The SSY3/5-4ST/T1□ type plug-in terminal block manifold is to be discontinued as of December 2019. Therefore, we recommend considering the SY3000/5000/7000 plug-in connector connecting base terminal block box type manifold as a substitute. (Click here for details.) However, keep in mind that there is no specification or mounting compatibility between the two products.

**Flow Rate Characteristics**

<table>
<thead>
<tr>
<th>Series</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C [dm³/(s·bar)]</td>
</tr>
<tr>
<td>SY3000</td>
<td>1.1</td>
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<tr>
<td>SY5000</td>
<td>2.8</td>
</tr>
<tr>
<td>SY7000</td>
<td>4.5</td>
</tr>
<tr>
<td>SY9000</td>
<td>10</td>
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</tbody>
</table>
## Cylinder Speed Chart

### Body Ported

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>C2 series Pressure 0.5 MPa Load rate: 50% Stroke 60 mm</th>
<th>CM2 series Pressure 0.5 MPa Load rate: 50% Stroke 300 mm</th>
<th>MB, CA2 series Pressure 0.5 MPa Load rate: 50% Stroke 500 mm</th>
<th>CS1 series Pressure 0.5 MPa Load rate: 50% Stroke 1000 mm</th>
<th>Bore size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3120-C6</td>
<td></td>
<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
</tr>
<tr>
<td>SY5120-01</td>
<td></td>
<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
</tr>
<tr>
<td>SY7120-02</td>
<td></td>
<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
</tr>
<tr>
<td>SY9120-03</td>
<td></td>
<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
</tr>
</tbody>
</table>

### Base Mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>C2 series Pressure 0.5 MPa Load rate: 50% Stroke 60 mm</th>
<th>CM2 series Pressure 0.5 MPa Load rate: 50% Stroke 300 mm</th>
<th>MB, CA2 series Pressure 0.5 MPa Load rate: 50% Stroke 500 mm</th>
<th>CS1 series Pressure 0.5 MPa Load rate: 50% Stroke 1000 mm</th>
<th>Bore size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3140-01</td>
<td></td>
<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
</tr>
<tr>
<td>SY5140-02</td>
<td></td>
<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
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<tr>
<td>SY7140-03</td>
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<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
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<td>SY9140-04</td>
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<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
</tr>
</tbody>
</table>

### Conditions [When using SGP (steel pipe)]

<table>
<thead>
<tr>
<th>Body ported</th>
<th>C2 series</th>
<th>CM2 series</th>
<th>MB, CA2 series</th>
<th>CS1 series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3120-C6</td>
<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
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<td>SY5120-01</td>
<td>T0604 x 1 m</td>
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<td>SY7120-02</td>
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<td>SY9120-03</td>
<td>T0604 x 1 m</td>
<td>AS3002F-06</td>
<td>AN120-02</td>
<td>AN20-02</td>
</tr>
</tbody>
</table>

### Conditions

- Cylinder is in extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.
- Average speed of cylinder is obtained by dividing the full stroke time by the stroke.
- Load factor: \( \frac{(\text{Load mass} \times 9.8)}{\text{Theoretical force}} \) x 100%
- The histograms with * marked are the case when piping is done by using steel.

### Conditions [When using SGP (steel pipe)]

<table>
<thead>
<tr>
<th>Body ported</th>
<th>CS1 series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3120-C6</td>
<td>SGP10A x 1 m</td>
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<tr>
<td>SY5120-01</td>
<td>SGP15A x 1 m</td>
</tr>
<tr>
<td>SY7140-02</td>
<td>SGP10A x 1 m</td>
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<tr>
<td>SY9140-03</td>
<td>SGP10A x 1 m</td>
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</table>
## Valve Variations

<table>
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<tr>
<th>Series</th>
<th>Actuation Voltage</th>
<th>Electrical entry</th>
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<tr>
<td></td>
<td>DC</td>
<td>AC</td>
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<tr>
<td></td>
<td>24 V</td>
<td>50/60 Hz</td>
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<tr>
<td></td>
<td>12 V</td>
<td>50/60 Hz</td>
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<tr>
<td></td>
<td>6 V</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>5 V</td>
<td>50/60 Hz</td>
</tr>
</tbody>
</table>

