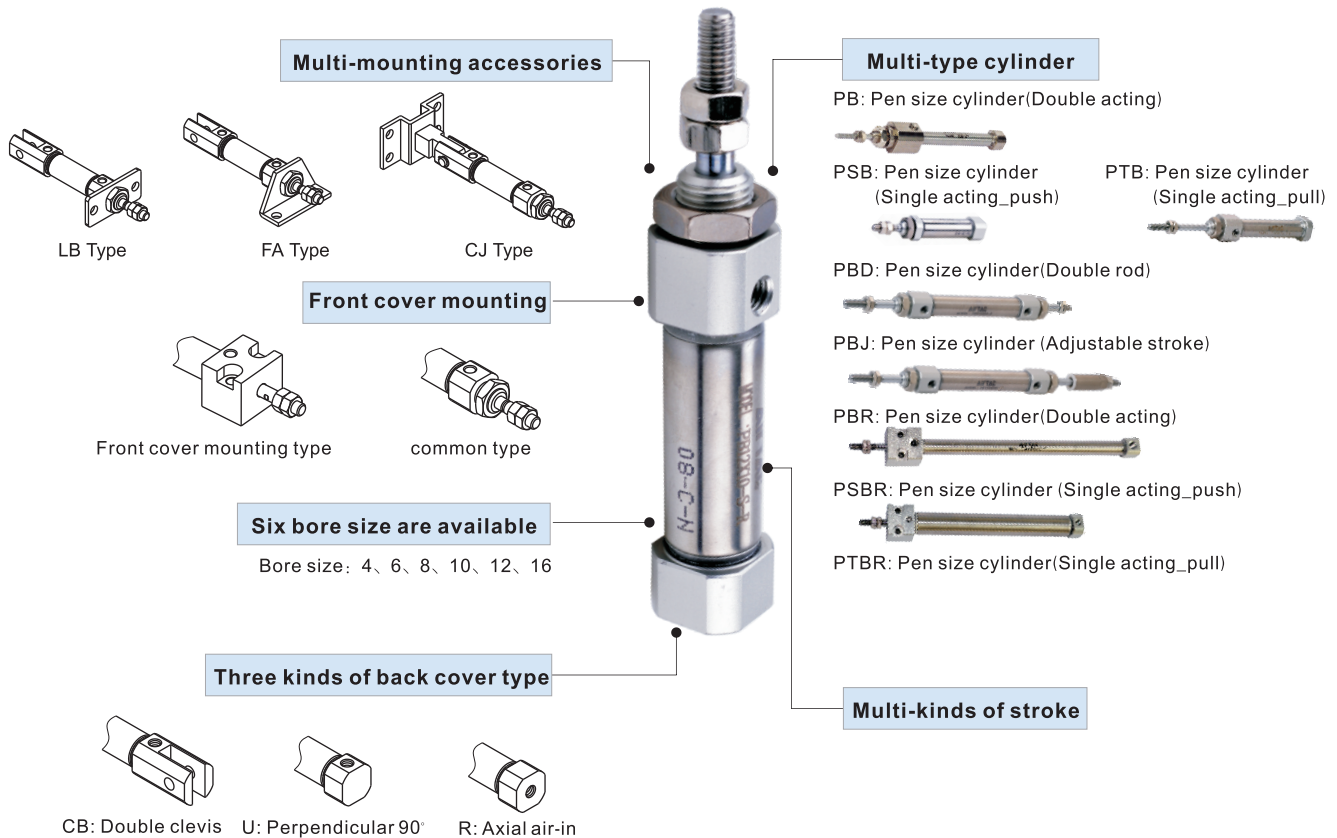




Pen size cylinder—PB Series

Compendium of PB Series



Criteria for selection: Cylinder thrust

Unit: Newton(N)

