Air Cylinder

Series CJ1

Double Acting: ø4/Single Acting Spring Return: ø2.5, ø4

Variations

<table>
<thead>
<tr>
<th>Series</th>
<th>Action</th>
<th>Bore size (mm)</th>
<th>Standard stroke (mm)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Series CJ1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double acting</td>
<td>Single rod</td>
<td>4</td>
<td>5, 10, 15, 20</td>
<td>1.1-2</td>
</tr>
<tr>
<td>Single acting</td>
<td>Single rod</td>
<td>2.5</td>
<td>5, 10</td>
<td>1.1-4</td>
</tr>
<tr>
<td></td>
<td>Spring return</td>
<td>4</td>
<td>5, 10, 15, 20</td>
<td></td>
</tr>
</tbody>
</table>

How to Order/Double Acting

- **CJ1B 4 5 U4**

**Mounting**
- B Basic

**Bore size**
- 4 ø4mm

**Applicable tubing**
- Symbol: U4
- Tube material: Polyurethane
- Size: 4mm O.D., 2.5mm I.D.

**Cylinder standard stroke (mm)**
- 5, 10, 15, 20

Refer to p.1.1-4 and 1.1-5 for single acting style.
Air Cylinder/Single Acting (Spring Return)
Series CJ1
ø2.5, ø4

How to Order/Single Acting

<table>
<thead>
<tr>
<th>Symbol</th>
<th>CJ1B</th>
<th>4</th>
<th>10</th>
<th>S</th>
<th>U4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting</td>
<td>Basic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bore size</td>
<td>ø2.5</td>
<td>5, 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ø4</td>
<td>5, 10, 15, 20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Applicable tubing

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Tube material</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>U4</td>
<td>Polyurethane</td>
<td>4mm</td>
</tr>
<tr>
<td></td>
<td>Soft nylon</td>
<td>4mm</td>
</tr>
</tbody>
</table>

Cylinder standard stroke (mm)

<table>
<thead>
<tr>
<th>Bore size</th>
<th>ø2.5</th>
<th>ø4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke (mm)</td>
<td>5, 10</td>
<td>5, 10, 15, 20</td>
</tr>
</tbody>
</table>

Specifications

- Action: Single acting spring return
- Fluid: Air
- Proof pressure: 1.05 MPa
- Min. operating pressure: 0.7 MPa
- Max. operating pressure: 0.3 MPa
- Ambient and fluid temperature: –10 to 70°C (Non-freezing)
- Operating piston speed: 50 to 500 mm/s
- Cushion: None
- Stroke tolerance: ±
- Mounting: Basic style
- Lubrication: Not required (Non-lube)

Model/Cylinder Bore Size/Standard Strokes

<table>
<thead>
<tr>
<th>Model</th>
<th>Bore size (mm)</th>
<th>Standard stroke (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJ1B2</td>
<td>2.5</td>
<td>5, 10</td>
</tr>
<tr>
<td>CJ1B4</td>
<td>4</td>
<td>5, 10, 15, 20</td>
</tr>
</tbody>
</table>

Applicable tubing

<table>
<thead>
<tr>
<th>Tubing</th>
<th>Material</th>
<th>Size</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric size</td>
<td>Polyurethane</td>
<td>4mm</td>
<td>2.5mm</td>
</tr>
<tr>
<td></td>
<td>Soft nylon</td>
<td>4mm</td>
<td>2.5mm</td>
</tr>
</tbody>
</table>

Theoretical Force (N)

- Bore size (mm) 2.5
- Rod size (mm) 1
- Operating direction OUT
- Operating area (mm²) 4.9
- Operating pressure 0.3
- Weight (g) 1.5

- Bore size (mm) 4
- Rod size (mm) 2
- Operating direction OUT
- Operating area (mm²) 12.6
- Operating pressure 0.6
- Weight (g) 3.7

Precautions

Be sure to read before handling. Refer to p.0-39 to 0-42 for Safety Instructions and common precautions.

Piping

Caution
1. Do not forcibly connect piping that could apply a lateral force to the cylinder tube. This could cause the cylinder tube to tilt and lead to a malfunction.

Mounting

Caution
1. Do not operate with a load applied to the piston rod during retraction. The spring that is built into the cylinder provides only enough force to retract the piston rod. Thus, if a load is applied, the piston rod will not be able to retract to the end of the stroke.
2. Do not install by grasping the cylinder tube. This could cause the tube to deform and lead to a malfunction.
Air Cylinder/Single Acting (Spring Return) Series CJ1

Construction

CJ1B2-SU4  CJ1B4-SU4

Component Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rod cover</td>
<td>Brass</td>
<td>Electroless nickel plated</td>
</tr>
<tr>
<td>2</td>
<td>Cylinder tube</td>
<td>Brass</td>
<td>Electroless nickel plated</td>
</tr>
<tr>
<td>3</td>
<td>Piston rod</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Spring</td>
<td>Stainless steel wire</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Piston seal</td>
<td>NBR</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Mounting nut</td>
<td>Brass</td>
<td>Black zinc chromate</td>
</tr>
<tr>
<td>7</td>
<td>Rod end nut</td>
<td>Steel</td>
<td>Electroless nickel plated</td>
</tr>
</tbody>
</table>

Note: Impossible to disassemble

Dimensions: Basic style

Bore size: ø2.5/CJ1B2-SU4

Use ø4/ø2.5 polyurethane tube (TU0425) or soft nylon tube (TS0425)

<table>
<thead>
<tr>
<th>Bore (mm)</th>
<th>Symbol</th>
<th>S</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>16.5</td>
<td>25.5</td>
<td>29</td>
</tr>
</tbody>
</table>

Bore size: ø4/CJ1B4-SU4

Use ø4/ø2.5 polyurethane tube (TU0425) or soft nylon tube (TS0425)

<table>
<thead>
<tr>
<th>Bore (mm)</th>
<th>Symbol</th>
<th>S</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>19.5</td>
<td>28.5</td>
<td>37.5</td>
</tr>
</tbody>
</table>
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