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>b</th>
<th>Cv</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3000</td>
<td>0.46</td>
<td>0.36</td>
<td>0.12</td>
</tr>
<tr>
<td>SYJ5000</td>
<td>0.83</td>
<td>0.32</td>
<td>0.21</td>
</tr>
<tr>
<td>SYJ7000</td>
<td>2.9</td>
<td>0.35</td>
<td>0.74</td>
</tr>
</tbody>
</table>
# Rubber Seal

## 4/5 Port Solenoid Valve

### Series SYJ3000/5000/7000

#### 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><strong>SYJ3000</strong></td>
<td>0.9 mm² 4/2 → 5/3 (A/B → EA/EB)</td>
<td>2 Position</td>
<td>For DC</td>
<td></td>
<td>With light/surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td><strong>SYJ5000</strong></td>
<td>0.47 4/2 → 5/3 (A/B → EA/EB)</td>
<td>2 Position</td>
<td>For DC</td>
<td></td>
<td>With light/surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td><strong>SYJ7000</strong></td>
<td>2.4 4/2 → 5/3 (A/B → EA/EB)</td>
<td>3 Position</td>
<td>For AC</td>
<td></td>
<td>Non-locking push type</td>
<td></td>
</tr>
<tr>
<td><strong>SYJ3000</strong></td>
<td>0.46 4/2 → 5/3 (A/B → EA/EB)</td>
<td>3 Position</td>
<td>For AC</td>
<td></td>
<td>Push-turn locking slotted type</td>
<td></td>
</tr>
<tr>
<td><strong>SYJ5000</strong></td>
<td>0.83 4/2 → 5/3 (A/B → EA/EB)</td>
<td>3 Position</td>
<td>For AC</td>
<td></td>
<td>Push-turn locking lever type</td>
<td></td>
</tr>
<tr>
<td><strong>SYJ7000</strong></td>
<td>2.9 4/2 → 5/3 (A/B → EA/EB)</td>
<td>3 Position</td>
<td>For AC</td>
<td></td>
<td>Push-turn locking lever type</td>
<td></td>
</tr>
</tbody>
</table>

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

---

**For AC**: 100 VAC, 110 VAC, 200 VAC, 220 VAC

**For DC**: 24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC

Note: All AC voltage models have built-in surge voltage suppressor.
### 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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M3</td>
<td>1/8</td>
<td>SUP spacer assembly</td>
</tr>
<tr>
<td></td>
<td>M5</td>
<td>1/8</td>
<td>EXH spacer assembly</td>
</tr>
<tr>
<td></td>
<td>Ø4</td>
<td>Ø6</td>
<td>Interface regulator</td>
</tr>
<tr>
<td></td>
<td>Ø8</td>
<td>N3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N7</td>
<td>N9</td>
<td></td>
</tr>
</tbody>
</table>

#### Flat ribbon cable manifold

<table>
<thead>
<tr>
<th>Body ported</th>
<th>SYJ3000</th>
<th>SYJ5000</th>
<th>SYJ7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>Side</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>Bottom</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
</tbody>
</table>

#### Base mounted

<table>
<thead>
<tr>
<th>SYJ3000</th>
<th>SYJ5000</th>
<th>SYJ7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>Bottom</td>
<td>⬤</td>
<td>⬤</td>
</tr>
</tbody>
</table>

#### Individual SUP spacer assembly

#### Individual EXH spacer assembly

#### Interface regulator

#### Mixed mounting of 3 port valves and 4, 5 port valves

---

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><strong>Operating pressure range (MPa)</strong></td>
<td></td>
</tr>
<tr>
<td>2 position single</td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>2 position double</td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td>3 position</td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td><strong>Ambient and fluid temperature (°C)</strong></td>
<td>~10 to 50 (No freezing. Refer to back page 3.)</td>
</tr>
<tr>
<td><strong>Response time (ms) (at 0.5 MPa)</strong></td>
<td></td>
</tr>
<tr>
<td>2 position single, double</td>
<td>15 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>30 or less</td>
</tr>
<tr>
<td><strong>Max. operating frequency (Hz)</strong></td>
<td></td>
</tr>
<tr>
<td>2 position single, double</td>
<td>10</td>
</tr>
<tr>
<td>3 position</td>
<td>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**
- 2 position single, double
- 3 position

**Shock/Vibration resistance (m/s²) (Note 2)**
- 3

**Enclosure**
- Dust proof (+ M8 connector conforms to IP65.)

**Solenoid 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><strong>Coil rated voltage (V)</strong></td>
<td>DC</td>
</tr>
<tr>
<td>200</td>
<td>100, 110, 200, 220</td>
</tr>
<tr>
<td><strong>Allowable voltage fluctuation</strong></td>
<td>±10% of rated voltage</td>
</tr>
<tr>
<td><strong>Power consumption (W)</strong></td>
<td>DC</td>
</tr>
<tr>
<td>0.35 (With light: 0.4)</td>
<td>0.1 (With light only)</td>
</tr>
<tr>
<td>100 V</td>
<td>0.78 (With light: 0.81)</td>
</tr>
<tr>
<td>110 V</td>
<td>0.86 (With light: 0.89)</td>
</tr>
<tr>
<td>[115 V]</td>
<td>[0.94 (With light: 0.97)]</td>
</tr>
<tr>
<td>200 V</td>
<td>1.18 (With light: 1.22)</td>
</tr>
<tr>
<td>220 V</td>
<td>1.30 (With light: 1.34)</td>
</tr>
<tr>
<td>[230 V]</td>
<td>[1.42 (With light: 1.46)]</td>
</tr>
<tr>
<td><strong>Apparent power VA</strong> *</td>
<td>AC</td>
</tr>
<tr>
<td>100 V</td>
<td>0.78 (With light: 0.81)</td>
</tr>
<tr>
<td>110 V</td>
<td>0.86 (With light: 0.89)</td>
</tr>
<tr>
<td>[115 V]</td>
<td>[0.94 (With light: 0.97)]</td>
</tr>
<tr>
<td>200 V</td>
<td>1.18 (With light: 1.22)</td>
</tr>
<tr>
<td>220 V</td>
<td>1.30 (With light: 1.34)</td>
</tr>
<tr>
<td>[230 V]</td>
<td>[1.42 (With light: 1.46)]</td>
</tr>
</tbody>
</table>

**Surge voltage suppressor**
- Diode (Non-polarity type: Valistor)

**Indicator light**
- LED

* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.
* For 115 VDC and 230 VDC, the allowable voltage is ~5% to +5% of rated voltage.
* S, Z and T type (with power saving circuit) should be used within the following allowable voltage fluctuation range due to a voltage drop caused by the internal circuit.
  - S and Z type: +4% to +10%
  - T type: +6% to +10%

**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.

For details about certified products conforming to international standards, visit us at www.smcworld.com.

Made to Order
(For details, refer to page 79.)
## Flow Characteristics/Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
<th>Note 3, 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ314</td>
<td>Single</td>
<td>M5 x 0.8</td>
<td>62 (36)</td>
<td>63 (37)</td>
</tr>
<tr>
<td>SYJ324</td>
<td>Single</td>
<td>M5 x 0.8</td>
<td>59 (33)</td>
<td>61 (34)</td>
</tr>
<tr>
<td>SYJ334</td>
<td>Exhaust center</td>
<td>M5 x 0.8</td>
<td>82 (56)</td>
<td>84 (58)</td>
</tr>
<tr>
<td>SYJ344</td>
<td>Pressure center</td>
<td>M5 x 0.8</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>SYJ354</td>
<td>Single</td>
<td>M3 x 0.5</td>
<td>36 (18)</td>
<td>37 (19)</td>
</tr>
<tr>
<td>SYJ364</td>
<td>Exhaust center</td>
<td>M3 x 0.5</td>
<td>56 (28)</td>
<td>58 (30)</td>
</tr>
<tr>
<td>SYJ374</td>
<td>Pressure center</td>
<td>M3 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**Note 1)** Dedicated for manifold base. For details, refer to page 11.


**Note 3)** ( ): Without sub-plate.

**Note 4)** 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.

### Cylinder Speed Chart

**Body Ported**

<table>
<thead>
<tr>
<th>Series</th>
<th>Bore size</th>
<th>Average speed (mm/s)</th>
<th>Series CJ2 Pressure 0.5 MPa Load rate: 50% Stroke 60 mm</th>
<th>Series CM2 Pressure 0.5 MPa Load rate: 50% Stroke 300 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3120-M3</td>
<td>Ø6 Ø10 Ø16 Ø20 Ø25 Ø32 Ø40</td>
<td>Perpendicular, upward actuation</td>
<td>Horizontal actuation</td>
<td></td>
</tr>
</tbody>
</table>

**Base Mounted**

<table>
<thead>
<tr>
<th>Series</th>
<th>Bore size</th>
<th>Average speed (mm/s)</th>
<th>Series CJ2 Pressure 0.5 MPa Load rate: 50% Stroke 60 mm</th>
<th>Series CM2 Pressure 0.5 MPa Load rate: 50% Stroke 300 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3140-M5</td>
<td>Ø6 Ø10 Ø16 Ø20 Ø25 Ø32 Ø40</td>
<td>Perpendicular, upward actuation</td>
<td>Horizontal actuation</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.
- 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>Base mounted</th>
<th>Series CJ2</th>
<th>Series CM2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ3120-M3</td>
<td>Tubing bore x Length</td>
<td>Ø4 x 1 m</td>
<td>Speed controller</td>
<td>AS1301F-04</td>
<td>Silencer</td>
</tr>
</tbody>
</table>

| SYJ3140-M5 | Tubing bore x Length | Ø6 x 1 m | Speed controller | AS2001F-06 | AS2301F-06 | Silencer | AN120-M5 |
### 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

**Light/surge voltage suppressor**
- Nil: 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)

- For AC voltage valves there is no “S” option. It is already built-in to the rectifier circuit.
- For type “R” and “U”, DC voltage is only available.
- Power saving circuit is only available in the “Z” type.

**Rated voltage**

<table>
<thead>
<tr>
<th>DC</th>
<th>24 VDC</th>
<th>12 VDC</th>
<th>6 VDC</th>
<th>5 VDC</th>
<th>3 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC (%)</td>
<td>100 VAC</td>
<td>200 VAC</td>
<td>110 VAC (115 VAC)</td>
<td>220 VAC (230 VAC)</td>
<td></td>
</tr>
</tbody>
</table>

- For type W**, DC voltage is only available.

**Coil specifications**
- Nil: Standard
- T: With power saving circuit (24, 12 VDC only)

- Power saving circuit is not available in the case of W** type.

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

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

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

**Body ported**
- SYJ3 1 2 0 5 M M3

**Base mounted (4 port)**
- SYJ3 2 3 0 5 M (Manifold use only)

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

**4 port**
- For manifold type 31, S31, 32, S32

**5 port**
- For sub-plate, manifold type 41, S41, 46, S46

**Electrical entry**

<table>
<thead>
<tr>
<th>24, 12, 6, 5, 3 VDC</th>
<th>24, 12, 6, 5, 3 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>100, 110, 200, 220 VAC</td>
<td>G: Lead wire length 300 mm&lt;br&gt;L: With lead wire (Length 300 mm)&lt;br&gt;M: With lead wire (Length 300 mm)&lt;br&gt;MN: Without lead wire&lt;br&gt;WO: Without connector cable&lt;br&gt;H: Lead wire length 600 mm&lt;br&gt;LN: Without lead wire&lt;br&gt;LO: Without connector&lt;br&gt;MO: Without connector&lt;br&gt;W: With connector cable (Note 1)</td>
</tr>
</tbody>
</table>

- LN, MN type: with 2 sockets.
- For connector cable of M8 connector, refer to back page 10.
- Note 1: Enter the cable length symbols in /L50132. Please be sure to fill in the blank referring to back page 10.

---

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, refer to page 15.)
Series SYJ3000

Construction

2 position single

2 position double

3 position closed center/exhaust center/pressure center

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></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

| Nil | Standard       | T               | Power saving circuit is not available in the case of W. type. |

Rated voltage

| 5   | 24 VDC         | 6               | 12 VDC       |
| 7   | 6 VDC          | 5               | 5 VDC        |
| 2   | 200 VAC/60 Hz  | 3               | 100 VAC/50 Hz|
| 4   | 110 VAC/60 Hz  | 4               | 220 VAC/60 Hz|
| 11  | 230 VAC/60 Hz  | 2               | 300 VAC/60 Hz|

Electrical entry

**G** Grommet, 300 mm lead wire
**H** Grommet, 600 mm lead wire
**L** With lead wire
**LN** Without lead wire
**LO** Without connector
**M** With lead wire
**MN** Without lead wire
**MO** Without connector
**WO** With connector cable
**WO** With connector cable

Light/surge voltage suppressor

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

Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>No.</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Pilot valve</td>
<td>V111(T)</td>
<td>Zinc die-casted</td>
<td></td>
</tr>
</tbody>
</table>

How to Order M8 Connector Cable

**V100-49-1-**

| 1   | 300 mm             | 2   | 500 mm              |
| 3   | 1000 mm            | 4   | 2000 mm             |
| 5   | 3000 mm            | 6   | 5000 mm             |
Grommet (G), (H): SYJ3120-□□□-M3

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

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

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

With bracket:
SYJ3120-□□□□□-M3-F

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

2 Position Double

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

M3 x 0.5 (A, B port)
(For mounting)

M5 x 0.8
(P, R port)

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

2-ø1.8
(Manual override)
(For manifold mounting)

2-ø3.2 equivalent
(For mounting)
Bracket

(Light/surge voltage suppressor)

Approx. 300
(Lead wire length)

G: Approx. 300
H: Approx. 600

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

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

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

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ3\(\frac{3}{2}\)20-□□□□-M3 (-F)

L plug connector (L):
SYJ3\(\frac{3}{2}\)20-□□□□-M3 (-F)

M plug connector (M):
SYJ3\(\frac{3}{2}\)20-□□□□-M3 (-F)

M8 connector (WO):
SYJ3\(\frac{3}{2}\)20-□□□□-M3 (-F)

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

2 Position Single

Grommet (G), (H): SYJ3140-□□□□-M5

L plug connector (L): SYJ3140-□□□□-M5

M plug connector (M): SYJ3140-□□□□-M5

M8 connector (WO): SYJ3140-□□□□-M5

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

2 Position Double

Grommet (G), (H): SYJ3240-□□□□□□□□□□□□-M5

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

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

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

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

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ3\(\frac{3}{2}\)40-□□□-M5

L plug connector (L):
SYJ3\(\frac{3}{2}\)40-□□□-M5

M plug connector (M):
SYJ3\(\frac{3}{2}\)40-□□□-M5

M8 connector (WO):
SYJ3\(\frac{3}{2}\)40(R)-□□□-M5□

Refer to back page 11 for dimensions with connector cable.
### 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>
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</tbody>
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<table>
<thead>
<tr>
<th>Valve stations</th>
<th>Location</th>
<th>Valve</th>
<th>Direction</th>
<th>Base</th>
<th>Porting specifications</th>
<th>Port size</th>
</tr>
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<tbody>
<tr>
<td>A, B port</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>P, R port</td>
</tr>
<tr>
<td></td>
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<td>A, B port</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Port size</th>
<th>P, R port</th>
<th>M5 x 0.8, C4 (One-touch fitting for ø4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A, B port</td>
<td>M3 x 0.5</td>
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### 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>SYJ3120</td>
<td>1(P), 5/3(R)</td>
<td>Port 1(P) to 4/2 (P → A/B)</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>SYJ3320</td>
<td>Port 2(B) to 4/2 (A/B → R)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SYJ3420</td>
<td>Port 3(SUP) to 5/3 (A/B → P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SYJ3520</td>
<td>Port 4(SUP) to 5/3 (A/B → P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SYJ3620</td>
<td>Port 5/3 to 6/4 (A/B → P)</td>
<td></td>
</tr>
</tbody>
</table>

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

### 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:**
- **SSYJ3-20-03** — 1 set (Manifold base)
- **SSYJ3-41-03-C4** — 1 set (Manifold base)
- **SYJ3120-5G-M3** — 2 sets (Valve)
- **SYJ3140-5LZ** — 2 sets (Valve)
- **SYJ3000-21-1A** — 1 set (Blanking plate assembly)
- **SYJ3000-21-2A** — 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.
## Series SYJ3000

### 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>
<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>P (SUP), R (EXH)</td>
<td>P (SUP), R (EXH)</td>
<td>P (SUP), R (EXH)</td>
</tr>
<tr>
<td>Valve stations</td>
<td>4 to 12 stations</td>
<td>4 to 12 stations</td>
</tr>
<tr>
<td>A, B port</td>
<td>Location</td>
<td>Valve</td>
</tr>
<tr>
<td>Direction</td>
<td>Top</td>
<td>Side</td>
</tr>
<tr>
<td>Port size</td>
<td>P, R port</td>
<td>M3 x 0.5</td>
</tr>
<tr>
<td>A, B port</td>
<td>M5 x 0.8, C4 (One-touch fitting for Ø4)</td>
<td></td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Socket: 26 pins MIL type with strain relief (MIL-C-83503)</td>
<td></td>
</tr>
<tr>
<td>Internal wiring</td>
<td>In common between +COM and –COM (Z type: +COM only)</td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>24, 12 VDC/100, 110 VAC</td>
<td></td>
</tr>
</tbody>
</table>

### Flow Characteristics

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Effective area (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(P), 3(R)/2(B), 4(A)</td>
<td>1 → 4/2 (P → A/B) 4/2 → 5/3 (A/B → R)</td>
<td>C, Cv</td>
</tr>
<tr>
<td>1/8 M3 x 0.5</td>
<td>0.25 0.19 0.060 0.32 0.25 0.077</td>
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<tr>
<td>1/8 M5 x 0.8</td>
<td>0.25 0.18 0.059 0.3 0.27 0.075</td>
<td></td>
</tr>
</tbody>
</table>

### How to Order Manifold

- **SSSYJ3-32P-07-C4** --- 1 pc. (Manifold base)  
  - **SYJ3000-21-4A** --- 1 pc. (Blanking plate assembly)
- **SYJ333-5LOU** --- 3 pcs. (Valve)  
  - SYJ333-5LOU --- 3 pcs. (Valve)  
  - SYJ333-5LOU --- 3 pcs. (Valve)
- SMC type manifold specification sheet.

### How to Order Valve

**For DC**

- **SYJ3**
  - 1 2 position single
  - 2 2 position double
  - 3 3 position closed center
  - 4 3 position exhaust center
  - 5 3 position pressure center

**For AC**

- **SYJ3**
  - 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 lightsurge voltage suppressor
- U With lightsurge voltage suppressor (Non-polar type)

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

### How to OrderConnector Assembly

**For 12, 24 VDC**

- Single solenoid SY3000-37-28A
- Double solenoid, 3 position type SY3000-37-29A

**For 100 VAC**

- Single solenoid SY3000-37-46A
- Double solenoid, 3 position type SY3000-37-47A

**For 110 VAC (115 VAC)**

- Single solenoid SY3000-37-54A
- Double solenoid, 3 position type SY3000-37-55A

### Note

- Use manifold specification sheet.
- The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.
**Series SYJ3000**

**Common SUP/Common EXH**

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

- **How to Order**: SS5YJ3–20–05
- **Number of stations**:
  - 02: 2 stations
  - 20: 20 stations

**Type 31 (4 Port/Base mounted)**

- **How to Order**: SS5YJ3–31–05–M3
- **Valve mounting direction**:
  - Nil
  - S: Single solenoid coil is on opposite side as the A,B port.
- **Stations**:
  - 02: 2 stations
  - 20: 20 stations

**Common SUP/Individual EXH**

**Type 46 (5 Port/Base mounted)**

- **How to Order**: SS5YJ3–46–05–M5
- **Valve mounting direction**:
  - Nil
  - S: Single solenoid coil is on same side as the A,B port.
- **Stations**:
  - 02: 2 stations
  - 20: 20 stations

**Note**:
- For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.
Series SYJ3000

Flat Ribbon Cable Manifold

**Common SUP/Common EXH**

**Type 21P**
- A, B port
  - M3 x 0.5
- P port
  - 1/8
- R port
  - 1/8

How to Order

**SS5YJ3–21P–07**

- Stations
  - 04: 4 stations
  - 12: 12 stations
- P, R port
  - thread type
  - Nil: Rc
  - 00F: G
  - 00N: NPT
  - 00T: NPTF

Applicable solenoid valve
Refer to page 12.

Applicable connector assembly
Refer to page 12.

Applicable blanking plate assembly
SYJ3000-21-3A (With dust cap)

**Type 32P**
- A, B port
  - M5 x 0.8, C4
- P port
  - 1/8
- R port
  - 1/8

How to Order

**SS5YJ3–32P–07–C4**

- Stations
  - 04: 4 stations
  - 12: 12 stations
- A, B port size
  - M5 x 0.8
- P, R port thread type
  - Nil: Rc
  - C4: One-touch fitting for ø4
  - N3: One-touch fitting for ø5/32"

Applicable solenoid valve
Refer to page 12.

Applicable connector assembly
Refer to page 12.

Applicable blanking plate assembly
SYJ3000-21-3A (With dust cap)

**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

   - 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 SYJ314, SYJ314M, SYJ324, SYJ324M

3. **SS5YJ3–41, -S41**
   - 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.
Series SYJ3000

Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

5 port body ported (Type SYJ3□2□)
Applicable manifold base
Type SS5YJ3-20
Manifold base

4 port base mounted (Type SYJ3□3□)
Applicable manifold base
Type SS5YJ3-31
Manifold base

5 port base mounted (Type SYJ3□4□)
Round head combination screw
SY100-33-3
(M1.7 x 17, Matt nickel plated)

Applicable manifold base
Type SS5YJ3-41
Manifold base

Combination of Blanking Plate Assembly and Manifold Base

Blanking plate assembly
SYJ3000-21-1A
Blanking plate assembly
SYJ3000-21-2A

Applicable manifold base
Type SS5YJ3-20 Manifold base

Blanking plate assembly
SYJ3000-21-4A
Blanking plate assembly
SYJ3000-21-3A

Applicable manifold base
Type SS5YJ3-32P Manifold base

Difference between SYJ3□3□ and SYJ3□4□
SYJ3□30, 3□33 (4 port)
SYJ3□40, 3□43 (5 port)

Steel ball is driven in.
Configuration of surface is different.

Manifold gasket
SYJ3000-14-7

Note) Manifold gasket “SYJ3000-14-2” can be used with the following manifold bases.

Type SS5YJ3-31
Type SS5YJ3-33
Type SS5YJ3-32
Type SS5YJ3-32P

Note) Make sure to align the manifold gasket with the groove of the valve body.

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

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
Type 20 Manifold: Top Ported/SS5YJ3-20- Stations

Grommet (G)

L plug connector (L)

M plug connector (M)

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>
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<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
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<td>207</td>
<td>217.5</td>
</tr>
</tbody>
</table>

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

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

**Grommet (G)**

![Diagram of Grommet (G)]

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

**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.**

---

**Table:**

<table>
<thead>
<tr>
<th>Station 1</th>
<th>Station 2</th>
<th>Station 3</th>
<th>Station 4</th>
<th>Station 5</th>
<th>Station 6</th>
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<th>Station 16</th>
<th>Station 17</th>
<th>Station 18</th>
<th>Station 19</th>
<th>Station 20</th>
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<tbody>
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<td>207</td>
<td>217.5</td>
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</tbody>
</table>
**Series SYJ3000**

**Type 32 Manifold: Side Ported**

**SS5YJ3-32, Stations-M5, C4 □**

**Grommet (G)**

For M5

**L plug connector (L)**

For C4 □ (Built-in one-touch fitting)

**M plug connector (M)**

For C4 □ (Built-in one-touch fitting)

**M8 connector (WO)**

Refer to back page 11 for dimensions with connector cable.

**Type S32 Manifold: Side Ported**

/Applicable tubing O.D.: ø4, ø5/32”

For M5

For C4 □ (Built-in one-touch fitting)

SS5YJ3-32, S32- Stations-M5

SS5YJ3-32, S32- Stations-C4

<table>
<thead>
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<th>Station 1</th>
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<thead>
<tr>
<th>Station n</th>
<th>Station 1</th>
<th>2</th>
<th>3</th>
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<td>222.5</td>
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</tr>
</tbody>
</table>

Refer to back page 11 for dimensions with connector cable.
Type 46 Manifold: Side Ported

Grommet (G)
For M5

Station 2

<table>
<thead>
<tr>
<th>Station</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
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<td>8.8</td>
</tr>
<tr>
<td>2</td>
<td>31.5</td>
<td>91.7</td>
</tr>
<tr>
<td>3</td>
<td>39.5</td>
<td>58.7</td>
</tr>
<tr>
<td>4</td>
<td>31.5</td>
<td>8.8</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Station</th>
<th>L1</th>
<th>L2</th>
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<tbody>
<tr>
<td>1</td>
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For C4 N3 (Built-in one-touch fitting)

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</tr>
<tr>
<td>4</td>
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</tbody>
</table>

L plug connector (L)

M plug connector (M)

M8 connector (WO)

Refer to back page 11 for dimensions with connector cable.

Type S46 Manifold: Side Ported

For M5

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

<table>
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<tbody>
<tr>
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</tr>
<tr>
<td>3</td>
<td>39.5</td>
<td>58.7</td>
</tr>
<tr>
<td>4</td>
<td>31.5</td>
<td>8.8</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Station</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>39.5</td>
<td>8.8</td>
</tr>
<tr>
<td>2</td>
<td>31.5</td>
<td>91.7</td>
</tr>
<tr>
<td>3</td>
<td>39.5</td>
<td>58.7</td>
</tr>
<tr>
<td>4</td>
<td>31.5</td>
<td>8.8</td>
</tr>
</tbody>
</table>

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

Flat Ribbon Cable Manifold

SS5YJ3-21P- Stations -00-

<table>
<thead>
<tr>
<th>(Station n)</th>
<th>(Station 1)</th>
</tr>
</thead>
</table>

M3 x 0.5
(A, B port)

P = 12.5

Triangle mark

1/8
(P, R port)

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

M5 x 0.8
(A, B port)

P = 12.5

Triangle mark

1/8
(P, R port)

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

<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>

For M5

Manual override

(Light/surge voltage suppressor)

Application connector: 26 pins MIL type

Applicable tubing O.D.: ø4, ø5/32"

For N3 (Built-in one-touch fitting)

Applicable connector: 26 pins MIL type

Applicable tubing O.D.: ø4, ø5/32"

Manual override

(Light/surge voltage suppressor)

Application connector: 26 pins MIL type

Applicable tubing O.D.: ø4, ø5/32"

One-touch fitting

(A, B port)

Applicable tubing O.D.: ø4, ø5/32"

Manual override

(Light/surge voltage suppressor)

Application connector: 26 pins MIL type

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, 2 position double: 0.1 to 0.7, 3 position: 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) (at 0.5 MPa)</td>
<td>2 position, double: 25 or less, 3 position: 40 or less</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>5</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>150/30</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dust proof (+ DIN terminal, M8 connector conforms to IP65.)</td>
</tr>
</tbody>
</table>

Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge voltage suppressor)
Note 2) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized 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 when pilot signal is ON and OFF. (Value in the initial state)

Solenoid Specifications

Electrical entry

<table>
<thead>
<tr>
<th>G, H, L, M, W</th>
<th>100, 110, 200, 220</th>
</tr>
</thead>
<tbody>
<tr>
<td>24, 12, 5, 3</td>
<td>24, 12</td>
</tr>
</tbody>
</table>

Allowable voltage fluctuation

<table>
<thead>
<tr>
<th>DC, Standard</th>
<th>Power consumption (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.35 (With light: 0.4 (DIN terminal with light: 0.45))</td>
<td>0.1 (With light only)</td>
</tr>
<tr>
<td>0.76 (With light: 0.81)</td>
<td>0.78 (With light: 0.87)</td>
</tr>
<tr>
<td>0.86 (With light: 0.86)</td>
<td>0.86 (With light: 0.97)</td>
</tr>
<tr>
<td>0.94 (With light: 0.97)</td>
<td>0.94 (With light: 1.07)</td>
</tr>
<tr>
<td>1.18 (With light: 1.22)</td>
<td>1.15 (With light: 1.30)</td>
</tr>
<tr>
<td>1.30 (With light: 1.34)</td>
<td>1.27 (With light: 1.46)</td>
</tr>
<tr>
<td>1.42 (With light: 1.46)</td>
<td>1.39 (With light: 1.60)</td>
</tr>
</tbody>
</table>

Surge voltage suppressor

Diode (DIN terminal, Vanistor when non-polar types)

Indicator light

LED (Neon light when AC with DIN terminal)

Built-in Speed Controller

SYJ5□□□

- 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 exhausting.

JIS Symbol

How to order valve with built-in speed controller

<table>
<thead>
<tr>
<th>Body Option</th>
<th>Type of actuation</th>
<th>Rated voltage</th>
<th>Port size</th>
<th>Manual override</th>
<th>Light/surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Made to Order (For details, refer to pages 79 through to 80.)</td>
<td>Single</td>
<td>10% of rated voltage</td>
<td>0.1 (With light: 0.1)</td>
<td>0.15 to 0.7</td>
<td>0.15 to 0.7</td>
</tr>
</tbody>
</table>

Plate fixing screw

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></td>
<td></td>
<td></td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>SYJ5120-M5</td>
<td>Base mounted</td>
<td>M5 x 0.8</td>
<td>0.43</td>
<td>0.41</td>
</tr>
<tr>
<td></td>
<td>Body ported</td>
<td>M5 x 0.8</td>
<td>0.49</td>
<td>0.44</td>
</tr>
<tr>
<td>SYJ5140-01</td>
<td>Base mounted</td>
<td>M5 x 0.8</td>
<td>0.46</td>
<td>0.37</td>
</tr>
</tbody>
</table>

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

Cylinder Speed Chart

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

Base Mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>Bore size</th>
<th>Series CJ2</th>
<th>Pressure 0.5 MPa</th>
<th>Load rate: 50%</th>
<th>Stroke 60 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5140-01</td>
<td>800</td>
<td>e6</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>700</td>
<td>e10</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>e16</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>e20</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>e25</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>e32</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>e40</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></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>Series CJ2</th>
<th>Pressure 0.5 MPa</th>
<th>Load rate: 50%</th>
<th>Stroke 60 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5140-01</td>
<td>800</td>
<td>e6</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>700</td>
<td>e10</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>e16</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>e20</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>e25</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>e32</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>e40</td>
<td>0.47</td>
<td>0.41</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

Conditions

<table>
<thead>
<tr>
<th>Body mounted</th>
<th>Series CJ2</th>
<th>Series CM2</th>
<th>Series MB/CA2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5120-M5</td>
<td>e4 x 1 m</td>
<td>e6 x 1 m</td>
<td>e8 x 1 m</td>
</tr>
<tr>
<td></td>
<td>AS1301F-04</td>
<td>AS3301F-06</td>
<td>AS3301F-08</td>
</tr>
<tr>
<td></td>
<td>AN110-01</td>
<td>AN110-01</td>
<td>AN110-01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base mounted</th>
<th>Series CJ2</th>
<th>Series CM2</th>
<th>Series MB/CA2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5140-01</td>
<td>e4 x 1 m</td>
<td>e6 x 1 m</td>
<td>e8 x 1 m</td>
</tr>
<tr>
<td></td>
<td>AS2301F-04</td>
<td>AS3001F-06</td>
<td>AS3001F-08</td>
</tr>
<tr>
<td></td>
<td>AN101-01</td>
<td>AN101-01</td>
<td>AN101-01</td>
</tr>
</tbody>
</table>

Note: 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%
How to Order

**Series SYJ5000**

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

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

- **Note 1:** For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.
- **Note 2:** Power saving circuit is only available in the "Z" type.

**Electrical entry for G, H, L, M, W**
- Nil: 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 for D**
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor (Non-polar type)
- Z: With light/surge voltage suppressor (Non-polar type)
- W: DOZ is not available.

**Electrical entry**
- 24, 12, 6, 5, 3 VDC
- 100,110, 200, 220 VAC

**Body option**
- G: 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**
- Nil: Standard
- T: With power saving circuit
- W: For type W, DC voltage is only available.

**Thread type**
- Nil: F, Rc
- N: G
- T: NPT
- NPTF

**Body ported**
- SYJ5
- 1
- 2
- 0
- 5
- L
- M5

**Base mounted**
- SYJ5
- 2
- 4
- 0
- 5
- L

**Electrical entry**
- 24, 12, 6, 5, 3 VDC
- 100,110, 200, 220 VAC

**Thread type**
- Nil: F, Rc
- N: G
- T: NPT
- NPTF

**Port size**
- Nil: Without sub-plate
- 01: 1/8 With sub-plate

**Coil specifications**
- T: With power saving circuit

**Manual override**
- Nil: Non-locking push type

**Bracket**
- Nil: Without bracket
- F: With bracket

**Electrical entry**
- 24, 12, 6, 5, 3 VDC
- 100,110, 200, 220 VAC

**Port size**
- Nil: Without sub-plate
- 01: 1/8 With sub-plate

**Body option**
- G: Lead wire length 300 mm
- L: No lead wire (Length 300 mm)
- M: No lead wire (Length 300 mm)
- MN: Without lead wire

**Electrical entry**
- 24, 12, 6, 5, 3 VDC
- 100,110, 200, 220 VAC

**Thread type**
- Nil: F, Rc
- N: G
- T: NPT
- NPTF

**Port size**
- Nil: Without sub-plate
- 01: 1/8 With sub-plate

**Coil specifications**
- W: With connector
- W: With connector

**Notes**
- 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 80.
- For connector cable of M8 connector, refer to page 10.

*Note 1:* Enter the cable length symbols in \[L50132\]. Please be sure to fill in the blank referring to back page 10.
**Series SYJ5000**

### Construction

#### 2 position single
![Diagram of 2 position single construction]

#### 2 position double
![Diagram of 2 position double construction]

#### 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>—</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</td>
<td>Aluminum die-casted</td>
</tr>
<tr>
<td>8</td>
<td>Pilot valve</td>
<td>VT1117-□□□□□</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bracket assembly</td>
<td>STJ6000-13-3A</td>
<td></td>
</tr>
</tbody>
</table>
How to Order Pilot Valve Assembly

**V111**

- **Coil specifications**
  - **Nil**: Standard
  - **T**: With power saving circuit (24, 12 VDC only)

- **Rated voltage**
  - 5V: 24 VDC
  - 6V: 12 VDC
  - 5V: 6 VDC
  - 3V: 5 VDC
  - 100 VAC 50/60 Hz
  - 200 VAC 50/60 Hz
  - 110 VAC 50/60 Hz [115 VAC 50/60 Hz]
  - 220 VAC 50/60 Hz [230 VAC 50/60 Hz]

- For type W, DC voltage is only available.
- Power saving circuit is not available in the case of W type.

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

**Electrical entry**
- **G**: 300 mm lead wire
- **H**: 600 mm lead wire
- **L**: Grommet, lead wire
- **M**: Without lead wire
- **W**: M plug connector
- **WO**: Without connector cable
- **W**: M8 connector
- **W**: With connector cable

**Electrical entry**
- **D**: DIN terminal
- **DO**: Without connector

How to Order Connector Assembly for L/M Plug Connector

**V115**

- **Rated voltage**
  - 5V: 24 VDC
  - 6V: 12 VDC
  - 100 VAC 50/60 Hz
  - 200 VAC 50/60 Hz
  - 110 VAC 50/60 Hz [115 VAC 50/60 Hz]
  - 220 VAC 50/60 Hz [230 VAC 50/60 Hz]

- For type W, DC voltage is only available.
- Power saving circuit is not available in the case of W type.

