4/5 Port Solenoid Valve

Power Consumption

0.1 W
With Power Saving Circuit

Series SYJ3000/5000/7000

Improved pilot valve
Pilot valve cover is stronger using stainless steel.
Mounting thread is also reinforced from size M1.7 to M2.

Flow Characteristics

<table>
<thead>
<tr>
<th>Series</th>
<th>Flow characteristics</th>
<th>C ([dm³/s·bar])</th>
<th>b</th>
<th>Cv</th>
<th>Q(μmbr(ANR))</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3000</td>
<td></td>
<td>0.46</td>
<td>0.36</td>
<td>0.12</td>
<td>122</td>
</tr>
<tr>
<td>SYJ5000</td>
<td></td>
<td>0.83</td>
<td>0.32</td>
<td>0.21</td>
<td>214</td>
</tr>
<tr>
<td>SYJ7000</td>
<td></td>
<td>2.9</td>
<td>0.35</td>
<td>0.74</td>
<td>762</td>
</tr>
</tbody>
</table>
## Variations

<table>
<thead>
<tr>
<th>Series</th>
<th>Sonic conductance: C [dm³/(s.bar)]</th>
<th>Type of actuation</th>
<th>Voltage</th>
<th>Electrical entry</th>
<th>Option</th>
<th>Manual override</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3000</td>
<td>Effective area 0.9 mm² [4/2 → 5/3 ((A/B → EA/EB)]</td>
<td>2 Position</td>
<td>For DC</td>
<td>24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC</td>
<td>For DC</td>
<td>With surge voltage suppressor</td>
</tr>
<tr>
<td>SYJ5000</td>
<td>0.47 [4/2 → 5/3 ((A/B → EA/EB)]</td>
<td>2 Position</td>
<td>For DC</td>
<td>With light/surge voltage suppressor</td>
<td>L plug connector</td>
<td></td>
</tr>
<tr>
<td>SYJ7000</td>
<td>2.4 [4/2 → 5/3 ((A/B → EA/EB)]</td>
<td>3 Position</td>
<td>For AC</td>
<td>100 VAC %, 110 VAC %, 200 VAC %, 220 VAC %</td>
<td>For AC</td>
<td>With light/surge voltage suppressor</td>
</tr>
<tr>
<td>SYJ3000</td>
<td>0.46 [4/2 → 5/3 ((A/B → EA/EB)]</td>
<td>Closed center</td>
<td>For AC</td>
<td>Non-locking push type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ5000</td>
<td>0.83 [4/2 → 5/3 ((A/B → EA/EB)]</td>
<td>Exhaust center</td>
<td>For AC</td>
<td>Push-turn locking slotted type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ7000</td>
<td>2.9 [4/2 → 5/3 ((A/B → EA/EB)]</td>
<td>Pressure center</td>
<td>For AC</td>
<td>Push-turn locking lever type</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** All AC voltage models have built-in surge voltage suppressor.

---

**Front matter 1**
## Manifold Variations

<table>
<thead>
<tr>
<th>Valve series</th>
<th>A, B port location</th>
<th>A, B port size</th>
<th>Manifold option</th>
<th>Flat ribbon cable manifold</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3000</td>
<td>Top</td>
<td>M3 M5 1/8</td>
<td>Individual SUP spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual EXH spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interface regulator</td>
<td></td>
</tr>
<tr>
<td>SYJ5000</td>
<td>Top</td>
<td>M3 M5 1/8</td>
<td>Individual SUP spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual EXH spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interface regulator</td>
<td></td>
</tr>
<tr>
<td>SYJ7000</td>
<td>Top</td>
<td>M3 M5 1/8</td>
<td>Individual SUP spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual EXH spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interface regulator</td>
<td></td>
</tr>
<tr>
<td>SYJ3000</td>
<td>Side</td>
<td>M3 M5 1/8</td>
<td>Individual SUP spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual EXH spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interface regulator</td>
<td></td>
</tr>
<tr>
<td>SYJ5000</td>
<td>Side</td>
<td>M3 M5 1/8</td>
<td>Individual SUP spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual EXH spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interface regulator</td>
<td></td>
</tr>
<tr>
<td>SYJ7000</td>
<td>Side</td>
<td>M3 M5 1/8</td>
<td>Individual SUP spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual EXH spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interface regulator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bottom</td>
<td>M3 M5 1/8</td>
<td>Individual SUP spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual EXH spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interface regulator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bottom</td>
<td>M3 M5 1/8</td>
<td>Individual SUP spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual EXH spacer assembly</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interface regulator</td>
<td></td>
</tr>
</tbody>
</table>

### Notes
- All AC voltage models have built-in surge voltage suppressor.
- For detailed specifications about SYJ3000, refer to page 14. For SYJ5000, refer to page 38, and for SYJ7000, refer to page 61.
Rubber Seal
4/5 Port Solenoid Valve
Series SYJ3000

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (MPa)</td>
<td>2 position single</td>
</tr>
<tr>
<td></td>
<td>2 position double</td>
</tr>
<tr>
<td></td>
<td>3 position</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>~10 to 50 (No freezing. Refer to back page 3.)</td>
</tr>
<tr>
<td>Response time (ms) (at 0.5 MPa)</td>
<td>2 position single, double</td>
</tr>
<tr>
<td></td>
<td>3 position</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double</td>
</tr>
<tr>
<td></td>
<td>3 position</td>
</tr>
<tr>
<td>Manual override (Manual operation)</td>
<td>Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type</td>
</tr>
<tr>
<td>Pilot exhaust method</td>
<td>Individual exhaust for the pilot valve, Common exhaust for the pilot and main valve</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Unrestricted</td>
</tr>
<tr>
<td>Shock/Vibration resistance (m/s²)</td>
<td>Dust proof (+ M8 connector conforms to IP65.)</td>
</tr>
</tbody>
</table>

Solenoide Specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>Gromet (G), (H), L plug connector (L), M plug connector (M), M8 connector (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil rated voltage (V)</td>
<td>DC</td>
</tr>
<tr>
<td>Allowable voltage fluctuation</td>
<td>DC</td>
</tr>
<tr>
<td>Power consumption (W)</td>
<td>DC</td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Diode (Non-polarity type: Valistor)</td>
</tr>
<tr>
<td>Indicator light</td>
<td>LED</td>
</tr>
</tbody>
</table>

Bracket Mounting

1. Insert the lower hook of the mounting bracket into the groove on the bottom of the valve as shown.
2. Press the valve and mounting bracket together until the upper hook of the bracket snaps into place in the groove on top of the valve.

Made to Order
(For details, refer to page 78.)
## Flow Characteristics/Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
<th>Effective Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ314-2</td>
<td>Single</td>
<td>1, 5, 3</td>
<td>M5</td>
<td></td>
</tr>
<tr>
<td>SYJ324-2</td>
<td>Double</td>
<td>4, 2</td>
<td>L/M plug</td>
<td></td>
</tr>
<tr>
<td>SYJ334-3</td>
<td>Closed center</td>
<td></td>
<td>M8 connector</td>
<td></td>
</tr>
<tr>
<td>SYJ344-3</td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ345-3</td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Cylinder Speed Chart

#### Body Ported

**Series SYJ3120-M3**

<table>
<thead>
<tr>
<th>Average speed (mm/s)</th>
<th>Bore size</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>Perpendicular, upward actuation</td>
</tr>
<tr>
<td>700</td>
<td>Horizontal actuation</td>
</tr>
<tr>
<td>600</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td></td>
</tr>
<tr>
<td>400</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>00</td>
<td></td>
</tr>
</tbody>
</table>

#### Base Mounted

**Series SYJ3140-M5**

<table>
<thead>
<tr>
<th>Average speed (mm/s)</th>
<th>Bore size</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>Perpendicular, upward actuation</td>
</tr>
<tr>
<td>700</td>
<td>Horizontal actuation</td>
</tr>
<tr>
<td>600</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td></td>
</tr>
<tr>
<td>400</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>00</td>
<td></td>
</tr>
</tbody>
</table>

**Conditions**

<table>
<thead>
<tr>
<th>Body ported</th>
<th>Series CJ2</th>
<th>Series CM2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3120-M3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ3140-M5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base mounted</th>
<th>Series CJ2</th>
<th>Series CM2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3140-M5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Notes**

- Dedicated for manifold base. For details, refer to page 11.
- Without sub-plate.
- * These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.

---

* Cylinder is extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.

**Load factor:** (Load weight x 9.8) / (Theoretical force) x 100%
**Series SYJ3000**

### How to Order

#### Type of actuation
- **1**: 2 position single solenoid
- **2**: 2 position double solenoid
- **3**: 3 position closed center
- **4**: 3 position exhaust center
- **5**: 3 position pressure center

#### Rated voltage
- **DC**
  - **5**: 24 VDC
  - **6**: 12 VDC
  - **V**: 6 VDC
  - **S**: 5 VDC
  - **R**: 3 VDC

#### Light/surge voltage suppressor
- **-**: Without light/surge voltage suppressor
- **S**: With surge voltage suppressor
- **Z**: With light/surge voltage suppressor
- **R**: With surge voltage suppressor (Non-polar type)
- **U**: With light/surge voltage suppressor (Non-polar type)

**Note 1)** Power saving circuit is only available in the "Z" type.

#### Body ported
**SYJ3 1 2 0 5 M**

#### Base mounted (4 port)
**SYJ3 2 3 0 5 M**

#### Base mounted (5 port)
**SYJ3 2 4 0 5 M**

#### Electrical entry
- **24, 12, 6, 5, 3 VDC**
  - **G**: Lead wire length 300 mm
  - **L**: With lead wire (Length 300 mm)
  - **M**: With lead wire (Length 300 mm)
  - **MN**: Without lead wire
  - **WO**: Without connector cable
  - **H**: Lead wire length 60 mm
  - **LN**: Without lead wire
  - **LO**: Without connector
  - **MO**: Without connector
  - **W**: With connector cable [Note 1]

**Note 1)** The cable length symbols in [ ] must be filled in blank referring to back page 10.

### Body option
- **0**: Pilot valve individual exhaust for the pilot valve
- **3**: Common exhaust type for main and pilot valve

#### Manual override
- **-**: Non-locking push type
- **D**: Push-turn locking slotted type
- **E**: Push-turn locking lever type

#### Port size
- **-**: Without sub-plate
- **M5**: With M5 port sub-plate

**Note** When placing an order for body ported solenoid valve as a single unit, mounting bolt for manifold and gasket are not attached. Order them separately, if necessary. (For details, see page 15.)
**Series SYJ3000**

### Construction

#### 2 position single

![Diagram of 2 position single](image)

#### 2 position double

![Diagram of 2 position double](image)

#### 3 position closed center/exhaust center/pressure center

![Diagram of 3 position closed center](image)

### 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>Body</td>
<td>Zinc die-casted</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Piston plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>End cover</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>5</td>
<td>Spool valve assembly</td>
<td>Aluminum, H-NBR</td>
<td></td>
</tr>
</tbody>
</table>

### How to Order Pilot Valve Assembly

**V111**

- **Coil specifications**
  - Standard
  - With power saving circuit (24, 12 VDC only)
- **Rated voltage**
  - 5: 24 VDC
  - 6: 12 VDC
  - V: 6 VDC
  - S: 5 VDC
  - M: 3 VDC
- **For type W□, DC voltage is only available.**

- **Light/surge voltage suppressor**
  - Without light/surge voltage suppressor
  - S: With surge voltage suppressor
  - Z: With light/surge voltage suppressor
  - R: With surge voltage suppressor (Non-polar type)
  - U: With light/surge voltage suppressor (Non-polar type)

- **Electrical entry**
  - G: Grommet, 300 mm lead wire
  - H: Grommet, 600 mm lead wire
  - L: L plug connector
    - With lead wire
    - Without lead wire
  - LN: Without connector
  - LO: Without connector
  - M: M plug connector
    - With lead wire
    - Without lead wire
  - MG: Without connector
  - MN: Without connector
  - W: W plug connector
    - Without connector cable
    - With connector cable
  - W插: With connector cable (Non-polar type)

### Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>No.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Sub-plate</td>
<td>SYJ3000-22-1-Q</td>
<td>Zinc die-casted</td>
</tr>
<tr>
<td>7</td>
<td>Pilot valve</td>
<td>V111 (T)</td>
<td>-</td>
</tr>
</tbody>
</table>

### How to Order Connector Assebmly for L/M Plug Connector

**For DC**

- Without lead wire (with connector and 2 of sockets only): SY100-30-A
- With connector cable: SY100-30-4A-

- **Lead wire length**
  - 300 mm
  - 600 mm
  - 1000 mm
  - 1500 mm
  - 2000 mm
  - 2500 mm
  - 3000 mm
  - 5000 mm

### How to Order M8 Connector Cable

**V100-49-1-**

- **Cable length**
  - 300 mm
  - 500 mm
  - 1000 mm
  - 2000 mm
  - 5000 mm

---

1. Enter the cable length symbols in the blank referring to back page 10.
Series SYJ3000

2 Position Single

Grommet (G), (H): SYJ3120-□□□-M3-Q

With bracket:
SYJ3120-□□□-M3-F-Q

L plug connector (L):
SYJ3120-□□□-M3 (-F)-Q

M plug connector (M):
SYJ3120-□□□-M3 (-F)-Q

M8 connector (WO):
SYJ3120-□□□-M3 (-F)-Q

Refer to back page 11 for dimensions with connector cable.
2 Position Double

Grommet (G), (H): SYJ3220-L□□□-M3 (-F)-Q

M plug connector (M):
SYJ3220-M□□□-M3 (-F)-Q

M8 connector (WO):
SYJ3220-WΟ□□□-M3 (-F)-Q

L plug connector (L):
SYJ3220-L□□□-M3 (-F)-Q

Refer to back page 11 for dimensions with connector cable.
Series SYJ3000

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ3\(^{1/2}\)L-□□□□-M3 (-F)-Q

L plug connector (L): SYJ3\(^{1/2}\)L-□□□□-M3 (-F)-Q

M plug connector (M): SYJ3\(^{1/2}\)M-□□□□-M3 (-F)-Q

M8 connector (WO): SYJ3\(^{1/2}\)WO-□□□□-M3 (-F)-Q

Refer to back page 11 for dimensions with connector cable.
2 Position Single

Grommet (G), (H): SYJ3140-R□□□□□□-M5-Q

(Light/surge voltage suppressor)

2-ø3.2 (For mounting)
Manual override

G: Approx. 300
H: Approx. 600
(Lead wire length)

L plug connector (L):
SYJ3140-□□□□□□□-M5-Q

M plug connector (M):
SYJ3140-□□□□□□□-M5-Q

M8 connector (WO):
SYJ3140-□□□□□□□-M5-Q

Refer to back page 11 for dimensions with connector cable.
Series SYJ3000

2 Position Double

Grommet (G), (H): SYJ3240-□□□□□□-M5-Q

L plug connector (L):
SYJ3240-□□□□□□-M5-Q

M plug connector (M):
SYJ3240-□□□□□□-M5-Q

M8 connector (WO):
SYJ3240-□□□□□□-M5-Q

Refer to back page 11 for dimensions with connector cable.
3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ3\(\frac{3}{8}\)40-□□□□-M5-Q

L plug connector (L): SYJ3\(\frac{3}{8}\)40-□□□□-M5-Q

M plug connector (M): SYJ3\(\frac{3}{8}\)40-□□□□-M5-Q

M8 connector (WO): SYJ3\(\frac{3}{8}\)40(R)-□□□□-M5□□-Q

Refer to back page 11 for dimensions with connector cable.
### How to Order Connector Assembly

**Manifold Standard**

#### Use manifold specification sheet.

**Manifold Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type 20</th>
<th>Type 31, S31</th>
<th>Type 32, S32</th>
<th>Type 41, S41</th>
<th>Type 46, S46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P (SUP), R (EXH)</td>
<td>Common SUP/Common EXH</td>
<td>Common SUP Individual EXH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port Porting specifications</td>
<td>Location</td>
<td>Valve</td>
<td>Base</td>
<td>Direction</td>
<td>Top</td>
</tr>
<tr>
<td>P, R port</td>
<td>M5</td>
<td>1/8</td>
<td>P; 1/8</td>
<td>M5</td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>M3</td>
<td>M5, C4 (One-touch fitting for ø4)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Flow Characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Effective area (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body ported for internal pilot</td>
<td>SY3000-20-03-Q</td>
<td>1→4/2 (P→A/B)</td>
<td>C (cm²/second)</td>
</tr>
<tr>
<td>Type S5YJ3-20</td>
<td>M5</td>
<td>M3</td>
<td>–</td>
</tr>
<tr>
<td>Type S5YJ3-32-M5</td>
<td>M5</td>
<td>0.25</td>
<td>0.16</td>
</tr>
<tr>
<td>Type S5YJ3-32-C4</td>
<td>M5</td>
<td>0.25</td>
<td>0.18</td>
</tr>
<tr>
<td>Type S5YJ3-41-M5</td>
<td>M5</td>
<td>0.24</td>
<td>0.21</td>
</tr>
<tr>
<td>Type S5YJ3-41-C4</td>
<td>M5</td>
<td>0.32</td>
<td>0.25</td>
</tr>
<tr>
<td>Type S5YJ3-41-46</td>
<td>M5</td>
<td>0.32</td>
<td>0.28</td>
</tr>
<tr>
<td>Type S5YJ3-41-C4</td>
<td>M5</td>
<td>0.33</td>
<td>0.29</td>
</tr>
<tr>
<td>Type S5YJ3-41-46</td>
<td>M5</td>
<td>0.32</td>
<td>0.27</td>
</tr>
<tr>
<td>Type SY3000-21-1A-Q</td>
<td>M5</td>
<td>0.20</td>
<td>0.25</td>
</tr>
<tr>
<td>Type SY3000-21-1A-Q</td>
<td>M5</td>
<td>0.20</td>
<td>0.25</td>
</tr>
<tr>
<td>Type SY3000-21-1A-Q</td>
<td>M5</td>
<td>0.22</td>
<td>0.24</td>
</tr>
</tbody>
</table>

**Note:** Value at manifold base mounted, 2 position single operating

- *These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.

#### How to Order Manifold (Example)

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

Example:

- **SSSY3J3-20-03-Q** ——— 1 set (Manifold base)  
- **SSSY3J3-31-03-C4-Q** ——— 1 set (Manifold base)  
- **SYJ3120-5G-M3-Q** ——— 2 sets (Valve)  
- **SYJ3140-5LZ-Q** ——— 2 sets (Valve)  
- **SYJ3000-21-1A-Q** ——— 1 set (Blanking plate assembly)  
- **SYJ3000-21-2A-Q** ——— 1 set (Blanking plate assembly)

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

* Use manifold specification sheet.
Flat Ribbon Cable Manifold

- Multiple valve wiring is simplified through the use of the flat cable connector.
- Clean appearance

In the case of a flat ribbon cable type, each valve is wired on the print board of manifold base to allow the external wiring to be piped all together with 26 pins MIL connector.

