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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C [dm³/(s·bar)]</td>
</tr>
<tr>
<td>SYJ300</td>
<td>0.36</td>
</tr>
<tr>
<td>SYJ500</td>
<td>1.2</td>
</tr>
<tr>
<td>SYJ700</td>
<td>2.7</td>
</tr>
</tbody>
</table>
# 3 Port Solenoid Valve

## Rubber Seal

### Series SYJ300/500/700

#### Series Variations

<table>
<thead>
<tr>
<th>Series</th>
<th>Port size</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>SYJ300</strong></td>
<td>M3 x 0.5</td>
<td><strong>Effective area</strong> 0.9 mm² [2 → 3 (A → R)]</td>
<td>• N.C.</td>
<td></td>
<td></td>
<td>Grommet</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SYJ500</strong></td>
<td>M5 x 0.8</td>
<td>0.66 [2 → 3 (A → R)]</td>
<td></td>
<td></td>
<td></td>
<td>L plug connector</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SYJ700</strong></td>
<td>1/8</td>
<td>2.5 [2 → 3 (A → R)]</td>
<td>• N.C. • N.O.</td>
<td></td>
<td></td>
<td>M plug connector</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**For DC**
- 24 VDC
- 12 VDC
- 6 VDC
- 5 VDC
- 3 VDC

**For AC**
- 100 VAC Hz
- 110 VAC Hz
- 200 VAC Hz
- 220 VAC Hz

- With surge voltage suppressor
- With light/surge voltage suppressor
- Non-locking push type
- Push-turn locking slotted type
- Push-turn locking lever type

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

---

4-4-2
## Manifold Variations

<table>
<thead>
<tr>
<th>Valve series</th>
<th>A port location</th>
<th>P, R ports size</th>
<th>M3</th>
<th>M5</th>
<th>1/8</th>
<th>A port size</th>
<th>With one-touch fitting</th>
<th>Applicable tubing O.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SYJ300</strong></td>
<td>Top</td>
<td>M5 x 0.8</td>
<td></td>
<td>Note 1)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>1/8</td>
<td></td>
<td></td>
<td>Note 2)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>SYJ500</strong></td>
<td>Top</td>
<td>1/8</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>SYJ700</strong></td>
<td>Top</td>
<td>1/8</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>SYJ300</strong></td>
<td>Side</td>
<td>M5 x 0.8</td>
<td></td>
<td>Note 1)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>1/8</td>
<td></td>
<td></td>
<td>Note 1)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>SYJ500</strong></td>
<td>Bottom</td>
<td>1/8</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Side</td>
<td>1/8</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Note 1) Only for internal pilot
Note 2) Only for external pilot

![Series SYJ300](image1)
![Series SYJ500](image2)
![Series SYJ700](image3)
3 Port Pilot Operated Solenoid Valve
Rubber Seal

Series SYJ300

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range MPa</td>
<td>Internal pilot</td>
</tr>
<tr>
<td>0.15 to 0.7</td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50. (No freezing. Refer to page 4-18-4.)</td>
</tr>
<tr>
<td>Response time ms (at 0.5 MPa) Note 1)</td>
<td>15 or less</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>10</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) Note 2)</td>
<td>150/30</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 8374-1981. (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 test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)

Solenoid Specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>Grommet (G), (H), L plug connector (L), M plug connector (M), M8 connector (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil rated voltage (V)</td>
<td>DC AC 50/60 Hz</td>
</tr>
<tr>
<td>24, 12, 6, 5, 3</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 With power saving circuit</td>
</tr>
<tr>
<td>0.35 (With indicator light: 0.4)</td>
<td>0.1 (With indicator light only)</td>
</tr>
<tr>
<td>Apparent power (VA)</td>
<td>AC</td>
</tr>
<tr>
<td>100 V</td>
<td>1.4 (With indicator light: 1.5)</td>
</tr>
<tr>
<td>110 V [115 V]</td>
<td>1.6 (With indicator light: 1.7)</td>
</tr>
<tr>
<td>200 V</td>
<td>2.3 (With indicator light: 2.4)</td>
</tr>
<tr>
<td>220 V [230 V]</td>
<td>2.5 (With indicator light: 2.6)</td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Diode (varistor when non-polar types)</td>
</tr>
<tr>
<td>Indicator light</td>
<td>LED</td>
</tr>
</tbody>
</table>

* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.
* For 115 VAC and 230 VAC, the allowable voltage is –15% to +5% of rated voltage.

JIS Symbol

<table>
<thead>
<tr>
<th>Internal pilot</th>
<th>Internal pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ31 R (A) 2</td>
<td>SYJ32 R (A) 2</td>
</tr>
<tr>
<td>1 3 (P) (R)</td>
<td>1 3 (P) (R)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External pilot</th>
<th>External pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ31 R (A)</td>
<td>SYJ32 R (A)</td>
</tr>
<tr>
<td>2 1 3 (P) (R)</td>
<td>2 1 3 (P) (R)</td>
</tr>
</tbody>
</table>

Made to Order Specifications
(For details, refer to pages 4-4-54 to 55.)
**External Pilot**

**SYJ300R**

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port. It can be used in the vacuum (up to −100 kPa) or low pressure line with 0.15 MPa or less.

**Specifications**

<table>
<thead>
<tr>
<th>Applicable model</th>
<th>Base mounted (SYJ314R, SYJ324R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range MPa</td>
<td>Main pressure</td>
</tr>
<tr>
<td></td>
<td>External pilot pressure</td>
</tr>
</tbody>
</table>

Note 1) For manifold base, refer to page 4-4-10.
Note 2) External pilot type body ported valves (SYJ3□2R) can only be used on the manifold.
How to Order

**Series SYJ300**

### Body ported

- **SYJ3**
  - **1**
  - **2**
  - **5**
  - **M**
  - **M3**

### Base mounted

- **SYJ3**
  - **1**
  - **4**
  - **5**
  - **M**

## 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, U, DC voltage is only available.
- Power saving circuit is only available in the “Z” type.

## Type of actuation

1. Normally closed
2. Normally open

For type “W”, DC voltage is only available.

## 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>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AC (%/Hz)</th>
<th>100 VAC</th>
<th>200 VAC</th>
<th>110 VAC [115 VAC]</th>
<th>220 VAC [230 VAC]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

## Rated voltage

- **DC**: 24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC
- **AC (%/Hz)**: 100 VAC, 200 VAC, 110 VAC [115 VAC], 220 VAC [230 VAC]

## 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.

## Port size

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

  - With sub-plate (With gasket and screws)

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

  - Bracket mounted. External pilot type is not available.

## Electrical entry

<table>
<thead>
<tr>
<th>24, 12, 6, 5, 3 VDC/100, 110, 200, 220 VAC</th>
<th>24, 12, 6, 5, 3 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>G: Lead wire length 300 mm</td>
<td></td>
</tr>
<tr>
<td>L: With lead wire (Length 300 mm)</td>
<td></td>
</tr>
<tr>
<td>M: With lead wire (Length 300 mm)</td>
<td></td>
</tr>
<tr>
<td>MN: Without lead wire</td>
<td></td>
</tr>
<tr>
<td>WO: Without connector cable</td>
<td></td>
</tr>
</tbody>
</table>

- **Grommet**
- **L plug connector**
- **M plug connector**
- **M8 connector**

## Manual override

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

### 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 4-4-11.)
### Construction

**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Body</td>
<td>Zinc die-casted</td>
<td>White</td>
</tr>
<tr>
<td>②</td>
<td>Piston plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>③</td>
<td>End cover</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>④</td>
<td>Piston</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>⑤</td>
<td>Spool valve assembly</td>
<td>Aluminum, HNBR</td>
<td>—</td>
</tr>
</tbody>
</table>

**Replacement Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>⑥</td>
<td>Sub-plate</td>
<td>SYJ300-9-1</td>
<td>Zinc die-casted</td>
</tr>
<tr>
<td>⑦</td>
<td>Pilot valve</td>
<td>V111(T)-L50132/L50132/L50132/L50132</td>
<td>—</td>
</tr>
</tbody>
</table>

### How to Order Pilot Valve Assembly

**V111**

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

- **Rated voltage**
  - 5 VCD
  - 6 VDC
  - 3 VDC
  - 100 VAC 50/60 Hz
  - 200 VAC 50/60 Hz
  - 110 VAC 50/60 Hz
  - 220 VAC 50/60 Hz

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

- **Electrical entry**
  - Grommet, 300 mm lead wire
  - Grommet, 600 mm lead wire
  - L plug connector
  - Without lead wire
  - L connector
  - Without connector
  - M plug connector
  - Without lead wire
  - M connector
  - Without connector
  - M connector
  - Without lead wire
  - M connector
  - Without connector
  - M connector
  - Without lead wire
  - M connector
  - Without connector
  - M connector
  - Without lead wire
  - M connector
  - Without connector
  - M connector
  - Without lead wire
  - M connector
  - Without connector
  - M connector
  - Without lead wire
  - M connector
  - Without connector

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

**V100**

- **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-
- **Lead wire length**
  - 300 mm
  - 600 mm
  - 1000 mm
  - 2000 mm
  - 5000 mm

### How to Order M8 Connector Cable

**V100-49-1-**

- **Cable length**
  - 300 mm
  - 500 mm
  - 1000 mm
  - 2000 mm
  - 5000 mm
**Series SYJ300**

**Body Ported**

**Grommet (G), (H): SYJ3□2-□□□-M3**

**With bracket: SYJ3□2-□□□-M3-F**

**L plug connector (L):** SYJ3□2-□□□-M3

**M plug connector (M):** SYJ3□2-□□□-M3

**M8 connector (WO):** SYJ3□2-□□□-M3

* Refer to page 4-4-61 for dimensions with connector cable.
Base Mounted (With sub-plate)

Grommet (G), (H): SYJ3□-□□□□□-M5

L plug connector (L):
SYJ3□-□□□□□-M5

M plug connector (M):
SYJ3□-□□□□□-M5

M8 connector (WO):
SYJ3□-□□□□□-M5

* Refer to page 4-4-61 for dimensions with connector cable.
# Series SYJ300

## Manifold Specifications

### Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>For internal pilot</th>
<th>Type 20</th>
<th>Type 41, S41</th>
<th>Type 42, S42</th>
</tr>
</thead>
<tbody>
<tr>
<td>P (SUP), R (EXH)</td>
<td>Single base/B mount</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>
</tr>
<tr>
<td>A port Porting specifications</td>
<td>Location</td>
<td>Valve</td>
<td>Base</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direction</td>
<td>Top</td>
<td>Side</td>
<td></td>
</tr>
<tr>
<td>P, R port</td>
<td>M5 x 0.8</td>
<td>M5 x 0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A port</td>
<td>M3 x 0.5</td>
<td>M3 x 0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X port</td>
<td>M5 x 0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note) Only for external pilot</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Flow Characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Effective area (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type SS3YJ3-20</td>
<td>M5 x 0.8</td>
<td>C [dm³/(s bar)]</td>
<td>0.9</td>
</tr>
<tr>
<td>Type SS3YJ3-41 S41</td>
<td>M5 x 0.8</td>
<td>b</td>
<td>0.17</td>
</tr>
<tr>
<td>Type SS3YJ3-42-M5</td>
<td>1/8</td>
<td>C4</td>
<td>0.17</td>
</tr>
<tr>
<td>Type SS3YJ3-42-C4</td>
<td>1/8</td>
<td>C4</td>
<td>0.17</td>
</tr>
<tr>
<td>Type SS3YJ3-42R-M5</td>
<td>1/8</td>
<td>M5 x 0.8</td>
<td>0.17</td>
</tr>
<tr>
<td>Type SS3YJ3-42R-C4</td>
<td>1/8</td>
<td>C4</td>
<td>0.30</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.

- **Type SS3YJ3-20-03** — 1 set (Manifold base)
- **Type SS3YJ3-42R-03-C4** — 1 set (Manifold base)
- **Type SYJ312-5LZ-M3** — 2 sets (Valve)
- **Type SYJ314R-5G** — 2 sets (Valve)
- **Type SYJ300-10-1A** — 1 set (Blanking plate assembly)
- **Type SYJ300-10-2A** — 1 set (Blanking plate assembly)

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.
Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

**Body ported** (Type SYJ3□-2(R))

- Manifold gasket
  - SYJ300-5-6

**Base mounted** (Type SYJ3□-4(R))

- Round head combination screw
  - SY100-33-3
    - (M1.7 x 17, Matt nickel plated)
- Manifold gasket
  - SYJ300-5-4

**Applicable base**

- SS3YJ3-20
- SS3YJ3-20R

**Applicable base**

- SS3YJ3-41
- SS3YJ3-42
- SS3YJ3-42R
- SS3YJ3-41
- SS3YJ3-42
- SS3YJ3-42R

**Blanking Plate Assembly**

Part no.: SYJ300-10-1A

- Blanking plate
  - SYJ300-10-1
- Manifold gasket
  - SYJ300-5-6

Part no.: SYJ300-10-2A

- Round head combination screw
  - SY100-33-2
    - (M1.7 x 7, Matt nickel plated)
- Blanking plate
  - SYJ300-10-1
- Manifold gasket
  - SYJ300-5-4

**Applicable base**

- SS3YJ3-20
- SS3YJ3-20R

**Applicable base**

- SS3YJ3-41
- SS3YJ3-42
- SS3YJ3-42R

**Caution**

**Mounting Screw Tightening Torques**

- M1.7: 0.12 N·m

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
### Manifold for Internal Pilot Type

**Type 20**

- A port: M3 x 0.5
- R port: M5 x 0.8
- P port: M5 x 0.8

**Type 41**

- **Type S41** (Pilot valve is on the A port side).
- A port: M3 x 0.5, C4
- R port: M5 x 0.8
- P port: M5 x 0.8

**Type 42**

- **Type S42** (Pilot valve is on the A port side).
- A port: M5 x 0.8, C4
- X port (1/8)
- P port: M5 x 0.8
- R port: 1/8

### How to Order

**Type 20**

- **SS3YJ3-20-05**
- Stations:
  - 02: 2 stations
  - 20: 20 stations
- **Bracket**:
  - Nil: Without bracket
  - F: With bracket

**Type 41**

- **SS3YJ3-41-05-M3**
- Valve mounting direction:
  - Nil: Pilot valve is opposite the A port side.
  - S: Pilot valve is on the A port side.
- Stations:
  - 02: 2 stations
  - 20: 20 stations

### Note

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

### Applicable solenoid valve

- SYJ312-10-M
- SYJ322-10-M
- SYJ324-10-M

### Applicable blanking plate assembly

- SYJ300-10-1A

### Manifold for External Pilot Type

**Type 42R**

- **Type S42R** (Pilot valve is on the external pilot type).
- A port: M5 x 0.8, C4
- X port (External pilot type): M5 x 0.8
- R port: 1/8
- P port: 1/8

### How to Order

**Type 42R**

- **SS3YJ3-42R-05**
- Stations:
  - 02: 2 stations
  - 20: 20 stations
- **P, R port thread type**:
  - Nil: Rc
  - F: G
  - N: NPT
  - T: NPTF

### Note

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

### Applicable solenoid valve

- SYJ314-10-M
- SYJ314R-10-M
- SYJ324R-10-M

### Applicable blanking plate assembly

- SYJ300-10-2A

### Manifold for Internal Pilot Type

**Type 20R**

- A port: M3 x 0.5
- X port (External pilot type): M5 x 0.8
- R port: 1/8
- P port: 1/8

**Type 42R**

- **Type S42R** (Pilot valve is on the external pilot type).
- A port: M5 x 0.8, C4
- X port (External pilot type): M5 x 0.8
- R port: 1/8
- P port: 1/8

### How to Order

**Type 20R**

- **SS3YJ3-20R-05**
- Stations:
  - 02: 2 stations
  - 20: 20 stations
- **P, R port thread type**:
  - Nil: Rc
  - F: G
  - N: NPT
  - T: NPTF

### Note

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

### Applicable solenoid valve

- SYJ312R-10-M
- SYJ322R-10-M

### Applicable blanking plate assembly

- SYJ300-10-1A

### Manifold for External Pilot Type

**Type 42R**

- **Type S42R** (Pilot valve is on the external pilot type).
- A port: M5 x 0.8, C4
- X port (External pilot type): M5 x 0.8
- R port: 1/8
- P port: 1/8

**Type 42R**

- **Type S42R** (Pilot valve is on the external pilot type).
- A port: M5 x 0.8, C4
- X port (External pilot type): M5 x 0.8
- R port: 1/8
- P port: 1/8

### How to Order

**Type 42R**

- **SS3YJ3-42R-05**
- Stations:
  - 02: 2 stations
  - 20: 20 stations
- **P, R port thread type**:
  - Nil: Rc
  - F: G
  - N: NPT
  - T: NPTF

### Note

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

### Applicable solenoid valve

- SYJ314R-10-M
- SYJ324R-10-M

### Applicable blanking plate assembly

- SYJ300-10-2A

### Pilot valve pressure

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port. It can be used in the vacuum (up to –100 kPa) or low pressure line with 0.15 MPa or less.