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

**Electrical entry**
- **D**: DIN terminal
- **DO**: Without connector

How to Order M8 Connector Cable

**V100-49-1**

- **Cable length**
  - 1: 300 mm
  - 2: 500 mm
  - 3: 1000 mm
  - 4: 2000 mm
  - 5: 5000 mm

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

Grommet (G), (H): SYJ5120-□□□□-M5

With bracket
SYJ5120-□□□□-M5-F

Built-in one-touch fitting:
SYJ5120-□□□□□□□□-M5(-F)

L plug connector (L): SYJ5120-□□□□-M5(-F)
M plug connector (M): SYJ5120-□□□□-M5(-F)
DIN terminal (D): SYJ5120-□□□□□□□□-M5(-F)
M8 connector (WO): SYJ5120-□□□□□□□□-M5(-F)

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

**2 Position Double**

Grommet (G), (H): SYJ5220-□□□□-M5

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

M5 x 0.8
(A, B port)

Manual override
(For manifold mounting)

2-ø2.6
(Light/surge voltage suppressor)

M5 x 0.8
(P, R1, R2 port)

(PE port)

Approx. 300
(Lead wire length)

L plug connector (L): SYJ5220-□□□□-M5

M plug connector (M): SYJ5220-□□□□-M5

DIN terminal (D): SYJ5220-□□□□-M5

M8 connector (WO): SYJ5220-□□□□-M5

**Built-in one-touch fitting:**

SYJ5220-□□□□-□□□□-M5

One-touch fitting
(A, B port)

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

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

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ5 20-□□□□-M5

Built-in one-touch fitting:
SYJ5 20-□□□□-□□□□-□□

L plug connector (L):
SYJ5 20-□□□□-M5

M plug connector (M):
SYJ5 20-□□□□-M5

DIN terminal (D):
SYJ5 20-□□□□-M5

M8 connector (WO):
SYJ5 20-□□□□-M5

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

2 Position Single

Grommet (G), (H): SYJ5140-□□□□-01□

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

With interface regulator

(Light/surge voltage suppressor)

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

DIN terminal (D):
SYJ5140-□□□□-01□

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

M8 connector (WO):
SYJ5140-□□□□-01□

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

2 Position Double

Grommet (G), (H): SYJ5240-L50132/L50132/L50132-01

Built-in speed controller:
SYJ5250-L50132/L50132/L50132-01

(Light/surge voltage suppressor)

(L, M, O, P, R port)

Approx. 300
Approx. 600

(Lead wire length)

With interface regulator

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

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ540-□□□□01

Built-in speed controller:
SYJ550-□□□□01

L plug connector (L):
SYJ540-□□□□01

M plug connector (M):
SYJ540-□□□□01

DIN terminal (D):
SYJ540-□□□□01

M8 connector (WO):
SYJ540-□□□□01

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

**Manifold Specifications**

### 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</td>
<td>Valve</td>
<td>Base</td>
<td>Base</td>
<td></td>
</tr>
<tr>
<td>Porting specifications</td>
<td>Direction</td>
<td>Top</td>
<td>Bottom</td>
<td>Side</td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>P, R port</td>
<td>1/8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>M5 x 0.8, C4 (One-touch fitting for ø4)</td>
<td>M5 x 0.8</td>
<td>1/8, C6 (One-touch fitting for ø6)</td>
<td>C4 (One-touch fitting for ø4)</td>
<td></td>
</tr>
</tbody>
</table>

### Flow Characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics 1 → io4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type SS5YJ5-20</td>
<td>1/8</td>
<td>0.46, 0.39, 0.12, 0.75, 0.32, 0.19</td>
<td></td>
</tr>
<tr>
<td>Type SS5YJ5-40</td>
<td>1/8</td>
<td>0.79, 0.36, 0.21, 0.91, 0.36, 0.24</td>
<td></td>
</tr>
<tr>
<td>Type SS5YJ5-41</td>
<td>1/8</td>
<td>0.55, 0.35, 0.15, 0.64, 0.26, 0.16</td>
<td></td>
</tr>
<tr>
<td>Type SS5YJ5-42-C6</td>
<td>1/8</td>
<td>0.74, 0.22, 0.18, 0.82, 0.31, 0.21</td>
<td></td>
</tr>
<tr>
<td>Type SS5YJ5-43</td>
<td>1/8</td>
<td>0.71, 0.24, 0.17, 0.8, 0.29, 0.20</td>
<td></td>
</tr>
</tbody>
</table>

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

### 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 ................................ 1 pc. (Manifold base)

+ SYJ5120-5G-M5 ................................ 2 pcs. (Valve)
+ SYJ5000-21-4A ................................ 1 pc. (Blanking plate assembly)

SS5YJ5-43-03-C4 ................................ 1 pc. (Manifold base)

+ SYJ5140-5LZ .................................. 1 pc. (Valve)
+ SYJ5240-5LZ .................................. 1 pc. (Valve)
+ SYJ5000-21-4A ................................ 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 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 EXH, Common SUP</td>
</tr>
<tr>
<td>Valve stations</td>
<td>3 to 12 stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Top</td>
<td>Top</td>
<td>Top</td>
</tr>
<tr>
<td>Direction</td>
<td>Top</td>
<td>Top</td>
<td>Top</td>
</tr>
<tr>
<td>Port size</td>
<td>1/8</td>
<td>1/8</td>
<td>1/8</td>
</tr>
<tr>
<td>Porting specifications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P, R port</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>M5 x 0.8, C4 (One-touch fitting for ø4)</td>
<td>M5 x 0.8, C4 (One-touch fitting for ø4)</td>
<td>M5 x 0.8, C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td>Socket: 26 pins MIL type with strain relief</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>24, 12 VDC/100, 110 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note)</td>
<td>The withstand voltage specification for the wiring unit section conforms to JIS C 0704, Grade 1 or its equivalent.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flow Characteristics

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 → 4/ (P → A/B)</td>
<td>4/2 → 5/3 (A/B → R)</td>
</tr>
<tr>
<td>(1FL) (3B) Port</td>
<td>(2FL) (4A) Port</td>
</tr>
<tr>
<td>M5 x 0.8</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td>0.46</td>
<td>0.55</td>
</tr>
<tr>
<td>0.39</td>
<td>0.29</td>
</tr>
<tr>
<td>0.12</td>
<td>0.14</td>
</tr>
<tr>
<td>0.75</td>
<td>0.74</td>
</tr>
<tr>
<td>0.32</td>
<td>0.46</td>
</tr>
<tr>
<td>0.19</td>
<td>0.39</td>
</tr>
</tbody>
</table>

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:

- SSSYJ5-41P-07-C4
  - SY3000-37-29A
  - SY3000-37-28A
  - SY3000-37-23A
  - SY3000-37-32A
  - SY3000-37-34A
  - SY3000-37-6A
  - SY3000-37-6A
  - SY3000-37-6A
  - SY3000-37-32A
  - SY3000-37-32A
  - SY3000-37-32A

How to Order Valve

For DC

- SYJ5
  - 123
  - LOZ

For AC

- SYJ5
  - 123
  - LOZ

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

Rated voltage

- 24 VDC
- 100 VAC
- 110 VAC (115 VAC)

Light/surge voltage suppressor

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

Note) Value at manifold base mounted; 2 position single operating.

How to Order Connector Assembly

For 12, 24 VDC

- Single solenoid, 3 position type: SY3000-37-3A
- Double solenoid, individual SUP, EXH: SY3000-37-29A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Interface regulator for single solenoid: SY3000-37-3A
- Interface regulator for single solenoid: SY3000-37-34A
- Interface regulator for single solenoid: SY3000-37-32A
- Interface regulator for single solenoid: SY3000-37-32A
- Interface regulator for single solenoid: SY3000-37-32A
- Interface regulator for single solenoid: SY3000-37-32A
- Interface regulator for single solenoid: SY3000-37-32A
- Interface regulator for single solenoid: SY3000-37-32A

For 100 VAC

- Single solenoid: SY3000-37-46A
- Single solenoid: SY3000-37-47A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A

For 100 VAC (115 VAC)

- Single solenoid, 3 position type: SY3000-37-54A
- Single solenoid: SY3000-37-55A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A
- Single solenoid, individual SUP, EXH: SY3000-37-32A

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

Note) In the case of flat cable type, “U” and “Z” types are for DC specifications and “Z” type is for AC specifications. “Z” type for DC is positive common specification only. For the other combination, please contact SMC.
### Common SUP/Common EXH

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

![Diagram of Type 20]

**How to Order**

**SS5YJ5–20–05**

- **Number of stations**
  - 02: 2 stations
  - 20: 20 stations

- **P, R port thread type**
  - Nil: Rc
  - 02: NPT
  - 00N: NPT
  - 00T: NPTF

**Applicable solenoid valve**

- SYJ5C20-1-1 (5 Port/Body ported)
- SYJ5C23-1-1 (5 Port/Base mounted)

**Applicable blanking plate assembly**

- SYJ5000-21-1-4A
- SYJ5000-17-1-4A

**Applicable individual EXH spacer assembly**

- SYJ5000-17-1-4A

**Applicable individual SUP spacer assembly**

- ARBYJ5000-00-P

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

---

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

![Diagram of Type 40]

**How to Order**

**SS5YJ5–40–05**

- **Stations**
  - 02: 2 stations
  - 20: 20 stations

- **P, R port thread type**
  - Nil: Rc
  - 02: F
  - 00N: NPT
  - 00T: NPTF

**Applicable solenoid valve**

- SYJ5C40-1-1 (5 Port/Base mounted)
- SYJ5C43-1-1 (5 Port/Base mounted)
- SYJ5C50-1-1 (5 Port/Base mounted)
- SYJ5C53-1-1 (5 Port/Base mounted)

**Applicable blanking plate assembly**

- SYJ5000-21-1-4A

**Applicable individual EXH spacer assembly**

- SYJ5000-17-1-4A

**Applicable individual SUP spacer assembly**

- ARBYJ5000-00-P

---

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

![Diagram of Type 41]

**How to Order**

**SS5YJ5–41–05**

- **P, R port thread type**
  - Nil: Rc
  - 02: F
  - 00N: NPT
  - 00T: NPTF

**Applicable individual EXH spacer assembly**

- SYJ5000-17-1-4A

**Applicable individual SUP spacer assembly**

- ARBYJ5000-00-P

---

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

![Diagram of Type 42]

**How to Order**

**SS5YJ5–42–05**

- **Thread type**
  - Nil: Rc
  - 02: F
  - 00N: NPT
  - 00T: NPTF

**Applicable solenoid valve**

- SYJ5C40-1-1 (5 Port/Body ported)
- SYJ5C43-1-1 (5 Port/Base mounted)
- SYJ5C50-1-1 (5 Port/Base mounted)
- SYJ5C53-1-1 (5 Port/Base mounted)

**Applicable blanking plate assembly**

- SYJ5000-21-1-4A

**Applicable individual EXH spacer assembly**

- SYJ5000-17-1-4A

**Applicable individual SUP spacer assembly**

- SYJ5000-16-2-4A

---

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

![Diagram of Type 43]

**How to Order**

**SS5YJ5–43–05**

- **Thread type**
  - Nil: Rc
  - 02: F
  - 00N: NPT
  - 00T: NPTF

**Applicable individual SUP spacer assembly**

- ARBYJ5000-00-P
**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)

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 stations</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td>12 stations</td>
<td>M5 x 0.8</td>
</tr>
</tbody>
</table>

**How to Order**

SS5YJ5–20P–05

---

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

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 stations</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td>12 stations</td>
<td>M5 x 0.8</td>
</tr>
</tbody>
</table>

**How to Order**

SS5YJ5–41P–05–M5

---

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

<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>3 stations</td>
<td>CA</td>
<td>N0</td>
</tr>
<tr>
<td>12 stations</td>
<td>CA</td>
<td>N0</td>
</tr>
</tbody>
</table>

**How to Order**

SS5YJ5–43P–05–C4

---

### 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**
  - DXT192-10-14

- **Manifold Gasket**
  - DXT192-10-16

### Blanking Plate Assembly

**SYJ5000-21-4A**

- **Round head combination screw**
- **Blanking plate**
- **Gasket**

**SYJ5000-21-3A**

- **Round head combination screw**
- **Blanking plate**
- **Gasket**

### 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**

**SYJ500-3-2A**

- Round head combination screw
- Gasket
- Adapter plate
- Adapter gasket

**SYJ500-3-1A**

- Round head combination screw
- Gasket
- Adapter plate
- Adapter gasket

<table>
<thead>
<tr>
<th>Applicable manifold base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type SSSYJ5-20</td>
</tr>
</tbody>
</table>

**Individual EXH Spacer Assembly**

**SYJ5000-17-1A**

- Round head combination screw
- Manifold gasket

<table>
<thead>
<tr>
<th>Applicable manifold base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type SSSYJ5-20</td>
</tr>
<tr>
<td>Type SSSYJ5-40</td>
</tr>
<tr>
<td>Type SSSYJ5-41</td>
</tr>
<tr>
<td>Type SSSYJ5-42</td>
</tr>
<tr>
<td>Type SSSYJ5-43</td>
</tr>
</tbody>
</table>

**Individual SUP Spacer Assembly**

**SYJ5000–16–2**

- Round head combination screw
- Manifold gasket

<table>
<thead>
<tr>
<th>Applicable manifold base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type SSSYJ5-41</td>
</tr>
<tr>
<td>Type SSSYJ5-42</td>
</tr>
<tr>
<td>Type SSSYJ5-43</td>
</tr>
</tbody>
</table>

**Interface Regulator (P port regulation)**

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

**ARBYJ5000-00-P**

- Round head combination screw
- Base mounted
- Gasket
- Applicable manifold base
- Type SSSYJ5-40
- Type SSSYJ5-41
- Type SSSYJ5-42
- Type SSSYJ5-43

Refer to back page 12 prior to handling.

**Caution**

- Mounting screw tightening torques
  - 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

Grommet (G)

Built-in one-touch fitting

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>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>
Type 40: Bottom Ported/SS5YJ5-40 Stations -M5-

Grommet (G)

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

Built-in speed controller

Approx. 300

Approx. 300

Approx. 300

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

Type 41: Side Ported/SS5YJ5-41- Stations -M5-

Grommet (G)

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

Built-in speed controller

Approx. 300 (Lead wire length)

P = 16

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>66</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>
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<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>
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<td>235</td>
<td>251</td>
<td>267</td>
<td>283</td>
<td>299</td>
<td>315</td>
<td>331</td>
</tr>
</tbody>
</table>
Type 42: Side Ported/SS5YJ5-42- Stations -01, C6□ N7□

Grommet (G)
For 01□

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

Built-in speed controller
(Light/surge voltage suppressor)

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

Approx. 300
(Lead wire length)

17.5
10.5
44
43.9
1/4
(P, R port)

17.5
10.4
24.4
24.3
1/4
(P, R port)

Applicable code O.D.: ø6, ø1/4*

Approx. 300
(Lead wire length)

Refer to back page 11 for dimensions with connector cable.

+ Other dimensions are the same as the grommet type.
**Series SYJ5000**

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

**Grommet (G)**

![Diagram of Grommet (G)]

**L plug connector (L)**

![Diagram of L plug connector (L)]

**M plug connector (M)**

![Diagram of M plug connector (M)]

**DIN terminal (D)**

![Diagram of DIN terminal (D)]

**M8 connector (WO)**

![Diagram of M8 connector (WO)]

**Built-in slottle valve**

![Diagram of Built-in slottle valve]

**Approx. 300**

(Approx. wire length)

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

### Table of Dimensions

<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>20</th>
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<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>
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<td>212</td>
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<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>
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<td>187</td>
<td>203</td>
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<td>267</td>
<td>283</td>
<td>299</td>
<td>315</td>
<td>331</td>
</tr>
</tbody>
</table>

**Applicable tubing O.D.: ø4, ø5/32”**

**Applicable code O.D.: ø3.5 to ø7**

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

### Flat Ribbon Cable Manifold

**SS5YJ5-20P** - Stations 00

![Diagram of Flat Ribbon Cable Manifold]

**SS5YJ5-41P** - Stations M5

![Diagram of Flat Ribbon Cable Manifold]

### Station n

**L1**
- 94.5
- 76.5

**L2**
- 112
- 94

**L3**
- 129.5
- 111.5

**L4**
- 147
- 129

**L5**
- 164.5
- 146.5

**L6**
- 182
- 164

**L7**
- 199.5
- 181.5

**L8**
- 217
- 202

**L9**
- 234.5

**Station 1**
- 77

**Station 3**
- 77

### Built-in slottle valve

![Diagram of Built-in slottle valve]

**Applicable connector:** 26 pins

**Max. 13.5**

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

**One-touch fitting ø6, ø1/4"**

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

### Applicable connector: 26 pins

With strain relief

(Conforming to MIL-C-83503)

### Manual override

**M5 x 0.8**

(A, B port)

(Pitch)

P = 17.5

### For mounting

**Applicable connector: 26 pins**

With strain relief

(Conforming to MIL-C-83503)

### Built-in slottle valve

**Applicable connector: 26 pins**

With strain relief

(Conforming to MIL-C-83503)

---

**Applicable connector:** 26 pins

With strain relief

(Conforming to MIL-C-83503)

**Max. 13.5**

### Station n

**Station 3**

<table>
<thead>
<tr>
<th>Station 1</th>
<th>Station 2</th>
<th>Station 3</th>
<th>Station 4</th>
<th>Station 5</th>
<th>Station 6</th>
<th>Station 7</th>
<th>Station 8</th>
<th>Station 9</th>
<th>Station 10</th>
<th>Station 11</th>
<th>Station 12</th>
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</thead>
<tbody>
<tr>
<td>L1</td>
<td>77</td>
<td>94.5</td>
<td>112</td>
<td>129.5</td>
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<td>164.5</td>
<td>182</td>
<td>199.5</td>
<td>217</td>
<td>234.5</td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>59</td>
<td>76.5</td>
<td>94</td>
<td>111.5</td>
<td>129</td>
<td>146.5</td>
<td>164</td>
<td>181.5</td>
<td>199</td>
<td>216.5</td>
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</tr>
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</table>

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**Station n**

**Station 3**

<table>
<thead>
<tr>
<th>Station 1</th>
<th>Station 2</th>
<th>Station 3</th>
<th>Station 4</th>
<th>Station 5</th>
<th>Station 6</th>
<th>Station 7</th>
<th>Station 8</th>
<th>Station 9</th>
<th>Station 10</th>
<th>Station 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>
<td></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>
<td></td>
</tr>
</tbody>
</table>
Series SYJ5000

Flat Ribbon Cable Manifold

SS5YJ5-43P- Stations - C4 □

<table>
<thead>
<tr>
<th>Station n</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>
</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>164.5</td>
<td>202</td>
</tr>
</tbody>
</table>

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

Manual override

Built-in speed controller

Light/surge voltage suppressor

Applicable connector: 26 pins
With strain relief
(Conforming to MIL-C-83503)
Rubber Seal
5 Port Solenoid Valve
Series SYJ7000

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 2 position double 0.1 to 0.7 3 position 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)</td>
<td>2 position single, double 30 or less 3 position 60 or less</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double 5 3 position 3</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 (DIN terminal, M8 connector conforms to IP65.)</td>
</tr>
</tbody>
</table>

JIS Symbol

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

<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 2 position double 0.1 to 0.7 3 position 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)</td>
<td>2 position single, double 30 or less 3 position 60 or less</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double 5 3 position 3</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 (DIN terminal, M8 connector conforms to IP65.)</td>
</tr>
</tbody>
</table>

Solenoid Specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>G, H, L, M, W D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil rated voltage (V)</td>
<td>24, 12, 6, 5, 3 24, 12</td>
</tr>
<tr>
<td>AC 50/60 Hz</td>
<td>100, 110, 200, 220</td>
</tr>
<tr>
<td>Allowable voltage fluctuation</td>
<td>±10% of rated voltage *</td>
</tr>
<tr>
<td>Power consumption (W)</td>
<td>DC Standard 0.35 (With light: 0.4 [DIN terminal with light: 0.45]) With power saving circuit 0.1 (With light only)</td>
</tr>
<tr>
<td>Apparent power VA *</td>
<td>AC 100 V 0.78 (With light: 0.81) 0.78 (With light: 0.87) 110 V [115 V] 0.86 (With light: 0.89) 0.86 (With light: 0.97) 200 V 1.18 (With light: 1.22) 1.15 (With light: 1.30) 220 V [230 V] 1.30 (With light: 1.34) 1.27 (With light: 1.46) 0.78 (With light: 0.87) 0.86 (With light: 0.97) 1.18 (With light: 1.33) 1.15 (With light: 1.30) 1.30 (With light: 1.46) 1.27 (With light: 1.46) 0.78 (With light: 0.87) 0.86 (With light: 0.97) 1.18 (With light: 1.33) 1.15 (With light: 1.30) 1.30 (With light: 1.46) 1.27 (With light: 1.46)</td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Diode (DIN terminal, Varistor when non-polar types)</td>
</tr>
<tr>
<td>Indicator light</td>
<td>LED (Neon light when AC with DIN terminal)</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) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized 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 axial and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)

Made to Order
(For details, refer to pages 79 through to 80.)
## Flow Characteristics/Weight

### Valve model

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1, 5, 3</td>
<td>1 → 4/2 (P → A/B)</td>
<td>(Note 1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(P, EA, EB)</td>
<td>2 → 5/3 (A/B → EA/EB)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4, 2</td>
<td>(A, B)</td>
<td>(Note 2)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>(Note 3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJ7140-02</td>
<td>Single</td>
<td>1/8</td>
<td>2.2</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>1/8</td>
<td>1.8</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td>1/8</td>
<td>1.2</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td>1/8</td>
<td>3.0 (0.83)</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td>1/8</td>
<td>1.8</td>
<td>118</td>
</tr>
<tr>
<td>SYJ7120-01</td>
<td>Single</td>
<td>1/8</td>
<td>1.6</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>1/8</td>
<td>1.4</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td>1/8</td>
<td>1.2</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td>1/8</td>
<td>1.8 (0.78)</td>
<td>119</td>
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<tr>
<td></td>
<td>Pressure center</td>
<td>1/8</td>
<td>2.0</td>
<td>119</td>
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<tr>
<td>SYJ7120-02</td>
<td>Single</td>
<td>1/8</td>
<td>2.3</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>1/8</td>
<td>1.9</td>
<td>178</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td>1/8</td>
<td>1.2</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td>1/8</td>
<td>3.3 (0.85)</td>
<td>198</td>
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<tr>
<td></td>
<td>Pressure center</td>
<td>1/8</td>
<td>2.3</td>
<td>198</td>
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<tr>
<td>SYJ7140-01</td>
<td>Single</td>
<td>1/4</td>
<td>2.3</td>
<td>165</td>
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<td>Double</td>
<td>1/4</td>
<td>1.9</td>
<td>178</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td>1/4</td>
<td>1.3</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td>1/4</td>
<td>3.6 (0.83)</td>
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<tr>
<td></td>
<td>Pressure center</td>
<td>1/4</td>
<td>3.6</td>
<td>198</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.

### Cylinder Speed Chart

#### Body Ported

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>Bore size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ7120-01</td>
<td>800</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø50 ø63 ø80 ø100</td>
</tr>
<tr>
<td></td>
<td>700</td>
<td></td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400</td>
<td></td>
</tr>
<tr>
<td></td>
<td>300</td>
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<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td></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>SYJ7140-02</td>
<td>800</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø50 ø63 ø80 ø100</td>
</tr>
<tr>
<td></td>
<td>700</td>
<td></td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>500</td>
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</tr>
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<td></td>
<td>400</td>
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</tr>
<tr>
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<td>300</td>
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</tr>
<tr>
<td></td>
<td>200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</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.
* Load factor: ( (Load weight x 9.8) /Theoretical force) x 100%

### Conditions

#### Body ported

<table>
<thead>
<tr>
<th>Series</th>
<th>Tubing bore x Length</th>
<th>Speed controller</th>
<th>Silencer</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ7120-01</td>
<td>ø6 x 1 m</td>
<td>AS2301F-06</td>
<td>AN110-01</td>
</tr>
<tr>
<td>SYJ140-02</td>
<td>ø6 x 1 m</td>
<td>AS1301F-06</td>
<td>AN110-01</td>
</tr>
</tbody>
</table>

#### Base mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Tubing bore x Length</th>
<th>Speed controller</th>
<th>Silencer</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ7120-01</td>
<td>ø6 x 1 m</td>
<td>AS3301F-06</td>
<td>AN200-02</td>
</tr>
<tr>
<td>SYJ140-02</td>
<td>ø6 x 1 m</td>
<td>AS3001F-06</td>
<td>AN3301F-06</td>
</tr>
</tbody>
</table>

48
# How to Order

## Light/surge voltage suppressor

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 position single solenoid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2 position double solenoid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3 position closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3 position exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3 position pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Electrical entry for G, H, L, M, W

<table>
<thead>
<tr>
<th>Type</th>
<th>2 position single solenoid</th>
<th>2 position double solenoid</th>
<th>3 position closed center</th>
<th>3 position exhaust center</th>
<th>3 position pressure center</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>S</td>
<td>Z</td>
<td>R</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>S</td>
<td>Z</td>
<td>R</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>S</td>
<td>Z</td>
<td>R</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>S</td>
<td>Z</td>
<td>R</td>
<td>U</td>
<td></td>
</tr>
</tbody>
</table>

## Electrical entry for D

<table>
<thead>
<tr>
<th>Type</th>
<th>2 position single solenoid</th>
<th>2 position double solenoid</th>
<th>3 position closed center</th>
<th>3 position exhaust center</th>
<th>3 position pressure center</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>S</td>
<td>Z</td>
<td>R</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>S</td>
<td>Z</td>
<td>R</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>S</td>
<td>Z</td>
<td>R</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>S</td>
<td>Z</td>
<td>R</td>
<td>U</td>
<td></td>
</tr>
</tbody>
</table>

## Rated voltage

<table>
<thead>
<tr>
<th>Type</th>
<th>DC</th>
<th>AC (V/Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>S</td>
<td>24 VDC</td>
</tr>
<tr>
<td>H</td>
<td>6</td>
<td>12 VDC</td>
</tr>
<tr>
<td>L</td>
<td>V</td>
<td>6 VDC</td>
</tr>
<tr>
<td>M</td>
<td>S</td>
<td>5 VDC</td>
</tr>
<tr>
<td>N</td>
<td>R</td>
<td>3 VDC</td>
</tr>
</tbody>
</table>

## Coil specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Normal</th>
<th>Power saving</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Standard</td>
<td>With power saving</td>
</tr>
<tr>
<td>H</td>
<td>T</td>
<td>&lt;24 V, 12 VDC only&gt;</td>
</tr>
</tbody>
</table>

## Manual override

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

## Electrical entry

<table>
<thead>
<tr>
<th>Type</th>
<th>24, 12, 6, 5, 3 VDC</th>
<th>24,12 VDC</th>
<th>24, 12, 6, 5, 3 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>100, 110, 200, 220 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>100, 110, 200, 220 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>100, 110, 200, 220 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>100, 110, 200, 220 VAC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Body option

- **O:** Pilot valve individual exhaust for the pilot valve
- **R:** Port for main and pilot valve
- **P, E port**

## Port size

- **A, B port size:**
  - **01:** 1/8
  - **02:** 1/4

## Thread type

<table>
<thead>
<tr>
<th>Type</th>
<th>Nil</th>
<th>F</th>
<th>G</th>
<th>N</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>R</td>
<td>C</td>
<td>R</td>
<td>C</td>
<td>R</td>
</tr>
<tr>
<td>H</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>L</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>LN</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>MN</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>MO</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DO</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

## Note

- 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 80.
- For connector cable of M8 connector, refer to back page 10.
Construction

2 position single

3 position closed center/exhaust center/pressure center

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-cast</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>Aluminum die-cast</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>Resin</td>
<td></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>SYJ7000-22-1</td>
<td>1/8 Aluminum</td>
</tr>
<tr>
<td>8</td>
<td>Pilot valve</td>
<td>V111(T)-L50132</td>
<td>1/4</td>
</tr>
</tbody>
</table>

How to Order Pilot Valve Assembly

**V111**

- **Coil specifications**
  - Nil
  - Standard
  - T With power saving circuit (24, 12 VDC only)
  - Nil

- **Rated voltage**
  - 5 24 VDC
  - 6 12 VDC
  - V 5 VDC
  - R 3 VDC
  - 1 100 VAC 50/60 Hz
  - 2 200 VAC 50/60 Hz
  - 3 110 VAC 50/60 Hz
  - 4 M 220 VAC 50/60 Hz

**Light/surge voltage suppressor**

- Nil Without light/surge voltage suppressor
- S With surge voltage suppressor
- Z With light/surge voltage suppressor (Non-polar type)
- R With light/surge voltage suppressor (Non-polar type)

- For AC voltage valves there is no "S" option.
- For type R and U, DC voltage is only available.
- Power saving circuit is only available in the "Z" type.

- **Electrical entry**
  - G Grommet, 300 mm lead wire
  - H Grommet, 600 mm lead wire
  - M L plug connector
  - M8 M plug connector
  - MN Without connector
  - MO Without connector
  - WO Without connector cable
  - WI With connector (L type)

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

**V115**

- **Coil specifications**
  - Nil
  - T With power saving circuit (24, 12 VDC only)

- **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
  - 4 220 VAC 50/60 Hz

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

- DOZ is not available.
- For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

- **Electrical entry**
  - D DIN terminal
  - D Without controller

- Note: Do not replace V111 (G, H, L, M, W) to V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.
### How to Order Connector Assembly for L/M Plug Connector

<table>
<thead>
<tr>
<th>Case</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>For DC</td>
<td>SY100-30-4A-</td>
</tr>
<tr>
<td>For 100 VAC</td>
<td>SY100-30-1A-</td>
</tr>
<tr>
<td>For 200 VAC</td>
<td>SY100-30-2A-</td>
</tr>
<tr>
<td>For other voltages of AC</td>
<td>SY100-30-3A-</td>
</tr>
<tr>
<td>Without lead wire</td>
<td>SY100-30-A</td>
</tr>
</tbody>
</table>

(with connector and 2 of sockets only)

#### Lead wire length

<table>
<thead>
<tr>
<th>Length (mm)</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>
<tbody>
<tr>
<td>Nil</td>
<td>300 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>600 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>1000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>1500 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>2000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>2500 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>3000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
<td>5000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### How to Order M8 Connector Cable

<table>
<thead>
<tr>
<th>Cable length</th>
<th>Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>300 mm</td>
</tr>
<tr>
<td>2</td>
<td>500 mm</td>
</tr>
<tr>
<td>3</td>
<td>1000 mm</td>
</tr>
<tr>
<td>4</td>
<td>2000 mm</td>
</tr>
<tr>
<td>7</td>
<td>5000 mm</td>
</tr>
</tbody>
</table>
Series SYJ7000

Grommet (G), (H): SYJ7120-L50132-01

L plug connector (L): SYJ7120-L50132-01(-F)

M plug connector (M): SYJ7120-M50132-01(-F)

DIN terminal (D): SYJ7120-D50132-01(-F)

M8 connector (WO): SYJ7120-WO50132-01(-F)

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

2 Position Double

Grommet (G), (H): SYJ7220-□□□-01□

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

L plug connector (L):
SYJ7220-□□□-01□

M plug connector (M):
SYJ7220-□□□-01□

DIN terminal (D):
SYJ7220-□□□-01□

M8 connector (WO):
SYJ7220-□□□-01□

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

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ7\textsuperscript{\(\frac{3}{2}\)} 20-\(\square\)\(\square\)\(\square\)\(-01\)

Built-in one-touch fitting:
SYJ7\textsuperscript{\(\frac{3}{2}\)} 20-\(\square\)

M plug connector (M):
SYJ7\textsuperscript{\(\frac{3}{2}\)} 20-\(\square\)

DIN terminal (D):
SYJ7\textsuperscript{\(\frac{3}{2}\)} 20-\(\square\)

M8 connector (WO):
SYJ7\textsuperscript{\(\frac{3}{2}\)} 20-\(\square\)

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

2 Position Single

Grommet (G), (H): SYJ7140-□□-□□-01-□□

With interface regulator

Manual override

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

(Light/surge voltage suppressor)

1/4, 1/8
(P, A, B port)

(Light/surge voltage suppressor)

1/4, R1, R2 port

With interface regulator

L plug connector (L):
SYJ7140-□□-□□-□□-01-□□

M plug connector (M):
SYJ7140-□□-□□-□□-01-□□

DIN terminal (D):
SYJ7140-□□-□□-□□-01-□□

M8 connector (WO):
SYJ7140-□□-□□-□□-01-□□

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

2 Position Double

Grommet (G), (H): SYJ7240-□□□□-□□

With interface regulator

L plug connector (L): SYJ7240-□□□□-□□

M plug connector (M): SYJ7240-□□□□-□□

DIN terminal (D): SYJ7240-□□□□-□□

M8 connector (WO): SYJ7240-□□□□-□□

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

3 Position Closed Center/Exhaust Center/Pressure Center

Grommet (G), (H): SYJ7 40-□□□□-□□

With interface regulator

L plug connector (L):
SYJ7 40□□□□-□□

M plug connector (M):
SYJ7 40□□□□-□□

DIN terminal (D):
SYJ7 40□□□□-□□

M8 connector (WO):
SYJ7 40□□□□-□□

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

<table>
<thead>
<tr>
<th>Manifold type</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>P (SUP), R (EXH)</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>
<tr>
<td>Location</td>
<td>P, R port</td>
<td>A, B port</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direction</td>
<td>Top</td>
<td>Bottom</td>
<td>Side</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **P, R port Base/B side:**
  - C6 (One-touch fitting for ø6)
  - C8 (One-touch fitting for ø8)

- **A, B port Base/B side:**
  - C6 (One-touch fitting for ø6)
  - C8 (One-touch fitting for ø8)

### Flow Characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 → 4/2 (P → A/B), 4/2 → 5/3 (A/B → R)</td>
<td>b, Cv</td>
<td>b, Cv</td>
</tr>
<tr>
<td>SyJ7-20</td>
<td>1/8, 1/8</td>
<td>2.2, 0.35</td>
</tr>
<tr>
<td>SyJ7-21</td>
<td>1/8, 1/8</td>
<td>1.7, 0.38</td>
</tr>
<tr>
<td>SyJ7-40</td>
<td>1/4, 1/8</td>
<td>2.1, 0.36</td>
</tr>
<tr>
<td>SyJ7-41</td>
<td>1/4, 1/8</td>
<td>1.4, 0.32</td>
</tr>
<tr>
<td>SyJ7-42-C6</td>
<td>1/4, 1/8</td>
<td>1.8, 0.37</td>
</tr>
<tr>
<td>SyJ7-42-C8</td>
<td>1/4, 1/8</td>
<td>2.1, 0.28</td>
</tr>
</tbody>
</table>

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

### 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:**

- **Type SS5YJ7-00**
  - 1 pc. (Manifold base)
  - SYJ7120-5G-01 2 pcs. (Valve)
  - SYJ7000-21-1A 1 pc. (Blanking plate assembly)

- **Type SS5YJ7-40**
  - 1 pc. (Manifold base)
  - SYJ7140-5LZ 1 pc. (Valve)
  - SYJ7240-5LZ 1 pc. (Valve)
  - SYJ7000-21-1A 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 printed circuit 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 1/4</td>
</tr>
<tr>
<td></td>
<td>A, B port 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>

**Flow Characteristics**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(P → A/B)</td>
</tr>
<tr>
<td></td>
<td>4/2 → 5/3 (A/B → H)</td>
</tr>
<tr>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
<tr>
<td>1/4, 1/8</td>
<td>2.1</td>
</tr>
<tr>
<td>1/4, C6</td>
<td>1.4</td>
</tr>
<tr>
<td>1/4, C8</td>
<td>1.8</td>
</tr>
</tbody>
</table>

**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:

- SSYYJ7-21P-07 ~ 1 pc. (Manifold base)
- SYJ7123-5LOU-C8 ~ 3 pcs. (Valve)
- SYJ7223-5LOU-C8 ~ 3 pcs. (Valve)
- SYJ7000-21-3A ~ 1 pc. (Blanking plate assembly)
- SY3000-37-3A ~ 3 pcs. (Connector assembly)
- SY3000-37-4A ~ 3 pcs. (Connector assembly)

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.

**How to Order Valve**

For DC:

- SYJ7 1 23 5 LO Z 01

- 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

- Rated voltage:
  - 1: 100 VAC
  - 3: 110 VAC (115 VAC)

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

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

- Symbol:
  - Port size:
    - 01: 1/8
    - C6: One-touch fitting for ø6
    - C8: One-touch fitting for ø8
    - N7: One-touch fitting for ø1/4”
    - N9: One-touch fitting for ø3/16”

- Note: Z: Positive common specifications only.

**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: SY3000-37-15A
- Double solenoid, 3 position individual SUP, EXH spacer: SY3000-37-34A
- Interface regulator for single solenoid: SY3000-37-3A
- Double solenoid, 3 position interface regulator: SY3000-37-6A
- 3 port adaptor plate: SY3000-37-3A

For 100 VAC:

- Single solenoid: SY3000-37-32A
- Double solenoid, 3 position type: SY3000-37-33A
- Single solenoid, individual SUP, EXH spacer: SY3000-37-15A
- Double solenoid, 3 position individual SUP, EXH spacer: SY3000-37-34A
- Interface regulator for single solenoid: SY3000-37-3A
- Double solenoid, 3 position interface regulator: SY3000-37-6A
- 3 port adaptor plate: SY3000-37-32A

For 100 VAC (115 VAC):

- Single solenoid: SY3000-37-35A
- Double solenoid, 3 position type: SY3000-37-36A
- Single solenoid, individual SUP, EXH spacer: SY3000-37-19A
- Double solenoid, 3 position individual SUP, EXH spacer: SY3000-37-37A
- Interface regulator for single solenoid: SY3000-37-19A
- Double solenoid, 3 position interface regulator: SY3000-37-37A
- 3 port adaptor plate: SY3000-37-35A

* Use manifold specification sheet.
Manifold Standard
/Common SUP/Common EXH

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

How to Order
SS5YJ7–20– \(05\)

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

Applicable solenoid valve
SYJ7:[20–]–[05]–C6
SYJ7:[20–]–[05]–C8

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-1A

Applicable individual SUP spacer assembly
SYJ7000-16-2A

Applicable interface regulator
ARBYJ7000-00-P

Note) For more than 6 stations, supply air to both sides of P port and exhaust air from both sides of R port.