![Type 21P](image)

Flat Ribbon Cable Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type 21P</th>
<th>Type 32P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td>Common SUP, Common EXH</td>
</tr>
<tr>
<td>Valve stations</td>
<td>4 to 12 stations</td>
<td>P (SUP), R (EXH)</td>
</tr>
<tr>
<td>Location</td>
<td>A, B port</td>
<td>Porting specifications</td>
</tr>
<tr>
<td>Direction</td>
<td>Top</td>
<td>Base</td>
</tr>
<tr>
<td>Port size</td>
<td>P, R port</td>
<td>1/8</td>
</tr>
<tr>
<td>A, B port</td>
<td>M3</td>
<td>M5, C4 (One-touch fitting for Ø4)</td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Socket: 26 pins MIL type with strain relief (MIL-C-83503)</td>
<td>In common between +COM and –COM (Z type: +COM only)</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>24, 12 VDC</td>
<td>24, 12 VDC</td>
</tr>
</tbody>
</table>

Note) The withstand voltage specification for the wiring unit section conforms to JIS C 0704, Grade 1 or its equivalent.

Flow Characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body ported for internal pilot</td>
<td>Type SS5YJ3-21P</td>
<td>SYJ3:23</td>
</tr>
<tr>
<td>Port size</td>
<td>1/8</td>
<td>M3</td>
</tr>
<tr>
<td>Flow characteristics</td>
<td>C [dm³/s]</td>
<td>b</td>
</tr>
<tr>
<td>1/8</td>
<td>0.25</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Note) Value at manifold base mounted, 2 position single operating

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.

How to Order Manifold

- SSYJ3-32P-07-C4-Q — 1 pc. (Manifold base)
- SSYJ3-3133-5LOU-Q — 3 pcs. (Valve)
- SSYJ3-3233-5LOU-Q — 3 pcs. (Valve)
- SSYJ3-20P-03-Q — 1 pc. (Manifold base)
- SSYJ3-32P-03-C4-Q — 1 pc. (Blanking plate assembly)

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

How to Order Valve

For DC

- Light/surge voltage suppressor
  - With light/surge voltage suppressor (Non-polar type)
  - With light/surge voltage suppressor (Non-polar type)

- Rated voltage
  - 5: 24 VDC
  - 6: 12 VDC

- Type of actuation
  - 1: 2 position single
  - 2: 2 position double
  - 3: 3 position closed center
  - 4: 3 position exhaust center
  - 5: 3 position pressure center

- Manual override
  - Non-locking push type
  - Push-turn locking slotted type
  - Push-turn locking lever type

How to Order Connector Assembly

For 12, 24 VDC

- Single solenoid SY3000-37-28A
- Double solenoid, 3 position type SY3000-37-29A
Common SUP/Individual EXH

Type 20 (5 Port/Body ported)

How to Order

SS5YJ3-20-05 -Q

Number of stations

<table>
<thead>
<tr>
<th>Stations</th>
<th>02</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

Applicable solenoid valve

SYJ3-20-05-M5-Q
SYJ3-23-05-M5-Q

Applicable blanking plate assembly

SYJ3000-21-1A-Q

Type 31 (4 Port/Base mounted)

How to Order

SS5YJ3-31-05-M3 -Q

Valve mounting direction

- Single solenoid coil is on opposite side as the A,B port.
- Single solenoid coil is on same side as the A,B port.

Stations

<table>
<thead>
<tr>
<th>Stations</th>
<th>02</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

Applicable solenoid valve

SYJ3-30-05-Q
SYJ3-33-05-Q

Applicable blanking plate assembly

SYJ3000-21-2A-Q

Type 32 (4 Port/Base mounted)

How to Order

SS5YJ3-32-05-M5 -Q

Valve mounting direction

- Single solenoid coil is on opposite side as the A,B port.
- Single solenoid coil is on same side as the A,B port.

A, B port size

<table>
<thead>
<tr>
<th>M5</th>
<th>M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>C4</td>
</tr>
</tbody>
</table>

One-touch fitting for ø4

1/8 1/8

M5

R, P port thread type

- Rc:
- F:
- G:
- N:
- T:

NPT

G

NPTF

Type 41 (5 Port/Base mounted)

How to Order

SS5YJ3-41-05-C4 -Q

Valve mounting direction

- Single solenoid coil is on opposite side as the A,B port.
- Single solenoid coil is on same side as the A,B port.

A, B port size

<table>
<thead>
<tr>
<th>M5</th>
<th>M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>C4</td>
</tr>
</tbody>
</table>

One-touch fitting for ø4

1/8 1/8

M5

R, P port thread type

- Rc:
- F:
- G:
- N:
- T:

NPT

G

NPTF

Common SUP/Individual EXH

Type 46 (5 Port/Base mounted)

How to Order

SS5YJ3-46-05-M5 -Q

Valve mounting direction

- Single solenoid coil is on opposite side as the A,B port.
- Single solenoid coil is on same side as the A,B port.

A, B port size

<table>
<thead>
<tr>
<th>M5</th>
<th>M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>C4</td>
</tr>
</tbody>
</table>

One-touch fitting for ø4

1/8 1/8

M5

P port thread type

- Rc:
- F:
- G:
- N:
- T:

NPT

G

NPTF

Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.
Flat Ribbon Cable Manifold

**Common SUP/Common EXH**

- **Type 21P**
  - A, B port
  - M3
  - P port: 1/8
  - R port: 1/8

- **Type 32P**
  - A, B port
  - M5, C4
  - P port: 1/8
  - R port: 1/8

**How to Order**

<table>
<thead>
<tr>
<th>SS5YJ3</th>
<th>Stations</th>
<th>A, B port size</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>21P</td>
<td>07</td>
<td>04: 4 stations</td>
<td>- Rc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12: 12 stations</td>
<td>M5, M5</td>
</tr>
<tr>
<td>32P</td>
<td>07</td>
<td>04: 4 stations</td>
<td>- Rc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12: 12 stations</td>
<td>M5, M5</td>
</tr>
</tbody>
</table>

**Applicable solenoid valves**

- Refer to page 12.

**Applicable connector assembly**

- Refer to page 12.

**Applicable blanking plate assembly**

- SYJ3000-21-3A-Q
- SYJ3000-21-3A-Q
- SYJ3000-33-1

**Mixed Installation of the SYJ300 and the SYJ3000 Valves on the Same Manifold**

Series SYJ300 valves can be mounted on the manifolds for Series SYJ3000.

1. **SS5YJ3-20, SS5YJ3-21P**
   - The 3 port valve can be used by simply sealing off the unused “R” port with rubber plug SYJ3000-33-1.
   - Applicable solenoid valves:
     - Series SYJ312, SYJ312M, SYJ322, SYJ322M

2. **SS5YJ3-31, -32, SS5YJ3-32, -32, SS5YJ3-46, -46, SS5YJ3-32P**
   - The 3 port valve can be used without modification. The A port of the valve will flow out of the B port of the manifold.
   - Applicable solenoid valves:
     - Series SYJ312, SYJ312M, SYJ322, SYJ322M

3. **SS5YJ3-41, -31**
   - The 3 port valve can be used on the 4 port manifold by simply sealing off the unused “R” port with rubber plug SYJ3000-33-1. The A port of the valve will flow out of the B port of the manifold.
   - Applicable solenoid valves:
     - Series SYJ314, SYJ314M, SYJ324, SYJ324M

**Caution**

- Mounting screw tightening torques
  - M1.7: 0.12 N·m

- Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
### Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

<table>
<thead>
<tr>
<th>Type</th>
<th>Manifold Base Configuration</th>
<th>Applicable Manifold Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 port body ported</td>
<td>4 port base mounted</td>
<td></td>
</tr>
<tr>
<td>(Type SYJ3(3\frac{1}{2})-Q)</td>
<td></td>
<td>SYJ3000-14-7</td>
</tr>
<tr>
<td>4 port base mounted</td>
<td></td>
<td>SYJ3000-14-2</td>
</tr>
<tr>
<td>(Type SYJ3(3\frac{3}{4})-Q)</td>
<td></td>
<td>SYJ3000-14-6</td>
</tr>
<tr>
<td>5 port base mounted</td>
<td></td>
<td>SYJ3000-14-2</td>
</tr>
<tr>
<td>(Type SYJ3(4\frac{3}{4})-Q)</td>
<td></td>
<td>SYJ3000-14-2</td>
</tr>
</tbody>
</table>

### Combination of Blanking Plate Assembly and Manifold Base

<table>
<thead>
<tr>
<th>Blanking Plate Assembly</th>
<th>Manifold Base Configuration</th>
<th>Applicable Manifold Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3000-21-1A-Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ3000-21-2A-Q</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Difference between SYJ3\(3\frac{1}{2}\) and SYJ3\(4\frac{3}{4}\)

- SYJ3\(3\frac{1}{2}\), 3\(3\frac{3}{4}\) (4 port)
- SYJ3\(4\frac{3}{4}\), 3\(4\frac{3}{4}\) (5 port)

- Steel ball is driven in.
- Configuration of surface is different.
- Note: Manifold gasket "SYJ3000-14-2" can be used with the following manifold bases.
  - Type SYJ3\(3\frac{1}{2}\)-Q
  - Type SYJ3\(4\frac{3}{4}\)-Q
  - Type SYJ3\(3\frac{3}{4}\)-Q
  - Type SYJ3\(4\frac{3}{4}\)-Q

### Caution

- Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
- Mounting screw tightening torques
  - M1.7: 0.12 N·m

- Note: Make sure to align the manifold gasket with the groove of the valve body.
Type 20 Manifold: Top Ported/SS5YJ3-20- Stations -Q

Grommet (G)

Station 1

L plug connector (L)

M plug connector (M)

M8 connector (WO)

Refer to back page 11 for dimensions with connector cable.
**Series SYJ3000**

**Type 31 Manifold: Side Ported/SS5YJ3-31- Stations -M3-Q**

**Grommet (G)**

**Type S31 Manifold: Side Ported SS5YJ3-S31- Stations -M3-Q**

---

**L plug connector (L)**

**M plug connector (M)**

**M8 connector (WO)**

---

| Station n | Station 2 | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Station 20 |
|-----------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| L1        | 35.5      | 46 | 56.5 | 67 | 77.5 | 88 | 98.5 | 109 | 119.5 | 130 | 140.5 | 151 | 161.5 | 172 | 182.5 | 193 | 203.5 | 214 | 224.5 |
| L2        | 28.5      | 39 | 49.5 | 60 | 70.5 | 81 | 91.5 | 102 | 112.5 | 123 | 133.5 | 144 | 154.5 | 165 | 175.5 | 186 | 196.5 | 207 | 217.5 |

Refer to back page 11 for dimensions with connector cable.
Series SYJ3000

Type 32 Manifold: Side Ported/SS5YJ3-32- Stations -M5, C4 N3 □-Q

Grommet (G)
For M5

(Light/surge voltage suppressor)

Approx. 200
(Lead wire length)

M plug connector (M)

2-ø4.5
(For mounting)

L plugin connector (L)

Approx. 300
(Lead wire length)

M8 connector (WO)

(Applicable tubing O.D.: ø4, ø5/32"

Refer to back page 11 for dimensions with connector cable.

Type S32 Manifold: Side Ported/SS5YJ3-32- Stations -M5, C4 N3 □-Q

For M5

(Light/surge voltage suppressor)

For C4 □ (Built-in one-touch fitting)

(Light/surge voltage suppressor)

Manual override

One-touch fitting

(Applicable tubing O.D.: ø4, ø5/32"

SS5YJ3-32, S32- Stations -M5-Q

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>41.5</td>
<td>52</td>
<td>62.5</td>
<td>73</td>
<td>83.5</td>
<td>94</td>
<td>104.5</td>
<td>115</td>
<td>125.5</td>
<td>136</td>
<td>146.5</td>
<td>157</td>
<td>167.5</td>
<td>178</td>
<td>188.5</td>
<td>199</td>
<td>209.5</td>
<td>220</td>
<td>230.5</td>
</tr>
<tr>
<td>L2</td>
<td>33.5</td>
<td>44</td>
<td>54.5</td>
<td>65</td>
<td>75.5</td>
<td>86</td>
<td>96.5</td>
<td>107</td>
<td>117.5</td>
<td>128</td>
<td>138.5</td>
<td>149</td>
<td>159.5</td>
<td>170</td>
<td>180.5</td>
<td>191</td>
<td>201.5</td>
<td>212</td>
<td>222.5</td>
</tr>
</tbody>
</table>

SS5YJ3-32, S32- Stations -C4-Q

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>42.5</td>
<td>53</td>
<td>63.5</td>
<td>74</td>
<td>84.5</td>
<td>95</td>
<td>105.5</td>
<td>116</td>
<td>126.5</td>
<td>137</td>
<td>147.5</td>
<td>158</td>
<td>168.5</td>
<td>179</td>
<td>189.5</td>
<td>200</td>
<td>210.5</td>
<td>221</td>
<td>231.5</td>
</tr>
<tr>
<td>L2</td>
<td>33.5</td>
<td>44</td>
<td>54.5</td>
<td>65</td>
<td>75.5</td>
<td>86</td>
<td>96.5</td>
<td>107</td>
<td>117.5</td>
<td>128</td>
<td>138.5</td>
<td>149</td>
<td>159.5</td>
<td>170</td>
<td>180.5</td>
<td>191</td>
<td>201.5</td>
<td>212</td>
<td>222.5</td>
</tr>
</tbody>
</table>
**Type 41 Manifold: Side Ported/SS5YJ3-41- Stations-M5, C4 N3 □ -Q**

**Grommet (G)**
For M5

![Diagram of Grommet (G) for M5]

<table>
<thead>
<tr>
<th>Grommet (G)</th>
<th>(Light/surge voltage suppressor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For M5</td>
<td>(A, B port)</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>1/8</td>
<td>8</td>
</tr>
</tbody>
</table>

**Type S41 Manifold: Side Ported/SS5YJ3-41- Stations-M5, C4 N3 □ -Q**

![Diagram of Type S41 Manifold: Side Ported/SS5YJ3-41- Stations-M5, C4 N3 □ -Q]

**L plug connector (L)**

![Diagram of L plug connector (L)]

**M plug connector (M)**

![Diagram of M plug connector (M)]

**M8 connector (WO)**

![Diagram of M8 connector (WO)]

Refer to back page 11 for dimensions with connector cable.

**Type S41 Manifold: Side Ported/SS5YJ3-41- Stations-M5, C4 N3 □ -Q**

- **For C4 N3 □ (Built-in one-touch fitting)**
  - (Light/surge voltage suppressor)
  - (A, B port)
  - Applicable tubing O.D.: ø4, ø5/32"
Series SYJ3000

Type 46 Manifold: Side Ported/SS5YJ3-46- Stations - M5, C4 N3 □ - Q

Grommet (G)
For M5

(Light/surge voltage suppressor)

For C4 N3 □ (Built-in one-touch fitting)

(Light/surge voltage suppressor)

For M5

For C4 N3 □ (Built-in one-touch fitting)

Applicable tubing O.D.:

Single solenoid coil is on same side as the A, B port.

Refer to back page 11 for dimensions with connector cable.

Type S46 Manifold: Side Ported/SS5YJ3-46- Stations - M5, C4 N3 □ - Q

For M5

For C4 N3 □ (Built-in one-touch fitting)

Applicable tubing O.D.: \( \varnothing 4, \varnothing 5/32" \)
Series SYJ3000

Flat Ribbon Cable Manifold

SS5YJ3-21P- Stations -00□-Q

SS5YJ3-32P- Stations -M5□, C4□, N3□-Q

For M5

For C4□ (Built-in one-touch fitting)

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>Station 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>72.5</td>
<td>85</td>
<td>97.5</td>
<td>110</td>
<td>122.5</td>
<td>135</td>
<td>147.5</td>
<td>160</td>
<td>172.5</td>
</tr>
<tr>
<td>L2</td>
<td>64.5</td>
<td>77</td>
<td>89.5</td>
<td>102</td>
<td>114.5</td>
<td>127</td>
<td>139.5</td>
<td>152</td>
<td>164.5</td>
</tr>
</tbody>
</table>

Applicable connector: 26 pins MIL type
With strain relief
(Conforming to MIL-C-83503)

Manual override

Triangular mark

Applicable tubing O.D.: ø4, ø5/32"
Rubber Seal
5 Port Solenoid Valve
Series SYJ5000

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (MPa)</td>
<td>2 position single 0.15 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>~10 to 50 (No freezing. Refer to back page 3.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response time (ms)</th>
<th>Max. operating frequency (Hz)</th>
<th>Manual override (Manual operation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position single, double</td>
<td>2 position single, double 25 or less</td>
<td>Non-locking push type. Push-turn locking slotted type. Push-turn locking lever type</td>
</tr>
<tr>
<td>3 position 40 or less</td>
<td>3 position 5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pilot exhaust method</th>
<th>Lubrication</th>
<th>Mounting orientation</th>
<th>Shock/Vibration resistance (m/s²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual exhaust for the pilot valve</td>
<td>Not required</td>
<td>Unrestricted</td>
<td>150/30</td>
</tr>
<tr>
<td>Common exhaust for the pilot and main valve</td>
<td>Dust proof (– DIN terminal, M8 connector conforms to IP65.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

JIS Symbol

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Body Option</th>
<th>Rated voltage</th>
<th>Lead wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of actuation</td>
<td>Body Option</td>
<td>Rated voltage</td>
<td>Lead wire</td>
</tr>
<tr>
<td>Manual override</td>
<td>Manual override</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Built-in Speed Controller

SYJ5 5

- Built-in exhaust flow controls enable simple cylinder speed adjustments.
- When mounted on the manifold, the common exhaust discharges the pilot and main valve exhaust through a common EXH port to enable simple exhaustaging.

JIS Symbol

| Made to Order | (For details, refer to pages 78 through to 80.) |

Throttle Valve Characteristics (θ → R)

- When using SYJ5-33 model the speed controller must be opened more than 1 complete rotation from fully closed in order to function properly.
- Adjust the speed controller with a torque of 0.3 N-m or less.

Note) Do not loosen plate fixing screw.
### Flow Characteristics/Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics (Note 1)</th>
<th>Weight (g) (Note 2, 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5:20-M5</td>
<td>2 position</td>
<td>M5 x 0.8</td>
<td>1, 2, 3</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>74</td>
</tr>
<tr>
<td>SYJ5:20-C4</td>
<td>2 position</td>
<td>C4</td>
<td>1, 2, 3</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>58</td>
</tr>
<tr>
<td>SYJ5:20-C6</td>
<td>2 position</td>
<td>C6</td>
<td>1, 2, 3</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>72</td>
</tr>
<tr>
<td>SYJ540-01</td>
<td>2 position</td>
<td>1/8</td>
<td>1, 2, 3</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1, 2, 3</td>
<td>74</td>
</tr>
</tbody>
</table>

Note 2) Without sub-plat.
Note 3) For AC voltages. For AC voltages add 9 g to the weight of the single solenoid and 6 g to the weight of the double solenoid and 3 position types.
* These values have been calculated according to ISO6358B and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.