| Bore size | Rod size | Acting type | Pressure area(mm ²) | Operating pressure(MPa) | | | | | | |
|-----------|----------|-------------------------|---------------------------------|-------------------------|------|------|------|-------|-------|-------|
| | | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
| 4 | 2 | Single acting_Push side | 12.6 | - | 0.3 | 1.6 | 2.8 | 4.1 | 5.3 | 6.6 |
| | | Double acting Push side | 12.6 | 1.3 | 2.5 | 3.8 | 5.0 | 6.3 | 7.6 | 8.8 |
| | | Double acting Pull side | 9.4 | 0.9 | 1.9 | 2.8 | 3.8 | 4.7 | 5.6 | 6.6 |
| 6 | 3 | Single acting Push side | 28.3 | - | 2.2 | 5.0 | 7.8 | 10.6 | 13.5 | 16.3 |
| | | Single acting Pull side | 21.2 | - | 0.7 | 2.9 | 5.0 | 7.1 | 9.2 | 11.3 |
| | | Double acting Push side | 28.3 | 2.8 | 5.7 | 8.5 | 11.3 | 14.2 | 17.0 | 19.8 |
| 8 | 4 | Double acting Pull side | 21.2 | 2.1 | 4.2 | 6.4 | 8.5 | 10.6 | 12.7 | 14.8 |
| | | Single acting Push side | 50.3 | - | 3.6 | 8.6 | 13.6 | 18.7 | 23.7 | 28.7 |
| | | Single acting Pull side | 37.7 | - | 1.0 | 4.8 | 8.6 | 12.4 | 16.1 | 19.9 |
| 10 | 4 | Double acting Push side | 50.3 | 5.0 | 10.1 | 15.1 | 20.1 | 25.2 | 30.2 | 35.2 |
| | | Double acting Pull side | 37.7 | 3.8 | 7.5 | 11.3 | 15.1 | 18.9 | 22.6 | 26.4 |
| | | Single acting Push side | 78.5 | - | 6.2 | 14.1 | 21.9 | 29.8 | 37.6 | 45.5 |
| 12 | 5 | Single acting Pull side | 65.9 | - | 3.7 | 10.3 | 16.9 | 23.5 | 30.1 | 36.7 |
| | | Double acting Push side | 78.5 | 7.9 | 15.7 | 23.6 | 31.4 | 39.3 | 47.1 | 55.0 |
| | | Double acting Pull side | 65.9 | 6.6 | 13.2 | 19.8 | 26.4 | 33.0 | 39.5 | 46.2 |
| 16 | 5 | Single acting Push side | 113.0 | - | 9.0 | 20.3 | 31.6 | 42.9 | 54.2 | 65.5 |
| | | Single acting Pull side | 93.4 | - | 5.1 | 14.4 | 23.8 | 33.1 | 42.4 | 51.8 |
| | | Double acting Push side | 113.0 | 11.3 | 22.6 | 33.9 | 45.2 | 56.5 | 67.8 | 79.1 |
| 16 | 5 | Double acting Pull side | 93.4 | 9.3 | 18.7 | 28.0 | 37.4 | 46.7 | 56.0 | 65.4 |
| | | Single acting Push side | 201.0 | - | 14.5 | 34.6 | 54.7 | 74.8 | 94.9 | 115.0 |
| | | Single acting Pull side | 181.3 | - | 10.6 | 28.7 | 46.8 | 65.0 | 83.1 | 101.2 |
| 16 | 5 | Double acting Push side | 201.0 | 20.1 | 40.2 | 60.3 | 80.4 | 100.5 | 120.6 | 140.7 |
| | | Double acting Pull side | 181.3 | 18.1 | 36.3 | 54.4 | 72.5 | 90.7 | 108.8 | 126.9 |

Installation and application



1. When load changes in the work, the cylinder with abundant output capacity shall be selected.
2. Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion.
3. Necessary protection measure shall be taken in the environment with higher humidity, much dust or water drops, oil dust and welding dregs.
4. Dirty substances in the pipe must be eliminated before cylinder is connected with pipeline to prevent the entrance of particles into the cylinder.
5. The medium used by cylinder shall be filtered to 40 μm or below.
6. Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
7. The load of the cylinder with the diameter of Φ4 needs to be coaxial with the cylinder to avoid side load, otherwise, piston rod will be bent and deformed and damage the thread at the end of the rod. Single-acting type can not be added in return.
8. If the cylinder is dismantled and stored for a long time, Please to 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.

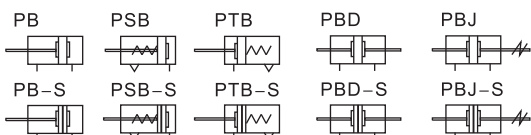


Pen size cylinder

PB Series



Symbol



Product feature

1. JIS standard is implemented.
2. It belongs to mini cylinder that has compact structure, small volume and light weight.
3. The guide precision of piston rod is high and no additional lubricant is needed.
4. PB4 and PB6 can only be front mounted. PB10, PB12 and PB16 has the flexibility of both front and rear mount.
5. Piston rod stainless steel barrel make the cylinder adapt general corrosive working environment.
6. There are cylinders and accessories with several specifications for installation for your choice.
7. It has small cylinder diameter and quick reaction, suitable for the working environment with higher frequency.

Specification

| Bore size(mm) | | 4 | 6 | 10 | 12 | 16 |
|--------------------|---------------|---|---|------------------------------------|----|-----------------------------------|
| Acting type | | Double acting、Single acting_Push | | Double acting、Single acting | | |
| Fluid | | Air(to be filtered by 40 μm filter element) | | | | |
| Operating pressure | Double acting | 0.2~0.7MPa(28~100psi)(2.0~7.0bar) | | 0.15~0.7MPa(22~100psi)(1.5~7.0bar) | | |
| | Single acting | 0.3~0.7MPa(36~100psi)(3.0~7.0bar) | | 0.2~0.7MPa(28~100psi)(2.0~7.0bar) | | |
| Proof pressure | | 1.2MPa(175psi)(12bar) | | | | |
| Temperature °C | | -20~70 | | | | |
| Speed range mm/s | | 50~500 | | 50~800 | | |
| Stroke tolerance | | +0.5 0 | | 0~150 ^{+1.0} ₀ | | >150 ^{+1.5} ₀ |
| Cushion type | | No cushion | | Bumper | | |
| Port size | | Tube | | M5 × 0.8 | | |

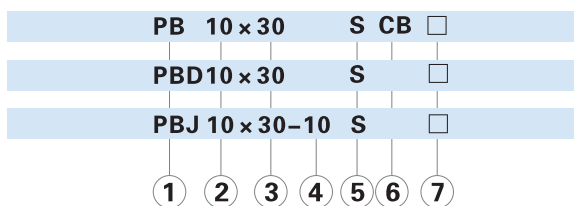
Add) Refer to P427 for detail of sensor switch.