### Components
- **Sonic conductance C [dm³/(s·bar)]**
  - **Series**: P.404
    - SY3 20 0.65
    - SY5 20 2.4
    - SY7 20 3.3
    - SY9 20 8.6
  - **Series**: P.420
    - SY3 40 1.1
    - SY5 40 2.8
    - SY7 40 4.5
    - SY9 40 10

### Manual Override
- **P, EA, EB port size**
  - **Series**: SY
    - SY3 20
    - SY5 20
    - SY7 20
    - SY9 20
    - SY3 40
    - SY5 40
    - SY7 40
    - SY9 40

### Valve Option
- **Interface regulator**
- **3 Port valve SY**
- **Vacuum specifications**
- **Low pressure specifications**
- **Exhaust throttle**
- **Exhaust specifications**
- **Low pressure specifications**
- **Dual pressure specifications**
- **Enclosure IP65 Interface regulator**
- **3 Port valve SY**

### Notes
1. All AC voltage models have built-in surge voltage suppressor.
2. Body ported external pilot type (made to order) is not available for DIN terminal.
3. Only available for DIN terminal and M8 connector.
4. SY3000 does not have a DIN terminal which can be connected to a manifold.
## Manifold Variations

<table>
<thead>
<tr>
<th>Valve Series</th>
<th>Wiring</th>
<th>Common specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Connection</td>
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</tr>
<tr>
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<td>Individual wiring</td>
<td>Flat ribbon cable</td>
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<tr>
<td>5 port</td>
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<td>Bar stock type</td>
<td>Individual wiring</td>
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<td>P. 438</td>
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<td>P. 464</td>
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<td>P. 472</td>
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Note: When there are polarities, the positive common specifications are used.
### Manifold Variations

<table>
<thead>
<tr>
<th>Manifold option</th>
<th>A, B port size</th>
<th>One-touch fitting</th>
<th>Valve option</th>
<th>External pilot</th>
<th>Individual SUP block disk</th>
<th>Individual EXH block disk</th>
<th>Individual SUP interface</th>
<th>Individual EXH interface</th>
<th>External pilot</th>
<th>Individual SUP block disk</th>
<th>Individual EXH block disk</th>
<th>Individual SUP interface</th>
<th>Individual EXH interface</th>
<th>Mixed mounting</th>
<th>Oil resistant</th>
<th>Vacuum specifications</th>
<th>Different pressure</th>
<th>Dual pressure</th>
<th>Exhaust throttle</th>
<th>Bundle wiring</th>
<th>Mixed fitting sizes</th>
<th>IP65 enclosure</th>
<th>Interface regulator</th>
<th>Valves with function</th>
<th>Vacuum release valve with restrictor</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Silencer for One-touch fitting</td>
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<td>Built-in silencer</td>
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</tbody>
</table>

**Note:** When using DIN terminal or M8 connector, SY3000 does not have a DIN terminal which can be connected to a manifold.
## Manifold Variations

### Base mounted

<table>
<thead>
<tr>
<th>Valve Series</th>
<th>Connection</th>
<th>Wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compact bar stock type</strong></td>
<td>Individual wiring</td>
<td>Flat ribbon cable (26 pins)</td>
</tr>
<tr>
<td><strong>Individual wiring</strong></td>
<td>P. 490</td>
<td>SY3□40</td>
</tr>
<tr>
<td><strong>Flat ribbon cable</strong></td>
<td>P. 506</td>
<td>SY5□40</td>
</tr>
<tr>
<td><strong>Bar stock type/Common external EXH</strong></td>
<td>Individual wiring</td>
<td>Flat ribbon cable (26 pins) MIl connector permits one-touch wiring of external cables in a bundle.</td>
</tr>
<tr>
<td><strong>Individual wiring</strong></td>
<td>P. 490</td>
<td>SY3□40</td>
</tr>
<tr>
<td><strong>Flat ribbon cable</strong></td>
<td>P. 506</td>
<td>SY5□40</td>
</tr>
<tr>
<td><strong>Stacking type</strong></td>
<td>Individual wiring</td>
<td>Bar stock type/Common external EXH</td>
</tr>
<tr>
<td><strong>Individual wiring</strong></td>
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<td>SY9□40</td>
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<tr>
<td><strong>Flat ribbon cable</strong></td>
<td>P. 514</td>
<td>SY9□40</td>
</tr>
<tr>
<td><strong>Bar stock type</strong></td>
<td>EX510 gateway type</td>
<td>Individual wiring</td>
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<tr>
<td><strong>Individual wiring</strong></td>
<td>P. 520</td>
<td>SY3□40</td>
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<tr>
<td><strong>Flat ribbon cable</strong></td>
<td>P. 520</td>
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<td>EX510 gateway type</td>
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<td><strong>Individual wiring</strong></td>
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<td>SY9□40</td>
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<td><strong>Flat ribbon cable</strong></td>
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<td>SY9□40</td>
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<td>Individual wiring</td>
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<td><strong>Individual wiring</strong></td>
<td>P. 536</td>
<td>SY3□40</td>
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<td><strong>Flat ribbon cable</strong></td>
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<td><strong>Connector box</strong></td>
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<tr>
<td><strong>Plug-in</strong></td>
<td>EX510 gateway type</td>
<td>Individual wiring</td>
</tr>
<tr>
<td><strong>Connector box</strong></td>
<td>P. 604</td>
<td>SY3□40</td>
</tr>
</tbody>
</table>

