



# Standard cylinder——SU Series

Profile type

## Product series

| Series name                 | Mounting type |    |    |    |    |    |    | Acting type   | Bore size                         | Collocation of sensor switch |       |       |       |       |       |
|-----------------------------|---------------|----|----|----|----|----|----|---------------|-----------------------------------|------------------------------|-------|-------|-------|-------|-------|
|                             | Basic         | LB | FA | FB | CA | CB | TC |               |                                   | CS1-B                        | DS1-B | CS1-F | DS1-F | CS1-U | DS1-U |
| Double acting type: SU      | ●             | ●  | ●  | ●  | ●  | ●  | ●  | Double acting | 32<br>40<br>50<br>63<br>80<br>100 | ●                            | ●     | ●     | ●     | ●     | ●     |
| Double rod type: SUD        | ●             | ●  | ●  | ●  | ●  | ●  | ●  |               |                                   | ●                            | ●     | ●     | ●     | ●     | ●     |
| Adjustable stroke type: SUJ | ●             | ●  | ●  | ●  | ●  | ●  | ●  |               |                                   | ●                            | ●     | ●     | ●     | ●     | ●     |
| Adjustable stroke type: SUJ | ●             | ●  | ●  | ●  | ●  | ●  | ●  |               |                                   | ●                            | ●     | ●     | ●     | ●     | ●     |
| Adjustable stroke type: SUJ | ●             | ●  | ●  | ●  | ●  | ●  | ●  |               |                                   | ●                            | ●     | ●     | ●     | ●     | ●     |
| Page                        | 190           |    |    |    |    |    |    |               |                                   | 419                          |       |       |       |       |       |

## 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  $\mu$  m or below.
6. Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
7. The cylinder shall be carried out test run without load before application. Prior to run, buffer shall be turned to the minimum and gradually released to avoid the damage on cylinder caused by excessive impact.
8. The cylinder shall avoid the influence of side load in operation to maintain the normal work of cylinder and extend the service life.
9. 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.

## 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    | 0.8    | 0.9    |
| 32             | 12            | Double acting | Push side                        | 804                     | 80.4  | 160.8  | 241.2  | 321.6  | 402.0  | 482.4  | 562.8  | 643.2  |
|                |               |               | Pull side                        | 690                     | 69.0  | 138.0  | 207.0  | 276.0  | 345.0  | 414.0  | 483.0  | 552.0  |
| 40             | 16            | Double acting | Push side                        | 1256                    | 125.6 | 251.2  | 376.8  | 502.4  | 628.0  | 753.6  | 879.2  | 1004.8 |
|                |               |               | Pull side                        | 1055                    | 105.5 | 211.0  | 316.5  | 422.0  | 527.5  | 633.0  | 738.5  | 844.0  |
| 50             | 20            | Double acting | Push side                        | 1963                    | 196.3 | 392.6  | 588.9  | 785.2  | 981.5  | 1177.8 | 1374.1 | 1570.4 |
|                |               |               | Pull side                        | 1649                    | 164.9 | 329.8  | 494.7  | 659.6  | 824.5  | 989.4  | 1154.3 | 1319.2 |
| 63             | 20            | Double acting | Push side                        | 3117                    | 311.7 | 623.4  | 935.1  | 1246.8 | 1558.5 | 1870.2 | 2181.9 | 2493.6 |
|                |               |               | Pull side                        | 2803                    | 280.3 | 560.6  | 840.9  | 1121.2 | 1401.5 | 1681.8 | 1962.1 | 2242.4 |
| 80             | 25            | Double acting | Push side                        | 5026                    | 502.6 | 1005.2 | 1507.8 | 2010.4 | 2513.0 | 3015.6 | 3518.2 | 4020.8 |
|                |               |               | Pull side                        | 4536                    | 453.6 | 907.2  | 1360.8 | 1814.4 | 2268.0 | 2721.6 | 3175.2 | 3628.8 |
| 100            | 25            | Double acting | Push side                        | 7853                    | 785.3 | 1570.6 | 2355.9 | 3141.2 | 3926.5 | 4711.8 | 5497.1 | 6282.4 |
|                |               |               | Pull side                        | 7362                    | 736.2 | 1472.4 | 2208.6 | 2944.8 | 3681.0 | 4417.2 | 5153.4 | 5889.6 |



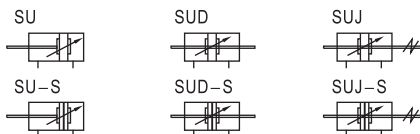
# Standard cylinder(Profile)

**AirTAC**

## SU Series



### Symbol



### Product feature

1. Standard cylinder manufactured by our enterprise.
2. The seal of piston adopts heterogeneous two way seal structure. It's dimension is tight and it has the function of oil reservation.
3. It is no tie rod cylinder. The cylinder barrel is "Mickey Mouse" shape, and have good corrosion.
4. Compared with ISO15552 standard cylinder, SU series cylinder with the same bore size is shorter.
5. The buffer adjustment of cylinder is smooth and steady.
6. Mounting accessories are the same as SC series.
7. The seal material with high temperature resistance is adopted to guarantee the normal operation of cylinder at 150℃.