Stroke

| Bore size (mm) | Standard stroke (mm) | | | | | | | | | | Max.std stroke | Max. stroke | | | | | | | |
|----------------|----------------------|----|----|----|----|----|----|----|----|----|----------------|-------------|-----|-----|-----|-----|-----|-----|-----|
| | 4 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | | | | | | | | | |
| PB | 6 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | | 60 | 60 | | | | | | | |
| | 10 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 200 | |
| | 12 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 200 | |
| | 16 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 250 | 300 |
| PBD | 6 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | 50 | — | | | | | | | |
| PBD | 10 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 80 | 100 | 100 | — | | | | | |
| | 12 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 200 | — |
| PBJ | 16 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 200 | — |
| | PSB | 4 | 5 | 10 | 15 | 20 | | | | | | | — | — | | | | | |
| PSB | 6 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | | — | — | | | | | | |
| | 10 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | | — | — | | | | | | |
| PTB | 12 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | | — | — | | | | | | |
| | 16 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | | — | — | | | | | | |

[Note] Consult us for non-standard stroke.

Ordering code



| ① Model | ② Bore size | ③ Stroke | ④ Adjustable stroke | ⑤ Magnet | ⑥ Back cover | | | ⑦ Mounting type [Note 1] | | | | |
|--|-------------------|-----------------------------------|---------------------|---|--------------|----------------------|-----------|--------------------------|-----------------|---------|------------------|--|
| PB: Pen size cylinder (Double acting) PSB: Pen size cylinder (Single acting_push) | 4 | Refer to stroke table for details | No this code | Blank: Without magnet S: With magnet | Model | Back cover | Bore size | Model | Mounting type | | | |
| | 6 | | | | | CB: Double clevis | | | | Φ10~Φ16 | PB PSB PTB | Blank: No accessories FA: FA type LB: LB type CJ: CJ type |
| | 10 | | | | | U: Perpendicular 90° | | | | Φ10~Φ16 | | |
| | 12 | | | | | R: Axial air-in | | | | Φ6~Φ16 | | |
| 16 | CB: Double clevis | | | | Φ10~Φ16 | | | | | | | |
| PTB: Pen size cylinder (Single acting_pull) PBD: Pen size cylinder (Double rod) | 6 | | | | | | | PTB | R: Axial air-in | Φ6~Φ16 | | |
| | 10 | | | | | | | | | | | |
| PBJ: Pen size cylinder (Adjustable stroke) | 12 | | | | | 10 20 30 | | PBD PBJ | No this code | - | PBD PBJ | Blank: No accessories FA: FA type LB: LB type |
| | 16 | | | | | 40 50 75 100 | | | | | | |
| | | | | | | | | | | | | |

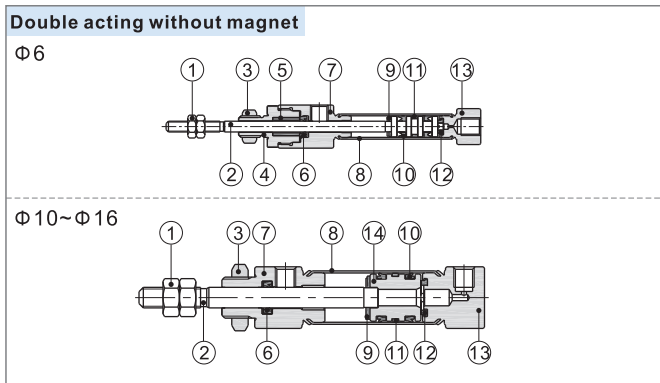
[Note 1] Please refer to page 227 for accessory parts.



