



MU Series Mini Free Mount Cylinder

Product series

| Series | Acting type | Bore size | Collocation of sensor switch | |
|-----------------------------|---------------|--------------|------------------------------|--------|
| | | | DS1-H | DS1-HL |
| Double acting type: MU | Double acting | 6 8 10 | ● | ● |
| Single acting-push: MSU | Single acting | | ● | ● |
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MU

Installation and application

- When load changes in the work, the cylinder with abundant output capacity shall be selected.
- Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion.
- Necessary protection measure shall be taken in the environment with higher humidity, much dust or water drops, oil dust and welding dregs.
- Dirty substances in the pipe must be eliminated before cylinder is connected with pipeline to prevent the entrance of particles into the cylinder.
- The medium used by cylinder shall be filtered to 40 μm or below.
- As both of the front cover and piston of the cylinder are short, typically too large stroke can not be selected.
- Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
- The cylinder shall avoid the influence of side load in operation to maintain the normal work of cylinder and extend the service life.
- If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface. Anti-dust caps shall be added in air inlet and outlet ports. The front and back cover can not be dismantled, which shall be especially noticed.

Criteria for selection: Cylinder thrust

Unit: Newton(N)

| Bore size (mm) | Rod size (mm) | Acting type | Pressure area (mm ²) | Operating pressure(MPa) | | | | | | | |
|----------------|---------------|-------------------------|----------------------------------|-------------------------|-----|------|------|------|------|------|------|
| | | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | |
| 6 | 4 | Single acting-Push side | 28.3 | - | - | 5.1 | 7.9 | 10.7 | 13.5 | 16.4 | |
| | | Double acting | Push side | 28.3 | - | 5.7 | 8.5 | 11.3 | 14.2 | 17.0 | 19.8 |
| | | | Pull side | 15.7 | - | 3.1 | 4.7 | 6.3 | 7.9 | 9.4 | 11.0 |
| 8 | 5 | Single acting-Push side | 50.3 | - | - | 8.3 | 13.4 | 18.4 | 23.4 | 28.5 | |
| | | Double acting | Push side | 50.3 | - | 10.1 | 15.1 | 20.1 | 25.2 | 30.2 | 35.2 |
| | | | Pull side | 30.6 | - | 6.1 | 9.2 | 12.2 | 15.3 | 18.4 | 21.4 |
| 10 | 6 | Single acting-Push side | 78.5 | - | - | 8.7 | 16.5 | 24.4 | 32.2 | 40.1 | 47.9 |
| | | Double acting | Push side | 78.5 | 7.9 | 15.7 | 23.6 | 31.4 | 39.3 | 47.1 | 55.0 |
| | | | Pull side | 50.3 | 5.0 | 10.1 | 15.1 | 20.1 | 25.2 | 30.2 | 35.2 |



Mini free mount cylinder



MU Series



Symbol



Product feature

1. JIS standard is implemented.
2. Cylinder can be mounted from 4 directions, and convenient to install and use.
3. Multitudinous cylinder can be mounted side by side to save space.
4. The front end of the cylinder is designed with boss. Centering can be done easily.
5. The internal diameter of the body is treated with rolling followed by the treatment of hard anodizing, forming an excellent abrasion resistance and durability.
6. With magnet type is of the feature of position sensing.
7. There are magnetic switch slots around the cylinder body, which is convenient to install inducting switch.
8. The seal of piston adopts heterogeneous two-way seal structure. It has compact dimension and the function of grease reservation.

Specification

| Bore size(mm) | 6 | 8 | 10 |
|--------------------|---|------------------------|------------------------------|
| Acting type | MU: Double acting | | MSU: Single acting-Push type |
| Fluid | Air(to be filtered by 40 μm filter element) | | |
| Operating pressure | Double acting | 0.15~0.7MPa(22~100psi) | 0.1~0.7MPa(14~100psi) |
| | Single acting | 0.3~0.7MPa(44~100psi) | 0.2~0.7MPa(29~100psi) |
| Proof pressure | 1.05MPa(150psi) | | |
| Temperature °C | -20~80 | | |
| Speed range mm/s | Double acting: 30~500 | | Single acting: 50~500 |
| Stroke tolerance | +1.0 0 | | |
| Cushion type | No | | |
| Port size | M3 × 0.5 | | |

Add) Refer to P419~442 for detail of sensor switch.