### Specification

| Bore size(mm)                |          | 32                                                                                                              | 40   | 50 | 63   | 80 | 100  |
|------------------------------|----------|-----------------------------------------------------------------------------------------------------------------|------|----|------|----|------|
| Acting type                  |          | Double acting                                                                                                   |      |    |      |    |      |
| Fluid                        |          | Air(to be filtered by 40 μ m filter element)                                                                    |      |    |      |    |      |
| Mounting type                | SU       | Basic FA FB CA CB LB TC TCM1                                                                                    |      |    |      |    |      |
|                              | SUD, SUJ | Basic FA LB TC TCM1                                                                                             |      |    |      |    |      |
| Operating pressure           |          | 0.1~1.0MPa(15~145psi)(1.0~10.0bar)                                                                              |      |    |      |    |      |
| Proof pressure               |          | 1.5MPa(215psi)(15bar)                                                                                           |      |    |      |    |      |
| Temperature ℃                |          | -20~80                                                                                                          |      |    |      |    |      |
| Speed range mm/s             |          | 30~800                                                                                                          |      |    |      |    |      |
| Stroke tolerance             |          | 0~250 <sup>+1.0</sup> <sub>0</sub> 251~1000 <sup>+1.4</sup> <sub>0</sub> 1001~1500 <sup>+1.8</sup> <sub>0</sub> |      |    |      |    |      |
| Cushion type                 |          | Variable cushion                                                                                                |      |    |      |    |      |
| Adjustable cushion stroke mm |          | 21                                                                                                              |      |    |      | 28 | 29   |
| Port size ①                  |          | 1/8"                                                                                                            | 1/4" |    | 3/8" |    | 1/2" |

① PT thread, NPT thread and G thread are available.  
Add) Refer to P419~442 for detail of sensor switch.

### Stroke

| Bore size<br>(mm) | Standard stroke (mm) |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     | Max. std<br>stroke | Max.<br>stroke |     |      |      |      |      |
|-------------------|----------------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|----------------|-----|------|------|------|------|
| 32                | 25                   | 50 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 1000               | 1800           |     |      |      |      |      |
| 40                | 25                   | 50 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600                | 700            | 800 | 1200 | 1800 |      |      |
| 50                | 25                   | 50 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600                | 700            | 800 | 900  | 1000 | 1200 | 1800 |
| 63                | 25                   | 50 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600                | 700            | 800 | 900  | 1000 | 1500 | 1800 |
| 80                | 25                   | 50 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600                | 700            | 800 | 900  | 1000 | 1500 | 1800 |
| 100               | 25                   | 50 | 75 | 80 | 100 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600                | 700            | 800 | 900  | 1000 | 1500 | 1800 |

Note) Consult us for non-standard stroke.

### Ordering code

| SU 50 × 50 S                      |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
|-----------------------------------|------------------|-------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------|------------------|------|-------|------------------|--|----|--|----|--|----|----|--|----|--|----|--|----|----------------|-------------------|
| SUD50 × 50 S                      |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| SUJ 50 × 50-20 S                  |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| <b>Model</b>                      |                  |                   |  | <b>Thread type</b>                                                                                                                                                                                                                                                                                                                                                                                        |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| SU: Double acting type            |                  |                   |  | Blank: PT                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| SUD: Double rod type              |                  |                   |  | T: NPT                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| SUJ: Adjustable stroke type       |                  |                   |  | G: G                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| <b>Bore size</b>                  |                  |                   |  | <b>Seals Material</b>                                                                                                                                                                                                                                                                                                                                                                                     |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| 32 40 50 63 80 100                |                  |                   |  | Blank: TPU                                                                                                                                                                                                                                                                                                                                                                                                |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| <b>Stroke</b>                     |                  |                   |  | H: Viton                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| Refer to stroke table for details |                  |                   |  | N: NBR                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| <b>Adjustable stroke</b>          |                  |                   |  | <b>Mounting type</b> ①                                                                                                                                                                                                                                                                                                                                                                                    |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| 10: 10mm                          |                  |                   |  | <table><tr><th>Mounting type</th><th>Available series</th><th>Memo</th></tr><tr><td>Blank</td><td rowspan="3">SU<br/>SUD<br/>SUJ</td><td></td></tr><tr><td>LB</td><td></td></tr><tr><td>FA</td><td></td></tr><tr><td>FB</td><td rowspan="3">SU</td><td></td></tr><tr><td>CA</td><td></td></tr><tr><td>CB</td><td></td></tr><tr><td>TC</td><td>SU, SUD<br/>SUJ</td><td>Be used with TCM1</td></tr></table> |  |  | Mounting type | Available series | Memo | Blank | SU<br>SUD<br>SUJ |  | LB |  | FA |  | FB | SU |  | CA |  | CB |  | TC | SU, SUD<br>SUJ | Be used with TCM1 |
| Mounting type                     | Available series | Memo              |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| Blank                             | SU<br>SUD<br>SUJ |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| LB                                |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| FA                                |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| FB                                | SU               |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| CA                                |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| CB                                |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| TC                                | SU, SUD<br>SUJ   | Be used with TCM1 |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| 20: 20mm                          |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| 30: 30mm                          |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| 40: 40mm                          |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| 50: 50mm                          |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| 75: 75mm                          |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| 100: 100mm                        |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| <b>Magnet</b>                     |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| Blank: Without magnet             |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |
| S: With magnet                    |                  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |               |                  |      |       |                  |  |    |  |    |  |    |    |  |    |  |    |  |    |                |                   |