Pen size cylinder

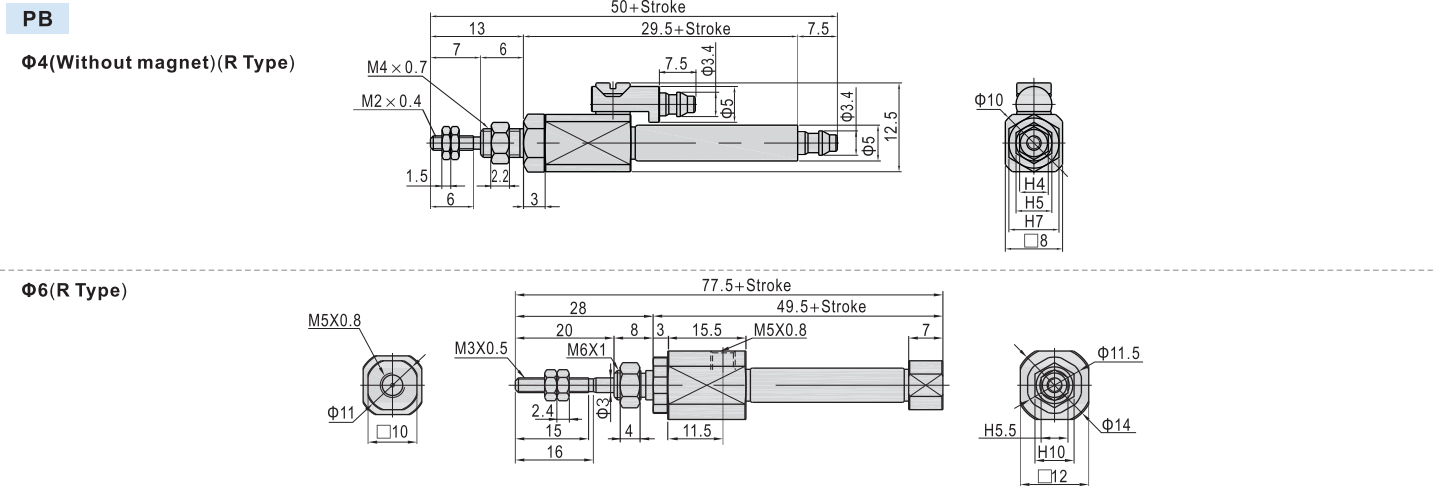
PB Series

Inner structure and material of major parts

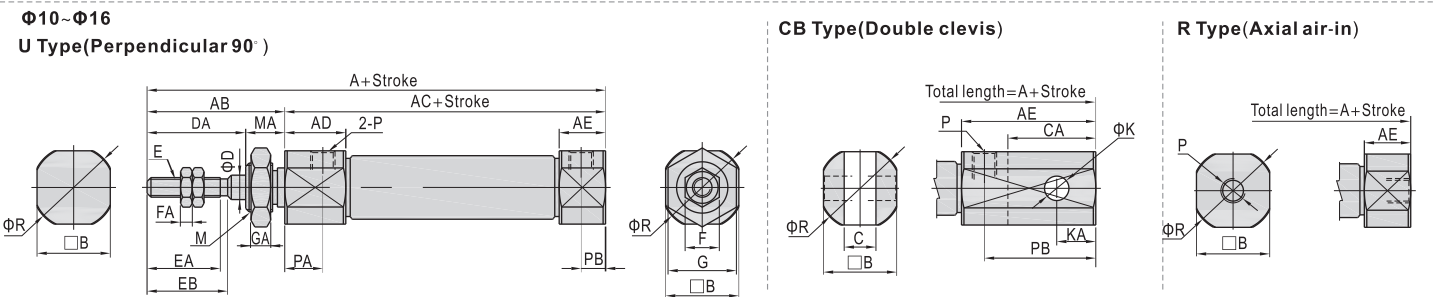


| NO. | Item | Material |
|-----|--------------------|----------------------------------|
| 1 | Rod nut | Carbon steel |
| 2 | Piston rod | SUS304 |
| 3 | Front cover nut | Carbon steel |
| 4 | Packing retainer | Brass(Φ4)\Aluminum alloy(Others) |
| 5 | Bushing | Wear resistant material |
| 6 | Front cover O-ring | NBR |
| 7 | Front cover | Brass(Φ4)\Aluminum alloy(Others) |
| 8 | Barrel | Bronze(Φ4)\SUS304(Others) |
| 9 | Bumper | TPU |
| 10 | Piston seal | NBR |
| 11 | Wear ring | Wear resistant material |
| 12 | Bumper | TPU |
| 13 | Back cover | Brass(Φ4)\Aluminum alloy(Others) |

Dimensions



Note) Only axial air intake type of back cover is available for Φ4, Φ6mm bore size.



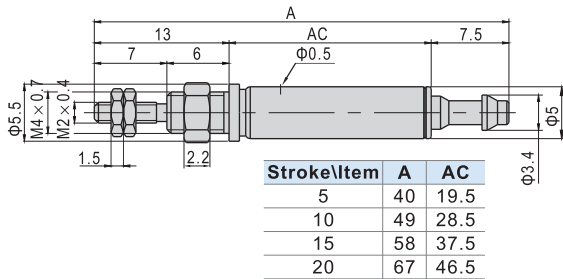
| Bore size\Item | A | | | AB | AC | AD | AE | | B | C | CA | D | DA | E | EA | EB | F | FA | G | GA | K | KA | M | MA | P | PA | PB | | |
|----------------|----|----|----|----|----|------|-----|------|----|-----|----|---|----|--------|----|------|---|-----|----|----|-----|----|---------|----|--------|-----|----|----|----|
| | U | CB | R | | | | U/R | CB | | | | | | | | | | | | | | | | | | | U | CB | R |
| 10 | 74 | 87 | 74 | 28 | 46 | 11.5 | 9.5 | 22.5 | 12 | 3.3 | 13 | 4 | 20 | M4×0.7 | 15 | 16.5 | 7 | 2.2 | 11 | 4 | 3.3 | 5 | M8×1.0 | 8 | M5×0.8 | 7.5 | 5 | 18 | 14 |
| 12 | 74 | 92 | 74 | 28 | 46 | 11.5 | 9.5 | 27.5 | 15 | 6.6 | 18 | 5 | 20 | M5×0.8 | 15 | 16.5 | 8 | 4 | 14 | 4 | 5 | 8 | M10×1.0 | 8 | M5×0.8 | 7.5 | 5 | 23 | 17 |
| 16 | 76 | 94 | 76 | 28 | 48 | 12 | 9.5 | 27.5 | 18 | 6.6 | 18 | 5 | 20 | M5×0.8 | 15 | 16.5 | 8 | 4 | 14 | 4 | 5 | 8 | M10×1.0 | 8 | M5×0.8 | 7.5 | 5 | 23 | 20 |

