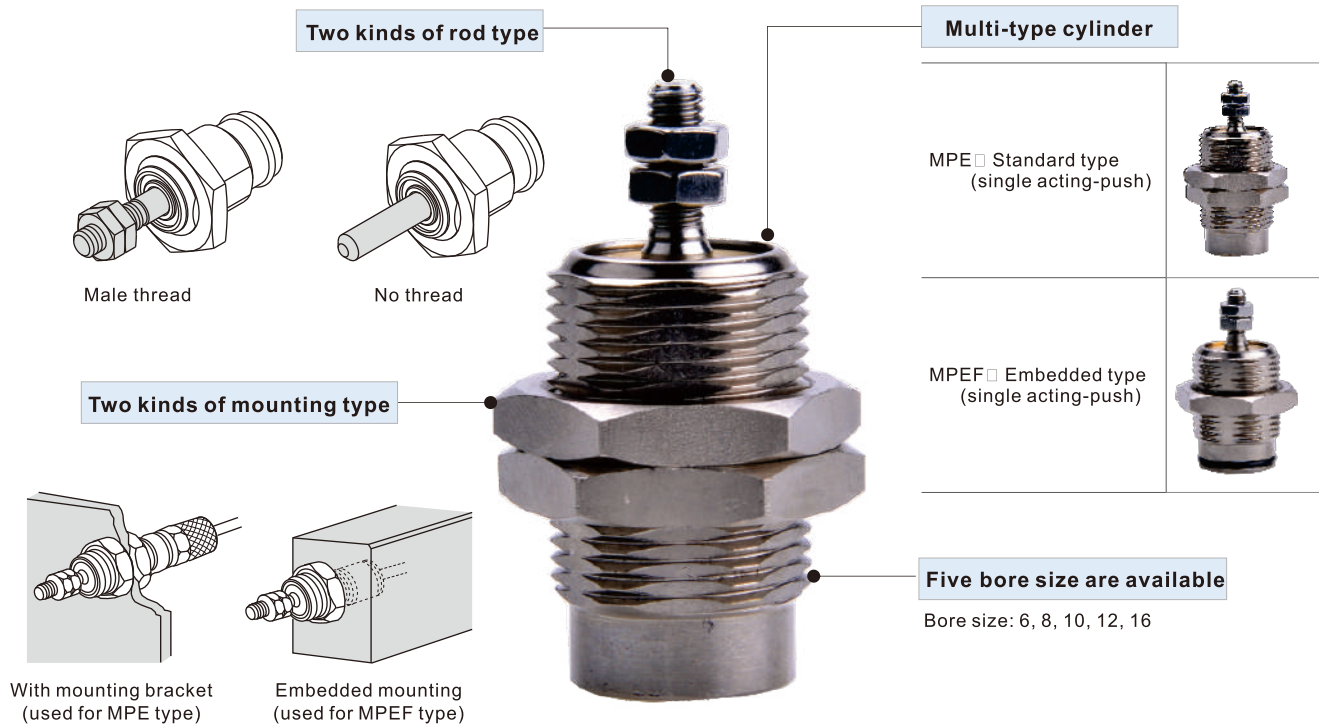




# MPE Series Threaded Cylinder

## Compendium of MPE Series



### Criteria for selection: Cylinder thrust

Unit: Newton(N)

| Model       | Bore size | Rod size | 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   |       |
| MPE<br>MPEF | 6         | 3        | Single acting | Push side                       | 28.3                    | -   | 1.8  | 4.6  | 7.4  | 10.3 | 13.1  | 15.9  |
|             |           |          | Pull side     | 21.2                            |                         |     | 1.6  |      |      |      |       |       |
|             | 8         | 4        | Single acting | Push side                       | 50.3                    | -   | 4.8  | 9.8  | 14.8 | 19.9 | 24.9  | 29.9  |
|             |           |          | Pull side     | 37.7                            |                         |     | 2.7  |      |      |      |       |       |
|             | 10        | 5        | Single acting | Push side                       | 78.5                    | -   | 9.4  | 17.3 | 25.1 | 33.0 | 40.8  | 48.7  |
|             |           |          | Pull side     | 58.9                            |                         |     | 2.8  |      |      |      |       |       |
|             | 12        | 6        | Single acting | Push side                       | 113.0                   | -   | 13.3 | 24.6 | 35.9 | 47.2 | 58.5  | 69.8  |
|             |           |          | Pull side     | 84.7                            |                         |     | 3.45 |      |      |      |       |       |
|             | 16        | 6        | Single acting | Push side                       | 201.0                   | -   | 29.4 | 49.5 | 69.6 | 89.7 | 109.8 | 129.9 |
|             |           |          | Pull side     | 172.7                           |                         |     | 4.8  |      |      |      |       |       |