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

How to Order
SS5YJ7–21– \(05\)

<table>
<thead>
<tr>
<th>Stations</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 2 stations</td>
<td>Nil Rc</td>
</tr>
<tr>
<td>20 20 stations</td>
<td>00F G</td>
</tr>
<tr>
<td>00N NPT</td>
<td></td>
</tr>
<tr>
<td>00T NPTF</td>
<td></td>
</tr>
</tbody>
</table>

Applicable solenoid valve
SYJ7:[21–]–[05]–C6
SYJ7:[21–]–[05]–C8

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-1A

Applicable individual SUP spacer assembly
SYJ7000-16-2A

Applicable interface regulator
ARBYJ7000-00-P

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

Type 40 (5 Port/Base mounted)
A, B port

How to Order
SS5YJ7–40– \(05\)–01

<table>
<thead>
<tr>
<th>Stations</th>
<th>A, B port size</th>
<th>Thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 2 stations</td>
<td>1/8</td>
<td>Nil Rc</td>
</tr>
<tr>
<td>20 20 stations</td>
<td></td>
<td>00F G</td>
</tr>
<tr>
<td></td>
<td></td>
<td>00N NPT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>00T NPTF</td>
</tr>
</tbody>
</table>

Applicable solenoid valve
SYJ7:[40–]–[05]–01–C6
SYJ7:[40–]–[05]–01–C8

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-2A

Applicable individual SUP spacer assembly
SYJ7000-16-2A

Applicable interface regulator
ARBYJ7000-00-P

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

Type 41 (5 Port/Base mounted)
A, B port

How to Order
SS5YJ7–41– \(05\)–01

<table>
<thead>
<tr>
<th>Stations</th>
<th>A, B port size</th>
<th>Thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 2 stations</td>
<td>1/8</td>
<td>Nil Rc</td>
</tr>
<tr>
<td>20 20 stations</td>
<td></td>
<td>00F G</td>
</tr>
<tr>
<td></td>
<td></td>
<td>00N NPT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>00T NPTF</td>
</tr>
</tbody>
</table>

Applicable solenoid valve
SYJ7:[41–]–[05]–01–C6
SYJ7:[41–]–[05]–01–C8

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-2A

Applicable individual SUP spacer assembly
SYJ7000-16-2A

Applicable interface regulator
ARBYJ7000-00-P

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

Type 42 (5 Port/Base mounted)
A, B port

How to Order
SS5YJ7–42– \(05\)–C6

<table>
<thead>
<tr>
<th>Stations</th>
<th>A, B port size</th>
<th>Thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 2 stations</td>
<td>C6 One-touch fitting for ø6</td>
<td>Nil Rc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>00F G</td>
</tr>
<tr>
<td></td>
<td></td>
<td>00N NPT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>00T NPTF</td>
</tr>
<tr>
<td>02 2 stations</td>
<td>C8 One-touch fitting for ø8</td>
<td></td>
</tr>
<tr>
<td>20 20 stations</td>
<td>N7 One-touch fitting for ø1/4&quot;</td>
<td></td>
</tr>
</tbody>
</table>
| | | N9 One-touch fitting for ø5/16"

Applicable solenoid valve
SYJ7:[42–]–[05]–C6
SYJ7:[42–]–[05]–C8

Applicable blanking plate assembly
SYJ7000-21-3A

Applicable connector assembly
Refer to page 59.

Note) For more than 12 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 (5 Port/Body ported)
A, B port

How to Order
SS5YJ7–21P– \(05\)

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

Applicable solenoid valve
Refer to page 59.

Applicable blanking plate assembly
SYJ7000-21-3A

Applicable connector assembly
Refer to page 59.

Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.
Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

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.

Individual EXH Spacer Assembly

Individual SUP Spacer Assembly

Interface Regulator (P port regulation)

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

<table>
<thead>
<tr>
<th>Adapter plate assembly SYJ7000-3-1A</th>
<th>Adapter plate assembly SYJ7000-3-2A</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ700 Series Body mounted</td>
<td>SYJ700 Series Base mounted</td>
</tr>
</tbody>
</table>

Blanking Plate Assembly

- Round head combination screw

Mounting screw tightening torques

M3: 0.8 N·m

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

Refer to back page 12 prior to handling.
### Series SYJ7000

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

**Grommet (G)**

- Approx. 300 [Unit: Grommet height]

**Manual override**

- (Pitch) P = 19
- (A, B port)

**Built-in one-touch fitting**

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

**L plug connector (L)**

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

**M plug connector (M)**

- Applicable cable O.D.
  - ø3.5 to ø7

**DIN terminal (D)**

- Applicable cable O.D.
  - ø3.5 to ø7

**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>
<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

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>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>L5</th>
<th>L6</th>
<th>L7</th>
<th>L8</th>
<th>L9</th>
<th>L10</th>
<th>L11</th>
<th>L12</th>
<th>L13</th>
<th>L14</th>
<th>L15</th>
<th>L16</th>
<th>L17</th>
<th>L18</th>
<th>L19</th>
<th>L20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>66</td>
<td>65</td>
<td>85</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>
<td></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>
<td></td>
</tr>
</tbody>
</table>
**Series SYJ7000**

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

**Grommet (G)**

<table>
<thead>
<tr>
<th>Station</th>
<th>1</th>
<th>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>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>
<td></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>
<td></td>
</tr>
</tbody>
</table>

Approx. 300 (Lead wire length)

Approx. 300 (A, B port)

Approx. 300 (P, R port)

**Manual override**

**Light/surge voltage suppressor**

Refer to back page 11 for dimensions with connector cable.
Type 42: Side Ported/SS5YJ7-42 Stations -

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>77</td>
<td>96</td>
<td>115</td>
<td>134</td>
<td>153</td>
<td>172</td>
<td>191</td>
<td>210</td>
<td>229</td>
<td>248</td>
<td>267</td>
<td>286</td>
<td>305</td>
<td>324</td>
<td>343</td>
<td>362</td>
<td>381</td>
<td>400</td>
<td>419</td>
</tr>
<tr>
<td>L2</td>
<td>49</td>
<td>68</td>
<td>87</td>
<td>106</td>
<td>125</td>
<td>144</td>
<td>163</td>
<td>182</td>
<td>201</td>
<td>220</td>
<td>239</td>
<td>258</td>
<td>277</td>
<td>296</td>
<td>315</td>
<td>334</td>
<td>353</td>
<td>372</td>
<td>391</td>
</tr>
</tbody>
</table>
## Series SYJ7000

### Flat Ribbon Cable Manifold

SS5YJ7-21P- Stations (-00□)

### For built-in one-touch fitting

#### Manual override

- **(Non-locking)**

#### Light/surge voltage suppressor

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

#### Applicable connector: 26 pins MIL type

- **(Conforming to MIL-C-83503)**

### Applicable tubing O.D.:

- ∅6, ∅1/4"  
- ∅8, ∅5/16"  

### Table: Station L1/L2 Dimensions

<table>
<thead>
<tr>
<th>Station</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>88</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>
<td>272.5</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>
<td>252.5</td>
</tr>
</tbody>
</table>
How to Order

**Body ported**

SYJA3 1 20 – M3 –

**Base mounted**

**(4 port)**

SYJA3 2 30 (Manifold use only)

**Base mounted**

**(5 port)**

SYJA3 2 40 –

**JIS Symbol**

<table>
<thead>
<tr>
<th>5 port</th>
<th>4 port</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position single</td>
<td>2 position single</td>
</tr>
<tr>
<td>2 position double</td>
<td>2 position double</td>
</tr>
<tr>
<td>3 position closed center</td>
<td>3 position closed center</td>
</tr>
<tr>
<td>3 position exhaust center</td>
<td>3 position exhaust center</td>
</tr>
<tr>
<td>3 position pressure center</td>
<td>3 position pressure center</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**

- **Nil**: Without sub-plate
- **M5**: M5 port With sub-plate

**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 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>Air</td>
<td>0.15 to 0.7</td>
<td>0.1 to 0.7</td>
<td>0.2 to 0.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating pressure range MPa</th>
<th>2 position single</th>
<th>2 position double</th>
<th>3 position</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/2 → A/B</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pilot pressure range MPa</th>
<th>Note 1</th>
<th>2 position single</th>
<th>2 position double</th>
<th>3 position</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/2 → A/B</td>
<td></td>
<td>Operating pressure to 0.7</td>
<td>0.1 to 0.7</td>
<td>0.2 to 0.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambient and fluid temperature °C</th>
<th>–10 to 50 (No freezing. Refer to back page 3.)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Lubrication</th>
<th>Not required</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Mounting orientation</th>
<th>Unrestricted</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Impact/Vibration resistance (m/s²)</th>
<th>300/50</th>
</tr>
</thead>
</table>

---

### Pilot Pressure Range (Single pilot)

![Pilot Pressure Range Graph](image)

### With Bracket

- Air operated valve

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

### Flow Characteristics/Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Pilot port size</th>
<th>Note 2</th>
<th>Effective area mm²</th>
<th>Flow characteristics (Note 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJA3□40-M5</td>
<td>2 position</td>
<td>M5 x 0.8</td>
<td>M3 x 0.5</td>
<td>48 (22)</td>
<td>–</td>
<td>C [dm³/ (s•bar)] b Cv [dm³/ (s•bar)] b Cv</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>M3 x 0.5</td>
<td></td>
<td>54 (28)</td>
<td></td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4 to 0.7</td>
</tr>
<tr>
<td>SYJA3□20-M3</td>
<td>2 position</td>
<td>M3 x 0.5</td>
<td>M3 x 0.5</td>
<td>22</td>
<td>0.9</td>
<td>C [dm³/ (s•bar)] b Cv [dm³/ (s•bar)] b Cv</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>M3 x 0.5</td>
<td></td>
<td>25</td>
<td></td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4 to 0.7</td>
</tr>
<tr>
<td>SYJA3□30</td>
<td>2 position</td>
<td></td>
<td>M3 x 0.5</td>
<td>22</td>
<td></td>
<td>C [dm³/ (s•bar)] b Cv [dm³/ (s•bar)] b Cv</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td></td>
<td></td>
<td>25</td>
<td></td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3 to 0.7</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4 to 0.7</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 (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)

---

* Refer to the memo for changed contents.
**Series SYJA3000**

**Dimensions/Body Ported**

2 position single: SYJA3120-M3(-F)

2 position single: SYJA3140-M5

2 position double: SYJA3220-M3(-F)

2 position double: SYJA3240-M5

**Dimensions/Base Mounted**

2 position single: SYJA3140-M5

3 position closed center/exhaust center/pressure center SYJA3\textsuperscript{2}20-M3(-F)

3 position closed center/exhaust center/pressure center SYJA3\textsuperscript{2}40-M5
4/5 Port Air Operated Valve
Series SYJA5000

How to Order

A, B port size
M5 M5 x 0.8
C4 One-touch fitting for ø4
C6 One-touch fitting for ø6

Bracket
Nil Without bracket
F With bracket

Body ported
SYJA5 1 20 – M5 –

Base mounted
SYJA5 2 40 –

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
Nil Without sub-plate
01 1/8 With sub-plate

Thread type
Nil Rc
F G
N NPT
T NPTF

JIS Symbol
Body ported
2 position single
2 position double
3 position closed center
3 position exhaust center
3 position pressure center

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

How to Order Manifold Base

Same manifolds as series SYJ5000 are prepared.

SSSYJA5 – Fill the same as SSSYJ5.

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

(Ex.)
SSSYJA5-42-03-01........1 set
SYJAS140..................1 set
SYJAS240..................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>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>0.15 to 0.7</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>SYJA5[20-01</td>
<td>Single</td>
<td>1/8</td>
<td>1 → 4/2 (P → A/B)</td>
<td></td>
<td>79 (45)</td>
</tr>
<tr>
<td>Body ported</td>
<td>Double</td>
<td></td>
<td>4/2 → 5/3 (A/B → EA/EB)</td>
<td></td>
<td>94 (60)</td>
</tr>
</tbody>
</table>

Note 1) [:] denotes normal position.

Note 2) [:] Without sub-plate.

Note 3) Model No. for 5 port base mounted style without sub-plate is SYJA5\[40-01.
How to Order Manifold Base

Series SYJA7000

How to Order

A, B port size
01 1/8
06 One-touch fitting for ø8
08 One-touch fitting for ø8

Bracket
Nil Without bracket
F With bracket

Body ported

SYJA7 1 20 - 01 -

Base mounted

SYJA7 2 40 -

Port size
01 1/8 With sub-plate
02 1/4 With sub-plate

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

Thread type
Nil Rc
F G
N NPT
T NPTF

JIS Symbol
Body ported
2 position single (A)(B)
3 position closed center (A)(B)
3 position pressure center (A)(B)

Base mounted
2 position single (B)(A)
3 position closed center (B)(A)
3 position pressure center (B)(A)

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

Caution

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

(Ex.)
SSSYJA7-41-03-01 1 pc.
SYJA7140 1 pc.
SYJA7240 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.

Same manifolds as series SYJ7000 are prepared.

SSSYJ7- Fill the same as SSSYJ7.
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></td>
<td>2 position double 0.1 to 0.7</td>
</tr>
<tr>
<td></td>
<td>3 position 0.15 to 0.7</td>
</tr>
<tr>
<td>Pilot pressure range MPa</td>
<td>Note 1) 2 position single ((0.4 \times P + 0.1)) to 0.7 P: Operating pressure</td>
</tr>
<tr>
<td></td>
<td>2 position double 0.1 to 0.7</td>
</tr>
<tr>
<td></td>
<td>3 position 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>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 (1P) 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)

With Bracket

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</th>
<th>Pilot port size</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body ported</strong></td>
<td></td>
<td></td>
<td>1/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJA7□20-01</td>
<td>Single</td>
<td>1/8</td>
<td>2.2 0.36 0.58 2.4 0.34 0.63</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.8 0.37 0.45 2.0 0.35 0.49</td>
<td></td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.2 0.50 0.34 3.0 [1.3] 0.35 [0.73] [0.52] [0.39]</td>
<td></td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>3.0 0.37 0.78 [0.83] 0.78 [0.25] 1.8 0.37 0.45</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>2.0 0.32 0.53</td>
<td>M5 x 0.8</td>
<td>131</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>P, R port: 1/8</td>
<td>1.6 0.33 0.4</td>
<td></td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.4 0.27 0.35 1.9 0.33 0.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>1.1 0.37 0.27 2.5 [1.3] 0.32 [0.54] [0.38]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td>1.8 0.36 0.45 [0.78] 0.45 [0.22] 1.6 0.30 0.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYJA7□20-C8</td>
<td>Single</td>
<td>A, B port: C8 (One-touch fitting for ø8)</td>
<td>2.3 0.34 0.61</td>
<td>M5 x 0.8</td>
<td>170 (90)</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>P, R port: 1/8</td>
<td>2.0 0.39 0.52</td>
<td></td>
<td>190 (110)</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.7 0.35 0.42 2.0 0.29 0.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>1.2 0.38 0.33 2.6 [1.3] 0.35 [0.49] [0.38]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td>1.9 [0.86] 0.57 0.59 [0.86] 0.59 [0.25] 1.7 0.39 0.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Base mounted (with sub-plate)</strong></td>
<td></td>
<td></td>
<td>1/8 Note 1</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 2.8 0.37 0.71</td>
<td></td>
<td>170 (90)</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.9 0.36 0.48 2.1 0.46 0.57</td>
<td></td>
<td>200 (120)</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.2 0.48 0.35 3.4 [1.3] 0.36 [0.57] [0.41]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>3.3 [0.85] 0.43 0.78 [0.85] 0.78 [0.25] 2.1 0.45 0.56</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 2.9 0.35 0.74</td>
<td></td>
<td>170 (90)</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.9 0.46 0.50 2.2 0.44 0.60</td>
<td></td>
<td>200 (120)</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td></td>
<td>1.3 0.45 0.35 3.7 [1.4] 0.27 [0.56] [0.43]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>3.6 [0.83] 0.23 0.84 [0.83] 0.84 [0.25] 2.1 0.47 0.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**2 position single: SYJA7120-01□ (-F)**
- 2-ø3.2  (For manifold mounting)
- 2-ø4.5 (For mounting)
- 2-ø3.2 (For mounting)
- 1/8 (Piping port)
- 2-ø3.2  (For manifold mounting)
- Manual override

**2 position double: SYJA7220-01□**
- 2-ø3.2  (For manifold mounting)
- 2-ø3.2 (For mounting)
- 1/8 (Piping port)
- 2-ø1.8 (Bleed port) With filter (80 mesh)

**3 position closed center/exhaust center/pressure center**
SYJA7□20-01□
- 2-ø3.2 (For manifold mounting)
- 2-ø1.8 (Bleed port) With filter (80 mesh)
- 1/8 (Piping port)

### Dimensions/Base Mounted

**2 position single: SYJA7140-□□□**
- M5 x 0.8 (Pilot port)
- Manual override

**2 position double: SYJA7240-□□□**
- 2-ø4.3  (For mounting)
- Manual override

**3 position closed center/exhaust center/pressure center**
SYJA7□40-□□□
- 2-ø4.3  (For mounting)
- Manual override

---

**Specifications**
- **Dimensions**
  - Body Ported
  - Base Mounted
- **Materials**
  - Body: Cast Iron
  - Valve: Steel
- **Mounting Options**
  - Bracket
  - Manual override
  - With filter (80 mesh)
**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

![Diagram of solenoid valve series]

- Entry is the same as standard products.

**Operating Pressure Range MPa**

<table>
<thead>
<tr>
<th>Operating pressure range</th>
<th>Pilot pressure range</th>
</tr>
</thead>
<tbody>
<tr>
<td>-100 kPa to 0.7</td>
<td>0.15 to 0.7</td>
</tr>
</tbody>
</table>

**External Pilot Port**

<table>
<thead>
<tr>
<th>Series</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ5000, SYJ7000</td>
<td>M5 x 0.8</td>
</tr>
</tbody>
</table>

**Dimensions**

SYJ5000: 8 mm longer in total length.
SYJ7000: 8 mm

**JIS Symbol**

- Body ported
  - 2 position single: (A)(B) 4 2
  - 2 position double: (A)(B)  4 2
  - 3 position closed center: (A)(B) 4 2
  - 3 position exhaust center: (A)(B) 4 2
  - 3 position pressure center: (A)(B) 4 2
**Series SYJ5000/7000**

**Made to Order**

DIN Connector Conforming to EN-175301-803C (former DIN 43650C)

DIN connector type that conforms to the 8 mm pitch standards between DIN terminals.

### How to Order Valve

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Valve</th>
<th>Light/surge voltage suppressor</th>
<th>Rated voltage</th>
<th>Electrical entry</th>
<th>Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position single solenoid</td>
<td>1</td>
<td>Nil</td>
<td>100 VAC</td>
<td>0</td>
<td>Nil</td>
</tr>
<tr>
<td>2 position double solenoid</td>
<td>2</td>
<td>S</td>
<td>200 VAC</td>
<td>1</td>
<td>Nil</td>
</tr>
<tr>
<td>3 position closed center</td>
<td>3</td>
<td>Z</td>
<td>110 VAC [115 VAC]</td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td>3 position exhaust center</td>
<td>4</td>
<td>Without light/surge voltage suppressor</td>
<td>220 VAC [230 VAC]</td>
<td>3</td>
<td>Z</td>
</tr>
<tr>
<td>3 position pressure center</td>
<td>5</td>
<td>Without light/surge voltage suppressor</td>
<td>12 VDC</td>
<td>4</td>
<td>S</td>
</tr>
</tbody>
</table>

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

### How to Order Pilot Valve Assembly

**V115**

<table>
<thead>
<tr>
<th>Rated voltage</th>
<th>Light/surge voltage suppressor</th>
<th>Electrical entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC 24 VDC</td>
<td>Nil</td>
<td>Y DIN terminal</td>
</tr>
<tr>
<td>12 VDC</td>
<td>With surge voltage suppressor</td>
<td>YO Without connector</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rated voltage</th>
<th>Voltage symbol</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>SY100-82-3-05</td>
<td></td>
</tr>
<tr>
<td>12 VDC</td>
<td>SY100-82-3-06</td>
<td></td>
</tr>
<tr>
<td>100 VAC</td>
<td>SY100-82-3-01</td>
<td></td>
</tr>
<tr>
<td>200 VAC</td>
<td>SY100-82-3-02</td>
<td></td>
</tr>
<tr>
<td>110 VAC [115 VAC]</td>
<td>SY100-82-3-03</td>
<td></td>
</tr>
<tr>
<td>220 VAC [230 VAC]</td>
<td>SY100-82-3-04</td>
<td></td>
</tr>
</tbody>
</table>

**DIN Connector Part No.**

<table>
<thead>
<tr>
<th>Without light</th>
<th>SY100-82-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>With light</td>
<td></td>
</tr>
<tr>
<td>24 VDC</td>
<td>SY100-82-3-05</td>
</tr>
<tr>
<td>12 VDC</td>
<td>SY100-82-3-06</td>
</tr>
<tr>
<td>100 VAC</td>
<td>SY100-82-3-01</td>
</tr>
<tr>
<td>200 VAC</td>
<td>SY100-82-3-02</td>
</tr>
<tr>
<td>110 VAC [115 VAC]</td>
<td>SY100-82-3-03</td>
</tr>
<tr>
<td>220 VAC [230 VAC]</td>
<td>SY100-82-3-04</td>
</tr>
</tbody>
</table>

**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 with the prescribed torque range. Tighten the ground nut and set screw within the specified range of torque.

2. For how to use DIN terminal (wiring procedures, procedures for changing electrical entries, precautions, applicable cable, circuit diagram), refer to back page 8.

3. Dimensions are completely the same as D type connector.

4. When exchanging the pilot valve assembly only, “V115-CD” is interchangeable with “V115-CY”. Do not replace V114 (G, H, L, M, W) to V115-C/D/CY (DIN terminal), and vice versa.
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.

Note 1) ISO 4414: Pneumatic fluid power--General rules relating to systems.
Note 2) JIS B 8370: General Rules for Pneumatic Equipment

### 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 catalog 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 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 catalog 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.

⚠️ Warning

1. Confirm the specification
   The products presented in this catalog 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 energization
   • Continuous energization 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 energized for extended periods of time or the energized period per day will be longer than the de-energized period. It is also possible to shorten the energization 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 energized 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 energization
   If a double solenoid valve will be operated with momentary energization, it should be energized for at least 0.1 second. However, depending on the secondary load conditions, it should be energized 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
4/5 Port Solenoid Valves/Common Precautions 2

Be sure to read before handling.

Selection

⚠️ 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 energized when air is being blown.

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

Mounting

⚠️ Warning

1. If air leakage increases or equipment does not operate properly, stop operation.
   Check mounting conditions when air and power supplies are connected. Initial function and leakage tests should be performed after installation.

2. Instruction manual
   Mount and operate the product after reading the manual carefully and understanding its contents.
   Also keep the manual where it can be referred to as necessary.

3. Painting and coating
   Warnings or specifications printed or pasted on the product should not be erased, removed or covered up. Consult with SMC if paint is to be applied to resinous parts, as this may have an adverse effect due to the paint solvent.

Port Direction

⚠️ Caution

1. Preparation before piping
   Before piping is connected, it should be thoroughly blown out with air (flushing) or washed to remove chips, cutting oil and other debris from inside the pipe.

2. Wrapping of sealant tape
   When connecting pipes and fittings, etc., be sure that chips from the pipe thread and sealing materials do not get inside the valve. Furthermore, when pipe tape is used, leave 1.5 to 2 thread ridges exposed at the end of the threads.

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.

Tightening Torque for Piping

<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>
</tr>
<tr>
<td>3/4</td>
<td>28 to 30</td>
</tr>
<tr>
<td>1</td>
<td>36 to 38</td>
</tr>
<tr>
<td>1 1/4</td>
<td>40 to 42</td>
</tr>
<tr>
<td>1 1/2</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 3

Be sure to read before handling.

**Wiring**

**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.

**Lubrication**

**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.

2. **Air Supply**

**Caution**

1. **Install air filters.**
   - Install air filters close to valves at their upstream side. A filtration degree of 5 µm 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” catalog Vol. 14 for compressed air quality.

**Operating Environment**

**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 catalog.**

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 energized for extended periods of time, employ measures to radiate excess heat, so that temperatures remain within the valve specification range.**

**Back page 4**
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.

- **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 operating the locking type D with a screwdriver, turn it gently using a watchmaker's screwdriver.
[Torque: Less than 0.1 N·m]

---

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

**⚠️ Warning**
Solenoid valves with grommet and L/M type plug 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 energized. The surface may become hot depending on the energized 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.

---

### 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.

- SYJ3000, SYJ3000 .................. P. 14
- SYJ5000, SYJ500 .................. P. 38
- SYJ7000, SYJ700 .................. P. 61

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.

---

### Table: Plug position B port A port

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Number of solenoids</th>
<th>Plug position</th>
<th>B port</th>
<th>A port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td></td>
<td><img src="image" alt="Plug" /></td>
<td><img src="image" alt="Plug" /></td>
<td><img src="image" alt="Plug" /></td>
</tr>
<tr>
<td>Double</td>
<td></td>
<td><img src="image" alt="Plug" /></td>
<td><img src="image" alt="Plug" /></td>
<td><img src="image" alt="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>Nil</th>
<th>300 mm</th>
<th>6</th>
<th>600 mm</th>
<th>10</th>
<th>1000 mm</th>
<th>15</th>
<th>1500 mm</th>
<th>20</th>
<th>2000 mm</th>
<th>25</th>
<th>2500 mm</th>
<th>30</th>
<th>3000 mm</th>
<th>50</th>
<th>5000 mm</th>
</tr>
</thead>
</table>

**How to Order**
Include the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.

Ex! In case of 2000 mm of lead wire
For DC: SY100 30 4A-
For AC: SYJ3120-5LO-M3 SYJ3120-1LO-M3 SY100-30-4A-20 SY100-30-1A-20
**Series SYJ3000/5000/7000**

**Specific Product Precautions 3**

Be sure to read before handling. Refer to back page 1 through to 5 for Safety Instruction and Common Precautions.

---

### Surge Voltage Suppressor

**Caution**

*For DC*

Grommet, L/M Plug Connector

- **Standard type (with polarity)**
  - Surge voltage suppressor (DS)
    - Red (+)
    - Black
  - With light/surge voltage suppressor (Z)
    - Red (+)
    - Black

- **Non-polar type**
  - With surge voltage suppressor (DR)
    - (+) (+)
    - (-) (-)
  - With light/surge voltage suppressor (DU)
    - (+) (+)
    - (-) (-)

- **With power saving circuit**
  - Power consumption is decreased by 1/4 by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 62 ms at 24 VDC.)

**DIN Terminal**

- With surge voltage suppressor (DS)
- With light/surge voltage suppressor (DZ)
- DIN terminal has no polarity.

**M8 Connector**

- Standard type (with polarity)
- With light/surge voltage suppressor (DS)
- With light/surge voltage suppressor (Z)
- Non-polar type

- In the case of standard type, connect + to 1 and – to 3 according the polarity.
- For DC voltages other than 12 V and 24 V, incorrect wiring will cause damage to the surge suppressor circuit.
- Please use caution regarding the allowable voltage fluctuations 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.)

---

### 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 fluctuations 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

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

Grommet, L/M Plug Connector

With light (Z)

DIN Terminal

With light (DZ)

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.

How to Use DIN Terminal

⚠️ Caution

Connection
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 attaching 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

How to Use DIN Terminal

Ground nut tightening torque
1.65 to 2.5 N•m

Set screw tightening torque
0.4 N•m

Washer

Grommet (Rubber)
(Rating symbol)
Refer to table of DIN connector part no. below.

Terminal screw
(3 locations)
Tightening torque
0.2 to 0.25 N•m

Housing

(Light mounting location)

Terminal block

Notch

DIN Connector Part No.

<table>
<thead>
<tr>
<th>Without light</th>
<th>SY100-61-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>With light</td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>Voltage symbol</td>
</tr>
<tr>
<td>24 VDC</td>
<td>24 V</td>
</tr>
<tr>
<td>12 VDC</td>
<td>12 V</td>
</tr>
<tr>
<td>100 VAC</td>
<td>100 V</td>
</tr>
<tr>
<td>200 VAC</td>
<td>200 V</td>
</tr>
<tr>
<td>110 VAC</td>
<td>110 V</td>
</tr>
<tr>
<td>220 VAC</td>
<td>220 V</td>
</tr>
</tbody>
</table>

Circuit Diagram with Light

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>500 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>
<tbody>
<tr>
<td>W1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Connector Assembly with Cover: Dimensions**

How to Order

Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.
Ex. 1) Lead wire length of 2000 mm
SYJ3120-5LOZ-M3
SY100-68-A-20
Ex. 2) Lead wire length of 300 mm (standard)
SYJ3120-5LPZ-M3

Symbol for connector assembly with cover

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

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-[L50132]) 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-[L50132]). 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.)

**SYJ[37]**

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>W1: Cable length 300 mm</th>
<th>W2: Cable length 500 mm</th>
<th>W3: Cable length 1000 mm</th>
<th>W4: Cable length 2000 mm</th>
<th>W5: Cable length 5000 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbol for electrical entry</td>
<td>SYJ3120-5W1ZE-M3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ex. 1) Cable length: 300 mm
SYJ3120-5W1ZE-M3

Symbol for electrical entry
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.

### Caution

- 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.

### Flat Ribbon Cable Manifold

#### M8 Connector

2. To order connector cable only

| (Ground) | Brown: 1 | Blue: 3 |
|----------|----------|
| 3        |          |        |
| 1        |          |        |

#### Cable length (L) | No.
<table>
<thead>
<tr>
<th></th>
<th></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

### 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.

### Warning

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>

### Bracket

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

### Replacement of Pilot Valve

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

### Caution

Terminal no. is not indicated on the connector. The terminal no. indicated in the connection schematic of connector, as shown in the reference, means a correlation of 1, 2, 3····26 from the triangle mark side on the flat ribbon cable of connector.
**Series SYJ3000/5000/7000**

**Specific Product Precautions 7**

Be sure to read before handling.
Refer to back page 1 through to 5 for Safety Instruction and Common Precautions.

---

**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.

**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 x 0.8</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></td>
<td></td>
<td>P → B</td>
</tr>
<tr>
<td>Effective area at supply side (mm²)</td>
<td>Note 3</td>
<td>A → EA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B → EB</td>
</tr>
</tbody>
</table>

**Interface Regulator**

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

---

**Interface**

---

**Pilot valve**

---

**Adapter plate**

---

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

---

**Warning**

Be sure to read before handling.
Refer to back page 1 through to 5 for Safety Instruction and Common Precautions.
## Variations

<table>
<thead>
<tr>
<th>Series</th>
<th>Sonic conductance C[dm$^3$/(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>10-SYJ3000</td>
<td>0.9mm$^2$ 4/2→5/3 (A/B→EA/EB)</td>
<td>2 position</td>
<td>For DC</td>
<td></td>
<td>Grommet</td>
<td>For DC</td>
</tr>
<tr>
<td></td>
<td>P.494</td>
<td>Single</td>
<td>24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC</td>
<td></td>
<td>With surge voltage suppresser</td>
<td></td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>0.47 4/2→5/3 (A/B→EA/EB)</td>
<td>2 position</td>
<td>For DC</td>
<td></td>
<td>L plug connector</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.515</td>
<td>Single, Double</td>
<td>24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC</td>
<td></td>
<td>With light/surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>2.4 4/2→5/3 (A/B→EA/EB)</td>
<td>2 position</td>
<td>For AC</td>
<td></td>
<td>M plug connector</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.537</td>
<td>Single, Double</td>
<td>AC 100V%, Hz, AC 110V%, Hz, AC 200V%, Hz, AC 220V%, Hz</td>
<td></td>
<td>Non-locking push type</td>
<td></td>
</tr>
<tr>
<td>10-SYJ3000</td>
<td>0.46 4/2→5/3 (A/B→EA/EB)</td>
<td>3 position</td>
<td>For AC</td>
<td></td>
<td>DIN terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.494</td>
<td>Closed center, Exhaust center, Pressure center</td>
<td></td>
<td>With light/surge voltage suppresser</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>0.83 4/2→5/3 (A/B→EA/EB)</td>
<td>2 position</td>
<td>For AC</td>
<td></td>
<td>M plug connector</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.515</td>
<td>Closed, Exhaust</td>
<td>AC 100V%, Hz, AC 110V%, Hz, AC 200V%, Hz, AC 220V%, Hz</td>
<td></td>
<td>Push-turn locking slotted type</td>
<td></td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>2.9 4/2→5/3 (A/B→EA/EB)</td>
<td>2 position</td>
<td>For AC</td>
<td></td>
<td>M8 connector</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.537</td>
<td>Closed, Exhaust</td>
<td>AC 100V%, Hz, AC 110V%, Hz, AC 200V%, Hz, AC 220V%, Hz</td>
<td></td>
<td>Push-turn locking lever type</td>
<td></td>
</tr>
</tbody>
</table>

- **Note)** All standard AC voltage models have built-in surge voltage suppresser.
### 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>10-SYJ3000</td>
<td>Top</td>
<td>●</td>
<td>Individual SUP spacer assembly</td>
<td>●</td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>Top</td>
<td>●</td>
<td>Individual EXH spacer assembly</td>
<td>●</td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>Top</td>
<td>●</td>
<td>Individual EXH spacer assembly</td>
<td>●</td>
</tr>
<tr>
<td>10-SYJ3000</td>
<td>Bottom</td>
<td>●</td>
<td>Individual EXH spacer assembly</td>
<td>●</td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>Bottom</td>
<td>●</td>
<td>Individual EXH spacer assembly</td>
<td>●</td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>Bottom</td>
<td>●</td>
<td>Individual EXH spacer assembly</td>
<td>●</td>
</tr>
</tbody>
</table>

#### One-touch fitting

<table>
<thead>
<tr>
<th>Applicable tubing O.D.</th>
<th>M3</th>
<th>M5</th>
<th>1/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø4</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Ø6</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Ø8</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>N3</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>N7</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>N9</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

#### Individual SUP spacer assembly

- | Body ported
- | Base mounted

#### Individual EXH spacer assembly

- | Mixed mounting of 3 port valves and 4, 5 port valves

#### Type 21P

- | Individual SUP spacer assembly
- | Individual EXH spacer assembly

#### Type 32P

- | Mixed mounting of 3 port valves and 4, 5 port valves

---

*For detailed specifications about 10-SYJ3000, refer to page 507. For 10-SYJ5000, refer to page 529, and for 10-SYJ7000, refer to page 550.*
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, 2 position double: 0.1 to 0.7, 3 position: 0.2 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>-10 to 50 (with no freezing. Refer to page 714.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response time ms (0.5MPa) Note 1</th>
<th>2 position single, double: 15 or less, 3 position: 30 or less</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double: 10, 3 position: 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manual override (Manual operation)</th>
<th>Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot exhaust method</td>
<td>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>Enclosure</td>
<td>Dustproof (+ M8 connector conforms to IP65.)</td>
</tr>
</tbody>
</table>

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

**Note 2:** Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

**Vibration resistance:** No malfunction occurred in one sweep test between 45 and 2000Hz. 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)

Solenoid specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>Grommet (GJ(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: 24, 12, 6, 5, 3, AC50/60Hz: 100, 110, 200, 220</td>
</tr>
<tr>
<td>Allowable voltage fluctuation</td>
<td>±10% of rated voltage * &lt;br&gt;DC: 0.35 (With indicator light: 0.4) &lt;br&gt;AC: 0.1 (With indicator light only)</td>
</tr>
<tr>
<td>Power consumption (W)</td>
<td>DC: 100 VAC: 0.78, 110 VAC: 0.86, 200 VAC: 1.18, 220 VAC: 1.30, 230 VAC: 1.42 &lt;br&gt;AC: 115 VAC: 0.94, 220 VAC: 1.42</td>
</tr>
<tr>
<td>Apparent power (VA) *</td>
<td>AC: 220 VAC: 1.30, T type: 1.42</td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Diode (Non-polar type: Varistor)</td>
</tr>
<tr>
<td>Indicator light</td>
<td>LED</td>
</tr>
</tbody>
</table>

* In common between 110VAC and 115VAC, and between 220VAC and 230VAC.

* For 115VAC and 230VAC, the allowable voltage is -15% to +5% of rated voltage.

* For the allowable voltage fluctuation for S, Z and T types (with power saving circuit), please observe the following range because they have voltage drop due to internal circuit.