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

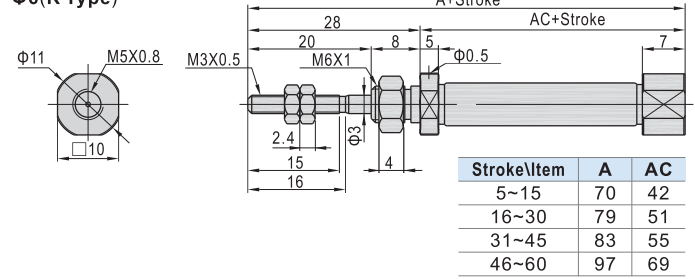
Pen size cylinder

PB Series

PSB $\Phi 4$ (Without magnet)(R Type)

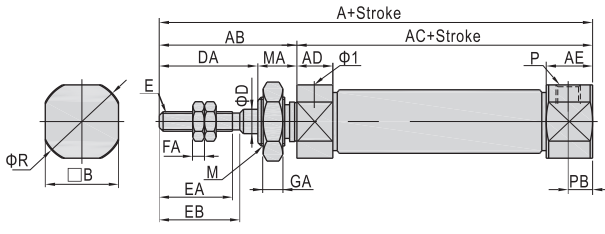


$\Phi 6$ (R Type)

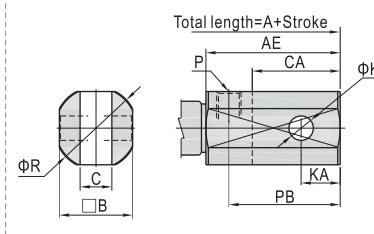


Note) Only axial air intake type of back cover is available for $\Phi 4$, $\Phi 6$ mm bore size.

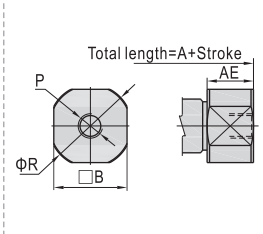
$\Phi 10$ ~ $\Phi 16$ U Type(Perpendicular 90°)



CB Type(Double clevis)



R Type(Axial air-in)

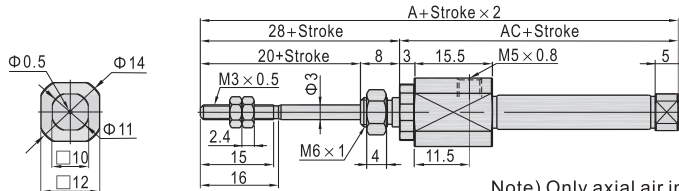


| Bore size\Item Back cover | A | | | | | | | | | | | | AB | AC | | | | AD | AE | | | |
|------------------------------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|----|-----|------|------|-----|-----|
| | U | | | | CB | | | | R | | | | | U/R | CB | B | C | | | | | |
| Stroke | 5~15 | 16~30 | 31~45 | 46~60 | 5~15 | 16~30 | 31~45 | 46~60 | 5~15 | 16~30 | 31~45 | 46~60 | 5~15 | 16~30 | 31~45 | 46~60 | 5 | 9.5 | 22.5 | 12 | 3.3 | |
| 10 | 73.5 | 81 | 93 | 105 | 86.5 | 94 | 106 | 118 | 73.5 | 81 | 93 | 105 | 28 | 45.5 | 53 | 65 | 77 | 5 | 9.5 | 22.5 | 12 | 3.3 |
| 12 | 73.5 | 81 | 93 | 105 | 91.5 | 99 | 111 | 123 | 73.5 | 81 | 93 | 105 | 28 | 45.5 | 53 | 65 | 77 | 5 | 9.5 | 27.5 | 15 | 6.6 |
| 16 | 74.5 | 83 | 95 | 107 | 92.5 | 101 | 113 | 125 | 74.5 | 83 | 95 | 107 | 28 | 46.5 | 55 | 67 | 79 | 5 | 9.5 | 27.5 | 18 | 6.6 |

| Bore size\Item Back cover | CA | D | DA | E | EA | EB | F | FA | G | GA | K | KA | M | MA | P | PB | | R |
|------------------------------|----|----|----|--------|----|------|---|-----|----|----|-----|----|---------|----|--------|----|----|----|
| | U | CB | R | | | | | | | | | | | | | | | |
| 10 | 13 | 4 | 20 | M4×0.7 | 15 | 16.5 | 7 | 2.2 | 11 | 4 | 3.3 | 5 | M8×1.0 | 8 | M5×0.8 | 5 | 18 | 14 |
| 12 | 18 | 5 | 20 | M5×0.8 | 15 | 16.5 | 8 | 4 | 14 | 4 | 5 | 8 | M10×1.0 | 8 | M5×0.8 | 5 | 23 | 17 |
| 16 | 18 | 5 | 20 | M5×0.8 | 15 | 16.5 | 8 | 4 | 14 | 4 | 5 | 8 | M10×1.0 | 8 | M5×0.8 | 5 | 23 | 20 |