### 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 40μm 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.



# Threaded cylinder

## MPE Series



### Specification

| Bore size(mm)      | 6  | 8 | 10                     | 12 | 16 |
|--------------------|--|---|------------------------|----|----|
| Acting type        | Single acting                              |   |                        |    |    |
| Fluid              | Air(to be filtered by 40µm filter element) |   |                        |    |    |
| Operating pressure | 0.2~0.7MPa(28~100psi)                      |   | 0.15~0.7MPa(22~100psi) |    |    |
| Proof pressure     | 1.2MPa(175psi)                             |   |                        |    |    |
| Mounting type      | Embedded type, End inlet type              |   |                        |    |    |
| Temperature □      | -20~70                                     |   |                        |    |    |
| Speed range mm/s   | 50~500                                     |   |                        |    |    |
| Stroke tolerance   | +1.0<br>0                                  |   |                        |    |    |
| Cushion type       | No cushion                                 |   |                        |    |    |
| Port size          | M5×0.8                                     |   |                        |    |    |

### Symbol



### Product feature

1. It is compact, small and light.
2. Multi cylinders can be integrated to save room.
3. Mounting accessories are not necessary.
4. Cylinders of various specifications are optional.

### Stroke

| Bore size (mm) | Standard stroke (mm) | Max.std stroke |
|----------------|----------------------|----------------|
| 6              | 5 10 15              | 15             |
| 8              | 5 10 15              | 15             |
| 10             | 5 10 15              | 15             |
| 12             | 5 10 15              | 15             |
| 16             | 5 10 15              | 15             |

[Note] Please contact the company for other special strokes.

### Ordering code

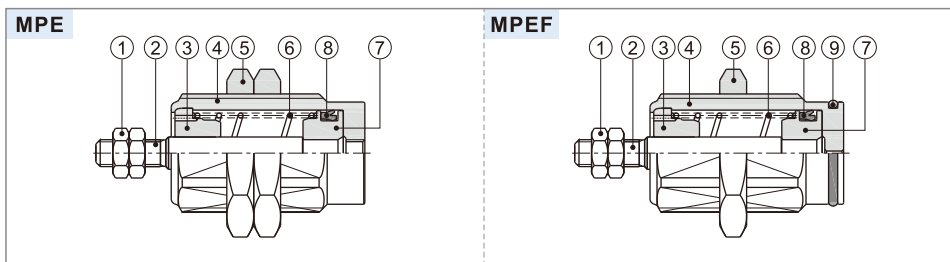
MPE 16 × 15 N

MPEF 16 × 15 N

① ② ③ ④

| ① Model   | ② Bore size  | ③ Stroke                          | ④ Rod type                         |
|---|--------------|-----------------------------------|------------------------------------|
| MPE: Standard type (single acting-push)<br>MPEF: Embedded type (single acting-push) | 6 8 10 12 16 | Refer to stroke table for details | Blank: Male thread<br>N: No thread |