### Valve mounting direction

- Nil: Pilot valve is opposite the A port side.
- S: Pilot valve is on the A port side.
Type 20 Manifold: Top Ported/SS3YJ3-20- Stations -00 [-F]

Grommet (G)

M3 x 0.5 (Bracket mounting screw)

L2

2-ø3.5 (For mounting)

M3 x 0.5 (A port)

Manual override

M5 x 0.8 (P, R port)

Approx. 300 (Lead wire length)

L1

41.5 [46.5]

13

Approx. 300 (Lead wire length)

L2

41.5 [48.5]

L plug connector (L)

M plug connector (M)

M8 connector (WO)

<table>
<thead>
<tr>
<th>Station n</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>
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<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
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</thead>
<tbody>
<tr>
<td>L1</td>
<td>35.5</td>
<td>46</td>
<td>56.5</td>
<td>67</td>
<td>77.5</td>
<td>88</td>
<td>98.5</td>
<td>109</td>
<td>119.5</td>
<td>130</td>
<td>140.5</td>
<td>151</td>
<td>161.5</td>
<td>172</td>
<td>182.5</td>
<td>193</td>
<td>203.5</td>
<td>214</td>
<td>224.6</td>
</tr>
<tr>
<td>L2</td>
<td>28.5</td>
<td>39</td>
<td>49.5</td>
<td>60</td>
<td>70.5</td>
<td>81</td>
<td>91.5</td>
<td>102</td>
<td>112.5</td>
<td>123</td>
<td>133.5</td>
<td>144</td>
<td>154.5</td>
<td>165</td>
<td>175.5</td>
<td>186</td>
<td>196.5</td>
<td>207</td>
<td>217.5</td>
</tr>
</tbody>
</table>

* Refer to page 4-4-61 for dimensions with connector cable.
Series SYJ300

Type 41 Manifold: Side Ported/SS3YJ3-41- Stations -M3

Grommet (G)

(Light/surge voltage suppressor)

Approx. 300 (Lead wire length)

(Pitch) P=10.5

Manual override

2-ø3.5 (For mounting)

M5 x 0.8 (P, R port)

L plug connector (L)

M plug connector (M)

M8 connector (WO)

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

* Refer to page 4-4-61 for dimensions with connector cable.
Type 42 Manifold: Side Ported/SS3YJ3-42- Stations -M5, C4 N3 □

Grommet (G)
For M5

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

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

Type 42 Manifold: Side Ported (Pilot valve is on the A port side)/SS3YJ3-342- Stations -M5, C4 N3 □

Grommet (G)
For M5

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

<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>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>41.5</td>
<td>52</td>
<td>62.5</td>
<td>73</td>
<td>83.5</td>
<td>94</td>
<td>104.5</td>
<td>115</td>
<td>125.5</td>
<td>136</td>
<td>146.5</td>
<td>157</td>
<td>167.5</td>
<td>178</td>
<td>188.5</td>
<td>199</td>
<td>209.5</td>
<td>220</td>
<td>230.5</td>
</tr>
<tr>
<td>L2</td>
<td>33.5</td>
<td>44</td>
<td>54.5</td>
<td>65</td>
<td>75.5</td>
<td>86</td>
<td>96.5</td>
<td>107</td>
<td>117.5</td>
<td>128</td>
<td>138.5</td>
<td>149</td>
<td>159.5</td>
<td>170</td>
<td>180.5</td>
<td>191</td>
<td>201.5</td>
<td>212</td>
<td>222.5</td>
</tr>
</tbody>
</table>

* Refer to page 4-4-61 for dimensions with connector cable.
**Series SYJ300**

**Type 20R Manifold: Top Ported (External Pilot Type)/SS3YJ3-20R- Stations 00 S**

Grommet (G)

- **Station 1**
  - 2: ø4.5 (X port)
  - M3 x 0.5 (A port)
  - Manual override
  - P = 10.5

- **Station n**
  - 2: ø4.5 (X port)
  - M3 x 0.5 (A port)
  - Manual override
  - P = 10.5

**L plug connector (L)**

- Approx. 300 (Lead wire length)

**M plug connector (M)**

- Approx. 300 (Lead wire length)

**M8 connector (WO)**

- Refer to page 4-4-61 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>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>47.5</td>
<td>58</td>
<td>68.5</td>
<td>79</td>
<td>89.5</td>
<td>100</td>
<td>110.5</td>
<td>121</td>
<td>131.5</td>
<td>142</td>
<td>152.5</td>
<td>163</td>
<td>173.5</td>
<td>184</td>
<td>194.5</td>
<td>205</td>
<td>215.5</td>
<td>226</td>
<td>236.5</td>
</tr>
<tr>
<td>L2</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>
<td>228.5</td>
</tr>
<tr>
<td>L3</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>
<td>220.5</td>
</tr>
</tbody>
</table>
Type 42R Manifold: Side Ported (External Pilot Type)/SS3YJ3-42R- Stations -M5, C4 □

Grommet (G)
For M5

M8 connector (WO)

For C4 □ (Built-in One-touch fitting)

L plug connector (L)

M plug connector (M)

Type 42R Manifold: Side Ported (External Pilot Type)/SS3YJ3-42R- Stations -M5, C4 □

Grommet (G)
For M5

For C4 □ (Built-in One-touch fitting)

Type S42R Manifold: Side Ported (Pilot valve is on the A port side)/SS3YJ3-S42R- Stations -M5, C4 □
3 Port Pilot Operated Solenoid Valve
Rubber Seal
Series SYJ500

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>JIS Symbol</td>
<td>SYJ512</td>
</tr>
<tr>
<td>External pilot</td>
<td>SYJ522</td>
</tr>
<tr>
<td>Internal pilot</td>
<td>SYJ512R</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>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>Dustproof (± DIN terminal, M8 connector conforms to IP65)</td>
</tr>
</tbody>
</table>

Solenoid Specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>Grommet (G), (H), L plug connector (L), M plug connector (M), DIN terminal (D), M8 connector (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil rated voltage (V)</td>
<td>DC 24, 12, 6, 5, 3 AC 50/60 Hz 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 0.35 (With indicator light: 0.4 (DIN terminal with indicator light: 0.45)) 0.1 (With indicator light only)</td>
</tr>
<tr>
<td>Apparent power (VA)</td>
<td>AC 100 V 1.4 (With indicator light: 1.5) 110 V [115 V] 1.6 (With indicator light: 1.7) 200 V 2.3 (With indicator light: 2.4) 220 V [230 V] 2.5 (With indicator light: 2.6) [2.7 (With indicator light: 2.8)]</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 bulb when AC with DIN terminal)</td>
</tr>
</tbody>
</table>

Made to Order Specifications
(For details, refer to pages 4-4-54 to 55.)

Note 1) Based on dynamic performance test, JIS B 8374-1981. (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 test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)
Flow Characteristics/Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 → 2 (P → A)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C (dm³/s bar)</td>
<td>b</td>
</tr>
<tr>
<td>Base mounted (with sub-plate)</td>
<td>SYJ514</td>
<td>N.C.</td>
<td>1/8</td>
<td>1.2</td>
</tr>
<tr>
<td>Base mounted (with sub-plate)</td>
<td>SYJ524</td>
<td>N.O.</td>
<td>1/8</td>
<td>1.3</td>
</tr>
<tr>
<td>Body mounted</td>
<td>SYJ512</td>
<td>N.C.</td>
<td>M5 x 0.8</td>
<td>0.53</td>
</tr>
<tr>
<td>Body mounted</td>
<td>SYJ522</td>
<td>N.O.</td>
<td>M5 x 0.8</td>
<td>0.66</td>
</tr>
</tbody>
</table>

Note) Value for DC. Add 1 g for AC. ( ): Without sub-plate.

External Pilot

SYJ500R

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port. It can be used in the vacuum (up to –100 kPa) or low pressure line with 0.15 MPa or less.

Specifications

<table>
<thead>
<tr>
<th>Applicable model</th>
<th>Base mounted (SYJ514R, SYJ524R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range MPa</td>
<td>Main pressure –100 kPa to 0.7</td>
</tr>
<tr>
<td></td>
<td>External pilot pressure 0.15 to 0.7</td>
</tr>
</tbody>
</table>
# Series SYJ500

## How to Order

### 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>5</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

- DC specifications of type D and DO is only available with 12 and 24 VDC.
- 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.

### Light/Surge voltage suppressor

<table>
<thead>
<tr>
<th>Electrical entry for G, H, L, W</th>
<th>Electrical entry for D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil: Without light/surge voltage suppressor</td>
<td>Nil: Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>S: With surge voltage suppressor</td>
<td>S: With surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>Z: With surge voltage suppressor</td>
<td>Z: 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 AC voltage valves there is no “S” option. It is already built-in to the rectifier circuit.

### Type of actuation

<table>
<thead>
<tr>
<th>Normally closed</th>
<th>Normally open</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

- For type “WC”, DC voltage is only available.

### Body option

- **Nil**: Individual pilot exhaust type
- **R**: Common exhaust for the pilot and main valve
- **R**: External pilot type

<table>
<thead>
<tr>
<th>M: Common exhaust for the pilot and main valve</th>
</tr>
</thead>
</table>

- **SYJ5 2R** is only for manifold use.

### Base mounted

| SYJ5 1 4 | 5 | M | M5 |

- For sub-plate type, manifold type 40, 40R, 41, 41R

### Body ported

| SYJ5 2 | 5 | M | M5 |

- For manifold type 20, 21R

### Coil specifications

<table>
<thead>
<tr>
<th>Nil: Standard</th>
<th>T: With power saving circuit (24, 12 VDC only)</th>
</tr>
</thead>
</table>

- Power saving circuit is not available in the case of “D”, “DO”, “W/L50132” type.

### Manual override

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

### Electrical entry for D

<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>5</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

- 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.

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

<table>
<thead>
<tr>
<th>Grommet</th>
<th>L plug connector</th>
<th>M plug connector</th>
<th>DIN terminal</th>
<th>MB connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>G: 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>DIN: With connector</td>
<td>MB: With connector</td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire</td>
<td>LO: Without connector</td>
<td>LO: Without connector</td>
<td>LO: Without connector</td>
</tr>
</tbody>
</table>

- * “LN”, “MN” type: with 2 sockets.
- * DIN terminal “Type Y” conforming to DIN43650C standard is also available. For details, refer to page 4-4-54.

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

<table>
<thead>
<tr>
<th>Grommet</th>
<th>L plug connector</th>
<th>M plug connector</th>
<th>DIN terminal</th>
<th>MB connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>G: 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>DIN: With connector</td>
<td>MB: With connector</td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire</td>
<td>LO: Without connector</td>
<td>LO: Without connector</td>
<td>LO: Without connector</td>
</tr>
</tbody>
</table>

- For connector cable of MB connector, refer to page 4-4-60.
3 Port Pilot Operated Solenoid Valve
Rubber Seal
Series SYJ500

Construction

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>—</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>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Sub-plate</td>
<td>SYJ500-9-1</td>
<td>Zinc die-castd</td>
</tr>
<tr>
<td>8</td>
<td>Pilot valve</td>
<td>V111(T)□□□□</td>
<td>—</td>
</tr>
</tbody>
</table>

How to Order Pilot Valve Assembly

V111 — 5 G

- Coils specifications
  - NII: Standard DC specifications
  - A: Standard: AC specifications
  - T: With power saving circuit (24, 12 VDC only)

  * Power saving circuit is not available in the case of "W/L" type.

  Rated voltage
  - 5: 24 VDC
  - 6: 12 VDC
  - V: 6 VDC
  - S: 5 VDC
  - R: 3 VDC
  - 1: 100 VAC 50/60 Hz
  - 2: 200 VAC 50/60 Hz
  - 3: 110 VAC 50/60 Hz [115 VAC 50/60 Hz]
  - 4: 220 VAC 50/60 Hz [230 VAC 50/60 Hz]

  * For type "W/L", DC voltage is only available.

Light/Surge voltage suppressor

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

V115 — 5 D

- DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.

  Power saving circuit is not available in the case of "D" or "DO" type.

Light/Surge voltage suppressor

- NII: 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)

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

Electrical entry

- L plug connector: With lead wire, Without lead wire
- M plug connector: With lead wire, Without lead wire
- M8 connector: With/Without 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 300 mm
- 6 600 mm
- 10 1000 mm
- 15 1500 mm
- 20 2000 mm
- 25 2500 mm
- 30 3000 mm
- 50 5000 mm

How to Order M8 Connector Cable

V100-49-1-

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

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

Grommet (G), (H): SYJ5□2-□□□□-M5

With bracket: SYJ5□2-□□□□-M5-F

L plug connector (L): SYJ5□2-L□□□□-M (-F)
M plug connector (M): SYJ5□2-M□□□□-M (-F)
DIN terminal (D): SYJ5□2-D□□□□-M (-F)
M8 connector (MO): SYJ5□2-WO□□□□-M (-F)

∗ Refer page 4-4-61 for dimensions with connector cable.
**3 Port Pilot Operated Solenoid Valve**  
**Rubber Seal**  
**Series SYJ500**

**Base Mounted (With sub-plate)**

Grommet (G), (H): SYJ5□4-□□-01□

L plug connector (L): SYJ5□4-L□□-01□
M plug connector (M): SYJ5□4-M□□-01□
DIN terminal (D): SYJ5□4-D□□-01□
M8 connector (WO): SYJ5□4-WO□□-01□

---

For dimensions with connector cable, refer page 4-4-61.

---

*SMC*

4-4-23
### Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>For internal pilot</th>
<th>Type 20</th>
<th>Type 40</th>
<th>Type 41</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</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>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A port</td>
<td>Location</td>
<td>Valve</td>
<td>Bottom</td>
<td>Base</td>
</tr>
<tr>
<td>Porting</td>
<td>Direction</td>
<td>Top</td>
<td>Bottom</td>
<td>Side</td>
</tr>
<tr>
<td>Port size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A port</td>
<td>M5 x 0.8</td>
<td>M5 x 0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X port Note)</td>
<td>M5 x 0.8</td>
<td>M5 x 0.8</td>
<td>M5 x 0.8</td>
</tr>
</tbody>
</table>

**Note:** Only for external pilot

### Flow Characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 → 2 (P → A)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C [dm³/(s•bar)] b</td>
</tr>
<tr>
<td>Base mounted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body ported for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>internal pilot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type SS3YJ5-20</td>
<td>SYJ5□2</td>
<td></td>
</tr>
<tr>
<td>1/8</td>
<td>M5 x 0.8</td>
<td>0.47</td>
</tr>
<tr>
<td>Type SS3YJ5-40-M6</td>
<td>SYJ5□4</td>
<td></td>
</tr>
<tr>
<td>1/8</td>
<td>M5 x 0.8</td>
<td>0.71</td>
</tr>
<tr>
<td>Base mounted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>for internal pilot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type SS3YJ5-21R</td>
<td>SYJ5□2R</td>
<td></td>
</tr>
<tr>
<td>1/8</td>
<td>M5 x 0.8</td>
<td>0.47</td>
</tr>
<tr>
<td>Type SS3YJ5-41R-C6</td>
<td>SYJ5□4R</td>
<td></td>
</tr>
<tr>
<td>1/8</td>
<td>C6</td>
<td>0.68</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:
- SS3YJ5-20-03 ←1 set (Manifold base)  SS3YJ5-41R-03-C6 ←1 set (Manifold base)
- SYJ512-5LZ-M5 ←2 sets (Valve)  SYJ514R-5G ←2 sets (Valve)
- SYJ500-10-1A ←1 set (Blanking plate assembly)  SYJ500-10-3A ←1 set (Blanking plate assembly)

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.
Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

Body ported (Type SYJ5□2(R))

Base mounted (Type SYJ5□4(R))

Applicable base
SS3YJ5-21R
SS3YJ5-20
Manifold base

SS3YJ5-40
SS3YJ5-41
SS3YJ5-40R
SS3YJ5-41R

Manifold gasket
SYJ500-5-4

Applicable base
Sub-plate
SS3YJ5-40
SS3YJ5-41
SS3YJ5-40R
SS3YJ5-41R

Blanking Plate Assembly

Part no.: SYJ500-10-3A

Round head combination screw
M2.5 x 7, Matt nickel plated
Blanking plate
SYJ500-10-3
Manifold gasket
DXT200-9-8
Applicable base
Sub-plate
SS3YJ5-40
SS3YJ5-41
SS3YJ5-40R
SS3YJ5-41R
Manifold base

Part no.: SYJ500-10-1A

Round head combination screw
M2.5 x 7, Matt nickel plated
Blanking plate
SYJ500-10-3
Manifold gasket
SYJ500-5-4
Applicable base
SS3YJ5-20
SS3YJ5-21R

⚠️ Caution

Mounting screw tightening torques
M2.5: 0.45 N·m

Use caution to the assembly orientation for solenoid valves (blanking plate) and manifold gasket.
Manifold for Internal Pilot Type

Type 20

<table>
<thead>
<tr>
<th>How to Order</th>
<th>SS3YJ5–20</th>
<th>05</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>02</td>
<td>2 stations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>20 stations</td>
<td></td>
</tr>
<tr>
<td>A port size</td>
<td>M5</td>
<td>M5 x 0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>01</td>
<td>1/8</td>
<td></td>
</tr>
<tr>
<td>Note)</td>
<td>For more than 9 stations, supply air to both sides of P port and exhaust air from both sides of R port.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type 40

<table>
<thead>
<tr>
<th>How to Order</th>
<th>SS3YJ5–40</th>
<th>05</th>
<th>M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>02</td>
<td>2 stations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>20 stations</td>
<td></td>
</tr>
<tr>
<td>A port size</td>
<td>M5</td>
<td>M5 x 0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>01</td>
<td>1/8</td>
<td></td>
</tr>
<tr>
<td>Note)</td>
<td>For more than 9 stations, supply air to both sides of P port and exhaust air from both sides of R port.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Manifold for External Pilot Type

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port. It can be used in the vacuum (up to –100 kPa) or low pressure line with 0.15 MPa or less.