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

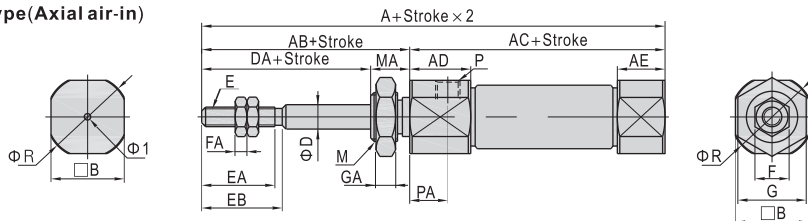
PTB $\Phi 6$ (R Type)



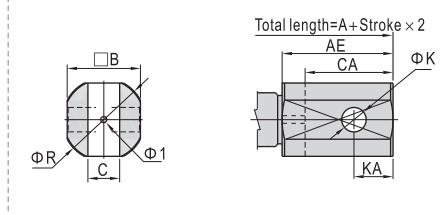
| Stroke\Item | A | AC |
|-------------|-----|----|
| 5~15 | 82 | 54 |
| 16~30 | 91 | 63 |
| 31~45 | 95 | 67 |
| 46~60 | 109 | 81 |

Note) Only axial air intake type of back cover is available for $\Phi 6$ mm bore size.

$\Phi 10$ ~ $\Phi 16$ R Type(Axial air-in)



CB Type(Double clevis)



| Bore size\Item Back cover | A | | | | | | | | | | | | AB | AC | | | | AD |
|------------------------------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|----|----|
| | R | | | | CB | | | | - | | | | | | | | | |
| Stroke | 5~15 | 16~30 | 31~45 | 46~60 | 5~15 | 16~30 | 31~45 | 46~60 | 5~15 | 16~30 | 31~45 | 46~60 | 5~15 | 16~30 | 31~45 | 46~60 | AD | |
| 10 | 76.5 | 84 | 96 | 108 | 89.5 | 97 | 109 | 121 | 28 | 48.5 | 56 | 68 | 80 | 11.5 | | | | |
| 12 | 76.5 | 84 | 96 | 108 | 94.5 | 102 | 114 | 126 | 28 | 48.5 | 56 | 68 | 80 | 11.5 | | | | |
| 16 | 77.5 | 86 | 98 | 110 | 95.5 | 104 | 116 | 128 | 28 | 49.5 | 58 | 70 | 82 | 12 | | | | |

| Bore size\Item Back cover | AE | | B | C | CA | D | DA | E | EA | EB | F | FA | G | GA | K | KA | M | MA | P | PA | R |
|------------------------------|----|----|----|-----|----|---|----|--------|----|------|---|-----|----|----|-----|----|---------|----|--------|-----|----|
| | R | CB | | | | | | | | | | | | | | | | | | | |
| 10 | 5 | 18 | 12 | 3.3 | 13 | 4 | 20 | M4×0.7 | 15 | 16.5 | 7 | 2.2 | 11 | 4 | 3.3 | 5 | M8×1.0 | 8 | M5×0.8 | 7.5 | 14 |
| 12 | 5 | 23 | 15 | 6.6 | 18 | 5 | 20 | M5×0.8 | 15 | 16.5 | 8 | 4 | 14 | 4 | 5 | 8 | M10×1.0 | 8 | M5×0.8 | 7.5 | 17 |
| 16 | 5 | 23 | 18 | 6.6 | 18 | 5 | 20 | M5×0.8 | 15 | 16.5 | 8 | 4 | 14 | 4 | 5 | 8 | M10×1.0 | 8 | M5×0.8 | 7.5 | 20 |

Note) $\Phi 10$ ~ $\Phi 16$ bore sized don't have perpendicular(90°) air-in.