### Inner structure and material of major parts



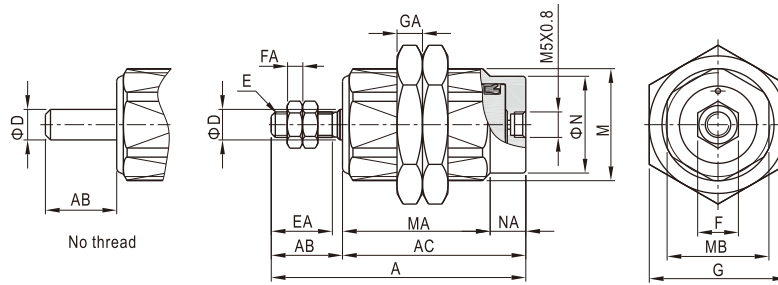
| NO. | Item        | Material              |
|-----|-------------|-----------------------|
| 1   | Rod nut     | Stainless steel       |
| 2   | Piston rod  | Stainless steel       |
| 3   | Front cover | Brass                 |
| 4   | Body        | Brass (nickel-plated) |
| 5   | Body nut    | Carbon steel          |
| 6   | Spring      | Spring steel          |
| 7   | Piston      | Stainless steel       |
| 8   | Piston seal | NBR                   |
| 9   | O-ring      | NBR                   |

# Threaded cylinder

## MPE Series

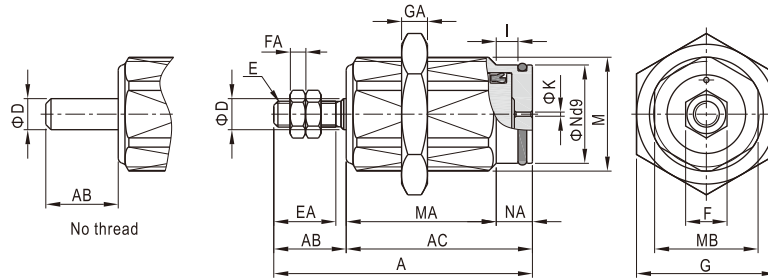
### Dimensions

#### MPE

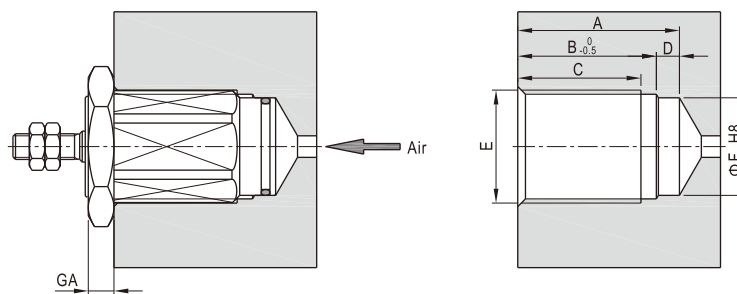


| Bore size/Item<br>Stroke | A    |      |      | AB | AC   |      |      | MA   |      |      | D | E      | EA | F   | FA  | G  | GA | M       | MB | N   | NA |
|--------------------------|------|------|------|----|------|------|------|------|------|------|---|--------|----|-----|-----|----|----|---------|----|-----|----|
|                          | 5St  | 10St | 15St |    | 5St  | 10St | 15St | 5St  | 10St | 15St |   |        |    |     |     |    |    |         |    |     |    |
| 6                        | 30.5 | 37.5 | 44.5 | 9  | 21.5 | 28.5 | 35.5 | 15.5 | 22.5 | 29.5 | 3 | M3×0.5 | 7  | 5.5 | 2.4 | 14 | 4  | M10×1.0 | 9  | 8.5 | 6  |
| 8                        | 34.5 | 41.5 | 48.5 | 12 | 22.5 | 29.5 | 36.5 | 16.5 | 23.5 | 30.5 | 4 | M4×0.7 | 10 | 7   | 3   | 17 | 4  | M12×1.0 | 11 | 10  | 6  |
| 10                       | 35   | 42   | 49   | 12 | 23   | 30   | 37   | 17   | 24   | 31   | 5 | M4×0.7 | 10 | 7   | 3   | 19 | 4  | M16×1.5 | 14 | 12  | 6  |
| 12                       | 37.5 | 43.5 | 49.5 | 12 | 25.5 | 31.5 | 37.5 | 19.5 | 25.5 | 31.5 | 6 | M5×0.8 | 10 | 8   | 3   | 24 | 5  | M18×1.5 | 16 | 15  | 6  |
| 16                       | 40.5 | 46.5 | 52.5 | 14 | 26.5 | 32.5 | 38.5 | 19.5 | 25.5 | 31.5 | 6 | M5×0.8 | 12 | 8   | 3   | 27 | 5  | M22×1.5 | 20 | 19  | 7  |