Type 21R

<table>
<thead>
<tr>
<th>How to Order</th>
<th>SS3YJ5–21R</th>
<th>05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>20 stations</td>
</tr>
<tr>
<td>A port size</td>
<td>M5</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td></td>
<td>01</td>
<td>1/8</td>
</tr>
<tr>
<td>Note)</td>
<td>For more than 9 stations, supply/exhaust air to/from both sides of P and R port.</td>
<td></td>
</tr>
</tbody>
</table>

Type 40R

<table>
<thead>
<tr>
<th>How to Order</th>
<th>SS3YJ5–40R</th>
<th>05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>20 stations</td>
</tr>
<tr>
<td>A port size</td>
<td>M5</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td></td>
<td>01</td>
<td>1/8</td>
</tr>
<tr>
<td>Note)</td>
<td>For more than 9 stations, supply/exhaust air to/from both sides of P and R port.</td>
<td></td>
</tr>
</tbody>
</table>

Type 41R

<table>
<thead>
<tr>
<th>How to Order</th>
<th>SS3YJ5–41R</th>
<th>05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>20 stations</td>
</tr>
<tr>
<td>A port size</td>
<td>M5</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td></td>
<td>01</td>
<td>1/8</td>
</tr>
<tr>
<td>Note)</td>
<td>For more than 9 stations, supply/exhaust air to/from both sides of P and R port.</td>
<td></td>
</tr>
</tbody>
</table>
Type 20 Manifold: Top Ported/SS3YJ5-20- Stations -00□(-F)

Grommet (G)

(Light/Surge voltage suppressor)

Manual override

M5 x 0.8 (A port)

Approx. 300 (Lead wire length)

(Station 1) 18.5 (Pitch)
P=16

M3 x 0.5 (Bracket mounting screw)

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

<table>
<thead>
<tr>
<th>Station 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>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>53</td>
<td>69</td>
<td>85</td>
<td>101</td>
<td>117</td>
<td>133</td>
<td>149</td>
<td>165</td>
<td>181</td>
<td>197</td>
<td>213</td>
<td>229</td>
<td>245</td>
<td>261</td>
<td>277</td>
<td>293</td>
<td>309</td>
<td>325</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>
</tr>
<tr>
<td>L3</td>
<td>16</td>
<td>32</td>
<td>48</td>
<td>64</td>
<td>80</td>
<td>96</td>
<td>112</td>
<td>128</td>
<td>144</td>
<td>160</td>
<td>176</td>
<td>192</td>
<td>208</td>
<td>224</td>
<td>240</td>
<td>256</td>
<td>272</td>
<td>288</td>
</tr>
<tr>
<td>L4</td>
<td>8</td>
<td>24</td>
<td>40</td>
<td>56</td>
<td>72</td>
<td>88</td>
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<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>
</tr>
</tbody>
</table>

Refer to page 4-4-61 for dimensions with connector cable.
Type 40 Manifold: Bottom Ported/SS3YJ5-40-Stations-M5, 01 □

Grommet (G)

For M5

For 1/8

Series SYJ500

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

<table>
<thead>
<tr>
<th>Port size</th>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<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>
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<tr>
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<td>343</td>
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</tr>
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</table>
Type 41 Manifold: Side Ported/SS3YJ5-41- Stations

Grommet (G)

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

<table>
<thead>
<tr>
<th>Port size</th>
<th>Station 1</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
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<th>15</th>
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<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting</td>
<td>L1</td>
<td>50</td>
<td>66</td>
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<td>281</td>
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</table>

* Refer to page 4-4-61 for dimensions with connector cable.
Type 41 Manifold: Side Ported/SS3YJ5-41- Stations -M5, 01

For M5

Grommet (G)

For 1/8

(Pitch) \( P=16 \)

(Light/Surge voltage suppressor)

<table>
<thead>
<tr>
<th>Port size</th>
<th>Station 1</th>
<th>3</th>
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<th>5</th>
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<th>Station 20</th>
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<td>52</td>
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<td>75</td>
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<tr>
<td>1/8</td>
<td>L1</td>
<td>53</td>
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<td>265</td>
<td>282</td>
<td>299</td>
<td>316</td>
<td>333</td>
</tr>
</tbody>
</table>

Approx. 300 (Lead wire length)

Manual override

(DIN 36.2)

For mounting

AA

(A port)

8.5

25.5

54.1 [61.1]

PP

57.1 [59.3]

2-ø5.5

4.5

+(for AC)

P=17

21.5

4.5

57.1 [59.3]

2-ø5.5

4.5

57.1 [59.3]
3 Port Pilot Operated Solenoid Valve
Rubber Seal Series SYJ500

Type 21R Manifold: Top Ported (External Pilot Type)/SS3YJ5-21R- Stations-00

Grommet (G)

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

<table>
<thead>
<tr>
<th>Station</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>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>62</td>
<td>78</td>
<td>94</td>
<td>110</td>
<td>126</td>
<td>142</td>
<td>158</td>
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</tr>
<tr>
<td>L2</td>
<td>53</td>
<td>69</td>
<td>85</td>
<td>101</td>
<td>117</td>
<td>133</td>
<td>149</td>
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<td>197</td>
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<td>261</td>
<td>277</td>
<td>293</td>
<td>309</td>
<td>325</td>
<td>341</td>
</tr>
<tr>
<td>L3</td>
<td>47</td>
<td>63</td>
<td>79</td>
<td>95</td>
<td>111</td>
<td>127</td>
<td>143</td>
<td>159</td>
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<td>207</td>
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<td>303</td>
<td>319</td>
<td>335</td>
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</table>

* Refer to page 4-4-61 for dimensions with connector cable.
### Series SYJ500

**Type 40R Manifold: Bottom Ported (External Pilot Type)/SS3YJ5-40R-Stations-M5, 01**

---

#### Grommet (G)

**For M5**

---

#### L plug connector (L)

**M plug connector (M)**

**DIN terminal (D)**

**M8 connector (WO)**

---

### Port size

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
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<td>L2</td>
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<td>101</td>
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<td>133</td>
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<td>213</td>
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<td>269</td>
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<td>303</td>
<td>320</td>
<td>337</td>
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</tbody>
</table>

---

* Refer to page 4-4-61 for dimensions with connector cable.

---

* [ ] for AC

---

4-4-32
Grommet (G)

Port size | Station | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
L1 | 58 | 74 | 90 | 106 | 122 | 138 | 154 | 170 | 186 | 202 | 218 | 234 | 250 | 266 | 282 | 298 | 314 | 330 | 346 |
L2 | 49 | 65 | 81 | 97 | 113 | 129 | 145 | 161 | 177 | 193 | 209 | 225 | 241 | 257 | 273 | 289 | 305 | 321 | 337 |
L3 | 43 | 59 | 75 | 91 | 107 | 123 | 139 | 155 | 171 | 187 | 203 | 219 | 235 | 251 | 267 | 283 | 299 | 315 | 331 |

One-touch fitting

Approx. 300
(Lead wire length)

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

Refer to page 4-4-61 for dimensions with connector cable.
**Series SYJ500**

Type 41R Manifold: Side Ported (External Pilot Type)/SS3YJ5-41R-M5, 01

For M5

- Port size
- Station n
- Station 2
- Station 3
- Station 4
- Station 5
- Station 6
- Station 7
- Station 8
- Station 9
- Station 10
- Station 11
- Station 12
- Station 13
- Station 14
- Station 15
- Station 16
- Station 17
- Station 18
- Station 19
- Station 20

<table>
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<tr>
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<th>Station n</th>
<th>Station 2</th>
<th>3</th>
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<th>5</th>
<th>6</th>
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<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
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<tbody>
<tr>
<td>M5</td>
<td>L1</td>
<td>62</td>
<td>78</td>
<td>94</td>
<td>110</td>
<td>126</td>
<td>142</td>
<td>158</td>
<td>174</td>
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<tr>
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<td>335</td>
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<td>63</td>
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<td>292</td>
<td>309</td>
<td>326</td>
<td>343</td>
<td>360</td>
</tr>
</tbody>
</table>

**For 1/8**

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

**Manual override**

- 2-ø5.5
- (Pitch) P=16

**Approx. wire length**

- 54.1 [61.1]
- M5 x 0.8
- (A port)

**Light/Surge voltage suppressor**

- AA

**Lead wire length**

- 35

**Pitch**

- 16

**DIN 36.2**

- Standard dimensions for metric sizes.
3 Port Pilot Operated Solenoid Valve
Rubber Seal
Series SYJ700

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range MPa</td>
<td>Internal pilot</td>
</tr>
<tr>
<td></td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50 (No freezing. Refer to page 4-18-4.)</td>
</tr>
<tr>
<td>Response time ms (at 0.5 MPa) Note 1</td>
<td>30 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) Note 2</td>
<td>150/30</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dustproof (~ DIN terminal, M8 connector conforms to IP65)</td>
</tr>
</tbody>
</table>

Based on IEC529

Note 1) Based on dynamic performance test, JIS B 8374-1981. (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 test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)

Solenoid Specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>Grommet (G), (H), L plug connector (L), M plug connector (M), DIN terminal (D), M8 connector (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil rated voltage (V)</td>
<td>DC, AC 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>24, 12, 6, 5, 3</td>
</tr>
<tr>
<td>Allowable voltage fluctuation</td>
<td>±10% of rated voltage</td>
</tr>
<tr>
<td>Power consumption (W) DC</td>
<td>Standard 0.35 (With indicator light: 0.4 [DIN terminal with indicator light: 0.45])</td>
</tr>
<tr>
<td></td>
<td>With power saving circuit 0.1 (With indicator light only)</td>
</tr>
<tr>
<td>Apparent power (VA) AC</td>
<td>100 V 1.4 (With indicator light: 1.5)</td>
</tr>
<tr>
<td></td>
<td>110 V [115 V] 1.6 (With indicator light: 1.7)</td>
</tr>
<tr>
<td></td>
<td>[1.7 (With indicator light: 1.8)]</td>
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<tr>
<td></td>
<td>200 V 2.3 (With indicator light: 2.4)</td>
</tr>
<tr>
<td></td>
<td>[2.7 (With indicator light: 2.8)]</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 bulb when AC with DIN terminal)</td>
</tr>
</tbody>
</table>

* Made to Order Specifications
(For details, refer to pages 4-4-54 to 55.)

* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.
* For 115 VAC and 230 VAC, the allowable voltage is –15% to +5% of rated voltage.

4-4-36
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>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>Girls</td>
<td></td>
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<tr>
<td>SYJ712</td>
<td>N.C.</td>
<td>1/8</td>
<td>2.8 0.43 0.77 2.5 0.51 0.76</td>
<td>75</td>
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</tr>
<tr>
<td>SYJ722</td>
<td>N.O.</td>
<td>1/8</td>
<td>2.7 0.38 0.72 2.4 0.42 0.68</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>SYJ714</td>
<td>N.C.</td>
<td>1/8</td>
<td>2.9 0.32 0.71 2.7 0.34 0.69</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>SYJ724</td>
<td>N.O.</td>
<td>1/8</td>
<td>2.8 0.21 0.70 2.3 0.45 0.63</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>SYJ714</td>
<td>N.C.</td>
<td>1/4</td>
<td>3.0 0.31 0.74 2.6 0.33 0.66</td>
<td>135 (75)</td>
<td>136 (76)</td>
</tr>
<tr>
<td>SYJ724</td>
<td>N.O.</td>
<td>1/4</td>
<td>2.7 0.31 0.68 2.3 0.48 0.64</td>
<td>157 (97)</td>
<td>140 (80)</td>
</tr>
</tbody>
</table>

Note) Value for DC. Add 3 g for AC. ( ) Without sub-plate.

External Pilot

SYJ700R

Pilot valve pressure is supplied separately from the main valve pressure through the use of a separate supply port. It can be used in vacuum (up to –100 kPa) or low pressure line with 0.15 MPa or less.

Specifications

<table>
<thead>
<tr>
<th>Applicable model</th>
<th>Base mounted (SYJ714R, SYJ724R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range MPa</td>
<td>Main pressure: –100 kPa to 0.7</td>
</tr>
</tbody>
</table>

Note 1) For manifold base, refer to page 4-4-42. Note 2) External pilot type body ported valves (SYJ7...R) can only be used on the manifold. For body ported models with the external pilot option, please refer to page 4-4-55.
**How to Order**

**Body ported**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Rated voltage</th>
<th>Light/Surge voltage suppressor</th>
<th>Electrical entry for G, H, L, M and W</th>
<th>Electrical entry for D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Normally closed</td>
<td>24 VDC</td>
<td>Nil: Without light/surge voltage suppressor</td>
<td>S: With surge voltage suppressor</td>
<td>Nil: Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 Normally open</td>
<td>12 VDC</td>
<td>S: With surge voltage suppressor</td>
<td>Z: With surge voltage suppressor (Non-polar type)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 VDC</td>
<td>R: With surge voltage suppressor (Non-polar type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 VDC</td>
<td>U: With surge voltage suppressor (Non-polar type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 VDC</td>
<td>+ For AC voltage valves there is no “S” option. It is already built-in to the rectifier circuit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ For type “R” and “U”, DC voltage is only available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ Power saving circuit is only available in the “Z” type.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Base mounted**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Rated voltage</th>
<th>Light/Surge voltage suppressor</th>
<th>Electrical entry for G, H, L, M and W</th>
<th>Electrical entry for D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Normally closed</td>
<td>24 VDC</td>
<td>Nil: Without light/surge voltage suppressor</td>
<td>S: With surge voltage suppressor</td>
<td>Nil: Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 Normally open</td>
<td>12 VDC</td>
<td>S: With surge voltage suppressor</td>
<td>Z: With surge voltage suppressor (Non-polar type)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 VDC</td>
<td>R: With surge voltage suppressor (Non-polar type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 VDC</td>
<td>U: With surge voltage suppressor (Non-polar type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 VDC</td>
<td>+ For AC voltage valves there is no “S” option. It is already built-in to the rectifier circuit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ For type “R” and “U”, DC voltage is only available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ Power saving circuit is only available in the “Z” type.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Body option**

<table>
<thead>
<tr>
<th>Nil: Individual pilot exhaust type</th>
<th>Coil specifications</th>
<th>Manual override</th>
<th>Thread type</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>R port P E port</td>
<td>Nil: Standard</td>
<td>Nil: Non-locking push type</td>
<td>Nil: Rc</td>
<td>01: 1/8 port</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>D: Push-turn locking slotted type</td>
<td>F G N NPT T NPTF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>With power saving circuit (24, 12 VDC only)</td>
<td>E: Push-turn locking lever type</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power saving circuit is not available in the case of “D”, “DO”, “W” type.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Electrical entry**

<table>
<thead>
<tr>
<th>Grommet</th>
<th>L plug connector</th>
<th>M plug connector</th>
<th>DIN terminal</th>
<th>M8 connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>G: Lead wire</td>
<td>With lead wire (300 mm)</td>
<td>With lead wire (300 mm)</td>
<td>With lead wire</td>
<td>Without connector</td>
</tr>
<tr>
<td>H: Lead wire</td>
<td>Without lead wire</td>
<td>Without connector</td>
<td>DO: Without connector</td>
<td>DO: Without connector</td>
</tr>
<tr>
<td>L: With lead wire</td>
<td>(Length 300 mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M: Without connector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 4-4-43.)