- **SY3□40**
- **SY5□40**
- **SY7□40**
- **SY9□40**
- **SY□40** (Note) In common

### Made to order

- **Made to order (Refer to page "Made to Order").**

**Note:** When there are polarities, the positive common specifications are used.

### Wiring

- **Individual wiring**
- **Flat ribbon cable (26 pins)**
- **Plug-in type D-sub connector (25 pins)**
- **Plug-in type flat ribbon cable (20, 26, 10 pins)**
- **Plug-in type terminal block (9, 18 pins)**
- **Serial transmission unit**
- **Positive common**
- **Negative common**
## Manifold Variations

<table>
<thead>
<tr>
<th>Manifold option</th>
<th>A, B port size</th>
<th>Valve option</th>
<th>Mixed mounting</th>
<th>Vacuum specifications</th>
<th>Low pressure specifications</th>
<th>Different pressure</th>
<th>Exhaust throttle</th>
<th>Mixed fitting sizes</th>
<th>IP65 enclosure</th>
<th>Interface regulator</th>
</tr>
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<tbody>
<tr>
<td>Blanking plate</td>
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<tr>
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Note: When using DIN terminal or M8 connector, SY3000 does not have a DIN terminal which can be connected to a manifold.
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■ Body Ported Manifold

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5 Port Solenoid Valve
Body Ported/Single Unit
SY3000/5000/7000/9000 Series

How to Order

Series
3 SY3000
5 SY5000
7 SY7000
9 SY9000

Type of actuation
1 2 position single (A) 2 (B)
2 2 position double (A) 2 (B)
3 3 position closed center (A) 2 (B)
4 3 position exhaust center (A) 2 (B)
5 3 position pressure center (A) 2 (B)

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

Rated voltage
For AC (% V/Hz)
1 100 VAC
2 200 VAC
3 110 VAC [115 VAC]
4 220 VAC [230 VAC]

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

Body Ported/Single Unit
SY5 1 20 5 L 01

A, B port size
Thread piping

One-touch fitting (Metric size)
Symbol Port size Applicable series
M5 M5 x 0.8 SY3000
D1 1/8 SY5000
D2 1/4 SY7000
D3 3/8 SY9000

One-touch fitting (Inch size)
Symbol Port size Applicable series
N3 One-touch fitting for 1/8 SY3000
N7 One-touch fitting for 1/4 SY5000
N9 One-touch fitting for 1/2 SY7000
N11 One-touch fitting for 3/4 SY9000

Electrical Surge Voltage Suppressor
Nil Without light/surge voltage suppressor
S With surge voltage suppressor
Z With surge voltage suppressor (Non-polar type)
U With surge voltage suppressor (Non-polar type)

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

When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 467.)

Note) AC-type models that are CE-compliant have DIN terminals only.

