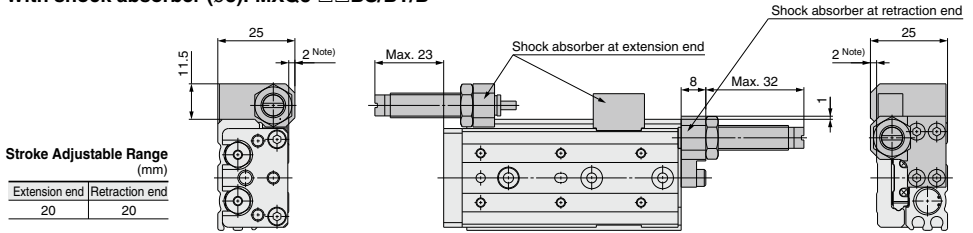


| Model   | F  | N | G                    | H                    | NN | GA | HA | I  | J   | K    | KA    | NA | M   | Z     | ZZ  |
|---------|----|---|----------------------|----------------------|----|----|----|----|-----|------|-------|----|-----|-------|-----|
| MXQ8-10 | 25 | 4 | 7                    | 25                   | 2  | 13 | 19 | 11 | 17  | 23.5 | —     | 4  | 46  | 45.5  | 53  |
| MXQ8-20 | 25 | 4 | 14                   | 28                   | 2  | 14 | 28 | 10 | 28  | 33.5 | —     | 4  | 56  | 55.5  | 63  |
| MXQ8-30 | 26 | 6 | <small>Note1</small> | <small>Note1</small> | 3  | 29 | 27 | 12 | 40  | 43.5 | —     | 4  | 70  | 69.5  | 77  |
| MXQ8-40 | 32 | 6 | 8                    | 31                   | 3  | 39 | 31 | 14 | 52  | 53.5 | —     | 4  | 84  | 83.5  | 91  |
| MXQ8-50 | 46 | 6 | 8                    | 29                   | 4  | 37 | 58 | 13 | 78  | 63.5 | 82.5  | 8  | 109 | 108.5 | 116 |
| MXQ8-75 | 50 | 6 | 31                   | 30                   | 4  | 61 | 60 | 12 | 105 | 88.5 | 112.5 | 8  | 135 | 134.5 | 142 |

Note) Refer to the bottom view of MXQ8-30.



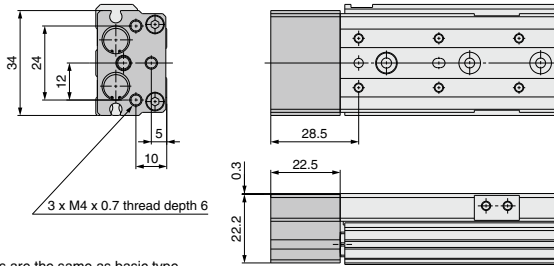
**With shock absorber (ø8): MXQ8-□□BS/BT/B**



\* Other dimensions are the same as basic type.

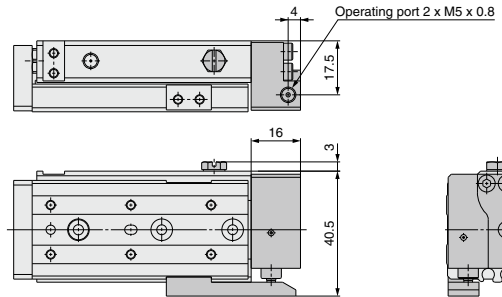
Note) Note that the top of the shock absorber unit will be higher than that of the table.

**With buffer (ø8): MXQ8-□□F**



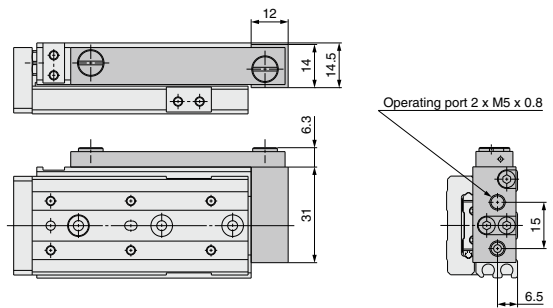
\* Other dimensions are the same as basic type.

**With end lock (ø8): MXQ8-□□R**



\* Other dimensions are the same as basic type.

**Axial piping type (ø8): MXQ8-□□P**



\* Other dimensions are the same as basic type.

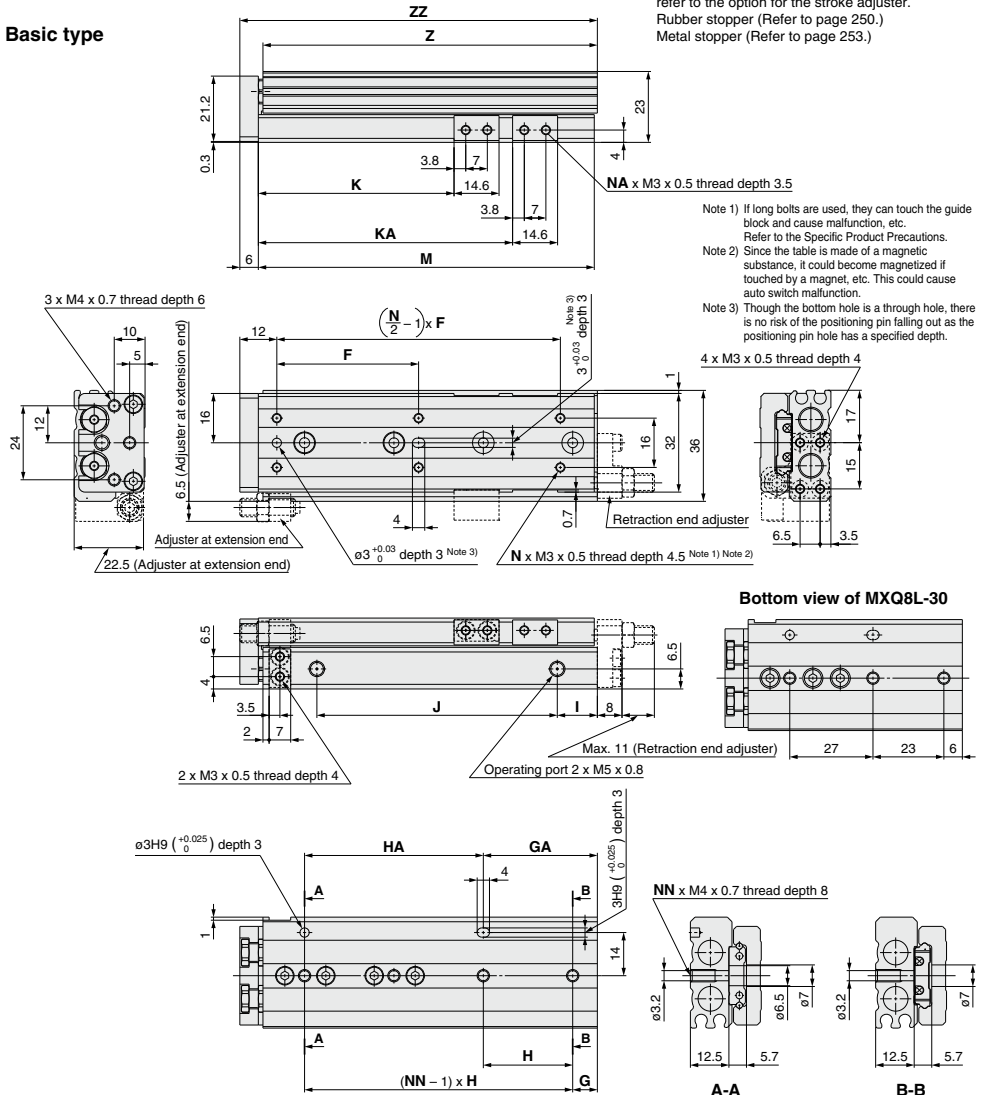
- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

- D-□
- X□

# MXQ Series

## Dimensions: MXQ8L/Symmetric Type

### Basic type



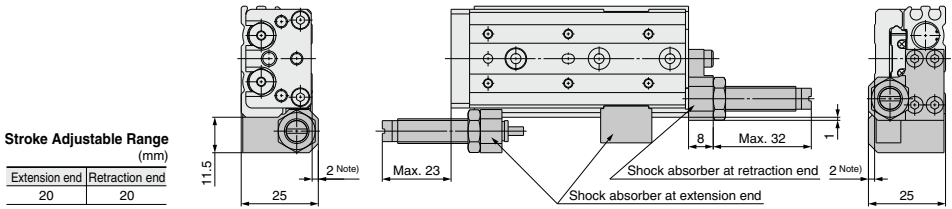
\* For detailed dimensions about the stroke adjuster, refer to the option for the stroke adjuster.  
 Rubber stopper (Refer to page 250.)  
 Metal stopper (Refer to page 253.)

- Note 1) If long bolts are used, they can touch the guide block and cause malfunction, etc.  
 Refer to the Specific Product Precautions.
- Note 2) Since the table is made of a magnetic substance, it could become magnetized if touched by a magnet, etc. This could cause auto switch malfunction.
- Note 3) Though the bottom hole is a through hole, there is no risk of the positioning pin falling out as the positioning pin hole has a specified depth.

| Model    | F  | N | G                | H  | NN | GA | HA | I  | J    | K    | KA    | NA | M    | Z     | ZZ  |
|----------|----|---|------------------|----|----|----|----|----|------|------|-------|----|------|-------|-----|
| MXQ8L-10 | 25 | 4 | 7                | 25 | 2  | 13 | 19 | 11 | 17   | 23.5 | —     | 4  | 46   | 45.5  | 53  |
| MXQ8L-20 | 25 | 4 | 14               | 28 | 2  | 14 | 28 | 10 | 28   | 33.5 | —     | 4  | 56   | 55.5  | 63  |
| MXQ8L-30 | 26 | 6 | <sub>Note)</sub> | 3  | 29 | 27 | 12 | 40 | 43.5 | —    | 4     | 70 | 69.5 | 77    |     |
| MXQ8L-40 | 32 | 6 | 8                | 31 | 3  | 39 | 31 | 14 | 52   | 53.5 | —     | 4  | 84   | 83.5  | 91  |
| MXQ8L-50 | 46 | 6 | 8                | 29 | 4  | 37 | 58 | 13 | 78   | 63.5 | 82.5  | 8  | 109  | 108.5 | 116 |
| MXQ8L-75 | 50 | 6 | 31               | 30 | 4  | 61 | 60 | 12 | 105  | 88.5 | 112.5 | 8  | 135  | 134.5 | 142 |

Note) Refer to the bottom view of MXQ8L-30.

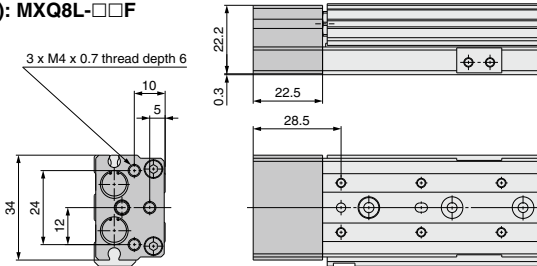
**With shock absorber (ø8): MXQ8L-□□BS/BT/B**



\* Other dimensions are the same as basic type.

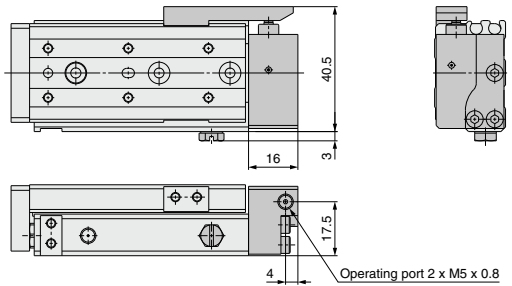
Note) Note that the top of the shock absorber unit will be higher than that of the table.

**With buffer (ø8): MXQ8L-□□F**



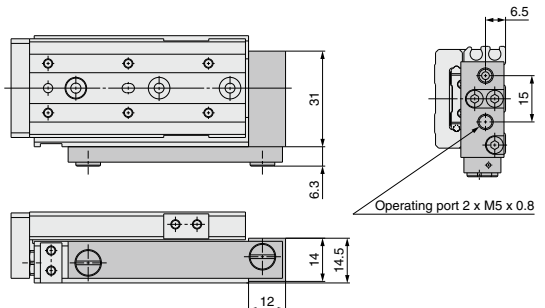
\* Other dimensions are the same as basic type.

**With end lock (ø8): MXQ8L-□□R**



\* Other dimensions are the same as basic type.

**Axial piping type (ø8): MXQ8L-□□P**



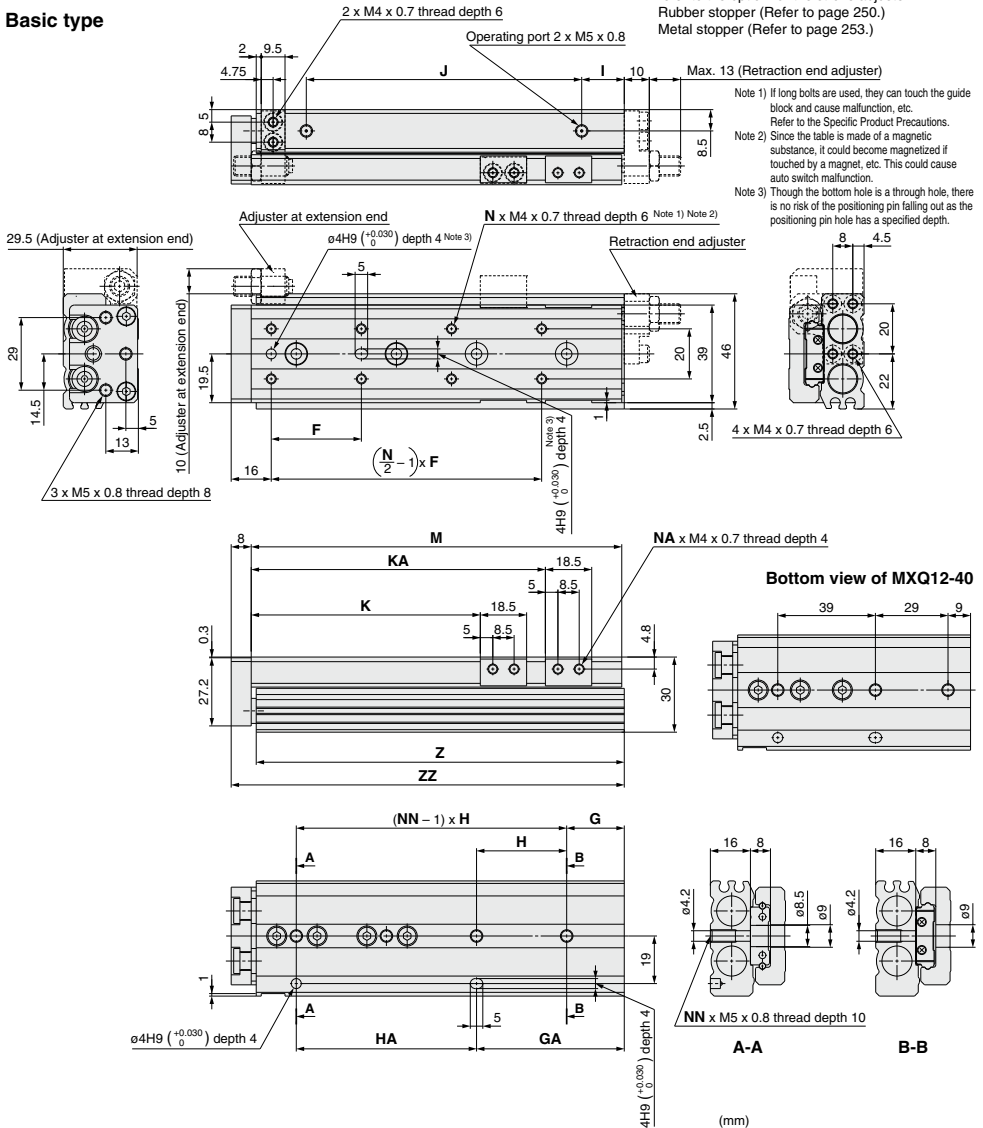
\* Other dimensions are the same as basic type.

- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

# MXQ Series

## Dimensions: MXQ12

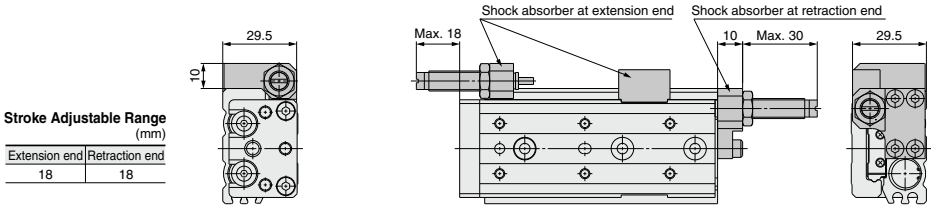
### Basic type



| Model     | F  | N  | G      | H      | NN | GA | HA | I  | J   | K     | KA    | NA | M   | Z   | ZZ  |
|-----------|----|----|--------|--------|----|----|----|----|-----|-------|-------|----|-----|-----|-----|
| MXQ12- 10 | 28 | 4  | 18     | 32     | 2  | 18 | 32 | 12 | 34  | 26.5  | —     | 4  | 67  | 66  | 76  |
| MXQ12- 20 | 28 | 4  | 18     | 32     | 2  | 18 | 32 | 12 | 34  | 36.5  | —     | 4  | 67  | 66  | 76  |
| MXQ12- 30 | 38 | 4  | 20     | 40     | 2  | 20 | 40 | 14 | 42  | 46.5  | —     | 4  | 77  | 76  | 86  |
| MXQ12- 40 | 34 | 6  | (Note) | (Note) | 3  | 38 | 39 | 15 | 58  | 56.5  | —     | 4  | 94  | 93  | 103 |
| MXQ12- 50 | 34 | 6  | 9      | 39     | 3  | 48 | 39 | 13 | 70  | 66.5  | —     | 4  | 104 | 103 | 113 |
| MXQ12- 75 | 36 | 8  | 23     | 36     | 4  | 59 | 72 | 17 | 110 | 91.5  | 117.5 | 8  | 148 | 147 | 157 |
| MXQ12-100 | 36 | 10 | 12     | 36     | 5  | 84 | 72 | 17 | 135 | 116.5 | 142.5 | 8  | 173 | 172 | 182 |

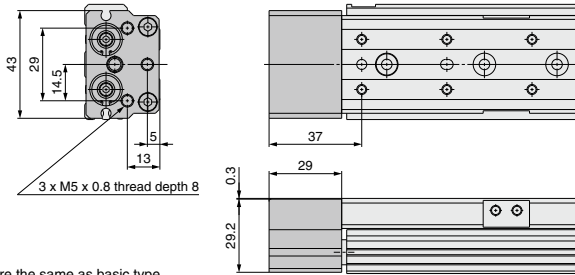
Note) Refer to the bottom view of MXQ12-40.