**S and Z types**<br>24 VDC: -7% to +10% 12 VDC: -4% to +10%<br>**T type**<br>24 VDC: -8% to +10% 12 VDC: -6% to +10%

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 specifications (Refer to page 557 for details.)
## Flow characteristics / Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ3143</td>
<td>2 position Single</td>
<td>M5 x 0.8</td>
<td>62(36) 63(37) 67(41)</td>
<td>C[dm³/(s·bar)] b Cv</td>
</tr>
<tr>
<td>10-SYJ3243</td>
<td>2 position Double</td>
<td>M5 x 0.8</td>
<td>79(53) 81(55) 80(63)</td>
<td>0.46 0.36 0.12 0.46 0.35 0.12</td>
</tr>
<tr>
<td>10-SYJ3343</td>
<td>3 position Closed center</td>
<td>M5 x 0.8</td>
<td>82(56) 84(58) 92(66)</td>
<td>0.47 0.33 0.12 0.47 0.31 0.12</td>
</tr>
<tr>
<td>10-SYJ3443</td>
<td>3 position Exhaust center</td>
<td>M5 x 0.8</td>
<td>—</td>
<td>0.36 0.39 0.10 0.59(0.40) 0.43(0.33) 0.21(0.11)</td>
</tr>
<tr>
<td>10-SYJ3543</td>
<td>3 position Pressure center</td>
<td>M5 x 0.8</td>
<td>—</td>
<td>0.58(0.32) 0.42(0.33) 0.10(0.08) 0.46(0.32) 0.33(0.21)</td>
</tr>
<tr>
<td>10-SYJ3153</td>
<td>2 position Single</td>
<td>M3 x 0.5</td>
<td>36 37 41</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3253</td>
<td>2 position Double</td>
<td>M3 x 0.5</td>
<td>53 55 63</td>
<td>0.36 0.37 0.41</td>
</tr>
<tr>
<td>10-SYJ3353</td>
<td>3 position Closed center</td>
<td>M3 x 0.5</td>
<td>56 58 66</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3453</td>
<td>3 position Exhaust center</td>
<td>M3 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3553</td>
<td>3 position Pressure center</td>
<td>M3 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Note 1) Dedicated for manifold base, refer to page 11 for details.
Note 2) [ ] denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2
Note 3) ( ): Without sub-plate
Note 4) For DC voltages. For AC voltages add 3g to the weight of the single solenoid and 6g to the weight of the double solenoid and 3 position types.
4/5 port solenoid valve 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

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

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

- **Rated voltage**
  - DC
    - 24 VDC
    - 12 VDC
    - 6 VDC
    - 5 VDC
    - 3 VDC
  - AC (50/60Hz)
    - 100 VAC
    - 200 VAC
    - 110 VAC (115 VAC)
    - 220 VAC (230 VAC)

  Note: For type "W“, DC voltage is only available.

- **Bracket**
  - Nil: Without bracket
  - F: With bracket

- **Body ported**
  - For manifold type 31, S31, 32, S32

- **Base mounted (4 port)**
  - For manifold type 31, S31, 32, S32

- **Base mounted (5 port)**
  - For sub-plate, manifold type 41, S41, 46, S46

- **Clean series**

- **Coil specifications**
  - Nil: Standard
  - T: With power saving circuit <24, 12 VDC only>

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

- **Port size**
  - Nil: Without sub-plate

- **Electrical entry**

Note 1) Be sure to enter a symbol of the cable length in /L52408 with reference to P562.

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.

(Refer to catalog page 508 for details.)
How to Order Pilot Valve Assembly

**10—V111**

Clean series

- **Coil specifications**
  - **Nil**: Standard
  - **T**: With power saving circuit (<24, 12 VDC only)

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

- **Light/Surge voltage suppressor**
  - Nil: 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: L plug connector (Lead wire length 300 mm)
  - H: L plug connector (Lead wire length 600 mm)
  - L: M plug connector With lead wire
  - M: M plug connector With lead wire
  - LN: M plug connector Without lead wire
  - LO: M plug connector Without connector
  - MN: M plug connector Without connector cable
  - MO: M plug connector Without connector cable (Note 1)

- **For AC voltage valves, there is no "S" option. It is already built-in to the rectifier circuit.**
- **For "R" and "U", DC voltage is only available.**
- **Power saving circuit is only available in the "Z" type.**

Note 1) Be sure to enter a symbol of the cable length in \( \frac{L}{52408} \) with reference to page 562.

How to Order Connector Assembly for L/M Plug Connector

- **For DC**: SY100-30-4A-
- **For 100 VAC**: SY100-30-1A-
- **For 200 VAC**: SY100-30-2A-
- **For other voltages of AC**: SY100-30-3A-
- **Without lead wire (With connector and 2 of sockets only)**: SY100-30-A

- **Lead wire length**
  - Nil: 300mm
  - 6: 600mm
  - 10: 1000mm
  - 15: 1500mm
  - 20: 2000mm
  - 25: 2500mm
  - 30: 3000mm
  - 50: 5000mm

How to Order M8 Connector Cable

- **V100-49-1-**

- **Cable length**
  - 1: 300mm
  - 2: 500mm
  - 3: 1000mm
  - 4: 2000mm
  - 7: 5000mm

Note 1) For connector cable of M8 connector, refer to page 562.
4/5 port solenoid valve Series 10-SYJ3000

2 position single

Grommet (G), (H): 10-SYJ3123-□□□-M3

With bracket: 10-SYJ3123-□□□-M3-F

L plug connector (L):
10-SYJ3123-□L□□-M3 (-F)

M plug connector (M):
10-SYJ3123-□M□□-M3 (-F)

M8 Connector (WO):
10-SYJ3123-□WO□□-M3 (-F)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>L plug connector (L)</th>
<th>M plug connector (M)</th>
<th>M8 Connector (WO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A, B port)</td>
<td>M3 x 0.5</td>
<td>M3 x 0.5</td>
<td>M8 x 1</td>
</tr>
<tr>
<td>(P, R port)</td>
<td>M3 x 0.5</td>
<td>M3 x 0.5</td>
<td>M8 x 1</td>
</tr>
<tr>
<td>Lead wire length</td>
<td>28[35]</td>
<td>39.1[46.1]</td>
<td>63.4</td>
</tr>
<tr>
<td>Width</td>
<td>22.1</td>
<td>22.1</td>
<td>32.5</td>
</tr>
<tr>
<td>Length</td>
<td>64.3[66.5]</td>
<td>54.5[66.7]</td>
<td>50</td>
</tr>
</tbody>
</table>

Refer to page 563 for dimensions with connector cable.
2 position double

Grommet (G), (H): 10-SYJ3223-M3 (-F)

Equivalent to 2-ø3.2
(For mounting)

Bracket

(Light/surge voltage suppressor)

M plug connector (M):
10-SYJ3223-M3 (-F)

M8 connector (WO):
10-SYJ3223-WO-M3 (-F)

∗ Refer to page 563 for dimensions with connector cable.
4/5 port solenoid valve  Series 10-SYJ3000

3 position closed center / exhaust center / pressure center

Grommet (G), (H): 10-SYJ3\(\frac{3}{2}\) 23-GH□□-M3 (-F)

L plug connector (L):
10-SYJ3\(\frac{3}{2}\) 23-L□□-M3 (-F)

M plug connector (M):
10-SYJ3\(\frac{3}{2}\) 23-M□□-M3 (-F)

M8 Connector (WO):
10-SYJ3\(\frac{3}{2}\) 23-WO□□-M3 (-F)

 Refer to page 563 for dimensions with connector cable.
2 position single

Grommet (G), (H): 10-SYJ3143-□□□-M5

L plug connector (L):
10-SYJ3143-□□□-M5

M plug connector (M):
10-SYJ3143-□□□-M5

M8 Connector (WO):
10-SYJ3143-□□□-M5

Refer to page 563 for dimensions with connector cable.
4/5 port solenoid valve Series 10-SYJ3000

2 position double

Grommet (G), (H): 10-SYJ3243-L□□-M5

L plug connector (L): 10-SYJ3243-L□□-M5
M plug connector (M): 10-SYJ3243-M□□-M5
M8 connector (WO): 10-SYJ3243-WO□□-M5

- Refer to page 563 for dimensions with connector cable.
3 position closed center / Exhaust center / Pressure center

Grommet (G), (H): 10- SYJ3\frac{3}{4}-43-□□□-M5

L plug connector (L):
10-SYJ3\frac{3}{4}-43-□□□-M5

M plug connector (M):
10-SYJ3\frac{3}{4}-43-□□□-M5

M8 Connector (WO):
10-SYJ3\frac{3}{4}-43-□□□-M5

- Refer to page 563 for dimensions with connector cable.
Series 10-SYJ3000

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><strong>Manifold type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single base / B mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>P (SUP) / R (EXH)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common SUP / Individual EXH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Valve stations**

<table>
<thead>
<tr>
<th>Location</th>
<th>Valve</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>P, R port</td>
<td>M5 x 0.8</td>
<td>1/8</td>
</tr>
<tr>
<td>A, B port</td>
<td>M5 x 0.5</td>
<td></td>
</tr>
</tbody>
</table>

**P: 1/8 R: M5 x 0.8**

**Valve stations specifications**

**Port size**

| P, R port | M5 x 0.8 |
| A, B port | M5 x 0.5 |

**Flow characteristics**

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>1→4/2 (P→A/B)</th>
<th>4/2→5/3 (A/B→R)</th>
<th>Effective area (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body ported for internal pilot</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ3-20</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3-31</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3-32</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3-41</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3-42</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**Base mounted for internal pilot**

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>1→4/2 (P→A/B)</th>
<th>4/2→5/3 (A/B→R)</th>
<th>Effective area (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ3-20</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3-31</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3-32</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3-41</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3-42</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

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

**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**

| 10-SYJ3-20 | 1 set (Manifold base) |
| 10-SYJ3-31 | 1 set (Manifold base) |

**Use manifold specification sheet.**

---

**Manifold standard**

---

**Flow characteristics**

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Effective area (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ3-20</td>
<td>M5 x 0.8</td>
<td>0.25 0.19 0.060 0.32 0.25 0.077</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-31</td>
<td>M5 x 0.8</td>
<td>0.25 0.18 0.059 0.30 0.27 0.075</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-32</td>
<td>M5 x 0.8</td>
<td>0.25 0.26 0.060 0.29 0.15 0.062</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-41</td>
<td>M5 x 0.8</td>
<td>0.24 0.21 0.057 0.27 0.18 0.062</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-42</td>
<td>M5 x 0.8</td>
<td>0.32 0.25 0.081 0.33 0.19 0.079</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-20</td>
<td>M5 x 0.8</td>
<td>0.32 0.28 0.079 0.35 0.24 0.084</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-31</td>
<td>M5 x 0.8</td>
<td>0.33 0.29 0.062 0.34 0.17 0.081</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-32</td>
<td>M5 x 0.8</td>
<td>0.32 0.27 0.079 0.34 0.24 0.084</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-41</td>
<td>M5 x 0.8</td>
<td>0.20 0.25 0.048 0.10 0.12 0.024</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-42</td>
<td>M5 x 0.8</td>
<td>0.21 0.27 0.050 0.21 0.13 0.047</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-20</td>
<td>M5 x 0.8</td>
<td>0.20 0.25 0.048 0.19 0.16 0.024</td>
<td>0.9</td>
</tr>
<tr>
<td>10-SYJ3-31</td>
<td>M5 x 0.8</td>
<td>0.22 0.34 0.057 0.10 0.090 0.024</td>
<td>0.9</td>
</tr>
</tbody>
</table>
Flat ribbon cable manifold

- Multiple valve wiring is simplified through the use of the flat ribbon 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>
<th>Type 32P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold</td>
<td>Single base / B mount</td>
<td>Common SUP / Common EXH</td>
</tr>
<tr>
<td>P(SUP) / R(EXH)</td>
<td>Location</td>
<td>Valve</td>
</tr>
<tr>
<td>A, B port piping specifications</td>
<td>Direction</td>
<td>P, R port</td>
</tr>
<tr>
<td>Port size</td>
<td>A, B port</td>
<td>M3 x 0.5</td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Socket: 26 pins MIL type with strain relief (conforming to MIL-C-83503)</td>
<td></td>
</tr>
<tr>
<td>Internal wiring</td>
<td>In common between +COM and –COM (Z type: +COM only),</td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>12, 24 VDC, 100, 110 VAC</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>10-SS5YJ3-21P</td>
<td>1/8 M3 x 0.5</td>
<td>C = 0.25, b = 0.19, Cv = 0.060</td>
<td>0.25, 0.25, 0.077</td>
</tr>
<tr>
<td>10-SS5YJ3-33</td>
<td>1/8 M5 x 0.8 C4</td>
<td>C = 0.25, b = 0.18, Cv = 0.059</td>
<td>0.3, 0.27, 0.075</td>
</tr>
</tbody>
</table>

Note) The withstand voltage specification for the wiring unit section conforms to JIS C0704, Grade 1 or its equivalent.

How to Order Manifolds

- 10-SS5YJ3-32P-07-C4 --- 1 set (Manifold base)
- 10-SYJ3133-5LOU --- 3 sets (Valve)
- 10-SYJ3233-5LOU --- 3 sets (Valve)

How to Order Valves

For DC10—SYJ3

<table>
<thead>
<tr>
<th>2 position single</th>
<th>3 position closed center</th>
<th>1 position exhaust center</th>
</tr>
</thead>
</table>

For AC10—SYJ3

<table>
<thead>
<tr>
<th>2 position single</th>
<th>3 position closed center</th>
<th>1 position exhaust center</th>
</tr>
</thead>
</table>

Rated voltage

- 5: 24 VDC
- 6: 12 VDC

Clean series

Light/Surge voltage suppressor

- Z: With light/surge voltage suppressor (Positive common specifications only)
- U: With light/surge voltage suppressor (Non-polar type)

How to Order Connector Assemblies

For 12, 24 VDC

- Single solenoid: SY3000-37-28A
- Double solenoid 3 position type: SY3000-37-29A

For 100 VAC

- Single solenoid: SY3000-37-46A
- Double solenoid 3 position type: SY3000-37-47A

110 VAC (115 VAC)

- Single solenoid: SY3000-37-54A
- Double solenoid 3 position type: SY3000-37-55A

Note) The withstand voltage specification for the wiring unit section conforms to JIS C0704, Grade 1 or its equivalent.

How to Order Connectors

- SYJ3000-21-4A --- 1 set (Blanking plate assembly)
- SY3000-37-28A --- 3 sets (Connector assembly)
- SY3000-37-29A --- 3 sets (Connector assembly)

Clean appearance

In the case of 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.

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

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

For 12, 24 VDC

- SY3000-37-28A --- 3 sets (Connector assembly)
- SY3000-37-29A --- 3 sets (Connector assembly)

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

* Use manifold specification sheet.

Note) 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.

Multiple valve wiring is simplified through the use of the flat ribbon 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.

Note) In the case of flat ribbon cable type, "U" and "Z" types are for DC specifications and "Z" type is for AC specifications. "Z" type for DC is positive common specifications only. For other combinations, please contact SMC.

Note) The withstand voltage specification for the wiring unit section conforms to JIS C0704, Grade 1 or its equivalent.

How to Order Connectors

- SYJ3000-21-4A --- 1 set (Blanking plate assembly)
- SY3000-37-28A --- 3 sets (Connector assembly)
- SY3000-37-29A --- 3 sets (Connector assembly)

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

* Use manifold specification sheet.

Clean appearance

In the case of 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.

Note) The withstand voltage specification for the wiring unit section conforms to JIS C0704, Grade 1 or its equivalent.

How to Order Connectors

- SYJ3000-21-4A --- 1 set (Blanking plate assembly)
- SY3000-37-28A --- 3 sets (Connector assembly)
- SY3000-37-29A --- 3 sets (Connector assembly)

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

* Use manifold specification sheet.
### Manifold specifications 10-SYJ3000

#### Type 20 (5 port / Body ported)

**How to Order**

<table>
<thead>
<tr>
<th>Station</th>
<th>Clean series</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

**How to Order**

<table>
<thead>
<tr>
<th>Station</th>
<th>Clean series</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

**Valve mounting direction**

- **S**: Single solenoid coil is located on the opposite side of A and B ports.
- **N**: Single solenoid coil is located on the same side of A and B ports.

**P, R port thread type**

- Nil
- F
- N
- T
- G
- NPT
- NPTF

**Manifold stations**

- 02: 2 stations
- 20: 20 stations

**Applicable solenoid valve**

10-SYJ3/L52408/23-L52408/L52408/L52408/L52408/M3

**Applicable blanking plate assembly**

SYJ3000-21-1A

#### Type 31 (4 port / Base mounted)

**Type 31**

**Type S31** (Single solenoid coil is located on the same side of A and B ports.)

**How to Order**

<table>
<thead>
<tr>
<th>Station</th>
<th>Clean series</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

**Valve mounting direction**

- **S**: Single solenoid coil is located on the opposite side of A and B ports.
- **N**: Single solenoid coil is located on the same side of A and B ports.

**P, R port thread type**

- Nil
- F
- N
- T
- Rc
- G
- NPT
- NPTF

**Manifold stations**

- 02: 2 stations
- 20: 20 stations

**Applicable solenoid valve**

10-SYJ3/L52408/33-L52408/L52408/L52408/L52408/M5

**Applicable blanking plate assembly**

SYJ3000-21-2A

#### Type 32 (4 port / Base mounted)

**Type 32**

**Type S32** (Single solenoid coil is located on the same side of A and B ports.)

**How to Order**

<table>
<thead>
<tr>
<th>Station</th>
<th>Clean series</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

**Valve mounting direction**

- **S**: Single solenoid coil is located on the opposite side of A and B ports.
- **N**: Single solenoid coil is located on the same side of A and B ports.

**P, R port thread type**

- Nil
- F
- N
- T
- Rc
- G
- NPT
- NPTF

**Manifold stations**

- 02: 2 stations
- 20: 20 stations

**Applicable solenoid valve**

10-SYJ3/L52408/43-L52408/L52408/L52408/L52408/M5

**Applicable blanking plate assembly**

SYJ3000-21-2A

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

**Type 41**

**Type S41** (Single solenoid coil is located on the same side of A and B ports.)

**How to Order**

<table>
<thead>
<tr>
<th>Station</th>
<th>Clean series</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

**Valve mounting direction**

- **S**: Single solenoid coil is located on the opposite side of A and B ports.
- **N**: Single solenoid coil is located on the same side of A and B ports.

**P, R port thread type**

- Nil
- F
- N
- T
- Rc
- G
- NPT
- NPTF

**Manifold stations**

- 02: 2 stations
- 20: 20 stations

**Applicable solenoid valve**

10-SYJ3/L52408/43-L52408/L52408/L52408/L52408/M5

**Applicable blanking plate assembly**

SYJ3000-21-2A

#### Type 46 (5 port / Base mounted)

**Type 46**

**Type S46** (Single solenoid coil is located on the same side of A and B ports.)

**How to Order**

<table>
<thead>
<tr>
<th>Station</th>
<th>Clean series</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

**Valve mounting direction**

- **S**: Single solenoid coil is located on the opposite side of A and B ports.
- **N**: Single solenoid coil is located on the same side of A and B ports.

**P port thread type**

- Nil
- F
- N
- T
- Rc
- G
- NPT
- NPTF

**Manifold stations**

- 02: 2 stations
- 20: 20 stations

**Applicable solenoid valve**

10-SYJ3/L52408/43-L52408/L52408/L52408/L52408/M5

**Applicable blanking plate assembly**

SYJ3000-21-2A

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

How to Order

10-SS5YJ3-21P- 07

Manifold stations

<table>
<thead>
<tr>
<th>P port</th>
<th>R port</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3 x 0.5</td>
<td>4 stations</td>
</tr>
<tr>
<td>1/8</td>
<td>1/8</td>
</tr>
</tbody>
</table>

Applicable solenoid valve Refer to page 505.

Applicable connector assembly Refer to page 505.

Applicable blanking plate assembly SYJ3000-21-3A (With dust cap)

How to Order

10-SS5YJ3-32P- 07 - C4

Manifold stations

<table>
<thead>
<tr>
<th>P port</th>
<th>R port</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 x 0.8</td>
<td>4 stations</td>
</tr>
<tr>
<td>1/8</td>
<td>1/8</td>
</tr>
</tbody>
</table>

Applicable solenoid valve Refer to page 505.

Applicable connector assembly Refer to page 505.

Applicable blanking plate assembly SYJ3000-21-4A (With dust cap)

Mixed installation of the 10-SYJ300 and the 10-SY3000 valves on the same manifold

Series 10-SYJ300 valves can be mounted on the manifolds for 10-SY3000.

1. **10-SS5YJ3-20, 10-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: Type 10-SYJ312M
   - Type 10-SYJ322M

2. **10-SS5YJ3-31/-S31, 10-SS5YJ3-32/-S32, 10-SS5YJ3-46/-S46, 10-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 valve: Type 10-SYJ314M
   - Type 10-SYJ324M

3. **10-SS5YJ3-41/-S41**
   - The 3 port valve can be used 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 valve: Type 10-SYJ314M
   - Type 10-SYJ324M

**Caution**

**Mounting screw tightening torque**

M1.7: 0.12N·m

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
<Manifold option>
Combinations of solenoid valve, manifold gasket and manifold base

### 5 port body ported
(Type 10-SYJ3□23)

Applicable manifold base
Type 10-SSSYJ3-20
Type 10-SSSYJ3-21P

**Manifold base**

<table>
<thead>
<tr>
<th>SyJ3000-14-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>A mark</td>
</tr>
</tbody>
</table>

**Manifold gasket**

<table>
<thead>
<tr>
<th>SyJ3000-14-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>A mark</td>
</tr>
</tbody>
</table>

### 4 port base mounted
(Type 10-SYJ3□33)

Applicable manifold base
Type 10-SSSYJ3-31
Type 10-SSSYJ3-32
Type 10-SSSYJ3-32P

**Manifold base**

<table>
<thead>
<tr>
<th>Note) Please insert the protrusion for positioning of the manifold gasket into the hole of the valve body completely.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration of this surface is different</td>
</tr>
</tbody>
</table>

**Manifold gasket**

<table>
<thead>
<tr>
<th>SyJ3000-14-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A mark</td>
</tr>
</tbody>
</table>

### 5 port base mounted
(Type 10-SYJ3□43)

Round head combination screw
SY100-33-3
(M1.7 x 17, matt nickel plated)

Applicable manifold base
Type 10-SSSYJ3-41
Type 10-SSSYJ3-46
Type 10-SSSYJ3-46P

**Manifold base**

<table>
<thead>
<tr>
<th>Steel ball is driven in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration of this surface is different</td>
</tr>
</tbody>
</table>

**Manifold gasket**

<table>
<thead>
<tr>
<th>SyJ3000-14-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A mark</td>
</tr>
</tbody>
</table>

### Combination of blanking plate assembly and manifold base

**Blanking plate assembly**
SYJ3000-21-1A

**Blanking plate assembly**
SYJ3000-21-2A

**Applicable base**
Type SS5YJ3-20 manifold base

**Applicable base**
Type SS5YJ3-31
Type SS5YJ3-32
Type SS5YJ3-32P

**Manifold base**

<table>
<thead>
<tr>
<th>DUST CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note) The SYJ3000-14-2 manifold gasket can be used for 10-SSSYJ3-31/-S31 and 10-SSSYJ3-32/-S32 manifold bases.</td>
</tr>
</tbody>
</table>

### Difference between types 10-SYJ3□33 and 10-SYJ3□43

**Type 10-3□33 (4 port)**

**Type 10-3□43 (5 port)**

**Blanking plate assembly**
SYJ3000-21-4A

**Blanking plate assembly**
SYJ3000-21-3A

**Applicable base**
Type 10-SSSYJ3-32P manifold base

**Applicable base**
Type 10-SSSYJ3-21P manifold base

**Dust cap**

<table>
<thead>
<tr>
<th>A mark</th>
</tr>
</thead>
</table>

**Note**
Mounting screw tightening torque
M1.7: 0.12N·m

Use caution to the assembly orientation for solenoid valves, gasket and option parts.
**Type 20 manifold: Top ported / 10-SS5YJ3-20- Stations**

**Grommet (G)**

- L1: 91.7 (96.1)
- L2: 53.7 (55.5 - 9)
- M3 x 0.5 (A, B port)
- 2-ø3.5 (For mounting)
- Manual override
- (Pitch) P = 10.5
- 42.4 (49)
- 26.6
- Approx. 300 (Lead wire length)

**L plug connector (L)**

- Approx. 300 (Lead wire length)
- 42.4 (49)
- 26.6
- L1: 111.5 (115.9)
- L2: 96.6 (103)

**M plug connector (M)**

- Approx. 300 (Lead wire length)
- 53.1 (60.1)
- 91.9 (96.3)
- 70.83 (83.2)

**M8 connector (WO)**

- M8 x 1
- 54.5
- 52.9
- 63.0
- 46.5
- 29
- Approx. 300 (Lead wire length)

* Refer to page 563 for dimensions with connector cable.

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>35.5</td>
<td>28.5</td>
</tr>
<tr>
<td>4</td>
<td>46</td>
<td>39</td>
</tr>
<tr>
<td>5</td>
<td>56.5</td>
<td>49.5</td>
</tr>
<tr>
<td>6</td>
<td>67</td>
<td>60</td>
</tr>
<tr>
<td>7</td>
<td>77.5</td>
<td>70.5</td>
</tr>
<tr>
<td>8</td>
<td>88</td>
<td>81</td>
</tr>
<tr>
<td>9</td>
<td>98.5</td>
<td>91.5</td>
</tr>
<tr>
<td>10</td>
<td>109</td>
<td>102</td>
</tr>
<tr>
<td>11</td>
<td>119.5</td>
<td>112.5</td>
</tr>
<tr>
<td>12</td>
<td>130</td>
<td>123</td>
</tr>
<tr>
<td>13</td>
<td>140.5</td>
<td>133.5</td>
</tr>
<tr>
<td>14</td>
<td>151</td>
<td>144</td>
</tr>
<tr>
<td>15</td>
<td>161.5</td>
<td>154.5</td>
</tr>
<tr>
<td>16</td>
<td>172</td>
<td>165</td>
</tr>
<tr>
<td>17</td>
<td>182.5</td>
<td>175.5</td>
</tr>
<tr>
<td>18</td>
<td>193</td>
<td>186</td>
</tr>
<tr>
<td>19</td>
<td>203.5</td>
<td>196.5</td>
</tr>
<tr>
<td>20</td>
<td>214</td>
<td>207</td>
</tr>
<tr>
<td>21</td>
<td>224.5</td>
<td>217.5</td>
</tr>
</tbody>
</table>
Manifold specifications 10-SYJ3000

Type 31 manifold: Side ported / 10-SS5YJ3-31- Stations-M3

Grommet (G)

Type S3: Side ported
10-SS5YJ3-S31- Stations-M3

Pilot valve of single solenoid valve is located on the same side of A and B ports.

L plug connector (L)  M plug connector (M)  M8 connector (WO)

Refer to page 563 for dimensions with connector cable.
Manifold specifications

10-SYJ3000

Type 41 manifold: Side ported / 10-SS5YJ3-41- Stations -M5, C4 N3 □

Grommet (G) M5

- Refer to page 563 for dimensions with connector cable.

L plug connector (L)

M plug connector (M)

M8 connector (WO)

Type S41 manifold: Side ported (Pilot valve of single solenoid valve is located on the same side of A and B ports.)

- Refer to page 563 for dimensions with connector cable.

[Diagram and tables with dimensions and notes]
Type 46 manifold: Side ported / 10-SS5YJ3-46- Stations - M5, C4 □ N3 □

<table>
<thead>
<tr>
<th>Grommet (G) M5</th>
<th>C4 □ N3 □ (With built-in One-touch fitting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. 300</td>
<td></td>
</tr>
<tr>
<td>91.7±0.1</td>
<td></td>
</tr>
<tr>
<td>60.7±0.2</td>
<td></td>
</tr>
<tr>
<td>8.8</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td></td>
</tr>
<tr>
<td>2-ø4.5</td>
<td></td>
</tr>
<tr>
<td>Manual override</td>
<td></td>
</tr>
<tr>
<td>1/8</td>
<td></td>
</tr>
<tr>
<td>(P port)</td>
<td></td>
</tr>
<tr>
<td>(Light/surge voltage suppressor)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L plug connector (L)</th>
<th>M plug connector (M)</th>
<th>M8 connector (WO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>0.8</td>
<td>M8 x 1</td>
</tr>
<tr>
<td>111.5±0.5</td>
<td>96.8±0.6</td>
<td>35.5</td>
</tr>
<tr>
<td>(Lead wire length)</td>
<td>Approx. 300</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>59.6±(66.6)</td>
<td>61.5</td>
</tr>
<tr>
<td>48.5±(55.5)</td>
<td>(Lead wire length)</td>
<td>56.2</td>
</tr>
</tbody>
</table>

| Type S46 manifold: Side ported / 10-SS5YJ3-S46- Stations - M5, C4 □ N3 □ |
|-----------------------------|-----------------------------|
| M5                          | C4 □ (With built-in One-touch fitting) |
| 91.7±0.3                    |                                             |
| 54.7±0.6                    |                                             |
| (Pitch)                     |                                             |
| P = 10.5                    |                                             |
| Manual override             |                                             |
| 33                         |                                             |
| 2-ø4.5                      |                                             |
| (For mounting)              |                                             |
| (Light/surge voltage suppressor) |

<table>
<thead>
<tr>
<th>Stations n</th>
<th>Stations 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 Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>39.5</td>
<td>50</td>
<td>60.5</td>
<td>71</td>
<td>81.5</td>
<td>92</td>
<td>102.5</td>
<td>113</td>
<td>123.5</td>
<td>134</td>
<td>144.5</td>
<td>155</td>
<td>165.5</td>
<td>176</td>
<td>186.5</td>
<td>197</td>
<td>207.5</td>
<td>218</td>
</tr>
<tr>
<td>L2</td>
<td>31.5</td>
<td>42</td>
<td>52.5</td>
<td>63</td>
<td>73.5</td>
<td>84</td>
<td>94.5</td>
<td>105</td>
<td>115.5</td>
<td>126</td>
<td>136.5</td>
<td>147</td>
<td>157.5</td>
<td>168</td>
<td>178.5</td>
<td>189</td>
<td>199.5</td>
<td>210</td>
</tr>
</tbody>
</table>

* Refer to page 563 for dimensions with connector cable.
Manifold specifications 10-SYJ3000

Flat ribbon cable manifold

10-SS5YJ3-21P- Stations -00

10-SS5YJ3-32P- Stations -M5, C4 N3

M5

C4 N3 (With built-in One-touch fitting)

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

Applicable tubing O.D.: ø4 and ø5/32"

<table>
<thead>
<tr>
<th>Stations</th>
<th>1</th>
<th>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>
</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>
<td></td>
<td></td>
<td></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>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Manual override

Triangle mark

(Light/surge voltage suppressor)

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

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range MPa</td>
<td></td>
</tr>
<tr>
<td>2 position single</td>
<td>0.15 to 0.7</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>Ambient and fluid temperature</td>
<td>-10 to 50°C (with no freezing. Refer to page 714.)</td>
</tr>
<tr>
<td>Response time ms (0.5 MPa)</td>
<td></td>
</tr>
<tr>
<td>2 position single, double</td>
<td>25 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>40 or less</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td></td>
</tr>
<tr>
<td>2 position single, double</td>
<td>5</td>
</tr>
<tr>
<td>3 position</td>
<td>3</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>
</tbody>
</table>

**Pilot exhaust method**  Common exhaust for the main and pilot valve

**Lubrication**  Not required

**Mounting orientation**  Unrestricted

**Impact/Vibration resistance m/s²**  Note 2)

**Enclosure**  Dustproof (+ DIN terminal, M8 connector conforms to IP65.)

* Based on IEC60529

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

Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature both energized and de-energized states every once for each condition. (Value in the initial state)

**Vibration resistance:** No malfunction occurred in one sweep between 45 and 2000Hz. Test was performed in the axial direction and at the right angles to the main valve and armature both energized and de-energized states every once for each condition. (Value in the initial state)

### Solenoid specifications

#### Electrical entry

<table>
<thead>
<tr>
<th>G, H, L, M, W</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC 24, 12, 6, 5, 3</td>
<td>24, 12</td>
</tr>
</tbody>
</table>

**Rated coil voltage V**

**AC 50/60Hz**

| 100V | 0.78 (With indicator light: 0.81) |
| 110V [115V] | 0.86 (With indicator light: 0.89) |
| 200V | 1.18 (With indicator light: 1.22) |
| 220V [230V] | 1.30 (With indicator light: 1.34) |

**Apparent power (VA)**

*Based on power saving circuit

**Surge voltage suppressor**

**Diode (DIN terminal, varistor for non-polar types)**

**Indicator light**

* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.

* For 115 and 230 VAC, the allowable voltage fluctuation is -15% to +5% of rated voltage.

* For the allowable voltage fluctuation for Sp, Sz and T types (with power saving circuit), please observe the following range because they have voltage drop during internal circuit.

- S and Z types: 24 VDC: -7% to +10%  12 VDC: -4% to +10%
- T type: 24 VDC: -6% to +10%

**Built-in speed controller**

**10-SYJ5□53**

- 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 exhausting.

**JIS Symbol**

- Fully open
- Fully closed

**How to order valve with built-in speed controller**

**Type of actuation**

**Clean series**

**Rated voltage**

**Electrical entry**

**Port size**

**Manual override**

**Light/Surge voltage suppressor**

**Throttle valve characteristics (θ → R)**

*When using 10-SYJ5□53 model, the speed controller must be made 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.

Plate fixing screw

* (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</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1, 2, 3 (P, EA, EB)</td>
<td>4, 2 (A, B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 → 4/2 (P → A/B)</td>
<td>4/2 → 5/3 (A/B → EA/EB)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C [dm³/s·bar]</td>
<td>b</td>
<td>Cv</td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>Single</td>
<td>M5 x 0.8</td>
<td>0.47</td>
<td>0.41</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>M5 x 0.8</td>
<td>0.49</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td>M5 x 0.8</td>
<td>0.49</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td>C4</td>
<td>0.49[0.39]</td>
<td>0.31[0.38]</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td>M5 x 0.8</td>
<td>0.56</td>
<td>0.40</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>C4 (One-touch fitting for ø6)</td>
<td>0.57[0.41]</td>
<td>0.4[0.37]</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>C4</td>
<td>0.36</td>
<td>0.40</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td>C4</td>
<td>0.72</td>
<td>0.37</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td>C6</td>
<td>0.67</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td>C6</td>
<td>0.82[0.44]</td>
<td>0.24[0.36]</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>0.72</td>
<td>0.37</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>C6</td>
<td>0.79</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>Closed center</td>
<td>1/8</td>
<td>0.80</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td>1/8</td>
<td>0.99[0.47]</td>
<td>0.29[0.38]</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td>1/8</td>
<td>0.71</td>
<td>0.26</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>1/8</td>
<td>0.99[0.47]</td>
<td>0.29[0.38]</td>
</tr>
</tbody>
</table>

**Note 1)** [ ] denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2

**Note 2)** ( ): Without sub-plate

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

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 position single solenoid</td>
<td>2</td>
<td>2 position double solenoid</td>
<td>3</td>
<td>3 position closed center</td>
</tr>
</tbody>
</table>

**Light/Surge voltage suppressor**

**Electrical entry for G, H, L, M, W**

<table>
<thead>
<tr>
<th>Electrical entry for D</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Without light/surge voltage suppressor</td>
<td>S</td>
<td>With surge voltage suppressor</td>
<td>Z</td>
<td>With light/surge voltage suppressor</td>
</tr>
</tbody>
</table>

**Rated voltage**

**DC specifications**

| 5 | 24 VDC |
| 6 | 12 VDC |
| V | 6 VDC |
| S | 5 VDC |
| R | 3 VDC |

**AC specifications (50/60Hz)**

| 1 | 100 VAC |
| 2 | 200 VAC |
| 3 | 110 VAC (150 VAC) |
| 4 | 220 VAC (230 VAC) |

* DC specifications of type “D” and “DO” is only available with 12 and 24 VDC.

**Electrical entry for D**

<table>
<thead>
<tr>
<th>Electrical entry for D</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Without light/surge voltage suppressor</td>
<td>S</td>
<td>With surge voltage suppressor (Non-polar type)</td>
<td>Z</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

* For AC voltage valves, there is no “S” option. It is already built-in to the rectifier circuit.
* For “R” and “U”, DC voltage is only available. Power saving circuit is only available in the “Z” type.

**Brackets**

<table>
<thead>
<tr>
<th>Bracket</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil: Without bracket</td>
<td>D: With bracket</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) The mounting bracket is supplied unattached.

**A, B port size**

| M5 | M5 x 0.8 |
| 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" |

**Coil specifications**

| Nil | Standard |
| T | With power saving circuit |

* Power saving circuit is not available in the case of “D”, “DO” or “WL” type.

**Coil specifications**

| Nil | Standard |
| T | With power saving circuit |

**Manual override**

| Nil | Non-locking push type |

**Electrical entry**

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC</td>
<td>24, 12 VDC, 100, 110, 200, 220 VAC</td>
<td>24, 12 VDC, 6, 5, 3 VDC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grommet</td>
<td>L plug connector</td>
<td>M plug connector</td>
<td>DIN terminal</td>
<td>M8 connector</td>
<td></td>
</tr>
<tr>
<td>Q: Lead wire length 300 mm</td>
<td>L: With lead wire (length 300 mm)</td>
<td>M: With lead wire (length 300 mm)</td>
<td>MN: Without lead wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire</td>
<td>LO: Without connector</td>
<td>MO: Without connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DO: Without connector</td>
<td>WO: Without connector cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Port size**

<table>
<thead>
<tr>
<th>Port size</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D: Push-turn locking slotted type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Thread type**

| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

**Note 1)** Be sure to enter a symbol of the cable length with reference to page 562.

**Clean series**

Sub-plate, 40, 41, 42, 43 manifold

**Clean gas filter**

Flow control equipment

DIN terminal type “Y” conforming to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 557.