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

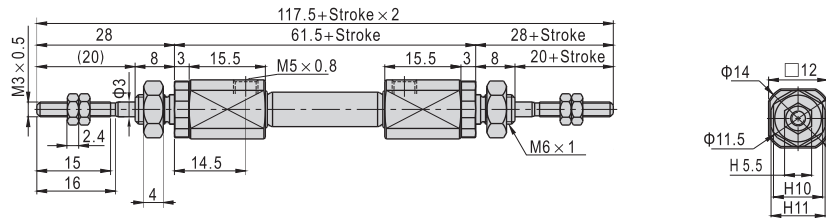


Pen size cylinder

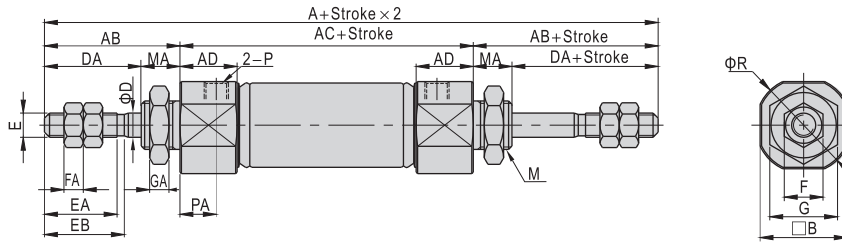
PB Series

PBD

Φ6

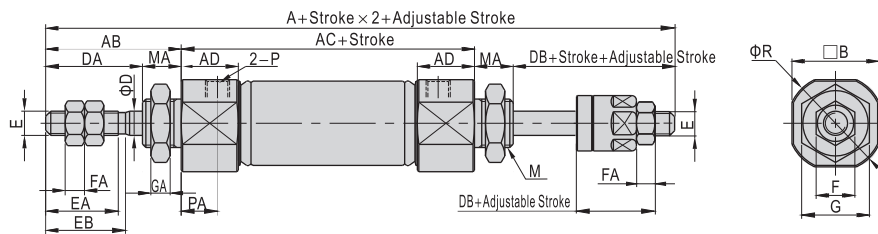


Φ10~Φ16



PBJ

Φ10~Φ16



| Bore size\Item | A | | AB | AC | AD | B | D | DA | DB | E | EA | EB | F | FA | G | GA | M | MA | P | PA |
|----------------|-------|-----|----|----|------|----|---|----|----|--------|----|------|---|-----|----|----|---------|----|--------|-----|
| | Model | PBD | | | | | | | | | | | | | | | | | | |
| 10 | 104 | 99 | 28 | 48 | 11.5 | 12 | 4 | 20 | 15 | M4×0.7 | 15 | 16.5 | 7 | 2.2 | 11 | 4 | M8×1.0 | 8 | M5×0.8 | 7.5 |
| 12 | 104 | 101 | 28 | 48 | 11.5 | 15 | 5 | 20 | 17 | M5×0.8 | 15 | 16.5 | 8 | 4 | 14 | 4 | M10×1.0 | 8 | M5×0.8 | 7.5 |
| 16 | 107 | 104 | 28 | 51 | 12 | 18 | 5 | 20 | 17 | M5×0.8 | 15 | 16.5 | 8 | 4 | 14 | 4 | M10×1.0 | 8 | M5×0.8 | 7.5 |

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

Pen size cylinder

PB Series—Accessories

List for ordering code of accessories

| Accessories Bore size | Mounting accessories | | | Knuckle | | | | Sensor switch | |
|--------------------------|----------------------|----------|----------|---------|---------|-----------|-----------|---------------|-----------|
| | LB | FA | CJ | I | Y | F | U | CS1-M□ | DS1-M□ |
| 4 | - | - | - | - | - | - | - | - | - |
| 6 | F-PB6LB | F-PB6FA | - | F-PB6I | F-PB6Y | F-M3X040F | - | CS1-M-S06 | DS1-M-S06 |
| 10 | F-PB10LB | F-PB10FA | F-PB10CJ | F-PB10I | F-PB10Y | F-M4X070F | F-M4X070U | CS1-M-S10 | DS1-M-S10 |
| 12 | F-PB12LB | F-PB12FA | F-PB12CJ | F-PB12I | F-PB12Y | F-M5X080F | F-M5X080U | CS1-M-S12 | DS1-M-S12 |
| 16 | | | F-PB16CJ | | | | | CS1-M-S16 | DS1-M-S16 |

Accessory selection

| Accessories Cylinder model | Mounting accessories | | | Knuckle | | | | Sensor switch | |
|-------------------------------|----------------------|----|----|---------|---|-------|---|---------------|-------|
| | LB | FA | CJ | I | Y | U [1] | F | CS1-M | DS1-M |
| PB | Standard | ● | ● | ● | ● | ● | ● | × | × |
| | With magnet | ● | ● | ● | ● | ● | ● | ● | ● |
| PSB | Standard | ● | ● | ● | ● | ● | ● | × | × |
| | With magnet | ● | ● | ● | ● | ● | ● | ● | ● |
| PBD | Standard | ● | ● | × | ● | ● | ● | × | × |
| PBJ | With magnet | ● | ● | × | ● | ● | ● | ● | ● |

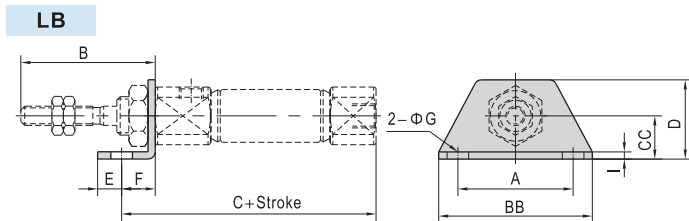
Material of accessories

| Accessories Bore size | Mounting accessories | | | Knuckle | | | |
|--------------------------|----------------------|----|----|---------|---|---|---|
| | LB | FA | CJ | I | Y | F | U |
| 4~16 | △ | △ | △ | □ | □ | □ | □ |