© SMC Corporation
3 Port Pilot Operated Solenoid Valve
Rubber Seal

Series SYJ700

Construction

How to Order Pilot Valve Assembly

Coil specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Grommet</td>
<td>Aluminum die-casted</td>
<td>White</td>
</tr>
<tr>
<td>S</td>
<td>Grommet</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>1</td>
<td>L plug connector</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2</td>
<td>M plug connector</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3</td>
<td>W plug connector</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>M8 connector</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Light/Surge voltage suppressor

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Without light/surge voltage suppressor</td>
<td>SY100-30-1A-</td>
</tr>
<tr>
<td>S</td>
<td>With surge voltage suppressor</td>
<td>SY100-30-2A-</td>
</tr>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor</td>
<td>SY100-30-3A-</td>
</tr>
<tr>
<td>U</td>
<td>With surge voltage suppressor (Non-polar type)</td>
<td>SY100-30-A</td>
</tr>
</tbody>
</table>

Electrical entry

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Lead wire length</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>300 mm lead wire</td>
<td>100 VAC</td>
</tr>
<tr>
<td>6</td>
<td>1000 mm lead wire</td>
<td>200 VAC</td>
</tr>
<tr>
<td>7</td>
<td>1500 mm lead wire</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2000 mm lead wire</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2500 mm lead wire</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>3000 mm lead wire</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>5000 mm lead wire</td>
<td></td>
</tr>
</tbody>
</table>

How to Order M8 Connector Cable

Cable length

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Lead wire length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>300 mm</td>
<td>100 VAC</td>
</tr>
<tr>
<td>2</td>
<td>500 mm</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1000 mm</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2000 mm</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5000 mm</td>
<td></td>
</tr>
</tbody>
</table>

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>—</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>Spool valve assembly</td>
<td>Stainless steel</td>
<td>—</td>
</tr>
</tbody>
</table>

Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Sub-plate</td>
<td>SYJ700-9-1</td>
</tr>
<tr>
<td>8</td>
<td>Pilot valve</td>
<td>V111(T)</td>
</tr>
</tbody>
</table>

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-A

Without lead wire: (with connector and 2 of sockets only)

How to Order Connector Assembly

For V111 (G, H, L, M, W) to V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.

V111: DC voltage is only available.

V115: AC voltage is only available.
Series SYJ700

Body Ported

Grommet (G), (H): SYJ7□2-□G□□-01□

With bracket:
SYJ7□2-□□□01□-F

L plug connector (L):
SYJ7□2-L□□-01□ (-F)

M plug connector (M):
SYJ7□2-M□□-01□ (-F)

DIN terminal (D):
SYJ7□2-D□□-01□ (-F)

M8 connector (MO):
SYJ7□2-□WO□□-01□ (-F)

* Refer to page 4-4-61 for dimensions with connector cable.
Base Mounted (With Sub-plate)

Grommet (G), (H): SYJ7□4-□□-01 □

L plug connector (L): SYJ7□4-□□-01 □

M plug connector (M): SYJ7□4-□□-01 □

DIN terminal (D): SYJ7□4-□□-01 □

M8 connector (WO): SYJ7□4-□□-01 □

- Refer to page 4-4-61 for dimensions with connector cable.

Applicable cable O.D.: ø3.5 to ø7

Max. 10
## Manifold Specifications

### Model

<table>
<thead>
<tr>
<th>Model</th>
<th>For internal pilot</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></td>
<td>For external pilot</td>
<td>Type 21R</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
</tbody>
</table>

#### Manifold type
- Single base/B mount

#### Valve stations
- Common SUP, common EXH
- 2 to 20 stations

#### Porting specifications

<table>
<thead>
<tr>
<th>A port</th>
<th>Porting specifications</th>
<th>Location</th>
<th>Valve</th>
<th>Valve</th>
<th>Base</th>
<th>Base</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>P, R port</td>
<td></td>
<td>Top</td>
<td>γ₈</td>
<td>γ₄</td>
<td>γ₈</td>
<td>γ₄</td>
<td></td>
</tr>
<tr>
<td>A port</td>
<td></td>
<td>C6</td>
<td>C8</td>
<td>C6</td>
<td>C8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X port</td>
<td>Note)</td>
<td>—</td>
<td>M3 x 0.8</td>
<td>—</td>
<td>M5 x 0.8</td>
<td>M5 x 0.8</td>
<td></td>
</tr>
</tbody>
</table>

**Note)** Only for external pilot

### Flow Characteristics

#### Flow characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(P), 3(R)</td>
<td>2(A) port</td>
<td>1 ( \rightarrow ) 2 ( \rightarrow ) 3 (A ( \rightarrow ) R)</td>
</tr>
<tr>
<td>C</td>
<td>( [\text{dm}^3/(\text{s} \cdot \text{bar})] )</td>
<td>( b )</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:
- **SS3YJ7-20-03** —— 1 set (Manifold base)
- **SS3YJ7-42R-03-01** —— 1 set (Manifold base)
- **SYJ712-5LZ-01** —— 2 sets (Valve)
- **SYJ714R-5G** —— 2 sets (Valve)
- **SYJ700-10-1A** —— 1 set (Blanking plate assembly)
- **SYJ700-10-2A** —— 1 set (Blanking plate assembly)

*The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.*
Combinations of Solenoid Valve, Manifold Gasket and Manifold Base

Body ported (Type SYJ7□2)

- Round head combination screw
  M3 x 3, Matt nickel plated

Base mounted (Type SYJ7□4)

- Round head combination screw
  M3 x 31, Matt nickel plated

Applicable base

- SS3YJ7-20
- SS3YJ7-21
- SS3YJ7-21R

Manifold base

Gasket

- SYJ700-5-3
- SYJ700-5-4

Applicable base

- Sub-plate
  SS3YJ7-40
  SS3YJ7-41
  SS3YJ7-42
  SS3YJ7-41R
  SS3YJ7-42R

Manifold base

Blanking Plate Assembly

Part no.: SYJ700-10-2A
(In common for body ported type and base mounted type)

- Round head combination screw
  M3 x 8, Matt nickel plated

- Blanking plate
  SYJ700-10-2

- Gasket
  SYJ700-5-1

Caution

Mounting screw tightening torques

M3: 0.8 N·m

Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.
Manifold for Internal Pilot Type

**Type 20/Type 21**

Manifold type

- SS3YJ7-20-05
- SS3YJ7-21-05

Applicable solenoid valve

- SYJ712-series
- SYJ712M-series
- SYJ722-series
- SYJ722M-series

Applicable blanking plate assembly

- SYJ700-10-2A

*Note* If there are more than 6 stations for type 20, or more than 9 stations for 21 type, supply air to both sides of P port and exhaust air from both sides of R port.

**Type 40/Type 41**

Manifold type

- SS3YJ7-40-05

Applicable solenoid valve

- SYJ714-series
- SYJ714M-series
- SYJ724-series
- SYJ724M-series

Applicable blanking plate assembly

- SYJ700-10-2A

*Note* If there are more than 6 stations for type 40, or more than 9 stations for 41 type, supply air to both sides of P port and exhaust air from both sides of R port.

**Type 42**

Manifold type

- SS3YJ7-42-05

Applicable solenoid valve

- SYJ714-series
- SYJ714M-series
- SYJ724-series
- SYJ724M-series

Applicable blanking plate assembly

- SYJ700-10-2A

*Note* For more than 9 stations, supply to both sides of P port and exhaust from both sides of R port.

Manifold for External Pilot Type

Pilot valve pressure is supplied separately from the main valve pressure pressure through the use of a separate supply port. It can be used in the vacuum (up to ~100 kPa) or low pressure line with 0.15 MPa or less.

**Type 21R**

Manifold type

- SS3YJ7-21R-05

Applicable solenoid valve

- SYJ712R-series
- SYJ722R-series

Applicable blanking plate assembly

- SYJ700-10-2A

*Note* For more than 9 stations, supply/exhaust air to/from both sides of P and R port.

**Type 41R**

Manifold type

- SS3YJ7-41R-05

Applicable solenoid valve

- SYJ714R-series
- SYJ724R-series

Applicable blanking plate assembly

- SYJ700-10-2A

*Note* For more than 9 stations, supply/exhaust air to/from both sides of P and R port.

**Type 42R**

Manifold type

- SS3YJ7-42R-05

Applicable solenoid valve

- SYJ714R-series
- SYJ724R-series

Applicable blanking plate assembly

- SYJ700-10-2A

*Note* For more than 9 stations, supply/exhaust air to/from both sides of P and R port.
Type 20 Manifold: Top Ported/SS3YJ7-20- Stations (-00 □)

Grommet (G)

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

<table>
<thead>
<tr>
<th>Station</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>59</td>
<td>78</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>
<td>306</td>
<td>325</td>
<td>344</td>
<td>363</td>
<td>382</td>
<td>401</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>
Type 21 Manifold: Top Ported/SS3YJ7-21- Stations (-00\(\square\))

Grommet (G)

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

<table>
<thead>
<tr>
<th>Station</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>61</td>
<td>80</td>
<td>99</td>
<td>118</td>
<td>137</td>
<td>156</td>
<td>175</td>
<td>194</td>
<td>213</td>
<td>232</td>
<td>251</td>
<td>270</td>
<td>289</td>
<td>308</td>
<td>327</td>
<td>346</td>
<td>365</td>
<td>384</td>
<td>403</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>

* Refer to page 4-4-61 for dimensions with connector cable.
### Type 40 Manifold: Bottom Ported/SS3YJ7-40- Stations -01

**Grommet (G)**

![Diagram of Grommet (G)](image)

#### Measures
- **Approx. 300** (Lead wire length)
- **80.5 [82.7]**
- **80.6**
- **70.7 [72.9]**

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

<table>
<thead>
<tr>
<th>Station n</th>
<th>Station 2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Station 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>59</td>
<td>78</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>
<td>306</td>
<td>325</td>
<td>344</td>
<td>363</td>
<td>382</td>
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<tr>
<td>L2</td>
<td>49</td>
<td>68</td>
<td>87</td>
<td>106</td>
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<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>

* Refer to page 4-4-61 for dimensions with connector cable.
**Series SYJ700**

*Type 42 Manifold: Side Ported/SS3YJ7-42- Stations 01, C8, N7 □ 01, C8, N9 □*

**Grommet (G)**

For C6, N7 □ (Built-in One-touch fitting)

- **Approx. 300** (Lead wire length)

  (Station n) ———— (Station 1)

(Light/Surge voltage suppressor)

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

<table>
<thead>
<tr>
<th>Station 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>61</td>
<td>80</td>
<td>99</td>
<td>118</td>
<td>137</td>
<td>156</td>
<td>175</td>
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<td>232</td>
<td>251</td>
<td>270</td>
<td>289</td>
<td>308</td>
<td>327</td>
<td>346</td>
<td>365</td>
<td>384</td>
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<tr>
<td>L2</td>
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<td>258</td>
<td>277</td>
<td>296</td>
<td>315</td>
<td>334</td>
<td>353</td>
<td>372</td>
</tr>
</tbody>
</table>

- Refer to page 4-4-61 for dimensions with connector cable.
Type 41 Manifold: Bottom Ported/SS3YJ7-41- Stations-01

Grommet (G)

(Light/Surge voltage suppressor)

1/8 (A port) P=19 21
Series SYJ700

Type 21R Manifold: Top Ported (External Pilot Type)/SSYJ7-21R- Stations (-00□)

Grommet (G)

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

* Refer to page 4-4-61 for dimensions with connector cable.
### Grommet (G)

![Diagram of Grommet (G)]

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

### Type 42R Manifold: Side Ported/SS3YJ7-42R- Stations

<table>
<thead>
<tr>
<th>Station n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>61</td>
<td>49</td>
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<tr>
<td>2</td>
<td>80</td>
<td>68</td>
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<tr>
<td>3</td>
<td>6</td>
<td>99</td>
</tr>
<tr>
<td>4</td>
<td>99</td>
<td>87</td>
</tr>
<tr>
<td>5</td>
<td>118</td>
<td>106</td>
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<tr>
<td>6</td>
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<td>7</td>
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<td>8</td>
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<td>9</td>
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<td>18</td>
<td>365</td>
<td>353</td>
</tr>
<tr>
<td>19</td>
<td>384</td>
<td>372</td>
</tr>
<tr>
<td>20</td>
<td>403</td>
<td>391</td>
</tr>
</tbody>
</table>

**For 1/8**

- **Manual override**
- **Light/Surge voltage suppressor**

For mounting:

- **One-touch fitting**

**Applicable tubing O.D.:**
- ø6, ø1/4", ø8, ø5/16"
Type 41R Manifold: Bottom Ported (External Pilot Type)/SS3YJ7-41R-

Grommet (G)

(Light/Surge voltage suppressor)

1/8 (A port)  P=19  21

51.6  35  67/74

P [± ] for AC
Series SYJ500/700
Made to Order Specifications:
DIN Terminal Conformed to DIN 43650C
DIN terminal type conforming to DIN 43650C (DIN pitch 8 mm) standard.

How to Order Valves

<table>
<thead>
<tr>
<th>Series</th>
<th>Type of actuation</th>
<th>Body option</th>
<th>Electrical entry</th>
<th>Port size</th>
<th>Thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ 5</td>
<td>Normally closed</td>
<td>Nil</td>
<td>Y: With connector</td>
<td>M5</td>
<td>F</td>
</tr>
<tr>
<td>SYJ 7</td>
<td>Normally open</td>
<td>Null</td>
<td>YO: Without connector</td>
<td>01/8 (SYJ700 only)</td>
<td>T</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SYJ5/L50132</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Body ported
SYJ 5 1 2 5 Y M5

Base mounted
SYJ 5 1 4 5 Y 01

3 port (For manifold type 20, 21R)

3 port (For sub-plate style, manifold type 40, 40R, 41, 41R)

Pilot valve individual exhaust
Common exhaust type for main and pilot valve
External pilot

<table>
<thead>
<tr>
<th>Body ported</th>
<th>Base mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ 5 1 2 5 Y M5</td>
<td>SYJ 5 1 4 5 Y 01</td>
</tr>
</tbody>
</table>

Rating voltage
DC
5 24 VDC
6 12 VDC
V 6 VDC
S 5 VDC
R 3 VDC

AC (50/60 Hz)
1 100 VAC
2 200 VAC
3 110 VAC [115 VAC]
4 220 VAC [230 VAC]

Light/Surge voltage suppressor
Nil Without light/surge voltage suppressor
S With surge voltage suppressor
Z With light/surge voltage suppressor

 Bracket
Nil Without bracket
F (With bracket)

Bracket is not mounted.
External pilot type does not exist.

How to Order Pilot Valve Assembly

<table>
<thead>
<tr>
<th>V115—5 Y</th>
<th>DIN Terminal Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without indicator light</td>
<td>SY100-82-1</td>
</tr>
</tbody>
</table>

With indicator light

<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>
</tr>
<tr>
<td>100 VDC</td>
<td>100VN</td>
<td>SY100-82-3-01</td>
</tr>
<tr>
<td>200 VDC</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 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. For how to use DIN terminal (wiring procedures, procedures for changing electrical entries, precautions, applicable cable, circuit diagram), refer to page 4-4-59.
2. Type D, DIN terminal with 9.4 mm pitch between terminals is not interchangeable.
3. DIN terminal except D type has the “N” indication in the end of voltage symbol. In case of DIN terminal without light, “N” is not indicated. Please refer to the name plate to distinguish.
4. Dimensions are completely the same as D type terminal.
5. When exchanging the pilot valve assembly only, “V115-D” is interchangeable with “V115-DY”. Do not replace V111 (G, H, L, M, W) to V115-D/DY (DIN terminal), and vice versa.
Series **SYJ300/500/700**

Made to Order Specifications:
Please contact SMC for detailed specifications, delivery and pricing.

---

**Body Ported External Pilot**

Applicable solenoid valve series **SYJ5□2, SYJ7□2**

![Diagram of SYJ5□2, SYJ7□2](image)

- Entry is the same as standard products.

**Operating Pressure Range MPa**

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

**Dimensions**

SYJ500: 8 mm  
SYJ700: 8 mm  
longer in total length.

**External Pilot Port**

<table>
<thead>
<tr>
<th>Series</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYJ500/700</td>
<td>M5 x 0.8</td>
</tr>
</tbody>
</table>

**JIS Symbol**

Body ported

N.C.

![Symbol of N.C.](image)

N.O.

![Symbol of N.O.](image)
Series SYJ300/500/700
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 slotted locking type [Type D]
  While pressing, turn in the direction of the arrow.
  If it is not turned, it can be operated the same way as the non-locking type.

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

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

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

Solenoid Valve for 200 V, 220 VAC Specifications

⚠️ Warning
Solenoid valves with 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.

Bracket

⚠️ Caution
For bracket attached styles of SYJ300, do not use it without bracket.
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.

---

# Caution

### Attaching and detaching connectors

1. **Attaching**
   - 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.
   (Please 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.