Made to Order

Thread type
Nil Rc
F G
N NPT
T NPTF

Made to Order

Light and Surge voltage suppression
Nil Without light/surge voltage suppressor plus screw
S With surge voltage suppressor
Z With surge voltage suppressor (Non-polar type)
U With surge voltage suppressor (Non-polar type)

Note) When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 467.)
## Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
<th>SY9000</th>
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</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air</td>
<td></td>
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<tr>
<td>Internal pilot</td>
<td>2 position single</td>
<td>0.15 to 0.7</td>
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<tr>
<td>Operating pressure range (MPa)</td>
<td>2 position double</td>
<td>0.1 to 0.7</td>
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<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50 (No freezing)</td>
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<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double</td>
<td>10</td>
<td>5</td>
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<tr>
<td>3 position</td>
<td>3</td>
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<tr>
<td>Manual override (Manual operation)</td>
<td>Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type</td>
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<tr>
<td>Pilot exhaust method</td>
<td>Common exhaust type for main and pilot valve</td>
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<tr>
<td>Lubrication</td>
<td>Not required</td>
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<tr>
<td>Mounting orientation</td>
<td>Unrestricted</td>
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<tr>
<td>Impact/Vibration resistance (m/s²)</td>
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<td>150/30</td>
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<tr>
<td>Enclosure</td>
<td>Dust proof (+ DIN terminal and M8 connector: IP65)</td>
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</table>

* Based on IEC60529

Note) 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. (Values at the initial period)

Note) Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

## Solenoid Specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>G, H, L, M, W</th>
<th>D, Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil rated voltage (V)</td>
<td>DC 24, 12, 6, 5, 3</td>
<td>AC 90/50 Hz 100, 110, 200, 220</td>
</tr>
<tr>
<td>Allowable voltage fluctuation</td>
<td>±10% of rated voltage</td>
<td></td>
</tr>
<tr>
<td>Power consumption (W)</td>
<td>DC 0.35 (With indicator light) 0.1 (With indicator light only)</td>
<td>AC 0.78 (With indicator light) 0.68 (With indicator light)</td>
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<tr>
<td>Apparent power (VA)</td>
<td>AC 0.86 (With indicator light) 0.86 (With indicator light)</td>
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<tr>
<td>Surge voltage suppressor</td>
<td>Diode (Varistor is for DIN terminal and Non-polar type.)</td>
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<tr>
<td>Indicator light</td>
<td>LED (AC of DIN connector is neon light.)</td>
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</tbody>
</table>

* In common between 110 V AC and 115 V AC, and between 220 V AC and 230 V AC.

Note) Based on dynamic performance test, JIS B 8419: 2010. (Coil temperature: 20°C, at rated voltage)

### Response Time

**SY3000**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms) (at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light/surge voltage suppressor</td>
<td>With light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>12 or less 15 or less 12 or less</td>
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<tr>
<td>2 position double</td>
<td>10 or less 13 or less 10 or less</td>
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<tr>
<td>3 position</td>
<td>15 or less 20 or less 16 or less</td>
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</tbody>
</table>

**SY5000**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms) (at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light/surge voltage suppressor</td>
<td>With light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>19 or less 26 or less 19 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>18 or less 22 or less 18 or less</td>
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<tr>
<td>3 position</td>
<td>32 or less 38 or less 32 or less</td>
</tr>
</tbody>
</table>

**SY7000**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms) (at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light/surge voltage suppressor</td>
<td>With light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>31 or less 38 or less 33 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>27 or less 30 or less 28 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>50 or less 56 or less 50 or less</td>
</tr>
</tbody>
</table>

**SY9000**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms) (at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light/surge voltage suppressor</td>
<td>With light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>35 or less 41 or less 35 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>35 or less 41 or less 35 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>62 or less 64 or less 62 or less</td>
</tr>
</tbody>
</table>
### SY3000/5000/7000/9000 Series

#### SY3000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of application</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
<th>LM plug</th>
<th>W8</th>
<th>M8</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3:20</td>
<td>Single</td>
<td>A4 to A8</td>
<td>0.8, 0.6</td>
<td>1.0</td>
<td>70</td>
<td>93</td>
<td>76</td>
<td>101</td>
</tr>
<tr>
<td>SY3:20</td>
<td>Single</td>
<td>A3 to A7</td>
<td>0.6, 0.5</td>
<td>1.4</td>
<td>96</td>
<td>117</td>
<td>100</td>
<td>125</td>
</tr>
<tr>
<td>SY3:20</td>
<td>Double</td>
<td>A1 to A6</td>
<td>0.3, 0.2</td>
<td>2.0</td>
<td>91</td>
<td>112</td>
<td>95</td>
<td>115</td>
</tr>
<tr>
<td>SY3:20</td>
<td>Double</td>
<td>A1 to A6</td>
<td>0.3, 0.2</td>
<td>1.9</td>
<td>106</td>
<td>115</td>
<td>119</td>
<td>129</td>
</tr>
<tr>
<td>SY3:20</td>
<td>Single</td>
<td>A1 to A6</td>
<td>0.2, 0.1</td>
<td>1.7</td>
<td>112</td>
<td>122</td>
<td>130</td>
<td>140</td>
</tr>
<tr>
<td>SY3:20</td>
<td>Single</td>
<td>A1 to A6</td>
<td>0.2, 0.1</td>
<td>1.7</td>
<td>112</td>
<td>122</td>
<td>130</td>
<td>140</td>
</tr>
</tbody>
</table>