**With shock absorber (ø12): MXQ12-□□BS/BT/B**



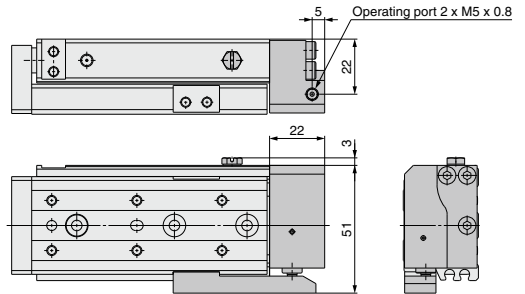
\* Other dimensions are the same as basic type.

**With buffer (ø12): MXQ12-□□F**



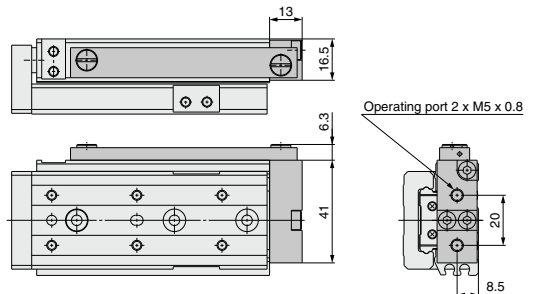
\* Other dimensions are the same as basic type.

**With end lock (ø12): MXQ12-□□R**



\* Other dimensions are the same as basic type.

**Axial piping type (ø12): MXQ12-□□P**



\* Other dimensions are the same as basic type.

- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

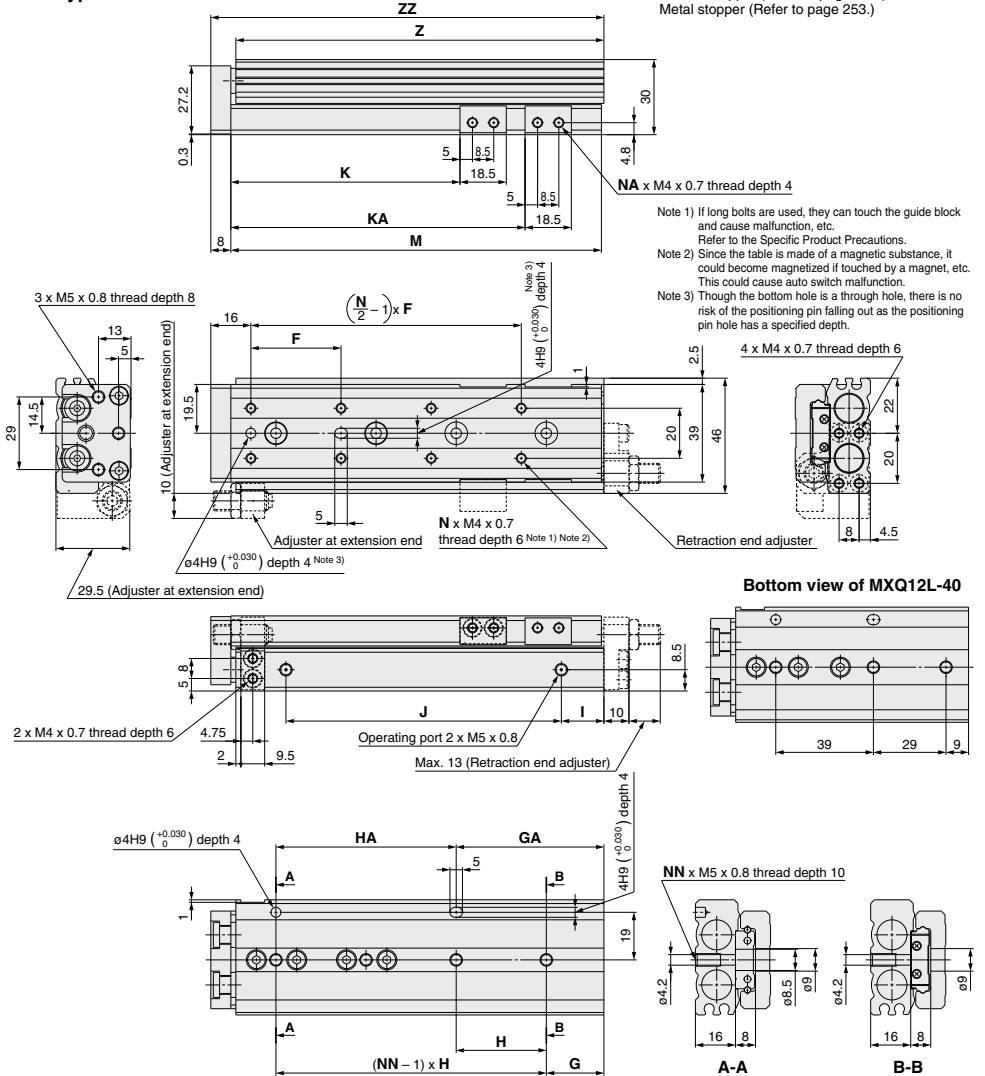
- D-□
- X□

# MXQ Series

## Dimensions: MXQ12L/Symmetric Type

### Basic type

\* For detailed dimensions about the stroke adjuster, refer to the option for the stroke adjuster.  
 Rubber stopper (Refer to page 250.)  
 Metal stopper (Refer to page 253.)



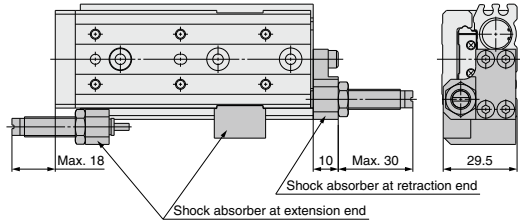
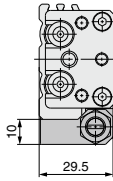
| Model      | F  | N  | G                     | H                     | NN | GA | HA | I  | J   | K     | KA    | NA | M   | Z   | ZZ  |
|------------|----|----|-----------------------|-----------------------|----|----|----|----|-----|-------|-------|----|-----|-----|-----|
| MXQ12L- 10 | 28 | 4  | 18                    | 32                    | 2  | 18 | 32 | 12 | 34  | 26.5  | —     | 4  | 67  | 66  | 76  |
| MXQ12L- 20 | 28 | 4  | 18                    | 32                    | 2  | 18 | 32 | 12 | 34  | 36.5  | —     | 4  | 67  | 66  | 76  |
| MXQ12L- 30 | 38 | 4  | 20                    | 40                    | 2  | 20 | 40 | 14 | 42  | 46.5  | —     | 4  | 77  | 76  | 86  |
| MXQ12L- 40 | 34 | 6  | <small>(Note)</small> | <small>(Note)</small> | 3  | 38 | 39 | 15 | 58  | 56.5  | —     | 4  | 94  | 93  | 103 |
| MXQ12L- 50 | 34 | 6  | 9                     | 39                    | 3  | 48 | 39 | 13 | 70  | 66.5  | —     | 4  | 104 | 103 | 113 |
| MXQ12L- 75 | 36 | 8  | 23                    | 36                    | 4  | 59 | 72 | 17 | 110 | 91.5  | 117.5 | 8  | 148 | 147 | 157 |
| MXQ12L-100 | 36 | 10 | 12                    | 36                    | 5  | 84 | 72 | 17 | 135 | 116.5 | 142.5 | 8  | 173 | 172 | 182 |

Note) Refer to the bottom view of MXQ12L-40.

**With shock absorber (ø12): MXQ12L-□□BS/BT/B**

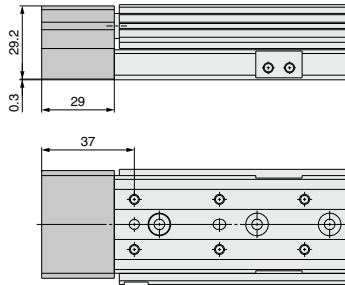
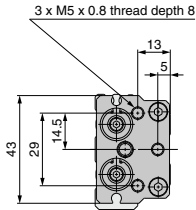
**Stroke Adjustable Range (mm)**

| Extension end | Retraction end |
|---------------|----------------|
| 18            | 18             |



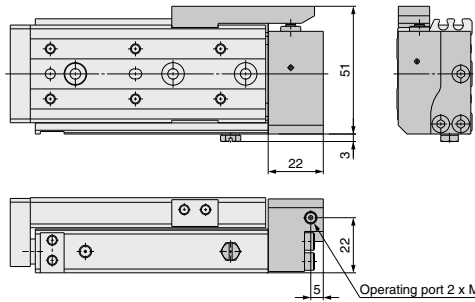
\* Other dimensions are the same as basic type.

**With buffer (ø12): MXQ12L-□□F**



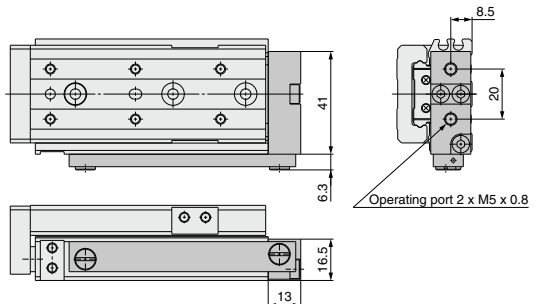
\* Other dimensions are the same as basic type.

**With end lock (ø12): MXQ12L-□□R**



\* Other dimensions are the same as basic type.

**Axial piping type (ø12): MXQ12L-□□P**



\* Other dimensions are the same as basic type.

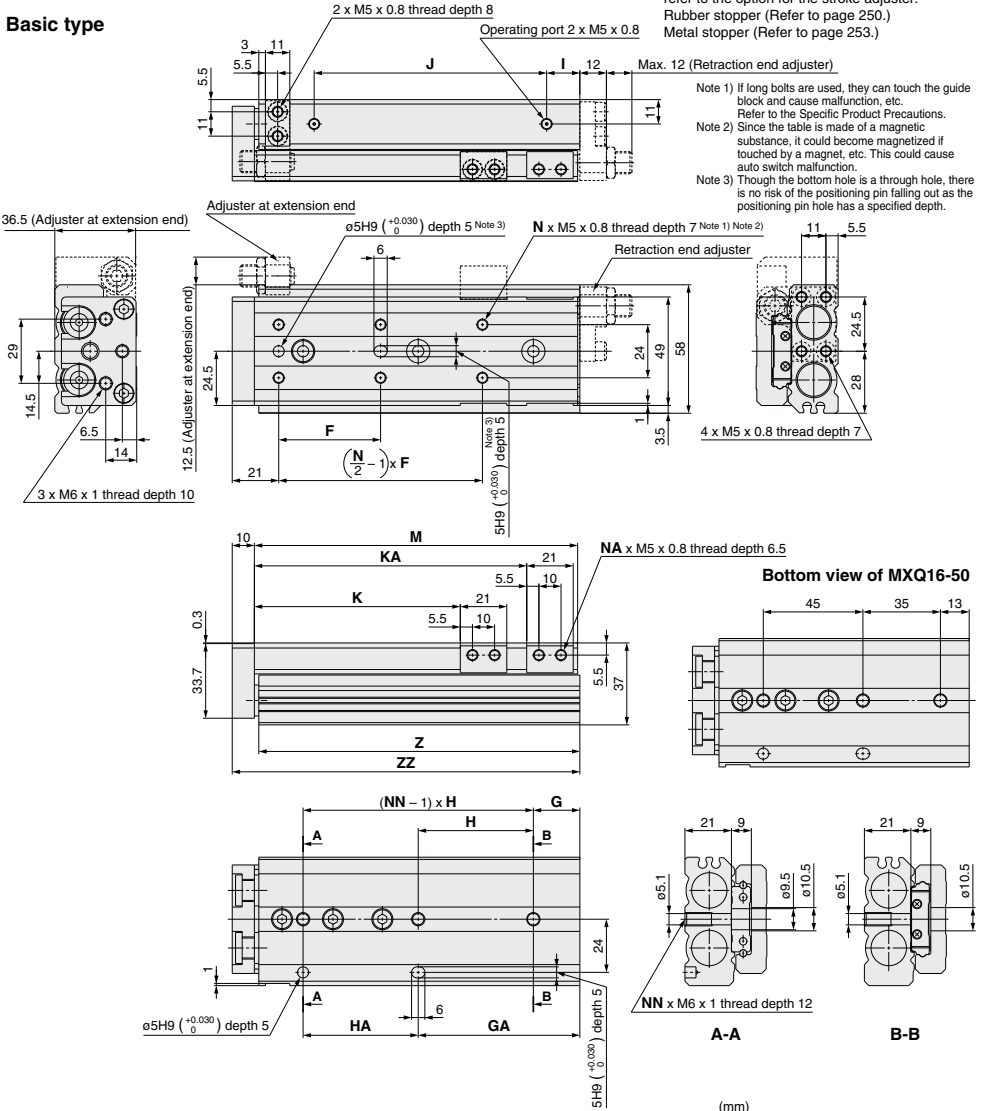
- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

# MXQ Series

## Dimensions: MXQ16

### Basic type

\* For detailed dimensions about the stroke adjuster, refer to the option for the stroke adjuster.  
 Rubber stopper (Refer to page 250.)  
 Metal stopper (Refer to page 253.)



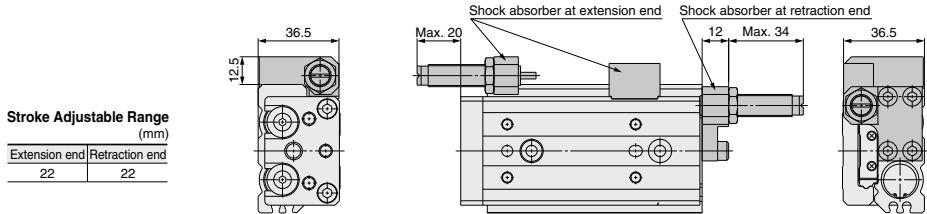
Note 1) If long bolts are used, they can touch the guide block and cause malfunction, etc.  
 Refer to the Specific Product Precautions.  
 Note 2) Since the table is made of a magnetic substance, it could become magnetized if touched by a magnet, etc. This could cause auto switch malfunction.  
 Note 3) Though the bottom hole is a through hole, there is no risk of the positioning pin falling out as the positioning pin hole has a specified depth.

| Model     | F  | N  | G      | H      | NN | GA  | HA | I  | J   | K   | KA  | NA | M   | Z   | ZZ  |
|-----------|----|----|--------|--------|----|-----|----|----|-----|-----|-----|----|-----|-----|-----|
| MXQ16- 10 | 38 | 4  | 18     | 39     | 2  | 18  | 39 | 12 | 40  | 28  | —   | 4  | 78  | 77  | 89  |
| MXQ16- 20 | 38 | 4  | 18     | 39     | 2  | 18  | 39 | 12 | 40  | 38  | —   | 4  | 78  | 77  | 89  |
| MXQ16- 30 | 48 | 4  | 19     | 48     | 2  | 19  | 48 | 12 | 50  | 48  | —   | 4  | 88  | 87  | 99  |
| MXQ16- 40 | 58 | 4  | 19     | 58     | 2  | 19  | 58 | 12 | 60  | 58  | —   | 4  | 98  | 97  | 109 |
| MXQ16- 50 | 40 | 6  | (Note) | (Note) | 3  | 48  | 45 | 20 | 68  | 68  | 91  | 8  | 114 | 113 | 125 |
| MXQ16- 75 | 46 | 6  | 21     | 52     | 3  | 73  | 52 | 15 | 105 | 93  | 123 | 8  | 146 | 145 | 157 |
| MXQ16-100 | 44 | 8  | 36     | 44     | 4  | 80  | 88 | 18 | 145 | 118 | 166 | 8  | 189 | 188 | 200 |
| MXQ16-125 | 44 | 10 | 17     | 44     | 5  | 105 | 88 | 23 | 165 | 143 | 191 | 8  | 214 | 213 | 225 |

Note) Refer to the bottom view of MXQ16-50.



**With shock absorber (ø16): MXQ16-□□BS/BT/B**

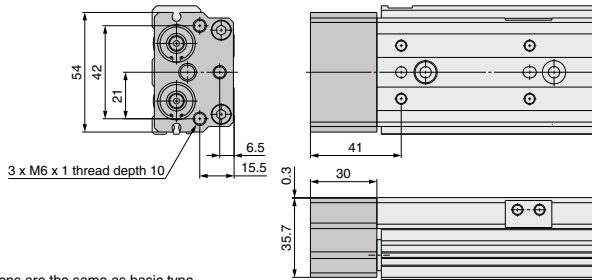


**Stroke Adjustable Range (mm)**

| Extension end | Retraction end |
|---------------|----------------|
| 22            | 22             |

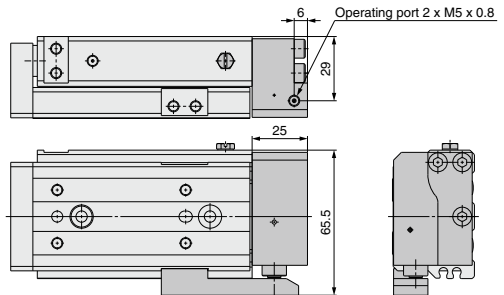
\* Other dimensions are the same as basic type.

**With buffer (ø16): MXQ16-□□F**



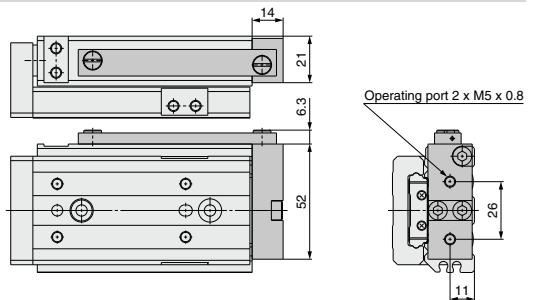
\* Other dimensions are the same as basic type.

**With end lock (ø16): MXQ16-□□R**



\* Other dimensions are the same as basic type.

**Axial piping type (ø16): MXQ16-□□P**



\* Other dimensions are the same as basic type.