### Cylinder Speed Chart

**Use as a guide for selection. Please confirm the actual conditions with SMC Sizing Program.**

#### Body Mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>Bore size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5120-M5</td>
<td>800</td>
<td>ø6</td>
</tr>
<tr>
<td></td>
<td>700</td>
<td>ø8</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>ø10</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>ø12</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>ø16</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>ø20</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>ø25</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>ø32</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>ø40</td>
</tr>
</tbody>
</table>

#### Base Mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>Bore size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5140-01</td>
<td>800</td>
<td>ø6</td>
</tr>
<tr>
<td></td>
<td>700</td>
<td>ø8</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>ø10</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>ø12</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>ø16</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>ø20</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>ø25</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>ø32</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>ø40</td>
</tr>
</tbody>
</table>

* Cylinder is in extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.
* Average speed of cylinder is obtained by dividing the full stroke time by the stroke.
* Load factor: [Load weight × 9.8] (Theoretical force) × 100%

### Conditions

#### Body mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Body mounted</th>
<th>Speed controller</th>
<th>Silencer</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5120-M5</td>
<td></td>
<td>AS1301F-04</td>
<td>AN120-M5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AS3001F-06</td>
<td>AN110-01</td>
</tr>
</tbody>
</table>

#### Base mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Body mounted</th>
<th>Speed controller</th>
<th>Silencer</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5140-01</td>
<td></td>
<td>AS2301F-04</td>
<td>AN101-01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AS3001F-06</td>
<td>AN101-01</td>
</tr>
</tbody>
</table>
**Type of actuation**

| 1 | 2 position single solenoid |
| 2 | 2 position double solenoid |
| 3 | 3 position closed center |
| 4 | 3 position exhaust center |
| 5 | 3 position pressure center |

**Rated voltage**

<table>
<thead>
<tr>
<th>DC</th>
<th>AC (±10% Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>24 VDC</td>
</tr>
<tr>
<td>6</td>
<td>12 VDC</td>
</tr>
<tr>
<td>V</td>
<td>6 VDC</td>
</tr>
<tr>
<td>S</td>
<td>5 VDC</td>
</tr>
<tr>
<td>R</td>
<td>3 VDC</td>
</tr>
</tbody>
</table>

* DC specifications of type 20 and DO is only available with 12 and 24 VDC.

**Body ported**

SYJ5 1 2 0 5 L M5 Q

**Base mounted**

SYJ5 2 4 0 5 L M5 Q

**Body option**

D: Pilot valve individual exhaust for the pilot valve
R port: P, E port
3: Common exhaust type for main and pilot valve
R port: P, E port

**Coil specifications**

- Standard
- With power saving circuit (24 V, 12 VDC only)

* Power saving circuit is not available in the case of D, DO or W □ type.

**Electrical entry**

**Light/surge voltage suppressor**

- Without light/surge voltage suppressor
- With surge voltage suppressor (Non-polar type)
- With surge voltage suppressor (Non-polar type)

* Power saving circuit is only available in the "Z" type.

**Electrical entry for D**

- Without light/surge voltage suppressor
- With surge voltage suppressor (Non-polar type)

* DOZ is not available.

* For AC voltage valves there is no "S" option.

**Bracket**

Without bracket
F: With bracket

Note: The mounting bracket is supplied unattached.

**Thread type**

Nil: Without sub-plate
F: With sub-plate
N: NPT
T: NPTF

**Port size**

- Non-locking push type
- Manual override

**Coil specifications**

- Standard
- With power saving circuit (24 V, 12 VDC only)

* Power saving circuit is not available in the case of D, DO or W □ type.

**Grommet**

- Lead wire length 300 mm

**L plug connector**

- With lead wire (Length 300 mm)

**M plug connector**

- Without lead wire

**WO**

- Without connector cable

**MO**

- Without connector

**DO**

- Without connector

**W □**

- With connector cable (Type 1)

Note 1) Enter the cable length symbols in □.

Please be sure to fill in the blank referring to back page 10.

* LN, MN type: with 2 sockets.

* DIN terminal type “Y” which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 79.

* For connector cable of M8 connector, refer to back page 10.

* Connector M8 type “WA” conforming to IEC 60947-5-2 standard. For details, see page 80.
**Series SYJ5000**

### Construction

**2 position single**

```
2 position single
```

**2 position double**

```
2 position double
```

**3 position closed center/exhaust center/pressure center**

```
3 position closed center
```

```
3 position exhaust center
```

```
3 position pressure center
```

(This figure shows a closed center type.)

### 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>Body</td>
<td>Aluminum die-casted</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Piston plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>End cover</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>5</td>
<td>Spool valve assembly</td>
<td>Aluminum, H-NBR</td>
<td>—</td>
</tr>
<tr>
<td>6</td>
<td>Spool spring</td>
<td>Stainless steel</td>
<td>—</td>
</tr>
</tbody>
</table>

### Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>No.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Sub-plate</td>
<td>SYJ5000-22-1-Q</td>
<td>Aluminum die-casted</td>
</tr>
<tr>
<td>8</td>
<td>Pilot valve</td>
<td>V111(1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bracket assembly</td>
<td>SYJ5000-13-3A</td>
<td></td>
</tr>
</tbody>
</table>
**How to Order Pilot Valve Assembly**

**V111**  

- **Coil specifications**
  - Standard
  - T: With power saving circuit (24, 12 VDC only)
  - Power saving circuit is not available in the case of "Z" type.

- **Rated voltage**
  - 5: 24 VDC
  - 6: 12 VDC
  - V: 6 VDC
  - S: 5 VDC
  - R: 3 VDC

**How to Order Connector Assembly for L/M Plug Connector**

**V115**

- **Rated voltage**
  - 5: 24 VDC
  - 6: 12 VDC
  - 1: 100 VAC 50/60 Hz
  - 2: 200 VAC 50/60 Hz
  - 3: 110 VAC 50/60 Hz (115 VAC 50/60 Hz)
  - 4: 220 VAC 50/60 Hz (230 VAC 50/60 Hz)

- **Electrical entry**
  - L: L plug connector
  - LN: L plug connector
  - LO: Without connector
  - M: M plug connector
  - MN: Without lead wire
  - MO: Without connector
  - WO: Without connector cable

**How to Order M8 Connector Cable**

**V100-49-1-**
### How to Order Pilot Valve Assembly

**Series SYJ5000**

### V111

<table>
<thead>
<tr>
<th>Coil specifications</th>
<th>Rated voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>115 VAC 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>110 VAC 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>24, 12 VDC only</td>
</tr>
</tbody>
</table>

**With power saving circuit:**

Type: D or DO

Not available in 12 and 24 VDC.

**Only available with type D and DO:**

Not available in the case of Type Z.

### Electrical entry

- **Light/surge voltage suppressor**
  - With light/surge voltage suppressor (Non-polar type)
  - With surge voltage suppressor (Non-polar type)

**Without light/surge voltage suppressor**

- **Power saving circuit is only available with Type D and DO**
- **Power saving circuit is only available with Type D and DO**

### Electrical entry terminal

- **DIN**

**Note:** Do not replace V111 (G, H, L, M, W, E) vice versa when replacing pilot valve assembly only.

### Connector Assembly

- **How to Order Connector Assembly**
  - For DC voltage valves there is no "S" option.

### Lead Wire Length

<table>
<thead>
<tr>
<th>Cable Length</th>
<th>Lead Wire Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 mm</td>
<td>560 mm</td>
</tr>
<tr>
<td>300 mm</td>
<td>300 mm</td>
</tr>
<tr>
<td>280 mm</td>
<td>280 mm</td>
</tr>
<tr>
<td>200 mm</td>
<td>200 mm</td>
</tr>
<tr>
<td>150 mm</td>
<td>150 mm</td>
</tr>
<tr>
<td>100 mm</td>
<td>100 mm</td>
</tr>
<tr>
<td>500 mm</td>
<td>500 mm</td>
</tr>
<tr>
<td>300 mm</td>
<td>300 mm</td>
</tr>
<tr>
<td>200 mm</td>
<td>200 mm</td>
</tr>
<tr>
<td>150 mm</td>
<td>150 mm</td>
</tr>
<tr>
<td>100 mm</td>
<td>100 mm</td>
</tr>
<tr>
<td>50 mm</td>
<td>50 mm</td>
</tr>
</tbody>
</table>

### L plug connector (L)

- SYJ5120-L□□□□-M5(-F)-Q

### M plug connector (M)

- SYJ5120-M□□□□-M5(-F)-Q

### DIN terminal (D)

- SYJ5120-D□□□□-M5(-F)-Q

### M8 connector (WO)

- SYJ5120-WO□□□□-M5(-F)-Q

Refer to back page 11 for dimensions with connector cable.
Series SYJ5000

2 Position Double

Grommet (G), (H): SYJ5220-M5-Q

Built-in one-touch fitting:
SYJ5220-C4, N3-Q

L plug connector (L): SYJ5220-L-M5-Q
M plug connector (M): SYJ5220-M-M5-Q
DIN terminal (D): SYJ5220-D-M5-Q
M8 connector (WO): SYJ5220-WO-M5-Q

Refer to back page 11 for dimensions with connector cable.
3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ51/20-M5-Q

Built-in one-touch fitting: SYJ51/20-C4, N3-M5-Q

L plug connector (L): SYJ51/20-L-M5-Q

M plug connector (M): SYJ51/20-M-M5-Q

DIN terminal (D): SYJ51/20-D-M5-Q

M8 connector (WO): SYJ51/20-WO-M5-Q

Refer to back page 11 for dimensions with connector cable.
## Series SYJ5000

### 2 Position Single

#### Grommet (G), (H):
SYJ5140-□□□-01□-Q

#### L plug connector (L):
SYJ5140-□L□-01□-Q

#### M plug connector (M):
SYJ5140-□M□-01□-Q

#### DIN terminal (D):
SYJ5140-□D□-01□-Q

#### M8 connector (WO):
SYJ5140-□WO□-01□-Q

---

**Built-in speed controller:**
SYJ5150-□□□-01□-Q

**With interface regulator**

---

- **Position (P, R port):**
- **Position (A, B port):**

---

- **Approx. 300** (Lead wire length)
- **Approx. 300** (Light/surge voltage suppressor)
- **Approx. 600** (Lead wire length)

---

- **Refer to back page 11 for dimensions with connector cable.**
Series SYJ5000

2 Position Double

Grommet (G), (H): SYJ5240-□□-01□-Q

Built-in speed controller:
SYJ5250-□□-01□-Q

L plug connector (L): SYJ5240-□□-01□-Q
M plug connector (M): SYJ5240-□□-01□-Q
DIN terminal (D): SYJ5240-□□-01□-Q
M8 connector (WO): SYJ5240-□□-01□-Q

Refer to back page 11 for dimensions with connector cable.
Series SYJ5000

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ5\textsubscript{5}40-\textcircled{G}/\textcircled{H}-01-\textsubscript{Q}

Built-in speed controller:
SYJ5\textsubscript{5}50-\textcircled{G}/\textcircled{H}-01-\textsubscript{Q}

(Light/surge voltage suppressor)

With interface regulator

L plug connector (L): SYJ5\textsubscript{5}40-\textcircled{L}-01-\textsubscript{Q}

M plug connector (M): SYJ5\textsubscript{5}40-\textcircled{M}-01-\textsubscript{Q}

DIN terminal (D): SYJ5\textsubscript{5}40-\textcircled{D}-01-\textsubscript{Q}

M8 connector (WO): SYJ5\textsubscript{5}40-\textcircled{WO}-01-\textsubscript{Q}

Refer to back page 11 for dimensions with connector cable.
## Manifold Standard

### Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type 20</th>
<th>Type 40</th>
<th>Type 41</th>
<th>Type 42</th>
<th>Type 43</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P (SUP), R (EXH)</td>
<td>Common SUP, Common EXH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>Location: Valve</td>
<td>Base</td>
<td>Base</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porting specifications</td>
<td>Direction: Top</td>
<td>Bottom</td>
<td>Side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>P, R port</td>
<td>1/8</td>
<td>1/4</td>
<td>1/8</td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>M5, 2 (One-touch fitting for ø6)</td>
<td>M5</td>
<td>1/8, C6 (One-touch fitting for ø4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Flow Characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1→4/2 (P→A/B)</td>
<td>4/2→5/3 (A/B→R)</td>
</tr>
<tr>
<td></td>
<td>C mm³/min (b)</td>
<td>C mm³/min/ANR</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>Cv</td>
</tr>
<tr>
<td>Type SS5YJ5-20</td>
<td>1/8</td>
<td>M5</td>
</tr>
<tr>
<td>Type SS5YJ5-40</td>
<td>1/8</td>
<td>C4</td>
</tr>
<tr>
<td>Type SS5YJ5-41</td>
<td>1/8</td>
<td>M5</td>
</tr>
<tr>
<td>Type SS5YJ5-43</td>
<td>1/8</td>
<td>C6</td>
</tr>
<tr>
<td>Type SS5YJ5-20-C4</td>
<td>1/8</td>
<td>M5</td>
</tr>
<tr>
<td>Type SS5YJ5-40-C4</td>
<td>1/8</td>
<td>C4</td>
</tr>
<tr>
<td>Type SS5YJ5-41-C4</td>
<td>1/8</td>
<td>C6</td>
</tr>
</tbody>
</table>

Note) Value at manifold base mounted, 2 position single operating
* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.

### How to Order Manifold (Example)

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

Example: SS5YJ5-20-03-Q 1 pc. (Manifold base)
- SYJS120-5G-M5-Q 2 pcs. (Valve)
- SYJS000-21-4A-Q 1 pc. (Blanking plate assembly)

Example: SS5YJ5-43-03-C4-Q 1 pc. (Manifold base)
- SYJS140-5LZ-Q 1 pc. (Valve)
- SYJS240-5LZ-Q 1 pc. (Valve)
- SYJS000-21-4A-Q 1 pc. (Blanking plate assembly)

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

* Use manifold specification sheet.
Flat Ribbon Cable Manifold

- Multiple valve wiring is simplified through the use of the flat cable connector.

- Clean appearance
  In the case of a flat ribbon cable type, each valve is wired on the print board of the manifold base to allow the external wiring to be piped all together with 26 pins MIL connector.

Flat Ribbon Cable Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type 20</th>
<th>Type 41P</th>
<th>Type 43P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td>Common SUP, Common EXH</td>
<td>Common SUP, Common EXH</td>
</tr>
<tr>
<td>Valve stations</td>
<td>3 to 12 stations</td>
<td>3 to 12 stations</td>
<td>3 to 12 stations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port size</th>
<th>A, B port</th>
<th>P, R port</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>M5</td>
<td>C4</td>
</tr>
<tr>
<td>(One-touch fitting for ø4)</td>
<td>(One-touch fitting for ø4)</td>
<td>(One-touch fitting for ø4)</td>
</tr>
</tbody>
</table>

Applicable flat ribbon cable connector
Socket: 26 pins MIL type with strain relief (MIL-C-83503)

Internal wiring
In common between +COM and –COM (Z type: +COM only).

Rated voltage
24, 12 VDC

- Note) The withstand voltage specification for the wiring unit section conforms to JIS C 0704, Grade 1 or its equivalent.

Flow Characteristics

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 [dm³/(s·bar)] b C v</td>
<td>0.68 0.91 0.83 0.75</td>
</tr>
<tr>
<td>1/8 [dm³/(s·bar)] b C v</td>
<td>0.33 0.41 0.36 0.32</td>
</tr>
</tbody>
</table>

- Note) Flow characteristics for A to B, B to A, P to EXH, EXH to P are the same.
- Note) Flow characteristics are valid for 1/8 ø5/32" and 1/4 ø6 threading type.
- Note) For more than 8 stations, supply air to both sides of P port and exhaust air from both sides of R port.

How to Order Valve

- Rated voltage
  5: 24 VDC
  6: 12 VDC

- Light/surge voltage suppressor
  Z: With light/surge voltage suppressor
  U: With light/surge voltage suppressor/Non-polar type

- Type of actuation
  1: 2 position single
  2: 2 position double
  3: 3 position closed center
  4: 3 position exhaust center
  5: 3 position pressure center

- Manual override
  - Non-locking push type
  - Push-turn locking slotted type
  - Push-turn locking lever type

How to Order Connector Assembly

For 12, 24 VDC

- Single solenoid
  SY3000-37-28A
- Double solenoid, 3 position type
  SY3000-37-28A
- Single solenoid, individual SUP, EXH spacing
  SY3000-37-3A
- Double solenoid, 3 position interface regulator
  SY3000-37-3A
- Double solenoid, 3 position interface regulator
  SY3000-37-3A
- 3 port adaptor plate
  SY3000-37-3A

For DC

- SYJ5
- 1: 2 position single
- 2: 2 position double
- 3: 3 position closed center
- 4: 3 position exhaust center
- 5: 3 position pressure center

- A, B port size
  - M5
  - M5
  - C4
  - One-touch fitting for ø4
  - C6
  - One-touch fitting for ø6
  - N3
  - One-touch fitting for ø3/16
  - N7
  - One-touch fitting for ø1/4
Common SUP/Common EXH

**Type 20 (5 Port/Body ported)**

![Diagram of Type 20 manifold]

**How to Order**

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>Port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 stations</td>
<td>M5</td>
</tr>
<tr>
<td>20 stations</td>
<td>M5</td>
</tr>
</tbody>
</table>

**How to Order**

SS5YJ5–20–05–M5–Q

**Applicable solenoid valve**

SYJ5–20–00–P–C4–Q
SYJ5–20–00–P–C6–Q
SYJ5–20–00–P–M5–Q

**Applicable blanking plate assembly**

SYJ5000–21–4A–Q

**Applicable individual EXH spacer assembly**

SYJ5000–17–1A–Q

**Applicable interface regulator**

ARBYJ5000–00–P–Q

---

**Type 40 (5 Port/Base mounted)**

![Diagram of Type 40 manifold]

**How to Order**

<table>
<thead>
<tr>
<th>Stations</th>
<th>Port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 stations</td>
<td>M5</td>
</tr>
<tr>
<td>20 stations</td>
<td>M5</td>
</tr>
</tbody>
</table>

**How to Order**

SS5YJ5–40–05–M5–Q

**Applicable solenoid valve**

SYJ5–40–00–P–C4–Q
SYJ5–40–00–P–C6–Q
SYJ5–40–00–P–M5–Q

**Applicable blanking plate assembly**

SYJ5000–21–1A–2–Q

**Applicable individual EXH spacer assembly**

SYJ5000–17–1A–2–Q

**Applicable interface regulator**

ARBYJ5000–00–P–Q

---

**Type 41 (5 Port/Base mounted)**

![Diagram of Type 41 manifold]

**How to Order**

<table>
<thead>
<tr>
<th>Stations</th>
<th>Port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 stations</td>
<td>M5</td>
</tr>
<tr>
<td>20 stations</td>
<td>M5</td>
</tr>
</tbody>
</table>

**How to Order**

SS5YJ5–41–05–M5–Q

**Applicable solenoid valve**

SYJ5–40–00–P–C4–Q
SYJ5–40–00–P–C6–Q
SYJ5–40–00–P–M5–Q

**Applicable blanking plate assembly**

SYJ5000–21–1A–2–Q

**Applicable individual EXH spacer assembly**

SYJ5000–17–1A–2–Q

**Applicable interface regulator**

ARBYJ5000–00–P–Q

---

**Type 42 (5 Port/Base mounted)**

![Diagram of Type 42 manifold]

**How to Order**

<table>
<thead>
<tr>
<th>Stations</th>
<th>Port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 stations</td>
<td>M5</td>
</tr>
<tr>
<td>20 stations</td>
<td>M5</td>
</tr>
</tbody>
</table>

**How to Order**

SS5YJ5–42–05–C6–Q

**Applicable solenoid valve**

SYJ5–40–00–P–C4–Q
SYJ5–40–00–P–C6–Q
SYJ5–40–00–P–M5–Q

**Applicable blanking plate assembly**

SYJ5000–21–1A–2–Q

**Applicable individual EXH spacer assembly**

SYJ5000–17–1A–2–Q

**Applicable individual SUP spacer assembly**

SYJ5000–16–2A–Q

**Applicable interface regulator**

ARBYJ5000–00–P–Q

---

**Type 43 (5 Port/Base mounted)**

![Diagram of Type 43 manifold]

**How to Order**

<table>
<thead>
<tr>
<th>Stations</th>
<th>Port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 stations</td>
<td>M5</td>
</tr>
<tr>
<td>20 stations</td>
<td>M5</td>
</tr>
</tbody>
</table>

**How to Order**

SS5YJ5–43–05–C4–Q

**Applicable solenoid valve**

SYJ5–40–00–P–C4–Q
SYJ5–40–00–P–C6–Q
SYJ5–40–00–P–M5–Q

**Applicable blanking plate assembly**

SYJ5000–21–1A–2–Q

**Applicable interface regulator**

ARBYJ5000–00–P–Q
**Series SYJ5000**

**Flat Ribbon Cable Manifold**

**Common SUP/Common EXH**

Note) For more than 8 stations, supply air to both sides of P port and exhaust air from both sides of R port.