For connector cable of M8 connector, refer to page 562.
How to Order Pilot Valve Assembly

10—V111

- Clean series
- Light/surge voltage suppressor
- Electrical entry

<table>
<thead>
<tr>
<th>5</th>
<th>G</th>
<th>Light/surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Without light/surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>With surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>With surge voltage suppressor (Non-polar type)</td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
<td></td>
</tr>
</tbody>
</table>

- Lead wire length

<table>
<thead>
<tr>
<th>Lead wire length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>50</td>
</tr>
</tbody>
</table>

How to Order Connector Assembly for L/M Plug Connector

- Clean series
- Electrical entry

<table>
<thead>
<tr>
<th>5</th>
<th>D</th>
<th>Light/surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Without light/surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>With surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor</td>
<td></td>
</tr>
</tbody>
</table>

- Cable length

<table>
<thead>
<tr>
<th>Cable length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>7</td>
</tr>
</tbody>
</table>

How to Order M8 Connector Cable

V100-49-1

- Electrical entry

<table>
<thead>
<tr>
<th>D</th>
<th>DIN terminal</th>
<th>With connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do</td>
<td>Without connector</td>
<td></td>
</tr>
</tbody>
</table>

Note 1) Be sure to enter a symbol of the cable length with reference to page 562.

- Power saving circuit is not available in the case of "W" type.
5 port solenoid valve Series 10-SYJ5000

2 position double

Grommet (G), (H): 10-SYJ5223-L52408/L52408/L52408-M5

L plug connector (L): 10-SYJ5223-L52408/L52408/L52408-M5

M plug connector (M): 10-SYJ5223-M52408/L52408/L52408-M5

DIN Terminal (D): 10-SYJ5223-D52408/L52408/L52408-M5

M8 connector (WO): 10-SYJ5223-WO52408/L52408/L52408-M5

Built-in One-touch fitting

10-SYJ5223-L52408/L52408/L52408-CA,B,N3,C6,N7

M5 x 0.8 (A, B port)

M5 x 0.8 (P, R1, R2 port)

Manual override

2-ø2.6 (For manifold mounting)

(Light/surge voltage suppressor)

Approx. 300
H: Approx. 600

(Lead wire length)

87.2[91.6]

43

M8 connector (WO):

10-SYJ5223-WO52408/L52408/L52408-M5

MAX.10

M8 x 1

105.2

90.4

53.4

60.9

42.1

145.4

15.4

32.6

127

23

20

2-ø2.6 (For mounting)

3

10-SYJ5000

Refer to page 563 for dimensions with connector cable.
3 position closed center / exhaust center / pressure center

Grommet (G), (H): 10-SYJ5\(\frac{3}{5}\)23-□□□□-M5

Built-in One-touch fitting:
10-SYJ5\(\frac{3}{5}\)23-□□□□-C6,N7

L plug connector (L):
10-SYJ5\(\frac{3}{5}\)23-L□□□-M5

M plug connector (M):
10-SYJ5\(\frac{3}{5}\)23-M□□□-M5

DIN Terminal (D):
10-SYJ5\(\frac{3}{5}\)23-D□□□-M5

M8 connector (WO):
10-SYJ5\(\frac{3}{5}\)23-WO□□□-M5

Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ5000

2 position single

Grommet (G), (H): 10-SYJ5143-□□-01□

Built-in speed controller:
10-SYJ5153-□□-01□

L plug connector (L):
10-SYJ5143-□□-01□

M plug connector (M):
10-SYJ5143-□□-01□

DIN Terminal (D):
10-SYJ5143-□□-01□

M8 connector (WO):
10-SYJ5143-□□-01□

 Refer to page 563 for dimensions with connector cable.
Grommet (G), (H): 10-SYJ5243-L□□-01

2 position double

M plug connector (M): 10-SYJ5243-M□□-01

DIN Terminal (D): 10-SYJ5243-D□□-01

M8 connector (WO): 10-SYJ5243-WO□□-01

Approx. 300 (Lead wire length)
5 port solenoid valve Series 10-SYJ5000

3 position closed center / Exhaust center / Pressure center

Grommet (G), (H): 10-SYJ53\(^3\)43-□□□-01□

Built-in speed controller:
10-SYJ53\(^5\)53-□□□-01□

M plug connector (M):
10-SYJ53\(^5\)43-□□□-01□

DIN Terminal (D):
10-SYJ53\(^5\)53-□□□-01□

M8 connector (WO):
10-SYJ53\(^5\)43-□□□-01□

Applicable cable O.D. ø3.5 to ø7

Refer to page 563 for dimensions with connector cable.
### 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>Common SUP / Common EXH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P (SUP) / R (EXH)</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>Location</td>
<td>Valve</td>
<td>Base</td>
<td>Base</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direction</td>
<td>Top</td>
<td>Bottom</td>
<td>Side</td>
<td></td>
</tr>
<tr>
<td>A, B port piping specifications</td>
<td>P, R port</td>
<td>1/8</td>
<td>1/4</td>
<td>1/8</td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>A, B port</td>
<td>M5 x 0.8</td>
<td>M5 x 0.8</td>
<td>1/8, C6</td>
<td>C4 (One-touch fitting for ø6)</td>
</tr>
</tbody>
</table>

### Flow characteristics

<table>
<thead>
<tr>
<th>Manifold model</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SSYJ5-20</td>
<td>1/8</td>
<td>C = 0.46, b = 0.39, Cv = 0.32</td>
</tr>
<tr>
<td>10-SSYJ5-23</td>
<td>1/8</td>
<td>C = 0.62, b = 0.33, Cv = 0.27</td>
</tr>
<tr>
<td>10-SSYJ5-40</td>
<td>1/8</td>
<td>C = 0.79, b = 0.36, Cv = 0.36</td>
</tr>
<tr>
<td>10-SSYJ5-41</td>
<td>1/8</td>
<td>C = 0.55, b = 0.35, Cv = 0.28</td>
</tr>
<tr>
<td>10-SSYJ5-42</td>
<td>1/4</td>
<td>C = 0.79, b = 0.22, Cv = 0.29</td>
</tr>
<tr>
<td>10-SSYJ5-43</td>
<td>1/8</td>
<td>C = 0.55, b = 0.29, Cv = 0.32</td>
</tr>
</tbody>
</table>

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

### 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 number.

- **Example**: 10-SSYJ5-20-03 ………… 1 set (Manifold base)
  - 10-SYJ5123-5G-M5 ………… 2 sets (Valve)
  - SYJ5000-21-4A ………… 1 set (Blanking plate assembly)

- 10-SSYJ5-43-03-C4 ………… 1 set (Manifold base)
  - 10-SYJ5143-5LZ ………… 1 set (Valve)
  - 10-SYJ5243-5LZ ………… 1 set (Valve)
  - SYJ5000-21-4A ………… 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.
How to Order Connector Assembly

1. LOZ1 3

Flat ribbon cable manifold

- **Multiple valve wiring** is simplified through the use of the flat ribbon 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 20P</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></td>
</tr>
<tr>
<td>P(SUP) / R(EXH)</td>
<td>Location</td>
<td>Valve</td>
<td>Base</td>
</tr>
<tr>
<td>3 to 12 stations</td>
<td>Direction</td>
<td>Top</td>
<td>Side</td>
</tr>
<tr>
<td>A, B port piping specifications</td>
<td>Port size</td>
<td>P, R port</td>
<td>1/8</td>
</tr>
<tr>
<td>1/8</td>
<td>A, B port</td>
<td>M5 x 0.8</td>
<td>C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td>C6 (One-touch fitting for ø6)</td>
<td>M5 x 0.8</td>
<td>C4 (One-touch fitting for ø4)</td>
<td></td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Socket: 26 pins MIL type with strain relief (Conforming to MIL-C-83503)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal wiring</td>
<td>In common between +COM and –COM (Z type: +COM only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>12, 24 VDC 100, 110 VAC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The withstand voltage specification for the wiring section conforms to JIS C0704, Grade 1 or its equivalent.

Flow characteristics

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8 M5 x 0.8</td>
<td>0.46</td>
</tr>
<tr>
<td>1/8 C4</td>
<td>0.62</td>
</tr>
<tr>
<td>1/8 C6</td>
<td>0.79</td>
</tr>
</tbody>
</table>

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

How to Order Manifolds (Example)

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model number.

Example:

- **10-SSYJ5-41P-07-C4** ……. 1 set (Manifold base)
- **10-SYJ5143-S5LOU** ……. 3 sets (Valve)
- **10-SYJ5243-S5LOU** ……. 3 sets (Valve)
- **SYJ5000-21-3A** ……. 1 set (Blanking plate assembly)
- **SYJ5000-37-28A** ……. 3 sets (Connector assembly)
- **SYJ3000-37-29A** ……. 3 sets (Connector assembly)

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

How to Order Valves

**Rated voltage**

- **5** 24 VDC
- **6** 12 VDC

**Light/surge voltage suppressor**

- **Z** With light/surge voltage suppressor
- **U** With surge suppressor only (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**

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

For DC10—SYJ5

- **1** 100 VAC
- **2** 110 VAC (115 VAC)

For AC10—SYJ5

- **1** 100 VAC
- **2** 110 VAC (115 VAC)

How to Order Connector Assembly

**12, 24 VDC**

- Single solenoid SY3000-37-28A
- Double solenoid 3 position type SY3000-37-32A
- For single solenoid, individual SUP/EXH spacer SY3000-37-33A
- For double solenoid, 3 position individual SUP/EXH spacer SY3000-37-33A
- For 3 port adaptor plate SY3000-37-3A

**For 100 VAC**

- Single solenoid SY3000-37-46A
- Double solenoid 3 position type SY3000-37-47A
- For single solenoid, individual SUP/EXH spacer SY3000-37-47A
- For double solenoid, 3 position individual SUP/EXH spacer SY3000-37-47A
- For 3 port adaptor plate SY3000-37-3A

**For 100 VAC (115 VAC)**

- Single solenoid SY3000-37-54A
- Double solenoid 3 position type SY3000-37-55A
- For single solenoid, individual SUP/EXH spacer SY3000-37-55A
- For double solenoid, 3 position individual SUP/EXH spacer SY3000-37-55A
- For 3 port adaptor plate SY3000-37-3A

**Note:** In the case of flat ribbon cable type, “U” and “Z” types are for DC specifications and “Z” type is for AC specifications. “Z” type for DC is positive common specifications only. For other combinations, please contact SMC. 526
Manifold specifications 10-SYJ5000

Common SUP / Common EXH

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

- **A, B port**
  - M5 x 0.8

- **P port**
  - 1/8

- **R port**
  - 1/8

**How to Order**

10—SS5YJ5—20—05

- **Clean series**
- **Number of stations**
  - 2 stations
  - 20 stations

- **P, R port thread type**
  - Nil
  - Rc
  - 00F
  - G
  - 00N
  - NPT
  - 00T
  - NPTF

- **A, B port size**
  - M5
  - M5 x 0.8

**Applicable solenoid valve**
10-SYJ5523-00-00-00

**Applicable blanking plate assembly**
SYJ5000-21-4A

**Applicable individual EXH spacer assembly**
SYJ5000-17-1A

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

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

- **A, B port**
  - M5 x 0.8

- **P port**
  - 1/8

- **R port**
  - 1/8

**How to Order**

10—SS5YJ5—40—05

- **Clean series**
- **Number of stations**
  - 2 stations
  - 20 stations

- **P, R port thread type**
  - Nil
  - Rc
  - F
  - G
  - N
  - NPT
  - T
  - NPTF

- **A, B port size**
  - M5
  - M5 x 0.8

**Applicable solenoid valve**
10-SYJ5543-00-00-00

**Applicable blanking plate assembly**
SYJ5000-21-4A

**Applicable individual EXH spacer assembly**
SYJ5000-17-1A

**Type 41 (5 port / base mounted)**

- **A, B port**
  - M5 x 0.8

- **P port**
  - 1/8

- **R port**
  - 1/8

**How to Order**

10—SS5YJ5—41—05

- **Clean series**
- **Number of stations**
  - 2 stations
  - 20 stations

- **P, R port thread type**
  - Nil
  - Rc
  - F
  - G
  - N
  - NPT
  - T
  - NPTF

- **A, B port size**
  - M5
  - M5 x 0.8

**Applicable solenoid valve**
10-SYJ5543-00-00-00

**Applicable blanking plate assembly**
SYJ5000-21-4A

**Applicable individual EXH spacer assembly**
SYJ5000-17-1A

**Type 42 (5 port / base mounted)**

- **A, B port**
  - 1/8, C6

- **P port**
  - 1/4

- **R port**
  - 1/8

**How to Order**

10—SS5YJ5—42—05

- **Clean series**
- **Number of stations**
  - 2 stations
  - 20 stations

- **Thread type**
  - Nil
  - F
  - N
  - T
  - Rc
  - G
  - NPT
  - NPTF

- **A, B port size**
  - 1/8

- **C6** One-touch fitting for ø6

- **N7** One-touch fitting for ø1/4"

**Applicable solenoid valve**
10-SYJ5543-00-00-00

**Applicable blanking plate assembly**
SYJ5000-21-4A

**Applicable individual EXH spacer assembly**
SYJ5000-17-1A

**Applicable individual SUP spacer assembly**
SYJ5000-16-2A

**Type 43 (5 port / base mounted)**

- **A, B port**
  - C4

- **P port**
  - 1/8

- **R port**
  - 1/8

**How to Order**

10—SS5YJ5—43—05

- **Clean series**
- **Manifold stations**
  - 2 stations
  - 20 stations

- **P, R port thread type**
  - Nil
  - F
  - G
  - N
  - NPT
  - T
  - NPTF

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

- **C4** One-touch fitting for ø4

- **N3** One-touch fitting for ø5/32"

**Applicable solenoid valve**
10-SYJ5543-00-00-00

**Applicable blanking plate assembly**
SYJ5000-21-4A

**Applicable individual EXH spacer assembly**
SYJ5000-17-1A

**Applicable individual SUP spacer assembly**
SYJ5000-16-2A
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 20P (5 port / body ported)

How to Order

10-SS5YJ5-20P

05

P, R port thread type

<table>
<thead>
<tr>
<th>Nil</th>
<th>Rc</th>
</tr>
</thead>
<tbody>
<tr>
<td>00F</td>
<td>G</td>
</tr>
<tr>
<td>00N</td>
<td>NPT</td>
</tr>
<tr>
<td>00T</td>
<td>NPTF</td>
</tr>
</tbody>
</table>

Applicable solenoid valve Refer to page 526.

Applicable blanking plate assembly SYJ5000-21-3A

Applicable connector assembly Refer to page 526.

Number of stations

<table>
<thead>
<tr>
<th>03</th>
<th>3 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>12 stations</td>
</tr>
</tbody>
</table>

Applicable blanking plate assembly SYJ5000-21-3A

Applicable connector assembly Refer to page 526.

Type 41P (5 port / base mounted)

How to Order

10-SS5YJ5-41P

05

M5

Applicable solenoid valve Refer to page 526.

Applicable blanking plate assembly SYJ5000-21-3A

Applicable connector assembly Refer to page 526.

Number of stations

<table>
<thead>
<tr>
<th>03</th>
<th>3 stations</th>
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</thead>
<tbody>
<tr>
<td>12</td>
<td>12 stations</td>
</tr>
</tbody>
</table>

Type 43P (5 port / base mounted)

How to Order

10-SS5YJ5-43P

05

C4

Applicable solenoid valve Refer to page 526.

Applicable blanking plate assembly SYJ5000-21-3A

Applicable connector assembly Refer to page 526.

Number of stations

<table>
<thead>
<tr>
<th>03</th>
<th>3 stations</th>
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</thead>
<tbody>
<tr>
<td>12</td>
<td>12 stations</td>
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</tbody>
</table>

Clean series

A, B port size

<table>
<thead>
<tr>
<th>Nil</th>
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<tr>
<td>00F</td>
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<tr>
<td>00N</td>
<td>NPT</td>
</tr>
<tr>
<td>00T</td>
<td>NPTF</td>
</tr>
</tbody>
</table>

One-touch fitting for ø4

C4

One-touch fitting for ø5/32"

N3

<Manifold option>

Combinations of solenoid valve, manifold gasket and manifold base

Manifold gasket

DXT192-10-14

Round head combination screw

M2.5 x 25

Matt nickel plated

(With spring washer)

Blanking plate assembly

SYJ5000-21-4A

SYJ5000-21-3A

Mounting screw tightening torque

M2.5: 0.45N-m

Use caution to the assembly orientation for solenoid valve, gasket, and optional parts.
<Manifold option>
Mix installation of the 10-SYJ500 and the 10-SYJ5000 valves on the same manifold

- Use of an adapter plate makes it possible to mount Series 10-SYJ500 on the manifold bases of series 10-SYJ5000.
- When mounting the 10-SYJ500 valve on the 10-SYJ5000 manifold, the 10-SYJ500 solenoid must be positioned on the same side of the manifold as a single solenoid of 10-SYJ5000.
- For base mounted style, the A port of the 3 port valve flows out the B port of manifold base.

Adaptor plate assembly

SYJ500-3-2A

SYJ500-3-1A

Applicable base
- 10-SSSYJ5-20

Individual EXH spacer assembly

SYJ5000-17-1A

Applicable base
- 10-SSSYJ5-20
- 10-SSSYJ5-40
- 10-SSSYJ5-41
- 10-SSSYJ5-42
- 10-SSSYJ5-43

Individual SUP spacer assembly

SYJ5000-16-2

Applicable base
- 10-SSSYJ5-41
- 10-SSSYJ5-42
- 10-SSSYJ5-43

Caution
Mounting screw tightening torque
M2.5: 0.45N·m

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
Manifold specifications 10-SYJ5000

Type 20: Top ported / 10-SS5YJ5-20-Station-00

Grommet (G)

Approx. 300 (lead wire length)

Manual override

Built-in One-touch fitting

Approx. 300 (Lead wire length)

Light/surge voltage suppressor

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
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<tbody>
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<table>
<thead>
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<th>Stations n</th>
<th>L1</th>
<th>L2</th>
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<td>19</td>
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</tbody>
</table>

+ Refer to page 563 for dimensions with connector cable.
Grommet (G)

Built-in speed controller

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

+ Refer to page 563 for dimensions with connector cable.
Manifold specifications 10-SYJ5000

Type 41: Side ported / 10-SS5YJ5-41- Stations-M5

Grommet (G)

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

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
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* Refer to page 563 for dimensions with connector cable.
Manifold specifications 10-SYJ5000

Type 43: Side ported / 10-SS5YJ5-43- Stations

Grommet (G)

Built-in speed controller

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

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</tbody>
</table>

+ Refer to page 563 for dimensions with connector cable.
Flat ribbon cable manifold

10-SS5YJ5-20P- Stations -00

10-SS5YJ5-41P- Stations -M5

C4, N3
C6, N7
(With built-in One-touch fitting)

Built-in speed controller

Max 13.5 V

Applicable connector:
26 pins MIL type with strain relief
(Conforming to MIL-C-83503)
**Manifold specifications**  
10-SYJ5000

**Flat ribbon cable manifold**

10-SS5YJ5-43P - Stations

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
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<td>8 - 10</td>
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<tr>
<td>11 - 12</td>
<td>129.5</td>
<td>114.5</td>
</tr>
</tbody>
</table>

*(Light/surge voltage suppressor)*

**Built-in speed controller**

*(AC)*
### Specifications

**Fluid**
- Air

**Operating pressure range (MPa)**
- 2 position single: 0.15 to 0.7
- 2 position double: 0.1 to 0.7
- 3 position: 0.15 to 0.7

**Ambient and fluid temperature (°C)**
- –10 to 50 (with no freezing. Refer to page 714.)

**Response time ms**
- (0.5MPa) [Note a]
  - 2 position single, double: 30 or less
  - 3 position: 60 or less

**Max. operating frequency (Hz)**
- 2 position single, double: 5
- 3 position: 3

**Manual override (Manual operation)**
- Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type

**Pilot exhaust method**
- Common exhaust for the pilot and main valve

**Lubrication**
- Not required

**Mounting orientation**
- Unrestricted

**Impact/Vibration resistance m/g [Note b]**
- 10

**Enclosure**
- Dustproof (+DIN terminal, M8 connector conforms to IP65)

*Based on IEC60529

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

**Note 2)** Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep between 45 and 2000Hz. Test was performed in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

---

**Solenoid specifications**

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>G, H, L, M, W, D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grommet (G), (H)</td>
<td></td>
</tr>
<tr>
<td>L plug connector (L)</td>
<td></td>
</tr>
<tr>
<td>M plug connector (M)</td>
<td></td>
</tr>
<tr>
<td>DIN terminal (D)</td>
<td></td>
</tr>
<tr>
<td>M8 connector (W)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coil rated voltage V</th>
<th>DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 50/60Hz</td>
<td>24, 12, 6, 5, 3</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Allowable voltage fluctuation</th>
<th>DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>±10% of rated voltage</td>
<td>0.15 (With indicator light)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power consumption (W)</th>
<th>DC</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.85 (With indicator light)</td>
</tr>
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<table>
<thead>
<tr>
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<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>100V</td>
<td>1.0</td>
</tr>
<tr>
<td>[115V]</td>
<td>1.0</td>
</tr>
<tr>
<td>[120V]</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surge voltage suppressor</th>
<th>Diode (DIN terminal, varistor for non-polar type)</th>
</tr>
</thead>
</table>

*In common between 110V and 115V AC, and between 220V AC and 230V AC.*

*For 115 and 230V, the allowable voltage fluctuation is -15% to +5% of rated voltage.

*For the allowable voltage fluctuation for S, Z and T types (with power saving circuit), please observe the following range because they have voltage drop due to internal circuit.*

S and Z types 24VDC: -7% to +10%

12VDC: -4% to +10%

T type 24VDC: -8% to +10%

---

**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 single solenoid</td>
</tr>
<tr>
<td>(A)(B)</td>
<td>(B)(A)</td>
</tr>
<tr>
<td>Grommet (G), (H)</td>
<td>L plug connector (L)</td>
</tr>
<tr>
<td>M plug connector (M)</td>
<td>DIN terminal (D)</td>
</tr>
<tr>
<td>M8 connector (W)</td>
<td></td>
</tr>
</tbody>
</table>

| 2 position double    | 2 position double solenoid |
| (A)(B)               | (B)(A)                  |
| Grommet (G), (H)     | L plug connector (L)    |
| M plug connector (M) | DIN terminal (D)        |
| M8 connector (W)     |                         |

| 3 position closed center | 3 position closed center |
| (A)(B)                 | (B)(A)                  |
| Grommet (G), (H)       | L plug connector (L)    |
| M plug connector (M)   | DIN terminal (D)        |
| M8 connector (W)       |                         |

| 3 position exhaust center | 3 position exhaust center |
| (A)(B)                   | (B)(A)                  |
| Grommet (G), (H)         | L plug connector (L)    |
| M plug connector (M)     | DIN terminal (D)        |
| M8 connector (W)         |                         |

| 3 position pressure center | 3 position pressure center |
| (A)(B)                    | (B)(A)                  |
| Grommet (G), (H)          | L plug connector (L)    |
| M plug connector (M)      | DIN terminal (D)        |
| M8 connector (W)          |                         |

**Surge voltage suppressor**

- Diode (DIN terminal, varistor for non-polar type)

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

**Note 2)** Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep between 45 and 2000Hz. Test was performed in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

---

**Solenoid 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></td>
<td>2 position double: 0.1 to 0.7</td>
</tr>
<tr>
<td></td>
<td>3 position: 0.15 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50 (with no freezing. Refer to page 714.)</td>
</tr>
<tr>
<td>Response time ms (0.5MPa) [Note a]</td>
<td>2 position single, double: 30 or less</td>
</tr>
<tr>
<td></td>
<td>3 position: 60 or less</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double: 5</td>
</tr>
<tr>
<td></td>
<td>3 position: 3</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>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>Impact/Vibration resistance m/g [Note b]</td>
<td>10</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dustproof (+DIN terminal, M8 connector conforms to IP65)</td>
</tr>
</tbody>
</table>

---

**Made to Order specifications (Refer to page 557 for details.)**
<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics</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>
</tr>
<tr>
<td></td>
<td></td>
<td>1/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ7000-23-01</td>
<td>Single</td>
<td>1/8</td>
<td>2.2 0.36 0.58 2.4 0.34 0.63</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.8 0.37 0.45 2.0 0.35 0.49</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>Exhaust</td>
<td></td>
<td>1.1 0.50 0.34 3.0 [1.3] 0.83 0.49</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>Pressure</td>
<td></td>
<td>3.0 [0.83] 0.37 [0.50] 0.78 [0.25] 1.8 0.37 0.45</td>
<td>109</td>
</tr>
<tr>
<td>10-SYJ7000-23-C6</td>
<td>Closed center</td>
<td>1/8</td>
<td>1.6 0.33 0.4 2.2 0.32 0.53</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.4 0.27 0.35 1.9 0.33 0.49</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>Exhaust</td>
<td></td>
<td>1.1 0.37 0.27 2.5 [1.3] 0.32 [0.54] 0.81 [0.38]</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>Pressure</td>
<td></td>
<td>1.8 [0.78] 0.36 [0.40] 0.45 [0.22] 1.6 0.30 0.39</td>
<td>96</td>
</tr>
<tr>
<td>10-SYJ7000-23-C8</td>
<td>Single</td>
<td>1/8</td>
<td>2.0 0.39 0.52 2.3 0.34 0.61</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.7 0.35 0.42 2.0 0.29 0.49</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>Exhaust</td>
<td></td>
<td>1.2 0.38 0.33 2.6 [1.3] 0.36 [0.49] 0.67 [0.38]</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>Pressure</td>
<td></td>
<td>1.9 [0.86] 0.57 [0.46] 0.59 [0.25] 1.7 0.39 0.42</td>
<td>119</td>
</tr>
</tbody>
</table>

Note 1) [ ] denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2
Note 2) ( ): Without sub-plate
Note 3) For DC voltages. For AC voltages add 3g to the weight of the single solenoid and 6g to the weight of the double solenoid and 3 position types.
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

- Light/Surge voltage suppressor
  Electrical entry for G, H, L, M, W
  - Nil: Without light/surge voltage suppressor
  - S: With surge voltage suppresser
  - Z: With light/surge voltage suppresser
  - R: With surge voltage suppressor (Non-polar type)
  - U: With light/surge voltage suppressor (Non-polar type)

- Electrical entry for D
  - Nil: Without light/surge voltage suppressor
  - S: With surge voltage suppresser (Non-polar type)
  - Z: With light/surge voltage suppresser (Non-polar type)

- Fittings & Tubing
  - Pressure switch
  - Clean gas filter
  - Flow control equipment

- Directional control valve
  - Valve
  - Port settings
    - Nil: Without sub-plate
    - F: With sub-plate

- Body ported
  - 10—SYJ7 1  23  5 M  01

- Base mounted
  - 10—SYJ7 2  43  5 M

- Coil specifications
  - Nil: Standard
  - T: With power saving circuit
    - For 24 and 12 VDC only

- Rated voltage
  - DC specifications
    - 5: 24 VDC
    - 6: 6 VDC
    - V: 5 VDC
    - S: 3 VDC
  - AC specifications (50/60Hz)
    - 1: 100 VAC
    - 2: 200 VAC
    - 3: 110 VAC (115 VAC)
    - 4: 220 VAC (230 VAC)

- Port size
  - 01: 1/8
  - 02: 1/4

- Manual override
  - Nil: Non-locking push type
  - D: Push-turn locking slotted type

- Terminal type
  - Nil: Without bracket
  - F: With bracket

- Electrical entry
  - 24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC
  - G: Lead wire length 300 mm
  - L: With lead wire (length 300 mm)
  - M: With lead wire (length 300 mm)
  - MN: Without lead wire
  - D: With connector
  - W: Without connector
  - DO: Without connector

- Note 1) Be sure to enter a symbol of the cable length with reference to page 562.

- Note 2) Different length of connector cable (MM) for different type of actuators.

- Note 3) 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 retrofitted.
5 port solenoid valve Series 10-SYJ7000

How to Order Pilot Valve Assembly

10—V111  5G

Clean series

Coil specifications

<table>
<thead>
<tr>
<th>Nil</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>With power saving circuit (&lt;24 and 12 VDC only)</td>
</tr>
</tbody>
</table>

Power saving circuit is not available in the case of "W/L" type.

Rated voltage

| 5   | 24 VDC |
| 6   | 12 VDC |
| S   | 5 VDC  |
| R   | 3 VDC  |
| 1   | 100 VAC 50/60Hz |
| 2   | 200 VAC 50/60Hz |
| 3   | 110 VAC 50/60Hz [115 VAC 50/60Hz] |
| 4   | 220 VAC 50/60Hz [230 VAC 50/60Hz] |

+ For type "W/L", DC voltage is only available.

Light/Surge voltage suppressor

<table>
<thead>
<tr>
<th>Nil</th>
<th>Without light/surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>With surge voltage suppressor</td>
</tr>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor</td>
</tr>
<tr>
<td>R</td>
<td>With surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>U</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

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

+ For "R" and "U", DC voltage is only available.

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

Electrical entry

<table>
<thead>
<tr>
<th>G</th>
<th>Grommet (Lead wire length 300 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Grommet (Lead wire length 600 mm)</td>
</tr>
<tr>
<td>L</td>
<td>L plug connector With lead wire</td>
</tr>
<tr>
<td>LN</td>
<td>L plug connector Without lead wire</td>
</tr>
<tr>
<td>LO</td>
<td>Without connector</td>
</tr>
<tr>
<td>M</td>
<td>M plug connector With lead wire</td>
</tr>
<tr>
<td>MN</td>
<td>M plug connector Without lead wire</td>
</tr>
<tr>
<td>MG</td>
<td>Without connector</td>
</tr>
<tr>
<td>WO</td>
<td>M8 connector Without connector cable</td>
</tr>
<tr>
<td>WI</td>
<td>M8 connector With connector cable</td>
</tr>
</tbody>
</table>

+ For connector cable of M8 connector, refer to page 562.

Clean series  5D

Light/surge voltage suppressor

<table>
<thead>
<tr>
<th>Nil</th>
<th>Without light/surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>With surge voltage suppressor</td>
</tr>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor</td>
</tr>
<tr>
<td>R</td>
<td>With surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>U</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

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

+ "DOZ" is not available.

For DC voltage, there is no "S" option. It is already built-in to the rectifier circuit.

+ For "R" and "U", DC voltage is only available.

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

How to Order L/M Plug Connector Assembly

For DC: SY100-30-4A-

For 100 VAC: SY100-30-1A-

For 200 VAC: SY100-30-2A-

For other voltages of AC: SY100-30-3A-

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

Lead wire length

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

How to Order M8 Connector Cable

V100-49-1-

Cable length

| 1   | 300mm |
| 2   | 500mm |
| 3   | 1000mm |
| 4   | 2000mm |
| 7   | 5000mm |

Note 1) Be sure to enter a symbol of the cable length with reference to page 562.
2 position single

Grommet (G), (H): 10-SYJ7123-□□□□-01□

L plug connector (L):
10-SYJ7123-□□□□-01□ (-F)

M plug connector (M):
10-SYJ7123-□□□□-01□ (-F)

DIN Terminal (D):
10-SYJ7123-□□□□-01□ (-F)

M8 connector (WO):
10-SYJ7123-□□□□-01□ (-F)

With bracket
10-SYJ7123-□□□□-01□-F

Built-in One-touch fitting:
10-SYJ7123-□□□□-□□□□-□□□□-□□□□ (-F)

Applicable tubing O.D.: ø6, ø1/4" : ø8, ø5/16"

Applicable cable O.D.: ø3.5 to ø7

[ ]: AC

† Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ7000

2 position double

Grommet (G), (H): 10-SYJ7223-L50482/L50482/L50482-01

Built-in One-touch fitting:
10-SYJ7223-L52408/L52408/L52408-01

L plug connector (L): 10-SYJ7223-L50482/L50482/L50482-01

M plug connector (M): 10-SYJ7223-M50482/M50482/M50482-01

DIN Terminal (D): 10-SYJ7223-D50482/D50482/D50482-01

M8 connector (WO): 10-SYJ7223-W50482/W50482/W50482-01

Refer to page 563 for dimensions with connector cable.
3 position closed center / Exhaust center / Pressure center

Grommet (G), (H): 10-SYJ7\(\frac{3}{2}\)23-□□-01

**Built-in One-touch fitting:**
10-SYJ7\(\frac{3}{2}\)23-□□-□□, N9

**5 port solenoid valve Series** 10-SYJ7000

- G: Approx. 300
- H: Approx. 600

(Lead wire length)

**L plug connector (L):**
10-SYJ7\(\frac{3}{2}\)23-□□-01

**M plug connector (M):**
10-SYJ7\(\frac{3}{2}\)23-□□-01

**DIN Terminal (D):**
10-SYJ7\(\frac{3}{2}\)23-□□-01

**M8 connector (WO):**
10-SYJ7\(\frac{3}{2}\)23-□□-01

- Approx. 300

(Lead wire length)

- 1/8 (P, R1, R2 port) 1.6
- 1/8 (A, B port) 27.2
- 35
- 122 (126.4)
- 31.5 (38.5)
- 64, 486.8
- 35
- 2-ø3.2

- Approx. 300

(Lead wire length)

- 122 (21.86)
- 64, 496.8
- 35
- 2-ø3.2

- MAX 10

- Pg7

- 35

Applicable cable O.D. ø3.5 to ø7

- Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ7000

2 position single

Grommet (G), (H): 10- SYJ7143-□□□-□□□

L plug connector (L): 10-SYJ7143-□□□-□□□
M plug connector (M): 10-SYJ7143-□□□-□□□
DIN Terminal (D): 10-SYJ7143-□□□-□□□
M8 connector (WO): 10-SYJ7143-□□□-□□□

* Refer to page 563 for dimensions with connector cable.
2 position double

Grommet (G), (H): 10-SYJ7243-□□-□□-□□-□□

5 port solenoid valve Series 10-SYJ7000

L plug connector (L):
10-SYJ7243-□□□-□□□-□□□

M plug connector (M):
10-SYJ7243-□□□-□□□-□□□

DIN Terminal (D):
10-SYJ7243-□□□-□□□-□□□

M8 connector (WO):
10-SYJ7243-□□□-□□□-□□□

Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ7000

3 position closed center / Exhaust center / Pressure center

Grommet (G), (H): 10-SYJ7/3/43-□□□-□□

*L plug connector (L):  10-SYJ7/3/43-L□□-□□
*M plug connector (M):  10-SYJ7/3/43-M□□-□□
*DIN Terminal (D): 10-SYJ7/3/43-D□□-□□
*M8 connector (WO):  10-SYJ7/3/43-WO□□-□□

Refer to page 563 for dimensions with connector cable.
Series 10-SYJ7000

Manifold specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type 20</th>
<th>Type 21</th>
<th>Type 40</th>
<th>Type 41</th>
<th>Type 42</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold type</td>
<td></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 15 stations</td>
<td>2 to 20 stations</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>Base</td>
<td></td>
</tr>
<tr>
<td>Direction</td>
<td>Top</td>
<td>Bottom</td>
<td>Side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P, R port</td>
<td>1/8</td>
<td>1/4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>1/8</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>1/8</td>
<td>C6 (One-touch fitting for ø6)</td>
<td></td>
</tr>
</tbody>
</table>

Port size

<table>
<thead>
<tr>
<th>Port size</th>
<th>1/4</th>
</tr>
</thead>
</table>

Flow characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/8</td>
<td>2.2 0.35 0.57</td>
</tr>
<tr>
<td></td>
<td>1/8 C6</td>
<td>1.4 0.32 0.37</td>
</tr>
<tr>
<td></td>
<td>1/8 C8</td>
<td>1.7 0.38 0.45</td>
</tr>
<tr>
<td></td>
<td>1/4 1/8</td>
<td>2.1 0.36 0.55</td>
</tr>
<tr>
<td></td>
<td>1/4 C6</td>
<td>1.4 0.32 0.36</td>
</tr>
<tr>
<td></td>
<td>1/4 C8</td>
<td>1.8 0.37 0.50</td>
</tr>
</tbody>
</table>

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

How to Order Manifold

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model number.

Example

- 10-SYJ7000-21-1A ... 1 set (Blanking plate assembly)
- 10-SYJ7123-5G-01 ... 2 sets (Valves)
- SSM7000-21-1A ... 1 set (Manifold base)
- 10-SYJ743-5LZ ... 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 ribbon 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</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>Applicable flat</td>
<td>1/4</td>
</tr>
<tr>
<td>ribbon cable connector</td>
<td>1/8, C6, C8</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) Value at manifold base mounted, 2 position single operating
Note 2) The withstand voltage specification for the wiring unit section is JIS C0704, Grade 1 or its equivalent.

### Flow characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body ported for internal pilot</td>
<td>Flow characteristics</td>
</tr>
<tr>
<td>10-SSSY7/21P-01</td>
<td>C (dm³/(s·bar)) b CV</td>
</tr>
<tr>
<td>10-SSSY7/21P-C6</td>
<td>1/8 1/4 0.36 0.55 2.3 0.26 0.54</td>
</tr>
<tr>
<td>10-SSSY7/21P-C8</td>
<td>1/4 C6 1.4 0.32 0.38 2.1 0.24 0.50</td>
</tr>
</tbody>
</table>

Note) Value at manifold base mounted, 2 position single operating
Note 2) The withstand voltage specification for the wiring unit section is JIS C0704, Grade 1 or its equivalent.