① Please refer to page 194 & page 203~206 for accessory parts.



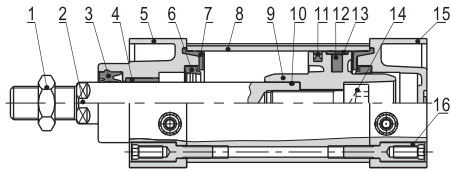
# Standard cylinder(Profile)

**AirTAC**

## SU Series

### Inner structure and material of major parts

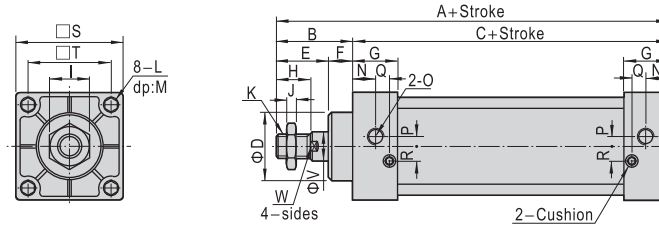
SU



| NO. | Item                | Material                               |
|-----|---------------------|----------------------------------------|
| 1   | Rod nut             | Carbon steel                           |
| 2   | Piston rod          | Carbon steel with 20 μ m chrome plated |
| 3   | Front cover packing | TPU                                    |
| 4   | Bushing             | Wear resistant material                |
| 5   | Front cover         | Aluminum alloy                         |
| 6   | Cushing O-ring      | NBR                                    |
| 7   | Cushion gasket      | TPU                                    |
| 8   | Barrel              | Aluminum alloy                         |
| 9   | Piston              | Aluminum alloy                         |
| 10  | Piston rod O-ring   | NBR                                    |
| 11  | Piston seal         | NBR                                    |
| 12  | Magnet              | Plastic                                |
| 13  | Wear ring           | Wear resistant material                |
| 14  | Bolt                | Carbon steel                           |
| 15  | Back cover          | Aluminum alloy                         |
| 16  | Tie-rod nut         | Carbon steel                           |

### Dimensions

SU



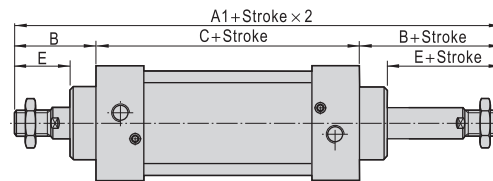
| Bore size\Item | A   | B  | C   | D  | E  | F  | G    | H  | I  | J  | K        |
|----------------|-----|----|-----|----|----|----|------|----|----|----|----------|
| 32             | 140 | 47 | 93  | 28 | 32 | 15 | 27.5 | 22 | 17 | 6  | M10×1.25 |
| 40             | 142 | 49 | 93  | 32 | 34 | 15 | 27.5 | 24 | 17 | 7  | M12×1.25 |
| 50             | 150 | 57 | 93  | 38 | 42 | 15 | 27.5 | 32 | 23 | 8  | M16×1.5  |
| 63             | 153 | 57 | 96  | 38 | 42 | 15 | 27.5 | 32 | 23 | 8  | M16×1.5  |
| 80             | 182 | 75 | 107 | 47 | 54 | 21 | 33   | 40 | 26 | 10 | M20×1.5  |
| 100            | 188 | 75 | 113 | 47 | 54 | 21 | 33   | 40 | 26 | 10 | M20×1.5  |

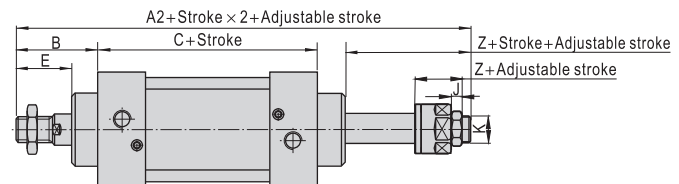
| Bore size\Item | L       | M    | N    | O    | P   | Q   | R   | S   | T  | V  | W  |
|----------------|---------|------|------|------|-----|-----|-----|-----|----|----|----|
| 32             | M6×1.0  | 9.5  | 14   | 1/8" | 5.5 | 6   | 6.5 | 45  | 33 | 12 | 10 |
| 40             | M6×1.0  | 9.5  | 15   | 1/4" | 6   | 5   | 8.5 | 50  | 37 | 16 | 14 |
| 50             | M6×1.0  | 9.5  | 17   | 1/4" | 8.5 | 2.5 | 10  | 62  | 47 | 20 | 17 |
| 63             | M8×1.25 | 9.5  | 15   | 3/8" | 9.5 | 4   | 8.5 | 75  | 56 | 20 | 17 |
| 80             | M10×1.5 | 11.5 | 19.5 | 3/8" | 10  | 4.5 | 14  | 94  | 70 | 25 | 22 |
| 100            | M10×1.5 | 11.5 | 16.5 | 1/2" | 11  | 6.5 | 14  | 112 | 84 | 25 | 22 |