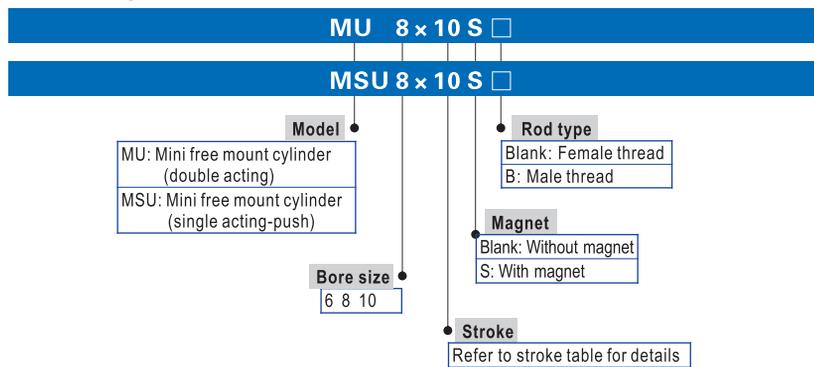
Stroke

| Bore size (mm) | | Standard stroke (mm) | Max. std stroke |
|----------------|---------------|----------------------|-----------------|
| 6 | Double acting | 4 6 8 10 15 20 25 30 | 30 |
| | Single acting | 4 6 8 | 8 |
| 8 | Double acting | 4 6 8 10 15 20 25 30 | 30 |
| | Single acting | 4 6 8 10 | 10 |
| 10 | Double acting | 4 6 8 10 15 20 25 30 | 30 |
| | Single acting | 4 6 8 10 | 10 |

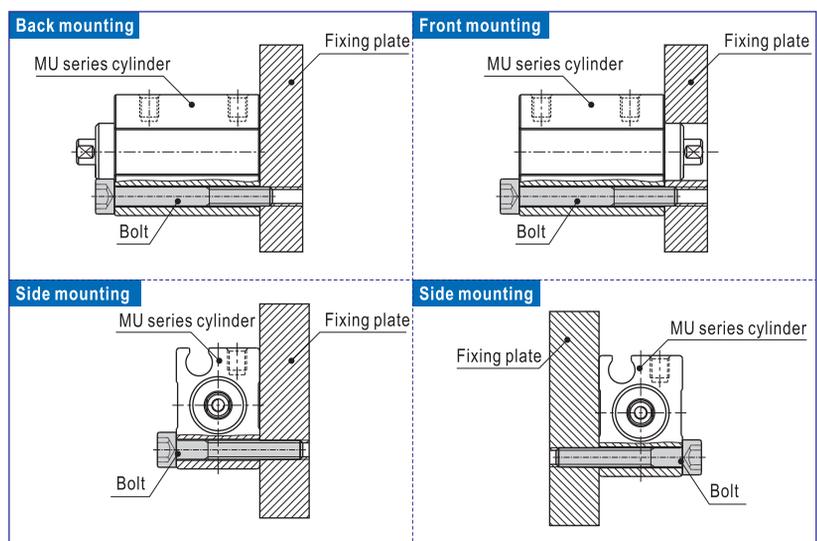
Note) 1. Please contact the company for other special strokes.

2. The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 23mm stroke cylinder has the same dimensions of 25 std. stroke cylinder.