### How to Order Manifold (Example)

| 10-SSSY7/21P-07 | 1 set (Manifold base) |
| 10-SYJ7213-SLOU-C8 | 3 sets (Valve) |
| 10-SYJ7223-SLOU-C8 | 3 sets (Valve) |
| SYJ7000-21-3A | 1 set (Blanking plate assembly) |
| SYJ7000-37-4A | 3 sets (Connector assembly) |

### How to Order Valve

- **For DC10—SYJ7**
  - 1 23 5 LO Z 01
  - Type of actuation: 1 2 position single
  - Rated voltage: 1 100 VAC
  - Manual override: Nil

- **For AC10—SYJ7**
  - 1 23 1 LOZ 01
  - Type of actuation: 1 2 position single
  - Rated voltage: 1 100 VAC
  - Manual override: Nil

### How to Order Connector Assembly

- **12V, 24 VDC**
  - For single solenoid: SY3000-37-3A
  - For double solenoid: SY3000-37-3A
  - For single solenoid, individual SUPER: SY3000-37-15A
  - For double solenoid, 3 position individual SUPER: SY3000-37-34A

- **100 VAC**
  - For single solenoid: SY3000-37-32A
  - For double solenoid: SY3000-37-33A
  - For single solenoid, individual SUPER: SY3000-37-36A
  - For double solenoid, 3 position individual SUPER: SY3000-37-37A

- **100 VAC (115 VAC)**
  - For single solenoid: SY3000-37-35A
  - For double solenoid: SY3000-37-36A
  - For single solenoid, individual SUPER: SY3000-37-19A
  - For double solenoid, 3 position individual SUPER: SY3000-37-37A
Manifold specifications 10-SYJ7000

Manifold standard
Common SUP / Common EXH

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

How to Order
10-SS5YJ7-20-05-

P, R port thread type
Stations
02 2 stations
15 15 stations

Applicable solenoid valve
10-SYJ7-23-01

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-1A

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

How to Order
10-SS5YJ7-21-05-

P, R port thread type
Stations
02 2 stations
20 20 stations

Note) For more than 6 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Type 40 (5 port / Base mounted)

How to Order
10-SS5YJ7-40-05-

P, R port thread type
Stations
02 2 stations
20 20 stations

Applicable solenoid valve
10-SYJ7-43-01

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-2A

Applicable individual SUP spacer assembly
SYJ7000-16-2A

Type 41 (5 port / Base mounted)

How to Order
10-SS5YJ7-41-05-

P, R port thread type
Stations
02 2 stations
20 20 stations

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

Type 42 (5 port / Base mounted)
A, B port
C6, C8

How to Order
10-SS5YJ7-42-05-

P, R port thread type
Stations
02 2 stations
20 20 stations

Note) For more than 8 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 (5 port / Body ported)
A, B port

How to Order
10-SS5YJ7-21P-05-

P, R port thread type
Stations
03 3 stations
12 12 stations

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

Applicable solenoid valve
Refer to page 548.

Applicable blanking plate assembly
SYJ7000-21-3A

Applicable connector assembly
Refer to page 548.
Manifold specifications 10-SYJ7000

<Manifold option>
Combinations of solenoid valve, manifold gasket and manifold base

Mix installation of 10-SYJ700 and 10-SYJ7000 valves on the same manifold
- Use of an adapter plate makes it possible to mount series 10-SYJ700 on the manifold bases of series 10-SYJ7000.
- When mounting the 10-SYJ700 valve on the 10-SYJ7000 manifold, the 10-SYJ700 solvent must be positioned on the same side of a single solvent of the 10-SYJ7000.
- For base mounted style, the A port of the 3 port valve become the B port of manifold base.

Adaptor plate assembly
SYJ7000-3-1A
Series 10-SYJ700 body ported type

Adaptor plate assembly
SYJ7000-3-2A
Series 10-SYJ700 base mounted type

Blanking plate assembly
SYJ7000-21-1A

Blanking plate assembly
SYJ7000-21-3A

Individual EXH spacer assembly
SYJ7000-17-1A
Thread type

Individual EXH spacer assembly
SYJ7000-17-2A
Thread type

Individual SUP spacer assembly
SYJ7000-16-2A
Thread type

Individual SUP spacer assembly
SYJ7000-17-3A
Thread type
Manifold specifications 10-SYJ7000

Type 20: Top ported / 10-SS5YJ7-20- [Stations -00]

Grommet (G)

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

* Refer to page 563 for dimensions with connector cable.

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>59</td>
<td>47</td>
</tr>
<tr>
<td>4</td>
<td>78</td>
<td>66</td>
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<tr>
<td>5</td>
<td>97</td>
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<td>10</td>
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<td>249</td>
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<td>14</td>
<td>268</td>
<td>256</td>
</tr>
<tr>
<td>15</td>
<td>287</td>
<td>275</td>
</tr>
</tbody>
</table>

1/8 (P, R port)

Built-in One-touch fitting

One-touch fitting

(Applicable tubing O.D.: φ6, φ1/4"

Applicable cable O.D.: Φ3.5 to Φ7"

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)

Approx. 300 (Lead wire length)
Manifold specifications 10-SYJ7000

Type 21: Top ported / 10-SS5YJ7-21-[Stations][-00]

Grommet (G)

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

Built-in One-touch fitting

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>66</td>
<td>46</td>
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<tr>
<td>4</td>
<td>85</td>
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<td>123</td>
<td>103</td>
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<td>7</td>
<td>142</td>
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<td>20</td>
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<td>369</td>
</tr>
<tr>
<td></td>
<td>408</td>
<td>388</td>
</tr>
</tbody>
</table>

* Refer to page 563 for dimensions with connector cable.
Manifold specifications 10-SYJ7000

Type 40: Bottom ported / 10-SS5YJ7-40- Stations -01

Grommet (G)

Grommet (G)

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

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

* Refer to page 563 for dimensions with connector cable.
Manifold specifications 10-SYJ7000

Type 41: Side ported / 10-SS5YJ7-41- Stations-01

Grommet (G)

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

<table>
<thead>
<tr>
<th>Stations n</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>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>
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<td>358</td>
<td>378</td>
<td>398</td>
<td>418</td>
<td>438</td>
<td></td>
</tr>
<tr>
<td>L2</td>
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<td>270</td>
<td>290</td>
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<td>330</td>
<td>350</td>
<td>370</td>
<td>390</td>
<td>410</td>
<td></td>
</tr>
</tbody>
</table>

Refer to page 563 for dimensions with connector cable.
Type 42: Side ported / 10-SS5YJ7-42- Stations

Grommet (G)

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

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>stations</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>77</td>
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<td>11</td>
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<td>14</td>
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</tr>
<tr>
<td>20</td>
<td>400</td>
<td>391</td>
</tr>
</tbody>
</table>

+ Refer to page 563 for dimensions with connector cable.
## Manifold specifications 10-SYJ7000

### Flat ribbon cable manifold

10-SS5YJ7-21P- Stations (-00)

---

**With built-in One-touch fitting**

---

<table>
<thead>
<tr>
<th>Stations n</th>
<th>3 stations</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 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>88</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>
<td>272.5</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>
<td>252.5</td>
</tr>
</tbody>
</table>

---

**Approx. 300** (Lead wire length)

**Manual override (Non-locking)**

**Pitch**

**P = 20.5**

**1/4 (P, R port)**

**16.5**

**11.5**

**53.8**

**93.8**

---

**Applicable connector: 26 pins MIL type**

(Conforming to MIL-C-83503)

---

**One-touch fitting**

(A, B port)

Applicable tubing O.D.: ø6, ø1/4" ø8, ø5/16"

---

**[ ]: AC**

---

**(Light/surge voltage suppressor)**

---

**Applicable connector: 26 pins MIL type**

---

**One-touch fitting**

(A, B port)

Applicable tubing O.D.: ø6, ø1/4" ø8, ø5/16"
### Series 10-SYJ5000/7000

Made to order specifications
DIN terminal connector conforming to EN-175301-803C (former DIN 43650C) standard

#### How to Order Valves

**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 specifications</th>
<th>AC specifications (50/60Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 24 VDC</td>
<td>1 100 VAC</td>
</tr>
<tr>
<td>6 12 VDC</td>
<td>2 200 VAC</td>
</tr>
<tr>
<td></td>
<td>3 110 VAC (115 VAC)</td>
</tr>
<tr>
<td></td>
<td>4 220 VAC (230 VAC)</td>
</tr>
</tbody>
</table>

**Light/surge voltage suppressor**
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor

**Note:** "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: With connector
- YO: Without connector

**Bracket**
- Nil: Without bracket
- F: With bracket

*Note:* Do not remove the factory installed bracket from models with the bracket option. Removal of the bracket will cause air leakage.

**Thread type**
- Nil
- Rc
- G
- N
- NPT
- T
- NPT-F

**Port size**
- Nil
- Without sub-plate
- 1: 1/8
- 10-SYJ5000
- 10-SYJ7000
- 2: 1/4
- 10-SYJ7000

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

**How to Order Pilot Valve Assembly**

10—V115—5 Y

**Rated voltage**

<table>
<thead>
<tr>
<th>DC specifications</th>
<th>AC specifications (50/60Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 24 VDC</td>
<td>1 100 VAC</td>
</tr>
<tr>
<td>6 12 VDC</td>
<td>2 200 VAC</td>
</tr>
<tr>
<td></td>
<td>3 110 VAC (115 VAC)</td>
</tr>
<tr>
<td></td>
<td>4 220 VAC (230 VAC)</td>
</tr>
</tbody>
</table>

**Light/surge voltage suppressor**
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor

*Note:* "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

**DIN connector part no.**

<table>
<thead>
<tr>
<th>Without light</th>
<th>SY100-82-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>With light</td>
<td></td>
</tr>
</tbody>
</table>

**DIN connector part no.**

<table>
<thead>
<tr>
<th>Rated voltage</th>
<th>Voltage symbol</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>24VN</td>
<td>SY100-82-3-05</td>
</tr>
<tr>
<td>12 VDC</td>
<td>12VN</td>
<td>SY100-82-3-06</td>
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<tr>
<td>100 VAC</td>
<td>100VN</td>
<td>SY100-82-3-01</td>
</tr>
<tr>
<td>200 VAC</td>
<td>200VN</td>
<td>SY100-82-3-02</td>
</tr>
<tr>
<td>110 VAC (115 VAC)</td>
<td>110VN</td>
<td>SY100-82-3-03</td>
</tr>
<tr>
<td>220 VAC (230 VAC)</td>
<td>220VN</td>
<td>SY100-82-3-04</td>
</tr>
</tbody>
</table>

**Caution**

1. Use caution in wiring because it won't meet the IP65 (enclosure) standard if you use the other cord than prescribed cabtire cable of size (ø3.5 to ø7).
   - Also be sure to tighten the ground nut and set screw within the specified range of torque.
   - For how to use DIN terminal (wiring procedures, procedures for changing electrical entries, precautions, applicable cable, circuit diagram), refer to page 560.
2. D type DIN connector with 8.4 mm pitch between terminals is not interchangeable.
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, "10-V115-□□" is interchangeable with "10-V115-□□□". Do not replace 10-V114 (G, H, L, M, W) to 10-V115-□□□ (DIN terminal), and vice versa.

---

**Note:** Refer to page 560 for complete instructions and diagrams.
Series 10-SYJ3000/5000/7000
Specific Product Precautions 1
Be sure to read before handling.

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

⚠️ Caution
When handling the locking type D with a screwdriver, turn it gently using a watchmaker's screwdriver.
[Torque: 0.1 N·m or less]

- **Push-turn locking lever [Type E]**
  While pressing, turn in the direction of the arrow.
  If it is turned, it can be operated in 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 200/220 V AC specifications

⚠️ Warning
Solenoid valves with grommet and L/M type plug connector AC specifications have a built-in rectifier circuit in the pilot section to operate the DC coil.
With 200/220 V AC specification pilot valves, this built-in rectifier generates heat when energized. The surface may become hot depending on the energized condition. Therefore, do not touch the solenoid valves.

Series 10-SYJ3000, 5000, 7000
Mixed installation of 3 port and 5 port valves on the same manifold.

⚠️ Caution
Series 10-SYJ3000/5000/7000 and Series 10-SYJ300/500/700 can be mounted on the same manifold. How to mount on the same manifold is shown on the following pages.
10-SYJ3000, 10-SYJ3000 ------ Page 507
10-SYJ5000, 10-SYJ5000 ------ Page 529
10-SYJ7000, 10-SYJ7000 ------ Page 550
If 4 or 5 port valve is used as a 3 port valve
Series 10-SY 3000/5000/7000 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.

<table>
<thead>
<tr>
<th>Plug position</th>
<th>B port</th>
<th>A port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of actuation</td>
<td>N.C.</td>
<td>N.O.</td>
</tr>
<tr>
<td>Number of solenoids</td>
<td>Single</td>
<td>Double</td>
</tr>
<tr>
<td>Plug</td>
<td>Plug</td>
<td></td>
</tr>
</tbody>
</table>

(JIS Symbols above: Series 10-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.
   - (For special crimping tools, please contact SMC.)

3. **Attaching and detaching sockets with lead wires**
   - **Attaching**
     - Insert the sockets into the square holes of the connector (and 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>Nil</th>
<th>6</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>50</th>
<th>1000mm</th>
<th>1500mm</th>
<th>2000mm</th>
<th>2500mm</th>
<th>3000mm</th>
<th>5000mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>600 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2500 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**How to Order Connector Assembly**

- For DC: SY100 - 30 - 4A
- For 100 VAC: SY100 - 30 - 1A
- For 200 VAC: SY100 - 30 - 2A
- For other voltages of AC: SY100 - 30 - 3A

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

**How to Order**

Specify the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.

**Example**

For DC: SY100-30-4A-20

For AC: SY100-30-1A-20
Caution
(For DC) Grommet, L/M plug connector type

- 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 and 12 VDC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- Be careful about the allowable voltage fluctuation since the valves with a diode to prevent reverse current has about a 1V voltage drop. (Refer to the solenoid specifications of each valve for details.)
- 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 energized state. (Effective energizing time is over 62 ms at 24 VDC.)

Working 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.
- When a power saving circuit is installed, a diode to prevent reverse current is not provided. Therefore, use caution not to connect in reverse.
- Be careful about the allowable voltage fluctuation since voltage drop of about 0.5V occurs due to a transistor. (Refer to the solenoid specifications of each valve for details.)

DIN terminal
With surge voltage suppresser (DS)
With light/surge voltage suppresser (DZ)
DIN terminal has no polarity.

M8 connector type
With surge voltage suppresser (S)
With light/surge voltage suppresser (Z)

- In the case of standard type, connect + to 1 and – to 3 according to the polarity.
- For DC voltages other than standard 12/24 VDC, use caution not to mistake the polarity because a diode to prevent reverse current is not provided.
- Be careful about the allowable voltage fluctuation since the valves with a diode to prevent reverse current has about a 1V voltage drop. (Refer to the solenoid specifications of each valve for details.)
Surge voltage suppressor

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

Grommet, L/M plug connector

With indicator light (IZ)

DIN terminal

With indicator light (DZ)

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.

How to use DIN Terminal

⚠️ Caution

Connection
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, note that using other than the supported size (ø3.5 to ø7) cabtire cable 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 attaching the housing in the desired direction (4 directions at 90° intervals).
* When equipped with an indicator 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

How to use DIN Terminal

⚠️ Caution

Circuit diagram with light

Note) Refer to page 557 for DIN connector (Y) conforming to EN-175301-803C (former DIN 43650C).
Series 10-SYJ3000/5000/7000
Specific Product Precautions 5
Be sure to read before handling.

**Warning**

Connecting assembly with cover

**Caution**

**Connecting assembly with dustproof protective cover**
- Effective to prevent 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**

- Lead wire length
  - Nil: 300mm
  - 6: 600mm
  - 10: 1000mm
  - 15: 1500mm
  - 20: 2000mm
  - 25: 2500mm
  - 30: 3000mm
  - 50: 5000mm

**Connector assembly with cover: Dimensions**

- Red: L (10)
- Black: L (14.5)
- Gray: L (41)

**How to Order**
Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.

- **Example 1** Lead wire length 2000 mm
  - 10-SYJ3123-5LOZ-M3
  - SY100-68-A-20

- **Example 2** Lead wire length 300 mm (Standard)
  - 10-SYJ3123-5LPZ-M3

- *In this case, the part number for the connector assembly with cover is not required.*

**M8 connector**

**Caution**

1. M8 connector types have an IP65 (enclosure) rating, offering protection from dust and water. However, please note that these products are not intended for use in water.
   - Select a SMC connector cable (V100-49-1-□/L52408) 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 10-SY3000 manifold. If more than 10.5mm, 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 0.6N)
3. Do not apply excessive power greater than 30N to the connector cable, otherwise IP65 cannot be satisfied.

**Caution**

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

- Connector cable mounting
- 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.)

- **Example 1** Cable length 300 mm
  - 10-SYJ3123-5W1ZE-M3

- **Symbol for connector assembly with cover**

- **M8 connector**

- **Symbol for electrical entry**

- **Electrical entry**
  - W1: Cable length 300 mm
  - W2: Cable length 500 mm
  - W3: Cable length 1000 mm
  - W4: Cable length 2000 mm
  - W7: Cable length 5000 mm

- **Symbol for connector assembly with cover**

- **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-□).

- **Caution**
  - Simple and unencumbered appearance by adopting round-shaped cord.

- **Connector cable mounting**
- Connector cable for M8 can be ordered as follows:
Series 10-SYJ3000/5000/7000
Specific Product Precautions 6
Be sure to read before handling.

**M8 connector**

2. To order connector cable only

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

**Flat ribbon cable manifold**

**Caution**

Type 21P  Type 32P

- 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 and provides clean appearance.

**Internal wiring of manifold**

- 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. Please contact SMC for more stations.
- Only non-polar valves are available for the DC flat ribbon 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 positive COM.

**Bracket**

For 10-SYJ3000 (Single) or 10-SYJ7000 with bracket, do not use it without bracket.

**Replacement of solenoid valve**

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>10-SYJ3000</td>
<td>M1.7</td>
<td>0.12N·m</td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>M2.5</td>
<td>0.45N·m</td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>M3</td>
<td>0.8N·m</td>
</tr>
</tbody>
</table>
Replacing the 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. Please 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)

Interface

Pilot valve (10-SY114)

Adapter plate

Conventional type

Manual override (Orange)

Interface

Pilot valve (10-SY114)

Adapter plate
## 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>10-SYJ3000</td>
<td>Effective area 0.9mm² 4/2→5/3 (A/B→EA/EB)</td>
<td>2 position</td>
<td>For DC</td>
<td></td>
<td>Grommet (24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC)</td>
<td>□ With surge voltage suppressor</td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>0.47 4/2→5/3 (A/B→EA/EB)</td>
<td>3 position</td>
<td>For AC</td>
<td></td>
<td>L plug connector (AC 100V 50Hz, AC 110V 60Hz, AC 200V 50Hz, AC 220V 60Hz)</td>
<td>□ With light/surge voltage suppressor</td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>2.4 4/2→5/3 (A/B→EA/EB)</td>
<td></td>
<td>For AC (Note)</td>
<td></td>
<td>M plug connector (10-SYJ5000/7000 only)</td>
<td>□ Non-locking push type</td>
</tr>
<tr>
<td>10-SYJ3000</td>
<td>0.46 4/2→5/3 (A/B→EA/EB)</td>
<td></td>
<td>For AC</td>
<td></td>
<td>DIN terminal</td>
<td>□ Push-turn locking slotted type</td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>0.83 4/2→5/3 (A/B→EA/EB)</td>
<td></td>
<td>For AC</td>
<td></td>
<td>M8 connector</td>
<td>□ Push-turn locking lever type</td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>2.9 4/2→5/3 (A/B→EA/EB)</td>
<td></td>
<td>0.47 4/2→5/3 (A/B→EA/EB)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) All standard AC voltage models have built-in surge voltage suppressor.
### 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></td>
<td></td>
<td></td>
<td>Individual SUP spacer assembly</td>
<td>Individual EXH spacer assembly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>One-touch fitting</td>
<td>Applicable tubing O.D.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M3</td>
<td>M5</td>
<td>1/8</td>
<td>Ø4</td>
</tr>
<tr>
<td>10-SYJ3000</td>
<td>Top</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>Side</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>Bottom</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Body ported**

- **A, B port location**
  - Top: M3, M5, 1/8
  - Side: M3, M5, 1/8
  - Bottom: M3, M5, 1/8

**Base mounted**

- **A, B port location**
  - Top: M3, M5, 1/8
  - Side: M3, M5, 1/8
  - Bottom: M3, M5, 1/8

---

For detailed specifications about 10-SYJ3000, refer to page 507. For 10-SYJ5000, refer to page 529, and for 10-SYJ7000, refer to page 550.
Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluid</strong></td>
<td>Air</td>
</tr>
<tr>
<td>Operating pressure range (MPa)</td>
<td></td>
</tr>
<tr>
<td>2 position single</td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>2 position double</td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td>3 position</td>
<td>0.2 to 0.7</td>
</tr>
<tr>
<td><strong>Ambient and fluid temperature (°C)</strong></td>
<td></td>
</tr>
<tr>
<td>2 position single, double</td>
<td>-10 to 50 (with no freezing, Refer to page 714.)</td>
</tr>
<tr>
<td>3 position</td>
<td>15 or less</td>
</tr>
<tr>
<td><strong>Max. operating frequency (Hz)</strong></td>
<td>30 or less</td>
</tr>
<tr>
<td>2 position single, double</td>
<td>10</td>
</tr>
<tr>
<td>3 position</td>
<td>3</td>
</tr>
<tr>
<td><strong>Manual override (Manual operation)</strong></td>
<td></td>
</tr>
<tr>
<td>Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type</td>
<td></td>
</tr>
<tr>
<td><strong>Pilot exhaust method</strong></td>
<td></td>
</tr>
<tr>
<td>Common exhaust for the pilot and main valve</td>
<td></td>
</tr>
<tr>
<td><strong>Lubrication</strong></td>
<td></td>
</tr>
<tr>
<td>Not required</td>
<td></td>
</tr>
<tr>
<td><strong>Mounting orientation</strong></td>
<td></td>
</tr>
<tr>
<td>Unrestricted</td>
<td></td>
</tr>
<tr>
<td><strong>Enclosure</strong></td>
<td></td>
</tr>
<tr>
<td>Dustproof (+ M8 connector conforms to IP65.)</td>
<td></td>
</tr>
</tbody>
</table>

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

Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000Hz. 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)

Solenoid specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coil rated voltage (V)</strong></td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>24, 12, 6, 5, 3</td>
</tr>
<tr>
<td>AC50/60Hz</td>
<td>100, 110, 200, 220</td>
</tr>
<tr>
<td><strong>Allowable voltage fluctuation</strong></td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>±10% of rated voltage</td>
</tr>
<tr>
<td>With power saving circuit</td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>0.35 (With indicator light: 0.4)</td>
</tr>
<tr>
<td>AC</td>
<td>0.1 (With indicator light only)</td>
</tr>
<tr>
<td><strong>Apparent power (VA)</strong></td>
<td></td>
</tr>
<tr>
<td>AC</td>
<td>0.78 (With indicator light: 0.81)</td>
</tr>
<tr>
<td>110 VAC</td>
<td>0.86 (With indicator light: 0.89)</td>
</tr>
<tr>
<td>[115 VAC]</td>
<td>[0.94 (With indicator light: 0.97)]</td>
</tr>
<tr>
<td>200 VAC</td>
<td>1.18 (With indicator light: 1.22)</td>
</tr>
<tr>
<td>[230 VAC]</td>
<td>[1.42 (With indicator light: 1.46)]</td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>Diode (Non-polar type: Varistor)</td>
</tr>
<tr>
<td><strong>Indicator light</strong></td>
<td>LED</td>
</tr>
<tr>
<td>* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.</td>
<td></td>
</tr>
<tr>
<td>* For 115 VAC and 230 VAC, the allowable voltage is -15% to +5% of rated voltage.</td>
<td></td>
</tr>
<tr>
<td>* For the allowable voltage fluctuation for S, Z and T types (with power saving circuit), please observe the following range because they have voltage drop due to internal circuit.</td>
<td></td>
</tr>
<tr>
<td>S and Z types</td>
<td>24 VDC: -7% to +10%</td>
</tr>
<tr>
<td>T type</td>
<td>24 VDC: -8% to +10%</td>
</tr>
<tr>
<td>115 VAC</td>
<td>12 VDC: -8% to +10%</td>
</tr>
<tr>
<td>200 VAC</td>
<td>12 VDC: -6% to +10%</td>
</tr>
<tr>
<td><strong>Bracket mounting</strong></td>
<td></td>
</tr>
<tr>
<td>(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.</td>
<td></td>
</tr>
</tbody>
</table>
### Flow characteristics / Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1, 5, 3 (P, EA, EB)</td>
<td>4, 2 (A, B)</td>
<td>Grommet</td>
<td>L/M plug connector</td>
</tr>
<tr>
<td>10-SYJ3143</td>
<td>5 port base mounted (With sub-plate)</td>
<td>2 position</td>
<td>Single</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td>10-SYJ3243</td>
<td>Double</td>
<td>M5 x 0.8</td>
<td>79(53)</td>
<td>81(55)</td>
</tr>
<tr>
<td>10-SYJ3343</td>
<td>Closed center</td>
<td>M5 x 0.8</td>
<td>82(56)</td>
<td>84(58)</td>
</tr>
<tr>
<td>10-SYJ3443</td>
<td>Exhaust center</td>
<td>M5 x 0.8</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3543</td>
<td>Pressure center</td>
<td>M5 x 0.8</td>
<td>56</td>
<td>58</td>
</tr>
<tr>
<td>10-SYJ3123</td>
<td>Single</td>
<td>M3 x 0.5</td>
<td>36</td>
<td>37</td>
</tr>
<tr>
<td>10-SYJ3223</td>
<td>Double</td>
<td>M3 x 0.5</td>
<td>53</td>
<td>55</td>
</tr>
<tr>
<td>10-SYJ3323</td>
<td>Closed center</td>
<td>M3 x 0.5</td>
<td>56</td>
<td>58</td>
</tr>
<tr>
<td>10-SYJ3423</td>
<td>Exhaust center</td>
<td>M3 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3523</td>
<td>Pressure center</td>
<td>M3 x 0.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3133</td>
<td>Single</td>
<td>1/8</td>
<td>36</td>
<td>37</td>
</tr>
<tr>
<td>10-SYJ3233</td>
<td>M5 x 0.8</td>
<td>53</td>
<td>55</td>
<td>63</td>
</tr>
<tr>
<td>10-SYJ3333</td>
<td>Closed center</td>
<td>1/8</td>
<td>56</td>
<td>58</td>
</tr>
<tr>
<td>10-SYJ3433</td>
<td>Exhaust center</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3533</td>
<td>Pressure center</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**Note 1)** Dedicated for manifold base, refer to page 11 for details.
**Note 2)** [ ] denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2
**Note 3)** ( ) Without sub-plate
**Note 4)** For DC voltages. For AC voltages add 3g to the weight of the single solenoid and 6g to the weight of the double solenoid and 3 position types.
4/5 port solenoid valve  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

- **Light/surge voltage suppressor**
  - Nil: 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)
  - For AC voltage valves, there is no “S” option. It is already built-in to the rectifier circuit.
  - For “R” and “U”, DC voltage is only available.
  - Power saving circuit is only available in the “Z” type.

- **Rated voltage**
  - DC: 24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC
  - AC (50/60Hz): 100 VAC, 200 VAC, 110 VAC, 220 VAC, 230 VAC

- **Bracket**
  - Nil: Without bracket
  - F: With bracket
  - Single (Bracket cannot be retrofitted.)
  - Double

- **Body ported**
  - 10—SYJ3
  - 23
  - 5 M
  - M3

- **Base mounted (4 port)**
  - 10—SYJ3
  - 23
  - 5 M
  - (Manifold use only)

- **Base mounted (5 port)**
  - 10—SYJ3
  - 43
  - 5 M

- **Clean series**
  - 2 port
  - 4 port
  - 5 port

- **Coil specifications**
  - Nil: Standard
  - T: With power saving circuit <24, 12 VDC only>
  - Power saving circuit is not available in the case of “W” type.

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

- **Port size**
  - Nil: Without sub-plate
  - M: With M5 port sub-plate

- **Electrical entry**
  - 24, 12, 6, 5, 3 VDC
  - 100, 110, 200, 220 VAC
  - Grommet
  - L plug connector
  - M plug connector
  - M8 connector

- **How to Order**
  - For manifold type 31, S31, 32, S32
  - For sub-plate, manifold type 41, S41, 46, S46

- **Note**
  - For AC voltage valves, there is no “S” option. It is already built-in to the rectifier circuit.
  - For “R” and “U”, DC voltage is only available.
  - Power saving circuit is only available in the “Z” type.
  - Note) The double solenoid mounting bracket is supplied unattached.
  - To order the double solenoid bracket for use with a single solenoid valve, order the single solenoid valve without a bracket and double solenoid bracket separately by specifying the part number of the bracket VJ3000-13-1besides the part number of the solenoid valve.
  - Example) 10-SYJ3123-5M-M3 VJ3000-13-1

- **Note 1)**
  - Be sure to enter a symbol of the cable length in [ ] with reference to P562.
  - For connector cable of M8 connector, refer to page 562.

- **Note 2)**
  - 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.
  - (Refer to catalog page 508 for details.)
How to Order Pilot Valve Assembly

10 — V111 — 5 G

Coil specifications

- Clean series

- Standard

- With power saving circuit
  <24, 12 VDC only>

- Nil
- S
- Z
- R
- U

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

- For AC voltage valves, there is no "S" option. It is already built-in to the rectifier circuit.
- For "R" and "U", DC voltage is only available.
- Power saving circuit is only available in the "Z" type.

Rated voltage

- S: 24 VDC
- S: 12 VDC
- V: 6 VDC
- S: 5 VDC
- R: 3 VDC
- 1: 100 VAC 50/60Hz
- 2: 200 VAC 50/60Hz
- 3: 110 VAC 50/60Hz [115 VAC 50/60Hz]
- 4: 220 VAC 50/60Hz [230 VAC 50/60Hz]

- L plug connector
- M plug connector
- M8 connector

Electrical entry

- Grommet (Lead wire length 300 mm)
- Grommet (Lead wire length 600 mm)
- With lead wire
- Without lead wire
- Without connector
- With lead wire
- Without lead wire
- Without connector
- Without connector cable
- With connector cable

How to Order Connector Assembly for L/M Plug Connector

- For DC: SY100-30-4A-
- For 100 VAC: SY100-30-1A-
- For 200 VAC: SY100-30-2A-
- For other voltages of AC: SY100-30-3A-
- Without lead wire (With connector and 2 of sockets only): SY100-30-A

Lead wire length

- Nil: 300mm
- 6: 600mm
- 10: 1000mm
- 15: 1500mm
- 20: 2000mm
- 25: 2500mm
- 30: 3000mm
- 50: 5000mm

How to Order M8 Connector Cable

- V100-49-1-

Cable length

- 1: 300mm
- 2: 500mm
- 3: 1000mm
- 4: 2000mm
- 7: 5000mm
Grommet (G), (H): 10-SYJ3123-LSS-M3

With bracket: 10-SYJ3123-LSS-M3-F

L plug connector (L):
10-SYJ3123-LSS-M3 (-F)

M plug connector (M):
10-SYJ3123-MSS-M3 (-F)

M8 Connector (WO):
10-SYJ3123-WSO-M3 (-F)

* Refer to page 563 for dimensions with connector cable.
2 position double

Grommet (G), (H): 10-SYJ3223-L□□□-M3 (-F)

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

M3 x 0.5
(A, B port)

2-Ø1.8
(For manifold mounting)

Manual override

Equivalent to 2-Ø3.2
(For mounting)

Bracket

(Light/surge voltage suppressor)

M3 x 0.5
(P, R port)

L plug connector (L):
10-SYJ3223-L□□□-M3 (-F)

M plug connector (M):
10-SYJ3223-M□□□-M3 (-F)

M8 connector (WO):
10-SYJ3223-WO□□□-M3 (-F)

Refer to page 563 for dimensions with connector cable.
4/5 port solenoid valve  Series 10-SYJ3000

3 position closed center / exhaust center / pressure center

Grommet (G), (H): 10-SYJ3\(\frac{3}{2}\) 23-□GH□□-M3 (-F)

L plug connector (L):
10-SYJ3\(\frac{3}{2}\) 23-□L□□-M3 (-F)

M plug connector (M):
10-SYJ3\(\frac{3}{2}\) 23-□M□□-M3 (-F)

M8 Connector (WO):
10-SYJ3\(\frac{3}{2}\) 23-□WO□□-M3 (-F)

Refer to page 563 for dimensions with connector cable.
4/5 port solenoid valve Series 10-SYJ3000

2 position double

Grommet (G), (H): 10-SYJ3243-[□□□□□□]-M5

M5 x 0.8
(A, B port)

2-φ3.2
(For mounting)

Manual override

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

(Light/surge voltage suppressor)

L plug connector (L):
10-SYJ3243-[□L□□]-M5

M plug connector (M):
10-SYJ3243-[□M□□]-M5

M8 connector (WO):
10-SYJ3243-[□WO□□]-M5

M5 x 0.8
(P, R1, R2 port)

- Refer to page 563 for dimensions with connector cable.
3 position closed center / Exhaust center / Pressure center

Grommet (G), (H): 10- SYJ3\frac{3}{4}-43-□-□-□-M5

L plug connector (L): 10-SYJ3\frac{3}{4}-43-□-L□-□-M5

M plug connector (M): 10-SYJ3\frac{3}{4}-43-□-M□-□-M5

M8 Connector (WO): 10-SYJ3\frac{3}{4}-43-□-WO□-□-M5

- Refer to page 563 for dimensions with connector cable.
## 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>P (SUP) / R (EXH)</td>
<td>P: M5 x 0.8</td>
<td>R: 1/8</td>
<td>M5 x 0.8, C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td>Valve stations</td>
<td>Location</td>
<td>Valve</td>
<td>Base</td>
<td>Porting specifications</td>
<td>Port size</td>
</tr>
<tr>
<td>A, B port</td>
<td>Top</td>
<td>Side</td>
<td>P, R port</td>
<td>M5 x 0.8</td>
<td>1/8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A, B port</td>
<td>M5 x 0.5</td>
<td>M5 X 0.8, C4 (One-touch fitting for ø4)</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>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>M5 x 0.5</td>
</tr>
<tr>
<td>Base mounted for internal pilot</td>
<td>M5 x 0.8</td>
<td>M5 x 0.5</td>
<td>M5 x 0.5</td>
</tr>
</tbody>
</table>

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

## 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

- **10-SYYJ3-20-03** 1 set (Manifold base)
- **10-SYYJ3-31-33** 1 set (Manifold base)
- **10-SYYJ3-32-43** 1 set (Valve)
- **10-SYYJ3-41-43** 1 set (Blanking plate assembly)
- **10-SYYJ3-46-46** 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 ribbon 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>
<th>Type 32P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold</td>
<td>Single base / B mount</td>
<td>Common SUP / Common EXH</td>
</tr>
<tr>
<td>Port size</td>
<td>A, B port M3 x 0.5</td>
<td>M5 x 0.8 C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td>Location</td>
<td>P, R port 1/8</td>
<td>Base</td>
</tr>
<tr>
<td>Valve</td>
<td>Top</td>
<td>Side</td>
</tr>
<tr>
<td>Base mounted for internal pilot</td>
<td>10-SS5YJ3-21P</td>
<td>10-SYJ3-33</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>12, 24 VDC, 100, 110 VAC</td>
<td></td>
</tr>
</tbody>
</table>

**Flow characteristics**

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Effective area (mm²)</th>
<th>C (dm³/s/bar)</th>
<th>b</th>
<th>Cv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body ported for internal plot</td>
<td>1/8 M3 x 0.5</td>
<td>0.25</td>
<td>0.19</td>
<td>0.32</td>
<td>0.25</td>
</tr>
<tr>
<td>Base mounted for internal plot</td>
<td>1/8 M5 x 0.8</td>
<td>0.25</td>
<td>0.19</td>
<td>0.060</td>
<td>0.32</td>
</tr>
</tbody>
</table>

**How to Order Manifolds**

- 10-SS5YJ3-32P-07-C4 - set (Manifold base)
- 10-SYJ3133-5LOU - sets (Valve)
- 10-SYJ3233-5LOU - sets (Valve)

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

**How to Order Valves**

- For DC10—SYJ3
- For AC10—SYJ3

**How to Order Connector Assemblies**

- For 12, 24 VDC
- For 100 VAC
- 110 VAC (115 VAC)
# Manifold Specifications

## Type 31 (4 port / Base mounted)

**Type 31**

Type S31 (Single solenoid coil is located on the same side of A and B ports.)