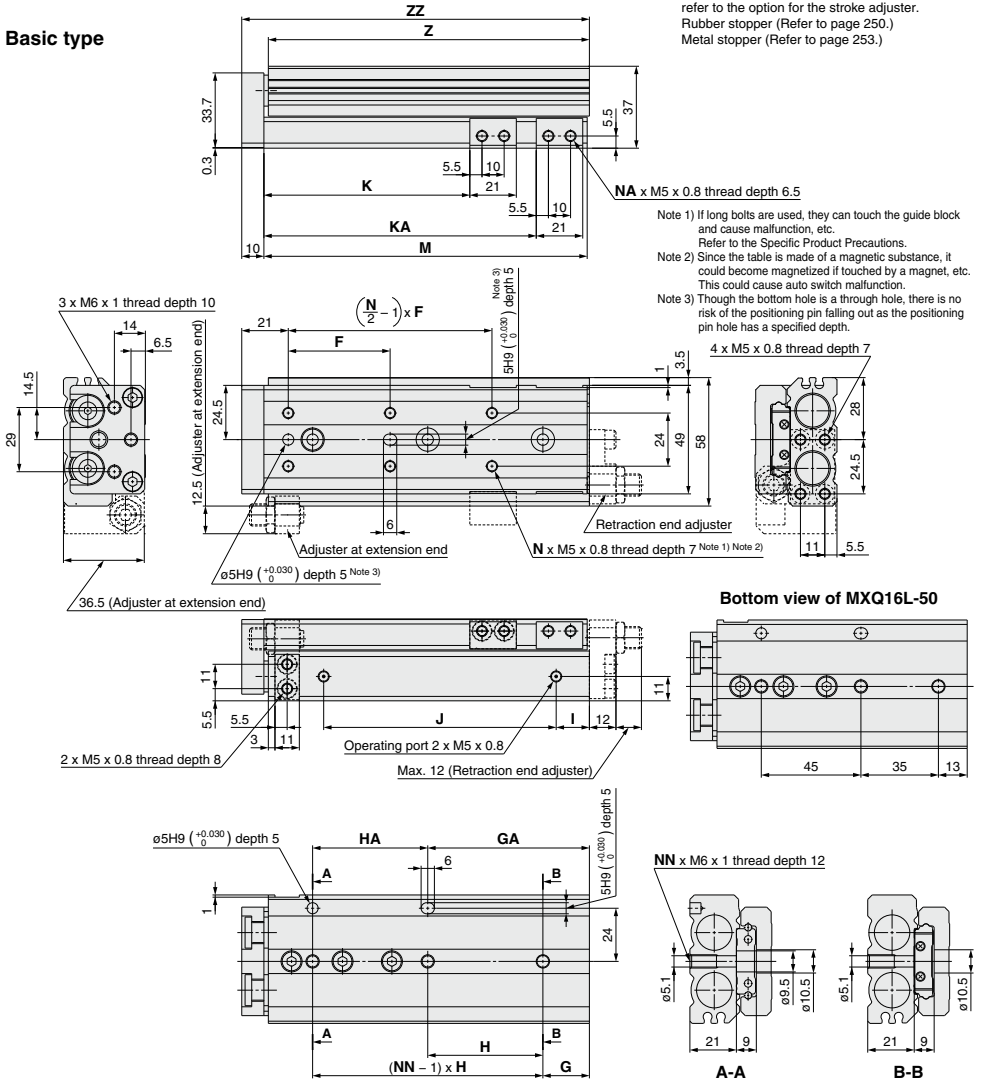
- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

- D-□
- X□

# MXQ Series

## Dimensions: MXQ16L/Symmetric Type

### Basic type



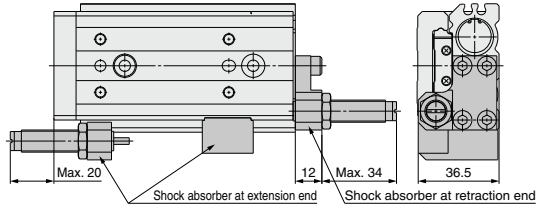
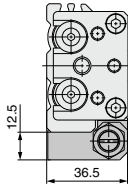
| Model      | F  | N  | G  | H  | NN | GA  | HA | I  | J   | K   | KA  | NA | M   | Z   | ZZ  |
|------------|----|----|----|----|----|-----|----|----|-----|-----|-----|----|-----|-----|-----|
| MXQ16L- 10 | 38 | 4  | 18 | 39 | 2  | 18  | 39 | 12 | 40  | 28  | —   | 4  | 78  | 77  | 89  |
| MXQ16L- 20 | 38 | 4  | 18 | 39 | 2  | 18  | 39 | 12 | 40  | 38  | —   | 4  | 78  | 77  | 89  |
| MXQ16L- 30 | 48 | 4  | 19 | 48 | 2  | 19  | 48 | 12 | 50  | 48  | —   | 4  | 88  | 87  | 99  |
| MXQ16L- 40 | 58 | 4  | 19 | 58 | 2  | 19  | 58 | 12 | 60  | 58  | —   | 4  | 98  | 97  | 109 |
| MXQ16L- 50 | 40 | 6  | —  | —  | 3  | 48  | 45 | 20 | 68  | 68  | 91  | 8  | 114 | 113 | 125 |
| MXQ16L- 75 | 46 | 6  | 21 | 52 | 3  | 73  | 52 | 15 | 105 | 93  | 123 | 8  | 146 | 145 | 157 |
| MXQ16L-100 | 44 | 8  | 36 | 44 | 4  | 80  | 88 | 18 | 145 | 118 | 166 | 8  | 189 | 188 | 200 |
| MXQ16L-125 | 44 | 10 | 17 | 44 | 5  | 105 | 88 | 23 | 165 | 143 | 191 | 8  | 214 | 213 | 225 |

Note) Refer to the bottom view of MXQ16L-50.

**With shock absorber (ø16): MXQ16L-□□BS/BT/B**

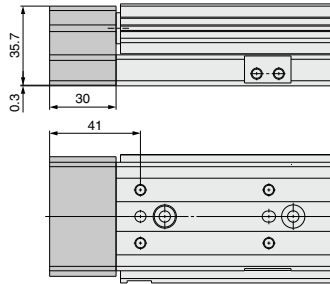
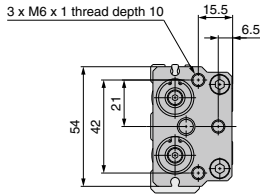
**Stroke Adjustable Range (mm)**

| Extension end | Retraction end |
|---------------|----------------|
| 22            | 22             |



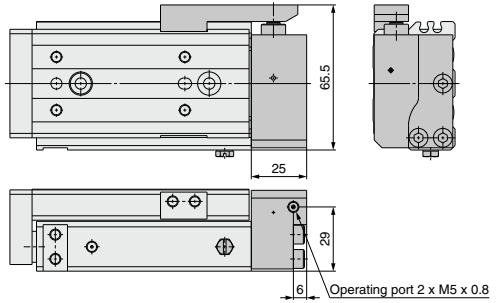
\* Other dimensions are the same as basic type.

**With buffer (ø16): MXQ16L-□□F**



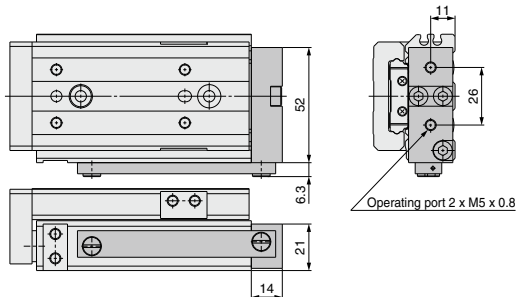
\* Other dimensions are the same as basic type.

**With end lock (ø16): MXQ16L-□□R**



\* Other dimensions are the same as basic type.

**Axial piping type (ø16): MXQ16L-□□P**



\* Other dimensions are the same as basic type.

- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MPX
- MY
- MTS

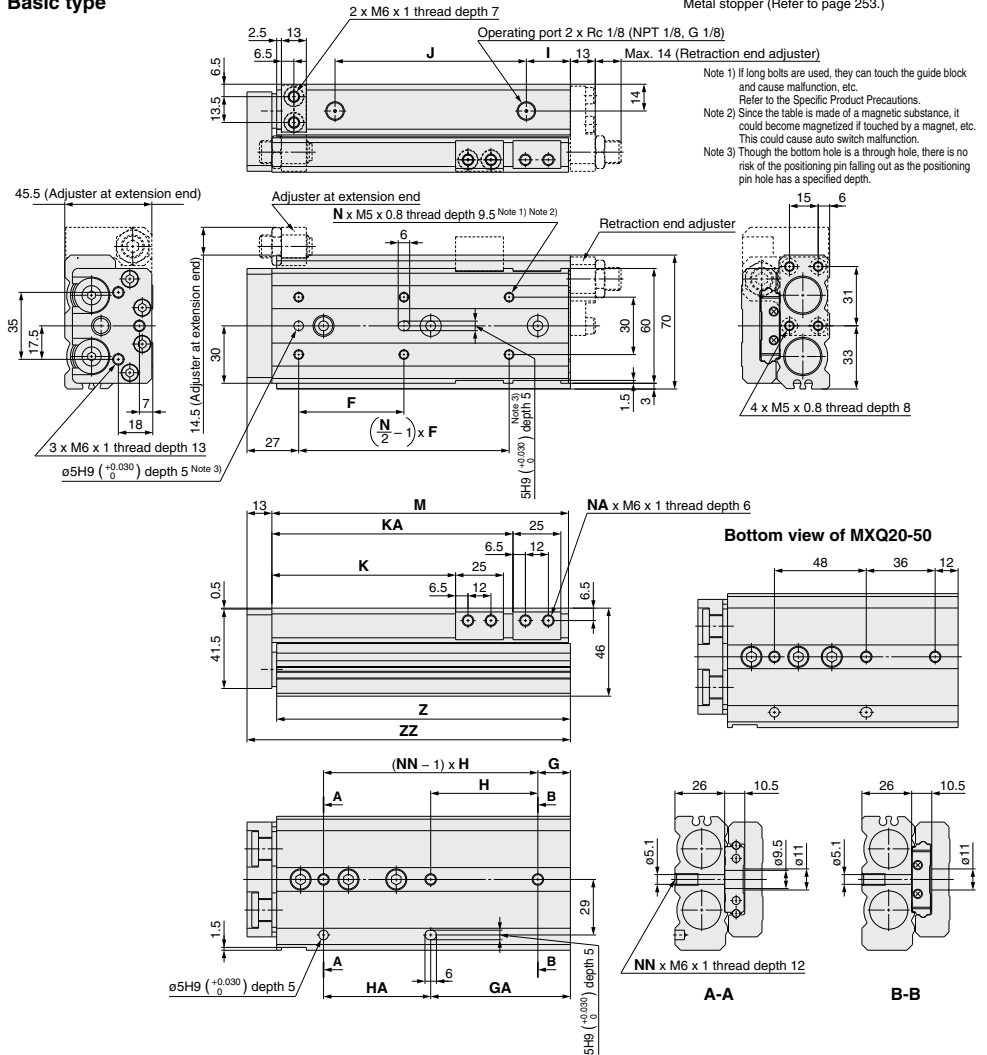
- D-□
- X□

# MXQ Series

## Dimensions: MXQ20

\* For detailed dimensions about the stroke adjuster, refer to the option for the stroke adjuster.  
 Rubber stopper (Refer to page 250.)  
 Metal stopper (Refer to page 253.)

### Basic type

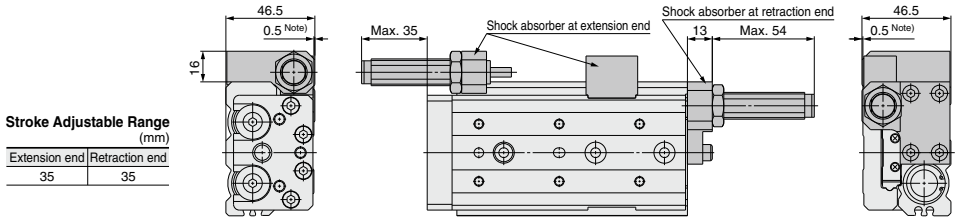


| Model     | F  | N | G                 | H                 | NN | GA  | HA  | I  | J   | K   | KA  | NA | M   | Z     | ZZ  |
|-----------|----|---|-------------------|-------------------|----|-----|-----|----|-----|-----|-----|----|-----|-------|-----|
| MXQ20- 10 | 45 | 4 | 22                | 46                | 2  | 18  | 50  | 16 | 46  | 31  | —   | 4  | 94  | 92.5  | 108 |
| MXQ20- 20 | 40 | 4 | 22                | 46                | 2  | 18  | 50  | 16 | 46  | 41  | —   | 4  | 94  | 92.5  | 108 |
| MXQ20- 30 | 48 | 4 | 22                | 46                | 2  | 18  | 50  | 16 | 46  | 51  | —   | 4  | 94  | 92.5  | 108 |
| MXQ20- 40 | 58 | 4 | 22                | 56                | 2  | 22  | 56  | 16 | 56  | 61  | —   | 4  | 104 | 102.5 | 118 |
| MXQ20- 50 | 42 | 6 | <sub>Note1)</sub> | <sub>Note2)</sub> | 3  | 48  | 48  | 18 | 72  | 71  | —   | 4  | 122 | 120.5 | 136 |
| MXQ20- 75 | 55 | 6 | 17                | 56                | 3  | 73  | 56  | 23 | 100 | 96  | 126 | 8  | 155 | 153.5 | 169 |
| MXQ20-100 | 50 | 8 | 18                | 56                | 4  | 74  | 112 | 25 | 155 | 121 | 183 | 8  | 212 | 210.5 | 226 |
| MXQ20-125 | 55 | 8 | 37                | 59                | 4  | 96  | 118 | 18 | 190 | 146 | 211 | 8  | 240 | 238.5 | 254 |
| MXQ20-150 | 62 | 8 | 56                | 62                | 4  | 118 | 124 | 21 | 215 | 171 | 239 | 8  | 268 | 266.5 | 282 |

Note) Refer to the bottom view of MXQ20-50.



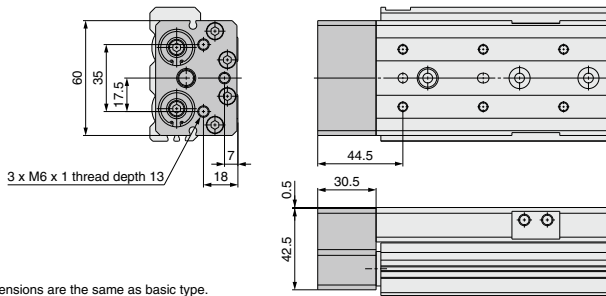
**With shock absorber (ø20): MXQ20-□□BS/BT/B**



\* Other dimensions are the same as basic type.

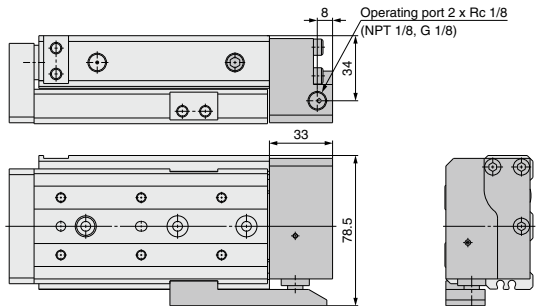
Note) Note that the top of the shock absorber unit will be higher than that of the table.

**With buffer (ø20): MXQ20-□□F**



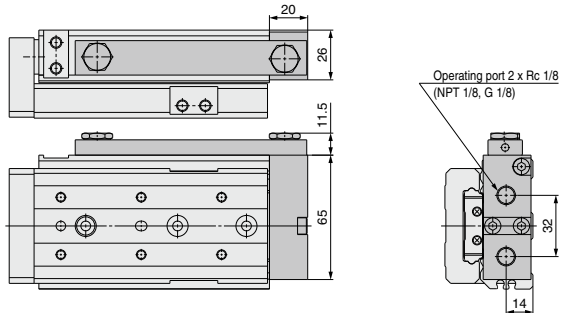
\* Other dimensions are the same as basic type.

**With end lock (ø20): MXQ20-□□R**



\* Other dimensions are the same as basic type.

**Axial piping type (ø20): MXQ20-□□P**



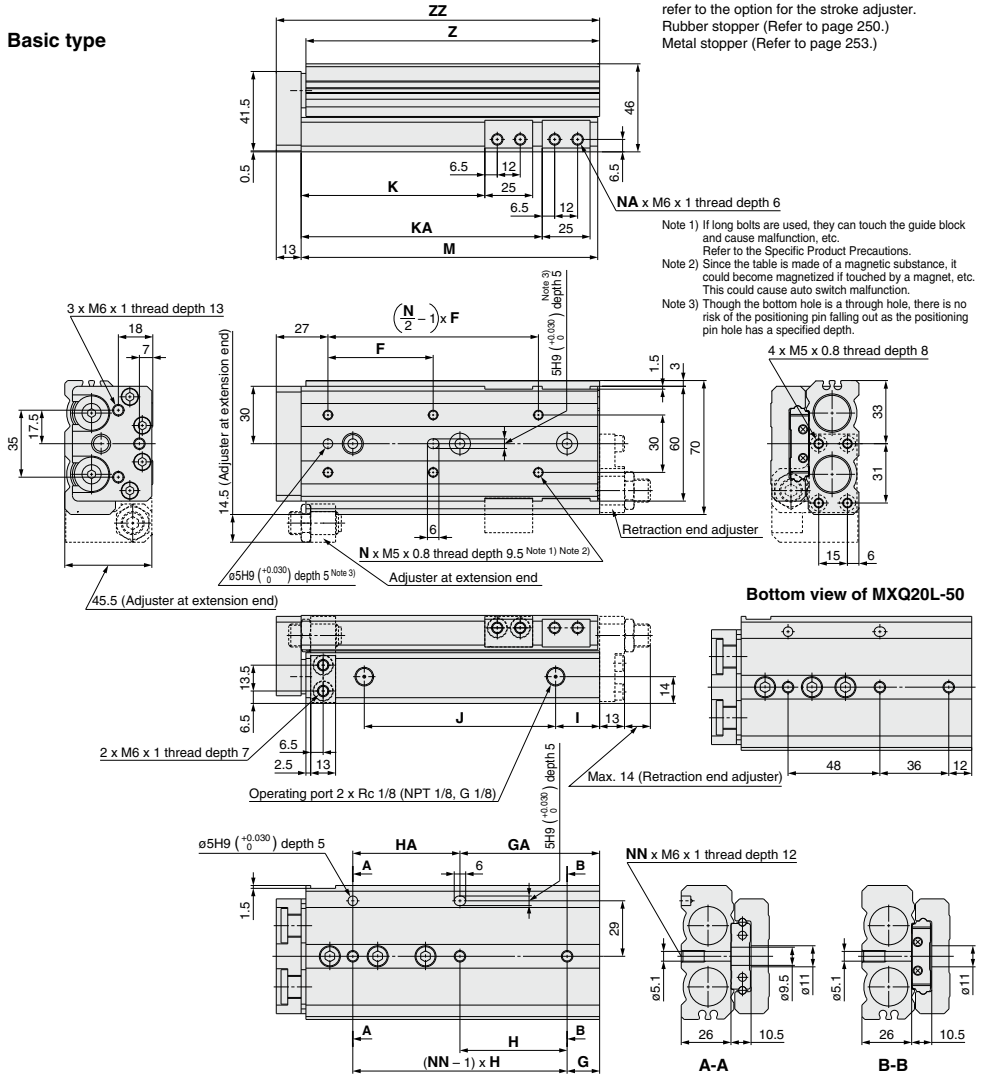
\* Other dimensions are the same as basic type.