---

### How to Order Connector Assembly

<table>
<thead>
<tr>
<th>For DC</th>
<th>SY100 – 30 – 4A</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

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

---

### Caution

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

<table>
<thead>
<tr>
<th>Lead wire length</th>
<th>V100</th>
<th>SY</th>
<th>SYJ</th>
<th>VK</th>
<th>VZ</th>
<th>VT</th>
<th>VP</th>
<th>VG</th>
<th>VQ</th>
<th>VKF</th>
<th>VQZ</th>
<th>VZ</th>
<th>VS</th>
<th>VFN</th>
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</thead>
<tbody>
<tr>
<td>Nil</td>
<td>300 mm</td>
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<td>15</td>
<td>1500 mm</td>
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<tr>
<td>50</td>
<td>5000 mm</td>
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<td></td>
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</tr>
</tbody>
</table>
**Surge Voltage Suppressor**

**Caution**

<For DC>
Grommet, L/M Plug Connector Type

- **Standard type (with polarity)**
  - With surge voltage suppressor ([S])
    
    - Polarity protection diode
    - Red (+) → Col
    - Black →

  - With light/surge voltage suppressor ([Z])
    
    - Polarity protection diode
    - Red (+) → Col
    - Black →

- **Non-polar type**
  - With surge voltage suppressor ([R])
    
    - (+) (+) → Varistor
    - (-) (-) → Col

  - With light/surge voltage suppressor ([U])
    
    - (+) (-) → Varistor
    - (-) (+) → Col

- Connect the standard type in accordance with the +, – polarity indication. (The non-polar type can be used with the connections made either way.)
- Since voltage specifications other than standard 24 V and 12 VDC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- 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.
  - 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 case damage to the surge suppressor circuit.
Series SYJ300/500/700
Specific Product Precautions 4
Be sure to read before handling.

Surge Voltage Suppressor

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

⚠️ Caution
Grommet, L/M Plug Connector Type

With indicator light (L/Z)

Monte Carlo Diagram

Note) Surge voltage suppressor other than diode 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.

DIN Terminal Type

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, 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.

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.

Compatible cable
Cord O.D.: Ø3.5 to Ø7
(Reference) 0.5 mm², 2 core or 3 core, equivalent to JIS C 3306

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).

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

Compatible cable
Cord O.D.: Ø3.5 to Ø7
(Reference) 0.5 mm², 2 core or 3 core, equivalent to JIS C 3306

DIN Terminal Part No.

Without indicator light | SY100-61-1
With indicator light

Rated voltage | Voltage symbol | Part no.
24 VDC | 24V | SY100-61-3-05
12 VDC | 12V | SY100-61-3-06
100 VAC | 100V | SY100-61-2-01
200 VAC | 200V | SY100-61-2-02
110 VAC | 110V | SY100-61-2-03
220 VAC | 220V | SY100-61-2-04

Circuit Diagram with Indicator Light

AC circuit

DC circuit

Note) Refer to page 4-4-54 for DIN terminal (Y) conforming to DIN 43690C.
Series SYJ300/500/700
Specific Product Precautions 5
Be sure to read before handling.

**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></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></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>600 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>1500 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>2000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>2500 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>3000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>5000 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Connector Assembly with Cover: Dimensions**

![Diagram of Connector Assembly with Cover]

**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
SYJ312-SLOCZ-M3
SY100-68-A-20

Ex. 2) Lead wire length of 300 mm (standard)
SYJ312-SLPZ-M3

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

**M8 Connector**

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-<br> 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 SYJ300 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 N·m)

**Caution**

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

- Connector cable mounting

![Diagram of M8 Connector]

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-<br>). Be careful not to squeeze it in the wrong direction, as problems such as pin damage may occur.
**Series SYJ300/500/700**

**Specific Product Precautions 6**

Be sure to read before handling.

---

**M8 Connector**

- **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.)

   ![Connector dimensions](image)

   - **SYJ312**
   - **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

   **Ex. 1)** Cable length: 300 mm
   SYJ312-5W1ZE-M3 - Symbol for electrical entry

2. To order connector cable only
   - **(Ground)**
   - **Connector dimensions**
   - **Brown:** 1
   - **Blue:** 3
   - **Black:** 4
   - **L:** 35
   - **33.9**
   - **3**
   - **22**

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

---

**How to Calculate the Flow Rate**

**Caution**

Refer to pages 4-1-32 to 35: How to calculate the flow rate.

**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**

- **Manual override** (Blue)
- **Interface**
- **Pilot valve (V111)**
- **Adapter plate**

**Conventional type**

- **Manual override** (Orange)
- **Interface**
- **Pilot valve (SY114)**
- **Adapter plate**

---
## Variations

<table>
<thead>
<tr>
<th>Series</th>
<th>Port size</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>Body ported</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ300</td>
<td>M3 x 0.5</td>
<td>Effective area 0.9 mm²</td>
<td>2 → 3</td>
<td>Grommet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.659</td>
<td></td>
<td>2 → 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ500</td>
<td>M5 x 0.8</td>
<td>0.66</td>
<td>2 → 3</td>
<td>L plug connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.671</td>
<td></td>
<td>2 → 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ700</td>
<td>1/8</td>
<td>2.5</td>
<td>2 → 3</td>
<td>M plug connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.684</td>
<td></td>
<td>2 → 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Base mounted</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ300</td>
<td>M5 x 0.8</td>
<td>0.36</td>
<td>2 → 3</td>
<td>DIN terminal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.659</td>
<td></td>
<td>2 → 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ500</td>
<td>1/8</td>
<td>1.2</td>
<td>2 → 3</td>
<td>M8 Connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.671</td>
<td></td>
<td>2 → 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ700</td>
<td>1/8-1/4</td>
<td>2.7</td>
<td>2 → 3</td>
<td>(SYJ500, 700 only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.684</td>
<td></td>
<td>2 → 3</td>
<td></td>
<td></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 port location</th>
<th>P, R port size</th>
<th>M3</th>
<th>M5</th>
<th>1/8</th>
<th>A port size</th>
<th>With one-touch fitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ300</td>
<td>Top</td>
<td>M5 x 0.8</td>
<td>■</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ500</td>
<td>Top</td>
<td>1/8</td>
<td>—</td>
<td>■</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ700</td>
<td>Top</td>
<td>1/8</td>
<td>—</td>
<td>—</td>
<td>■</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ300</td>
<td>Side</td>
<td>M5 x 0.8</td>
<td>■</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ500</td>
<td>Bottom</td>
<td>1/8</td>
<td>—</td>
<td>■</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ700</td>
<td>Bottom</td>
<td>1/8</td>
<td>—</td>
<td>—</td>
<td>■</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Side</td>
<td>1/8</td>
<td>—</td>
<td>—</td>
<td>■</td>
<td>—</td>
<td>—</td>
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</table>

**Applicable tubing O.D.**

<table>
<thead>
<tr>
<th>ø4</th>
<th>ø6</th>
<th>ø8</th>
<th>N3</th>
<th>N7</th>
<th>N9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Series 10-SYJ300**

**Series 10-SYJ500**

**Series 10-SYJ700**
Series 10-SYJ300

Rubber seal
3 Port / Pilot operated solenoid valve

Specifications

Fluid

<table>
<thead>
<tr>
<th>Operating pressure range (MPa)</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal pilot</td>
<td></td>
</tr>
</tbody>
</table>

Ambient and fluid temperature (°C)

<table>
<thead>
<tr>
<th>Response time ms (at 0.5 MPa)</th>
<th>–10 to 50 (No freezing. Refer to page 714.)</th>
</tr>
</thead>
</table>

Max. operating frequency (Hz)

<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>
</table>

Pilot exhaust method

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

Mounting orientation

<table>
<thead>
<tr>
<th>Impact / Vibration resistance (m/s²)</th>
<th>Dust tight (= M8 connector conforms to IP65.)</th>
</tr>
</thead>
</table>

Enclosure

| Made to Order Specifications (For details, refer to page 698.) |
|-----------------------------------------------------------------

Solenoid specifications

Electrical entry

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

Allowable voltage fluctuation

<table>
<thead>
<tr>
<th>Power consumption (W)</th>
<th>DC</th>
<th>With power saving circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.35 (With indicator light: 0.4)</td>
<td>0.1 (With indicator light type only)</td>
<td></td>
</tr>
</tbody>
</table>

Apparent power (VA)

<table>
<thead>
<tr>
<th>Surge voltage suppressor</th>
<th>Diode (varistor for non-polar type)</th>
</tr>
</thead>
</table>

Indicator light

* Based on IEC60529

Note 1) Based on dynamic performance test, JIS B 8375-1981. (With coil temperature of 20°C, at rated voltage and 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.

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.

*110VAC and 115VAC are common, as are 220VAC and 230VAC.

* For 115VAC and 230VAC, the allowable voltage is –15% to +5% of rated voltage. Since S, Z and T types (with power saving circuit) have a voltage drop due to internal circuit, observe the following allowable voltage fluctuation range.

S and Z types 24VDC: –7% to +10%
12VDC: –4% to +10%

T type 24VDC: –8% to +10%
12VDC: –6% to +10%
### 10-SYJ000

#### Flow characteristics / Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Effective area (mm²)</th>
<th>Weight (g) Note</th>
<th>Grommet</th>
<th>L/M plug connector</th>
<th>M8 connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ312</td>
<td>N.C.</td>
<td>M3 x 0.5</td>
<td>—</td>
<td>—</td>
<td>0.9</td>
<td>32</td>
<td>33</td>
<td>37</td>
</tr>
<tr>
<td>10-SYJ322</td>
<td>N.O.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ314</td>
<td>N.C.</td>
<td>M5 x 0.8</td>
<td>0.41</td>
<td>0.18</td>
<td>0.35</td>
<td>0.33</td>
<td>0.086</td>
<td>53(32)</td>
</tr>
<tr>
<td>10-SYJ324</td>
<td>N.O.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>54(33)</td>
</tr>
</tbody>
</table>

Note) Value for DC. Add 1 g for AC. ( ): Without sub-plate.
**How to Order**

**3 port / Pilot operated solenoid valve 10-SYJ300**

### Light/Surge voltage suppressor
- **Nil**: Without light/surge voltage suppressor
- **S**: With surge voltage suppressor
- **Z**: With 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.

### Type of actuation
- **1**: Normally closed
- **2**: Normally open

*For type “W/L52408”, DC voltage is only available.

### Rated voltage

<table>
<thead>
<tr>
<th>Type</th>
<th>DC Voltage</th>
<th>AC Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>24 VDC</td>
<td>100 VAC</td>
</tr>
<tr>
<td>S</td>
<td>12 VDC</td>
<td>200 VAC</td>
</tr>
<tr>
<td>S</td>
<td>6 VDC</td>
<td>110 VAC</td>
</tr>
<tr>
<td>S</td>
<td>5 VDC</td>
<td>220 VAC</td>
</tr>
<tr>
<td>R</td>
<td>3 VDC</td>
<td>230 VAC</td>
</tr>
</tbody>
</table>

*Recommended for 3 port (For type 20 manifold)*

### Base mounted

**Body ported**

<table>
<thead>
<tr>
<th>Body ported</th>
<th>SYJ3</th>
<th>2M</th>
<th>5</th>
<th>M</th>
<th>M3</th>
</tr>
</thead>
</table>

**Clean series**

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

*Note: With gasket and screws*

### Port size

- **Nil**: Without connector cable
- **M5**: M5 port with connector cable

*Note: For sub-plate type, types 41, S41, 42, and S42 manifolds*

### Electrical entry

<table>
<thead>
<tr>
<th>Grommet</th>
<th>L plug connector</th>
<th>M plug connector</th>
<th>M8 connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>G: 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>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire</td>
<td>L0: Without connector</td>
<td>MO: Without connector</td>
</tr>
<tr>
<td>LN: Without lead wire</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*For connector cable of M8 connector, refer to page 703.*

*“LN”, “MN” types: with 2 sockets.*

### Manual override

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

*Note 1: Be sure to enter a symbol of the cable length in [L52408]*

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 666.)
How to Order Pilot Valve Assembly

**10—V111**

- **Clean series**

**Coil specifications**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Standard</td>
</tr>
<tr>
<td>T</td>
<td>With power saving circuit &lt;24, 12 VDC only&gt;</td>
</tr>
</tbody>
</table>

Power saving circuit is not available in the case of “W/L” type.

**Rated voltage**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>24 VDC</td>
</tr>
<tr>
<td>6</td>
<td>12 VDC</td>
</tr>
<tr>
<td>V</td>
<td>6 VDC</td>
</tr>
<tr>
<td>S</td>
<td>5 VDC</td>
</tr>
<tr>
<td>R</td>
<td>3 VDC</td>
</tr>
<tr>
<td>1</td>
<td>100 VAC50/60Hz</td>
</tr>
<tr>
<td>2</td>
<td>200 VAC50/60Hz</td>
</tr>
<tr>
<td>3</td>
<td>110 VAC50/60Hz [115 VAC50/60Hz]</td>
</tr>
<tr>
<td>4</td>
<td>220 VAC50/60Hz [230 VAC50/60Hz]</td>
</tr>
</tbody>
</table>

* For type “WC”, DC voltage is only available.
* 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.

**Light/surge voltage suppressor**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Without light/surge voltage suppressor</td>
</tr>
<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>

**Electrical entry**

- **Grommet (Lead wire length 300 mm)**
- **Grommet (Lead wire length 600 mm)**
- **L plug connector**
  - With lead wire
  - Without lead wire
  - Without connector
- **M plug connector**
  - With lead wire
  - Without lead wire
  - Without connector
- **M8 Connector**
  - Without connector cable
  - With connector cable

Note 1) Be sure to enter a symbol of the cable length in □ with reference to page 704.

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: **SY100-30-A**

(with connector and 2 of sockets only)

**Lead wire length**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>300mm</td>
</tr>
<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>Symbol</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>300mm</td>
</tr>
<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>

Note 1) Be sure to enter a symbol of the cable length in □ with reference to page 704.
Body ported

Grommet (G), (H): 10-SYJ3□2M□G□H□-M3

With bracket:
10-SYJ3□2M□F□-M3-F

L plug connector (L):
10-SYJ3□2M□L□-M3

M plug connector (M):
10-SYJ3□2M□M□-M3

M8 connector (WO):
10-SYJ3□2M□WO□-M3

* Refer to page 704 for dimensions with connector cable.
3 port / Pilot operated solenoid valve 10-SYJ300

Base mounted (With sub-plate)

Grommet (G, H): 10-SYJ3□4M□□□□-M5

L plug connector (L):
10-SYJ3□4M□□□□-L□□□□-M5

M plug connector (M):
10-SYJ3□4M□□□□-M□□□□-M5

M8 connector (WO):
10-SYJ3□4M□□□□-WO□□□□-M5

View from the top:
- Manual override
- G: Approx. 300
- H: Approx. 600
- (Lead wire length)

L plug connector (L):
- M5 x 0.8 (A port)
- 2-Ø3.2 (For mounting)
- 26.4
- 17
- 3
- 2.5
- 11

M plug connector (M):
- M5 x 0.8 (P, R port)

M8 connector (WO):
- M5 x 0.8 (X port)

Note:
- Refer to page 704 for dimensions with connector cable.

* Refer to page 704 for dimensions with connector cable.
**Series 10-SYJ300 Manifold specifications**

### 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><strong>Body ported for internal pilot</strong></td>
<td></td>
<td>1→2(P→A)</td>
<td>2→3(A→R)</td>
</tr>
<tr>
<td>Type 10-SS3YJ3-20</td>
<td>M5 x 0.8</td>
<td>M3 x 0.5</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3□2M</td>
<td>M5 x 0.8</td>
<td>M3 x 0.5</td>
<td>—</td>
</tr>
<tr>
<td><strong>Base mounted for internal pilot</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 10-SS3YJ3-41</td>
<td>M5 x 0.8</td>
<td>M3 x 0.5</td>
<td>—</td>
</tr>
<tr>
<td>10-SYJ3□4M</td>
<td>M5 x 0.8</td>
<td>M3 x 0.5</td>
<td>—</td>
</tr>
<tr>
<td>Type 10-SS3YJ3-42-M5</td>
<td>1/8</td>
<td>M5 x 0.8</td>
<td>0.31 0.17 0.075 0.32 0.11 0.072</td>
</tr>
<tr>
<td>10-SYJ3□4M</td>
<td>1/8</td>
<td>C4</td>
<td>0.33 0.36 0.086 0.33 0.2 0.082</td>
</tr>
<tr>
<td>Type 10-SS3YJ3-542-M5</td>
<td>1/8</td>
<td>M5 x 0.8</td>
<td>0.32 0.3 0.079 0.33 0.35 0.086</td>
</tr>
<tr>
<td>Type 10-SS3YJ3-542-C4</td>
<td>1/8</td>
<td>C4</td>
<td>0.35 0.17 0.082 0.35 0.26 0.086</td>
</tr>
</tbody>
</table>

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

### How to Order Manifold (Example)

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

Example

10-SS3YJ3-20-03 .......... 1 set (Manifold base)

* 10-SYJ312M-5LZ-M3 .......... 2 sets (Valve)

* SYJ300-10-1A ............. 1 set (Blanking plate assembly)

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.
Manifold specifications 10-SYJ300

<Manifold option>
Combinations of solenoid valve, manifold gasket and manifold base

**Body ported (10-SYJ3○2M)**

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

- Manifold gasket
  - SYJ300-5-6

- Manifold gasket
  - SYJ300-5-4

- Applicable base
  - 10-SS3YJ3-20

- Manifold gasket
  - SYJ300-5-6

- Manifold gasket
  - SYJ300-5-4

- Applicable base sub-plate
  - 10-SS3YJ3-41
  - 10-SS3YJ3-S41
  - 10-SS3YJ3-42
  - 10-SS3YJ3-S42