**Type 20 (5 Port/Body ported)**

![Type 20 Diagram]

**How to Order**

SS5YJ5–20P–05–Q

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 3 stations</td>
<td>00F     G</td>
</tr>
<tr>
<td>12 12 stations</td>
<td>00N     NPT</td>
</tr>
<tr>
<td></td>
<td>00T     NPTF</td>
</tr>
</tbody>
</table>

**Applicable solenoid valve**

Refer to page 35.

**Applicable blanking plate assembly**

SYJ5000-21-3A-1-Q

**Applicable connector assembly**

Refer to page 35.

---

**Type 41P (5 Port/Base mounted)**

![Type 41P Diagram]

**How to Order**

SS5YJ5–41P–05–M5–Q

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 3 stations</td>
<td>00F     G</td>
</tr>
<tr>
<td>12 12 stations</td>
<td>00N     NPT</td>
</tr>
<tr>
<td></td>
<td>00T     NPTF</td>
</tr>
</tbody>
</table>

**Applicable solenoid valve**

Refer to page 35.

**Applicable blanking plate assembly**

SYJ5000-21-3A-2-Q

**Applicable connector assembly**

Refer to page 35.

---

**Type 43P (5 Port/Base mounted)**

![Type 43P Diagram]

**How to Order**

SS5YJ5–43P–05–C4–Q

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>A, B port size</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 3 stations</td>
<td>N3 One-touch fitting for ø4</td>
<td>00F     G</td>
</tr>
<tr>
<td></td>
<td>N3 One-touch fitting for ø5/32&quot;</td>
<td>00N     NPT</td>
</tr>
<tr>
<td>12 12 stations</td>
<td>N3 One-touch fitting for ø4</td>
<td>00T     NPTF</td>
</tr>
</tbody>
</table>

**Applicable solenoid valve**

Refer to page 35.

**Applicable blanking plate assembly**

SYJ5000-21-3A-2-Q

**Applicable connector assembly**

Refer to page 35.

---

**Combinations of Solenoid Valve, Manifold Gasket and Manifold Base**

- **Round head combination screw**
  - M2.5 x 25
  - Matt nickel plated (with spring washer)

- **Manifold Gasket**
  - DXT192-10-12
  - Applicable manifold base: Type SS5YJ5-20-Q

- **Round head combination screw**
  - M2.5 x 25
  - Matt nickel plated (with spring washer)

- **Manifold Gasket**
  - DXT192-10-16
  - Applicable manifold base: Type SS5YJ5-20-Q

**Blanking Plate Assembly**

**SYJ5000-21-1A-1-Q**

- **Applicable manifold base**
  - Type SS5YJ5-20-Q

**SYJ5000-21-1A-2-Q**

- **Applicable manifold base**
  - Type SS5YJ5-20-Q

**SYJ5000-21-3A-1-Q**

- **Round head combination screw**
- Blanking plate
- Gasket
- (Positioning pin)
- **Applicable manifold base**
  - Type SS5YJ5-20P-Q

**SYJ5000-21-3A-2-Q**

- **Round head combination screw**
- Blanking plate
- Gasket
- **Applicable manifold base**
  - Type SS5YJ5-20P-Q

**Caution**

Mounting screw tightening torques

M2.5: 0.45 N·m

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
**Mix Installation of the SYJ500 and the SYJ5000 Valves on the Same Manifold**

- Use of an adapter plate makes it possible to mount Series SYJ500 on the manifold bases of series SYJ5000.
- When mounting the SYJ500 valve on the SYJ5000 manifold, the SYJ500 solenoid must be positioned on the same side of the manifold as a single solenoid SYJ500. (Refer to the figure below.)
- For base mounted style, the A port of the 3 port valve flows out the B port of manifold base.

**Adapter Plate Assembly**

**Interface Regulator (P port regulation)**

Spacer type regulating valve on manifold block can regulate the pressure to the valve individually.

**ARBY5000-00-P-Q**

![Adapter Plate Assembly](image)

**Individual EXH Spacer Assembly**

**Individual SUP Spacer Assembly**

![Individual EXH Spacer Assembly](image)

**Individual SUP Spacer Assembly**

![Individual SUP Spacer Assembly](image)

**Caution**

Mounting screw tightening torques

| Thread type | M2.5 | 0.45 N-m |

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
Series SYJ5000

Type 20: Top Ported/SS5YJ5-20-Stations-00□-Q

Grommet (G)

(Light/surge voltage suppressor)

Built-in one-touch fitting

Approx. 300 (Lead wire length)

M5 (A, B port)

Station 1

L1

L2

Manual override

P = 16

1/8

(DIN 46.8)

(Latex/purge voltage suppressor)

Approx. 300 (Lead wire length)

M8 connector (WO)

Applicable cable O.D.

ø3.5 to ø7

Max. 10

Refer to back page 11 for dimensions with connector cable.

L plug connector (L)  M plug connector (M)  DIN terminal (D)  M8 connector (WO)

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>58</td>
<td>74</td>
<td>90</td>
<td>106</td>
<td>122</td>
<td>138</td>
<td>154</td>
<td>170</td>
<td>186</td>
<td>202</td>
<td>218</td>
<td>234</td>
<td>250</td>
<td>266</td>
<td>282</td>
<td>298</td>
<td>314</td>
<td>330</td>
<td>346</td>
</tr>
<tr>
<td>L2</td>
<td>40</td>
<td>56</td>
<td>72</td>
<td>88</td>
<td>104</td>
<td>120</td>
<td>136</td>
<td>152</td>
<td>168</td>
<td>184</td>
<td>200</td>
<td>216</td>
<td>232</td>
<td>248</td>
<td>264</td>
<td>280</td>
<td>296</td>
<td>312</td>
<td>328</td>
</tr>
</tbody>
</table>

39
Type 40: Bottom Ported/SS5YJ5-40- Stations-M5□-Q

Grommet (G)

Built-in speed controller

L plug connector (L)  M plug connector (M)  DIN terminal (D)  M8 connector (WO)

Refer to back page 11 for dimensions with connector cable.
### Series SYJ5000

**Type 41: Side Ported/SS5YJ5-41- Stations -M5□-Q**

**Grommet (G)**

(Station 1) - - - - - - (Station n)

(Light/surge voltage suppressor)

- **L plug connector (L)**
- **M plug connector (M)**
- **DIN terminal (D)**
- **M8 connector (WO)**

**Built-in speed controller**

Max. 13.5

Approx. 300

(Applicable tube O.D.: Ø6, Ø1/4"

Refer to back page 11 for dimensions with connector cable.

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>52</td>
<td>68</td>
<td>84</td>
<td>100</td>
<td>116</td>
<td>132</td>
<td>148</td>
<td>164</td>
<td>180</td>
<td>196</td>
<td>212</td>
<td>228</td>
<td>244</td>
<td>260</td>
<td>276</td>
<td>292</td>
<td>308</td>
<td>324</td>
<td>340</td>
</tr>
<tr>
<td>L2</td>
<td>43</td>
<td>59</td>
<td>75</td>
<td>91</td>
<td>107</td>
<td>123</td>
<td>139</td>
<td>155</td>
<td>171</td>
<td>187</td>
<td>203</td>
<td>219</td>
<td>235</td>
<td>251</td>
<td>267</td>
<td>283</td>
<td>299</td>
<td>315</td>
<td>331</td>
</tr>
</tbody>
</table>
For 01□

Built-in speed controller

(Light/surge voltage suppressor)

- Manual override
- For mounting

Approx. 300

(DIN terminal (D))

1/8

(P, R port)

(Station 1)- - - (Station n)

(Light/surge voltage suppressor)

- One-touch fitting
- (A, B port)

Applicable tubing O.D.: ø6, ø1/4"

* Other dimensions are the same as the grommet type.

---

<table>
<thead>
<tr>
<th>L plug connector (L)</th>
<th>M plug connector (M)</th>
<th>DIN terminal (D)</th>
<th>M8 connector (WO)</th>
</tr>
</thead>
</table>

For C6 N7□ (Built-in one-touch fitting)

Grommet (G)

Type 42: Side Ported/SS5YJ5-42- Stations-01, C6 N7□-Q

**Series SYJ5000**

- Max. 13.5
- 56.5

Approx. 300

(Approx. lead wire length)

Approx. 300

(Approx. lead wire length)

Approx. 300

(Approx. lead wire length)

---

<table>
<thead>
<tr>
<th>Station</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 1/8</td>
<td>L1</td>
<td>86</td>
<td>83</td>
<td>100</td>
<td>117</td>
<td>134</td>
<td>151</td>
<td>168</td>
<td>185</td>
<td>202</td>
<td>219</td>
<td>236</td>
<td>253</td>
<td>270</td>
<td>287</td>
<td>304</td>
<td>321</td>
<td>338</td>
</tr>
<tr>
<td></td>
<td>L2</td>
<td>53</td>
<td>70</td>
<td>87</td>
<td>104</td>
<td>121</td>
<td>138</td>
<td>155</td>
<td>172</td>
<td>189</td>
<td>206</td>
<td>223</td>
<td>240</td>
<td>257</td>
<td>274</td>
<td>291</td>
<td>308</td>
<td>325</td>
</tr>
<tr>
<td>For C6/N7</td>
<td>L1</td>
<td>65</td>
<td>81</td>
<td>97</td>
<td>113</td>
<td>129</td>
<td>145</td>
<td>161</td>
<td>177</td>
<td>193</td>
<td>209</td>
<td>225</td>
<td>241</td>
<td>257</td>
<td>273</td>
<td>289</td>
<td>305</td>
<td>321</td>
</tr>
<tr>
<td></td>
<td>L2</td>
<td>52</td>
<td>68</td>
<td>84</td>
<td>100</td>
<td>116</td>
<td>132</td>
<td>148</td>
<td>164</td>
<td>180</td>
<td>196</td>
<td>212</td>
<td>228</td>
<td>244</td>
<td>260</td>
<td>276</td>
<td>292</td>
<td>308</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Refer to back page 11 for dimensions with connector cable.
**Series SYJ5000**

**Type 43: Side Ported/SS5YJ3-43- Stations**

**Grommet (G)**

(Station 1) - -(Station n)

(Light/surge voltage suppressor)

One-touch fitting (A, B port)

Applicable tubing O.D.: ø4, ø5/32"

Max. 13.5

Built-in slotting valve

Max. 13.5

Refer to back page 11 for dimensions with connector cable.

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>52</td>
<td>68</td>
<td>84</td>
<td>100</td>
<td>116</td>
<td>132</td>
<td>148</td>
<td>164</td>
<td>180</td>
<td>196</td>
<td>212</td>
<td>228</td>
<td>244</td>
<td>260</td>
<td>276</td>
<td>292</td>
<td>308</td>
<td>324</td>
<td>340</td>
</tr>
<tr>
<td>L2</td>
<td>43</td>
<td>59</td>
<td>75</td>
<td>91</td>
<td>107</td>
<td>123</td>
<td>139</td>
<td>155</td>
<td>171</td>
<td>187</td>
<td>203</td>
<td>219</td>
<td>235</td>
<td>251</td>
<td>267</td>
<td>283</td>
<td>299</td>
<td>315</td>
<td>331</td>
</tr>
</tbody>
</table>
Flat Ribbon Cable Manifold

**Series SYJ5000**

**SS5YJ5-20P-** [Stations] -00- □-Q

**FoC4 N3**  (Built-in one-touch fitting)

One-touch fitting ø6, ø1/4"

(For mounting)

Applicable tubing O.D.: ø4, ø5/32", ø6, ø1/4"

Station n | Station 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Station 12
---|---|---|---|---|---|---|---|---|---|---
L1 | 77 | 94.5 | 112 | 129.5 | 147 | 164.5 | 182 | 199.5 | 217 | 234.5
L2 | 59 | 76.5 | 94 | 111.5 | 129 | 146.5 | 164 | 181.5 | 199 | 216.5

**SS5YJ5-41P-** [Stations] -M5- □-Q

Built-in slottle valve

Applicable connector: 26 pins

With strain relief

(Conforming to MIL-C-83503)

Station n | Station 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Station 12
---|---|---|---|---|---|---|---|---|---|---
L1 | 77 | 94.5 | 112 | 129.5 | 147 | 164.5 | 182 | 199.5 | 217 | 234.5
L2 | 62 | 79.5 | 97 | 114.5 | 132 | 149.5 | 167 | 184.5 | 202 | 219.5

---

**Light/surge voltage suppressor**

**Manual override**

**Triangle mark**

---

**M5** (A, B port)

**Pitch**

P = 17.5

---

**Application**

- One-touch fitting
- Applicable tubing O.D.
- Built-in slottle valve
- Manual override
- Triangle mark

---

**Notes**

- Refer to back page 11 for dimensions
- With connector cable

---

**Symbols**

- L plug connector (L)
- DIN terminal (D)
- M8 connector (WO)
- ø4, ø5/32"
Series SYJ5000

Flat Ribbon Cable Manifold

SS5YJ5-43P- Stations -□□□□-Q

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>Station 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>77</td>
<td>94.5</td>
<td>112</td>
<td>129.5</td>
<td>147</td>
<td>164.5</td>
<td>182</td>
<td>199.5</td>
<td>217</td>
<td>234.5</td>
</tr>
<tr>
<td>L2</td>
<td>62</td>
<td>79.5</td>
<td>97</td>
<td>114.5</td>
<td>132</td>
<td>149.5</td>
<td>167</td>
<td>184.5</td>
<td>202</td>
<td>219.5</td>
</tr>
</tbody>
</table>

Built-in speed controller

Applicable connector: 26 pins
With strain relief
(Conforming to MIL-C-83503)

One-touch fitting
(A, B port)
Applicable tubing O.D.:
ø4, ø5/32"

Triangle mark

(maximum 13.5

Pitch

P = 17.5

1/8

(P, R port)

Manual override

(Light/surge voltage suppressor)

(Station n)---------(Station 1)
Rubber Seal
5 Port Solenoid Valve
Series SYJ7000

Specifications

Fluid

<table>
<thead>
<tr>
<th></th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (MPa)</td>
<td>2 position single: 0.15 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50 (No freezing. Refer to back page 3.)</td>
</tr>
<tr>
<td>Response time (ms) Note 1</td>
<td>2 position single, double: 30 or less</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double: 3</td>
</tr>
</tbody>
</table>

Manual override (Manual operation)  Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type
Pilot exhaust method  Individual exhaust for the pilot valve, Common exhaust for the pilot and main valve
Lubrication  Not required
Mounting orientation  Unrestricted
Shock/Vibration resistance (m/s²) Note 2  150/30
Enclosure  Dust proof (≠ DIN terminal, MB connector conforms to IP65)

Solenoid Specifications

Electrical entry

<table>
<thead>
<tr>
<th>Coil rated voltage (V)</th>
<th>DC 24, 12, 6, 5, 3</th>
<th>AC 50/60 Hz 24, 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>G, H, L, M, W</td>
<td>100, 110, 200, 220</td>
<td></td>
</tr>
</tbody>
</table>

Allowable voltage fluctuation  ±10% of rated voltage

Power consumption (W)

<table>
<thead>
<tr>
<th>Power consumption (W)</th>
<th>DC 0.35 (With light: 0.4 (DIN terminal with light: 0.45))</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 50/60 Hz</td>
<td>0.1 (With light only)</td>
</tr>
</tbody>
</table>

Apparent power VA* AC

<table>
<thead>
<tr>
<th>Apparent power VA* (W)</th>
<th>AC 100 V</th>
<th>110 V [115 V]</th>
<th>200 V</th>
<th>220 V [230 V]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>0.86 (With light: 0.97)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>1.15 (With light: 1.30)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>1.27 (With light: 1.46)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>1.39 (With light: 1.60)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Surge voltage suppressor

<table>
<thead>
<tr>
<th>Surge voltage suppressor (VAR)</th>
<th>Diode (DIN terminal, Varistor when non-polar types)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator light</td>
<td>LED (Neon light when AC with DIN terminal)</td>
</tr>
</tbody>
</table>

Electrical entry

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>Grommet (G), (H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L plug connector (L)</td>
<td>M plug connector (M)</td>
</tr>
<tr>
<td>DIN terminal (D)</td>
<td>MB connector (W)</td>
</tr>
</tbody>
</table>

* Based on IEC60529
Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)

Note 2) Stiffness resistance: No malfunction occurred when it is tested in the axial direction and the right angles to the main valve and armature in both energised and de-energised states every once for each condition. (Value in the initial state)
Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)
## Flow Characteristics/Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Flow characteristics</th>
<th>Weight (g)</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ7:20-01</td>
<td>2 position</td>
<td>Single</td>
<td>1/8</td>
<td>1/8</td>
<td>Grommet</td>
<td>L/M plug connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ7:20-05</td>
<td>2 position</td>
<td>Single</td>
<td>1/8</td>
<td>C8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ7:20-08</td>
<td>2 position</td>
<td>Single</td>
<td>1/8</td>
<td>C8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ7:40-01</td>
<td>2 position</td>
<td>Single</td>
<td>1/8</td>
<td>C8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note 1:** [ ] denotes the normal position. Exhaust center: 4/2

**Note 2:** Without sub-plate.

**Note 3:** For DC voltages. For AC voltages add 3 g to the weight of the single solenoid and 6 g to the weight of the double solenoid and 3 position types.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6 MPa (relative pressure) and a differential pressure of 0.1 MPa.