- MXH
- MXS
- MXQ-□
- MXQ**
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

- D-□
- X□

## Dimensions: MXQ20L/Symmetric Type

### Basic type

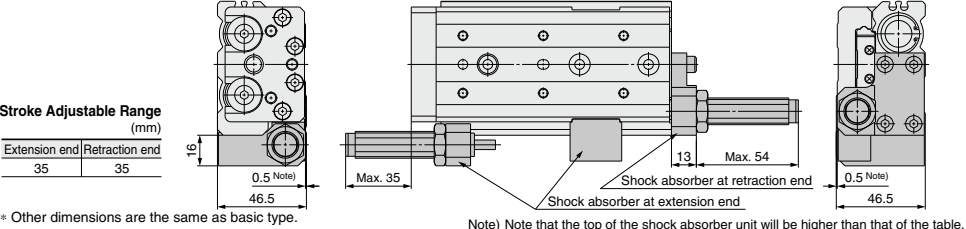


Bottom view of MXQ20L-50

| Model      | F  | N | G                         | H                         | NN | GA  | HA  | I  | J   | K   | KA  | NA | M   | Z     | ZZ  |
|------------|----|---|---------------------------|---------------------------|----|-----|-----|----|-----|-----|-----|----|-----|-------|-----|
| MXQ20L- 10 | 45 | 4 | 22                        | 46                        | 2  | 18  | 50  | 16 | 46  | 31  | —   | 4  | 94  | 92.5  | 108 |
| MXQ20L- 20 | 40 | 4 | 22                        | 46                        | 2  | 18  | 50  | 16 | 46  | 41  | —   | 4  | 94  | 92.5  | 108 |
| MXQ20L- 30 | 48 | 4 | 22                        | 46                        | 2  | 18  | 50  | 16 | 46  | 51  | —   | 4  | 94  | 92.5  | 108 |
| MXQ20L- 40 | 58 | 4 | 22                        | 56                        | 2  | 22  | 56  | 16 | 56  | 61  | —   | 4  | 104 | 102.5 | 118 |
| MXQ20L- 50 | 42 | 6 | $\frac{N_2(60)}{N_2(60)}$ | $\frac{N_2(60)}{N_2(60)}$ | 3  | 48  | 48  | 18 | 72  | 71  | —   | 4  | 122 | 120.5 | 136 |
| MXQ20L- 75 | 55 | 6 | 17                        | 56                        | 3  | 73  | 56  | 23 | 100 | 96  | 126 | 8  | 155 | 153.5 | 169 |
| MXQ20L-100 | 50 | 8 | 18                        | 56                        | 4  | 74  | 112 | 25 | 155 | 121 | 183 | 8  | 212 | 210.5 | 226 |
| MXQ20L-125 | 55 | 8 | 37                        | 59                        | 4  | 96  | 118 | 18 | 190 | 146 | 211 | 8  | 240 | 238.5 | 254 |
| MXQ20L-150 | 62 | 8 | 56                        | 62                        | 4  | 118 | 124 | 21 | 215 | 171 | 239 | 8  | 268 | 266.5 | 282 |

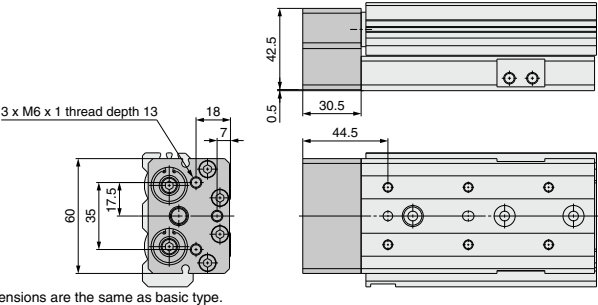
Note) Refer to the bottom view of MXQ20L-50.

**With shock absorber (ø20): MXQ20L-□□BS/BT/B**

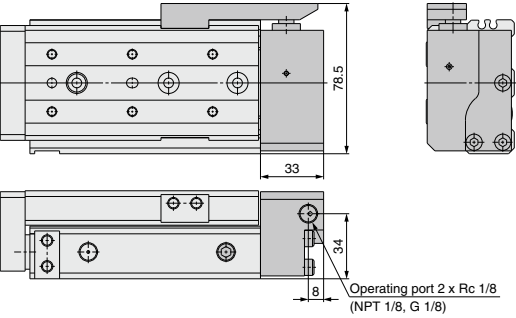


- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

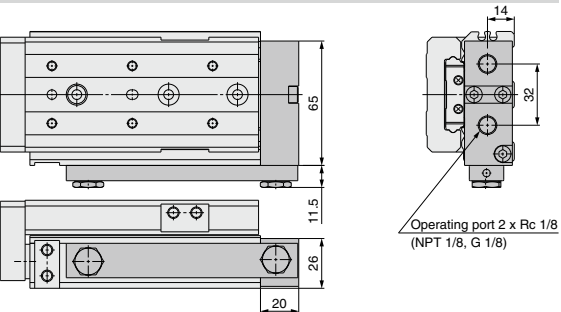
**With buffer (ø20): MXQ20L-□□F**



**With end lock (ø20): MXQ20L-□□R**



**Axial piping type (ø20): MXQ20L-□□P**



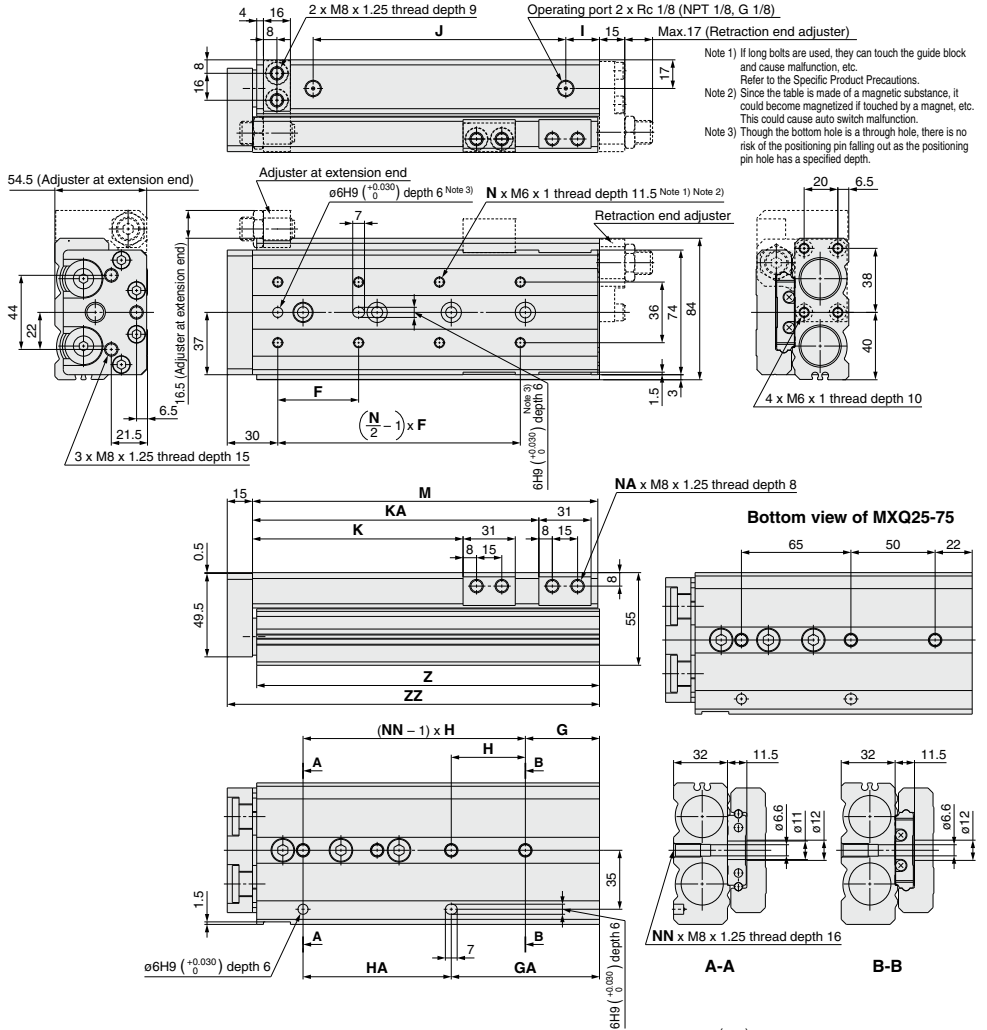
- D-□
- X□

# MXQ Series

## Dimensions: MXQ25

### Basic type

\* For detailed dimensions about the stroke adjuster, refer to the option for the stroke adjuster.  
 Rubber stopper (Refer to page 250.)  
 Metal stopper (Refer to page 253.)



| Model     | F  | N | G                 | H                 | NN | GA  | HA  | I  | J   | K   | KA  | NA | M   | Z     | ZZ  |
|-----------|----|---|-------------------|-------------------|----|-----|-----|----|-----|-----|-----|----|-----|-------|-----|
| MXQ25- 10 | 55 | 4 | 23                | 55                | 2  | 23  | 55  | 16 | 56  | 35  | —   | 4  | 107 | 105.5 | 123 |
| MXQ25- 20 | 46 | 4 | 23                | 55                | 2  | 23  | 55  | 16 | 56  | 45  | —   | 4  | 107 | 105.5 | 123 |
| MXQ25- 30 | 55 | 4 | 23                | 55                | 2  | 23  | 55  | 16 | 56  | 55  | —   | 4  | 107 | 105.5 | 123 |
| MXQ25- 40 | 65 | 4 | 23                | 65                | 2  | 23  | 65  | 16 | 66  | 65  | —   | 4  | 117 | 115.5 | 133 |
| MXQ25- 50 | 75 | 4 | 32                | 80                | 2  | 32  | 80  | 16 | 90  | 75  | —   | 4  | 141 | 139.5 | 157 |
| MXQ25- 75 | 60 | 6 | <sup>Note1)</sup> | <sup>Note2)</sup> | 3  | 72  | 65  | 31 | 100 | 100 | —   | 4  | 166 | 164.5 | 182 |
| MXQ25-100 | 48 | 8 | 44                | 44                | 4  | 88  | 88  | 20 | 150 | 125 | 170 | 8  | 205 | 203.5 | 221 |
| MXQ25-125 | 60 | 8 | 31                | 66                | 4  | 97  | 132 | 18 | 205 | 150 | 223 | 8  | 258 | 256.5 | 274 |
| MXQ25-150 | 65 | 8 | 56                | 66                | 4  | 122 | 132 | 18 | 230 | 175 | 248 | 8  | 283 | 281.5 | 299 |

Note) Refer to the bottom view of MXQ25-75.

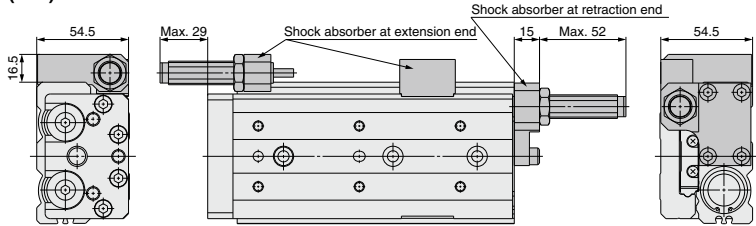


**With shock absorber (ø25): MXQ25-□□BS/BT/B**

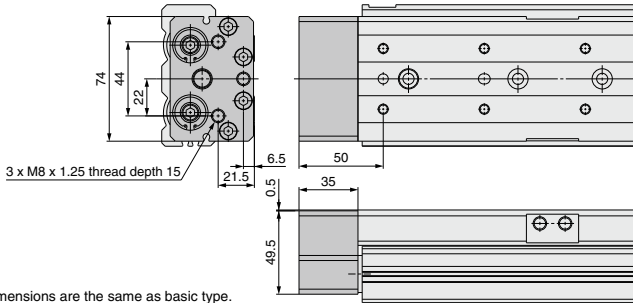
**Stroke Adjustable Range (mm)**

| Extension end | Retraction end |
|---------------|----------------|
| 35            | 35             |

\* Other dimensions are the same as basic type.

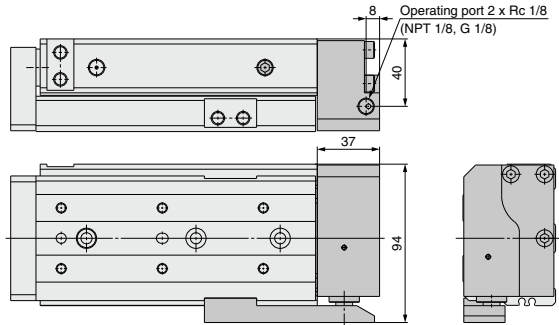


**With buffer (ø25): MXQ25-□□F**



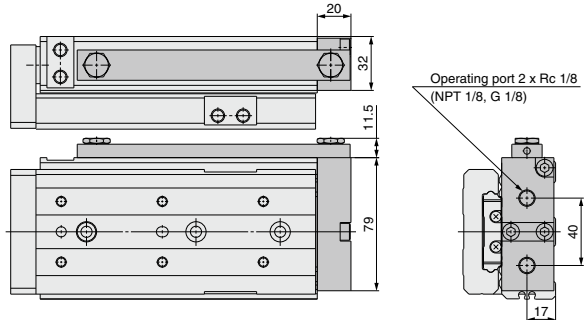
\* Other dimensions are the same as basic type.

**With end lock (ø25): MXQ25-□□R**



\* Other dimensions are the same as basic type.

**Axial piping type (ø25): MXQ25-□□P**



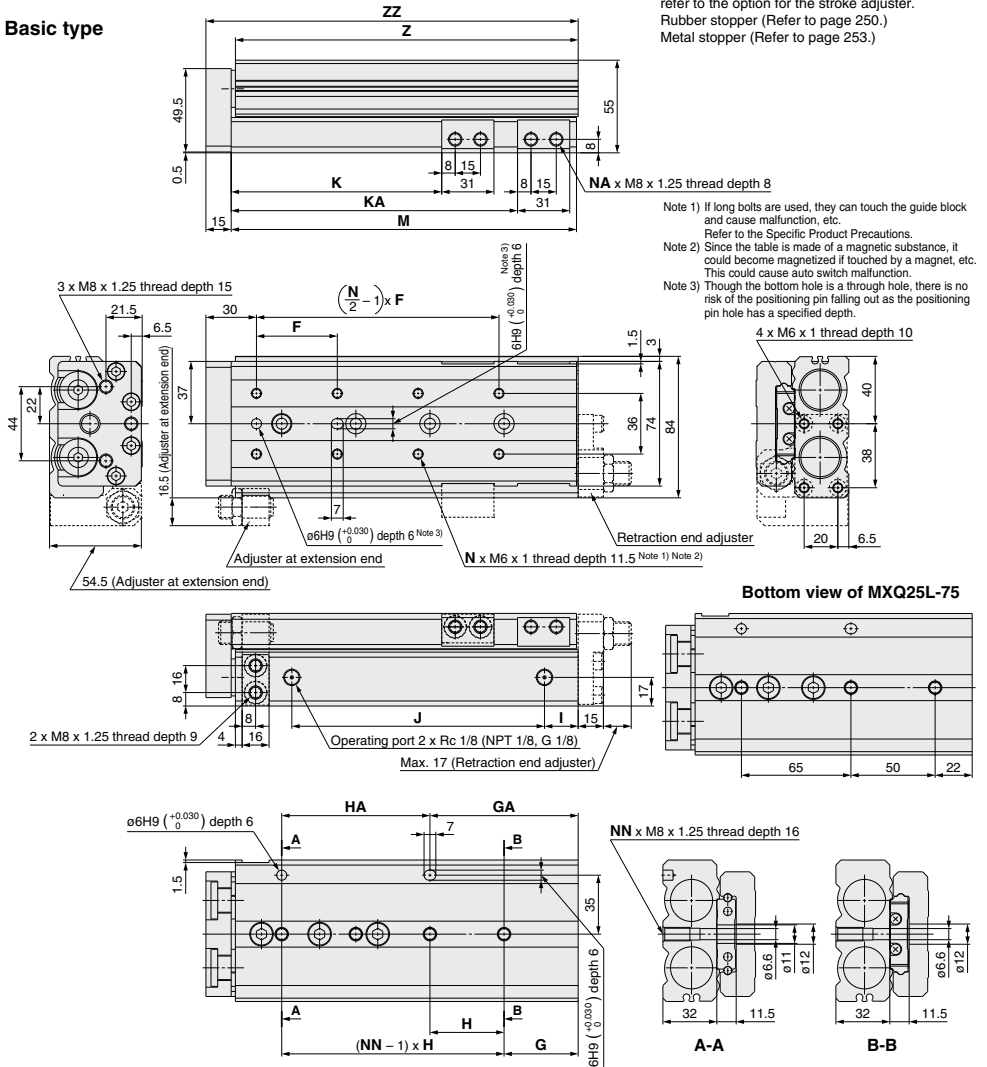
\* Other dimensions are the same as basic type.

- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MPX
- MXY
- MTS

# MXQ Series

## Dimensions: MXQ25L/Symmetric Type

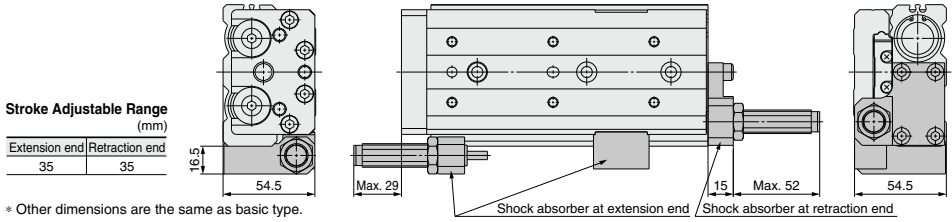
### Basic type



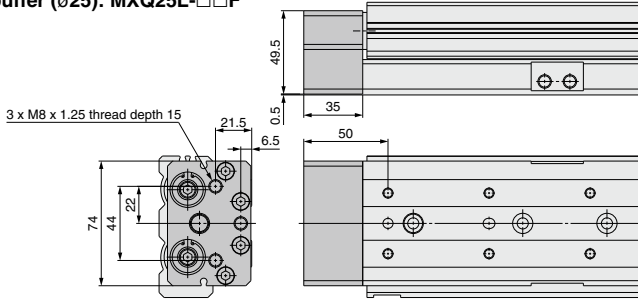
| Model      | F  | N | G                     | H                     | NN | GA  | HA  | I  | J   | K   | KA  | NA | M   | Z     | ZZ  |
|------------|----|---|-----------------------|-----------------------|----|-----|-----|----|-----|-----|-----|----|-----|-------|-----|
| MXQ25L- 10 | 55 | 4 | 23                    | 55                    | 2  | 23  | 55  | 16 | 56  | 35  | —   | 4  | 107 | 105.5 | 123 |
| MXQ25L- 20 | 46 | 4 | 23                    | 55                    | 2  | 23  | 55  | 16 | 56  | 45  | —   | 4  | 107 | 105.5 | 123 |
| MXQ25L- 30 | 55 | 4 | 23                    | 55                    | 2  | 23  | 55  | 16 | 56  | 55  | —   | 4  | 107 | 105.5 | 123 |
| MXQ25L- 40 | 65 | 4 | 23                    | 65                    | 2  | 23  | 65  | 16 | 66  | 65  | —   | 4  | 117 | 115.5 | 133 |
| MXQ25L- 50 | 75 | 4 | 32                    | 80                    | 2  | 32  | 80  | 16 | 90  | 75  | —   | 4  | 141 | 139.5 | 157 |
| MXQ25L- 75 | 60 | 6 | <small>(Note)</small> | <small>(Note)</small> | 3  | 72  | 65  | 31 | 100 | 100 | —   | 4  | 166 | 164.5 | 182 |
| MXQ25L-100 | 48 | 8 | 44                    | 44                    | 4  | 88  | 88  | 20 | 150 | 125 | 170 | 8  | 205 | 203.5 | 221 |
| MXQ25L-125 | 60 | 8 | 31                    | 66                    | 4  | 97  | 132 | 18 | 205 | 150 | 223 | 8  | 258 | 256.5 | 274 |
| MXQ25L-150 | 65 | 8 | 56                    | 66                    | 4  | 122 | 132 | 18 | 230 | 175 | 248 | 8  | 283 | 281.5 | 299 |

Note) Refer to the bottom view of MXQ25L-75.