**Base mounted (10-SYJ3○4M)**

- Manifold gasket
  - SYJ300-5-6

- Manifold gasket
  - SYJ300-5-4

- Applicable base
  - 10-SS3YJ3-20

- Manifold base
  - SYJ300-10-1A

- Manifold base
  - SYJ300-10-2A

**Manifold specifications 10-SYJ300**

**Blanking plate assembly**

**Part no.:** SYJ300-10-1A

- Round head combination screw
- Blanking plate
- Manifold gasket

**Part no.:** SYJ300-10-2A

- Round head combination screw
- Blanking plate
- Manifold gasket

**Applicable base**

- 10-SS3YJ3-20

**Applicable base sub-plate**

- 10-SS3YJ3-41
- 10-SS3YJ3-S41
- 10-SS3YJ3-42
- 10-SS3YJ3-S42

**Caution**

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

- Use caution to the assembly orientation of solenoid valve, gasket and optional parts.
How to Order Manifolds

**Type 20**

- A port: M3 x 0.5
- R port: M5 x 0.8
- P port: M5 x 0.8

**How to Order**

10–SS3YJ3–20–05

- **Clean series**
- **Valve mounting direction**
- **Stations**
- **Bracket**

<table>
<thead>
<tr>
<th>Stations</th>
<th>Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Nil</td>
</tr>
<tr>
<td>20</td>
<td>F (With bracket)</td>
</tr>
</tbody>
</table>

- **Pilot valve** is on the opposite side of A port.
- **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**

10-SYJ312M-

**Applicable blanking plate assembly**

SYJ300-10-1A

---

**Type 41**

- A port: M3 x 0.5
- R port: M5 x 0.8
- P port: M5 x 0.8

**Type S41** (Pilot valve is on the same side of A port.)

**How to Order**

10–SS3YJ3–41–05–M3

- **Clean series**
- **Valve mounting direction**
- **Stations**
- **Bracket**

<table>
<thead>
<tr>
<th>Stations</th>
<th>Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Nil</td>
</tr>
<tr>
<td>20</td>
<td>F (With bracket)</td>
</tr>
</tbody>
</table>

- **Pilot valve** is on the same side of A port.
- **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**

10-SYJ314M-

**Applicable blanking plate assembly**

SYJ300-10-2A

---

**Type 42**

- A port: M5 x 0.8, C4
- R port: M5 x 0.8
- P port: M5 x 0.8

**Type S42** (Pilot valve is on the same side of A port.)

**How to Order**

10–SS3YJ3–42–05–M5

- **Clean series**
- **Valve mounting direction**
- **Stations**
- **Bracket**

<table>
<thead>
<tr>
<th>Stations</th>
<th>Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Nil</td>
</tr>
<tr>
<td>20</td>
<td>F (With bracket)</td>
</tr>
</tbody>
</table>

- **Pilot valve** is on the same side of A port.
- **Note** For more than 8 stations, supply air to both sides of P port and exhaust air from both sides of R port.

**Applicable solenoid valve**

10-SYJ314M-

**Applicable blanking plate assembly**

SYJ300-10-2A

---

- **A port size**

<table>
<thead>
<tr>
<th>M5</th>
<th>M5 x 0.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>One-touch fitting for ø4</td>
</tr>
<tr>
<td>N3</td>
<td>One-touch fitting for ø5/32&quot;</td>
</tr>
</tbody>
</table>

- **P, R port 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>

**Clean series**
Manifold specifications

Type 20 manifold: Top ported / 10-SS3YJ3-20- Station-00 (-F)

Grommet (G)

L plug connector (L)

M plug connector (M)

M8 connector (WO)

<table>
<thead>
<tr>
<th>Stations n</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>35.5</td>
<td>46</td>
<td>56.5</td>
<td>67</td>
<td>77.5</td>
<td>88</td>
<td>98.5</td>
<td>109</td>
<td>119.5</td>
<td>130</td>
<td>140.5</td>
<td>151</td>
<td>161.5</td>
<td>172</td>
<td>182.5</td>
<td>193</td>
<td>203.5</td>
<td>214</td>
<td>224.5</td>
</tr>
<tr>
<td>L2</td>
<td>28.5</td>
<td>39</td>
<td>49.5</td>
<td>60</td>
<td>70.5</td>
<td>81</td>
<td>91.5</td>
<td>102</td>
<td>112.5</td>
<td>123</td>
<td>133.5</td>
<td>144</td>
<td>154.5</td>
<td>165</td>
<td>175.5</td>
<td>186</td>
<td>196.5</td>
<td>207</td>
<td>217.5</td>
</tr>
</tbody>
</table>

* Refer to page 704 for dimensions with connector cable.
Type 41 manifold: Side ported / 10-SS3YJ3-41-Station-M3

Grommet (G)

Type S41 manifold: Side ported
(Pilot valve is on the same side of A port.)

10-SS3YJ3-S41- Stations-M3

L plug connector (L)

M plug connector (M)

M8 connector (WO)

<table>
<thead>
<tr>
<th>Stations n</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td>L1</td>
<td>35.5</td>
</tr>
<tr>
<td>L2</td>
<td>28.5</td>
</tr>
</tbody>
</table>

Note) [ ]: AC
**Manifold specifications 10-SYJ300**

**Type 42 manifold: Side ported / 10-SS3YJ3-42-Station-M5, C4 N3**

**Grommet (G) M5**

![Diagram of Grommet (G) M5]

**C4 N3 □ (With built-in one-touch fitting)**

![Diagram of C4 N3 □ (With built-in one-touch fitting)]

**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)]

**Type S42 manifold: Side ported** (Pilot valve is on the same side of A port.)

**M5 10-SS3YJ3-S42-Station-M5, C4 N3**

**Grommet (G) M5**

![Diagram of Grommet (G) M5]

**C4 N3 □ (With built-in one-touch fitting)**

![Diagram of C4 N3 □ (With built-in one-touch fitting)]

**Table:**

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>41.5</td>
<td>33.5</td>
</tr>
<tr>
<td>2</td>
<td>52</td>
<td>44</td>
</tr>
<tr>
<td>3</td>
<td>62.5</td>
<td>54.5</td>
</tr>
<tr>
<td>4</td>
<td>73</td>
<td>65</td>
</tr>
<tr>
<td>5</td>
<td>83.5</td>
<td>75.5</td>
</tr>
<tr>
<td>6</td>
<td>94</td>
<td>86</td>
</tr>
<tr>
<td>7</td>
<td>104.5</td>
<td>96.5</td>
</tr>
<tr>
<td>8</td>
<td>115</td>
<td>107</td>
</tr>
<tr>
<td>9</td>
<td>125.5</td>
<td>117.5</td>
</tr>
<tr>
<td>10</td>
<td>136</td>
<td>128</td>
</tr>
<tr>
<td>11</td>
<td>146.5</td>
<td>138.5</td>
</tr>
<tr>
<td>12</td>
<td>157</td>
<td>149</td>
</tr>
<tr>
<td>13</td>
<td>167.5</td>
<td>159.5</td>
</tr>
<tr>
<td>14</td>
<td>178</td>
<td>170</td>
</tr>
<tr>
<td>15</td>
<td>188.5</td>
<td>180.5</td>
</tr>
<tr>
<td>16</td>
<td>199</td>
<td>191</td>
</tr>
<tr>
<td>17</td>
<td>209.5</td>
<td>201.5</td>
</tr>
<tr>
<td>18</td>
<td>220</td>
<td>212</td>
</tr>
<tr>
<td>19</td>
<td>230.5</td>
<td>222.5</td>
</tr>
</tbody>
</table>

Refer to page 704 for dimensions with connector cable.
Series 10-SYJ500
Rubber seal
3 port / Pilot operated solenoid valve

Specifications

**Fluid**
- Air

**Operating pressure range (MPa)**
- Internal pilot: 0.15 to 0.7

**Ambient and fluid temperature (°C)**
- −10 to 50 (No freezing. Refer to page 714.)

**Response time ms (0.5MPa)** (Note 1)
- 25 or less

**Max. operating frequency (Hz)**
- 5

**Manual override (Manual operation)**
- Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type

**Pilot exhaust method**
- Common exhaust type for main and pilot valves

**Lubrication**
- Not required

**Mounting orientation**
- Unrestricted

**Impact / Vibration resistance m/s²** (Note 2)
- 150/30

**Enclosure**
- Dust tight (/-DIN terminal, -M8 connector conforms to IP65.)

---

**Solenoid specifications**

**Electrical entry**
- G, H, L, M, W
- D

**Rated coil voltage V**
- DC: 24, 12, 6, 5, 3
- AC: 24, 12

**Allowable voltage fluctuation**
- ±10% of rated voltage *1

**Power consumption (W)**
- DC: 0.78 (With indicator light: 0.81) / 0.78 (With indicator light: 0.87)
- AC: 110V [115V]: 0.86 / 0.94 (With indicator light: 0.97) / 0.94 (With indicator light: 1.07)
- 200V / 220V [230V]: 1.18 (With indicator light: 1.22) / 1.15 (With indicator light: 1.30)

**Apparent power *2 (VA)**
- AC: 220V [230V]: 1.30 (With indicator light: 1.34) / 1.27 (With indicator light: 1.46) / 1.27 (With indicator light: 1.46)

**Surge voltage suppressor**
- Diode (Varistor for DIN terminal and non-polar type)

**Indicator light**
- LED (Neon bulb for DIN terminal AC)

---

* Based on IEC60529

Note 1) Based on dynamic performance test, JIS B 8374-1981. (With coil temperature of 20°C, at rated voltage and 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. (Initial value)

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. (Initial value)

---

**JIS Symbol**

- Internal pilot
- 10-SYJ51M: 10-SYJ52M

**Body ported**

**Base mounted**

Made to Order Specifications
(Refer to page 698 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>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ512M N.C</td>
<td>M5 x 0.8</td>
<td></td>
<td>1 → 2(P → A)</td>
<td></td>
<td>N.M.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ522M N.O</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ514M N.C</td>
<td>1/8</td>
<td></td>
<td>2 → 3(A → R)</td>
<td></td>
<td>N.M.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ524M N.O</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) Value for DC. Add 3 g for AC. ( ): Without sub-plate.
### How to Order

**Rated voltage**

<table>
<thead>
<tr>
<th>For DC</th>
<th>S</th>
<th>24 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>12 VDC</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>6 VDC</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>5 VDC</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>3 VDC</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>100 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>200 VAC</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>110 VAC (115 VAC)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>220 VAC (230 VAC)</td>
<td></td>
</tr>
</tbody>
</table>

**Type of actuation**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>Normally closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Normally open</td>
<td></td>
</tr>
</tbody>
</table>

**Light/surge voltage suppressor**

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

**Electrical entry for D**

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

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

- For type “D”, “DO” or “W”, DC voltage is only available.

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

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

**Bracket**

- Brackets are not installed.

**Coil specifications**

- With power saving circuit (24 and 12 VDC only) power saving circuit is not available in the case of “D”, “DO” or “W”, type.

**Manual override**

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

**Thread type**

<table>
<thead>
<tr>
<th></th>
<th>Nil</th>
<th>Rc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>NPT</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>NPTF</td>
</tr>
</tbody>
</table>

**How to Order**

<table>
<thead>
<tr>
<th>Body ported</th>
<th>Base mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – SYJ5 1</td>
<td>10 – SYJ5 1</td>
</tr>
<tr>
<td>2M</td>
<td>4M</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>M5</td>
<td>01</td>
</tr>
</tbody>
</table>

**Electrical entry**

- For connector cable of M8 connector, refer to page 703.

---

**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 catalog in page 678.
- *LN*, *MN* types: with 2 sockets.
- *DOZ* is not available.
- For connector cable of M8 connector, refer to page 703.
- Note 1) Be sure to enter a symbol of the cable length with reference to page 704.

---

**Thread type**

<table>
<thead>
<tr>
<th></th>
<th>Nil</th>
<th>Rc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>NPT</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>NPTF</td>
</tr>
</tbody>
</table>

**Electrical entry**

- For connector cable of M8 connector, refer to page 703.
- Note 1) Be sure to enter a symbol of the cable length with reference to page 704.
How to Order Pilot Valve Assembly

10—V111

Coil specifications
- With power saving circuit (24 and 12 VDC only)
- Power saving circuit is not available in the case of "W" type.

Rated voltage
- For type "W", DC voltage is only available.

Light/surge voltage suppressor
- Without light/surge voltage suppressor (Nil)
- With surge voltage suppressor (S)
- With light/surge voltage suppressor (Z)
- With surge voltage suppressor (Non-polar type) (Z)
- With light/surge voltage suppressor (Non-polar type) (U)
- 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) (G)
- With lead wire (H)
- Without lead wire (J)
- Without connector (K)
- With connector cable (L)

Note 1) Be sure to enter a symbol of the cable length with reference to page 704.

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

How to Order M8 Connector Cable

V100-49-1

Rated voltage
- For DC: 24 VDC
- For 12 VDC
- For 100 VAC: 50/60Hz
- For 200 VAC: 50/60Hz
- For 220 VAC: 50/60Hz
- For 230 VAC: 50/60Hz
- For 110 VAC: 50/60Hz
- For 115 VAC: 50/60Hz
- For 5000 mm

Light/surge voltage suppressor
- Without light/surge voltage suppressor (Nil)
- With surge voltage suppressor (S)
- With surge voltage suppressor (Non-polar type) (Z)
- With light/surge voltage suppressor (Non-polar type) (U)
- "DOZ" is not available.

Electrical entry
- DIN terminal (D)
- With connector (DO)
- Without connector (W)

Note 1) Do not replace 10-V111 (G, H, L, M, W) with 10-V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.
Body ported

Grommet (G), (H): 10-SYJ5□2M-□□-□□-□□-M5

With bracket:
10-SYJ5□2M-□□-□□-□□-M5-F

L plug connector (L):
10-SYJ5□2M-□□-□□-□□-M5 (-F)

M plug connector (M):
10-SYJ5□2M-□□-□□-□□-M5 (-F)

DIN Terminal (D):
10-SYJ5□2M-□□-□□-□□-M5 (-F)

M8 connector (WO):
10-SYJ5□2M-□□-□□-□□-M5 (-F)

Applicable cable O.D.
- ø3.5 to ø7
- ø10.0 to ø12.0

∂ Refer to page 704 for dimensions with connector cable.
3 port / Pilot operated solenoid valve 10-SYJ500

Base mounted (With sub-plate)

Grommet (G), (H): 10-SYJ5□4M-□□□□01□

L plug connector (L): 10-SYJ5□4M-□□□□-01□
M plug connector (M): 10-SYJ5□4M-□□□□-01□
DIN terminal (D): 10-SYJ5□4M-□□□□-01□
M8 connector (WO): 10-SYJ5□4M-□□□□-01□

* Refer to page 704 for dimensions with connector cable.
### Manifold specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>For internal pilot</th>
<th>Type 20</th>
<th>Type 40</th>
<th>Type 41</th>
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</thead>
<tbody>
<tr>
<td>Manifold type</td>
<td>Manifold type</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>
</tr>
<tr>
<td>Stations</td>
<td>2 to 20 stations</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Porting specifications</th>
<th>Location</th>
<th>Valve</th>
<th>Base</th>
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<tbody>
<tr>
<td>A port</td>
<td>Direction</td>
<td>Top</td>
<td>Bottom</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P, R port</td>
<td>1/8</td>
<td>1/8</td>
<td>1/8</td>
</tr>
<tr>
<td>A port</td>
<td>M5 x 0.8</td>
<td></td>
<td>M5 x 0.8 1/8</td>
</tr>
</tbody>
</table>

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

### Flow characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>1→2(P→A)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2→3(A→R)</td>
</tr>
<tr>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>1→2(P→A)</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2→3(A→R)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### How to Order Manifold (Example)

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

(Example)
10-SS3YJ5-20-03 --------1 set (Manifold base)
* 10-SYJ512M-5LZ-M5 ... 2 sets (Valve)
* SYJ500-10-1A----------1 set (Blanking plate assembly.)