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

SUD



SUJ



| Bore size\Item | A1  | A2    | B  | C   | E  | Z    | J  | K        |
|----------------|-----|-------|----|-----|----|------|----|----------|
| 32             | 187 | 182   | 47 | 93  | 32 | 27   | 6  | M10X1.25 |
| 40             | 191 | 185   | 49 | 93  | 34 | 28   | 7  | M12X1.25 |
| 50             | 207 | 194   | 57 | 93  | 42 | 29   | 8  | M16X1.5  |
| 63             | 210 | 197   | 57 | 96  | 42 | 29   | 8  | M16X1.5  |
| 80             | 257 | 238.5 | 75 | 107 | 54 | 35.5 | 10 | M20X1.5  |
| 100            | 263 | 244.5 | 75 | 113 | 54 | 35.5 | 10 | M20X1.5  |

Remark:

1. The dimensions of magnet type cylinder are the same as non-magnet type cylinder.
2. The unmarked dimension is the same as SU standard type.



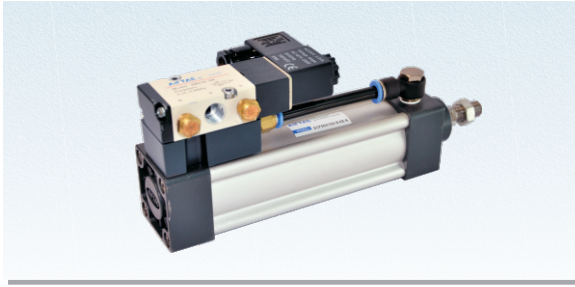
SU



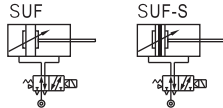
# Standard cylinder(Tie-rod)

## SUF Series(With valve type)

**AirTAC**



### Symbol



### Product feature

1. For Standard Cylinders: use 4M210 valve for bore size 32, 40 & 50; 4M310 valve for bore size 63, 80 & 100mm.
2. Individually control, no need for extra solenoid valves.
3. Installation time & space saving; suitable for decentralise installation in large system.
4. Options of mounting accessories & easy installation.

### Stroke

| Bore size(mm) | Standard stroke (mm)                                                                                 | Mini. stroke | Max. std. stroke | Max. stroke |
|---------------|------------------------------------------------------------------------------------------------------|--------------|------------------|-------------|
| 32            | Standard type<br>50 75 80 100 125 150 160 175<br>200 250 300 350 400 450 500                         | 50           | 1000             | 2000        |
|               | With TC type<br>100 125 150 160 175 200 250<br>300 350 400 450 500                                   | 100          |                  |             |
| 40            | Standard type<br>50 75 80 100 125 150 160 175<br>200 250 300 350 400 450 500<br>600 700 800 900 1000 | 50           | 1200             | 2000        |
|               | With TC type<br>100 125 150 160 175 200<br>250 300 350 400 450 500<br>600 700 800 900 1000           | 100          |                  |             |
| 63            | Standard type<br>75 80 100 125 150 160 175<br>200 250 300 350 400 450 500<br>600 700 800 900 1000    | 75           | 1500             | 2000        |
|               | With TC type<br>125 150 160 175 200<br>250 300 350 400 450 500<br>600 700 800 900 1000               | 125          |                  |             |

Note) Consult us for non-standard stroke.