- **A, B port size:**
  - M3 x 0.5
  - M5 x 0.8

- **P port thread type:**
  - Nil

- **R port thread type:**
  - Nil

- **Valve mounting direction:**
  - S

- **Manifold stations:**
  - 2 stations
  - 20 stations

**How to Order**

10-SS5YJ3-31-05-M3

**Clean series**

**Applicable blanking plate assembly**

SYJ3000-21-2A

**Applicable solenoid valve**

10-SYJ3/L52408-43/L52408/L52408/L52408/L52408-05

## Type 41 (5 port / Base mounted)

**Type 41**

Type S41 (Single solenoid coil is located on the same side of A and B ports.)

- **A, B port size:**
  - M3 x 0.5
  - M5 x 0.8

- **P port thread type:**
  - 1/8

- **R port thread type:**
  - 1/8

- **Valve mounting direction:**
  - S

- **Manifold stations:**
  - 2 stations
  - 20 stations

**How to Order**

10-SS5YJ3-41-05-C4

**Clean series**

**Applicable blanking plate assembly**

SYJ3000-21-2A

**Applicable solenoid valve**

10-SYJ3/L52408-43/L52408/L52408/L52408/L52408-05

## Common SUP / Individual EXH

**Note:** For more than 10 stations, supply air to both sides of P port.

**Type 46 (5 port / Base mounted)**

**Type 46**

Type S46 (Single solenoid coil is located on the same side of A and B ports.)

- **A, B port size:**
  - M3 x 0.5
  - M5 x 0.8

- **P port thread type:**
  - Nil

- **Valve mounting direction:**
  - S

- **Manifold stations:**
  - 2 stations
  - 20 stations

**How to Order**

10-SS5YJ3-46-05-M5

**Clean series**

**Applicable blanking plate assembly**

SYJ3000-21-2A

**Applicable solenoid valve**

10-SYJ3/L52408-43/L52408/L52408/L52408/L52408-05
Flat ribbon cable manifold

Common SUP / Common EXH

Type 21P

How to Order
10-SS5YJ3-21P- 07

Manifold stations

P, R port thread type

Applicable solenoid valve
Refer to page 505.

Applicable connector assembly
Refer to page 505.

Applicable blanking plate assembly
SYJ3000-21-3A
(With dust cap)

Manifold stations

04 4 stations
12 12 stations

A, B port size

Applicable blanking plate assembly
SYJ3000-21-4A
(With dust cap)

Clean series

P port
1/8

R port
1/8

A, B port
M3 x 0.5

Flat ribbon cable manifold

Common SUP / Common EXH

Type 32P

How to Order
10-SS5YJ3-32P- 07 – C4

Manifold stations

P, R port thread type

Applicable solenoid valve
Refer to page 505.

Applicable connector assembly
Refer to page 505.

Applicable blanking plate assembly
SYJ3000-21-3A
(With dust cap)

Manifold stations

04 4 stations
12 12 stations

A, B port size

Applicable blanking plate assembly
SYJ3000-21-4A
(With dust cap)

Clean series

P port
1/8

R port
1/8

A, B port
M5 x 0.8, C4

Mixed installation of the 10-SYJ300 and the 10-SY3000 valves on the same manifold

Series 10-SYJ300 valves can be mounted on the manifolds for 10-SY3000.

1. 10-SSSYJ3-20, 10-SSSYJ3-21P
   The 3 port valve can be used by simply sealing off the unused "R" port with rubber plug, SYJ3000-33-1.
   Applicable solenoid valves: Type 10-SYJ312M
   Type 10-SYJ322M

2. 10-SSSYJ3-31/-S31, 10-SSSYJ3-32/-S32, 10-SSSYJ3-46/-S46, 10-SSSYJ3-32P
   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 valve: Type 10-SYJ314M
   Type 10-SYJ324M

3. 10-SSSYJ3-41/-S41
   The 3 port valve can be used 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 valve: Type 10-SYJ314M
   Type 10-SYJ324M

Caution

Mounting screw tightening torque

M1.7: 0.12N-m

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
<Manifold option>

**Combinations of solenoid valve, manifold gasket and manifold base**

### 5 port body ported (Type 10-SYJ3□/23)

- **Applicable manifold base**
  - Type 10-SSSYJ3-20
  - Type 10-SSSYJ3-21P

- **Manifold base**
  - Type 10-SYJ3□/L52408

### 4 port base mounted (Type 10-SYJ3□/33)

- **Applicable manifold base**
  - Type 10-SSSYJ3-31
  - Type 10-SSSYJ3-32
  - Type 10-SSSYJ3-33

- **Manifold base**
  - Type 10-SYJ3□/L52408

- **Protrusion for positioning**

### 5 port base mounted (Type 10-SYJ3□/43)

- **Applicable manifold base**
  - Type 10-SSSYJ3-41
  - Type 10-SSSYJ3-46

- **Manifold base**
  - Type 10-SYJ3□/L52408

- **Round head combination screw**
  - SY100-33-3
    - (M1.7 x 17, matt nickel plated)

**Note**

Apply the SYJ3000-14-7 manifold gasket for Type 10-SSSYJ3-31/-S31 and 10-SSSYJ3-32/-S32 manifold bases.

**Caution**

**Mounting screw tightening torque**

- M1.7: 0.12N·m

*Use caution to the assembly orientation for solenoid valves, gasket and option parts.*
### Type 20 manifold: Top ported / 10-SS5YJ3-20- Stations

**Grommet (G)**

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>91.7</td>
<td>31.5</td>
</tr>
<tr>
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<tr>
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<tr>
<td>4</td>
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<td>1.5</td>
</tr>
<tr>
<td>20</td>
<td>1.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**L plug connector (L)**

- Approx. 300 (Lead wire length)
- Pitch: P = 10.5
- Manual override

**M plug connector (M)**

- Approx. 300 (Lead wire length)
- 2 ø 3.5 (For mounting)
- M3 x 0.5 (A, B port)

**M8 connector (WO)**

- Refer to page 563 for dimensions with connector cable.

---

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
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<td>175.5</td>
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<td>18</td>
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<td>186</td>
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<td>19</td>
<td>203.5</td>
<td>196.5</td>
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<tr>
<td>20</td>
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<td>207</td>
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<tr>
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<td>224.5</td>
<td>217.5</td>
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</table>
Manifold specifications 10-SYJ3000

Type 31 manifold: Side ported / 10-SS5YJ3-31- Stations -M3

Grommet (G)

Type S3: Side ported
10-SS5YJ3-S31- Stations -M3

Pilot valve of single solenoid valve is located on the same side of A and B ports.

∗ Refer to page 563 for dimensions with connector cable.

<table>
<thead>
<tr>
<th>Stations n</th>
<th>2 stations</th>
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<th>12</th>
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<th>15</th>
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<th>18</th>
<th>19</th>
<th>20 stations</th>
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<td>196.5</td>
<td>207</td>
<td>217.5</td>
</tr>
</tbody>
</table>
Manifold specifications 10-SYJ3000

Type 32 manifold: Side ported / 10-SS5YJ3-32- Stations -M5, C4 / N3 - (With built-in One-touch fitting)

Grommet (G) M5

L plug connector (L)

M plug connector (M)

M8 connector (WO)

Type S32 manifold: Side ported / 10-SS5YJ3-S32- Stations -M5, C4 / N3 - (With built-in One-touch fitting)

SS5YJ3-32, S32- Stations -M5

10-SS5YJ3-32, S32- Stations -C4

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<thead>
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<td>430.5</td>
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</table>

<table>
<thead>
<tr>
<th>Stations n</th>
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<th>L2</th>
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<tr>
<td>20</td>
<td>412.5</td>
<td>423.5</td>
</tr>
</tbody>
</table>
Manifold specifications  10-SYJ3000

Type 41 manifold: Side ported / 10-SS5YJ3-41- Stations -M5, C4 [N3 □]

Grommet (G)
M5

C4 [N3 □] (With built-in One-touch fitting)

L plug connector (L)

M plug connector (M)

M8 connector (WO)

L plug connector (L)

M plug connector (M)

M8 connector (WO)

Type S41 manifold: Side ported / 10-SS5YJ3-S41- Stations -M5, C4 [N3 □]

M5

C4 [N3 □] (With built-in One-touch fitting)

| Stations n | 2 stations | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | stations |
|------------|------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|---|
| L1         | 39.5       | 50 | 60.5 | 71 | 81.5 | 92 | 102.5 | 113 | 123.5 | 134 | 144.5 | 155 | 165.5 | 176 | 186.5 | 197 | 207.5 | 218 | 228.5 |
| L2         | 31.5       | 42 | 52.5 | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 |

Grommet (G)
M5

* Refer to page 563 for dimensions with connector cable.

Type S41 manifold: Side ported / 10-SS5YJ3-S41- Stations -M5, C4 [N3 □]

Pilot valve of single solenoid valve is located on the same side of A and B ports.
Manifold specifications

Type 46 manifold: Side ported / 10-SS5YJ3-46- Stations -M5, C4 □

Grommet (G)
M5

Approx. 300
11.8
48.5 (55.5)

(Pitch) P = 10.5

Manual override

1/8 (P port)

Approx. 300

(Light/surge voltage suppressor)

(Station 1) - - - (Station n)

M5 x 0.8
(A, B port)

C4 □ (With built-in One-touch fitting)

M8 connector (WO)

Type S46 manifold: Side ported / 10-SS5YJ3-S46- Stations -M5, C4 □

M5

C4 □ (With built-in One-touch fitting)

L plug connector (L)

Approx. 300

0.8

33

48.5 (55.5)

≈ 14.5

(Pitch) P = 10.5

Manual override

1/8 (P port)

Approx. 300

(Light/surge voltage suppressor)

(Station 1) - - - (Station n)

C4 □ (With built-in One-touch fitting)

(Station 1)

(Light/surge voltage suppressor)

One-touch fitting
(A, B port)

Applicable tubing O.D.: ø4 and ø5/32"

Flow control equipment

Filter, Pressure control equipment

Fittings & Tubing

Air preparation equipment

Pressure switch

Clean gas filter
Manifold specifications 10-SYJ3000

Flat ribbon cable manifold

10-SS5YJ3-21P- Stations -00□

10-SS5YJ3-32P- Stations -M5, C4□
M5

C4□(With built-in One-touch fitting)

<table>
<thead>
<tr>
<th>Stations</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>
</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>
</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>
</tr>
</tbody>
</table>

Applicable connector: 26 pins MIL type
With strain relief
(Conforming to MIL-C-83503)
Series 10-SYJ5000

Rubber seal 5 port solenoid valve

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, 2 position double: 0.1 to 0.7, 3 position: 0.15 to 0.7</td>
</tr>
</tbody>
</table>

| Response time ms (0.5 MPa) | 2 position single, double: 25 or less, 3 position: 40 or less |

| Max. operating frequency (Hz) | 2 position single, double: 5, 3 position: 3 |

| Manual override (Manual operation) | Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type |
| Pilot exhaust method | Common exhaust for the main and pilot valve |
| Lubrication | Not required |
| Mounting orientation | Unrestricted |
| Impact/Vibration resistance m/s² | Note 2 |
| Enclosure | Dustproof (+ DIN terminal, M8 connector conforms to IP65) |

Solenoide specifications

| Electrical entry | Grommet(G), L plug connector (L), M plug connector (M), DIN terminal (D), M8 connector (W) |
| Rated coil voltage V | DC 24, 12, 6, 5, 3, 24, 12, AC 50/60Hz, 100, 110, 200, 220 |
| Allowable voltage fluctuation | ±10% of rated voltage * |
| Power consumption (W) | DC 100V: 0.78, 110V: 0.86, 200V: 1.18, 220V: 1.30, AC 100, 110, 200, 220, 115, DC 1.15, AC 1.30 |
| Apparent power (VA) * | AC 100V: 0.78, 110V: 0.86, 200V: 1.18, 220V: 1.30 |
| Surge voltage suppressor | Diode (DIN terminal, varistor for non-polar types) |
| Indicator light | LED (Neon light for DIN terminal AC) |

* Based on IEC60529

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

Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep between 45 and 2000Hz. Test was performed in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

Built-in speed controller

10-SYJ5□53

- 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 exhausting.

JIS Symbol

Body ported

| Type of actuation | Clean series |
| Rated voltage | Electrical entry |
| Manual override | Light/Surge voltage suppressor |
| Port size | Plate fixing screw |

How to order valve with built-in speed controller

10-SYJ5□53

- Made to order specifications (Refer to page 557 for details.)

Throttle valve characteristics (θ → R)

<table>
<thead>
<tr>
<th>Effective area (mm²)</th>
<th>0</th>
<th>0.1</th>
<th>0.2</th>
<th>0.3</th>
<th>0.4</th>
<th>0.5</th>
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</thead>
<tbody>
<tr>
<td>Throttle valve closed</td>
<td>(Fully closed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Throttle valve open</td>
<td>(Fully open)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: When using 10-SYJ5□53 model, the speed controller must be moved 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.
- Plate fixing screw

* 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</th>
<th>Weight (g)</th>
</tr>
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<tbody>
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<td></td>
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<td>4, 2</td>
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<td></td>
<td></td>
<td>1, 4/2 (P→A/B)</td>
<td>4/2→5/3 (A/B→EA/EB)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>C [dm³/(s·bar)]</td>
<td>b</td>
<td>C [dm³/(s·bar)]</td>
</tr>
<tr>
<td></td>
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<td>0.47</td>
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<td></td>
<td>0.20</td>
<td>0.37</td>
<td>0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.18</td>
<td>0.37</td>
<td>0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.16</td>
<td>0.37</td>
<td>0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.14</td>
<td>0.37</td>
<td>0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.12</td>
<td>0.37</td>
<td>0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.10</td>
<td>0.37</td>
<td>0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.08</td>
<td>0.37</td>
<td>0.11</td>
</tr>
</tbody>
</table>

**Note 1)** [ ] denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2

**Note 2)** ( ) Without sub-plate

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

#### Light/Surge voltage suppressor

<table>
<thead>
<tr>
<th>Electrical entry for G, H, L, M, W</th>
<th>Electrical entry for D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light/surge voltage suppressor</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>With surge voltage suppressor</td>
<td>With surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

* For AC voltage valves, there is no "S" option. It is already built-in to the rectifier circuit.
* For "R" and "U", DC voltage is only available. Power saving circuit is only available in the "Z" type.

#### Rated voltage

<table>
<thead>
<tr>
<th>DC specifications</th>
<th>AC specifications (50/60Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>100 VAC</td>
</tr>
<tr>
<td>12 VDC</td>
<td>200 VAC</td>
</tr>
<tr>
<td>6 VDC</td>
<td>110 VAC (115 VAC)</td>
</tr>
<tr>
<td>5 VDC</td>
<td>220 VAC (230 VAC)</td>
</tr>
</tbody>
</table>

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

#### A, B port size

<table>
<thead>
<tr>
<th>Base mounted</th>
<th>Body ported</th>
</tr>
</thead>
<tbody>
<tr>
<td>10—SYJ5 1 23</td>
<td>10—SYJ5 2 43</td>
</tr>
</tbody>
</table>

#### Coil specifications

<table>
<thead>
<tr>
<th>Standard</th>
<th>With power saving circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>&lt;For 24 and 12 VDC only&gt;</td>
</tr>
</tbody>
</table>

* Power saving circuit is only available in the case of "D", "DO" or "W" type.

#### Electrical entry

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC</th>
<th>24, 12 VDC, 100, 110, 200, 220 VAC</th>
<th>24, 12 VDC, 6, 5, 3 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grommet L plug connector M plug connector</td>
<td>DIN terminal M8 connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G: Lead wire length 300 mm</td>
<td>L: With lead wire (length 300 mm) M: With lead wire (length 300 mm) MN: Without lead wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire LD: Without connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W: With connector cable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E: Push-turn locking lever type</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Port size

- Nil: Without sub-plate
- D: Push-turn locking slotted type
- E: Push-turn locking lever type
- 01: 1/8 with sub-plate

#### Thread type

<table>
<thead>
<tr>
<th>Nil</th>
<th>Rc</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td>N</td>
<td>NPT</td>
</tr>
<tr>
<td>T</td>
<td>NPTF</td>
</tr>
</tbody>
</table>

#### Note

1) Be sure to enter a symbol of the cable length with reference to page 562.
## How to Order Pilot Valve Assembly

### 10—V111

<table>
<thead>
<tr>
<th>Clean series</th>
<th>5 G</th>
</tr>
</thead>
</table>

### Coil specifications

<table>
<thead>
<tr>
<th>Nil</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>With power saving circuit &lt;24 and 12 VDC only</td>
</tr>
</tbody>
</table>

- Power saving circuit is not available in the case of "W" type.

### Rated voltage

<table>
<thead>
<tr>
<th>5</th>
<th>24 VDC</th>
</tr>
</thead>
<tbody>
<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>
<tr>
<td>1</td>
<td>100 VAC 50/60Hz</td>
</tr>
<tr>
<td>2</td>
<td>200 VAC 50/60Hz</td>
</tr>
<tr>
<td>3</td>
<td>110 VAC 50/60Hz [115 VAC 50/60Hz]</td>
</tr>
<tr>
<td>4</td>
<td>220 VAC 50/60Hz [230 VAC 50/60Hz]</td>
</tr>
</tbody>
</table>

- For type "W"/T, DC voltage is only available.

### Light/Surge voltage suppressor

<table>
<thead>
<tr>
<th>Nil</th>
<th>Without light/surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>With surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

- For AC voltage valves, there is no "S" option. It is already built-in to the rectifier circuit.
- For "R" and "U", DC voltage is only available.

### Electrical entry

<table>
<thead>
<tr>
<th>5</th>
<th>DIN terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>With connector</td>
</tr>
<tr>
<td>H</td>
<td>Without connector</td>
</tr>
</tbody>
</table>

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

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

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

### Lead wire length

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

### How to Order M8 Connector Cable

<table>
<thead>
<tr>
<th>V100-49-1-</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cable length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>7</td>
</tr>
</tbody>
</table>

### Note 1)

Be sure to enter a symbol of the cable length with reference to page 562.
2 position single

Grommet (G), (H): 10-SYJ5123-□□□□-M5

With bracket 10-SYJ5123-□□□□-M5-F

L plug connector (L): 10-SYJ5123-□□□□-M5(-F)
M plug connector (M): 10-SYJ5123-□□□□-M5(-F)
DIN Terminal (D): 10-SYJ5123-□□□□-M5(-F)
M8 connector (WO): 10-SYJ5123-□□□□-M5(-F)

* Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ5000

2 position double

Grommet (G), (H): 10-SYJ5223-□□□□□M5

Built-in One-touch fitting 10-SYJ5223-□□□□□□□□□□C4N3 C6N7

L plug connector (L): 10-SYJ5223-□L□□□M5
M plug connector (M): 10-SYJ5223-□□□□□M5
DIN Terminal (D): 10-SYJ5223-□D□□□M5
M8 connector (WO): 10-SYJ5223-□WO□□□M5

Refer to page 563 for dimensions with connector cable.
3 position closed center / exhaust center / pressure center

Grommet (G), (H): 10-SYJ5\textfrac{3}{16}\times 3\times L52408-M5

Built-in One-touch fitting: 10-SYJ5\textfrac{3}{16}\times 3\times C6,N7

L plug connector (L): 10-SYJ5\textfrac{3}{16}\times 3\times L52408-M5
M plug connector (M): 10-SYJ5\textfrac{3}{16}\times 3\times M52408-M5
DIN Terminal (D): 10-SYJ5\textfrac{3}{16}\times 3\times D52408-M5
M8 connector (WO): 10-SYJ5\textfrac{3}{16}\times 3\times W052408-M5

* Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ5000

2 position single

Grommet (G), (H): 10-SYJ5143-□□-01

G: Approx. 300
H: Approx. 600

Built-in speed controller: 10-SYJ5153-□□-01

L plug connector (L): 10-SYJ5143-□□-01
M plug connector (M): 10-SYJ5143-□□-01
DIN Terminal (D): 10-SYJ5143-□□-01
M8 connector (WO): 10-SYJ5143-□□-01

Applicable cable O.D. ∅3.5 to ∅7

Refer to page 563 for dimensions with connector cable.
2 position double

Grommet (G), (H): 10-SYJ5243-□□□-01

<table>
<thead>
<tr>
<th>Port</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B (1/8)</td>
<td>50.1[57.1]</td>
</tr>
<tr>
<td>(For mounting)</td>
<td>34.7</td>
</tr>
</tbody>
</table>

Manual override

<table>
<thead>
<tr>
<th>Port</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.5</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>8.5</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Built-in speed controller: 10-SYJ5253-□□□-01

<table>
<thead>
<tr>
<th>Port</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX</td>
<td>13.5</td>
</tr>
</tbody>
</table>

(Light/surge voltage suppressor)

<table>
<thead>
<tr>
<th>Port</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>17</td>
<td>45.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.5</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>1.5</td>
<td>87.2[91.6]</td>
</tr>
</tbody>
</table>

Approx. 300 (Lead wire length)

Applicable cable O.D: ø3.5 to ø7

L plug connector (L): 10-SYJ5243-□□□-01

M plug connector (M): 10-SYJ5243-□□□-01

DIN Terminal (D): 10-SYJ5243-□□□-01

M8 connector (WO): 10-SYJ5243-□□□-01

Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ5000

3 position closed center / Exhaust center / Pressure center

Grommet (G), (H): 10-SYJ5\(^5\)\(^3\) 43-□□-01□

Built-in speed controller:
10-SYJ5\(^5\)\(^3\) 53-□□-01□

M plug connector (M):
10-SYJ5\(^5\)\(^3\) 43-□□-01□

DIN Terminal (D):
10-SYJ5\(^5\)\(^3\) 43-□□-01□

M8 connector (WO):
10-SYJ5\(^5\)\(^3\) 43-□□-01□

Applicable cable O.D. ø3.5 to ø7

* Refer to page 563 for dimensions with connector cable.
### Series 10-SYJ5000

#### 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>Common SUP / Common EXH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P (SUP) / R (EXH)</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>Location</td>
<td>Valve</td>
<td>Base</td>
<td>Base</td>
<td>P, R port</td>
</tr>
<tr>
<td>A, B port piping</td>
<td>Direction</td>
<td>Base</td>
<td>Base</td>
<td>1/8</td>
<td>1/8</td>
</tr>
<tr>
<td>Specifications</td>
<td>Port size</td>
<td>M5 x 0.8</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td>Manifold model</td>
<td>Flow characteristics</td>
<td>Port size</td>
<td>Flow characteristics</td>
<td>Port size</td>
<td>1→4/2 (P→A/B)</td>
</tr>
</tbody>
</table>

#### Flow characteristics

<table>
<thead>
<tr>
<th>Manifold model</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
</table>

#### 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 number.

**Example**

10-SSYJ5-20-03 1 set (Manifold base)

* 10-SYJ5123-5G-M5 2 sets (Valve)

SYJ5000-21-4A 1 set (Blanking plate assembly)

10-SSYJ5-43-03-C4 1 set (Manifold base)

* 10-SYJ5143-5LZ 1 set (Valve)

* SYJ5000-21-4A 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.

Note: Value at manifold base mounted, 2 position single operating
Manifold specifications 10-SYJ5000

Flat ribbon cable manifold

- Multiple valve wiring is simplified through the use of the flat ribbon 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 20P</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></td>
</tr>
<tr>
<td>P(SUP) / R(EXH)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>3 to 12 stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port piping specifications</td>
<td>Location</td>
<td>Valve</td>
<td>Base</td>
</tr>
<tr>
<td></td>
<td>P, R port</td>
<td>1/8</td>
<td>Side</td>
</tr>
<tr>
<td>Port size</td>
<td>A, B port</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M5 x 0.8</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Socket: 26 pins MIL type with strain relief (Conforming to MIL-C-83503)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal wiring</td>
<td>In common between +COM and –COM (Z type: +COM only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>12, 24 VDC 100, 110 VAC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) The withstand voltage specification for the wiring section conforms to JIS C0704, 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>Body ported for internal pilot</td>
<td>10-SSYJ5-20P</td>
<td>1/8 M5 x 0.8</td>
</tr>
<tr>
<td>Base mounted for internal pilot</td>
<td>10-SSYJ5-41P</td>
<td>1/8 C4</td>
</tr>
<tr>
<td></td>
<td>10-SSYJ5-43P</td>
<td>1/8 C6</td>
</tr>
</tbody>
</table>

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

How to Order Manifolds (Example)

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model number. Example 10-SSYJ5-41P-07-C4 ---- 1 set (Manifold base)
- 10-SYJ5143-5LOU……………… 3 sets (Valve)
- 10-SYJ5243-SLOU……………… 3 sets (Valve)
- SYJ5000-21-3A……………… 1 set (Blanking plate assembly)
- SY3000-37-28A……………… 3 sets (Connector assembly)
- SY3000-37-29A……………… 3 sets (Connector assembly)

* Use manifold specification sheet.

How to Order Valves

For DC10—SYJ5

Rated voltage

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Rated voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 position single</td>
<td>100 VAC</td>
</tr>
<tr>
<td>2 2 position double</td>
<td>110 VAC (115 VAC)</td>
</tr>
<tr>
<td>3 3 position closed center</td>
<td>24 VDC</td>
</tr>
<tr>
<td>4 3 position exhaust center</td>
<td>12 VDC</td>
</tr>
<tr>
<td>5 3 position pressure center</td>
<td>6 12 VDC</td>
</tr>
</tbody>
</table>

Light/surge voltage suppressor

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>U</td>
<td>With surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

Note) Z: Positive common specifications only.

Manual override

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Non-locking push type</td>
</tr>
<tr>
<td>D</td>
<td>Push-turn locking slotted type</td>
</tr>
<tr>
<td>E</td>
<td>Push-turn locking lever type</td>
</tr>
</tbody>
</table>

How to Order Connector Assembly

For 12, 24 VDC

<table>
<thead>
<tr>
<th>Type of solenoid</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single solenoid</td>
<td>SY3000-37-28A</td>
</tr>
<tr>
<td>Double solenoid</td>
<td>SY3000-37-32A</td>
</tr>
</tbody>
</table>

For 100 VAC

<table>
<thead>
<tr>
<th>Type of solenoid</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single solenoid</td>
<td>SY3000-37-28A</td>
</tr>
<tr>
<td>Double solenoid</td>
<td>SY3000-37-32A</td>
</tr>
</tbody>
</table>

For 100 VAC (115 VAC)

<table>
<thead>
<tr>
<th>Type of solenoid</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single solenoid</td>
<td>SY3000-37-32A</td>
</tr>
<tr>
<td>Double solenoid</td>
<td>SY3000-37-44A</td>
</tr>
</tbody>
</table>

Note) In the case of flat ribbon cable type, "U" and "Z" types are for DC specifications and "Z" type is for AC specifications. "Z" type for DC is positive common specifications only. For other combinations, please contact SMC.
Common SUP / Common EXH

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

Manifold stations

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>M5 x 0.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>P port</td>
<td>1/8</td>
</tr>
<tr>
<td>R port</td>
<td>1/8</td>
</tr>
</tbody>
</table>

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

Manifold stations

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>M5 x 0.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>P port</td>
<td>1/8</td>
</tr>
<tr>
<td>R port</td>
<td>1/8</td>
</tr>
</tbody>
</table>

**Type 41 (5 port / base mounted)**

Manifold stations

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>M5 x 0.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>R port</td>
<td>1/8</td>
</tr>
<tr>
<td>P port</td>
<td>1/8</td>
</tr>
</tbody>
</table>

**Type 42 (5 port / base mounted)**

Manifold stations

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>M5 x 0.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>R port</td>
<td>1/4</td>
</tr>
<tr>
<td>P port</td>
<td>1/4</td>
</tr>
</tbody>
</table>

**Type 43 (5 port / base mounted)**

Manifold stations

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>C4</th>
</tr>
</thead>
<tbody>
<tr>
<td>P port</td>
<td>1/8</td>
</tr>
<tr>
<td>R port</td>
<td>1/8</td>
</tr>
</tbody>
</table>

**How to Order**

10-SYJ5-20-05

- Clean series
- Number of stations:
  - 02: 2 stations
  - 20: 20 stations
- P, R port thread type:
  - Nil
  - M5

**Applicable solenoid valve**

10-SYJ5-23

**Applicable blanking plate assembly**

SYJ5000-21-4A

**Applicable individual EXH spacer assembly**

SYJ5000-17-1A

**Type 43 (5 port / base mounted)**

Manifold stations

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>C4</th>
</tr>
</thead>
<tbody>
<tr>
<td>P port</td>
<td>1/8</td>
</tr>
<tr>
<td>R port</td>
<td>1/8</td>
</tr>
</tbody>
</table>

**How to Order**

10-SYJ5-43-05

- Clean series
- Number of stations:
  - 02: 2 stations
  - 20: 20 stations
- P, R port thread type:
  - Nil
  - C4

**Applicable solenoid valve**

10-SYJ5-43

**Applicable blanking plate assembly**

SYJ5000-21-4A

**Applicable individual EXH spacer assembly**

SYJ5000-17-1A

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

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 20P (5 port / body ported)

**How to Order**

10-SS5YJ5-20P-05

- Clean series

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>3 stations</td>
</tr>
<tr>
<td>12</td>
<td>12 stations</td>
</tr>
</tbody>
</table>

- **Applicable solenoid valve**
  - Refer to page 526.

- **Applicable blanking plate assembly**
  - SYJ5000-21-3A

- **Applicable connector assembly**
  - Refer to page 526.

### Type 41P (5 port / base mounted)

**How to Order**

10-SS5YJ5-41P-M5

- Clean series

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>P, R port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>3 stations</td>
</tr>
<tr>
<td>12</td>
<td>12 stations</td>
</tr>
</tbody>
</table>

- **Applicable solenoid valve**
  - Refer to page 526.

- **Applicable blanking plate assembly**
  - SYJ5000-21-3A

- **Applicable connector assembly**
  - Refer to page 526.

### Type 43P (5 port / base mounted)

**How to Order**

10-SS5YJ5-43P-C4

- Clean series

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>Number of stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>3 stations</td>
</tr>
<tr>
<td>N3</td>
<td>12 stations</td>
</tr>
</tbody>
</table>

- **Applicable solenoid valve**
  - Refer to page 526.

- **Applicable blanking plate assembly**
  - SYJ5000-21-3A

- **Applicable connector assembly**
  - Refer to page 526.

### <Manifold option>

**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: DXT192-10-14

- **Round head combination screw**
  - M2.5 x 25 Matt nickel plated (With spring washer)
  - Manifold gasket: DXT192-10-16

### Blanking plate assembly

**SYJ5000-21-4A**

- Round head combination screw
  - Blanking plate
  - Gasket
  - Applicable base:
    - 10-SSSYJ5-20
    - 10-SSSYJ5-40
    - 10-SSSYJ5-41
    - 10-SSSYJ5-42
    - 10-SSSYJ5-43

**SYJ5000-21-3A**

- Round head combination screw
  - Blanking plate
  - Gasket
  - Applicable base:
    - 10-SSSYJ5-20P
    - 10-SSSYJ5-41P
    - 10-SSSYJ5-43P

---

**Caution**

Mounting screw tightening torque

- M2.5: 0.45N·m

Use caution to the assembly orientation for solenoid valve, gasket, and optional parts.
<Manifold option>
Mix installation of the 10-SYJ500 and the 10-SYJ5000 valves on the same manifold

- Use of an adapter plate makes it possible to mount Series 10-SYJ500 on the manifold bases of series 10-SYJ5000.
- When mounting the 10-SYJ500 valve on the 10-SYJ5000 manifold, the 10-SYJ5000 solenoid must be positioned on the same side of the manifold as a single solenoid of 10-SYJ5000.
- For base mounted style, the A port of the 3 port valve flows out the B port of manifold base.

### Adaptor plate assembly

**SYJ500-3-2A**

- Round head combination screw
- Gasket
- Adaptor plate
- Adaptor gasket

**Applicable base**
- 10-SSSYJ5-20

**SYJ500-3-1A**

- Round head combination screw
- Adaptor plate
- Adaptor gasket

**Applicable base**
- 10-SSSYJ5-40
- 10-SSSYJ5-41
- 10-SSSYJ5-42
- 10-SSSYJ5-43

### Individual EXH spacer assembly

**SYJ5000-17-1A**

- Round head combination screw
- Manifold gasket

**Applicable base**
- 10-SSSYJ5-20
- 10-SSSYJ5-40
- 10-SSSYJ5-41
- 10-SSSYJ5-42
- 10-SSSYJ5-43

### Individual SUP spacer assembly

**SYJ5000-16-2**

- Round head combination screw
- Manifold gasket

**Applicable base**
- 10-SSSYJ5-41
- 10-SSSYJ5-42
- 10-SSSYJ5-43

**Caution**

- Mounting screw tightening torque
  - M2.5: 0.45N·m

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
Manifold specifications 10-SYJ5000

Type 20: Top ported / 10-SS5YJ5-20-Stations-00

Grommet (G)

(Approx. 300)

(Lead wire length)

Manual override

L2

L1

P = 16

2.5

2.5

4-ø4.5

For mounting

M5 x 0.8

(A, B port)

Built-in One-touch fitting

(Light/surge voltage suppressor)

Approx. 300

(Lead wire length)

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

<table>
<thead>
<tr>
<th>Stations n</th>
<th>1</th>
<th>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>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>
<td></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>
<td></td>
</tr>
</tbody>
</table>

* Refer to page 563 for dimensions with connector cable.
**Type 40: Bottom ported / 10-SSYJ5-40- Stations -M5**

**Grommet (G)**

![Grommet Diagram]

**Built-in speed controller**

![Built-in speed controller Diagram]

**L plug connector (L)  M plug connector (M)  DIN Terminal (D)  M8 connector (WO)**

![Connector Diagrams]

**Manifold specifications 10-SYJ5000**

+ Refer to page 563 for dimensions with connector cable.
Manifold specifications 10-SYJ5000

Type 41: Side ported / 10-SS5YJ5-41- Stations-M5

Grommet (G)

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

Stations n  L1  L2

<table>
<thead>
<tr>
<th>Stations n</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>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>
</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>
</tr>
</tbody>
</table>

* Refer to page 563 for dimensions with connector cable.

Refer to page 563 for dimensions with connector cable.
### Manifold specifications 10-SYJ5000

**Type 42: Side ported / 10-SS5YJ5-42- Stations 01, C6 N7**

**Grommet (G)**

- **01**

**C6 N7** (With built-in One-touch fitting)

- **Approx. 300**
- **17.5**
- **24**
- **44**
- **10.5**
- **1/4**
- **64.6 [66.8]**
- **87.2 [91.6]**
- **15.9**
- **1/8**
- **(A, B port)**
- **43.1 (DIN 1/8)**
- **42.5 (DIN 1/4)**
- **44.7 (DIN 1/2)**
- **64.8 (DIN 3/4)**
- **68.0 (DIN 1)**
- **87.2 (DIN 1-1/4)**
- **103.2 (DIN 1-1/2)**
- **123.2 (DIN 2)**

**Manual override**

- **P = 17**
- **2-ø6.5**

### Built-in speed controller

- **MAX 13.5**
- **56.5**
- **(Station 1) - - (Station n)**

**One-touch fitting**

- **A, B port**
- **Applicable tubing**

**Light/surge voltage suppressor**

- **A, B port**

**L plug connector (L) M plug connector (M) DIN Terminal (D) M8 connector (WO)**

- **Applicable cable O.D. ø3.5 to ø7**

<table>
<thead>
<tr>
<th>A, B port size</th>
<th>L1</th>
<th>L2</th>
<th>C6 N7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8</td>
<td>100</td>
<td>104</td>
<td>129</td>
</tr>
<tr>
<td>1/8</td>
<td>117</td>
<td>121</td>
<td>145</td>
</tr>
<tr>
<td>1/8</td>
<td>134</td>
<td>138</td>
<td>155</td>
</tr>
<tr>
<td>1/8</td>
<td>151</td>
<td>158</td>
<td>185</td>
</tr>
<tr>
<td>1/8</td>
<td>168</td>
<td>172</td>
<td>202</td>
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<td>1/8</td>
<td>188</td>
<td>202</td>
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<td>253</td>
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<td>273</td>
<td>293</td>
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<td>287</td>
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<td>2322</td>
</tr>
<tr>
<td>1/8</td>
<td>2322</td>
<td>2342</td>
<td>2362</td>
</tr>
<tr>
<td>1/8</td>
<td>2362</td>
<td>2382</td>
<td>2402</td>
</tr>
<tr>
<td>1/8</td>
<td>2402</td>
<td>2422</td>
<td>2442</td>
</tr>
<tr>
<td>1/8</td>
<td>2442</td>
<td>2462</td>
<td>2482</td>
</tr>
<tr>
<td>1/8</td>
<td>2482</td>
<td>2502</td>
<td>2522</td>
</tr>
<tr>
<td>1/8</td>
<td>2522</td>
<td>2542</td>
<td>2562</td>
</tr>
<tr>
<td>1/8</td>
<td>2562</td>
<td>2582</td>
<td>2602</td>
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<tr>
<td>1/8</td>
<td>2602</td>
<td>2622</td>
<td>2642</td>
</tr>
<tr>
<td>1/8</td>
<td>2642</td>
<td>2662</td>
<td>2682</td>
</tr>
<tr>
<td>1/8</td>
<td>2682</td>
<td>2702</td>
<td>2722</td>
</tr>
<tr>
<td>1/8</td>
<td>2722</td>
<td>2742</td>
<td>2762</td>
</tr>
<tr>
<td>1/8</td>
<td>2762</td>
<td>2782</td>
<td>2802</td>
</tr>
<tr>
<td>1/8</td>
<td>2802</td>
<td>2822</td>
<td>2842</td>
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<td>1/8</td>
<td>2842</td>
<td>2862</td>
<td>2882</td>
</tr>
<tr>
<td>1/8</td>
<td>2882</td>
<td>2902</td>
<td>2922</td>
</tr>
<tr>
<td>1/8</td>
<td>2922</td>
<td>2942</td>
<td>2962</td>
</tr>
<tr>
<td>1/8</td>
<td>2962</td>
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<td>3002</td>
</tr>
<tr>
<td>1/8</td>
<td>3002</td>
<td>3022</td>
<td>3042</td>
</tr>
<tr>
<td>1/8</td>
<td>3042</td>
<td>3062</td>
<td>3082</td>
</tr>
<tr>
<td>1/8</td>
<td>3082</td>
<td>3102</td>
<td>3122</td>
</tr>
<tr>
<td>1/8</td>
<td>3122</td>
<td>3142</td>
<td>3162</td>
</tr>
<tr>
<td>1/8</td>
<td>3162</td>
<td>3182</td>
<td>3202</td>
</tr>
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<td>1/8</td>
<td>3202</td>
<td>3222</td>
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<tr>
<td>1/8</td>
<td>3242</td>
<td>3262</td>
<td>3282</td>
</tr>
<tr>
<td>1/8</td>
<td>3282</td>
<td>3302</td>
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</tr>
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<td>1/8</td>
<td>3322</td>
<td>3342</td>
<td>3362</td>
</tr>
<tr>
<td>1/8</td>
<td>3362</td>
<td>3382</td>
<td>3402</td>
</tr>
</tbody>
</table>

- **+** Other dimensions are the same as the grommet type.