## Cylinder Speed Chart

### Body Ported

**Use as a guide for selection.**

**Please confirm the actual conditions with SMC Sizing Program.**

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>Bore size</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ7120-01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ø6</td>
<td>ø10</td>
<td>ø16</td>
<td>ø20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ø25</td>
<td>ø32</td>
<td>ø40</td>
<td>ø50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ø60</td>
<td>ø80</td>
<td>ø100</td>
<td></td>
</tr>
</tbody>
</table>

### Base Mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>Bore size</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ7140-02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ø6</td>
<td>ø10</td>
<td>ø16</td>
<td>ø20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ø25</td>
<td>ø32</td>
<td>ø40</td>
<td>ø50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ø60</td>
<td>ø80</td>
<td>ø100</td>
<td></td>
</tr>
</tbody>
</table>

* Cylinder is in extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.

* Average speed of cylinder is obtained by dividing the full stroke time by the stroke.

* Load factor: (Load weight x 9.8) / (Theoretical force) x 100%

## Conditions

<table>
<thead>
<tr>
<th>Body ported</th>
<th>Series CJ2</th>
<th>Series CM2</th>
<th>Series MB/CA2</th>
<th>Base mounted</th>
<th>Series CJ2</th>
<th>Series CM2</th>
<th>Series MB/CA2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ7120-01</td>
<td>ø6 x 1 m</td>
<td>ø12 x 1 m</td>
<td></td>
<td></td>
<td>AS3201F-06</td>
<td>AS3301F-06</td>
<td>AS4001F-12</td>
</tr>
<tr>
<td>Speed controller</td>
<td>AN110-01</td>
<td></td>
<td></td>
<td></td>
<td>AN200-02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silencer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ7140-02</td>
<td>ø6 x 1 m</td>
<td></td>
<td></td>
<td></td>
<td>AS1301F-06</td>
<td>AS3901F-06</td>
<td>AS3901F-06</td>
</tr>
<tr>
<td>Speed controller</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silencer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AN110-01</td>
<td>AN200-02</td>
<td>AN3301F-06</td>
</tr>
</tbody>
</table>
### Series SYJ7000

#### How to Order

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Electrical entry for G, H, L, M, W</th>
<th>Electrical entry for D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Without light/surge voltage suppressor</td>
<td>- Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2</td>
<td>With surge voltage suppressor</td>
<td>S</td>
</tr>
<tr>
<td>3</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
<td>Z</td>
</tr>
<tr>
<td>4</td>
<td>With surge voltage suppressor (Non-polar type)</td>
<td>U</td>
</tr>
<tr>
<td>5</td>
<td>Power saving circuit is only available in the “Z” type.</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Body ported

**SYJ7** 1 2 0  5 M  01  Q

#### Base mounted

**SYJ7** 2 4 0  5 M  -  Q

### Body option

- **B**: Pilot valve individual exhaust for the pilot valve
- **R** port, **P, E** port
- **3**: Common exhaust type for main and pilot valve

### Coil specifications

- **D**: With power saving circuit &<24 V, 12 VDC only>
- **T**: Power saving circuit is not available in the case of D, DO or **W** type.

### Electrical entry

<table>
<thead>
<tr>
<th>24, 12, 6, 5, 3 VDC</th>
<th>24, 12, 6, 5, 3 VDC</th>
<th>24, 12, 6, 5, 3 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grommet</strong> L plug connector</td>
<td><strong>M plug connector</strong> D: With connector</td>
<td><strong>WO</strong>: Without connector cable</td>
</tr>
<tr>
<td><strong>MN</strong>: Without lead wire (Length 500 mm)</td>
<td><strong>MN</strong>: Without lead wire (Length 500 mm)</td>
<td><strong>MN</strong>: Without lead wire (Length 500 mm)</td>
</tr>
<tr>
<td><strong>MO</strong>: Without connector</td>
<td><strong>MO</strong>: Without connector</td>
<td><strong>MO</strong>: Without connector</td>
</tr>
<tr>
<td><strong>DO</strong>: Without connector</td>
<td><strong>DO</strong>: Without connector</td>
<td><strong>DO</strong>: Without connector</td>
</tr>
</tbody>
</table>

#### Light/surge voltage suppressor

- **A**: Without sub-plate
- **B**: With sub-plate

#### Manual override

- **-**: Non-locking push type
- **D**: Push-turn locking slotted type
- **E**: Push-turn locking lever type

#### Power saving circuit

- **DOZ** is not available.
- For AC voltage valves there is no “S” option. It is already built-in to the rectifier circuit.
- DIN terminal type “Y” which conforms to EN-175301-803C (former DIN43650C) is also available.
- For details, refer to page 79.

#### Thread type

- **A, B port size**
  - **01**: 1/8
- **A**: One-touch fitting for ø6
- **C6**: One-touch fitting for ø6
- **C8**: One-touch fitting for ø8
- **N7**: One-touch fitting for ø14
- **N8**: One-touch fitting for ø19

#### Port size

- **01**: 1/8 With sub-plate (With gasket and screws)
- **02**: 1/4 With sub-plate

#### Note

- Do not remove the factory installed bracket from models with the bracket option. Removal of the bracket will cause the valve to leak. Brackets cannot be retightened.

---

**How to Order Pilot Valve Assembly**

Table for different options and specifications.

- **Note 1)** Enter the cable length symbols in the order of PN or EM. Please be sure to fill in the blank referring to back page 10.
### Component Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
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<td>Spool spring</td>
<td>Stainless steel</td>
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### Replacement Parts

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### How to Order Pilot Valve Assembly

#### V111

- **Coil specifications**
  - Standard T
  - Power saving circuit (24, 12 VDC only)
  - No “S” option. It is already built-in to the rectifier circuit.

- **Rated voltage**
  - 5: 24 VDC
  - 6: 12 VDC
  - V: 6 VDC
  - S: 5 VDC
  - R: 3 VDC

#### V115

- **Light/surge voltage suppressor**
  - Without light/surge voltage suppressor
  - With light/surge voltage suppressor
  - With surge voltage suppressor (Non-polar type)

- **Rated voltage**
  - 5: 24 VDC
  - 6: 12 VDC
  - 7: 100 VAC 50/60 Hz
  - 8: 200 VAC 50/60 Hz
  - 12: 110 VAC 50/60 Hz
  - 13: 220 VAC 50/60 Hz
  - 23: 230 VAC 50/60 Hz

#### Electrical entry

- G: Grommet, 300 mm lead wire
- H: Grommet, 600 mm lead wire
- L: Plug connector with lead wire
- LN: Plug connector without lead wire
- LD: Without connector
- M: M plug connector with lead wire
- MN: M plug connector without lead wire
- MO: Without connector
- W: M8 plug connector without connector cable
- W: Without connector cable

- **Note**
  - For connector cable of M8 connector, refer to back page 10.

- **Note**
  - Do not replace V111 (G, H, L, M, W) to V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.
Series SYJ7000

How to Order Connector Assembly for L/M Plug Connector

For DC: SY100-30-4A-

Without lead wire: SY100-30-A
(with connector and 2 of sockets only)

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How to Order M8 Connector Cable

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2 Position Single

Grommet (G), (H): SYJ7120-□□□-01□-Q

With bracket:
SYJ7120-□□□-01□-F-Q

L plug connector (L):
SYJ7120-□L□-□□-01□-Q

M plug connector (M):
SYJ7120-□M□-□□-01□-Q

DIN terminal (D):
SYJ7120-□D□-□□-01□-Q

M8 connector (WO):
SYJ7120-□WO□-□□-01□-Q

Refer to back page 11 for dimensions with connector cable.
Series SYJ7000

2 Position Double

Grommet (G), (H): SYJ7220-□□□-01□-Q

Built-in one-touch fitting:
SYJ7220-□□□□□-□□□□□□-Q

L plug connector (L): SYJ7220-□L□□-01□-Q

M plug connector (M): SYJ7220-□M□□-01□-Q

DIN terminal (D): SYJ7220-□D□□-01□-Q

M8 connector (WO): SYJ7220-□WO□□-01□-Q

Refer to back page 11 for dimensions with connector cable.
Series SYJ7000

Grommet (G), (H): SYJ7 20-□□-01□-Q

Built-in one-touch fitting:
SYJ7 20-□□-□□-□□□-□□□-□-Q

L plug connector (L): SYJ7 20-□□□-01□-Q
M plug connector (M): SYJ7 20-□□□-01□-Q
DIN terminal (D): SYJ7 20-□□□-01□-Q
M8 connector (WO): SYJ7 20-□□□-01□-Q

Refer to back page 11 for dimensions with connector cable.
Series SYJ7000

2 Position Single

Grommet (G), (H): SYJ7140-□□□□□□□□-Q

L plug connector (L): SYJ7140-□□□□□□□□-Q
M plug connector (M): SYJ7140-□□□□□□□□-Q
DIN terminal (D): SYJ7140-□□□□□□□□-Q
M8 connector (WO): SYJ7140-□□□□□□□□-Q

With interface regulator

Refer to back page 11 for dimensions with connector cable.
Grommet (G), (H): SYJ7240-□□□□□□□□□-Q

L plug connector (L): SYJ7240-□□□□□□□□□-Q
M plug connector (M): SYJ7240-□□□□□□□□□-Q
DIN terminal (D): SYJ7240-□□□□□□□□□-Q
M8 connector (WO): SYJ7240-□□□□□□□□□-Q

With interface regulator

Refer to back page 11 for dimensions with connector cable.
**Series SYJ7000**

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ7\(^3/2\) 40-□□-□□-□□-Q

**L plug connector (L):** SYJ7\(^3/2\) 40-L□□-□□-□□-Q

**M plug connector (M):** SYJ7\(^3/2\) 40-M□□-□□-□□-□□-Q

**DIN terminal (D):** SYJ7\(^3/2\) 40-D□□-□□-□□-□□-Q

**M8 connector (WO):** SYJ7\(^3/2\) 40-WO□□-□□-□□-Q

With interface regulator

Refer to back page 11 for dimensions with connector cable.
**Series SYJ7000**

**Manifold Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type 20</th>
<th>Type 21</th>
<th>Type 40</th>
<th>Type 20</th>
<th>Type 42</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td>Common SUP, Common EXH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 15 stations</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A, B port Porting specifications</th>
<th>Location</th>
<th>Valve</th>
<th>Base</th>
<th>Base</th>
<th>Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>P, R port</td>
<td>1/8</td>
<td></td>
<td></td>
<td></td>
<td>1/4</td>
</tr>
<tr>
<td>A, B port</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>C8 (One-touch fitting for ø8)</td>
<td>1/8</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
</tbody>
</table>

**Flow Characteristics**

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type SYJ7-20</td>
<td>1/8</td>
<td>1/4/2 (P→A/B)</td>
</tr>
<tr>
<td>Type SYJ7-21</td>
<td>1/8</td>
<td>4/2→5/3 (A/B→R)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body ported for internal pilot</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type SSYJ7-20</td>
<td>1/8</td>
<td>1/4/2 (P→A/B)</td>
</tr>
<tr>
<td>SYJ7-21</td>
<td>1/8</td>
<td>4/2→5/3 (A/B→R)</td>
</tr>
<tr>
<td>Type SSYJ7-40</td>
<td>1/4</td>
<td>1/4/2 (P→A/B)</td>
</tr>
<tr>
<td>SYJ7-41</td>
<td>1/4</td>
<td>4/2→5/3 (A/B→R)</td>
</tr>
<tr>
<td>Type SSYJ7-41</td>
<td>1/4</td>
<td>1/4/2 (P→A/B)</td>
</tr>
<tr>
<td>SYJ7-42</td>
<td>1/4</td>
<td>4/2→5/3 (A/B→R)</td>
</tr>
</tbody>
</table>

**Note**

Value at manifold base mounted, 2 position single operating

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.

**How to Order Manifold (Example)**

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

Example:  
- **SSYJ7-20-03-Q** 1 pc. (Manifold base)  
  * SYJ7120-5G-01-Q 2 pcs. (Valve)  
  * SYJ7000-21-1A-Q 1 pc. (Blanking plate assembly)  

- **SSYJ7-41-03-01-Q** 1 pc. (Manifold base)  
  * SYJ7140-5LZ-Q 1 pc. (Valve)  
  * SYJ7240-5LZ-Q 1 pc. (Valve)  
  * SYJ7000-21-1A-Q 1 pc. (Blanking plate assembly)  

* Use manifold specification sheet.
Flat Ribbon Cable Manifold

- Multiple valve wiring is simplified through the use of the flat cable connector.
- Clean appearance

In the case of a flat ribbon cable type, each valve is wired on the print board of manifold base to allow the external wiring to be piped all together with 26 pins MIL connector.

Flat Ribbon Cable Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type 21P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
</tr>
<tr>
<td>P (SUP), R (EXH)</td>
<td>Common SUP, Common EXH</td>
</tr>
<tr>
<td>Valve stations</td>
<td>3 to 12 stations</td>
</tr>
<tr>
<td>A, B port location</td>
<td>Valve</td>
</tr>
<tr>
<td>Port size</td>
<td>P, R port</td>
</tr>
<tr>
<td></td>
<td>A, B port</td>
</tr>
<tr>
<td></td>
<td>1/4</td>
</tr>
<tr>
<td></td>
<td>1/8, C6, C8</td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Socket: 26 pins MIL type with strain relief (MIL-C-83503)</td>
</tr>
<tr>
<td>Internal wiring</td>
<td>In common between +COM and –COM (Z type: +COM only).</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>24, 12 VDC</td>
</tr>
</tbody>
</table>

Note 1) The value is for manifold base and individually operated 2 position type.

Note 2) The withstand voltage specification for the wiring unit section is JIS C 0704, Grade 1 or its equivalent.

Flow Characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 40 (5 Port/Base mounted)</td>
<td>1/4, 1/8</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body ported for internal plating of A, B port</td>
<td>Type SSYJ7-21P-40-A, B</td>
<td>1/4, 1/8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.

How to Order Manifold (Example)

Instruct by specifying the valves, blanking plate assembly and connector assembly to be mounted on the manifold along with the manifold base model no.

Example:

- SSSYJ7-21P-07-Q ............ 1 pc. (Manifold base)
- SYJ7123-5LOU-C8-Q ....... 3 pcs. (Valve)
- SYJ7233-5LOU-C8-Q ....... 3 pcs. (Valve)
- SYJ7000-21-3A-Q ............ 1 pc. (Blanking plate assembly)
- SY3000-37-3A ............... 3 pcs. (Connector assembly)
- SS5YJ7-21P-07-Q ............ 1 pc. (Connector assembly)

* The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

How to Order Valve

- Rated voltage 5: 24 VDC
- 6: 12 VDC

For DC

SYJ7 23 5 LO Z 01 Q

Type of actuation

- 1: 2 position single
- 2: 2 position double
- 3: 3 position closed center
- 4: 3 position exhaust center
- 5: 3 position pressure center

Light/surge voltage suppressor

Z: With light/surge voltage suppressor

U: With light/surge voltage suppressor (Non-polar type)

How to Order Connector Assembly

For 12, 24 VDC

Single solenoid SY3000-37-3A
Double solenoid, 3 position type SY3000-37-4A
Single solenoid, individual SUP, EXH spacer SY3000-37-3A
Double solenoid, 1 position individual SUP/EXH spacer SY3000-37-6A
Interface regulator for single solenoid SY3000-37-3A
Double solenoid, 3 position interface regulator SY3000-37-6A
3 port adaptor plate SY3000-37-3A
### Manifold Standard
**/Common SUP/Common EXH**

#### Type 20 (5 Port/Body ported)
A, B port

![Diagram](image)

#### Type 21 (5 Port/Body ported)
A, B port

![Diagram](image)

#### Type 40 (5 Port/Base mounted)

![Diagram](image)

#### Type 41 (5 Port/Base mounted)

![Diagram](image)

#### Type 42 (5 Port/Base mounted)

![Diagram](image)

#### Flat Ribbon Cable Manifold
**/Common SUP/Common EXH**

#### Type 21P (5 Port/Body ported)
A, B port

![Diagram](image)

---

### How to Order

**Series SYJ7000**

**Type 20 (5 Port/Body ported)**

<table>
<thead>
<tr>
<th>Stations</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 2 stations</td>
<td>00F G</td>
</tr>
<tr>
<td>: :</td>
<td>:</td>
</tr>
<tr>
<td>15 15 stations</td>
<td>00N NPT</td>
</tr>
</tbody>
</table>

**Applicable solenoid valve**

SYJ7000-20-□□□□-□□-Q
SYJ7000-23-□□□□-□□-Q

**Applicable blanking plate assembly**

SYJ7000-21-1A-1-Q

**Applicable individual EXH spacer assembly**

SYJ7000-17-1A-Q

---

**Type 21P (5 Port/Body ported)**

<table>
<thead>
<tr>
<th>Stations</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 3 stations</td>
<td>00F G</td>
</tr>
<tr>
<td>: :</td>
<td>:</td>
</tr>
<tr>
<td>12 12 stations</td>
<td>00N NPT</td>
</tr>
</tbody>
</table>

**Applicable solenoid valve**

Refer to page 59.

**Applicable blanking plate assembly**

SYJ7000-21-3A-Q

**Applicable connector assembly**

Refer to page 59.
**Series SYJ7000**

**Combinations of Solenoid Valve, Manifold Gasket and Manifold Base**

- Individual EXH Spacer Assembly
- Individual SUP Spacer Assembly

**Applicable manifold base**
- Type SSYJ7-20-Q
- Type SSYJ7-21-Q

**Mix Installation of the SYJ700 and the SYJ7000 Valves on the Same Manifold**
- Use of an adapter plate makes it possible to mount Series SYJ700 on the manifold bases of Series SYJ7000.
- When mounting the SYJ700 valve on the SYJ7000 manifold, the SYJ700 solenoid must be positioned on the same side of the manifold as a single solenoid SYJ700. (Refer to the figure below.)
- For base mounted style, the A port of the 3 port valve flows out the B port of manifold base.