Note) The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.
<Manifold option>
Combinations of solenoid valve, manifold gasket and manifold base

<table>
<thead>
<tr>
<th>Body ported (10-SYJ5□2M)</th>
<th>Base mounted (10-SYJ5□4M)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applicable base</strong></td>
<td><strong>Applicable base</strong></td>
</tr>
<tr>
<td>10-SS3YJ5-20</td>
<td>10-SS3YJ5-40</td>
</tr>
<tr>
<td>Manifold base</td>
<td>Manifold base</td>
</tr>
</tbody>
</table>

**Round head combination screw**
M2.5 x 25 (Matt nickel plated)

**Manifold gasket**
SYJ500-5-4
SYJ500-5-5

**Blanking plate assembly**

<table>
<thead>
<tr>
<th>Part no.: SYJ500-10-3A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applicable base sub-plate</strong></td>
</tr>
<tr>
<td>10-SS3YJ5-40</td>
</tr>
<tr>
<td>10-SS3YJ5-41</td>
</tr>
<tr>
<td><strong>Manifold base</strong></td>
</tr>
<tr>
<td><strong>Blanking plate</strong></td>
</tr>
<tr>
<td><strong>Round head combination screw</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part no.: SYJ500-10-1A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applicable base</strong></td>
</tr>
<tr>
<td>10-SS3YJ5-20</td>
</tr>
<tr>
<td><strong>Blanking plate</strong></td>
</tr>
<tr>
<td><strong>Manifold gasket</strong></td>
</tr>
</tbody>
</table>

**Caution**

**Mounting screw tightening torque**
M2.5: 0.45N·m

Use caution to the assembly orientation of solenoid valve (blanking plate) and manifold gasket.
How to Order Manifolds

Type 20

How to Order

10–SS3YJ5–20–  05  
Clean series

<table>
<thead>
<tr>
<th>Stations</th>
<th>P, R port thread type</th>
<th>Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 2 stations</td>
<td>Nil Rc</td>
<td>With bracket</td>
</tr>
<tr>
<td>20 20 stations</td>
<td>00F G</td>
<td>Filled with bracket</td>
</tr>
</tbody>
</table>

Applicable solenoid valve
10-SYJ512M-□□□□-M5
10-SYJ522M-□□□□-M5

Applicable blanking plate assembly
SYJ500-10-1A

Note) For more than 9 stations, supply air to both sides of P port and exhaust air from both sides of R port.

Type 40

How to Order

10–SS3YJ5–40–  05  
Clean series

<table>
<thead>
<tr>
<th>Stations</th>
<th>A port size</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 2 stations</td>
<td>M5 M5 x 0.8</td>
<td>Nil Rc</td>
</tr>
<tr>
<td>20 20 stations</td>
<td>01 1/8</td>
<td>F G</td>
</tr>
</tbody>
</table>

Applicable solenoid valve
10-SYJ514M-□□□□-□□□
10-SYJ524M-□□□□-□□□

Applicable blanking plate assembly
SYJ500-10-3A

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

Type 41

How to Order

10–SS3YJ5–41–  05  
Clean series

<table>
<thead>
<tr>
<th>Stations</th>
<th>A port size</th>
<th>P, R port thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 2 stations</td>
<td>M5 M5 x 0.8</td>
<td>Nil Rc</td>
</tr>
<tr>
<td>20 20 stations</td>
<td>01 1/8</td>
<td>F G</td>
</tr>
</tbody>
</table>

Applicable solenoid valve
10-SYJ514M-□□□□-□□□
10-SYJ524M-□□□□-□□□

Applicable blanking plate assembly
SYJ500-10-3A

Note) For more than 9 stations, supply air to both sides of P port and exhaust air from both sides of R port.
Manifold specifications

**10-SYJ500**

Type 20 manifold: Top ported / 10-SS3YJ5-20- Stations -00 (-F)

Grommet (G)

(Light/surge voltage suppressor)

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>53</td>
<td>69</td>
<td>85</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>117</td>
<td>133</td>
<td>149</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td>181</td>
<td>197</td>
<td>213</td>
<td>229</td>
</tr>
<tr>
<td></td>
<td>245</td>
<td>261</td>
<td>277</td>
<td>293</td>
</tr>
<tr>
<td></td>
<td>309</td>
<td>325</td>
<td>341</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40</td>
<td>56</td>
<td>72</td>
<td>88</td>
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<td></td>
<td>104</td>
<td>120</td>
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<td>152</td>
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<td></td>
<td>168</td>
<td>184</td>
<td>200</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td>232</td>
<td>248</td>
<td>264</td>
<td>280</td>
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<tr>
<td></td>
<td>304</td>
<td>328</td>
<td>352</td>
<td>381</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16</td>
<td>32</td>
<td>48</td>
<td>64</td>
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</tr>
<tr>
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<td>144</td>
<td>160</td>
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<tr>
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<tr>
<td></td>
<td>272</td>
<td>288</td>
<td>304</td>
<td>320</td>
</tr>
</tbody>
</table>

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

**(For mounting)**

2-ø4.5

Approx. 300

(Lead wire length)

PG7

**Refer to page 704 for dimensions with connector cable.**
### Grommet (G)

![Grommet Diagram]

- **Port size**: Approx. 300 (Lead wire length)
- **Dimensions**: P = 16

- **Manual override**: 
  - Station 1: 21.5
  - (Station n) - (Station 1)

- **Applicable tube O.D.**: ø4, ø5/32

### L plug connector (L)

![L plug connector Diagram]

- **Port size**: Approx. 300 (Lead wire length)
- **Dimensions**: P = 16

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

### M plug connector (M)

![M plug connector Diagram]

- **Port size**: Approx. 300 (Lead wire length)
- **Dimensions**: P = 16

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

### DIN terminal (D)

![DIN terminal Diagram]

- **Port size**: Approx. 300 (Lead wire length)
- **Dimensions**: P = 16

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

### M8 connector (WO)

![M8 connector Diagram]

- **Port size**: Approx. 300 (Lead wire length)
- **Dimensions**: P = 16

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

---

### Table

<table>
<thead>
<tr>
<th>Port size</th>
<th>Item</th>
<th>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>
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<th>15</th>
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<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting</td>
<td><strong>L1</strong></td>
<td>60</td>
<td>66</td>
<td>82</td>
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<td>297</td>
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<td>329</td>
</tr>
</tbody>
</table>

* Refer to page 704 for dimensions with connector cable.
### Type 41 manifold: Side ported / 10-SS3YJ5-41

#### Grommet (G)

<table>
<thead>
<tr>
<th>Port size</th>
<th>Stations</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<th>12</th>
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<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
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</thead>
<tbody>
<tr>
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<td>84</td>
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<td>244</td>
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<td>324</td>
</tr>
<tr>
<td></td>
<td>L2</td>
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<td>139</td>
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<td>129</td>
<td>146</td>
<td>163</td>
<td>180</td>
<td>197</td>
<td>214</td>
<td>231</td>
<td>248</td>
<td>265</td>
<td>282</td>
<td>299</td>
<td>316</td>
<td>333</td>
</tr>
</tbody>
</table>

**Manifold specifications 10-SYJ500**

- **Type:** 41 manifold: Side ported
- **Port Size:** M5, 01
- **Stations:** L1, L2
- **Port Size:** 1/8

**Grommet (G):**

- **Port Size:** M5
- **Grommet (G):** 1/8

**Port size chart:**

- **Port Size:** M5
- **L1:** 52, 68, 84, 100, 116, 132, 148, 164, 180, 196, 212, 228, 244, 260, 276, 292, 308, 324, 340
- **L2:** 43, 59, 75, 91, 107, 123, 139, 155, 171, 187, 203, 219, 235, 251, 267, 283, 299, 315, 331

**Port size chart:**

- **Port Size:** 1/8
- **L1:** 53, 70, 87, 104, 121, 138, 155, 172, 189, 206, 223, 240, 257, 274, 291, 308, 325, 342, 359
- **L2:** 44, 61, 78, 95, 112, 129, 146, 163, 180, 197, 214, 231, 248, 265, 282, 299, 316, 333, 350

**Light/surge voltage suppressor:**

- **Port Size:** M5 x 0.8 (A port)
- **Pitch:** P = 16
- **Grommet (G):** 1/8
- **Port Size:** M5 x 0.8 (A port)
- **Pitch:** P = 17

**Approx. Lead Wire Length:**

- **For DIN type:** 36.2
- **Approx. 300**

**Manual override:**

- **Manual override:** 4.5

**System Pressure:**

- **System Pressure:** L1, L2

**Station Numbers:**

- **Station Numbers:** (Station 1), (Station n)

**Flow control equipment:**

- **Flow control equipment:** 4.5

**Clean gas filter:**

- **Clean gas filter:** 4.5

---

*([ ]): AC*
 Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (MPa)</td>
<td>Internal pilot</td>
</tr>
<tr>
<td></td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50 (No freezing. Refer to page 714.)</td>
</tr>
<tr>
<td>Response time ms (0.5MPa)</td>
<td>Note 1)</td>
</tr>
<tr>
<td>30 or less</td>
<td></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>Common exhaust type for main and pilot valves</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>Note 2)</td>
</tr>
<tr>
<td>150/30</td>
<td></td>
</tr>
</tbody>
</table>

Enclosure

- Dust tight (+DIN terminal, M8 connector conforms to IP65.)

Note 1) Based on dynamic performance test, JIS B 8375-1981. (With coil temperature of 20°C, at rated voltage and 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. (Initial value)

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. (Initial value)

Solenoid specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>Grommet(G)/(H), L plug connector (L), M plug connector (M), DIN terminal (D), M8 connector (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil rated voltage V</td>
<td>DC</td>
</tr>
<tr>
<td>24, 12, 6, 5, 3</td>
<td>24, 12</td>
</tr>
<tr>
<td>AC 50/60Hz</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</td>
</tr>
<tr>
<td>Standard</td>
<td>0.35 (With indicator light: 0.4 (DIN terminal with indicator light: 0.45))</td>
</tr>
<tr>
<td>With power saving circuit</td>
<td>0.1 (With indicator light only)</td>
</tr>
<tr>
<td>Apparent power * (VA)</td>
<td>AC</td>
</tr>
<tr>
<td>100V</td>
<td>100V (With indicator light: 0.81) 0.78 (With indicator light: 0.87)</td>
</tr>
<tr>
<td>110V [115V]</td>
<td>0.86 (With indicator light: 0.89) 0.86 (With indicator light: 0.97)</td>
</tr>
<tr>
<td>0.94 (With indicator light: 0.97) 0.94 (With indicator light: 1.07)</td>
<td></td>
</tr>
<tr>
<td>200V</td>
<td>1.18 (With indicator light: 1.22) 1.15 (With indicator light: 1.30)</td>
</tr>
<tr>
<td>220V [230V]</td>
<td>1.30 (With indicator light: 1.34) 1.27 (With indicator light: 1.46)</td>
</tr>
<tr>
<td>1.42 (With indicator light: 1.46) 1.39 (With indicator light: 1.60)</td>
<td></td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Diode (Varistor for DIN terminal and non-polar type)</td>
</tr>
<tr>
<td>Indicator light</td>
<td>LED (Neon bulb for DIN terminal AC)</td>
</tr>
</tbody>
</table>

* Based on IEC60529

- For 115 VAC and 230 VAC, the allowable voltage fluctuation is –15% to +5% of rated voltage.
- Since S, Z and T types (with a power saving circuit) have a voltage drop due to internal circuit, do not exceed the following allowable voltage fluctuation range.

- S and Z types, 24VDC: –7% to +10%
- 12VDC: –6% to +10%
- T type 24VDC: –8% to +10%
- 12VDC: –6% to +10%

Made to Order Specifications

(Refer to page 698 for details.)
### Flow characteristics / Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Flow characteristics 1→2(P→A)</th>
<th>Flow characteristics 2→3(A→R)</th>
<th>Weight (g) Note</th>
<th>Grommet</th>
<th>L/M plug connector</th>
<th>DIN terminal</th>
<th>M8 connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ712M</td>
<td>N.C.</td>
<td>1/8</td>
<td>b: 2.8, Cv: 0.43</td>
<td>b: 2.5, Cv: 0.77</td>
<td>75</td>
<td>135(75)</td>
<td>136(76)</td>
<td>157(97)</td>
<td>140(80)</td>
</tr>
<tr>
<td>10-SYJ722M</td>
<td>N.O.</td>
<td>1/8</td>
<td>b: 2.7, Cv: 0.38</td>
<td>b: 2.4, Cv: 0.72</td>
<td>76</td>
<td>76</td>
<td>97</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>10-SYJ714M</td>
<td>N.C.</td>
<td>1/8</td>
<td>b: 2.9, Cv: 0.32</td>
<td>b: 2.7, Cv: 0.71</td>
<td>136(76)</td>
<td>136(76)</td>
<td>157(97)</td>
<td>140(80)</td>
<td></td>
</tr>
<tr>
<td>10-SYJ724M</td>
<td>N.O.</td>
<td>1/8</td>
<td>b: 2.8, Cv: 0.21</td>
<td>b: 2.3, Cv: 0.70</td>
<td>97</td>
<td>97</td>
<td>140(80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-SYJ714M</td>
<td>N.C.</td>
<td>1/4</td>
<td>b: 3.0, Cv: 0.31</td>
<td>b: 2.6, Cv: 0.74</td>
<td>136(76)</td>
<td>136(76)</td>
<td>157(97)</td>
<td>140(80)</td>
<td></td>
</tr>
<tr>
<td>10-SYJ724M</td>
<td>N.O.</td>
<td>1/4</td>
<td>b: 2.7, Cv: 0.31</td>
<td>b: 2.3, Cv: 0.68</td>
<td>157(97)</td>
<td>157(97)</td>
<td>140(80)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Value for DC. Add 3 g for AC. ( ): Without sub-plate.
How to Order

3 port / Pilot operated solenoid valve 10-SYJ700

Rated voltage

For DC

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

AC specifications (50/60Hz)

| 1 | 100 VAC |
| 2 | 110 VAC [115 VAC] |
| 3 | 200 VAC |
| 4 | 220 VAC [230 VAC] |

Note 1) DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.

Type of actuation

1) Normally closed
2) Normally open

Light/surge voltage suppressor

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

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

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

Electrical entry for D

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

Bracket

- Without bracket
- With bracket

Port size

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

Thread type

- Standard
- With power saving circuit <24 and 12 VDC only>

Body ported

10-SYJ7 1 2M 5 M 01

Base mounted

10-SYJ7 1 4M 5 M 01

Coil specifications

- Standard
- With power saving circuit <24 and 12 VDC only>

Manual override

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

Electrical entry

- Without connector cable
- With connector cable

Electrical entry for Grommet L plug connector M plug connector DIN terminal M8 connector

G: Lead wire length 300 mm
H: Lead wire length 300 mm

L: Without lead wire (length 300 mm)
M: Without lead wire (length 300 mm)

W: Without lead wire
MN: Without lead wire (length 300 mm)

D: With connector

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 catalog in page 691.)

∗ "LN", "MN" types : with 2 sockets.
∗ DIN terminal type "Y" conforming to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 698.
∗ For connector cable of M8 connector, refer to page 703.

Note 1) Be sure to enter a symbol of the cable length in  /L52408 with reference to page 704.
How to Order Pilot Valve Assembly

**10—V111**

**Clean series**

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

- **Rated voltage**
  - S: 24 VDC
  - G: 12 VDC
  - R: 8 VDC
  - 1: 100 VAC/50Hz
  - 2: 200 VAC/50Hz
  - 3: 110 VAC/60Hz
  - 4: 220 VAC/60Hz

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

- **Electrical entry**
  - G: Grommet (Lead wire length 300 mm)
  - H: Grommet (Lead wire length 600 mm)
  - L: L plug connector With lead wire
  - LN: Without lead wire
  - LO: Without connector
  - M: M plug connector With lead wire
  - MN: Without lead wire
  - MO: Without connector
  - WO: Without connector cable
  - W: M8 connector With connector cable

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

**10—V115**

- **Clean series**

- **Rated voltage**
  - 5: 24 VDC
  - 6: 12 VDC
  - 2: 100 VAC/50Hz
  - 3: 220 VAC/50Hz

- **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)

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

- **Note**
  - DC specifications of type “D” and “DO” is only available with 12 and 24 V DC.
  - Power saving circuit is not available in the case of “D”, “DO” 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**: 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**
  - DC specifications of type “D” and “DO” is only available with 12 and 24 V DC.
  - Power saving circuit is not available in the case of “D”, “DO” type.

- **Note**
  - For connector cable of M8 connector, refer to page 703.