#### SY7000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of application</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
<th>LM plug</th>
<th>W8</th>
<th>M8</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY7:20</td>
<td>Single</td>
<td>A4 to A8</td>
<td>0.9, 0.8</td>
<td>1.2</td>
<td>88</td>
<td>104</td>
<td>108</td>
<td>120</td>
</tr>
<tr>
<td>SY7:20</td>
<td>Single</td>
<td>A3 to A7</td>
<td>0.7, 0.6</td>
<td>1.6</td>
<td>101</td>
<td>125</td>
<td>133</td>
<td>141</td>
</tr>
<tr>
<td>SY7:20</td>
<td>Double</td>
<td>A1 to A6</td>
<td>0.4, 0.3</td>
<td>2.1</td>
<td>127</td>
<td>150</td>
<td>160</td>
<td>170</td>
</tr>
<tr>
<td>SY7:20</td>
<td>Double</td>
<td>A1 to A6</td>
<td>0.4, 0.3</td>
<td>1.9</td>
<td>127</td>
<td>150</td>
<td>160</td>
<td>170</td>
</tr>
</tbody>
</table>

#### SY5000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of application</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
<th>LM plug</th>
<th>W8</th>
<th>M8</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY5:20</td>
<td>Single</td>
<td>A4 to A8</td>
<td>0.8, 0.6</td>
<td>1.3</td>
<td>72</td>
<td>93</td>
<td>76</td>
<td>101</td>
</tr>
<tr>
<td>SY5:20</td>
<td>Single</td>
<td>A3 to A7</td>
<td>0.6, 0.5</td>
<td>1.7</td>
<td>96</td>
<td>117</td>
<td>100</td>
<td>125</td>
</tr>
<tr>
<td>SY5:20</td>
<td>Double</td>
<td>A1 to A6</td>
<td>0.3, 0.2</td>
<td>2.0</td>
<td>91</td>
<td>112</td>
<td>95</td>
<td>115</td>
</tr>
<tr>
<td>SY5:20</td>
<td>Double</td>
<td>A1 to A6</td>
<td>0.3, 0.2</td>
<td>1.9</td>
<td>106</td>
<td>115</td>
<td>119</td>
<td>129</td>
</tr>
<tr>
<td>SY5:20</td>
<td>Single</td>
<td>A1 to A6</td>
<td>0.2, 0.1</td>
<td>1.7</td>
<td>112</td>
<td>122</td>
<td>130</td>
<td>140</td>
</tr>
<tr>
<td>SY5:20</td>
<td>Single</td>
<td>A1 to A6</td>
<td>0.2, 0.1</td>
<td>1.7</td>
<td>112</td>
<td>122</td>
<td>130</td>
<td>140</td>
</tr>
</tbody>
</table>

#### SY9000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of application</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
<th>LM plug</th>
<th>W8</th>
<th>M8</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY9:20</td>
<td>Single</td>
<td>A4 to A8</td>
<td>0.9, 0.8</td>
<td>1.3</td>
<td>88</td>
<td>104</td>
<td>108</td>
<td>120</td>
</tr>
<tr>
<td>SY9:20</td>
<td>Single</td>
<td>A3 to A7</td>
<td>0.7, 0.6</td>
<td>1.6</td>
<td>101</td>
<td>125</td>
<td>133</td>
<td>141</td>
</tr>
<tr>
<td>SY9:20</td>
<td>Double</td>
<td>A1 to A6</td>
<td>0.4, 0.3</td>
<td>2.1</td>
<td>127</td>
<td>150</td>
<td>160</td>
<td>170</td>
</tr>
<tr>
<td>SY9:20</td>
<td>Double</td>
<td>A1 to A6</td>
<td>0.4, 0.3</td>
<td>1.9</td>
<td>127</td>
<td>150</td>
<td>160</td>
<td>170</td>
</tr>
</tbody>
</table>