**Adapter plate assembly**
- SYJ700-3-1A-Q
- SYJ700-3-2A-Q

**Blanking Plate Assembly**
- SYJ700-21-1A-1-Q
- SYJ700-21-1A-2-Q

**Individual EXH Spacer Assembly**

- SYJ7000-17-1 □A-Q
- SYJ7000-17-2 □A-Q

- Round head combination screw
- M3 x 31 Matt nickel plated (with spring washer)

**Individual SUP Spacer Assembly**

- SYJ7000-16-2 □A-Q

- Round head combination screw
- M3 x 31 Matt nickel plated (with spring washer)

**Interface Regulator (P port regulation)**

- ARBYJ7000-00-P-Q

**Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.**

**Mounting screw tightening torques**

- M3: 0.8 N·m

**Refer to back page 12 prior to handling.**
Type 20: Top Proted/SS5YJ7-20-[Stations]-00□-Q

Grommet (G)

Built-in one-touch fitting

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø6, ø1/4"
ø8, ø5/16"

L plug connector (L)  M plug connector (M)  DIN terminal (D)  M8 connector (WO)

Refer to back page 11 for dimensions with connector cable.
Series SYJ7000

Type 21: Top Ported/SS5YJ7-21- Stations (-00□)-Q

Grommet (G)

Built-in one-touch fitting

One-touch fitting
(A, B port)
Applicable tubing O.D.:
ø6, ø1/4"
ø8, 5/16"

(Light/surge voltage suppressor)
(Station n)-----(Station 1)

Station 2

66
46
3
85
65
4
104
84
5
123
103
6
142
122
7
161
141
8
180
160
9
199
179
10
218
198
11
237
217
12
256
236
13
275
255
14
294
274
15
313
293
16
332
312
17
351
331
18
370
350
19
389
369

Station 20

408
388

Station n

L1
L2

Manual override
(Pitch)
P = 19

4-ø4.5
(For mounting)

Applicable tubing O.D.:
ø6, ø1/4"
ø8, 5/16"

Approx. 300
(Lead wire length)

62.3
58.5
43.1

Approx. 300
(Lead wire length)

69.1
58
42.6

L plug connector (L)
M plug connector (M)
DIN terminal (D)
M8 connector (WO)

Refer to back page 11 for dimentions with connector cable.

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>66</td>
<td>85</td>
<td>104</td>
<td>123</td>
<td>142</td>
<td>161</td>
<td>180</td>
<td>199</td>
<td>218</td>
<td>237</td>
<td>256</td>
<td>275</td>
<td>294</td>
<td>313</td>
<td>332</td>
<td>351</td>
<td>370</td>
<td>389</td>
<td>408</td>
</tr>
<tr>
<td>L2</td>
<td>46</td>
<td>65</td>
<td>84</td>
<td>103</td>
<td>122</td>
<td>141</td>
<td>160</td>
<td>179</td>
<td>198</td>
<td>217</td>
<td>236</td>
<td>255</td>
<td>274</td>
<td>293</td>
<td>312</td>
<td>331</td>
<td>350</td>
<td>369</td>
<td>388</td>
</tr>
</tbody>
</table>
Series SYJ7000

Type 40: Bottom Ported/SS5YJ7-40- Stations-01 □-Q

Grommet (G)

L plug connector (L)  M plug connector (M)  DIN terminal (D)  M8 connector (WO)

Refer to back page 11 for dimensions with connector cable.

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>66</td>
<td>85</td>
<td>104</td>
<td>123</td>
<td>142</td>
<td>161</td>
<td>180</td>
<td>199</td>
<td>218</td>
<td>237</td>
<td>256</td>
<td>275</td>
<td>294</td>
<td>313</td>
<td>332</td>
<td>351</td>
<td>370</td>
<td>389</td>
<td>408</td>
</tr>
<tr>
<td>L2</td>
<td>46</td>
<td>65</td>
<td>84</td>
<td>103</td>
<td>122</td>
<td>141</td>
<td>160</td>
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<td>198</td>
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<td>236</td>
<td>255</td>
<td>274</td>
<td>293</td>
<td>312</td>
<td>331</td>
<td>350</td>
<td>369</td>
<td>388</td>
</tr>
</tbody>
</table>
Series SYJ7000

Type 41: Side Ported/SS5YJ7-41 Stations -01-Q

Grommet (G)

(Light/surge voltage suppressor)

(Station 1) ---- (Station n)

Manual override

Approx. 300
(Lead wire length)

Approx. 300
(Lead wire length)

L plug connector (L)  M plug connector (M)  DIN terminal (D)  M8 connector (WO)

Refer to back page 11 for dimensions with connector cable.

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>78</td>
<td>98</td>
<td>118</td>
<td>138</td>
<td>158</td>
<td>178</td>
<td>198</td>
<td>218</td>
<td>238</td>
<td>258</td>
<td>278</td>
<td>298</td>
<td>318</td>
<td>338</td>
<td>358</td>
<td>378</td>
<td>398</td>
<td>418</td>
<td>438</td>
</tr>
<tr>
<td>L2</td>
<td>50</td>
<td>70</td>
<td>90</td>
<td>110</td>
<td>130</td>
<td>150</td>
<td>170</td>
<td>190</td>
<td>210</td>
<td>230</td>
<td>250</td>
<td>270</td>
<td>290</td>
<td>310</td>
<td>330</td>
<td>350</td>
<td>370</td>
<td>390</td>
<td>410</td>
</tr>
</tbody>
</table>
Type 42: Side Ported/SS5YJ7-42- Stations -

Grommet (G)

(Light/surge voltage suppressor)

Station 1

One-touch fitting

1/4
(P, R port)

4-ø4.5
(For mounting)

42
29.5
8.5
(Pitch)

1/8
(A, B port)

Manual override

Approx. 300
(Lead wire length)

Approx. 300
(Lead wire length)

L plug connector (L)  M plug connector (M)  DIN terminal (D)  M8 connector (WO)

Refer to back page 11 for dimensions with connector cable.

<table>
<thead>
<tr>
<th>Station n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>77</td>
<td>49</td>
</tr>
<tr>
<td>4</td>
<td>96</td>
<td>68</td>
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<td>115</td>
<td>87</td>
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<td>6</td>
<td>134</td>
<td>106</td>
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<tr>
<td>7</td>
<td>153</td>
<td>125</td>
</tr>
<tr>
<td>8</td>
<td>172</td>
<td>144</td>
</tr>
<tr>
<td>9</td>
<td>191</td>
<td>163</td>
</tr>
<tr>
<td>10</td>
<td>210</td>
<td>182</td>
</tr>
<tr>
<td>11</td>
<td>229</td>
<td>201</td>
</tr>
<tr>
<td>12</td>
<td>248</td>
<td>220</td>
</tr>
<tr>
<td>13</td>
<td>267</td>
<td>239</td>
</tr>
<tr>
<td>14</td>
<td>286</td>
<td>258</td>
</tr>
<tr>
<td>15</td>
<td>305</td>
<td>277</td>
</tr>
<tr>
<td>16</td>
<td>324</td>
<td>296</td>
</tr>
<tr>
<td>17</td>
<td>343</td>
<td>315</td>
</tr>
<tr>
<td>18</td>
<td>362</td>
<td>334</td>
</tr>
<tr>
<td>19</td>
<td>381</td>
<td>353</td>
</tr>
<tr>
<td>20</td>
<td>400</td>
<td>372</td>
</tr>
</tbody>
</table>

Station 20

Pg7 Applicable cable O.D. ø3.5 to ø7

M8 x 1

Max. 10

Applicable cable O.D. ø3.5 to ø7
Series SYJ7000

Flat Ribbon Cable Manifold
SS5YJ7-21P-[Stations](-00□)-Q

For built-in one-touch fitting

One-touch fitting
(A, B port)
Applicable tubing O.D.:
Ø5, Ø1/4"
Ø5, Ø5/16"

16.5
11.5

1/4
(P, R port)

68
108.5
129
149.5
170
190.5
211
231.5
252
272.5

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>68</td>
<td>108.5</td>
<td>129</td>
<td>149.5</td>
<td>170</td>
<td>190.5</td>
<td>211</td>
<td>231.5</td>
<td>252</td>
</tr>
<tr>
<td>L2</td>
<td>68</td>
<td>88.5</td>
<td>109</td>
<td>129.5</td>
<td>150</td>
<td>170.5</td>
<td>191</td>
<td>211.5</td>
<td>232</td>
</tr>
</tbody>
</table>

Caution

Applicable connector: 26 pins MIL type
(Conforming to MIL-C-83503)

How to Order

Manual override
(Non-locking)

Triangle mark
How to Order Manifold Base

Same manifolds as series SYJ3000 are prepared.

SSSYJA3  Fill the same as SSSYJ3

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

(Example)

SSSYJA3-41-03-M5  1 pc.
SYJA3140  1 pc.
SYJA3240  1 pc.
SYJ3000-21-2A  1 pc.

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

Caution

Refer to back page 1 through 5 for Safety Instructions and Common Precautions.
### Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (MPa)</td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>2 position single</td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td>2 position double</td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td>3 position</td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td>Pilot pressure range (MPa)</td>
<td>Operating pressure to 0.7</td>
</tr>
<tr>
<td>2 position single</td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td>2 position double</td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td>3 position</td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>−10 to 50 (No freezing. Refer to back page 3.)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Unrestricted</td>
</tr>
</tbody>
</table>

**Impact/Vibration resistance (m/s²)**  
Note 1: In case of single type, be certain that pressure within operating pressure range be supplied to supply port, because return pressure is introduced from supply port (1P/1) for activation.  
Note 2: Impact resistance: No malfunction resulted from the impact test using a drop impact tester.  
Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz.  
The test was performed on the axis and right angle directions of the main valve, when pilot signal is ON and OFF. (Value in the initial state)

### Flow Characteristics/Weight

**With Bracket**

Air operated valve  
SYJ4320-M3-F

The mounting bracket for the 2 position double solenoid and 3 position is supplied unattached.

**Pilot Pressure Range (Single pilot)**

![Graph of Pilot Pressure Range (Single pilot)](image)

**Flow Characteristics (Note 2)**

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
<th>Effective area [mm²]</th>
<th>Fluid characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 port Base mounted (with sub-plate)</td>
<td>2 position Single</td>
<td>M5</td>
<td>48 (25)</td>
<td>–</td>
<td>0.46 (0.32)</td>
</tr>
<tr>
<td>3 position Double</td>
<td>M3</td>
<td>51 (25)</td>
<td>0.36 (0.33)</td>
<td>122</td>
<td>0.46 (0.35)</td>
</tr>
<tr>
<td>SYJA320-M5</td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 position Single</td>
<td>M3</td>
<td>54 (28)</td>
<td>0.39 (0.33)</td>
<td>107</td>
<td>0.47 (0.31)</td>
</tr>
<tr>
<td>3 position Double</td>
<td>M3</td>
<td>0.13 (0.10)</td>
<td>97</td>
<td>0.59 (0.40)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJA320-M3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 position Single</td>
<td>M3</td>
<td>54 (28)</td>
<td>0.39 (0.33)</td>
<td>107</td>
<td>0.47 (0.31)</td>
</tr>
<tr>
<td>3 position Double</td>
<td>M3</td>
<td>0.13 (0.10)</td>
<td>97</td>
<td>0.59 (0.40)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note**  
1) Value when used on a manifold. Refer to page 69 for details.  
2) ( ): Without sub-plate.  
3) [ ] denotes normal position.  
4) 5 port, base mounted without sub-plate: SYJ4340

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.

* Refer to the memo for changed contents.
**4/5 Port Air Operated Valve**

**Series SYJA5000**

### How to Order

**JIS Symbol**
- **Body ported**
  - 2 position single
  - 3 position closed center
  - 3 position pressure center
- **Base mounted**
  - 2 position single
  - 3 position closed center
  - 3 position pressure center

**A, B port size**
- M5
- C4
- C6

**Bracket**
- Without bracket
- With bracket

**Type of actuation**
- 1: 2 position single
- 2: 2 position double
- 3: 3 position closed center
- 4: 3 position exhaust center
- 5: 3 position pressure center

**Port size**
- 01: 1/8

**Pilot Pressure Range (Single pilot)**

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>Pilot Pressure MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6</td>
<td>0.2</td>
</tr>
<tr>
<td>C4</td>
<td>0.3</td>
</tr>
<tr>
<td>M5</td>
<td>0.4</td>
</tr>
<tr>
<td>M5</td>
<td>0.5</td>
</tr>
<tr>
<td>M5</td>
<td>0.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fluid Type</th>
<th>P, R port:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>0.7</td>
</tr>
<tr>
<td>NDT</td>
<td>0.7</td>
</tr>
</tbody>
</table>

**Impact/Vibration resistance (m/s²)**
- In case of single type, be certain that pressure within operating pressure range be supplied to supply port, because return pressure is introduced from supply port for activation.
- Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz.
- Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis to supply port.

**Flow Characteristics/Weight**

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>Flow Characteristic</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6</td>
<td>(0.1 - 0.4) x P</td>
<td>(0.1 - 0.4) x P</td>
</tr>
<tr>
<td>C4</td>
<td>(0.1 - 0.4) x P</td>
<td>(0.1 - 0.4) x P</td>
</tr>
<tr>
<td>M5</td>
<td>(0.1 - 0.4) x P</td>
<td>(0.1 - 0.4) x P</td>
</tr>
</tbody>
</table>

**How to Order Manifold Base**

Same manifolds as series SYJ5000 are prepared.

SSSYJ5 — Fill the same as SSSYJS.

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

(Ek.)

- SSSYJ5-42-03-01 — 1 set
- SYJ5140 — 1 set
- SYJ5240 — 1 set
- SYJ5000-21-1A — 1 set

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

**Caution**
Refer to back page 1 through to 5 for Safety Instructions and Common Precautions.
### Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (MPa)</td>
<td>2 position single</td>
</tr>
<tr>
<td>2 position double</td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td>3 position</td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>Pilot pressure range (MPa)</td>
<td>2 position single</td>
</tr>
<tr>
<td>2 position double</td>
<td>P: Operating pressure</td>
</tr>
<tr>
<td>3 position</td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (℃)</td>
<td>–10 to 50 (No freezing. Refer to back page 3.)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Unrestricted</td>
</tr>
<tr>
<td>Impact/Vibration resistance (m/s²) (Note 2)</td>
<td>300/50</td>
</tr>
</tbody>
</table>

**Note 1:** In case of single type, be certain that pressure within operating pressure range be supplied to supply port, because return pressure is introduced from supply port (1 P) for activation.

**Note 2:** Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve, when pilot signal is ON and OFF. (Value in the initial state)

**Vibration resistance:** No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve when pilot signal is ON and OFF. (Value in the initial state)

### Flow Characteristics/Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics (Note 1)</th>
<th>Pilot port size</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJA5000-20-M5</td>
<td>2 position single</td>
<td>M5</td>
<td>1/2</td>
<td>4/2-3/5(A/B→EA/EB)</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td>2 position double</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJA5000-20-C4</td>
<td>2 position single</td>
<td></td>
<td></td>
<td>A, B port: C4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 position double</td>
<td></td>
<td></td>
<td>A, B port: P, R port: M5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJA5000-20-C6</td>
<td>2 position single</td>
<td></td>
<td></td>
<td>A, B port: C6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 position double</td>
<td></td>
<td></td>
<td>A, B port: P, R port: M5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- In case of single type, be certain that pressure within operating pressure range be supplied to supply port, because return pressure is introduced from supply port (1 P) for activation.
- Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve, when pilot signal is ON and OFF. (Value in the initial state)
- Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve when pilot signal is ON and OFF. (Value in the initial state)

---

*These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.8MPa (relative pressure) and a differential pressure of 0.1MPa.
**Dimensions/Body Ported**

2 position single: SYJA5120-M5(-F)

- Manual override
- 2 position single: SYJA5120-M5(-F)
- 3 position closed center/exhaust center/pressure center
- SYJA5220-M5

### Manual override

- 2 position single: SYJA5120-M5
- 2 position double: SYJA5220-M5

**Dimensions/Base Mounted**

2 position single: SYJA5140-01

- Manual override
- 2 position single: SYJA5140-01

### Manual override

- 2 position single: SYJA5140
- 2 position double: SYJA5240-01

### 3 position closed center/exhaust center/pressure center

SYJA5120-M5

- Manual override
- 2 position single: SYJA5120-M5

### 3 position closed center/exhaust center/pressure center

SYJA5240-01

- Manual override
- 2 position double: SYJA5240-01

---

**Series SYJA5000**
## How to Order

### Series SYJA7000

**Body ported**

| SYJA7 | 1 | 20 | - | 01 | - |

**Base mounted**

| SYJA7 | 2 | 40 | - | - |

### JIS Symbol

<table>
<thead>
<tr>
<th>Body ported</th>
<th>Base mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position single</td>
<td>2 position double</td>
</tr>
<tr>
<td>3 position closed center</td>
<td>3 position exhaust center</td>
</tr>
<tr>
<td>3 position pressure center</td>
<td></td>
</tr>
</tbody>
</table>

### Type of actuation

1. 2 position single
2. 2 position double
3. 3 position closed center
4. 3 position exhaust center
5. 3 position pressure center

### Port size

- Without sub-plate
  - 1/8
  - 1/4

### Thread type

- Without sub-plate
  - Rc
  - F
  - G
  - N
  - NPT
  - T
  - NPTF

### How to Order Manifold Base

Same manifolds as series SYJ7000 are prepared.

SSSYJ7 — Fill the same as SSSYJ7.

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

(Ex.)

SSSYJ7-41-03-01 — 1 pc.
SYJ7140 — 1 pc.
SYJ7240 — 1 pc.
SYJ7000-21-1A — 1 pc.

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

### Caution

Refer to back page 1 through to 5 for Safety Instructions and Common Precautions.
Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>2 position single</th>
<th>2 position double</th>
<th>3 position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (MPa)</td>
<td>0.15 to 0.7</td>
<td>0.1 to 0.7</td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>Pilot pressure range (MPa)</td>
<td>Note 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 position single</td>
<td>(0.4 x P+0.1) to 0.7 P: Operating pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 position double</td>
<td>0.1 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 position</td>
<td>0.15 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50 (No freezing. Refer to back page 3.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Unrestricted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact/Vibration resistance (m/s^2) (Note 2)</td>
<td>300/50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) In case of single type, be certain that pressure within operating pressure range be supplied to supply port, because return pressure is introduced from supply port (1(P)) for activation.