- **Refer to page 563 for dimensions with connector cable.**
Manifold specifications  10-SYJ5000

**Type 43: Side ported / 10-SS5YJ5-43- Stations**

Grommet (G)

**Built-in speed controller**

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

<table>
<thead>
<tr>
<th>Stations n</th>
<th>1</th>
<th>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>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>52</td>
<td></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></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>

- Refer to page 563 for dimensions with connector cable.
Flat ribbon cable manifold

10-SS5YJ5-20P - Stations -00

10-SS5YJ5-41P - Stations -M5

Max. 13.5 [V] (Light/surge voltage suppressor)

1/8 (P, R port)

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

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

C4, N3
C6, N7
(With built-in One-touch fitting)

Built-in speed controller

L1

L2

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Filtering & Tubing

Air preparation equipment

Pressure switch

Clean gas filter

SMC

535
Manifold specifications 10-SYJ5000

Flat ribbon cable manifold

10-SS5YJ5-43P- Stations

<table>
<thead>
<tr>
<th>Stations</th>
<th>1 station</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 stations</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>
Series 10-SYJ7000  Rubber seal 5 port solenoid valve

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></td>
<td>2 position double 0.1 to 0.7</td>
</tr>
<tr>
<td></td>
<td>3 position       0.15 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50 (with no freezing. Refer to page 714.)</td>
</tr>
<tr>
<td>Response time ms (0.5MPa)</td>
<td>2 position single, double 30 or less</td>
</tr>
<tr>
<td></td>
<td>3 position       60 or less</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double 5</td>
</tr>
<tr>
<td></td>
<td>3 position       3</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>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>Impact/Vibration resistance m/s²</td>
<td>Base mounted 0.15/30</td>
</tr>
<tr>
<td></td>
<td>Base mounted 0.1/150</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dustproof (∗DIN terminal, M8 connector conforms to IP65.)</td>
</tr>
</tbody>
</table>

Solenoid specifications

| Electrical entry | Grommet (G), (H) |
|                 | L plug connector (L) |
|                 | M plug connector (M) |
|                 | DIN terminal (D) |
|                 | M8 connector (W) |
|                  | G, H, L, M, W     |
|                  | D                 |
| Coil rated voltage V | DC 24, 12, 6, 5, 3 |
|                     | AC 50/60Hz 100, 110, 200, 220 |
| Power consumption (W) | 0.35 (With indicator light: 0.46) |
|                     | 0.78 (With indicator light only) |
| Apparent power (VA) | 0.86 (With indicator light: 0.97) |
|                     | 0.94 (With indicator light: 1.07) |
| Surge voltage suppressor | LED (Neon light when AC with DIN terminal) |

* Based on IEC60529
Note 1) Based on dynamic performance test, JIS B 8375-1981. (Oil temperature : 20°C, at rated voltage, without surge voltage suppressor)
Note 2) Impact resistance: No malfunction occurred when tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)
Vibration resistance: No malfunction occurred in one sweep between 45 and 2000Hz. Test was performed in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Value in the initial state)

Made to order specifications (Refer to page 557 for details.)
## Flow characteristics / Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1/8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note 1** [ ] denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2

**Note 2** ( ): Without sub-plate

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

Light/Surge voltage suppressor for G, H, L, M, W
- Nil: 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 for D
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor (Non-polar type)
- Z: With light/surge voltage suppressor (Non-polar type)

Prefix (D - 01) for G, H, L, M, W

AC specifications (50/60Hz)
- 100 VAC
- 200 VAC
- 110 VAC [115 VAC]
- 220 VAC [230 VAC]

DC specifications
- 5 VDC
- 6 VDC
- 10 VDC [115 VAC]
- 12 VDC
- 24 VDC

Thread type
- Nil: Without sub-plate
- F: 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 retrofitted.

Body ported 10-SYJ7 1 23 5 M 01

Base mounted 10-SYJ7 2 43 5 M

Coil specifications
- Nil: Standard
- T: With power saving circuit
  - For 24 and 12 VDC only

Manual override
- Nil: Non-locking push type
- F: Push-turn locking slotted type

Port size
- Nil: Without sub-plate
- 1/8 with sub-plate
- 1/4 with sub-plate

Electrical entry

<table>
<thead>
<tr>
<th>Grommet</th>
<th>L plug connector</th>
<th>M plug connector</th>
<th>DIN terminal</th>
<th>G: Lead wire length 300 mm</th>
<th>H: Lead wire length 600 mm</th>
<th>L: With lead wire (length 300 mm)</th>
<th>M: With lead wire (length 300 mm)</th>
<th>MN: Without lead wire</th>
<th>D: With connector</th>
<th>WO: Without connector</th>
</tr>
</thead>
</table>

Note 1) Be sure to enter a symbol of the cable length with reference to page 562.

Note 2) DIN terminal type "Y" conforming to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 557.

* LN, MN type: with 2 sockets.
* For connector cable of M8 connector, refer to page 562.

5 port solenoid valve Series 10-SYJ7000
How to Order Pilot Valve Assembly

10—V111

Clean series

Coil specifications

<table>
<thead>
<tr>
<th>Nil</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>Power saving circuit for 24 and 12 VDC only</td>
</tr>
</tbody>
</table>

Rated voltage

- For type "WL", DC voltage is only available.

Light/Surge voltage suppressor

<table>
<thead>
<tr>
<th>Nil</th>
<th>Without light/surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>With surge voltage suppressor</td>
</tr>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor</td>
</tr>
<tr>
<td>R</td>
<td>With surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>U</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

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

- For "R" and "U", DC voltage is only available.
- Power saving circuit is only available in the "Z" type.

Electrical entry

- Grommet (Lead wire length 300 mm)
- Without lead wire

- DIN terminal

- Without connector

Note 1: Be sure to enter a symbol of the cable length with reference to page 562.

How to Order L/M Plug Connector Assembly

For DC: SY100-30-4A-
For 100 VAC: SY100-30-1A-
For 200 VAC: SY100-30-2A-
For other voltages of AC: SY100-30-3A-
Without lead wire (With connector and 2 of sockets only): SY100-30-A

Lead wire length

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

How to Order M8 Connector Cable

V100-49-1-

Cable length

<table>
<thead>
<tr>
<th>1</th>
<th>300mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>500mm</td>
</tr>
<tr>
<td>3</td>
<td>1000mm</td>
</tr>
<tr>
<td>4</td>
<td>2000mm</td>
</tr>
<tr>
<td>7</td>
<td>5000mm</td>
</tr>
</tbody>
</table>
2 position single

Grommet (G), (H): 10-SYJ7123-□□□-01□

With bracket
10-SYJ7123-□□□-01□-F

Built-in One-touch fitting:
10-SYJ7123-□□□□□□□□□□□□□□□□□□□□□□-F

L plug connector (L)
10-SYJ7123-□□□-01□ (-F)

M plug connector (M)
10-SYJ7123-□□□-01□ (-F)

DIN Terminal (D):
10-SYJ7123-□□□-01□ (-F)

M8 connector (WO):
10-SYJ7123-□□□-01□ (-F)

Applicable cable O.D.
ø3.5 to ø5

Applicable tubing O.D.: ø6, ø1/4" : ø8, ø5/16"

+ Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ7000

2 position double

Grommet (G), (H): 10-SYJ7223-G-H-01

Built-in One-touch fitting:
10-SYJ7223-G-H-01

L plug connector (L): 10-SYJ7223-L-01
M plug connector (M): 10-SYJ7223-M-01
DIN Terminal (D): 10-SYJ7223-D-01
M8 connector (WO): 10-SYJ7223-WO-01

∗ Refer to page 563 for dimensions with connector cable.
3 position closed center / Exhaust center / Pressure center

Grommet (G), (H): 10-SYJ7\(\frac{3}{5}\)23-L□□-01

Built-in One-touch fitting:
10-SYJ7\(\frac{3}{5}\)23-□□□-□□-□□, □□

L plug connector (L):
10-SYJ7\(\frac{3}{5}\)23-L□□-01

M plug connector (M):
10-SYJ7\(\frac{3}{5}\)23-M□□-01

DIN Terminal (D):
10-SYJ7\(\frac{3}{5}\)23-D□□-01

M8 connector (WO):
10-SYJ7\(\frac{3}{5}\)23-WO□□-01

* Refer to page 563 for dimensions with connector cable.
5 port solenoid valve Series 10-SYJ7000

2 position single

Grommet (G), (H): 10-SYJ7143-□□□-□□

L plug connector (L):
M plug connector (M):
DIN Terminal (D):
M8 connector (WO):

Manual override

G: Approx. 300
H: Approx. 600

(Lead wire length)

(Light/surge voltage suppressor)

Applicable cable O.D.
e3.5 to ø7

+ Refer to page 563 for dimensions with connector cable.
2 position double

Grommet (G), (H): 10-SYJ7243-□□□-□□-01-02-

L plug connector (L): 10-SYJ7243-□□□-□□□-01-02-
M plug connector (M): 10-SYJ7243-□□□-□□□-01-02-
DIN Terminal (D): 10-SYJ7243-□□□-□□□-01-02-
M8 connector (WO): 10-SYJ7243-□□□-□□□-01-02-

- Refer to page 563 for dimensions with connector cable.
## 5 port solenoid valve Series 10-SYJ7000

### 3 position closed center / Exhaust center / Pressure center

Grommet (G), (H): 10-SYJ7\(\frac{3}{4}\)\(\frac{43}{146.2}\)\(\frac{63}{146.1}\)

<table>
<thead>
<tr>
<th>Component</th>
<th>Part Number</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual override</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Light/surge voltage suppressor)</td>
<td>1/4, 1/8 (P, A, B port)</td>
<td></td>
</tr>
</tbody>
</table>

### L plug connector (L):
10-SYJ7\(\frac{3}{4}\)\(\frac{43}{146.2}\)\(\frac{63}{146.1}\)

<table>
<thead>
<tr>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>57.5(64.5)</td>
</tr>
<tr>
<td>42.1</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>22</td>
</tr>
<tr>
<td>55.5</td>
</tr>
<tr>
<td>25.5</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>11.5</td>
</tr>
</tbody>
</table>

### M plug connector (M):
10-SYJ7\(\frac{3}{4}\)\(\frac{43}{146.2}\)\(\frac{63}{146.1}\)

<table>
<thead>
<tr>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>68.6(75.6)</td>
</tr>
<tr>
<td>51.6</td>
</tr>
<tr>
<td>31.5</td>
</tr>
<tr>
<td>11.5</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>25.5</td>
</tr>
</tbody>
</table>

### DIN Terminal (D):
10-SYJ7\(\frac{3}{4}\)\(\frac{43}{146.2}\)\(\frac{81.1}{122.2}(126.6)\)

<table>
<thead>
<tr>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>122(126.6)</td>
</tr>
<tr>
<td>68.6(75.6)</td>
</tr>
<tr>
<td>51.6</td>
</tr>
<tr>
<td>31.5</td>
</tr>
<tr>
<td>11.5</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>25.5</td>
</tr>
</tbody>
</table>

### M8 connector (WO):
10-SYJ7\(\frac{3}{4}\)\(\frac{43}{146.2}\)\(\frac{87.6}{141.8}(146.2)\)

<table>
<thead>
<tr>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>87.6</td>
</tr>
<tr>
<td>57.1</td>
</tr>
<tr>
<td>31.5</td>
</tr>
<tr>
<td>11.5</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>25.5</td>
</tr>
</tbody>
</table>

### Applicable cable O.D.
- \(\phi 3.5\) to \(\phi 7\)

* Refer to page 563 for dimensions with connector cable.
## Manifold specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type 20</th>
<th>Type 21</th>
<th>Type 40</th>
<th>Type 41</th>
<th>Type 42</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 15 stations</td>
<td>2 to 20 stations</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>Base</td>
<td>Side</td>
</tr>
<tr>
<td>P, R port</td>
<td>1/8</td>
<td></td>
<td>1/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>1/8</td>
<td>C8 (One-touch fitting for ø8)</td>
<td>1/8</td>
<td>C6 (One-touch fitting for ø6)</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>Body ported for internal pilot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/8</td>
<td>1/8</td>
<td>2.2</td>
</tr>
<tr>
<td>1/8</td>
<td>C6</td>
<td>1.4</td>
</tr>
<tr>
<td>1/8</td>
<td>C8</td>
<td>1.7</td>
</tr>
<tr>
<td>1/4</td>
<td>1/8</td>
<td>2.1</td>
</tr>
<tr>
<td>1/4</td>
<td>C6</td>
<td>1.4</td>
</tr>
<tr>
<td>1/4</td>
<td>C8</td>
<td>1.8</td>
</tr>
</tbody>
</table>

### How to Order Manifold

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model number.

Example

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SSSYJ7-20-03</td>
<td>Manifold base</td>
<td>1 set</td>
</tr>
<tr>
<td>10-SSSYJ7-21-1A</td>
<td>Blanking plate assembly</td>
<td>1 set</td>
</tr>
<tr>
<td>10-SSSYJ7-40-C6</td>
<td>Valve</td>
<td>1 set</td>
</tr>
</tbody>
</table>

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 ribbon 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 porting specifications</td>
<td>Valve</td>
</tr>
<tr>
<td>Port size</td>
<td>P, R port 1/4</td>
</tr>
<tr>
<td>A, B port porting specifications</td>
<td>A, B port 1/8, C6, C8</td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Socket: 26 pins MIL type with strain relief (Conforming to MIL-C-83503) (MIL-C-83503 compliant)</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.
2. The withstand voltage specification for the wiring unit section is JIS C0704, Grade 1 or its equivalent.

### Flow characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SSSYJ7-21P-01</td>
<td>1/4 1/8 0.36 0.55 2.3 0.26 0.54</td>
</tr>
<tr>
<td>10-SSSYJ7-21P-CE</td>
<td>1/4 C6 1.4 0.32 0.36 2.1 0.24 0.50</td>
</tr>
<tr>
<td>10-SSSYJ7-21P-C8</td>
<td>1/4 C8 1.8 0.37 0.50 2.1 0.20 0.50</td>
</tr>
</tbody>
</table>

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

### 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 number.

*Example* 10-SSSYJ7-21P-07 — 1 set (Manifold base)
- 10-SYJ7123-5LOU-C8 — 3 sets (Valve)
- SYJ7000-21-3A — 1 set (Blanking plate assembly)
- SY3000-37-3A — 3 sets (Connector assembly)
- SY3000-37-4A — 3 sets (Connector assembly)
- SY3000-37-6A — 3 sets (Connector assembly)
- SY3000-37-32A — 3 sets (Connector assembly)
- SY3000-37-33A — 3 sets (Connector assembly)
- SY3000-37-15A — 3 sets (Connector assembly)
- SY3000-37-34A — 3 sets (Connector assembly)
- SY3000-37-35A — 3 sets (Connector assembly)
- SY3000-37-36A — 3 sets (Connector assembly)
- SY3000-37-37A — 3 sets (Connector assembly)
- SY3000-37-35A — 3 sets (Connector assembly)

### How to Order Valve

**12V, 24 VDC**
- For single solenoid: SY3000-37-3A
- For double solenoid: SY3000-37-34A
- For single solenoid, individual SUP/EXH spacer: SY3000-37-15A
- For double solenoid, individual SUP/EXH spacer: SY3000-37-35A
- 3 port adaptor plate: SY3000-37-3A

**100 VAC**
- For single solenoid: SY3000-37-32A
- For double solenoid: SY3000-37-33A
- For single solenoid, individual SUP/EXH spacer: SY3000-37-34A
- For double solenoid, individual SUP/EXH spacer: SY3000-37-35A
- 3 port adaptor plate: SY3000-37-32A

**100 VAC (115VAC)**
- For single solenoid: SY3000-37-35A
- For double solenoid: SY3000-37-36A
- For single solenoid, individual SUP/EXH spacer: SY3000-37-19A
- For double solenoid, individual SUP/EXH spacer: SY3000-37-37A
- 3 port adaptor plate: SY3000-37-35A

### How to Order Connector Assembly

**42 V**
- For single solenoid: SY3000-37-3A
- For double solenoid: SY3000-37-34A
- For single solenoid, individual SUP/EXH spacer: SY3000-37-15A
- For double solenoid, individual SUP/EXH spacer: SY3000-37-35A
- 3 port adaptor plate: SY3000-37-3A

**100 VAC**
- For single solenoid: SY3000-37-32A
- For double solenoid: SY3000-37-33A
- For single solenoid, individual SUP/EXH spacer: SY3000-37-34A
- For double solenoid, individual SUP/EXH spacer: SY3000-37-35A
- 3 port adaptor plate: SY3000-37-32A

**100 VAC (115VAC)**
- For single solenoid: SY3000-37-35A
- For double solenoid: SY3000-37-36A
- For single solenoid, individual SUP/EXH spacer: SY3000-37-19A
- For double solenoid, individual SUP/EXH spacer: SY3000-37-37A
- 3 port adaptor plate: SY3000-37-35A

**Note**

*Use manifold specification sheet.*
Manifold specifications 10-SYJ7000

Manifold standard
Common SUP / Common EXH

Type 20 (5 port / Body ported)
A, B port
P port 1/8
R port 1/8

Stations
02 2 stations
15 15 stations

Note) For more than 6 stations, supply air to both sides of P port and exhaust air from both sides of R port.

How to Order
10–SS5YJ7–20–05–
P,R port thread type
Nil Rc
00F G
00N NPT
00T NPTF

Applicable solenoid valve
10-SYJ77-23-01-5A C8

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-1A

How to Order
02:
2 stations
03:
3 stations
12:
12 stations

Type 21 (5 port / Body ported)
A, B port
P port 1/4
R port 1/4

Stations
02 2 stations
20 20 stations

Note) For more than 6 stations, supply air to both sides of P port and exhaust air from both sides of R port.

How to Order
10–SS5YJ7–21–05–
P,R port thread type
Nil Rc
00F G
00N NPT
00T NPTF

Applicable solenoid valve
Refer to page 548.

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-2A

Type 40 (5 port / Base mounted)
A, B port
P port 1/4
R port 1/8

Stations
02 2 stations
20 20 stations

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
10–SS5YJ7–40–05–01
A, B port size
01 1/8

Thread type
Nil Rc
F G
N NPT
T NPTF

Applicable solenoid valve
10-SYJ77-43-01-5A C8

Applicable blanking plate assembly
SYJ7000-21-1A

Applicable individual EXH spacer assembly
SYJ7000-17-2A

Applicable individual SUP spacer assembly
SYJ7000-16-2A

Type 41 (5 port / Base mounted)
A, B port
P port 1/4
R port 1/8

Stations
02 2 stations
20 20 stations

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
10–SS5YJ7–41–05–01
A, B port size
01 1/8

Thread type
Nil Rc
F G
N NPT
T NPTF

Type 42 (5 port / Base mounted)
A, B port
C6, C8

P port 1/4
R port 1/4

Stations
02 2 stations
20 20 stations

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
10–SS5YJ7–42–05–
A, B port size
C6 One-touch fitting for ø6
C8 One-touch fitting for ø8
NT One-touch fitting for ø1/4
N9 One-touch fitting for ø5/16

Thread type
Nil Rc
F G
N NPT
T NPTF

Flat ribbon cable manifold
Common SUP / Common EXH

Type 21P (5 port / Body ported)
A, B port
P port 1/4
R port 1/4

Stations
03 3 stations
12 12 stations

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

How to Order
10–SS5YJ7–21P–05–
P,R port thread type
Nil Rc
00F G
00N NPT
00T NPTF

Applicable solenoid valve
Refer to page 548.

Applicable blanking plate assembly
SYJ7000-21-3A

Applicable connector assembly
Refer to page 548.
Manifold specifications 10-SYJ7000

Mix installation of 10-SYJ700 and 10-SYJ7000 valves on the same manifold

Use of an adapter plate makes it possible to mount series 10-SYJ700 on the manifold bases of series 10-SYJ7000.

When mounting the 10-SYJ700 valve on the 10-SYJ7000 manifold, the 10-SYJ700 solenoid must be positioned on the same side of a single solenoid of the 10-SYJ7000.

For base mounted style, the A port of the 3 port valve become the B port of manifold base.

Individual EXH spacer assembly

Applicable base
- 10-SSSYJ7-20
- 10-SSSYJ7-21

Adaptor plate assembly
SYJ7000-3-1A
Series 10-SYJ700 body ported type

Adaptor plate assembly
SYJ7000-3-2A
Series 10-SYJ700 base mounted type

Blanking plate assembly
SYJ7000-21-1A

Blanking plate assembly
SYJ7000-21-3A

Conclusion

Mounting screw tightening torque M3: 0.8N·m
Use caution to the assembly orientation of solenoid valves, gasket, and optional parts.
**Manifold specifications**

**Type 20: Top ported / 10-SS5YJ7-20- [Stations]-00**

### Grommet (G)

![Diagram of Grommet (G)]

- **Approx. 300 (Lead wire length)**
  - L1: 122 / 126.4
  - L2: 76.78 / 79.1
  - Manual override
  - (Pitch) P = 19

- **4-φ4.5 (For mounting)**
- **1/8 (A, B port)**
- **(Light/surge voltage suppressor)**
- **(Station n) - (Station 1)**

### Built-in One-touch fitting

![Diagram of 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)

![Diagram of L plug connector (L)]

- **Approx. 300 (Lead wire length)**
  - 141.8 / 146.12
  - 127 / 131.8

### M plug connector (M)

![Diagram of M plug connector (M)]

- **Approx. 300 (Lead wire length)**
  - 66.6 / 73.6

### DIN Terminal (D)

![Diagram of DIN Terminal (D)]

- **Applicable cable O.D.**
  - ø3.5 to ø7

### M8 connector (WO)

![Diagram of M8 connector (WO)]

- **Applicable cable O.D.**
  - Pg7

### Table: Stations n

<table>
<thead>
<tr>
<th>Stations n</th>
<th>2 stations</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 % status</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>59</td>
<td>76</td>
<td>97</td>
<td>116</td>
<td>135</td>
<td>154</td>
<td>173</td>
<td>192</td>
<td>211</td>
<td>230</td>
<td>249</td>
<td>268</td>
<td>287</td>
</tr>
<tr>
<td>L2</td>
<td>47</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>
</tr>
</tbody>
</table>

* Refer to page 563 for dimensions with connector cable.
Manifold specifications 10-SYJ7000

Type 21: Top ported / 10-SS5YJ7-21-Stations(-00)

Grommet (G)

Built-in One-touch fitting

(Light/surge voltage suppressor)

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

Refer to page 563 for dimensions with connector cable.
Manifold specifications 10-SYJ7000

Type 40: Bottom ported / 10-SS5YJ7-40- Stations -01

Grommet (G)

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

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

* Refer to page 563 for dimensions with connector cable.
**Manifold specifications**

**Type 41: Side ported / 10-SS5YJ7-41- Stations-01**

**Grommet (G)**

![Diagram showing grommet details]

- (Light/surge voltage suppressor)
- Manual override
- 1/8 (A, B port)
- 4-ø4.5 (For mounting)
- 1/4 (P, R port)

**L plug connector (L)**

- Approx. 300 (Lead wire length)

**M plug connector (M)**

- Approx. 300 (Lead wire length)

**DIN Terminal (D)**

- Applicable cable O.D.: ø3.5 to ø7

**M8 connector (WO)**

- MAX. 10

### Table: Grommet (G) Specifications

<table>
<thead>
<tr>
<th>Stations n</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>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>
</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>
</tr>
</tbody>
</table>

* Refer to page 563 for dimensions with connector cable.
**Manifold specifications** 10-SYJ7000

**Flat ribbon cable manifold**

10-SS5YJ7-21P- Stations (-00 □)

With built-in One-touch fitting

**Table of Stations**

<table>
<thead>
<tr>
<th>Stations</th>
<th>1 station</th>
<th>2 station</th>
<th>3 station</th>
<th>4 station</th>
<th>5 station</th>
<th>6 station</th>
<th>7 station</th>
<th>8 station</th>
<th>9 station</th>
<th>10 station</th>
<th>11 station</th>
<th>12 station</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>88</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>
<td>272.5</td>
<td></td>
<td></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>
<td>252.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**How to Order Valves**

**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 specifications</th>
<th>AC specifications (50/60Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 VDC</td>
<td>100 VAC</td>
</tr>
<tr>
<td>6 VDC</td>
<td>200 VAC</td>
</tr>
<tr>
<td>7 VDC</td>
<td>110 VAC (115 VAC)</td>
</tr>
<tr>
<td>8 VDC</td>
<td>220 VAC (230 VAC)</td>
</tr>
</tbody>
</table>

**Light/surge voltage suppressor**
- NIL: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor

**A, B port size**

<table>
<thead>
<tr>
<th>Port size</th>
<th>PIN Code</th>
<th>DC specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8</td>
<td>M5</td>
<td>1/8 (10-SYJ7000 only)</td>
</tr>
<tr>
<td>01</td>
<td>C4</td>
<td>One-touch fitting for ø4</td>
</tr>
<tr>
<td>02</td>
<td>C6</td>
<td>One-touch fitting for ø6</td>
</tr>
<tr>
<td>03</td>
<td>N3</td>
<td>One-touch fitting for ø5/32</td>
</tr>
<tr>
<td>07</td>
<td>N7</td>
<td>One-touch fitting for ø1/4</td>
</tr>
</tbody>
</table>

**Body ported**

<table>
<thead>
<tr>
<th>Series</th>
<th>Y</th>
<th>1</th>
<th>23</th>
<th>5</th>
<th>Y</th>
<th>M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ</td>
<td>5</td>
<td>1</td>
<td>23</td>
<td>5</td>
<td>Y</td>
<td>M5</td>
</tr>
</tbody>
</table>

**Base mounted**

<table>
<thead>
<tr>
<th>Series</th>
<th>Y</th>
<th>2</th>
<th>43</th>
<th>5</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ</td>
<td>5</td>
<td>2</td>
<td>43</td>
<td>5</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Thread type**
- NIL: Without sub-plate
- N: Non-locking push type
- T: Push-turn locking lever type
- G: Push-turn locking slotted type

**Electrical entry**

<table>
<thead>
<tr>
<th>PIN Code</th>
<th>DC specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>SY100-82-3-05</td>
</tr>
<tr>
<td>12 VDC</td>
<td>SY100-82-3-06</td>
</tr>
<tr>
<td>100 VAC</td>
<td>SY100-82-3-01</td>
</tr>
<tr>
<td>200 VAC</td>
<td>SY100-82-3-02</td>
</tr>
<tr>
<td>110 VAC</td>
<td>SY100-82-3-03</td>
</tr>
<tr>
<td>220 VAC</td>
<td>SY100-82-3-04</td>
</tr>
</tbody>
</table>

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

**DIN connector part no.**

<table>
<thead>
<tr>
<th>Without light</th>
<th>With light</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY100-82-1</td>
<td>SY100-82-2</td>
</tr>
</tbody>
</table>

**Caution**

1. Use caution in wiring because it won't meet the IP65 (enclosure) standard if you use the other cord than prescribed cable of size (ø3.5 to ø7).

2. 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.

3. DIN connector with 9.4 mm pitch between terminals is not interchangeable.

4. Dimensions are completely the same as D type connector.

5. When exchanging the pilot valve assembly only, “10-V115-D” is interchangeable with “10-V115-D/Y”. Do not replace 10-V114 (G, H, L, M, W) to 10-V115-D/D/Y (DIN terminal), and vice versa.

---

**How to Order Pilot Valve Assembly**

10-V115

**Rated voltage**

<table>
<thead>
<tr>
<th>DC specifications</th>
<th>AC specifications (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 VDC</td>
<td>100 VAC</td>
</tr>
<tr>
<td>6 VDC</td>
<td>200 VAC</td>
</tr>
<tr>
<td>7 VDC</td>
<td>110 VAC (115 VAC)</td>
</tr>
<tr>
<td>8 VDC</td>
<td>220 VAC (230 VAC)</td>
</tr>
</tbody>
</table>

**Light/surge voltage suppressor**
- NIL: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor

**DIN terminal connector conforming to EN-175301-803C (former DIN 43650C) standard**

---

**Note**

- Do not remove the factory installed bracket from models with the bracket option. Removal of the bracket will cause air leakage.
Series 10-SYJ3000/5000/7000
Specific Product Precautions 1
Be sure to read before handling.

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

  ![Locked position](image)

**Caution**
When handling the locking type D with a screwdriver, turn it gently using a watchmaker's screwdriver.
[Torque: 0.1 N·m or less]

- **Push-turn locking lever [Type E]**
  While pressing, turn in the direction of the arrow.
  If it is turned, it can be operated in the same way as the non-locking type.

  ![Locked position](image)

**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 200/220 VAC specifications**

**Warning**
Solenoid valves with grommet and L/M type plug connector AC specifications have a built-in rectifier circuit in the pilot section to operate the DC coil.
With 200/220 VAC specification pilot valves, this built-in rectifier generates heat when energized. The surface may become hot depending on the energized condition. Therefore, do not touch the solenoid valves.

**Series 10-SYJ3000, 5000, 7000**
Mixed installation of 3 port and 5 port valves on the same manifold.

**Caution**
Series 10-SYJ3000/5000/7000 and Series 10-SYJ300/500/700 can be mounted on the same manifold. How to mount on the same manifold is shown on the following pages.
10-SYJ3000, 10-SYJ3000 ········· Page 507
10-SYJ5000, 10-SYJ5000 ········· Page 529
10-SYJ7000, 10-SYJ7000 ········· Page 550
If 4 or 5 port valve is used as a 3 port valve Series 10-SY 3000/5000/7000 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 solenoide, 3 port valve is required.

<table>
<thead>
<tr>
<th>Plug position</th>
<th>B port</th>
<th>A port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of actuation</td>
<td>N.C.</td>
<td>N.O.</td>
</tr>
<tr>
<td>Number of solenoids</td>
<td>Single</td>
<td>Double</td>
</tr>
<tr>
<td>Number of solenoids</td>
<td>Plug</td>
<td>Plug</td>
</tr>
<tr>
<td>(JIS Symbols above: Series 10-SYJ5000)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Attaching and detaching sockets with lead wires

**Attaching**
Insert the sockets into the square holes of the connector (and 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.

---

**How to Order Connector Assembly**

- For DC: SY100-30-4A
- For 100 VAC: SY100-30-1A
- For 200 VAC: SY100-30-2A
- For other voltages of AC: SY100-30-3A

**Plug connector lead wire length**

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

---

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

---

**Example**
Lead wire length 2000 mm

- (For DC) SY100-30-4A-20
- (For AC) 10-SYJ3123-1LO-M3

---

**Caution**

- Be sure to read before handling.
Caution

(For DC)
Grommet, L/M plug connector type

**Standard type (with polarity)**

- With surge voltage suppresser (DS)
  - Red (+)
  - Black (–)

- With light/surge voltage suppresser (DZ)
  - Red (+)
  - Black (–)

**Non-polar type**

- With surge voltage suppresser (DR)
  - (+) (+)
  - (-) (-)

- With light/surge voltage suppresser (DU)
  - (+) (+)
  - (-) (-)

- Varistor
  - (Ground)
  - Solenoid valve side

**DIN terminal**

- With surge voltage suppresser (DS)
  - NO1 (-) (+)
  - NO2 (+) (-)

- With light/surge voltage suppresser (DZ)
  - NO1 (-) (+)
  - NO2 (+) (-)

- DIN terminal has no polarity.

- Non-polar type
  - With surge voltage suppresser (DR)
  - With light/surge voltage suppresser (DU)

**M8 connector type**

- Standard type (with polarity)
  - With surge voltage suppresser (DS)
  - With light/surge voltage suppresser (DZ)

**Working 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.

- In the case of standard type, connect + to 1 and – to 3 according to the polarity.
- For DC voltages other than standard 12/24 VDC, use caution not to mistake the polarity because a diode to prevent reverse current is not provided.
- Be careful about the allowable voltage fluctuation since voltage drop of about 0.5V occurs due to a transistor. (Refer to the solenoid specifications of each valve for details.)

---

**Surge voltage suppressor**
**Surge voltage suppressor**

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

Grommet, L/M plug connector

DIN terminal

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.

**How to use DIN Terminal**

⚠️ **Caution**

**Connection**
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, note that using other than the supported size (ø3.5 to ø7) cabtire cable 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 attaching the housing in the desired direction (4 directions at 90° intervals).
* When equipped with an indicator 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
How to Order
Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.

**Example 1** Lead wire length 2000 mm
10-SYJ3123-5LOZ-M3
SY100-68-A-20

**Example 2** Lead wire length 300mm (Standard)
10-SYJ3123-5LPZ-M3

Series 10-SYJ3000/5000/7000
Specific Product Precautions 5
Be sure to read before handling.

### Connector assembly with cover

**Caution**
Connector assembly with dustproof protective cover
- Effective to prevent 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  
- Lead wire length
  - Nil: 300mm
  - 6: 600mm
  - 10: 1000mm
  - 15: 1500mm
  - 20: 2000mm
  - 25: 2500mm
  - 30: 3000mm
  - 50: 5000mm

**Connector assembly with cover: Dimensions**

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>Diameter (mm)</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>6.9</td>
<td>Red</td>
</tr>
<tr>
<td>(14.5)</td>
<td></td>
<td>Black</td>
</tr>
<tr>
<td>(10)</td>
<td></td>
<td>Gray</td>
</tr>
<tr>
<td>(40)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How to Order
Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.

*Example 1* Lead wire length 2000 mm
10-SYJ3123-5LOZ-M3
SY100-68-A-20

*Example 2* Lead wire length 300mm (Standard)
10-SYJ3123-5LPZ-M3

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

**M8 connector**

**Caution**
1. M8 connector types have an IP65 (enclosure) rating, offering protection from dust and water. However please note that these products are not intended for use in water. Select a SMC connector cable (V100-49-1-L52408) 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 10-SY3000 manifold. If more than 10.5mm, 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 0.6N)
3. Do not apply excessive power greater than 30N to the connector cable, otherwise IP65 cannot be satisfied.

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

- Connector cable mounting
  
  **Connector cable**
  - 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.)

  10–SYJ3\(^3\)\(7\)–3–□□□□–□□

  **Electrical entry**
  - W1: Cable length 300 mm
  - W2: Cable length 500 mm
  - W3: Cable length 1000 mm
  - W4: Cable length 2000 mm
  - W7: Cable length 5000 mm

  (Example 1) Cable length 300 mm
  10-SYJ3123-5W1ZE-M3

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.
Series 10-SYJ3000/5000/7000
Specific Product Precautions 6
Be sure to read before handling.

M8 connector

2. To order connector cable only

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

Flat ribbon cable manifold

Caution

Type 21P

Type 32P

- 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 and provides clean appearance.

Internal wiring of manifold

- 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. Please contact SMC for more stations.
- Only non-polar valves are available for the DC flat ribbon 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 positive COM.

Bracket

For 10-SYJ3000 (Single) or 10-SYJ7000 with bracket, do not use it without bracket.

Replacement of solenoid valve

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>10-SYJ3000</td>
<td>M1.7</td>
<td>0.12N·m</td>
</tr>
<tr>
<td>10-SYJ5000</td>
<td>M2.5</td>
<td>0.45N·m</td>
</tr>
<tr>
<td>10-SYJ7000</td>
<td>M3</td>
<td>0.8N·m</td>
</tr>
</tbody>
</table>
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. Please 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

![New type diagram](image1)

Conventional type

![Conventional type diagram](image2)