Note: [ ] denotes normal position.
**Construction**

**SY series**

**2 position single**

![2 position single diagram]

**2 position double**

![2 position double diagram]

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

![3 position closed center diagram]

**(This figure shows a closed center type.)**

---

**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Aluminum die-casted (SY3000: Zinc die-casted)</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Adapter plate</td>
<td>Resin</td>
<td>White (SY9000: Gray)</td>
</tr>
<tr>
<td>3</td>
<td>End plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>Resin</td>
<td>–</td>
</tr>
<tr>
<td>5</td>
<td>Spool valve assembly</td>
<td>Aluminum, H-NBR</td>
<td>–</td>
</tr>
</tbody>
</table>

**Replacement Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Pilot valve assembly</td>
<td>Refer to “How to Order Pilot Valve Assembly” on page 629.</td>
</tr>
<tr>
<td>7</td>
<td>M5 port block assembly</td>
<td>Refer to “How to Order Port Block Assembly” on page 629.</td>
</tr>
</tbody>
</table>

**Bracket Assembly No.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracket (For F1)</td>
<td>SX0000-16-2A (with mounting screw)</td>
</tr>
<tr>
<td>Bracket (For F2)</td>
<td>SX0000-16-1A (with mounting screw)</td>
</tr>
</tbody>
</table>

* SY9000 has no bracket.

---

**How to Change Port Block Assembly**

If using body port type, both A and B port sizes can be changed by replacing the port block assembly mounted on the body. When changing this block assembly, the correct screw torque must be achieved to avoid possible air leakage.

For SY5000

- M5 port block Assembly (Threaded type)

**Caution**

Mounting screw tightening torques

- SY3000 (M2): 0.12 N-m
- SY7000 (M3): 0.6 N-m
- SY9000 (M4): 1.4 N-m

* Refer to “How to Order Port Block Assembly” on page 629 for part no.
**SY3000/5000/7000/9000 Series**

**Dimensions: SY3000 Series**

2 position single
Grommet (G), (H): SY3120-□ G □ C4, N3 C6, N7 (-F2)

- **G**: Approx. 300 (Lead wire length)
- **H**: Approx. 600
- **6.6 [69.1]**
- **44.7**
- **8.6**
- **21.4**
- **10.2**
- **2 x ø2.2** (For manifold mounting)
- **2 x ø3.2** (For mounting)
- **2 x M3 x 0.5 depth 4** (For mounting bracket)

**Note:** Refer to page 642 for dimensions of connector types.

**Foot bracket**
SY3120-□ G □ □- C4, N3 C6, N7 -F1

**M8 connector (WO):**
SY3120-□ WO □ □- C4, N3 C6, N7 (-F1)

**L plug connector (L):**
SY3120-□ L □□- C4, N3 C6, N7 (-F2)

**M plug connector (M):**
SY3120-□ M □□- C4, N3 C6, N7 (-F1)

**SY3120-□- C4, N3 C6, N7 (-F2)**

- **2 x ø1.5 die-cast hole**
- **For manifold gasket positioning**

**SY3120-□- C4, N3 C6, N7 (-F1)**

- **M8 x 1**
- **33**

**Note:** Refer to page 642 for dimensions of connector types.
Dimensions: SY3000 Series

2 position double
Grommet (G), (H): SY3220-□□-C4, N3-M5(F2)

G: Approx. 300
H: Approx. 600

Manual override
One-touch fitting

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

Light/surge voltage suppressor

L plug connector (L):
SY3220-□□-□□-C4, N3-M5(F2)

M plug connector (M):
SY3220-□□-□□-C4, N3-M5(F2)

M8 connector (WO):
SY3220-WO□□-□□-C4, N3-M5(F2)

Note) Refer to page 642 for dimensions of connector types.
**Dimensions: SY3000 Series**

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY33\(\frac{3}{5}\)-20-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□□-□°
### Body Ported SY3000/5000/7000/9000 Series

### Dimensions: SY5000 Series

**2 position single**

Grommet (G), (H): SY5120-□G □H □C4, □N3 □□□□(□□□□)

*Manual override*

2 x ø3.2 (For manifold mounting)

**Foot bracket**

SY5120-□G □H □C4, □N3 □□□□(□□□□)