Note 2) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve, when pilot signal is ON and OFF. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve when pilot signal is ON and OFF. (Value in the initial state)

Pilot Pressure Range (Single pilot)

With Bracket

Air operated valve SYJA7120-01-F

As a bracket is designed for a body, be sure that a bracket is attached when ordering and operating.
### Flow Characteristics/Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics (Note 2)</th>
<th>Pilot port size</th>
<th>Note 3</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1→4/2 (P→A/B)</td>
<td>4/2→5/3 (A/B→EA/EB)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C [dm³/min (10⁻⁵ m³/min)]</td>
<td>b</td>
<td>C [dm³/min (10⁻⁵ m³/min)]</td>
<td>b</td>
</tr>
<tr>
<td>SYJA7□20-01</td>
<td>Single</td>
<td>1/8</td>
<td>2.2 0.36 0.58 582</td>
<td>2.4 0.34 0.63 626</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.8 0.37 0.45 479</td>
<td>2.0 0.35 0.49 525</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.2 0.50 0.34 353</td>
<td>3.0 0.35 0.73 788</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>3.0 [0.83] 0.78 799</td>
<td>1.8 0.37 0.45 479</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJA7□20-C6</td>
<td>Single</td>
<td>A, B port: C6 (One-touch fitting for ø6)</td>
<td>1/8</td>
<td>1.6 0.33 0.4 415</td>
<td>2.2 0.32 0.53 567</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>P, R port: 1/8</td>
<td>1.4 0.27 0.35 349</td>
<td>1.9 0.33 0.49 493</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.1 0.37 0.27 293</td>
<td>2.5 0.32 0.61 644</td>
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<td></td>
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<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>1.8 [0.78] 0.45 476</td>
<td>1.6 0.30 0.39 407</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SYJA7□20-C8</td>
<td>Single</td>
<td>A, B port: C6 (One-touch fitting for ø8)</td>
<td>1/8</td>
<td>2.0 0.39 0.52 540</td>
<td>2.3 0.34 0.61 600</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>P, R port: 1/8</td>
<td>1.7 0.35 0.42 447</td>
<td>2.0 0.29 0.49 505</td>
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<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.2 0.38 0.33 322</td>
<td>2.6 0.35 0.67 683</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>1.9 [0.86] 0.59 594</td>
<td>1.7 0.39 0.42 459</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJA7□40-01</td>
<td>Single</td>
<td>1/8 Note 1</td>
<td>2.3 0.45 0.57 649</td>
<td>2.8 0.37 0.71 746</td>
<td>170 (90)</td>
<td>190 (110)</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.9 0.36 0.48 503</td>
<td>2.1 0.46 0.57 598</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.2 0.48 0.35 347</td>
<td>3.4 0.36 0.86 899</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>3.3 [0.85] 0.78 918</td>
<td>2.1 0.45 0.56 593</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJA7□40-02</td>
<td>Single</td>
<td>1/4 Note 1</td>
<td>2.3 0.41 0.61 630</td>
<td>2.9 0.35 0.74 762</td>
<td>170 (90)</td>
<td>190 (110)</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.9 0.46 0.50 541</td>
<td>2.2 0.44 0.60 616</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.3 0.45 0.35 367</td>
<td>3.7 0.27 0.87 923</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>3.6 [0.83] 0.84 877</td>
<td>2.1 0.47 0.58 602</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) P, A, B port: Rc1/8 is R1, R2 port: Rc (PT) 1/4
Note 2) (): for normal position
Note 3) (): without sub-plate
Note 4) Model No. for base mounted style without sub-plate is SYJA□40.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream of 0.6MPa (relative pressure) and a differential pressure of 0.1MPa.
Series SYJ5000/7000
Made to Order
(For detailed specifications, delivery and pricing, please contact SMC.)

Body Ported External Pilot

Applicable solenoid valve series SYJ5□20R, SYJ7□20R

SYJ7  20-01
3 position closed center/exhaust center/pressure center

2 position double: SYJA7220-01
2 position single: SYJA7120-01

77 (For mounting)
2-ø4.5 (44)

Manual override
18
14
(36)
15
(34)

18 (For manifold mounting)
2-ø3.2

1 (Bracket)
2-ø1.8

14 With filter (80 mesh)
2-ø3.2

13 A
12 R1
17 B
35 P

25 1/8, 1/4
35 1/8

21 ø1.8 (Bleed port)
27.2 R1

63.6 27.2

89.2 34 R1

64 27.2

31.9 27.2

89.2 34 R1

64 27.2

Series SYJ5000/7000 longer in total length.

Entry is the same as standard products.

Operating Pressure Range MPa

<table>
<thead>
<tr>
<th>Series</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5000, SYJ7000</td>
<td>M5</td>
</tr>
</tbody>
</table>

External Pilot Port

Operating pressure range -100 kPa to 0.7
Pilot pressure range 0.15 to 0.7

JIS Symbol

Body ported

2 position single
2 position double
3 position closed center
3 position exhaust center
3 position pressure center

SYJ7000: 8 mm

Operating pressure range -100 kPa to 0.7
Pilot pressure range 0.15 to 0.7

For manifold mounting

For detailed specifications, delivery and pricing, please contact SMC.

Made to Order Series SYJ5000/7000
### How to Order Valve

#### Type of actuation
- 1: 2 position single solenoid
- 2: 2 position double solenoid
- 3: 3 position closed center
- 4: 3 position exhaust center
- 5: 3 position pressure center

#### Light/surge voltage suppressor
- Without light/surge voltage suppressor
- + With surge voltage suppressor
- + + With light/surge voltage suppressor

*YOZ is not available.

*For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

#### Bracket
- Without bracket
- + With bracket

**Note:** Do not remove the factory installed bracket from models with the bracket option. Removal of the bracket will cause the valve to leak.

#### Body ported
- SYJ 5 1 2 0 5 Y
- M5
- Q

#### Base mounted
- SYJ 5 2 4 0 5 Y
- Q

#### Electrical entry
- Y: With connector
- YO: Without connector

#### Port size
- R port: P, E port
- A, B port size
- - M5
- 01: 1/8 (SYJ7000 only)
- C4: One-touch fitting for ø4
- C6: One-touch fitting for ø6
- N3: One-touch fitting for ø5/32"  
- N7: One-touch fitting for ø1/4"

#### Body option
- 0: Pilot valve individual exhaust for the pilot valve
- 3: Common exhaust type for main and pilot valve

#### Series SYJ5000/7000
- Made to Order
- DIN Connector Conforming to EN-175301-803C (former DIN 43650C)

### How to Order Pilot Valve Assembly

#### V115 — 5 Y

**DIN Connector Part No.**

**Without light**
- SY100-82-1

**With light**
- SY100-82-3-05
- SY100-82-3-06
- SY100-82-3-01
- SY100-82-3-02
- SY100-82-3-03
- SY100-82-3-04

**Rated voltage**
- 5: 24 VDC
- 6: 12 VDC

**AC (%Hz)**
- 1: 100 VAC
- 2: 200 VAC
- 3: 110 VAC (115 VAC)
- 4: 220 VAC (230 VAC)

**Light/surge voltage suppressor**
- Without light/surge voltage suppressor
- + With surge voltage suppressor
- + + With light/surge voltage suppressor

*YOZ is not available.

*For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

**Electrical entry**
- Y: DIN terminal With connector
- YO: Without connector

---

**Caution**

1. Use caution in wiring because it won't meet the IP65 (enclosure) standard if you use the other cord than prescribed heavy-duty cord of size (ø3.5 to ø7.5). Also be sure to tighten the ground nut and holding screw within the specified range of torque.
2. Tighten the ground nut and set screw within the specified range of torque.
3. DIN connector except D type has the "N" indication in the end of voltage symbol. In case of DIN connector without light, "N" is not indicated. Please refer to the name plate to distinguish.
4. Dimensions are completely the same as D-type connector.
5. When exchanging the pilot valve assembly only, "V115-CID" is interchangeable with "V115-CDY". Do not replace V114 (G, H, L, M, W) to V115-CIDY (DIN terminal), and vice versa.
How to Order Valve

**How to Order Pilot Valve Assembly**

**Type of actuation**
1. 2 position single solenoid
2. 2 position double solenoid
3. 3 position closed centre
4. 3 position exhaust centre
5. 3 position pressure centre

**Light/surge voltage suppressor**
- Without light/surge voltage suppressor
- With surge voltage suppressor
- With light/surge voltage suppressor (Non-polar type)
- With light/surge voltage suppressor (Non-polar type)

**Rated voltage**
- DC
  - 5: 24 VDC
  - 6: 12 VDC
  - V: 6 VDC
  - S: 5 VDC
  - R: 3 VDC

**Body option**
- 0: Pilot valve individual exhaust for the pilot valve
- 3: Common exhaust type for main and pilot valve

**Electrical entry**
- WAO: Without connector cable
- WA1: With connector cable (Length 0,3 m)
- WA2: With connector cable (Length 0,5 m)
- WA3: With connector cable (Length 1 m)
- WA4: With connector cable (Length 2 m)
- WA7: With connector cable (Length 5 m)

**Bracket**
- Without bracket
- With bracket

**Port size**
- Without sub-plate
  - M6: SYJ3000
  - 01: 1/8 (SYJ7000 only)

**Thread type**
- F: NPTF
- G: NPT
- T: NP1F

**Manual override**
- Non-locking push type
- D: Push-turn locking slotted type
- E: Push-turn locking lever type

**V115**
- Rated voltage
  - DC
    - 5: 24 VDC
    - 6: 12 VDC
    - V: 6 VAC
    - S: 5 VAC
    - R: 3 VAC

**Light/surge voltage suppressor**
- Without light/surge voltage suppressor
- With surge voltage suppressor
- With light/surge voltage suppressor (Non-polar type)
- With light/surge voltage suppressor (Non-polar type)

**Electrical entry**
- WAO: Without connector cable
- WA: With connector cable

Note: [is for cable length. Please refer to specific Product Precautions 5.](#)
These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "Caution", "Warning" or "Danger". To ensure safety, be sure to observe ISO 4414 Note 1, JIS B 8370 Note 2 and other safety practices.

⚠️ Caution : Operator error could result in injury or equipment damage.

⚠️ Warning : Operator error could result in serious injury or loss of life.

⚠️ Danger : In extreme conditions, there is a possible result of serious injury or loss of life.

---

Warning

1. The compatibility of pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications. Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or after analysis and/or tests to meet your specific requirements. The expected performance and safety assurance will be the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalogue information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate pneumatically operated machinery and equipment. Compressed air can be dangerous if an operator is unfamiliar with it. Assembly, handling or repair of pneumatic systems should be performed by trained and experienced operators.

3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.
   1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driver objects have been confirmed.
   2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for this equipment and exhaust all residual compressed air in the system.
   3. Before machinery/equipment is restarted, take measures to prevent shooting-out of cylinder piston rod, etc.

4. Contact SMC if the product is to be used in any of the following conditions:
   1. Conditions and environments beyond the given specifications, or if product is used outdoors.
   2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
   3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.
4/5 Port Solenoid Valves/Common Precautions 1

Be sure to read before handling.

---

### Warning

1. **Actuator drive**
   When an actuator, such as a cylinder, is to be driven using a valve, take appropriate measures to prevent potential danger caused by actuator operation.

2. **Intermediate stopping**
   When a 3 position closed center valve is used to stop a cylinder at an intermediate position, accurate stopping of the piston in a predetermined position is not possible due to the compressibility of air. Furthermore, since valves and cylinders are not guaranteed for zero air leakage, it may not be possible to hold a stopped position for an extended length of time. Contact SMC if it is necessary to hold a stopped position for an extended time.

3. **Effect of back pressure when using a manifold**
   Use caution when valves are used on a manifold, as actuator malfunction due to back-pressure may occur. In case of 3 position closed exhaust center valve or single acting cylinder, take appropriate measures to prevent the malfunction using with individual EXH interface assembly or individual exhaust manifold.

4. **Holding of pressure (including vacuum)**
   Since valves are subject to air leakage, they cannot be used for applications such as holding pressure (including vacuum) in a pressure vessel.

5. **Cannot be used as an emergency shut off valve, etc.**
   The valves presented in this catalogue are not designed for safety applications such as an emergency shut off valve. If the valves are used in this type of system, other reliable safety assurance measures should also be adopted.

6. **Maintenance space**
   The installation should allow sufficient space for maintenance activities (removal of valve, etc.).

7. **Release of residual pressure**
   Provide a residual pressure release function for maintenance purpose. Especially in case of 3 position closed center valve, ensure the release of residual pressure between valve and cylinder.

8. **Vacuum applications**
   When a valve is used for vacuum switching, etc., take measures against the suction of external dust or other contaminants from vacuum pads and exhaust ports, etc. Moreover, an external pilot type valve should be used in this case. Contact SMC in case of an internal pilot type or air operated valve, etc.

9. **About using the double solenoid type**
   When using the double solenoid type for the first time, actuators may travel in an unexpected direction depending on the switching position of a valve. Implement countermeasures not to occur any danger by the actuator's operation.

10. **Ventilation**
    When a valve is used inside a sealed control panel, etc., provide ventilation to prevent a pressure increase caused by exhausted air inside the control panel or temperature rise caused by the heat generated by the valve.

---

### Selection

#### Warning

1. **Confirm the specification**
   The products presented in this catalogue are designed only for use in compressed air systems (including vacuum). Do not operate at pressures or temperatures, etc., beyond the range of specifications, as this can cause damage or malfunction. (Refer to specifications.) Contact SMC when using a fluid other than compressed air (including vacuum).

2. **Extended periods of continuous energisation**
   • Continuous energisation of the valve for extended periods of time may have an adverse effect on the solenoid valve performance and the peripheral equipment due to temperature rises caused by the heat generation of the coil. Consult with SMC if valves will be continuously energised for extended periods of time or the energised period per day will be longer than the de-energised period. It is also possible to shorten the energisation period by using valves of the N.O. (normally open) type.
   • When solenoid valves are mounted in a control panel, employ measures to radiate excess heat, so that temperatures remain within the valve specification range. Use special caution when three or more stations sequentially aligned on the manifold are continuously energised since this will cause a drastic temperature rise. (As for AC specifications, since the applicable products are ready to provide separately, contact SMC.)

#### Caution

1. **Momentary energisation**
   If a double solenoid valve will be operated with momentary energisation, it should be energised for at least 0.1 second. However, depending on the secondary load conditions, it should be energised until the cylinder reaches the stroke end position, as there is a possibility of malfunction otherwise.

2. **Leakage voltage**
   When using a resistor in parallel with the switching element or using a C-R element (surge voltage suppressor) for protection of the switching element, note that leakage voltage will increase due to leakage current flowing through the resistor or C-R element. Limit the amount of residual leakage voltage to the following value:
   - With DC coil: 3% or less of rated voltage
   - With AC coil: 8% or less of rated voltage

---
Caution

3. Solenoid valve drive for AC with solid state output (SSR, TRIAC output, etc.)
   1) Current leakage
      When using a snubber circuit (C-R element) for surge protection of the output element, a very small electric current will still continue to flow in spite of the OFF state. This results in the valve not returning. In the cases when exceeding the tolerance as shown above, take measures to install a bleeder resistor.
   2) Minimum load allowable amount (Min. load current)
      When the consumption current of a valve is less than the output element’s minimum load allowable volume or the margin is small, the output element may not be switched normally. Please confirm SMC.

4. Surge voltage suppressor
   If a surge protection circuit contains non-ordinary diodes such as Varistor, a residual voltage that is in proportion to the protective elements and the rated voltage will remain. Therefore, give consideration to surge voltage protection of the controller. In the case of diodes, the residual voltage is approximately 1 V.

5. Use in low temperature environments
   Unless otherwise indicated in the specifications for each valve, operation is possible to −10°C, but appropriate measures should be taken to avoid solidification or freezing of drainage and moisture, etc.

6. Operation for air blowing
   When using a solenoid valve for air blow, use an external pilot type.
   Take note that when internal pilots and external pilots are used on the same manifold, the pressure drop caused by the air blowing can have an effect on the internal pilot type valves. Moreover, when compressed air within the pressure range of the established specifications is supplied to the external pilot port, and a double solenoid valve is used for air blowing, the solenoids should normally be energised when air is being blown.

7. Mounting orientation
   Rubber seal: Refer to the specifications of each series.

Caution

3. Closed center valves
   When using closed center type valves, carefully check to ascertain that there is no air leakage from the piping between the valves and cylinders.

4. Screwing in fittings
   When connecting fittings to valves, tighten as indicated below.
   1) For M3 and M5 type
      (1) When using SMC fittings, follow the guidelines below. After tightening by hand, tighten an additional M3: 1/4, M5: 1/6 turn with a tightening tool. However, if miniature fittings are used, tighten an additional 1/4 turn with a tightening tool after tightening by hand. For fittings with gaskets in 2 locations, e.g., universal elbow or universal tee, tighten an additional 1/2 turn.
      Note) If fittings are over-tightened, air leakage may result due to breaking of fitting threads or deformation of the gaskets. However, if fittings are not tightened sufficiently, loosening of the threads and air leakage and may occur.
      (2) When fittings other than SMC fittings are used, follow the instructions of the respective fitting manufacturer.
   2) For Rc (PT)
      When installing fitting, etc., follow the given torque levels below.

<table>
<thead>
<tr>
<th>Connection threads</th>
<th>Applicable tightening torque N-m</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8</td>
<td>7 to 9</td>
</tr>
<tr>
<td>1/4</td>
<td>12 to 14</td>
</tr>
<tr>
<td>3/8</td>
<td>22 to 24</td>
</tr>
<tr>
<td>1/2</td>
<td>28 to 30</td>
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<td>3/4</td>
<td>28 to 30</td>
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<td>1</td>
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<tr>
<td>11/4</td>
<td>40 to 42</td>
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<tr>
<td>11/2</td>
<td>48 to 50</td>
</tr>
<tr>
<td>2</td>
<td>48 to 50</td>
</tr>
</tbody>
</table>

5. Connection of piping to products
   When connecting piping to a product, refer to its instruction manual to avoid mistakes regarding the supply port, etc.
4/5 Port Solenoid Valves/Common Precautions
Be sure to read before handling.

\section*{Wiring

\textbf{Caution}

1. Polarity
When connecting power to a DC specification solenoid valve equipped with (indicator light) surge voltage suppressor, confirm whether or not there is polarity. If there is polarity, take note of the following points.

Without built-in diode to protect polarity (including any power saving circuit):
If a mistake is made regarding polarity, the diode in the valve, the control device switching element or power supply equipment, etc., may burn out.

With diode to protect polarity:
If a mistake is made regarding polarity, it will not be possible to switch the valve.

2. Applied voltage
When electric power is connected to a solenoid valve, be careful to apply the proper voltage. Improper voltage may cause malfunction or coil damage.

3. Confirm the connections.
After completing the wiring, confirm that the connections are correct.

\section*{Lubrication

\textbf{Caution}

1. Lubrication

[Rubber seal]
1) The valve has been lubricated for life at the factory, and does not require any further lubrication.

2) In the event that it is lubricated, use class 1 turbine oil (without additives), ISO VG32.

However, once lubrication is applied it must be continued, as loss of the original lubricant may lead to malfunction.

Contact SMC regarding class 2 turbine oil (with additives), ISO VG32.

\section*{Air Supply

\textbf{Caution}

1. Install air filters.
Install air filters close to valves at their upstream side. A filtration degree of 5 \(\mu\)m or less should be selected.

2. Install an air dryer, after cooler or Drain Catch (water separator), etc.
Air that includes excessive drainage may cause malfunction of valves and other pneumatic equipment. To prevent this, install an air dryer, after-cooler or Drain Catch (water separator), etc.