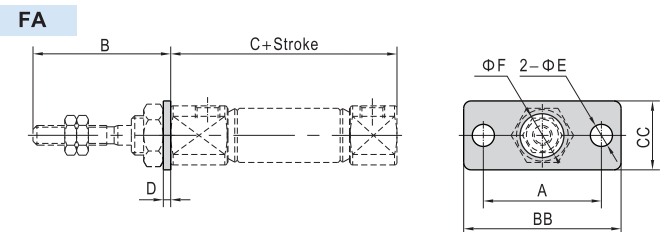
△—SPCC; □—Carbon steel;

[Note 1] Please refer to P415~418 for knuckle detail.

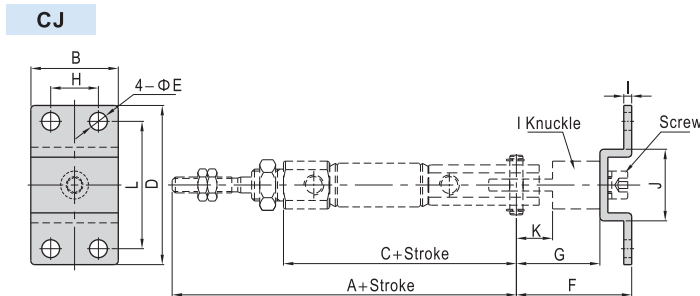
Dimensions



| Bore size\Item | A | B | BB | C | CC | D | E | F | G | I |
|----------------|----|----|----|------|----|------|---|---|-----|-----|
| 6 | 24 | 28 | 32 | 56.5 | 9 | 16.5 | 5 | 7 | 4.5 | 1.5 |
| 10 | 24 | 28 | 32 | 53 | 9 | 16.5 | 5 | 7 | 4.5 | 2 |
| 12 | 33 | 28 | 42 | 55 | 14 | 25 | 6 | 9 | 5.5 | 2.5 |
| 16 | 33 | 28 | 42 | 57 | 14 | 25 | 6 | 9 | 5.5 | 2.5 |



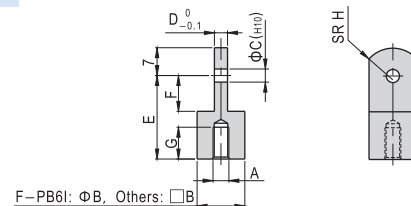
| Bore size\Item | A | B | BB | C | CC | D | E | F |
|----------------|----|----|----|------|----|-----|-----|------|
| 6 | 24 | 28 | 32 | 49.5 | 14 | 1.5 | 4.5 | 6.3 |
| 10 | 24 | 28 | 32 | 46 | 14 | 2 | 4.5 | 8.3 |
| 12 | 33 | 28 | 42 | 46 | 20 | 3 | 5.5 | 10.3 |
| 16 | 33 | 28 | 42 | 48 | 20 | 3 | 5.5 | 10.3 |



| Bore size\Item | A | B | C | D | E | F | G | H | I | J | K | L |
|----------------|----|----|----|----|-----|----|----|----|-----|------|------|----|
| 10 | 82 | 22 | 54 | 40 | 4.5 | 29 | 21 | 12 | 2 | 18 | 9.1 | 32 |
| 12 | 84 | 28 | 56 | 48 | 5.5 | 35 | 25 | 16 | 2.5 | 20.4 | 14.1 | 38 |
| 16 | 86 | 28 | 58 | 48 | 5.5 | 35 | 25 | 16 | 2.5 | 20.4 | 14.1 | 38 |

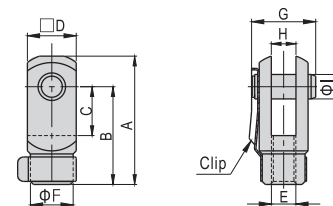
[Note] CJ type accessories need to be matched with I knuckle and with relevant PIN. I knuckle has to be ordered individually.

I Knuckle



| Bore size\Item | A | B | C | D | E | F | G | H |
|----------------|--------|----|-----|-----|----|------|-----|----|
| F-PB6I | M3×0.5 | 6 | 3 | 3 | 12 | 5 | 5 | 5 |
| F-PB10I | M4×0.7 | 12 | 3.3 | 3 | 21 | 9.1 | 7.5 | 8 |
| F-PB12I | M5×0.8 | 12 | 5 | 6.3 | 25 | 14.1 | 7.5 | 12 |

Y Knuckle



| Bore size\Item | A | B | C | D | E | F | G | H | I |
|----------------|------|----|------|----|--------|----|------|-----|-----|
| F-PB6Y | 15.5 | 12 | 5 | 6 | M3×0.5 | 6 | 9 | 3 | 3 |
| F-PB10Y | 28 | 21 | 10.2 | 12 | M4×0.7 | 10 | 15.5 | 3.2 | 3.3 |
| F-PB12Y | 28 | 21 | 10.2 | 12 | M5×0.8 | 10 | 15.5 | 6.5 | 5 |