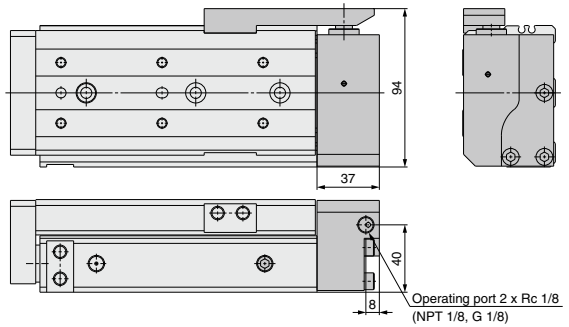
**With shock absorber (ø25): MXQ25L-□□BS/BT/B**



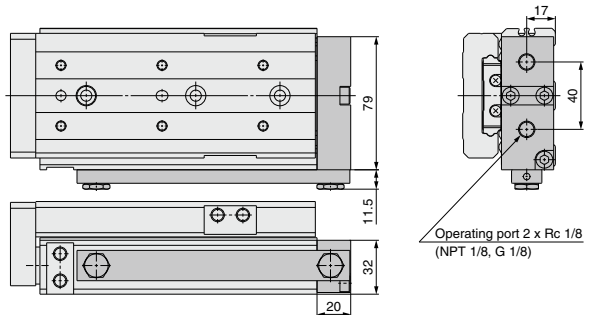
**With buffer (ø25): MXQ25L-□□F**



**With end lock (ø25): MXQ25L-□□R**



**Axial piping type (ø25): MXQ25L-□□P**



- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MPX
- MXY
- MTS

- D-□
- X□

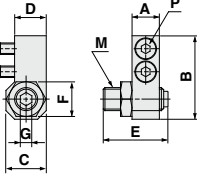
# MXQ Series

## External Dimensions of Adjuster

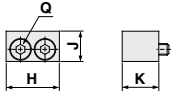
### Rubber Stopper (AS/AT)

#### Extension End

##### Body mounting section



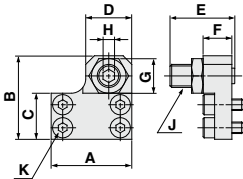
##### Table mounting section



| Applicable size | Model            | Stroke adjustment range (mm) | Body mounting section |    |    |      |      |    |     |            | Table mounting section |      |      |      |                  |      |
|-----------------|------------------|------------------------------|-----------------------|----|----|------|------|----|-----|------------|------------------------|------|------|------|------------------|------|
|                 |                  |                              | A                     | B  | C  | D    | E    | F  | G   | M          | P <sup>*1)</sup>       | H    | J    | K    | Q <sup>*1)</sup> |      |
| MXQ 6 (L)       | MXQ-AS 6 (L)     | 5                            | 6                     | 19 | 8  | 7    | 16.5 | 7  | 2.5 | M5 x 0.8   | M2.5 x 6               | 12.5 | 6    | 8.3  | M2.5 x 8         |      |
|                 | MXQ-AS 6 (L)-X11 | 15                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 26.5 |
| MXQ 8 (L)       | MXQ-AS 8 (L)     | 5                            | 7                     | 22 | 9  | 7.5  | 19.5 | 8  | 3   | M6 x 1     | M3 x 8                 | 14.6 | 7    | 9.8  | M3 x 10          |      |
|                 | MXQ-AS 8 (L)-X11 | 15                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 29.5 |
|                 | MXQ-AS 8 (L)-X12 | 25                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 39.5 |
| MXQ12 (L)       | MXQ-AS12 (L)     | 5                            | 9.5                   | 29 | 14 | 11   | 23.5 | 12 | 4   | M8 x 1     | M4 x 12                | 18.5 | 10.5 | 12.7 | M4 x 12          |      |
|                 | MXQ-AS12 (L)-X11 | 15                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 33.5 |
|                 | MXQ-AS12 (L)-X12 | 25                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 43.5 |
| MXQ16 (L)       | MXQ-AS16 (L)     | 5                            | 11                    | 36 | 17 | 13.5 | 24.5 | 14 | 5   | M10 x 1    | M5 x 16                | 21   | 13   | 15   | M5 x 16          |      |
|                 | MXQ-AS16 (L)-X11 | 15                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 34.5 |
|                 | MXQ-AS16 (L)-X12 | 25                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 44.5 |
| MXQ20 (L)       | MXQ-AS20 (L)     | 5                            | 13                    | 45 | 20 | 16   | 27.5 | 17 | 6   | M12 x 1.25 | M6 x 16                | 25   | 16   | 18   | M6 x 16          |      |
|                 | MXQ-AS20 (L)-X11 | 15                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 37.5 |
|                 | MXQ-AS20 (L)-X12 | 25                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 47.5 |
| MXQ25 (L)       | MXQ-AS25 (L)     | 5                            | 16                    | 54 | 22 | 18   | 32.5 | 19 | 6   | M14 x 1.5  | M8 x 18                | 31   | 17   | 20   | M8 x 18          |      |
|                 | MXQ-AS25 (L)-X11 | 15                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 42.5 |
|                 | MXQ-AS25 (L)-X12 | 25                           |                       |    |    |      |      |    |     |            |                        |      |      |      |                  | 52.5 |

\*1) Size of hexagon socket head cap screw  
 \*2) It is also available in the symmetric type.  
 For "How to Order", refer to page 222.  
 Dimensions are the same as standard type.

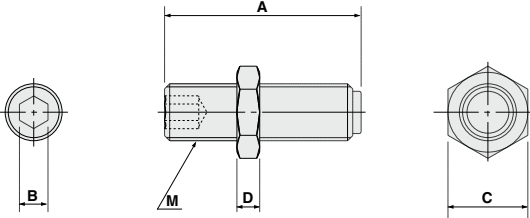
#### Retraction End



| Applicable size | Model            | Stroke adjustment range (mm) | A    | B    | C    | D  | E    | F  | G  | H   | J          | K <sup>*1)</sup> |      |
|-----------------|------------------|------------------------------|------|------|------|----|------|----|----|-----|------------|------------------|------|
| MXQ 6 (L)       | MXQ-AT 6 (L)     | 5                            | 17.5 | 19   | 10.5 | 8  | 16.5 | 6  | 7  | 2.5 | M5 x 0.8   | M2.5 x 6         |      |
|                 | MXQ-AT 6 (L)-X11 | 15                           |      |      |      |    |      |    |    |     |            |                  | 26.5 |
| MXQ 8 (L)       | MXQ-AT 8 (L)     | 5                            | 21   | 22   | 12.5 | 10 | 19.5 | 8  | 8  | 3   | M6 x 1     | M3 x 8           |      |
|                 | MXQ-AT 8 (L)-X11 | 15                           |      |      |      |    |      |    |    |     |            |                  | 29.5 |
|                 | MXQ-AT 8 (L)-X12 | 25                           |      |      |      |    |      |    |    |     |            |                  | 39.5 |
| MXQ12 (L)       | MXQ-AT12 (L)     | 5                            | 28   | 29   | 16   | 16 | 23.5 | 10 | 12 | 4   | M8 x 1     | M4 x 10          |      |
|                 | MXQ-AT12 (L)-X11 | 15                           |      |      |      |    |      |    |    |     |            |                  | 33.5 |
|                 | MXQ-AT12 (L)-X12 | 25                           |      |      |      |    |      |    |    |     |            |                  | 43.5 |
| MXQ16 (L)       | MXQ-AT16 (L)     | 5                            | 33.5 | 35.5 | 20   | 17 | 24.5 | 12 | 14 | 5   | M10 x 1    | M5 x 12          |      |
|                 | MXQ-AT16 (L)-X11 | 15                           |      |      |      |    |      |    |    |     |            |                  | 34.5 |
|                 | MXQ-AT16 (L)-X12 | 25                           |      |      |      |    |      |    |    |     |            |                  | 44.5 |
| MXQ20 (L)       | MXQ-AT20 (L)     | 5                            | 41   | 44.5 | 25   | 23 | 27.5 | 13 | 17 | 6   | M12 x 1.25 | M5 x 14          |      |
|                 | MXQ-AT20 (L)-X11 | 15                           |      |      |      |    |      |    |    |     |            |                  | 37.5 |
|                 | MXQ-AT20 (L)-X12 | 25                           |      |      |      |    |      |    |    |     |            |                  | 47.5 |
| MXQ25 (L)       | MXQ-AT25 (L)     | 5                            | 49   | 53.5 | 31   | 28 | 32.5 | 15 | 19 | 6   | M14 x 1.5  | M6 x 18          |      |
|                 | MXQ-AT25 (L)-X11 | 15                           |      |      |      |    |      |    |    |     |            |                  | 42.5 |
|                 | MXQ-AT25 (L)-X12 | 25                           |      |      |      |    |      |    |    |     |            |                  | 52.5 |

\*1) Size of hexagon socket head cap screw  
 \*2) It is also available in the symmetric type.  
 For "How to Order", refer to page 222.  
 Dimensions are the same as standard type.

**Dimensions of Adjusting Bolt/Rubber Stopper**



| Applicable size | Model         | Stroke adjustment range (mm) | A    | B   | C  | D   | M          |
|-----------------|---------------|------------------------------|------|-----|----|-----|------------|
| MXQ 6 (L)       | MXQ-A627      | 5                            | 16.5 | 2.5 | 7  | 3.5 | M5 x 0.8   |
|                 | MXQ-A627-X11  | 15                           | 26.5 |     |    |     |            |
| MXQ 8 (L)       | MXQ-A827      | 5                            | 19.5 | 3   | 8  | 4   | M6 x 1     |
|                 | MXQ-A827-X11  | 15                           | 29.5 |     |    |     |            |
|                 | MXQ-A827-X12  | 25                           | 39.5 |     |    |     |            |
| MXQ12 (L)       | MXQ-A1227     | 5                            | 23.5 | 4   | 12 | 4   | M8 x 1     |
|                 | MXQ-A1227-X11 | 15                           | 33.5 |     |    |     |            |
|                 | MXQ-A1227-X12 | 25                           | 43.5 |     |    |     |            |
| MXQ16 (L)       | MXQ-A1627     | 5                            | 24.5 | 5   | 14 | 4   | M10 x 1    |
|                 | MXQ-A1627-X11 | 15                           | 34.5 |     |    |     |            |
|                 | MXQ-A1627-X12 | 25                           | 44.5 |     |    |     |            |
|                 | MXQ-A2027     | 5                            | 27.5 |     |    |     |            |
| MXQ20 (L)       | MXQ-A2027-X11 | 15                           | 37.5 | 6   | 17 | 5   | M12 x 1.25 |
|                 | MXQ-A2027-X12 | 25                           | 47.5 |     |    |     |            |
|                 | MXQ-A2527     | 5                            | 32.5 |     |    |     |            |
| MXQ25 (L)       | MXQ-A2527-X11 | 15                           | 42.5 | 6   | 19 | 6   | M14 x 1.5  |
|                 | MXQ-A2527-X12 | 25                           | 52.5 |     |    |     |            |

- MXH
- MXS
- MXQ □
- MXQ
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

**How to Order Adjusting Bolt/Rubber Stopper**

**MXQ — A 12 27 — X11**

● Applicable bore size

|    |     |
|----|-----|
| 6  | ø6  |
| 8  | ø8  |
| 12 | ø12 |
| 16 | ø16 |
| 20 | ø20 |
| 25 | ø25 |

● Adjustment range

|      |       |
|------|-------|
| Nil  | 5 mm  |
| -X11 | 15 mm |
| -X12 | 25 mm |

\* -X12 (adjusting range: 25 mm) is not available in the MXQ6 series.  
 \* For dimensions, refer to the figure above.  
 \* Symmetric type is also the same.

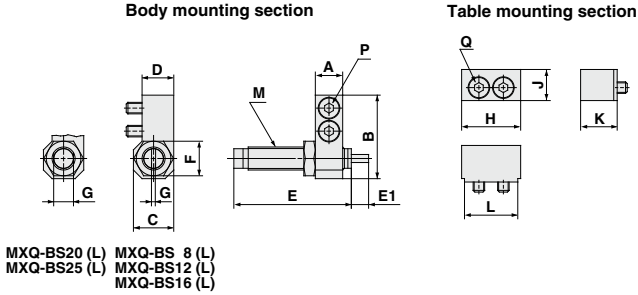
- D-□
- X□

# MXQ Series

## External Dimensions of Adjuster

### With Shock Absorber (BS/BT)

#### Extension End



| Applicable size | Model        | Stroke adjustment range (mm) | Body mounting section |      |    |      |      |    |    |     |           | Table mounting section |      |      |    |      |                  |
|-----------------|--------------|------------------------------|-----------------------|------|----|------|------|----|----|-----|-----------|------------------------|------|------|----|------|------------------|
|                 |              |                              | A                     | B    | C  | D    | E    | E1 | F  | G   | M         | P <sup>*1)</sup>       | H    | J    | K  | L    | Q <sup>*1)</sup> |
| MXQ 8 (L)       | MXQ-BS 8 (L) | 20                           | 7                     | 24.5 | 14 | 12.5 | 40.8 | 5  | 12 | 1.4 | M8 x 1    | M3 x 12                | 16.6 | 8    | 12 | 14.6 | M3 x 12          |
| MXQ12 (L)       | MXQ-BS12 (L) | 18                           | 9.5                   | 29   | 14 | 11   | 40.8 | 6  | 12 | 1.4 | M8 x 1    | M4 x 12                | 20.5 | 11   | 13 | 18.5 | M4 x 12          |
| MXQ16 (L)       | MXQ-BS16 (L) | 22                           | 11                    | 36   | 17 | 13.5 | 46.7 | 7  | 14 | 1.4 | M10 x 1   | M5 x 16                | 23   | 13.5 | 16 | 21   | M5 x 16          |
| MXQ20 (L)       | MXQ-BS20 (L) | 35                           | 13                    | 46   | 22 | 17.5 | 67.3 | 11 | 19 | 12  | M14 x 1.5 | M6 x 18                | 27   | 17   | 22 | 25   | M6 x 20          |
| MXQ25 (L)       | MXQ-BS25 (L) | 35                           | 16                    | 54   | 22 | 18   | 67.3 | 12 | 19 | 12  | M14 x 1.5 | M8 x 18                | 33   | 19   | 22 | 31   | M8 x 20          |

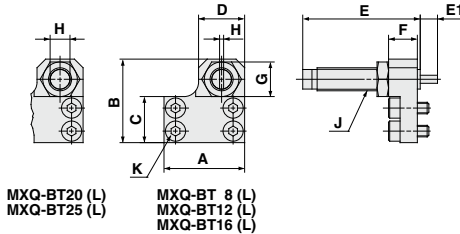
\*1) Size of hexagon socket head cap screw

\*2) It is also available in the symmetric type.

For "How to Order", refer to page 222.

Dimensions are the same as standard type.

#### Retraction End



| Applicable size | Model        | Stroke adjustment range (mm) | A    | B    | C    | D  | E    | E1 | F  | G  | H   | J         | K <sup>*1)</sup> |
|-----------------|--------------|------------------------------|------|------|------|----|------|----|----|----|-----|-----------|------------------|
|                 |              |                              |      |      |      |    |      |    |    |    |     |           |                  |
| MXQ 8 (L)       | MXQ-BT 8 (L) | 20                           | 23   | 24.5 | 12.5 | 14 | 40.8 | 5  | 8  | 12 | 1.4 | M8 x 1    | M3 x 8           |
| MXQ12 (L)       | MXQ-BT12 (L) | 18                           | 28   | 29   | 16   | 16 | 40.8 | 6  | 10 | 12 | 1.4 | M8 x 1    | M4 x 10          |
| MXQ16 (L)       | MXQ-BT16 (L) | 22                           | 33.5 | 35.5 | 20   | 17 | 46.7 | 7  | 12 | 14 | 1.4 | M10 x 1   | M5 x 12          |
| MXQ20 (L)       | MXQ-BT20 (L) | 35                           | 43   | 46   | 26   | 25 | 67.3 | 11 | 13 | 19 | 12  | M14 x 1.5 | M5 x 14          |
| MXQ25 (L)       | MXQ-BT25 (L) | 35                           | 49   | 53.5 | 31   | 28 | 67.3 | 12 | 15 | 19 | 12  | M14 x 1.5 | M6 x 18          |

\*1) Size of hexagon socket head cap screw

\*2) It is also available in the symmetric type.

For "How to Order", refer to page 222.

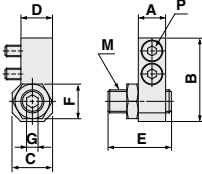
Dimensions are the same as standard type.