Ordering code



Mounting type

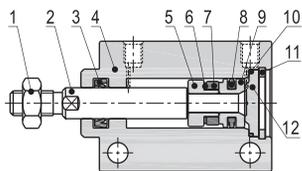


Mini free mount cylinder

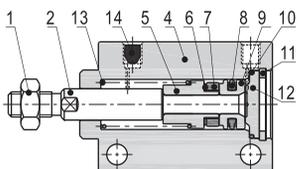
MU Series

Inner structure and material of major parts

MU-S



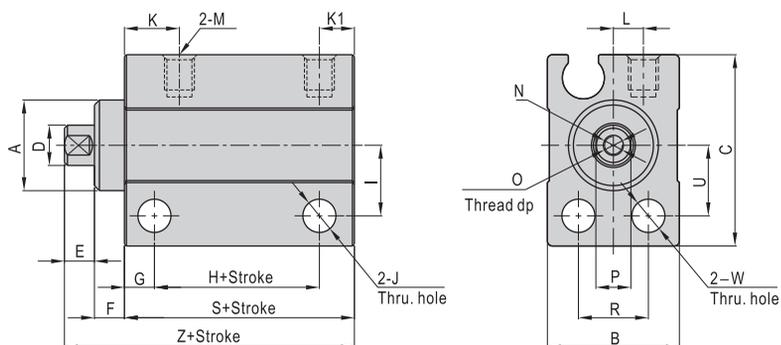
MSU-S



| NO. | Item | Material |
|-----|---------------|---------------------------------------|
| 1 | Rod nut | Carbon steel |
| 2 | Piston rod | Stainless steel |
| 3 | O-ring | NBR |
| 4 | Body | Aluminum alloy |
| 5 | Magnet holder | Brass |
| 6 | Magnet washer | NBR |
| 7 | Magnet | Sintered metal (Neodymium-iron-boron) |
| 8 | Piston seal | NBR |
| 9 | Piston | Brass |
| 10 | O-ring | NBR |
| 11 | C clip | Spring steel |
| 12 | Back cover | Aluminum alloy |
| 13 | Spring | Spring steel |
| 14 | Silencer | Agglomerated by brass grain |

Dimensions

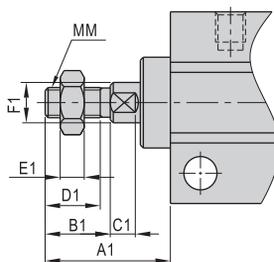
Model: MU/MU-S/MSU/MSU-S



| Bore size\Item | A | B | C | D | E | F | G | H | | I | J | K | K1 | L | M |
|----------------|----|------|----|---|---|---|---|-------------|----------------|-----|-----|-----|-----|-----|----------|
| | | | | | | | | With magnet | Without magnet | | | | | | |
| 6 | 9 | 13 | 19 | 4 | 3 | 3 | 3 | 11.5 | 6.5 | 7 | 3.3 | 5.5 | 3.5 | 3 | M3 × 0.5 |
| 8 | 11 | 13 | 21 | 5 | 3 | 3 | 3 | 11.5 | 6.5 | 8 | 3.3 | 5.5 | 3.5 | 3 | M3 × 0.5 |
| 10 | 12 | 13.5 | 22 | 6 | 3 | 3 | 3 | 11.5 | 6.5 | 8.5 | 3.3 | 5.5 | 3.5 | 3.2 | M3 × 0.5 |

| Bore size\Item | N | O | P | R | S | | U | W | Z | |
|----------------|-------------|---|-----|---|-------------|----------------|-----|-----|-------------|----------------|
| | | | | | With magnet | Without magnet | | | With magnet | Without magnet |
| 6 | M2.5 × 0.45 | 5 | 3.5 | 7 | 18 | 13 | 7 | 3.3 | 24 | 19 |
| 8 | M3 × 0.5 | 6 | 4.5 | 7 | 18 | 13 | 8 | 3.3 | 24 | 19 |
| 10 | M3 × 0.5 | 6 | 5 | 7 | 18 | 13 | 8.5 | 3.3 | 24 | 19 |

Model: MU-B/MU-S-B/MSU-B/MSU-S-B



| Bore size\Item | A1 | B1 | C1 | D1 | E1 | F1 | MM |
|----------------|------|------|-----|-----|-----|----|----------|
| 6 | 12.5 | 6.5 | 2.5 | 5.5 | 2.4 | 4 | M3 × 0.5 |
| 10 | 14.5 | 8.5 | 2.5 | 7 | 3 | 5 | M4 × 0.7 |
| 16 | 16.5 | 10.5 | 2.5 | 9 | 4 | 6 | M5 × 0.8 |



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