### Specification

| Cylinder specification       |                                                                                                                 |      |    |                                                                                    |            |      |
|------------------------------|-----------------------------------------------------------------------------------------------------------------|------|----|------------------------------------------------------------------------------------|------------|------|
| Bore size(mm)                | 32                                                                                                              | 40   | 50 | 63                                                                                 | 80         | 100  |
| Acting type                  | Double acting                                                                                                   |      |    |                                                                                    |            |      |
| Fluid                        | Air(to be filtered by 40 μ m filter element)                                                                    |      |    |                                                                                    |            |      |
| Mounting type                | Basic FA FB CA CB LB TC TCM1                                                                                    |      |    |                                                                                    |            |      |
| Operating pressure           | 0.1~1.0MPa(15~145psi)(1.0~10.0bar)                                                                              |      |    |                                                                                    |            |      |
| Proof pressure               | 1.5MPa(215psi)(15bar)                                                                                           |      |    |                                                                                    |            |      |
| Temperature °C               | -20~80                                                                                                          |      |    |                                                                                    |            |      |
| Speed range mm/s             | 30~800                                                                                                          |      |    |                                                                                    |            |      |
| Stroke tolerance             | 0~250 <sup>+1.0</sup> <sub>0</sub> 251~1000 <sup>+1.4</sup> <sub>0</sub> 1001~1500 <sup>+1.8</sup> <sub>0</sub> |      |    |                                                                                    |            |      |
| Cushion type                 | Variable cushion                                                                                                |      |    |                                                                                    |            |      |
| Adjustable cushionstroke     | 21                                                                                                              |      |    |                                                                                    | 28         | 29   |
| Port size                    | 1/8"                                                                                                            | 1/4" |    | 3/8"                                                                               |            | 1/2" |
| PU tube size(ODXID)          | Φ8 × Φ5                                                                                                         |      |    |                                                                                    | Φ10 × Φ6.5 |      |
| Solenoid valve specification |                                                                                                                 |      |    |                                                                                    |            |      |
| Model                        | 4M210-06 & 4M210-08                                                                                             |      |    | 4M310-08 & 4M310-10                                                                |            |      |
| Fluid                        | Air(to be filtered by 40 μ m filter element)                                                                    |      |    |                                                                                    |            |      |
| Acting type                  | Internal piloted                                                                                                |      |    |                                                                                    |            |      |
| Port size ①                  | In=Exhaust=1/8" &<br>In=1/4" Exhaust=1/8"                                                                       |      |    | In=Exhaust=1/4" &<br>In=PT3/8 Exhaust=1/4"                                         |            |      |
| Orifice size                 | 4M210-06: 14.0mm <sup>2</sup> (Cv=0.78)<br>4M210-08: 16.0mm <sup>2</sup> (Cv=0.89)                              |      |    | 4M310-08: 25.0mm <sup>2</sup> (Cv=1.40)<br>4M310-10: 30.0mm <sup>2</sup> (Cv=1.68) |            |      |
| Valve type                   | 5 port 2 position                                                                                               |      |    |                                                                                    |            |      |
| Operating pressure           | 0.15~0.8MPa(21~114psi)                                                                                          |      |    |                                                                                    |            |      |
| Proof pressure               | 1.5MPa(215psi)                                                                                                  |      |    |                                                                                    |            |      |
| Temperature °C               | -20~70                                                                                                          |      |    |                                                                                    |            |      |
| Body material                | Aluminum alloy                                                                                                  |      |    |                                                                                    |            |      |
| Lubrication ②                | Not required                                                                                                    |      |    |                                                                                    |            |      |
| Max. frequency ③             | 5 cycle/sec                                                                                                     |      |    | 4 cycle/sec                                                                        |            |      |
| Coil specification           |                                                                                                                 |      |    |                                                                                    |            |      |
| Standard voltage             | AC220V、AC110V、AC24V、DC24V、DC12V                                                                                 |      |    |                                                                                    |            |      |
| Scope voltage                | AC: ±15% DC: ±10%                                                                                               |      |    |                                                                                    |            |      |
| Power consumption            | AC: 3.5VA DC: 3.0W                                                                                              |      |    |                                                                                    |            |      |
| Protection                   | IP65(DIN40050)                                                                                                  |      |    |                                                                                    |            |      |
| Temperature classification   | B Class                                                                                                         |      |    |                                                                                    |            |      |
| Electrical entry             | Terminal, Grommet                                                                                               |      |    |                                                                                    |            |      |
| Activating time              | 0.05 sec and below                                                                                              |      |    |                                                                                    |            |      |

① PT thread, NPT thread and G thread are available.

② It can't stop in the midway of lubricating. Lubricants like ISO VG32 or equivalent are recommended.

③ The maximum actuation frequency is in the no-load state.

Add) Refer to P415~442 for detail of sensor switch.

### Ordering code

| SUF 50 × 1000 S □ -06 A □ □ |                                         |                                                            |
|-----------------------------|-----------------------------------------|------------------------------------------------------------|
| Model                       | SCF: Double acting with valve type      | Thread type                                                |
| Bore size                   | 32 40 50 63 80 100                      | Blank: PT<br>T: NPT<br>G: G                                |
| Stroke                      | Refer to stroke table for details       | Electrical entry                                           |
| Magnet                      | Blank: Without magnet<br>S: With magnet | Blank: Terminal<br>I: Grommet                              |
| Mounting type               | Mounting type Available series Memo     | Voltage                                                    |
|                             | Blank: Standard type                    | A: AC220V<br>B: DC24V<br>C: AC110V<br>E: AC24V<br>F: DC12V |
|                             | LB: LB type                             | Port size                                                  |
|                             | FA: FA type                             | 06: 1/8"<br>08: 1/4"<br>10: 3/8"                           |
|                             | FB: FB type                             |                                                            |
|                             | CA: CA type                             |                                                            |
|                             | CB: CB type                             |                                                            |
|                             | TC: TC type                             |                                                            |

① Please refer to page 194 & page 203~206 for accessory parts.