**External Dimensions of Adjuster**

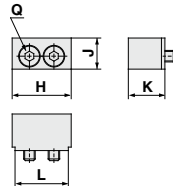
**Metal Stopper (CS/CT)**

**Extension End**

**Body mounting section**



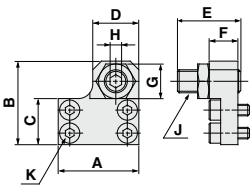
**Table mounting section**



| Applicable size | Model            | Stroke adjustment range (mm) | Body mounting section |    |    |      |      |    |     |            |                  |      | Table mounting section |     |      |                  |  |
|-----------------|------------------|------------------------------|-----------------------|----|----|------|------|----|-----|------------|------------------|------|------------------------|-----|------|------------------|--|
|                 |                  |                              | A                     | B  | C  | D    | E    | F  | G   | M          | P <sup>*1)</sup> | H    | J                      | K   | L    | Q <sup>*1)</sup> |  |
| MXQ 6 (L)       | MXQ-CS 6 (L)     | 5                            | 6                     | 19 | 8  | 7    | 15.5 | 7  | 2.5 | M5 x 0.8   | M2.5 x 6         | 14.5 | 7                      | 8.3 | 12.5 | M2.5 x 8         |  |
|                 | MXQ-CS 6 (L)-X11 | 15                           |                       |    |    |      | 25.5 |    |     |            |                  |      |                        |     |      |                  |  |
| MXQ 8 (L)       | MXQ-CS 8 (L)     | 5                            | 7                     | 22 | 9  | 7.5  | 18   | 8  | 3   | M6 x 1     | M3 x 8           | 16.6 | 8                      | 9.8 | 14.6 | M3 x 10          |  |
|                 | MXQ-CS 8 (L)-X11 | 15                           |                       |    |    |      | 28   |    |     |            |                  |      |                        |     |      |                  |  |
|                 | MXQ-CS 8 (L)-X12 | 25                           |                       |    |    |      | 38   |    |     |            |                  |      |                        |     |      |                  |  |
| MXQ12 (L)       | MXQ-CS12 (L)     | 5                            | 9.5                   | 29 | 14 | 11   | 22   | 12 | 4   | M8 x 1     | M4 x 12          | 20.5 | 11                     | 13  | 18.5 | M4 x 12          |  |
|                 | MXQ-CS12 (L)-X11 | 15                           |                       |    |    |      | 32   |    |     |            |                  |      |                        |     |      |                  |  |
|                 | MXQ-CS12 (L)-X12 | 25                           |                       |    |    |      | 42   |    |     |            |                  |      |                        |     |      |                  |  |
| MXQ16 (L)       | MXQ-CS16 (L)     | 5                            | 11                    | 36 | 17 | 13.5 | 23   | 14 | 5   | M10 x 1    | M5 x 16          | 23   | 13.5                   | 16  | 21   | M5 x 16          |  |
|                 | MXQ-CS16 (L)-X11 | 15                           |                       |    |    |      | 33   |    |     |            |                  |      |                        |     |      |                  |  |
|                 | MXQ-CS16 (L)-X12 | 25                           |                       |    |    |      | 43   |    |     |            |                  |      |                        |     |      |                  |  |
| MXQ20 (L)       | MXQ-CS20 (L)     | 5                            | 13                    | 45 | 20 | 16   | 27   | 17 | 6   | M12 x 1.25 | M6 x 16          | 27   | 17                     | 22  | 25   | M6 x 20          |  |
|                 | MXQ-CS20 (L)-X11 | 15                           |                       |    |    |      | 37   |    |     |            |                  |      |                        |     |      |                  |  |
|                 | MXQ-CS20 (L)-X12 | 25                           |                       |    |    |      | 47   |    |     |            |                  |      |                        |     |      |                  |  |
| MXQ25 (L)       | MXQ-CS25 (L)     | 5                            | 16                    | 54 | 22 | 18   | 30   | 19 | 6   | M14 x 1.5  | M8 x 18          | 33   | 19                     | 22  | 31   | M8 x 20          |  |
|                 | MXQ-CS25 (L)-X11 | 15                           |                       |    |    |      | 40   |    |     |            |                  |      |                        |     |      |                  |  |
|                 | MXQ-CS25 (L)-X12 | 25                           |                       |    |    |      | 50   |    |     |            |                  |      |                        |     |      |                  |  |

\*1) Size of hexagon socket head cap screw  
 \*2) It is also available in the symmetric type.  
 For "How to Order", refer to page 222.  
 Dimensions are the same as standard type.

**Retraction End**



| Applicable size | Model            | Stroke adjustment range (mm) | A    | B    | C    | D  | E    | F  | G  | H   | J          | K <sup>*1)</sup> |
|-----------------|------------------|------------------------------|------|------|------|----|------|----|----|-----|------------|------------------|
| MXQ 6 (L)       | MXQ-CT 6 (L)     | 5                            | 17.5 | 19   | 10.5 | 8  | 15.5 | 6  | 7  | 2.5 | M5 x 0.8   | M2.5 x 6         |
|                 | MXQ-CT 6 (L)-X11 | 15                           |      |      |      |    | 25.5 |    |    |     |            |                  |
| MXQ 8 (L)       | MXQ-CT 8 (L)     | 5                            | 21   | 22   | 12.5 | 10 | 18   | 8  | 8  | 3   | M6 x 1     | M3 x 8           |
|                 | MXQ-CT 8 (L)-X11 | 15                           |      |      |      |    | 28   |    |    |     |            |                  |
|                 | MXQ-CT 8 (L)-X12 | 25                           |      |      |      |    | 38   |    |    |     |            |                  |
| MXQ12 (L)       | MXQ-CT12 (L)     | 5                            | 28   | 29   | 16   | 16 | 22   | 10 | 12 | 4   | M8 x 1     | M4 x 10          |
|                 | MXQ-CT12 (L)-X11 | 15                           |      |      |      |    | 32   |    |    |     |            |                  |
|                 | MXQ-CT12 (L)-X12 | 25                           |      |      |      |    | 42   |    |    |     |            |                  |
| MXQ16 (L)       | MXQ-CT16 (L)     | 5                            | 33.5 | 35.5 | 20   | 17 | 23   | 12 | 14 | 5   | M10 x 1    | M5 x 12          |
|                 | MXQ-CT16 (L)-X11 | 15                           |      |      |      |    | 33   |    |    |     |            |                  |
|                 | MXQ-CT16 (L)-X12 | 25                           |      |      |      |    | 43   |    |    |     |            |                  |
| MXQ20 (L)       | MXQ-CT20 (L)     | 5                            | 41   | 44.5 | 25   | 23 | 27   | 13 | 17 | 6   | M12 x 1.25 | M5 x 14          |
|                 | MXQ-CT20 (L)-X11 | 15                           |      |      |      |    | 37   |    |    |     |            |                  |
|                 | MXQ-CT20 (L)-X12 | 25                           |      |      |      |    | 47   |    |    |     |            |                  |
| MXQ25 (L)       | MXQ-CT25 (L)     | 5                            | 49   | 53.5 | 31   | 28 | 30   | 15 | 19 | 6   | M14 x 1.5  | M6 x 18          |
|                 | MXQ-CT25 (L)-X11 | 15                           |      |      |      |    | 40   |    |    |     |            |                  |
|                 | MXQ-CT25 (L)-X12 | 25                           |      |      |      |    | 50   |    |    |     |            |                  |

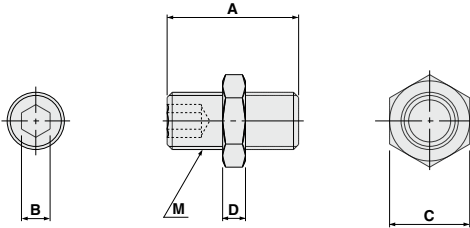
\*1) Size of hexagon socket head cap screw  
 \*2) It is also available in the symmetric type.  
 For "How to Order", refer to page 222.  
 Dimensions are the same as standard type.

- MXH
- MXS
- MXQ
- MXQ
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

- D-
- X

# MXQ Series

## Dimensions of Adjusting Bolt/Metal Stopper



| Applicable size | Model         | Stroke adjustment range (mm) | A    | B   | C  | D   | M          |
|-----------------|---------------|------------------------------|------|-----|----|-----|------------|
| MXQ 6 (L)       | MXQ-A638      | 5                            | 15.5 | 2.5 | 7  | 3.5 | M5 x 0.8   |
|                 | MXQ-A638-X11  | 15                           | 25.5 |     |    |     |            |
| MXQ 8 (L)       | MXQ-A838      | 5                            | 18   | 3   | 8  | 4   | M6 x 1     |
|                 | MXQ-A838-X11  | 15                           | 28   |     |    |     |            |
|                 | MXQ-A838-X12  | 25                           | 38   |     |    |     |            |
| MXQ12 (L)       | MXQ-A1238     | 5                            | 22   | 4   | 12 | 4   | M8 x 1     |
|                 | MXQ-A1238-X11 | 15                           | 32   |     |    |     |            |
|                 | MXQ-A1238-X12 | 25                           | 42   |     |    |     |            |
| MXQ16 (L)       | MXQ-A1638     | 5                            | 23   | 5   | 14 | 4   | M10 x 1    |
|                 | MXQ-A1638-X11 | 15                           | 33   |     |    |     |            |
|                 | MXQ-A1638-X12 | 25                           | 43   |     |    |     |            |
| MXQ20 (L)       | MXQ-A2038     | 5                            | 27   | 6   | 17 | 5   | M12 x 1.25 |
|                 | MXQ-A2038-X11 | 15                           | 37   |     |    |     |            |
|                 | MXQ-A2038-X12 | 25                           | 47   |     |    |     |            |
| MXQ25 (L)       | MXQ-A2538     | 5                            | 30   | 6   | 19 | 6   | M14 x 1.5  |
|                 | MXQ-A2538-X11 | 15                           | 40   |     |    |     |            |
|                 | MXQ-A2538-X12 | 25                           | 50   |     |    |     |            |

## How to Order Adjusting Bolt/Metal Stopper

MXQ — A 12 38 — X11

● Applicable bore size

|    |     |
|----|-----|
| 6  | ø6  |
| 8  | ø8  |
| 12 | ø12 |
| 16 | ø16 |
| 20 | ø20 |
| 25 | ø25 |

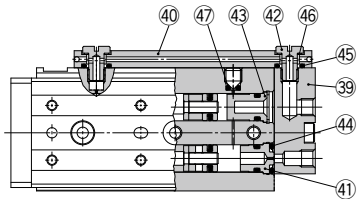
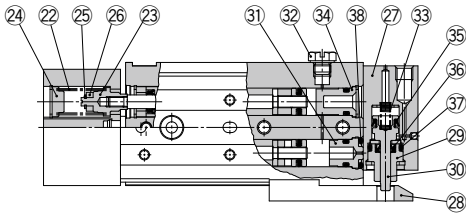
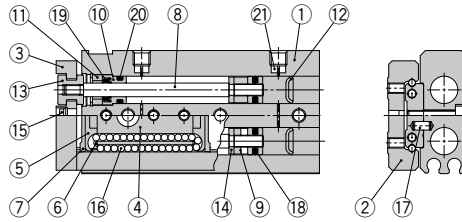
● Adjustment range

|      |       |
|------|-------|
| Nil  | 5 mm  |
| -X11 | 15 mm |
| -X12 | 25 mm |

- \* -X12 (adjusting range: 25 mm) is not available in the MXQ6 series.
- \* For dimensions, refer to the figure above.
- \* Symmetric type is also the same.



**Construction**



**Component Parts**

| No. | Description      | Material                         | Note                                    |
|-----|------------------|----------------------------------|---|
| 1   | Body             | Aluminum alloy                   | Hard anodized                           |
| 2   | Table            | Stainless steel                  | Heat treated, Electroless nickel plated |
| 3   | End plate        | Aluminum alloy                   | Hard anodized                           |
| 4   | Guide block      | Stainless steel                  | Heat treated                            |
| 5   | Cover            | Synthetic resin                  |   |
| 6   | Return guide     | Synthetic resin                  |   |
| 7   | Scraper          | Stainless steel, NBR             |   |
| 8   | Rod              | Stainless steel                  |   |
| 9   | Piston assembly  | —                                | With magnet on one side                 |
| 10  | Rod cover        | Aluminum alloy                   | Anodized                                |
| 11  | Seal support     | Brass                            | Electroless nickel plated               |
| 12  | Head cap         | Aluminum alloy                   | Hard anodized                           |
| 13  | Floating bushing | Stainless steel                  |   |
| 14  | Rod bumper       | Polyurethane                     |   |
| 15  | End bumper       | Polyurethane                     |   |
| 16  | Steel balls      | High carbon chrome bearing steel |   |
| 17  | Parallel pin     | Stainless steel                  |   |
| 18  | Piston seal      | NBR                              |   |
| 19  | Rod seal         | NBR                              |   |
| 20  | O-ring           | NBR                              |   |
| 21  | Orifice          | Synthetic resin                  | φ12, φ16 (Basic type) only              |

**Component Parts: With Buffer**

| No. | Description   | Material        | Note          |
|-----|---------------|-----------------|---------------|
| 22  | End plate     | Aluminum alloy  | Hard anodized |
| 23  | Spring collar | Stainless steel |               |
| 24  | Head cap      | Stainless steel |               |
| 25  | Spring        | Stainless steel |               |
| 26  | Magnet        | —               |               |

**Replacement Parts: Seal Kit**

| Bore size (mm) | Kit no.  | Contents                     |
|----------------|----------|------------------------------|
| 6              | MXQ 6-PS | Set of nos. above<br>(1 set) |
| 8              | MXQ 8-PS |                              |
| 12             | MXQ12-PS |                              |
| 16             | MXQ16-PS |                              |
| 20             | MXQ20-PS |                              |
| 25             | MXQ25-PS |                              |

**Replacement Parts: Seal Kit for with End Lock**

| Bore size (mm) | Kit no.   | Contents          |
|----------------|-----------|-------------------|
| 8              | MXQ 8R-PS | Set of nos. above |
| 12             | MXQ12R-PS |                   |
| 16             | MXQ16R-PS |                   |
| 20             | MXQ20R-PS |                   |
| 25             | MXQ25R-PS |                   |

**Component Parts: With End Lock**

| No. | Description   | Material        | Note                   |
|-----|---------------|-----------------|------------------------|
| 27  | Locking body  | Aluminum alloy  | Hard anodized          |
| 28  | Table support | Carbon steel    | Anti-corrosive treated |
| 29  | Rod cover     | Aluminum alloy  |                        |
| 30  | Piston rod    | Stainless steel |                        |
| 31  | Bushing       | Aluminum alloy  | Chromated              |
| 32  | Blanking plug | Carbon steel    | Nickel plated          |
| 33  | Return spring | Stainless steel |                        |
| 34  | Head cap      | Synthetic resin |                        |
| 35  | Piston seal   | NBR             |                        |
| 36  | Rod seal      | NBR             |                        |
| 37  | O-ring        | NBR             |                        |
| 38  | O-ring        | NBR             |                        |

**Component Parts: Axial Piping Type**

| No. | Description        | Material             | Note                      |
|-----|--------------------|----------------------|---------------------------|
| 39  | Axial piping plate | Aluminum alloy       | Hard anodized             |
| 40  | Pipe               | Aluminum alloy       | Hard anodized             |
| 41  | Bushing            | Aluminum alloy       | Chromated                 |
| 42  | Stud               | Brass                | Electroless nickel plated |
| 43  | Head cap           | Synthetic resin      |                           |
| 44  | O-ring             | NBR                  |                           |
| 45  | O-ring             | NBR                  |                           |
| 46  | Gasket             | NBR, Stainless steel |                           |
| 47  | O-ring             | NBR                  |                           |

\* Seal kit includes these seals to provide as a set. Order the seal kit, based on each bore size.

**Replacement Parts: Seal Kit for Axial Piping Type**

| Bore size (mm) | Kit no.   | Contents          |
|----------------|-----------|-------------------|
| 6              | MXQ 6P-PS | Set of nos. above |
| 8              | MXQ 8P-PS |                   |
| 12             | MXQ12P-PS |                   |
| 16             | MXQ16P-PS |                   |
| 20             | MXQ20P-PS |                   |
| 25             | MXQ25P-PS |                   |

**Replacement Parts: Grease Pack**

| Applied section | Grease pack part no.             |
|-----------------|----------------------------------|
| Guide           | GR-S-010 (10g)<br>GR-S-020 (20g) |
| Cylinder        | GR-L-005 (5g)<br>GR-L-010 (10g)  |

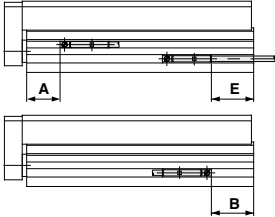
- MXH
- MXS
- MXQ
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

- D-□
- X□

# MXQ Series

# Auto Switch Mounting

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



### Reed Auto Switch: D-A90, D-A93, D-A96, D-A90V, D-A93V, D-A96V

| Model        | A    | B      |      |      |      |      |      |      |      |      |    |    |    |    |              |              | E            |              |              |              |              |              |   |   |   |   |  |  |  |  |  |
|--------------|------|--------|------|------|------|------|------|------|------|------|----|----|----|----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---|---|---|---|--|--|--|--|--|
|              |      | Stroke |      |      |      |      |      |      |      |      |    |    |    |    |              |              | Stroke       |              |              |              |              |              |   |   |   |   |  |  |  |  |  |
|              |      | 10     | 20   | 30   | 40   | 50   | 75   | 100  | 125  | 150  | 10 | 20 | 30 | 40 | 50           | 75           | 100          | 125          | 150          |              |              |              |   |   |   |   |  |  |  |  |  |
| <b>MXQ6</b>  | 6    | 5.5    | 5.5  | 5.5  | 5.5  | 13.5 | 13.5 | —    | —    | —    | —  | —  | —  | —  | 3.5<br>(1)   | 3.5<br>(1)   | 3.5<br>(1)   | 11.5<br>(9)  | 11.5<br>(9)  | —            | —            | —            | — | — | — | — |  |  |  |  |  |
| <b>MXQ8</b>  | 7.5  | 8      | 8    | 12   | 16   | 31   | 32   | —    | —    | —    | —  | —  | —  | —  | 6<br>(3.5)   | 6<br>(3.5)   | 10<br>(7.5)  | 14<br>(11.5) | 29<br>(26.5) | 30<br>(27.5) | —            | —            | — | — | — |   |  |  |  |  |  |
| <b>MXQ12</b> | 11.5 | 24.5   | 14.5 | 14.5 | 21.5 | 21.5 | 40.5 | 40.5 | —    | —    | —  | —  | —  | —  | 22.5<br>(20) | 12.5<br>(10) | 12.5<br>(10) | 19.5<br>(17) | 19.5<br>(17) | 38.5<br>(36) | 38.5<br>(36) | —            | — | — | — |   |  |  |  |  |  |
| <b>MXQ16</b> | 16.5 | 30.5   | 20.5 | 20.5 | 20.5 | 26.5 | 33.5 | 51.5 | 51.5 | —    | —  | —  | —  | —  | 28.5<br>(26) | 18.5<br>(16) | 18.5<br>(16) | 24.5<br>(22) | 31.5<br>(29) | 49.5<br>(47) | 49.5<br>(47) | —            | — | — | — |   |  |  |  |  |  |
| <b>MXQ20</b> | 19   | 43.5   | 33.5 | 23.5 | 33.5 | 31.5 | 39.5 | 71.5 | 74.5 | 77.5 | —  | —  | —  | —  | 41.5<br>(39) | 31.5<br>(29) | 21.5<br>(19) | 31.5<br>(29) | 69.5<br>(67) | 69.5<br>(67) | 72.5<br>(70) | 77.5<br>(75) | — | — | — |   |  |  |  |  |  |
| <b>MXQ25</b> | 22   | 52.5   | 42.5 | 32.5 | 32.5 | 46.5 | 46.5 | 60.5 | 88.5 | 88.5 | —  | —  | —  | —  | 50.5<br>(48) | 40.5<br>(38) | 30.5<br>(28) | 44.5<br>(42) | 83.5<br>(81) | 83.5<br>(81) | 98.5<br>(96) | 98.5<br>(96) | — | — | — |   |  |  |  |  |  |

\* ( ): Denotes D-A93.