3. If excessive carbon dust is generated, eliminate it by installing mist separators at the upstream side of valves.
If excessive carbon dust is generated by the compressor, it may adhere to the inside of valves and cause malfunction.

Refer to “SMC Best Pneumatics” catalogue for compressed air quality.

\section*{Warning

1. Do not use valves in atmospheres of corrosive gases, chemicals, salt water, water or steam or where there is direct contact with any of these.

2. Products with IP65 enclosures (based on IEC60529) are protected against dust and water, however, these products cannot be used in water.

Take measures to prevent water and dust from coming from the exhaust port.

3. Products compliant to IP65 satisfy the specifications by mounting each product properly. Be sure to read the Specific Product Precautions for each product.

4. Do not use in an explosive atmosphere.

5. Do not use in locations subject to vibration or impact. Confirm the specifications in the main section of the catalogue.

6. A protective cover, etc., should be used to shield valves from direct sunlight.

7. Shield valves from radiated heat generated by nearby heat sources.

8. Employ suitable protective measures in locations where there is contact with water droplets, oil or welding spatter, etc.

9. When solenoid valves are mounted in a control panel or are energised for extended periods of time, employ measures to radiate excess heat, so that temperatures remain within the valve specification range.
Maintenance

⚠️ Warning

1. Perform maintenance procedures as shown in the instruction manual.
   If handled improperly, malfunction or damage of machinery or equipment may occur.

2. Equipment removal and supply/exhaust of compressed air
   When equipment is removed, first confirm that measures are in place to prevent dropping of work pieces and run-away of equipment, etc. Then cut the supply pressure and power, and exhaust all compressed air from the system using its residual pressure release function.
   In the case of 3 position closed center style, exhaust the residual pressure between valve and cylinder.
   When the equipment is to be started again after remounting or replacement, first confirm that measures are in place to prevent lurching of actuators, etc., and then confirm that the equipment is operating normally.

3. Low frequency operation
   Valves should be switched at least once every 30 days to prevent malfunction. (Use caution regarding the air supply.)

4. Manual override operation
   When the manual override is operated, connected equipment will be actuated. Confirm safety before operating.

⚠️ Caution

1. Drain flushing
   Remove drainage from air filters regularly.
**Series SYJ3000/5000/7000**

**Specific Product Precautions 1**

Be sure to read before handling.

Refer to back page 1 through to 5 for Safety Instruction and Common Precautions.

---

**Manual Override Operation**

**Warning**

When the manual override is operated, connected equipment will be actuated. Confirm safety before operating.

- **Non-locking push type [Standard]**
  Press in the direction of the arrow

- **Push-turn locking slotted type [Type D]**
  While pressing, turn in the direction of the arrow.
  If it is not turned, it can be operated the same way as the non-locking type.

**Caution**

When operating the locking type D with a screw driver, turn it gently using a watchmakers screw driver.
[Torque: Less than 0.1 N-m]

- **Push-turn locking lever type [Type E]**
  While pressing, turn in the direction of the arrow.
  If it is not turned, it can be operated the same way as the non-locking type.

**Caution**

When locking the manual override on the push-turn locking types (D, E), be sure to push it down before turning.
 Turning without first pushing it down can cause damage to the manual override and trouble such as air leakage, etc.

---

**Solenoid Valve for 200 V, 220 VAC Specifications**

**Warning**

Solenoid valves with DIN terminal connector AC specifications have a built-in rectifier circuit in the pilot section to operate the DC coil.

With 200 V, 220 VAC specification pilot valves, this built-in rectifier generates heat when energised. The surface may become hot depending on the energised condition; therefore, do not touch the solenoid valves.

**Common Exhaust Type for Main and Pilot Valve**

**Caution**

Pilot air is exhausted through the main valve body rather than directly to atmosphere.
- Suitable for applications where exhausting the pilot valve to atmosphere would be detrimental to the surrounding working environment.
- For use in extremely dirty environments where there is the possibility that dust could enter the pilot exhaust and damage the valve.

Ensure that the piping of exhaust air is not too restrictive.

---

**Series SYJ3000/5000/7000**

**Mixed Installation of 3 Port and 5 Port Valves on Same Manifold.**

**Caution**

Series SYJ3000/5000/7000 and Series SYJ300/500/700 can be mounted on the same manifold. How to mount on the same manifold is shown on the following pages.

<table>
<thead>
<tr>
<th>Series</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3000, SYJ300</td>
<td>P. 14</td>
</tr>
<tr>
<td>SYJ5000, SYJ500</td>
<td>P. 38</td>
</tr>
<tr>
<td>SYJ7000, SYJ700</td>
<td>P. 61</td>
</tr>
</tbody>
</table>

If 4 or 5 port valve is used as a 3 port valve
Series SYJ3000, 5000, 7000 may be used as a N.C. or N.O. 3 port valve by plugging one of the A, B ports. Be sure not to plug the exhaust ports (R).

Can be used when a double solenoid, 3 port valve is required.

**Plug position**

<table>
<thead>
<tr>
<th>Number of solenoids</th>
<th>B port</th>
<th>A port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>Plug</td>
<td>Plug</td>
</tr>
<tr>
<td>Double</td>
<td>Plug</td>
<td>Plug</td>
</tr>
</tbody>
</table>

(JIS symbols above: Series SYJ5000)
How to Use Plug Connector

**Caution**

1. **Attaching and detaching connectors**
   - To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever’s pawl is pushed into the groove and locks.
   - To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.

2. **Crimping of lead wires and sockets**
   Strip 3.2 to 3.7 mm at the end of the lead wires, insert the ends of the core wires evenly into the sockets, and then crimp with a crimping tool. When this is done, take care that the coverings of the lead wires do not enter the core wire crimping area.
   Use an exclusive crimping tool for crimping. (Contact SMC for special crimping tools.)

3. **Attaching and detaching sockets with lead wires**
   - **Attaching**
     Insert the sockets into the square holes of the connector (+, – indication), and continue to push the sockets all the way in until they lock by hooking into the seats in the connector. (When they are pushed in, their hooks open and they are locked automatically.) Then confirm that they are locked by pulling lightly on the lead wires.
   - **Detaching**
     To detach a socket from a connector, pull out the lead wire while pressing the socket’s hook with a stick having a thin tip (approx. 1 mm). If the socket will be used again, first spread the hook outward.

Plug Connector Lead Wire Length

**Caution**

Standard length is 300 mm, but the following lengths are also available.

<table>
<thead>
<tr>
<th>Lead wire length</th>
<th>0</th>
<th>6</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300 mm</td>
<td>600 mm</td>
<td>1000 mm</td>
<td>1500 mm</td>
<td>2000 mm</td>
<td>2500 mm</td>
<td>3000 mm</td>
<td>5000 mm</td>
</tr>
</tbody>
</table>

**How to Order Connector Assembly**

For DC: SY100 – 30 – A
(with connector and 2 of sockets only)

Ex.) In case of 2000 mm of lead wire
For DC
SYJ3120-5LO-M3
SY100-30-4A-20
**Caution**

*For DC*  
Grommet, L/M Plug Connector

<table>
<thead>
<tr>
<th>Standard type (with polarity)</th>
<th>Non-polar type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surge voltage suppressor (S)</td>
<td>With surge voltage suppressor (R)</td>
</tr>
<tr>
<td>Red (+)</td>
<td>(-) (+)</td>
</tr>
<tr>
<td>Black</td>
<td>(+) (-)</td>
</tr>
</tbody>
</table>

- Connect the standard type in accordance with the +, – polarity indication. (The non-polar type can be used with the connections made either way.)
- Since voltage specifications other than standard 24 V and 12 VDC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- Please use caution regarding the allowable voltage fluctuation because there is about a 1 volt drop for a valve with polarity protection. (For details, refer to the solenoid specifications for the individual valve.)
- When wiring is done at the factory, positive (+) is red and negative (–) is black.

**With power saving circuit**

Power consumption is decreased by 1/4 by reducing the wattage required to hold the valve in an energised state. (Effective energising time is over 62 ms at 24 VDC.)

**Operating Principle**

With the above circuit, the current consumption when holding is reduced to save energy. Please refer to the electric wave data to the right.

- Please be careful not to reverse the polarity, since a diode to prevent the reversed current is not provided for the power saving circuit.
- Please use caution regarding the allowable voltage fluctuation because there is about a 0.5 volt drop due to the transistor. (For details, refer to the solenoid specifications for the individual valve.)

---

**Surge Voltage Suppressor**

**DIN Terminal**

- With surge voltage suppressor (DS)
- With light/surge voltage suppressor (DZ)

**M8 Connector**

- Standard type (with polarity)
- With light/surge voltage suppressor (S)

---

**Solenoid valve side pin wiring diagram (For W type)**

**Solenoid valve side pin wiring diagram (For WA type)**

- In the case of standard type, connect + to 1 and – to 3 for W type, and connect + to 4 and - to 3 for WA type, according the polarity.
- For DC voltages other than 12 V and 24 V, incorrect wiring will case damage to the surge suppressor circuit.
- Please use caution regarding the allowable voltage fluctuation because there is about a 1 volt drop for a valve with polarity protection. (For details, refer to the solenoid specifications for the individual valve.)
**Caution**

<For AC>
(There is no “S” type because the generation of surge voltage is prevented by a rectifier.)

**DIN Terminal**

With light (DZ)

![DIN Terminal Diagram]

Note) Surge voltage suppressor of varistor has residual voltage corresponding to the protective element and rated voltage; therefore, protect the controller side from the surge. The residual voltage of the diode is approximately 1 V.

**Surge Voltage Suppressor**

**How to Use DIN Terminal**

1. Loosen the holding screw and pull the connector out of the solenoid valve terminal block.
2. After removing the holding screw, insert a flat head screwdriver, etc. into the notch on the bottom of the terminal block and pry it open, separating the terminal block and the housing.
3. Loosen the terminal screws (slotted screws) on the terminal block, insert the cores of the lead wires into the terminals according to the connection method, and fasten them securely with the terminal screws.
4. Secure the cord by fastening the ground nut.

**Caution**

When making connections, take note that using other than the supported size (ø3.5 to ø7) heavy duty cord will not satisfy IP65 (enclosure) standards. Also, be sure to tighten the ground nut and holding screw within their specified torque ranges.

**Caution**

Changing the entry direction
After separating the terminal block and housing, the cord entry can be changed by aligning the housing in the desired direction (4 directions at 90° intervals).
* When equipped with a light, be careful not to damage the light with the cord’s lead wires.

**Precautions**

Plug in and pull out the connector vertically without tilting to one side.

**Compatible cable**

Cord O.D.: ø3.5 to ø7
(Reference) 0.5 mm², 2-core or 3-core, equivalent to JIS C 3306

---

**DIN Connector Part No.**

**With light**

<table>
<thead>
<tr>
<th>Rated voltage</th>
<th>Voltage symbol</th>
<th>Model no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>24 V</td>
<td>SY100-61-3-05</td>
</tr>
<tr>
<td>12 VDC</td>
<td>12 V</td>
<td>SY100-61-3-06</td>
</tr>
<tr>
<td>100 VAC</td>
<td>100 V</td>
<td>SY100-61-2-01</td>
</tr>
<tr>
<td>200 VAC</td>
<td>200 V</td>
<td>SY100-61-2-02</td>
</tr>
<tr>
<td>110 VAC</td>
<td>110 V</td>
<td>SY100-61-2-03</td>
</tr>
<tr>
<td>220 VAC</td>
<td>220 V</td>
<td>SY100-61-2-04</td>
</tr>
</tbody>
</table>

**Circuit Diagram with Light**

![Circuit Diagram]

Note) Refer to page 80 for DIN connector (Y) conforming to EN-175301-803C (former DIN 43650C).
Connector Assembly with Cover

**Caution**

Connector assembly with dust proof protective cover.
- Effective to prevention of short circuit failure due to the entry of foreign matter into the connector.
- Chloroprene rubber for electrical use, which provides outstanding weather resistance and electrical insulation, is used for the cover material. However, do not allow contact with cutting oil, etc.
- Simple and unencumbered appearance by adopting round-shaped cord.

How to Order

**SY100-68-A**

<table>
<thead>
<tr>
<th>Lead wire length</th>
<th>300 mm</th>
<th>600 mm</th>
<th>1000 mm</th>
<th>1500 mm</th>
<th>2000 mm</th>
<th>2500 mm</th>
<th>3000 mm</th>
<th>5000 mm</th>
</tr>
</thead>
</table>

Connector Assembly with Cover: Dimensions

M8 Connector

**Caution**

1. M8 connector types have an IP65 (enclosure) rating, offering protection from dust and water. However please note: these products are not intended for use in water. Select a SMC connector cable (V100-49-1-□) or a FA sensor type connector, with M8 threaded 3 pin specifications conforming to Nippon Electric Control Equipment Association Standard, NECA4202 (IEC60947-5-2). Make sure the connector O.D. is 10.5 mm or less when used with the Series SYJ3000 manifold. If more than 10.5 mm, it cannot be mounted due to the size.

2. Do not use a tool to mount the connector, as this may cause damage. Only tighten by hand. (0.4 to 0.6 Nm)

3. The excessive stress on the cable connector will not be able to satisfy the IP65 rating. Please use caution and do not apply a stress of 30 N or greater.

**Caution**

Failure to meet IP65 performance may result if using alternative connectors than those shown above, or when insufficiently tightened.

- Connector cable mounting

Note) Connector cable should be mounted in the correct direction. Make sure that the arrow symbol on the connector is facing the triangle symbol on the valve when using SMC connector cable (V100-49-1-□). Be careful not to squeeze it in the wrong direction, as problems such as pin damage may occur.

- Connector cable

  - M8 connector cable for M8 can be ordered as follows:

How to Order

1. To order solenoid valve and connector cable at the same time. (Connector cable will be included in the shipment of the solenoid valve.)

**SYJ3**

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>W1, WA1: Cable length 300 mm</th>
<th>W2, WA2: Cable length 500 mm</th>
<th>W3, WA3: Cable length 1000 mm</th>
<th>W4, WA4: Cable length 2000 mm</th>
<th>W7, WA7: Cable length 5000 mm</th>
</tr>
</thead>
</table>

Ex. 1) Cable length: 300 mm

**SYJ3120-5W1ZE-M3-Q**

Symbol for connector assembly with cover

* In this case, the part number for the connector assembly with cover is not required.
Flat Ribbon Cable Manifold

**Caution**

- In the manifold valves, the wiring to the individual valves is provided on a printed circuit board, and the connection to the external wires is consolidated through the use of a flat cable.
- A single MIL flat cable connects the entire manifold to your power source. This greatly reduces installation time.

2. To order connector cable only

<table>
<thead>
<tr>
<th>Cable length (L)</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 mm</td>
<td>V100-49-1-1</td>
</tr>
<tr>
<td>500 mm</td>
<td>V100-49-1-2</td>
</tr>
<tr>
<td>1000 mm</td>
<td>V100-49-1-3</td>
</tr>
<tr>
<td>2000 mm</td>
<td>V100-49-1-4</td>
</tr>
<tr>
<td>5000 mm</td>
<td>V100-49-1-7</td>
</tr>
</tbody>
</table>

**Flat Ribbon Cable Manifold**

<table>
<thead>
<tr>
<th>Type 21P</th>
<th>Type 32P</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Type 21P" /></td>
<td><img src="image2.png" alt="Type 32P" /></td>
</tr>
</tbody>
</table>

**Manifold Internal Wiring**

- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid B side.
- The maximum number of stations that can be accommodated is 12. For more stations, contact SMC.
- Only non-polar valves are available for the DC flat cable manifold, therefore negative COM or positive COM wiring of the manifold is possible. The valve does not switch with negative COM if a Z type is used. Be sure to use a positive COM.

**Bracket**

**Caution**

For bracket attached styles of SYJ3000 (Single) and SYJ7000, do not use it without bracket.

**Replacement of Pilot Valve**

**Caution**

Mount it so that there is no slippage or deformation in gaskets, and tighten with the tightening torque as shown below.

<table>
<thead>
<tr>
<th>Model</th>
<th>Thread size</th>
<th>Tightening torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3000</td>
<td>M1.7</td>
<td>0.12 N·m</td>
</tr>
<tr>
<td>SYJ5000</td>
<td>M2.5</td>
<td>0.45 N·m</td>
</tr>
<tr>
<td>SYJ7000</td>
<td>M3</td>
<td>0.8 N·m</td>
</tr>
</tbody>
</table>

Back page 11
Replacement of Pilot Valve

**Caution**

Pilot valves in this series are improved to provide excellent energy saving results. However following this improvement, these new valves are no longer compatible with the conventional pilot valve used at the interface. Consult with SMC when you need to exchange these pilot valves, in the case of manual override (marked in orange) of the adapter plate.

**New type**

![Manual override (Blue)](image1)

![Pilot valve (V111)](image2)

![Adapter plate](image3)

**Conventional type**

![Manual override (Orange)](image4)

![Pilot valve (SY114)](image5)

![Adapter plate](image6)

Interface Regulator

**Caution**

Spacer type regulating valve on manifold block can regulate the pressure to the valve individually.

**Specifications**

<table>
<thead>
<tr>
<th>Interface regulator</th>
<th>ARBYJ5000</th>
<th>ARBYJ7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable solenoid valve model</td>
<td>SYJ5000</td>
<td>SYJ7000</td>
</tr>
<tr>
<td>Regulating port</td>
<td>P</td>
<td>P</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>1.5 MPa</td>
<td></td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>1.0 MPa</td>
<td></td>
</tr>
<tr>
<td>Set pressure range</td>
<td>0.05 to 0.7 MPa</td>
<td>Note 1)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>-5 to 60°C (No freezing)</td>
<td>Note 2)</td>
</tr>
<tr>
<td>Thread size for connection of pressure gauge</td>
<td>M5</td>
<td></td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>0.06</td>
<td>0.09</td>
</tr>
<tr>
<td>Effective area at exhaust side (mm²)</td>
<td>Note 3)</td>
<td>P → A</td>
</tr>
<tr>
<td>S at P₁ = 0.7 MPa, P₂ = 0.5 MPa</td>
<td>P → B</td>
<td>2.1</td>
</tr>
<tr>
<td>Effective area at supply side (mm²)</td>
<td>Note 3)</td>
<td>A → EA</td>
</tr>
<tr>
<td>S at P₁ = 0.7 MPa, P₂ = 0.5 MPa</td>
<td>B → EB</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Note 1) Set the pressure within the operating pressure range of the solenoid valve.

Note 2) The maximum operating temperature for the solenoid valve is 50°C.

Note 3) The effective area listed is for a single solenoid 2 position valve mounted on a sub-plate.

Note 4) Apply pressure from P port in the base for interface regulator.

Flow Characteristics

(P → A) Condition: Inlet pressure 0.7 MPa

- ARBYJ5000-00-P-Q

![Flow characteristics graph](image7)

- ARBYJ7000-00-P-Q

![Flow characteristics graph](image8)