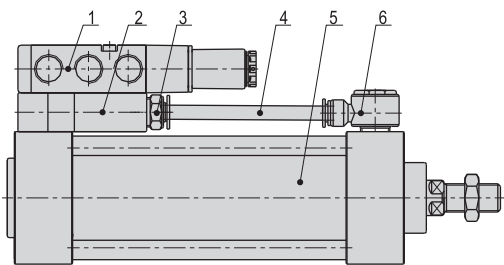


# Standard cylinder(Tie-rod)

## SUF Series(With valve type)



### Main combination

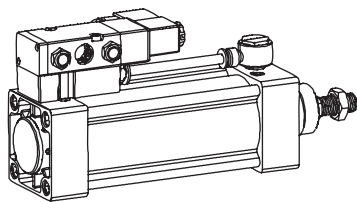


| NO. | Item                      |
|-----|---------------------------|
| 1   | 4M series solenoid valve  |
| 2   | Unite block               |
| 3   | APC series tube connector |
| 4   | PU tube                   |
| 5   | SU series cylinder        |
| 6   | APH series tube connector |

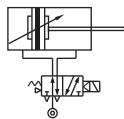
### How to use

- Options for piston rod to retract or extend when solenoid coil is energized.
- Default factory setting will be piston rod to retract when energized(see Drawing one). Should you require piston rod to extend when energized, reposition the solenoid valve as shown in Drawing two.

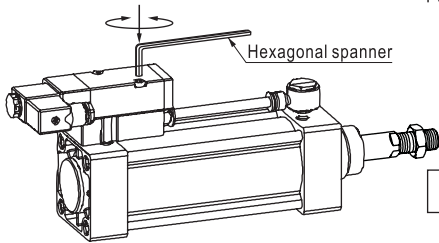
#### Drawing one



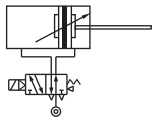
Pull when energized



#### Drawing two



Push when energized

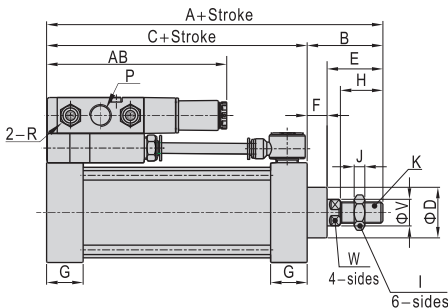


### Attention

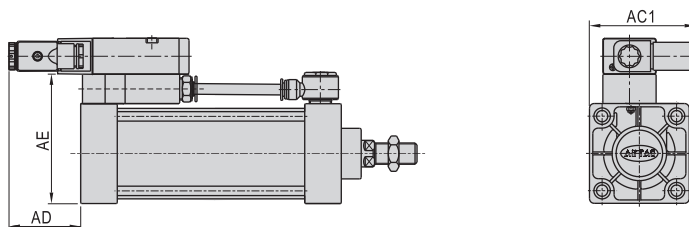
Ensure that the seals between the mounting block & valve are placed correctly when repositioning the valve.

### Dimensions

#### Pull when electrify



#### Push when electrify



| Bore size\Item | A   | AB    | AC   | AC1   | AD   | AE  | AF   | B  | C   | D  | E  | F  | K        |
|----------------|-----|-------|------|-------|------|-----|------|----|-----|----|----|----|----------|
| 32             | 140 | 118   | 66.7 | 76.7  | 52.8 | 67  | 66.7 | 47 | 93  | 28 | 32 | 15 | M10X1.25 |
| 40             | 142 | 118   | 68.2 | 80.2  | 52.8 | 72  | 66.7 | 49 | 93  | 32 | 34 | 15 | M12X1.25 |
| 50             | 150 | 120   | 71.7 | 88.7  | 50.8 | 84  | 66.7 | 57 | 93  | 38 | 42 | 15 | M16X1.5  |
| 63             | 153 | 135.5 | 77.2 | 96.2  | 54.5 | 97  | 69.2 | 57 | 96  | 38 | 42 | 15 | M16X1.5  |
| 80             | 182 | 137   | 86.2 | 106.2 | 53   | 116 | 69.2 | 75 | 107 | 47 | 54 | 21 | M20X1.5  |
| 100            | 188 | 135.5 | 95.7 | 114.7 | 54.5 | 134 | 69.2 | 75 | 113 | 47 | 54 | 21 | M20X1.5  |