### Solid State Auto Switch: D-M9B, D-M9N, D-M9P, D-M9BW, D-M9NW, D-M9PW, D-M9□A

| Model        | A    | B      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | E      |      |      |      |      |      |      |      |      |      |      |      |  |  |  | E (D-M9□A) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|              |      | Stroke |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Stroke |      |      |      |      |      |      |      |      |      |      |      |  |  |  | Stroke     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|              |      | 10     | 20   | 30   | 40   | 50   | 75   | 100  | 125  | 150  | 10   | 20   | 30   | 40   | 50   | 75   | 100    | 125  | 150  | 10   | 20   | 30   | 40   | 50   | 75   | 100  | 125  | 150  |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ6</b>  | 10   | 9.5    | 9.5  | 9.5  | 17.5 | 17.5 | —    | —    | —    | —    | -0.5 | -0.5 | -0.5 | 7.5  | 7.5  | —    | —      | —    | —    | —    | -2.5 | -2.5 | -2.5 | 5.5  | 5.5  | —    | —    | —    |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ8</b>  | 11.5 | 12     | 12   | 16   | 20   | 35   | 36   | —    | —    | —    | 2    | 2    | 6    | 10   | 25   | 26   | —      | —    | —    | —    | 0    | 0    | 4    | 8    | 23   | 24   | —    | —    |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ12</b> | 15.5 | 28.5   | 18.5 | 18.5 | 25.5 | 25.5 | 44.5 | 44.5 | —    | —    | 18.5 | 8.5  | 8.5  | 15.5 | 15.5 | 34.5 | 34.5   | —    | —    | 16.5 | 6.5  | 6.5  | 13.5 | 13.5 | 32.5 | 32.5 | —    | —    |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ16</b> | 20.5 | 34.5   | 24.5 | 24.5 | 24.5 | 30.5 | 37.5 | 55.5 | 55.5 | —    | 24.5 | 14.5 | 14.5 | 14.5 | 20.5 | 27.5 | 45.5   | 45.5 | —    | 22.5 | 12.5 | 12.5 | 12.5 | 18.5 | 25.5 | 43.5 | 43.5 | —    |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ20</b> | 23   | 47.5   | 37.5 | 27.5 | 37.5 | 35.5 | 43.5 | 75.5 | 78.5 | 81.5 | 37.5 | 27.5 | 17.5 | 27.5 | 25.5 | 33.5 | 65.5   | 68.5 | 73.5 | 35.5 | 25.5 | 15.5 | 25.5 | 23.5 | 31.5 | 63.5 | 66.5 | 71.5 |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ25</b> | 27   | 56.5   | 46.5 | 36.5 | 36.5 | 50.5 | 50.5 | 64.5 | 92.5 | 92.5 | 46.5 | 36.5 | 26.5 | 26.5 | 40.5 | 40.5 | 54.5   | 82.5 | 73.5 | 44.5 | 34.5 | 24.5 | 24.5 | 38.5 | 38.5 | 52.5 | 80.5 | 71.5 |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

### Solid State Auto Switch: D-M9B, D-M9NV, D-M9PV, D-M9BWW, D-M9NWW, D-M9PWW, D-M9□AV

| Model        | A    | B      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | E      |      |      |      |      |      |      |      |      |      |      |      |  |  |  | E (D-M9□AV) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|-------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|              |      | Stroke |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Stroke |      |      |      |      |      |      |      |      |      |      |      |  |  |  | Stroke      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|              |      | 10     | 20   | 30   | 40   | 50   | 75   | 100  | 125  | 150  | 10   | 20   | 30   | 40   | 50   | 75   | 100    | 125  | 150  | 10   | 20   | 30   | 40   | 50   | 75   | 100  | 125  | 150  |  |  |  |             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ6</b>  | 10   | 9.5    | 9.5  | 9.5  | 17.5 | 17.5 | —    | —    | —    | —    | 1.5  | 1.5  | 1.5  | 9.5  | 9.5  | —    | —      | —    | —    | -0.5 | -0.5 | -0.5 | 7.5  | 7.5  | —    | —    | —    |      |  |  |  |             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ8</b>  | 11.5 | 12     | 12   | 16   | 20   | 35   | 36   | —    | —    | —    | 4    | 4    | 8    | 12   | 27   | 28   | —      | —    | —    | —    | 2    | 2    | 6    | 10   | 25   | 26   | —    | —    |  |  |  |             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ12</b> | 15.5 | 28.5   | 18.5 | 18.5 | 25.5 | 25.5 | 44.5 | 44.5 | —    | —    | 20.5 | 10.5 | 10.5 | 17.5 | 17.5 | 36.5 | 36.5   | —    | —    | 18.5 | 8.5  | 8.5  | 15.5 | 15.5 | 34.5 | 34.5 | —    | —    |  |  |  |             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ16</b> | 20.5 | 34.5   | 24.5 | 24.5 | 24.5 | 30.5 | 37.5 | 55.5 | 55.5 | —    | 26.5 | 16.5 | 16.5 | 16.5 | 22.5 | 29.5 | 47.5   | 47.5 | —    | 24.5 | 14.5 | 14.5 | 14.5 | 20.5 | 27.5 | 45.5 | 45.5 | —    |  |  |  |             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ20</b> | 23   | 47.5   | 37.5 | 27.5 | 37.5 | 35.5 | 43.5 | 75.5 | 78.5 | 81.5 | 39.5 | 29.5 | 19.5 | 19.5 | 27.5 | 35.5 | 67.5   | 70.5 | 75.5 | 37.5 | 27.5 | 17.5 | 17.5 | 25.5 | 33.5 | 65.5 | 68.5 | 73.5 |  |  |  |             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>MXQ25</b> | 27   | 56.5   | 46.5 | 36.5 | 36.5 | 50.5 | 50.5 | 64.5 | 92.5 | 92.5 | 48.5 | 38.5 | 28.5 | 28.5 | 42.5 | 42.5 | 56.5   | 84.5 | 75.5 | 46.5 | 36.5 | 26.5 | 26.5 | 40.5 | 40.5 | 54.5 | 82.5 | 73.5 |  |  |  |             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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

## Auto Switch Mounting

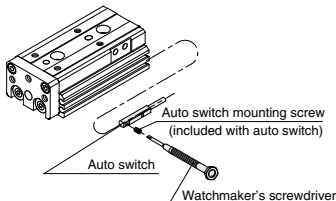
### ⚠ Caution Auto Switch Mounting Tool

When tightening the auto switch mounting screw (included with auto switch), use a watchmaker's screwdriver with a handle about 5 to 6 mm in diameter.

### Tightening Torque

#### Tightening Torque of Auto Switch Mounting Screw (N·m)

| Auto switch model | Tightening torque |
|-------------------|-------------------|
| <b>D-A9□(V)</b>   | 0.10 to 0.20      |
| <b>D-M9□(V)</b>   | 0.05 to 0.15      |
| <b>D-M9□W(V)</b>  | 0.05 to 0.10      |



## Operating Range

### Operating range (mm)

| Auto switch model    | Applicable bore size |     |    |    |     |    |
|----------------------|----------------------|-----|----|----|-----|----|
|                      | 6                    | 8   | 12 | 16 | 20  | 25 |
| <b>D-A9, A9□V</b>    | 4.5                  | 5   | 6  | 7  | 8   | 9  |
| <b>D-M9□, M9□V</b>   |                      |     |    |    |     |    |
| <b>D-M9□W, M9□VW</b> | 2.5                  | 2.5 | 3  | 4  | 4.5 | 5  |
| <b>D-M9□A, M9□AV</b> |                      |     |    |    |     |    |

\* 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.

Other than the applicable auto switches listed in "How to Order", the following auto switches can be mounted.

\* Normally closed (NC = b contact) solid state auto switches (D-F9G/F9H types) and solid state auto switch D-F8 are also available. Refer to pages 1136 and 1137 for details.

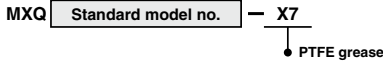
# MXQ Series

## Made to Order: Individual Specifications



Please contact SMC for detailed dimensions, specifications and lead times.

### 1 PTFE Grease Symbol -X7



PTFE grease is used for all parts that grease is applied.

#### Specifications

|                |                      |
|----------------|----------------------|
| Type           | PTFE grease          |
| Bore size (mm) | 6, 8, 12, 16, 20, 25 |

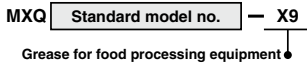
\* Specifications and dimensions other than the above are the same as the standard type.

#### Warning

#### Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

### 2 Grease for Food Processing Equipment Symbol -X9



Grease for food processing equipment is used for all parts that grease is applied.

#### Specifications

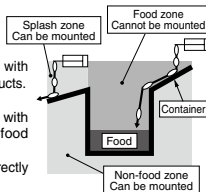
|                |   |
|----------------|---|
| Type           | Grease for food processing equipment (NSF-H1 certified)/Aluminum complex soap base grease |
| Bore size (mm) | 6, 8, 12, 16, 20, 25  |

\* Specifications and dimensions other than the above are the same as the standard type.

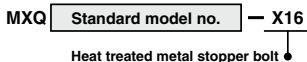
#### Caution

#### Do not use this cylinder in a food-related environment.

<Cannot be mounted>  
Food zone--Food may directly contact with this cylinder, and is treated as food products.  
<Can be mounted>  
Splash zone--Food may directly contact with this cylinder, but is not treated as food products.  
Non-food zone--This cylinder does not directly contact food.



### 3 Heat Treated Metal Stopper Bolt (Adjustment range: 5 mm) Symbol -X16



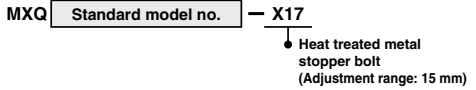
To reduce wear on the metal stopper, heat treated chrome molybdenum steel (SCM435) is used for the stroke adjustment screw.

#### Specifications

|                   |                                 |
|-------------------|---------------------------------|
| Type              | Heat treated metal stopper bolt |
| Bore size (mm)    | 6, 8, 12, 16, 20, 25            |
| Speed range       | 50 to 200 mm/s                  |
| Cushion           | None                            |
| Stroke adjustment | 0 to 5 mm                       |

\* Specifications and dimensions other than the above are the same as the standard type.

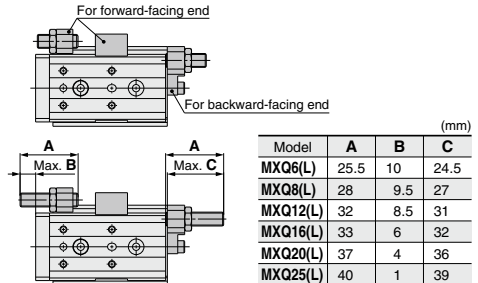
### 4 Heat Treated Metal Stopper Bolt (Adjustment range: 15 mm) Symbol -X17



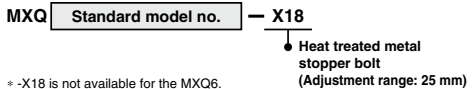
To reduce wear on the metal stopper, heat treated chrome molybdenum steel (SCM435) is used for the stroke adjustment screw.

The average adjusting stroke range was extended from 5 mm to 15 mm with a long adjusting bolt.

#### Dimensions



### 5 Heat Treated Metal Stopper Bolt (Adjustment range: 25 mm) Symbol -X18

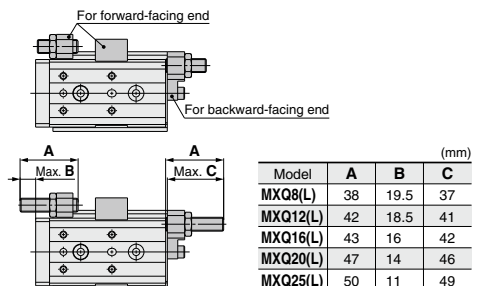


\* -X18 is not available for the MXQ6.

To reduce wear on the metal stopper, heat treated chrome molybdenum steel (SCM435) is used for the stroke adjustment screw.

The average adjusting stroke range was extended from 5 mm to 25 mm with a long adjusting bolt.

#### Dimensions

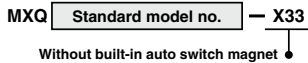


MXH  
MXS  
MXQ  
MXF  
MXW  
MXJ  
MXP  
MXY  
MTS

D-□  
-X□

# MXQ Series

## 6 Without Built-in Auto Switch Magnet Symbol -X33



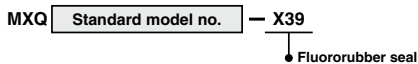
Auto switch magnet is not built in.

### Specifications

|                |                                     |
|----------------|-------------------------------------|
| Type           | Without built-in auto switch magnet |
| Bore size (mm) | 6, 8, 12, 16, 20, 25                |
| Auto switch    | Not mountable                       |

\* Specifications and dimensions other than the above are the same as the standard type.

## 7 Fluororubber Seal Symbol -X39



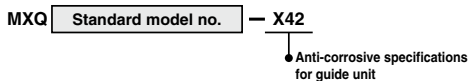
Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to fluororubber.

### Specifications

|                |                      |
|----------------|----------------------|
| Type           | Fluororubber seal    |
| Bore size (mm) | 6, 8, 12, 16, 20, 25 |
| Seal material  | Fluororubber         |

\* Specifications and dimensions other than the above are the same as the standard type.

## 8 Anti-corrosive Specifications for Guide Unit Symbol -X42



Martensitic stainless steel is used for the table and guide block. Use this treatment if more effective anti-corrosive measures are necessary. Anti-corrosive treatment is applied to the table and guide block.

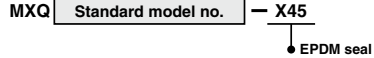
### Specifications

|                   |                                     |
|-------------------|-------------------------------------|
| Type              | Anti-corrosive guide unit           |
| Bore size (mm)    | 6, 8, 12, 16, 20, 25                |
| Surface treatment | Special anti-corrosive treatment #2 |

#1 Specifications and dimensions other than the above are the same as the standard type.

#2 Special anti-corrosive treatment makes the table and the guide block black.

## 9 EPDM Seal Symbol -X45



Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to EPDM.

### Specifications

|                |                      |
|----------------|----------------------|
| Type           | EPDM seal            |
| Bore size (mm) | 6, 8, 12, 16, 20, 25 |
| Seal material  | EPDM                 |
| Grease         | PTFE grease          |

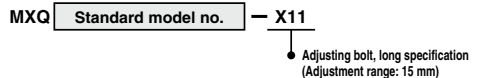
\* Specifications and dimensions other than the above are the same as the standard type.

### Warning

#### Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

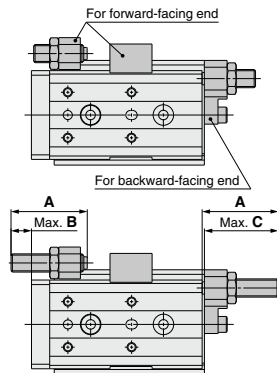
## 10 Adjusting Bolt, Long Specification (Adjustment range: 15 mm) Symbol -X11



\* -X11 is not available for those with a shock absorber (BS, BT, B).

The average adjusting stroke range was extended from 5 mm to 15 mm with a long adjusting bolt.

### Dimensions



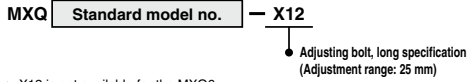
Rubber Stopper (AS, AT, A) (mm)

| Model    | A    | B   | C    |
|----------|------|-----|------|
| MXQ6(L)  | 26.5 | 10  | 25.5 |
| MXQ8(L)  | 29.5 | 10  | 28.5 |
| MXQ12(L) | 33.5 | 9   | 32.5 |
| MXQ16(L) | 34.5 | 6.5 | 33.5 |
| MXQ20(L) | 37.5 | 3.5 | 36.5 |
| MXQ25(L) | 42.5 | 2.5 | 41.5 |

Metal Stopper (CS, CT, C) (mm)

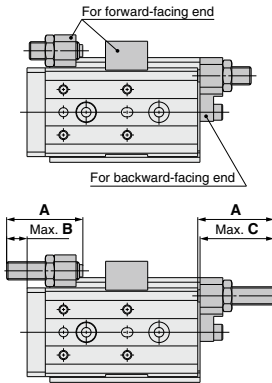
| Model    | A    | B   | C    |
|----------|------|-----|------|
| MXQ6(L)  | 25.5 | 10  | 24.5 |
| MXQ8(L)  | 28   | 9.5 | 27   |
| MXQ12(L) | 32   | 8.5 | 31   |
| MXQ16(L) | 33   | 6   | 32   |
| MXQ20(L) | 37   | 4   | 36   |
| MXQ25(L) | 40   | 1   | 39   |

**11** Adjusting Bolt, Long Specification (Adjustment range: 25 mm) **Symbol -X12**



\* -X12 is not available for the MXQ6.  
 \* -X12 is not available for those with a shock absorber (BS, BT, B).  
 The average adjusting stroke range was extended from 5 mm to 25 mm with a long adjusting bolt.

**Dimensions**



**Rubber Stopper (AS, AT, A) (mm)**

| Model           | A    | B    | C    |
|-----------------|------|------|------|
| <b>MXQ8(L)</b>  | 39.5 | 20   | 38.5 |
| <b>MXQ12(L)</b> | 43.5 | 19   | 42.5 |
| <b>MXQ16(L)</b> | 44.5 | 16.5 | 43.5 |
| <b>MXQ20(L)</b> | 47.5 | 13.5 | 46.5 |
| <b>MXQ25(L)</b> | 52.5 | 12.5 | 51.5 |

**Metal Stopper (CS, CT, C) (mm)**

| Model           | A  | B    | C  |
|-----------------|----|------|----|
| <b>MXQ8(L)</b>  | 38 | 19.5 | 37 |
| <b>MXQ12(L)</b> | 42 | 18.5 | 41 |
| <b>MXQ16(L)</b> | 43 | 16   | 42 |
| <b>MXQ20(L)</b> | 47 | 14   | 46 |
| <b>MXQ25(L)</b> | 50 | 11   | 49 |

- MXH
- MXS
- MXQ□
- MXQ**
- MXF
- MXW
- MXJ
- MXP
- MXY
- MTS

- D-□
- X□



# MXQ Series

## Specific Product Precautions 1

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 12 for Actuator and Auto Switch Precautions.