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY5000 Series

2 position double
Grommet (G), (H): SY5220-□□□□□□□□□□(-F2)

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

Manual override

One-touch fitting

Applicable tubing O.D.: ø4, ø5/32" 
: ø6, ø1/4" 
: ø8, ø5/16"

(Right/surge voltage suppressor)

Light/surge voltage suppressor

2 x ø2.2 die-cast hole (P, EA, EB port)
For manifold gasket positioning

L plug connector (L):
SY5220-□□□□□□□□□□(-F2)

M plug connector (M):
SY5220-□□□□□□□□□□(-F2)

DIN terminal (D, Y):
SY5220-□□□□□□□□□□(-F2)

M8 connector (WO):
SY5220-□□□□□□□□□□(-F2)

Note) Refer to page 642 for dimensions of connector types.
**Dimensions: SY5000 Series**

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY5₁/₂₀-□□□□-□□□□-□□□□⊙□(-F2)

- **G**: Approx. 300
- **H**: Approx. 600

(Lead wire length)

- Manual override
- One-touch fitting
- 2 x ø3.2

(For manifold mounting)

- 2 x ø2.2 die-cast hole
  - For manifold gasket positioning

**Applicable tubing O.D.**
- ø4, ø5/32”
- ø6, ø1/4”
- ø8, ø5/16”

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

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

**M8 connector (WO):**
- SY5₁/₂₀-□□□□-□□□□⊙□⊙□(-F2)

**DIN terminal (D, Y):**
- SY5₁/₂₀-□□□□-□□□□⊙□(-F2)

**L plug connector (L):**
- SY5₁/₂₀-□□□□-□□□□⊙□(-F2)

**M plug connector (M):**
- SY5₁/₂₀-□□□□-□□□□⊙□(-F2)

**Note:** Refer to page 642 for dimensions of connector types.
SY3000/5000/7000/9000 Series

Dimensions: SY7000 Series

2 position single
Grommet (G), (H): SY7120-[G, N9, C10, N11]-(F2)

- M4 x 0.7 depth 6.5
  (For mounting bracket)

- 2 x ø4.2
  (For mounting)

- 2 x ø2.2 die-cast hole
  For manifold gasket positioning

Manual override

One-touch fitting

(A, B port)

Applicable tubing O.D.: ø8, ø5/16" : ø10, ø3/8"

(Light/surge voltage suppressor)

Applicable cable O.D.: ø3.5 to ø7

L plug connector (L):
SY7120-[L-C8, N9, C10, N11]-(F2)

M plug connector (M):
SY7120-[M-C8, N9, C10, N11]-(F2)

DIN terminal (D, Y):
SY7120-[D-C8, N9, C10, N11]-(F2)

M8 connector (WO):
SY7120-[WO-C8, N9, C10, N11]-(F2)

Note: Refer to page 642 for dimensions of connector types.
Body Ported SY3000/5000/7000/9000 Series

Dimensions: SY7000 Series

2 position double
Grommet (G), (H): SY7220-G□□-□□□□□□□□□□□□□□□□□□□□□□(-F2)

SY7220-H□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□(-F2)

L plug connector (L): SY7220-L□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□(-F2)

M plug connector (M): SY7220-M□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□(-F2)

DIN terminal (D, Y): SY7220-D□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□(-F2)

M8 connector (WO): SY7220-WO□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□(-F2)

Applicable cable O.D.
ø3.5 to ø7

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY7000 Series

3 position closed center / exhaust center / pressure center
Grommet (G), (H): SY73\(\frac{4}{5}\)20-\(\frac{4}{5}\)C8, N9, C10, N11-\(\frac{4}{5}\)(-F2)

One-touch fitting

Manual override

Light/surge voltage suppressor

For manifold gasket positioning

2 x M4 x 0.7 depth 6.5
(For mounting bracket)

2 x \(\frac{4}{5}\)depth 6.5
(For manifold mounting)

2 x \(\frac{4}{5}\)
(For manifold mounting)

L plug connector (L):
SY73\(\frac{4}{5}\)20-\(\frac{4}{5}\)C8, N9, C10, N11-\(\frac{4}{5}\)(-F2)

M plug connector (M):
SY73\(\frac{4}{5}\)20-\(\frac{4}{5}\)C8, N9, C10, N11-\(\frac{4}{5}\)(-F2)