| Bore size\Item | Compatible valve's type | P    | R    | L       | G    | H  | I  | J  | S   | T  | V  | W  | Z   |
|----------------|-------------------------|------|------|---------|------|----|----|----|-----|----|----|----|-----|
| 32             | 4M210-06                | 1/8" | 1/8" | M6X1    | 27.5 | 22 | 17 | 6  | 45  | 33 | 12 | 10 | 89  |
|                | 4M210-08                | 1/4" |      |         |      |    |    |    |     |    |    |    |     |
| 40             | 4M210-06                | 1/8" | 1/8" | M6X1    | 27.5 | 24 | 17 | 7  | 50  | 37 | 16 | 14 | 94  |
|                | 4M210-08                | 1/4" |      |         |      |    |    |    |     |    |    |    |     |
| 50             | 4M210-06                | 1/8" | 1/8" | M6X1    | 27.5 | 32 | 23 | 8  | 62  | 47 | 20 | 17 | 106 |
|                | 4M210-08                | 1/4" |      |         |      |    |    |    |     |    |    |    |     |
| 63             | 4M310-08                | 1/4" | 1/4" | M8X1.25 | 27.5 | 32 | 23 | 8  | 75  | 56 | 20 | 17 | 124 |
|                | 4M310-10                | 3/8" |      |         |      |    |    |    |     |    |    |    |     |
| 80             | 4M310-08                | 1/4" | 1/4" | M10X1.5 | 33   | 40 | 26 | 10 | 94  | 70 | 25 | 22 | 143 |
|                | 4M310-10                | 3/8" |      |         |      |    |    |    |     |    |    |    |     |
| 100            | 4M310-08                | 1/4" | 1/4" | M10X1.5 | 33   | 40 | 26 | 10 | 112 | 84 | 25 | 22 | 161 |
|                | 4M310-10                | 3/8" |      |         |      |    |    |    |     |    |    |    |     |

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



SUF



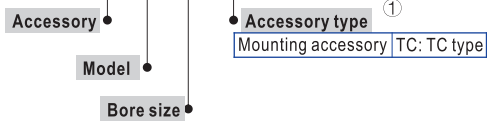
# Standard cylinder(Profile)

**AirTAC**

## Accessories

### Ordering code

**F-SU 50 TC**



① The listed accessories are for SU cylinder. Accessories that are adaptable to other cylinders are not shown. Please refer to accessory list for selection and ordering information.

### Accessory selection

| Cylinder model     | SU, SUF              | SUD                  | SUJ                  |
|--------------------|----------------------|----------------------|----------------------|
| Accessories        | Standard With magnet | Standard With magnet | Standard With magnet |
| Mounting accessory |                      |                      |                      |
| LB                 | ●                    | ●                    | ●                    |
| FA                 | ●                    | ●                    | ●                    |
| FB                 | ●                    | ×                    | ×                    |
| CA                 | ●                    | ×                    | ×                    |
| CB                 | ●                    | ×                    | ×                    |
| TC                 | ●                    | ●                    | ●                    |
| TCM1               | ●                    | ●                    | ●                    |
| Knuckle            |                      |                      |                      |
| I                  | ●                    | ●                    | ●                    |
| Y                  | ●                    | ●                    | ●                    |
| U                  | ●                    | ●                    | ●                    |
| ① F                | ●                    | ●                    | ●                    |
| Sensor switch②     |                      |                      |                      |
| CS1-B              | ×                    | ×                    | ×                    |
| DS1-B              | ×                    | ×                    | ×                    |
| CS1-F              | ×                    | ×                    | ×                    |
| DS1-F              | ×                    | ×                    | ×                    |
| CS1-U              | ×                    | ×                    | ×                    |
| DS1-U              | ×                    | ×                    | ×                    |

① Please refer to P415~418 for knuckle detail.

② Please refer to P419~442 for detail of sensor switch.

### Material of accessories

| Accessories | Mounting accessories           | Knuckle |
|-------------|--------------------------------|---------|
| Bore size   | LB FA FB CA CB TC TCM1 I Y F U |         |
| 32~100      | □ ● ● ◇ ◇ ◇ ◇ □ □ □ □          |         |

● — Aluminum alloy, ◇ — Cast steel, □ — Carbon steel.

### List for ordering code of accessories

| Accessories | Mounting accessory            |
|-------------|-------------------------------|
| Bore size   | LB FA FB CA                   |
| 32          | F-SC32LB F-SC32FA F-SC32CA    |
| 40          | F-SC40LB F-SC40FA F-SC40CA    |
| 50          | F-SC50LB F-SC50FA F-SC50CA    |
| 63          | F-SC63LB F-SC63FA F-SC63CA    |
| 80          | F-SC80LB F-SC80FA F-SC80CA    |
| 100         | F-SC100LB F-SC100FA F-SC100CA |