#### MPEF



| Bore size/Item<br>Stroke | A    |      |      | AB | AC   |      |      | MA   |      |      | D | E      | EA | F   | FA  | G  | GA | I   | M       | MB | N   | NA  | K   |
|--------------------------|------|------|------|----|------|------|------|------|------|------|---|--------|----|-----|-----|----|----|-----|---------|----|-----|-----|-----|
|                          | 5St  | 10St | 15St |    | 5St  | 10St | 15St | 5St  | 10St | 15St |   |        |    |     |     |    |    |     |         |    |     |     |     |
| 6                        | 28   | 35   | 42   | 9  | 19   | 26   | 33   | 13   | 20   | 27   | 3 | M3×0.5 | 7  | 5.5 | 2.4 | 14 | 4  | 2.5 | M10×1.0 | 9  | 8.5 | 6   | 0.6 |
| 8                        | 32   | 39   | 46   | 12 | 20   | 27   | 34   | 14   | 21   | 28   | 4 | M4×0.7 | 10 | 7   | 3   | 17 | 4  | 2.5 | M12×1.0 | 11 | 10  | 6   | 0.8 |
| 10                       | 32.5 | 39.5 | 46.5 | 12 | 20.5 | 27.5 | 34.5 | 14   | 21   | 28   | 5 | M4×0.7 | 10 | 7   | 3   | 19 | 4  | 2.5 | M16×1.5 | 14 | 12  | 6.5 | 1   |
| 12                       | 35   | 41   | 47   | 12 | 23   | 29   | 35   | 16.5 | 22.5 | 28.5 | 6 | M5×0.8 | 10 | 8   | 3   | 24 | 5  | 2.7 | M18×1.5 | 16 | 15  | 6.5 | 1.3 |
| 16                       | 38   | 44   | 50   | 14 | 24   | 30   | 36   | 17   | 23   | 29   | 6 | M5×0.8 | 12 | 8   | 3   | 27 | 5  | 2.7 | M22×1.5 | 20 | 19  | 7   | 1.7 |



| Bore size/Item<br>Stroke | A    |      |      | B    |      |      | C    |      |      | D   | E       | F   | GA |
|--------------------------|------|------|------|------|------|------|------|------|------|-----|---------|-----|----|
|                          | 5St  | 10St | 15St | 5St  | 10St | 15St | 5St  | 10St | 15St |     |         |     |    |
| 6                        | 14.5 | 21.5 | 28.5 | 11   | 18   | 25   | 8.5  | 15.5 | 22.5 | 3.5 | M10×1.0 | 8.5 | 4  |
| 8                        | 15   | 22   | 29   | 11.5 | 18.5 | 25.5 | 9    | 16   | 23   | 3.5 | M12×1.0 | 10  | 4  |
| 10                       | 15.5 | 22.5 | 29.5 | 12   | 19   | 26   | 9    | 16   | 23   | 3.5 | M16×1.5 | 12  | 4  |
| 12                       | 17   | 23   | 29   | 13.5 | 19.5 | 25.5 | 10.5 | 16.5 | 22.5 | 3.5 | M18×1.5 | 15  | 5  |
| 16                       | 18   | 24   | 30   | 14   | 20   | 26   | 11   | 17   | 23   | 4   | M22×1.5 | 19  | 5  |

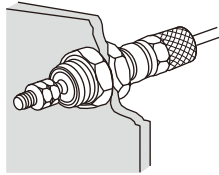
[Note] Size E and F must be concentric.

# Threaded cylinder

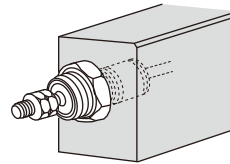
## MPE Series

### Mounting and use

1. Select applicable cylinder model and mounting method according to actual situation



With mounting bracket (used for MPE type)



Embedded mounting (used for MPEF type)

2. MPE series are single acting cylinders. No load is allowed at the piston rod when it is on the retraction state.

3. The force of the spring of the cylinder is for retraction of the piston rod only. The piston rod may not retract to the bottom end if there's any load.

4. Make sure the rod end lateral load is allowable. Otherwise may cause damage to the cylinder or reduce the service life.

