



# 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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## 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  $\mu$ m 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 <sup>2</sup> )	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
		Double acting 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
		Double acting 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
		Double acting Pull side	50.3	5.0	10.1	15.1	20.1	25.2	30.2	35.2



MU



# Mini free mount cylinder

## MU Series



### Specification

Bore size(mm)	6	8	10
Acting type	MU : Double acting    MSU : Single acting-Push type		
Fluid	Air(to be filtered by 40 μ m filter element)		
Operating pressure	Double acting Single acting	0.15~0.7MPa(22~100psi) 0.3~0.7MPa(44~100psi)	0.1~0.7MPa(14~100psi) 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		

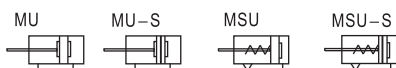
Add) Refer to P397~420 for detail of sensor switch.

### 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.

### Symbol



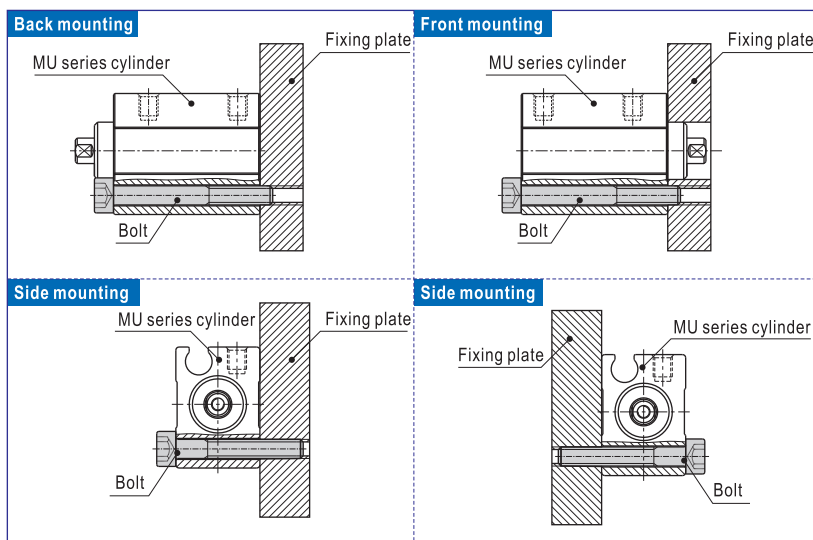
### Product feature

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.

### Ordering code

<b>MU 8 × 10 S</b>	
<b>MSU 8 × 10 S</b>	
<b>Model</b>	<ul style="list-style-type: none"> <li>MU: Mini free mount cylinder (double acting)</li> <li>MSU: Mini free mount cylinder (single acting-push)</li> </ul>
<b>Bore size</b>	6 8 10
<b>Rod type</b>	<ul style="list-style-type: none"> <li>Blank: Female thread</li> <li>B: Male thread</li> </ul>
<b>Magnet</b>	<ul style="list-style-type: none"> <li>Blank: Without magnet</li> <li>S: With magnet</li> </ul>
<b>Stroke</b>	Refer to stroke table for details

### Mounting type

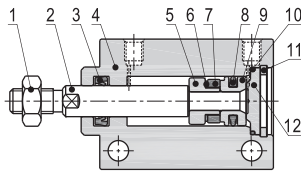


# Mini free mount cylinder

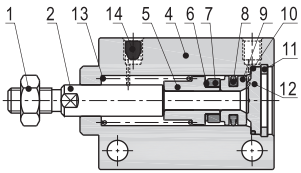
## MU Series

### Inner structure and material of major parts

#### MU-S



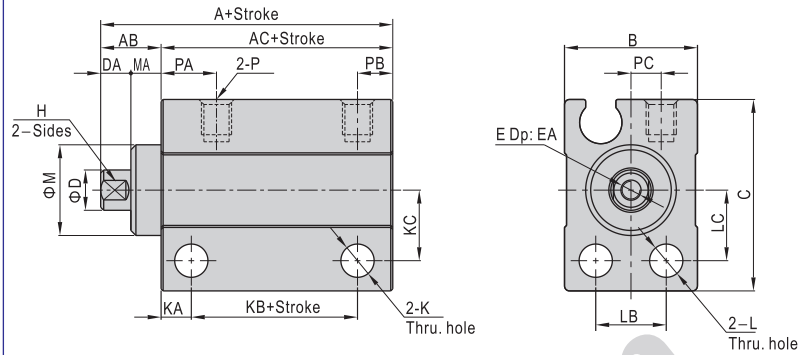
#### MSU-S



NO.	Item	Material
1	Rod nut	Stainless 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

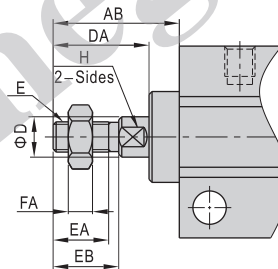
#### Model: MU\MU-S\MSU\MSU-S



Bore size\Item	A	AC	A	AC	AB	B	C	D	DA	E	EA	H
	With magnet	Without magnet	With magnet	Without magnet								
6	24	18	19	13	6	13	19	4	3	M2.5 × 0.45	5	3.5
8	24	18	19	13	6	13	21	5	3	M3 × 0.5	6	4.5
10	24	18	19	13	6	13.5	22	6	3	M3 × 0.5	6	5

Bore size\Item	K	KA	KB	KC	L	LB	LC	M	MA	P	PA	PB	PC
	With magnet	Without magnet	With magnet	Without magnet									
6	3.3	3	11.5	6.5	7	3.3	7	7	9	3	M3 × 0.5	5.5	3.5
8	3.3	3	11.5	6.5	8	3.3	7	8	11	3	M3 × 0.5	5.5	3.5
10	3.3	3	11.5	6.5	8.5	3.3	7	8.5	12	3	M3 × 0.5	5.5	3.5

#### Model: MU-B\MU-S-B\MSU-B\MSU-S-B



Bore size\Item	AB	D	DA	E	EA	EB	FA	H
6	12.5	4	9.5	M3 × 0.5	5.5	6.5	2.4	3.5
8	14.5	5	11.5	M4 × 0.7	7	8.5	3	4.5
10	16.5	6	13.5	M5 × 0.8	9	10.5	4	5



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Note



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