### Selection

#### ⚠ Caution

##### 1. Operate loads within the range of the operating limits.

Select the model considering maximum allowable load and allowable moment. Refer to pages 218 and 219 for the details. When actuator is used outside of operating limits, eccentric loads on guide will be in excess of this causing vibration on guide, inaccuracy, and shortened life.

##### 2. If intermediate stops by external stopper is done, avoid ejection.

If lurching occurs damage can result. When making a stop with an external stopper to be followed by continued forward movement, first supply pressure to momentarily reverse the table, then retract the intermediate stopper, and finally apply pressure to the opposite port to operate the table again.

##### 3. Do not use it in such a way that excessive external force or impact force could work on it.

This could result in damage.

### Mounting

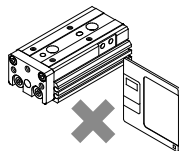
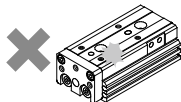
#### ⚠ Caution

##### 1. Do not scratch or dent the mounting side of the body, table or end plate.

This can cause loss of parallelism in the mounting surfaces, vibration in the guide unit and increased operating resistance, etc.

##### 2. Do not scratch or dent on the forward side of the table or guide block.

This could result in looseness and increased operating resistance, etc.



##### 3. Do not apply excessive power and load when work is mounted.

If the external force more than the allowable moment were applied, looseness of the guide unit or increased operating resistance could take place.

##### 4. Flatness of mounting surface should be less than 0.02 mm.

Poor parallelism of the workpiece mounted on the body, the base, and other parts can cause vibration in the guide unit and increased operating resistance, etc.

##### 5. Select the proper connection with the load which has external support and/or guide mechanism on the outside, and align it properly.

##### 6. Avoid contact with the body during operation.

Hands, etc., may get caught in the stroke adjuster. Install a cover as a safety measure if there are instances to be near the slide table during operation.

##### 7. Keep away from objects which are influenced by magnets.

As the body magnets are built-in, do not allow close contact with magnetic disks, magnetic cards or magnetic tapes. Data may be erased.

##### 8. Do not touch a magnet to the table section.

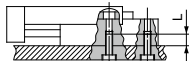
Since the table is made from the magnetic substance, it could turn to be magnetized if it stuck by a magnet, etc. That could cause auto switches, etc. to malfunction.

### Mounting

##### 9. When mounting the body, use screws with appropriate length and do not exceed the maximum tightening torque.

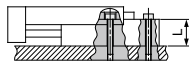
Tightening with a torque above the limit could malfunction. Whereas tightening insufficiently could result in misalignment or come to a drop.

#### 1. Lateral Mounting (Body tapped)



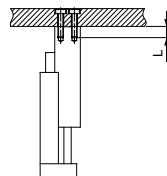
| Model     | Bolt      | Maximum tightening torque (N·m) | Maximum screw-in depth (L, mm) |
|-----------|-----------|---------------------------------|--------------------------------|
| MXQ 6 (L) | M4 x 0.7  | 2.1                             | 8                              |
| MXQ 8 (L) | M4 x 0.7  | 2.1                             | 8                              |
| MXQ12 (L) | M5 x 0.8  | 4.4                             | 10                             |
| MXQ16 (L) | M6 x 1    | 7.4                             | 12                             |
| MXQ20 (L) | M6 x 1    | 7.4                             | 12                             |
| MXQ25 (L) | M6 x 1.25 | 18.0                            | 16                             |

#### 2. Lateral Mounting (Body through-hole)



| Model     | Bolt     | Maximum tightening torque (N·m) | L mm |
|-----------|----------|---------------------------------|------|
| MXQ 6 (L) | M3 x 0.5 | 1.2                             | 10.5 |
| MXQ 8 (L) | M3 x 0.5 | 1.2                             | 12.5 |
| MXQ12 (L) | M4 x 0.7 | 2.8                             | 16   |
| MXQ16 (L) | M5 x 0.8 | 5.7                             | 21   |
| MXQ20 (L) | M5 x 0.8 | 5.7                             | 26   |
| MXQ25 (L) | M6 x 1   | 10.0                            | 32   |

#### 3. Vertical Mounting (Body tapped)



| Model     | Bolt        | Maximum tightening torque (N·m) | Maximum screw-in depth (L, mm) |
|-----------|-------------|---------------------------------|--------------------------------|
| MXQ 6 (L) | M2.5 x 0.45 | 0.5                             | 4                              |
| MXQ 8 (L) | M3 x 0.5    | 0.9                             | 4                              |
| MXQ12 (L) | M4 x 0.7    | 2.1                             | 6                              |
| MXQ16 (L) | M5 x 0.8    | 4.4                             | 7                              |
| MXQ20 (L) | M5 x 0.8    | 4.4                             | 8                              |
| MXQ25 (L) | M6 x 1      | 7.4                             | 10                             |



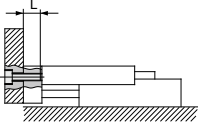
# MXQ Series Specific Product Precautions 2

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 12 for Actuator and Auto Switch Precautions.

## Mounting

### ⚠ Caution

#### 1. Front Mounting

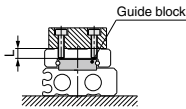


### ⚠ Caution

If long bolts are used, they can touch the table and cause malfunction, etc.

| Model     | Bolt      | Maximum tightening torque (N·m) | Maximum screw-in depth (L, mm) |
|-----------|-----------|---------------------------------|--------------------------------|
| MXQ 6 (L) | M3 x 0.5  | 0.9                             | 4.5                            |
| MXQ 8 (L) | M4 x 0.7  | 2.1                             | 5.5                            |
| MXQ12 (L) | M5 x 0.8  | 4.4                             | 7.5                            |
| MXQ16 (L) | M6 x 1    | 7.4                             | 9.5                            |
| MXQ20 (L) | M6 x 1    | 7.4                             | 12.5                           |
| MXQ25 (L) | M8 x 1.25 | 18.0                            | 14.5                           |

#### 2. Top Mounting



### ⚠ Caution

If long bolts are used, they can touch the guide block and cause malfunction, etc.

| Model     | Bolt     | Maximum tightening torque (N·m) | Maximum screw-in depth (L, mm) |
|-----------|----------|---------------------------------|--------------------------------|
| MXQ 6 (L) | M3 x 0.5 | 1.2                             | 3.5                            |
| MXQ 8 (L) | M3 x 0.5 | 1.2                             | 4.3                            |
| MXQ12 (L) | M4 x 0.7 | 2.8                             | 5.5                            |
| MXQ16 (L) | M5 x 0.8 | 5.7                             | 6.5                            |
| MXQ20 (L) | M5 x 0.8 | 5.7                             | 9                              |
| MXQ25 (L) | M6 x 1   | 10.0                            | 11                             |

10. The positioning hole on the table and the positioning hole at the bottom of the body do not have the same center. Use these holes during reinstallation after the table has been removed for the maintenance of an identical product.

## Operating Environment

### ⚠ Caution

1. Do not use in the environment, where the product could be exposed to the liquid such as cutting oil, etc.

Using in the environment where the product could be exposed to cutting oil, coolant or oil, etc. could result in looseness, increased operating resistance, or air leakage, etc.

2. Do not use in the environment, where the product could be exposed directly to the foreign matters such as powder dust, blown dust, cutting chip, spatter etc.

This could result in looseness and increased operating resistance, and air leakage, etc.

Please consult with SMC regarding use in this kind of environment.

3. Do not use in direct sunlight.

4. When there are heat sources in the surrounding area, block them off.

When there are heat sources in the surrounding area, radiated heat may cause the product's temperature to rise and exceed the operating temperature range. Block off the heat with a cover, etc.

5. Do not subject it to excessive vibration and/or impact.

Please consult with SMC regarding use in this kind of environment, as this can cause damage and malfunction.

6. Use caution for the anti-corrosiveness of linear guide section.

Martensitic stainless steel is used for the table and guide block. But, use caution that anti-corrosiveness is inferior to the austenitic stainless steel. Especially, rust may be generated in an environment where waterdrops are likely to adhere due to condensation, etc.

## Caution for Adjuster Option

### Stroke Adjuster

### ⚠ Caution

1. Do not replace with the bolt other than the original adjusting bolt.

This could result in looseness and damage due to impact forces, etc.

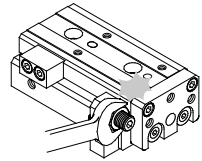
2. Follow the table for tightening torque of lock nuts.

Insufficient torque will cause a decrease in the positioning accuracy.

| Model     | Tightening torque (N·m) |
|-----------|-------------------------|
| MXQ 6 (L) | 3.0                     |
| MXQ 8 (L) | 5.0                     |
| MXQ12 (L) | 12.5                    |
| MXQ16 (L) | 25.0                    |
| MXQ20 (L) | 43.0                    |
| MXQ25 (L) | 69.0                    |

3. When stroke adjuster is adjusted, do not hit the table with the wrench.

This could result in looseness.



MXH

MXS

MXQ

MXQ

MXF

MXW

MXJ

MXP

MXY

MTS

D-□

-X□



# MXQ Series Specific Product Precautions 3

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 12 for Actuator and Auto Switch Precautions.

## Caution on Adjuster Option

### With Shock Absorber

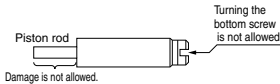
#### ⚠ Caution

1. Do not rotate the screw set on bottom of shock absorber.

This is not an adjusting screw. Turning it could cause oil leakage.

2. Do not scratch the exposed portion of the piston rod.

Durability could be degraded and lead to return defect.



3. Shock absorber is considered a consumable component. When energy absorption is decreased, replace it.

| Applicable size        | Tightening torque (N-m) |
|------------------------|-------------------------|
| MXQ 8 (L)<br>MXQ12 (L) | 1.67                    |
| MXQ16 (L)              | 3.14                    |
| MXQ20 (L)<br>MXQ25 (L) | 10.8                    |

## Service Life and Replacement Period of Shock Absorber

#### ⚠ Caution

1. Allowable operating cycle under the specifications set in this catalog is shown below.

1.2 million cycles RB08□□

2 million cycles RB10□□ to RB14□□

(Note) Specified service life (suitable replacement period) is the value at room temperature (20 to 25°C). The period may vary depending on the temperature and other conditions. In some cases the absorber may need to be replaced before the allowable operating cycle above.

| Applicable size | Shock absorber model |
|-----------------|----------------------|
| MXQ 8 (L)       | RB0805               |
| MXQ12 (L)       | RB0806               |
| MXQ16 (L)       | RB1007               |
| MXQ20 (L)       | RB1411               |
| MXQ25 (L)       | RB1412               |

## Caution on Mounting Adjuster Option

### Rubber Stopper

#### ⚠ Caution

1. Use caution that the length of the bolts for mounting on the body and the bolts for the table is different from each other in some models.

Stroke adjuster at extension end (AS) of MXQ6 and 8 has the different length of a hexagon socket head cap screw for mounting on the body and on the table. Use sufficient care for mounting. If assembled by making an error in length, it could cause looseness or lead to malfunction.

2. Follow the table below for tightening torque of mounting bolts.

Insufficient torque will cause a decrease in the positioning accuracy and lead to malfunction.

| Model     | Stroke adjuster at extension end (AS) |                         |                        |                         | Stroke adjuster at retraction end (AT) |                         |
|-----------|---------------------------------------|-------------------------|------------------------|-------------------------|--|-------------------------|
|           | Body mounting section                 |                         | Table mounting section |                         | Thread size                            | Tightening torque (N-m) |
|           | Thread size                           | Tightening torque (N-m) | Thread size            | Tightening torque (N-m) |  |                         |
| MXQ 6 (L) | M2.5 x 6                              | 0.5                     | M2.5 x 8               | 0.5                     | M2.5 x 6                               | 0.5                     |
| MXQ 8 (L) | M3 x 8                                | 0.9                     | M3 x 10                | 0.9                     | M3 x 8                                 | 0.9                     |
| MXQ12 (L) | M4 x 12                               | 2.1                     | M4 x 12                | 2.1                     | M4 x 10                                | 2.1                     |
| MXQ16 (L) | M5 x 16                               | 4.4                     | M5 x 16                | 4.4                     | M5 x 12                                | 4.4                     |
| MXQ20 (L) | M6 x 16                               | 7.0                     | M6 x 16                | 7.0                     | M5 x 14                                | 4.4                     |
| MXQ25 (L) | M8 x 18                               | 18.0                    | M8 x 18                | 18.0                    | M6 x 18                                | 7.0                     |

### Shock Absorber

#### ⚠ Caution

1. Use caution that the length of the bolts for mounting on the body and the bolts for the table is different from each other in some models.

Shock absorber at extension end (BS) for MXQ20 and 25 has the different length of a hexagon socket head cap screw for mounting on the body and on the table. Use sufficient care for mounting.

If assembled by making an error in length, it could cause looseness or lead to malfunction.

2. Follow the table below for tightening torque of mounting bolts.

Insufficient torque will cause a decrease in the positioning accuracy and lead to malfunction.

| Model     | Shock absorber at extension end (BS) |                         |                        |                         | Shock absorber at retraction end (BT) |                         |
|-----------|--------------------------------------|-------------------------|------------------------|-------------------------|---------------------------------------|-------------------------|
|           | Body mounting section                |                         | Table mounting section |                         | Thread size                           | Tightening torque (N-m) |
|           | Thread size                          | Tightening torque (N-m) | Thread size            | Tightening torque (N-m) |                                       |                         |
| MXQ 8 (L) | M3 x 12                              | 0.9                     | M3 x 12                | 0.9                     | M3 x 8                                | 0.9                     |
| MXQ12 (L) | M4 x 12                              | 2.1                     | M4 x 12                | 2.1                     | M4 x 10                               | 2.1                     |
| MXQ16 (L) | M5 x 16                              | 4.4                     | M5 x 16                | 4.4                     | M5 x 12                               | 4.4                     |
| MXQ20 (L) | M6 x 18                              | 7.0                     | M6 x 20                | 7.0                     | M5 x 14                               | 4.4                     |
| MXQ25 (L) | M8 x 18                              | 18.0                    | M8 x 20                | 18.0                    | M6 x 18                               | 7.0                     |

### Metal Stopper

#### ⚠ Caution

1. Use caution that the length of the bolts for mounting on the body and the bolts for the table is different from each other in some models.

Stroke adjuster at extension end (CS) of MXQ6, 8, 20 and 25 has the different length of a hexagon socket head cap screw for mounting on the body and on the table. Use sufficient care for mounting.

If assembled by making an error in length, it could cause looseness or lead to malfunction.

2. Follow the table below for tightening torque of mounting bolts.

Insufficient torque will cause a decrease in the positioning accuracy and lead to malfunction.

| Model     | Stroke adjuster at extension end (CS) |                         |                        |                         | Stroke adjuster at retraction end (CT) |                         |
|-----------|---------------------------------------|-------------------------|------------------------|-------------------------|--|-------------------------|
|           | Body mounting section                 |                         | Table mounting section |                         | Thread size                            | Tightening torque (N-m) |
|           | Thread size                           | Tightening torque (N-m) | Thread size            | Tightening torque (N-m) |  |                         |
| MXQ 6 (L) | M2.5 x 6                              | 0.5                     | M2.5 x 8               | 0.5                     | M2.5 x 6                               | 0.5                     |
| MXQ 8 (L) | M3 x 8                                | 0.9                     | M3 x 10                | 0.9                     | M3 x 8                                 | 0.9                     |
| MXQ12 (L) | M4 x 12                               | 2.1                     | M4 x 12                | 2.1                     | M4 x 10                                | 2.1                     |
| MXQ16 (L) | M5 x 16                               | 4.4                     | M5 x 16                | 4.4                     | M5 x 12                                | 4.4                     |
| MXQ20 (L) | M6 x 16                               | 7.0                     | M6 x 20                | 7.0                     | M5 x 14                                | 4.4                     |
| MXQ25 (L) | M8 x 18                               | 18.0                    | M8 x 20                | 18.0                    | M6 x 18                                | 7.0                     |





# MXQ Series Specific Product Precautions 4

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 12 for Actuator and Auto Switch Precautions.

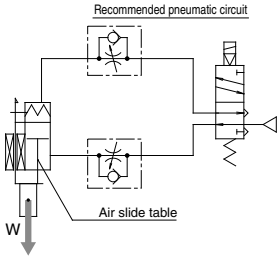
## Caution on Handling Functional Option

### With End Lock

#### ⚠ Caution

1. Use 2 position, 4 or 5 port solenoid valves.

A malfunction may occur with a control circuit that exhausts from both ports, such as exhaust center 3 position valves.



2. Be sure to use meter-out speed control valves.

If it is used in meter-in speed control or without a speed controller, it may result in malfunction.

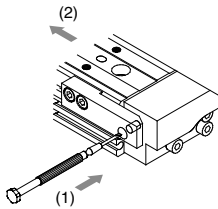
3. When releasing the end lock manually, be sure that air pressure is released.

If the end lock is unlocked while the air pressure still remains, it will lead to damage a workpiece, etc. due to unexpected lurching.

#### How to Unlock the End Lock

• Before proceeding, make sure that there is no residual air pressure.

- (1) Push down the lock piston pin.
- (2) Slide the table forward.

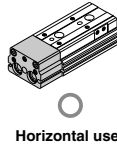
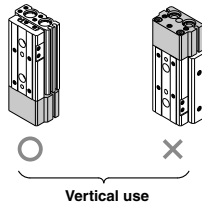


### With Buffer Mechanism

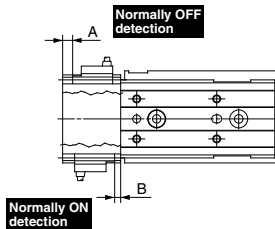
#### ⚠ Caution

1. It must be oriented as shown below.

In horizontal operation, the buffer may travel the stroke length and activate the auto switch depending on the load and the speed. Therefore, adjust the speed according to the load.



2. Auto switch with buffer function: Refer to the following table for the proper mounting positions for detection at stroke end.



• Adjust the auto switch position according to the load and the speed.

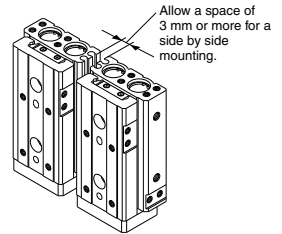
| Model     | (mm) |   |
|-----------|------|---|
|           | A    | B |
| MXQ 6 (L) | 2    | 3 |
| MXQ 8 (L) | 2.5  |   |
| MXQ12 (L) | 4    |   |
| MXQ16 (L) | 5    |   |
| MXQ20 (L) | 5.5  |   |
| MXQ25 (L) | 10   |   |

## Caution on Handling Symmetric Type

### ⚠ Caution

1. Maintain a minimum spacing of at least 3 mm if standard type and symmetric type are used side by side.

It malfunctions if standard type and symmetric type are used close side by side.



MXH

MXS

MXQ

MXQ

MXF

MXW

MXJ

MXP

MXY

MTS

D-□

-X□