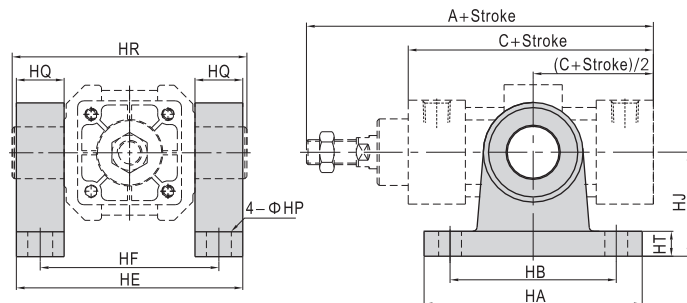
| Accessories | Mounting accessory             |
|-------------|--------------------------------|
| Bore size   | CB TC TCM1                     |
| 32          | F-SC32CB F-SU32TC F-SI32TCM1   |
| 40          | F-SC40CB F-SU40TC F-SC40TCM1   |
| 50          | F-SC50CB F-SU50TC F-SC40TCM1   |
| 63          | F-SC63CB F-SU63TC F-SC40TCM1   |
| 80          | F-SC80CB F-SU80TC F-SC80TCM1   |
| 100         | F-SC100CB F-SU100TC F-SC80TCM1 |

| Accessories | Knuckle                                             |
|-------------|-----------------------------------------------------|
| Bore size   | I: I Knuckle Y: Y Knuckle F: F Knuckle U: U Knuckle |
| 32          | F-M10X125I F-M10X125Y F-M10X125F F-M10X125U         |
| 40          | F-M12X125I F-M12X125Y F-M12X125F F-M12X125U         |
| 50          | F-M16X150I F-M16X150Y F-M16X150F F-M16X150U         |
| 63          | F-M16X150I F-M16X150Y F-M16X150F F-M16X150U         |
| 80          | F-M20X150I F-M20X150Y F-M20X150F F-M20X150U         |
| 100         | F-M20X150I F-M20X150Y F-M20X150F F-M20X150U         |

| Accessories | Sensor switch                         |
|-------------|---------------------------------------|
| Bore size   | CS1-B DS1-B CS1-F DS1-F CS1-U DS1-U   |
| 32          | CS1-B1 DS1-B1                         |
| 40          | CS1-B1 DS1-B1                         |
| 50          | CS1-B1 DS1-B1                         |
| 63          | CS1-B2 DS1-B2 CS1-F DS1-F CS1-U DS1-U |
| 80          | CS1-B3 DS1-B3                         |
| 100         | CS1-B4 DS1-B4                         |

### Dimensions

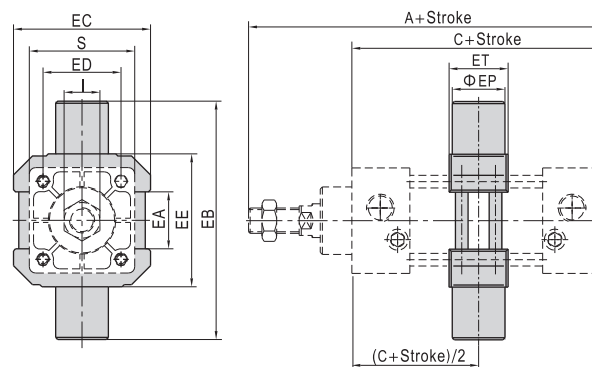
#### TCM1



| Bore size\Item | A   | C   | HA  | HB | HE  | HF  | HP | HQ | HR  | HT | HJ |
|----------------|-----|-----|-----|----|-----|-----|----|----|-----|----|----|
| 32             | 140 | 93  | 80  | 60 | 72  | 62  | 9  | 12 | 74  | 11 | 40 |
| 40             | 142 | 93  | 103 | 80 | 109 | 86  | 11 | 23 | 113 | 12 | 50 |
| 50             | 150 | 93  | 103 | 80 | 122 | 99  | 11 | 23 | 126 | 12 | 50 |
| 63             | 153 | 96  | 103 | 80 | 134 | 111 | 11 | 23 | 138 | 12 | 50 |
| 80             | 182 | 107 | 110 | 85 | 160 | 137 | 13 | 23 | 164 | 12 | 70 |
| 100            | 188 | 113 | 110 | 85 | 178 | 155 | 13 | 23 | 182 | 12 | 70 |

Note) The installation position of the accessories can not be adjusted arbitrarily.

#### TC



| Bore size\Item | A   | C   | EA | EB  | EC  | ED | EE  | EP | ET | I  | S   |
|----------------|-----|-----|----|-----|-----|----|-----|----|----|----|-----|
| 32             | 140 | 93  | 20 | 74  | 52  | 33 | 50  | 12 | 22 | 17 | 45  |
| 40             | 142 | 93  | 27 | 113 | 65  | 37 | 63  | 25 | 28 | 17 | 50  |
| 50             | 150 | 93  | 31 | 126 | 75  | 47 | 76  | 25 | 28 | 23 | 62  |
| 63             | 153 | 96  | 42 | 138 | 90  | 56 | 88  | 25 | 30 | 23 | 75  |
| 80             | 182 | 107 | 54 | 164 | 112 | 70 | 114 | 25 | 32 | 26 | 94  |
| 100            | 188 | 113 | 68 | 182 | 135 | 84 | 132 | 25 | 38 | 26 | 112 |

Note) The installation position of the accessories can not be adjusted arbitrarily.

The others accessories are the same as SC series's accessories, please refer to P203~206 for details.