- **Note**
  - Be sure to enter a symbol of the cable length in /L52408 with reference to page 704.
3 port / Pilot operated solenoid valve 10-SYJ700

Body ported

Grommet (G), (H): 10-SYJ7□4M-□□□-01□

With bracket: 10-SYJ7□2M-□□□-01□-F

L plug connector (L):
10-SYJ7□2M-□□□-01□ (-F)

M plug connector (M):
10-SYJ7□2M-□□□-01□ (-F)

DIN terminal (D):
10-SYJ7□2M-□□□-01□ (-F)

M8 connector (WO):
10-SYJ7□2M-□□□-01□ (-F)

[Refer to page 704 for dimensions with connector cable.]
Base mounted (With sub-plate)

Grommet (G), (H): 10-SYJ7□□□□□□□□□

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

G: Approx. 300
H: Approx. 600

(Lead wire length)

M5 x 0.8
(SYJ714R: X port)

1/4, 1/8 (P, R port)

L plug connector (L):
10-SYJ7□□□□□□□□□

M plug connector (M):
10-SYJ7□□□□□□□□□

DIN terminal (D):
10-SYJ7□□□□□□□□□

M8 connector (WO):
10-SYJ7□□□□□□□□□

∗ Refer to page 704 for dimensions with connector cable.
### Manifold specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>For internal pilot</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>Single base type / 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>
<td></td>
</tr>
<tr>
<td>Stations</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A port</td>
<td>Location</td>
<td>Valve</td>
<td>Valve</td>
<td>Base</td>
<td>Base</td>
<td>Base</td>
</tr>
<tr>
<td>Porting specifications</td>
<td>Direction</td>
<td>Top</td>
<td>Top</td>
<td>Bottom</td>
<td>Bottom</td>
<td>Side</td>
</tr>
<tr>
<td></td>
<td>Port size</td>
<td>A port</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>1/8</td>
<td>1/8</td>
<td>1/4</td>
<td>1/4</td>
<td></td>
</tr>
</tbody>
</table>

### Flow characteristics

<table>
<thead>
<tr>
<th>Manifold</th>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1(P), 3(R) port</td>
<td>1→2(P→A) C, [m3/(s·bar)] b, Cv</td>
</tr>
<tr>
<td>10-SS3YJ7-20</td>
<td>1/8</td>
<td>2.2 0.34 0.55 2.3 0.27 0.59</td>
</tr>
<tr>
<td>10-SS3YJ7-21</td>
<td>1/4</td>
<td>2.2 0.39 0.59 2.4 0.32 0.62</td>
</tr>
<tr>
<td>10-SS3YJ7-40</td>
<td>1/8</td>
<td>2.1 0.35 0.59 2.3 0.27 0.54</td>
</tr>
<tr>
<td>10-SS3YJ7-41</td>
<td>1/4</td>
<td>2.2 0.35 0.59 2.4 0.36 0.66</td>
</tr>
<tr>
<td>10-SS3YJ7-42-01</td>
<td>1/4</td>
<td>2.0 0.27 0.47 2.2 0.32 0.56</td>
</tr>
<tr>
<td>10-SS3YJ7-42-C6</td>
<td>1/4</td>
<td>1.6 0.32 0.39 2.2 0.27 0.54</td>
</tr>
<tr>
<td>10-SS3YJ7-42-C8</td>
<td>1/4</td>
<td>2.1 0.24 0.51 2.3 0.31 0.59</td>
</tr>
</tbody>
</table>

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

### How to Order Manifold (Example)

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

(Example)

- 10-SS3YJ7-20-03 ········· 1 set (Manifold base)
- 10-SYJ712M-5LZ-01 ··· 2 sets (Valve)
- SYJ700-10-1A ············· 1 set (Blanking plate assembly)

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.
<Manifold option>
Combinations of solenoid valve, manifold gasket and manifold base

**Body ported (10-SYJ7□2M)**

- Round head combination screw M3 x 31 (Matt nickel plated)
- Gasket SYJ700-5-3

**Base mounted (10-SYJ7□4M)**

- Round head combination screw M3 x 31 (Matt nickel plated)
- Gasket SYJ700-5-4

**Applicable base**
- 10-SS3YJ7-20
- 10-SS3YJ7-21

**Applicable base sub-plate**
- 10-SS3YJ7-40
- 10-SS3YJ7-41
- 10-SS3YJ7-42

**Manifold base**

**Blanking plate assembly**

Part no.: SYJ700-10-2A
(For both body ported type and base mounted type)

- Round head combination screw
- Blanking plate
- Gasket

**Caution**

**Mounting screw tightening torque**

M3: 0.8N·m

Use caution to the assembly orientation of solenoid valve, gasket and optional parts.
**Manifold specifications 10-SYJ700**

**How to Order Manifolds**

**Type 20/21**

- **How to Order**
  - **Manifold type**
    - 10-SS3YJ7
  - **Stations**
    - 20: Type 20
    - 21: Type 21
  - **P, R port thread**
    - Nil
    - Rc
    - F
    - N
    - G
    - T

- **Applicable solenoid valve**
  - 10-SYJ712M-01
  - 10-SYJ722M-01

- **Applicable blanking plate assembly**
  - SYJ700-10-2A

**Note** For more than 6 stations for type 20 and more than 9 stations for type 21, supply air to both sides of P port and exhaust air from both sides of R port.

**Type 40/41**

- **How to Order**
  - **Manifold type**
    - 10-SS3YJ7
  - **Stations**
    - 40: Type 40
    - 41: Type 41
  - **A port size**
    - 02: 2 stations
    - 20: 20 stations
  - **P, R port thread**
    - Nil
    - Rc
    - F
    - N
    - G
    - T

- **Applicable solenoid valve**
  - 10-SYJ714M-01
  - 10-SYJ724M-01

- **Applicable blanking plate assembly**
  - SYJ700-10-2A

**Note** For more than 6 stations for type 40 and more than 9 stations for type 41, supply air to both sides of P port and exhaust air from both sides of R port.

**Type 42**

- **How to Order**
  - **Manifold type**
    - 10-SS3YJ7
  - **Stations**
    - 02: 2 stations
    - 20: 20 stations
  - **A port size**
    - 01: Rc1/8
    - C6: One-touch fitting for ø1/8
    - C8: One-touch fitting for ø8
    - N7: One-touch fitting for ø14/2
    - N9: One-touch fitting for ø5/16
  - **P, R port thread**
    - Nil
    - Rc
    - F
    - N
    - G
    - T

- **Applicable solenoid valve**
  - 10-SYJ714M-01
  - 10-SYJ724M-01

- **Applicable blanking plate assembly**
  - SYJ700-10-2A

**Note** For more than 9 stations, supply air to both sides of P port and exhaust air from both sides of R port.
Type 20 manifold: Top ported / 10-SS3YJ7-20- Stations (-00□)

Grommet (G)

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

<table>
<thead>
<tr>
<th>Grommet (G)</th>
<th>L plug connector (L)</th>
<th>M plug connector (M)</th>
<th>DIN terminal (D)</th>
<th>M8 connector (WO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
</tr>
<tr>
<td>L2</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stations</th>
<th>L plug connector (L)</th>
<th>M plug connector (M)</th>
<th>DIN terminal (D)</th>
<th>M8 connector (WO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
</tr>
<tr>
<td>L2</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
<td>53.5</td>
</tr>
</tbody>
</table>

<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>59</td>
<td>78</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>
<td>306</td>
<td>325</td>
<td>344</td>
<td>363</td>
<td>382</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>
</tr>
</tbody>
</table>

* Refer to page 704 for dimensions with connector cable.
Type 21 manifold: Top ported / 10-SS3YJ7-21- Stations (-00□)

Grommet (G)

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

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L plug connector (L)</th>
<th>M plug connector (M)</th>
<th>DIN terminal (D)</th>
<th>M8 connector (WO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>61</td>
<td>80</td>
<td>99</td>
<td>118</td>
</tr>
<tr>
<td>L2</td>
<td>49</td>
<td>68</td>
<td>87</td>
<td>106</td>
</tr>
</tbody>
</table>

* Refer to page 704 for dimensions with connector cable.
Manifold specifications 10-SYJ700

Type 40 manifold: Bottom ported / 10-SS3YJ7-40- Stations - 01

Grommet (G)

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</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 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>59</td>
<td>78</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>
<td>306</td>
<td>325</td>
<td>344</td>
<td>363</td>
<td>382</td>
<td>401</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>

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

* Refer to page 704 for dimensions with connector cable.
### Manifold specifications 10-SYJ700

**Type 42 manifold: Side ported / 10-SS3YJ7-42- Stations -01, C6 N7 C8 N9**

#### Grommet (G)

(With built-in one-touch fitting)

**L plug connector (L)**

**M plug connector (M)**

**DIN terminal (D)**

**M8 connector (WO)**

#### Table

| Stations n | L1 | L2 | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 stations |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------------|
| L1         | 61 | 80 | 99 | 118| 137| 156| 175| 194| 213| 232| 251| 270| 289| 308| 327| 346| 365| 384| 403         |
| L2         | 49 | 68 | 87 | 106| 125| 144| 163| 182| 201| 220| 239| 258| 277| 296| 315| 334| 353| 372| 391         |

* Refer to page 704 for dimensions with connector cable.
Grommet (G)

Manifold specifications 10-SYJ700

Type 41 manifold: Bottom ported / 10-SS3YJ7-41- Stations -01

Grommet (G)
# How to Order Valves

### Series 10-SYJ500/700

#### Made to Order Specifications

DIN connector conforming to DIN 43650C (DIN pitch 8mm) standard.

### DIN connector part no.

<table>
<thead>
<tr>
<th>Voltage symbol</th>
<th>Part no.</th>
<th>Type of actuation</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>110V (115V) AC</td>
<td>SY100-82-3-00</td>
<td>Normally closed</td>
<td>1/8</td>
</tr>
<tr>
<td>110V (115V) VDC</td>
<td>SY100-82-3-01</td>
<td>Normally closed</td>
<td>1/8</td>
</tr>
<tr>
<td>110V (115V) VDC</td>
<td>SY100-82-3-02</td>
<td>Normally closed</td>
<td>1/4</td>
</tr>
<tr>
<td>220V (230V) VAC</td>
<td>SY100-82-3-03</td>
<td>Normally closed</td>
<td>1/4</td>
</tr>
<tr>
<td>220V (230V) VAC</td>
<td>SY100-82-3-04</td>
<td>Normally closed</td>
<td>1/4</td>
</tr>
<tr>
<td>24V VDC</td>
<td>SY100-82-3-05</td>
<td>Normally closed</td>
<td>1/4</td>
</tr>
</tbody>
</table>

**Clean series**

1. Use caution in using because it won't meet the IP65 enclosure standard if you use other cords than prescribed. Also be sure to use copper wires in accordance with the 0.18mm², 0.25mm², or 0.35mm² size. Please refer to page 703 for precautions, applicable cable circuit diagrams, and other details.

2. Dimensions of DIN terminal type conforming to DIN 43650C (DIN pitch 8mm) standard are completely the same as type D connector.

3. When exchanging the pilot valve assembly with SYJ100-82-3-00, Do not replace SYJ100-82-3-00 with SYJ101-82-3-00. SYJ101-82-3-00 is interchangeable with SYJ100-82-3-00 (DIN terminal), and vice versa.

### Electrical entry

1. Light surge voltage suppressor:
   - Without light/surge voltage suppressor: "S"
   - With light/surge voltage suppressor: "Z"

2. Manual override:
   - Non-locking push type: "D"
   - Push-turn locking slotted type: "E"
   - Push-turn locking lever type: "F"

3. Mounting brackets:
   - Non-locking push type: "J"
   - Push-turn locking slotted type: "K"
   - Push-turn locking lever type: "L"

### How to Order Pilot Valve Assembly

- **Clean series**
  - Normally closed
  - Normally open

- **Type of actuation**
  - 5
  - 7

- **Series**
  - 10-SYJ500
  - 10-SYJ700

- **Port size**
  - 1/8 (SYJ700 only)
  - 1/4

- **Rated voltage**
  - 5VDC
  - 3VDC
  - 12VDC
  - 24VDC

- **DC (AC 50/60Hz)**
  - 100VAC
  - 200VAC
  - 110VAC [115VAC]
  - 220VAC [230VAC]

- **Power source**
  - For type 20 manifold: DC
  - For sub-plate type, types 40 and 41 manifolds: AC (50/60Hz)

- **Rating voltage**
  - 100VAC
  - 200VAC
  - 110VAC [115VAC]
  - 220VAC [230VAC]

- **Bracket**
  - Without light/surge voltage suppressor: "S"
  - With light/surge voltage suppressor: "Z"

- **Electrical entry**
  - Without connector: "Y" (For AC voltage valves, there is no "S" option. It is already built-in to the rectifier circuit.)
  - With connector: "O"
**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 in the same way as the non-locking push type.

**Caution**

When operating 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 [Type E]**
  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 push 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 other trouble such as air leakage, etc.

---

**Solenoid valve for 200/220 VAC specification**

**Warning**

Solenoid valves with grommet and L/M plug connector AC specifications have a built-in rectifier circuit in the pilot section to operate the DC coil.

For 200/220 VAC specification pilot valves, the built-in rectifier generates heat when energized, and the surface may become hot depending on the energized condition. Therefore, do not touch the solenoid valves.

---

**Bracket**

**Caution**

For the 10-SYJ300 with bracket, do not use it without bracket.
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 approximately 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. 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 exclusive crimping tools, please contact SMC.)

3. Attaching and detaching a socket with lead wire
   • Attaching
      Insert a socket into the square hole of the connector (with + and – indication), and continue to push the socket all the way in until they lock by hooking into the seat in the connector. (When it is pushed in, their hook opens and it is locked automatically.) Then confirm that it is locked by pulling lightly on the lead wire.
   • 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.

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

Lead wire length

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>Lead Wire Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>300mm</td>
</tr>
<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
Include the connector assembly part number together with the part number for the plug connector’s solenoid valve without connector.

Example: Lead wire length 2000 mm

For DC
10-SYJ312M-5LO-M3
SY100-30-4A-20

For AC
10-SYJ312M-1LO-M3
SY100-30-1A-20
Series 10-SYJ300/500/700
Specific Product Precautions 3
Be sure to read before handling.

Surge voltage suppressor

Caution

For DC
Grommet, L/M plug connector

- Standard type (with polarity)
  With surge voltage suppressor (S)
  Diode to prevent reverse current

  Red (+)
  Black (-)

  With light/surge voltage suppressor (Z)
  Diode to prevent reverse current

  Red (+)
  Black (-)

- Non-polar type
  With surge voltage suppressor (R)
  (+) (-)

  With light/surge voltage suppressor (U)
  (+) (-)

- DIN terminal
  With surge voltage suppressor (DS)
  No.1 (-) (+)
  No.2 (+) (-)

  With light/surge voltage suppressor (DZ)
  No.1 (-) (+)
  No.2 (+) (-)

- DIN terminal has no polarity.

- M8 connector type
  Standard type (with polarity)
  With surge voltage suppressor (S)
  Diode to prevent reverse current

  1 (+)
  3 (-)

  With light/surge voltage suppressor (Z)
  Diode to prevent reverse current

  1 (+)
  3 (-)

  Non-polar type
  With surge voltage suppressor (R)
  (+) (-)

  With light/surge voltage suppressor (U)
  (+) (-)

- Working principle
  Electric circuit (with power saving circuit) Red (+)
  LED
  Diode
  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.)

  When a power saving circuit is installed, a diode to prevent reverse current is not provided. Therefore, use caution not to connect in reverse.

  In the case of standard type, connect + to 1 and - to 3 according to the polarity.
  For DC voltages other than 12 and 24 VDC, do not connect in reverse because a diode to prevent reverse current is not installed.
  Be careful about the allowable voltage fluctuation since valves with diode to prevent reverse current have an approx. 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.

⚠️ Caution

Grommet, L and M plug connector

With indicator light (LZ)

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 1V.

The residual voltage of the diode is approximately 1V.

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 (sloated 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) cabtire cable will not satisfy IP65 (enclosure) standards.

Also, be sure to tighten the ground nut and holding screw within their specified torque ranges.

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.

How to Use DIN Terminal

⚠️ Caution

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

Ground nut
Tightening torque
1.65 to 2.5 N·m

How to Use DIN Terminal

Solenoid valve mounting

⚠️ Caution

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Thread size</th>
<th>Tightening torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-SYJ300</td>
<td>M1.7</td>
<td>0.12N·m</td>
</tr>
<tr>
<td>10-SYJ500</td>
<td>M2.5</td>
<td>0.45N·m</td>
</tr>
<tr>
<td>10-SYJ700</td>
<td>M3</td>
<td>0.8N·m</td>
</tr>
</tbody>
</table>

DIN terminal part no.

⚠️ Caution

Without light SY100-61-1

With light

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

Circuit diagram with light

Note) For DIN connector (Y) conforming to EN-175301-803C(former DIN 43650C), refer to page 699.
Series 10-SYJ300/500/700
Specific Product Precautions 5
Be sure to read before handling.

**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>Nil</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></td>
<td>8</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>

**Connector assembly with cover: Dimensions**

How to Order

Specify the part no. for a solenoid valve without connector together with part no. for a connector assembly with cover.

**Example 1:** Lead wire length 2000 mm

10-SYJ312-5LOZ-M3

SY100-68-A-20

**Example 2:** Lead wire length 300mm (Standard)

10-SYJ312-5LPZ-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 confirming 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-SY300 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·m)

3. Do not apply excessive force over 30N to the connector cables because IP65 will not be satisfied.

**Caution**

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

- Connector cable mounting

**Note** Connector cable should be mounted in the correct direction. Make sure that the arrow symbol on the connector is facing the triangle symbol on the valve when using SMC connector cable (V100-49-1-□). Be careful not to squeeze it in the wrong direction, as problems such as pin damage may occur.
Series 10-SYJ300/500/700
Specific Product Precautions 6
Be sure to read before handling.

M8 connector

- 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 – SYJ\(\frac{3}{7}\) M – ___ ___ ___ ___

   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-SYJ312M-5W1ZE-M3

2. To order connector cable only

   (Ground)

   Connector dimensions
   - Brown: 1
   - Blue: 3

   Connector cable

   Cable length (L) Part no.
   300mm V100-49-1-1
   500mm V100-49-1-2
   1000mm V100-49-1-3
   2000mm V100-49-1-4
   5000mm V100-49-1-7

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 valves 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

Conventional type

Connector dimensions

- Brown: 1
- Blue: 3

Cable length (L)

<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>