DIN terminal (D, Y):
SY73\(\frac{4}{5}\)20-\(\frac{4}{5}\)C8, N9, C10, N11-\(\frac{4}{5}\)(-F2)

M8 connector (WO):
SY73\(\frac{4}{5}\)20-\(\frac{4}{5}\)C8, N9, C10, N11-\(\frac{4}{5}\)(-F2)

Applicable tubing O.D.: \(\frac{8}{5}\), \(\frac{5}{16}\)
: \(\frac{10}{3}\), \(\frac{3}{8}\)

Applicable cable O.D.
\(\frac{3.5}{3.7}\)

Note) Refer to page 642 for dimensions of connector types.
Body Ported SY3000/5000/7000/9000 Series

Dimensions: SY9000 Series

2 position single
Grommet (G), (H): SY9120-□[L]□□-□C8, N9, □□-□C10, N11□, □□-□C12

G: Approx. 300
H: Approx. 600

Manual override
108
6.5
56.3
130.2 [132.4]

One-touch fitting
3 x ø3.2
[4(A), 2(B) port]
(For manifold mounting)

Applicable tubing O.D.: ø8, ø5/16", ø10, ø3/8", ø12

(Lead wire length)

L plug connector (L):
SY9120-□[L]□□-□C8, N9, □□-□C10, N11□, □□-□C12

M plug connector (M):
SY9120-□[M]□□-□C8, N9, □□-□C10, N11□, □□-□C12

DIN terminal (D, Y):
SY9120-□[D]□□-□C8, N9, □□-□C10, N11□, □□-□C12

M8 connector (WO):
SY9120-□[WO]□□-□C8, N9, □□-□C10, N11□, □□-□C12

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY9000 Series

2 position double
Grommet (G), (H): SY9220-□□□□□□□□□
C8, N9 C10, N11 C12

G: Approx. 300
H: Approx. 600

(Lead wire length)

Manual
override

One-touch fitting [4 (A), 2 (B) port]

Applicable tubing O.D.: ø8, ø5/16": ø10, ø3/8": ø12

(For manifold mounting)

(Light/surge voltage suppressor)

L plug connector (L):
SY9220-□□□□□□□□□
C8, N9 C10, N11 C12

M plug connector (M):
SY9220-□□□□□□□□□
C8, N9 C10, N11 C12

DIN terminal (D, Y):
SY9220-□□□□□□□□□
C8, N9 C10, N11 C12

M8 connector (WO):
SY9220-□□□□□□□□□
C8, N9 C10, N11 C12

Note: Refer to page 642 for dimensions of connector types.
**Dimensions: SY9000 Series**

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY9\(\frac{3}{5}\)20-□□□□ C8, N9 C10, N11 C12

- **G**: Approx. 300
- **H**: Approx. 600

(Lead wire length)

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</tr>
<tr>
<td>122.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>127.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>132.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>137.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>142.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>148.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>153.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>158.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>163.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>168.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>173.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>178.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>188.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Refer to page 642 for dimensions of connector types.
5 Port Solenoid Valve
Base Mounted/Single Unit
SY3000/5000/7000/9000 Series

How to Order

SY 5 2 40 - 5 L - - - - -

- Port size
  Symbol | Port size | Applicable series
  --- | --- | ---
  Nil | Without sub-plate | SY3000
  01 | 1/6 With sub-plate | SY5000
  02 | 1/4 With sub-plate | SY7000
  03 | 1/8 With sub-plate | SY9000
  04 | 1/2 With sub-plate | SY9000

- Thread type
  Nil | Rc | F
  N | NT | G
  T | NTPF

- Made to Order
  Nil | —
  X90 | CE-compliant

- Light/Surge voltage suppressor
  Electrical entry for G, H, L, M, W
  - Nil: Without light/surge voltage suppressor
  - S: With surge voltage suppressor
  - Z: With light/surge voltage suppressor
  - R: With surge voltage suppressor (Non-polar type)
  - U: With light/surge voltage suppressor (Non-polar type)
  - 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
  24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC
  G: L plug connector | L: M plug connector | M: DIN terminal | W: MB connector
  - G: Lead wire length 300 mm
  - L: Lead wire (Length 300 mm)
  - M: With lead wire (Length 300 mm)
  - W: Without lead wire
  - D: With connector
  - Y: Without connector
  - Q: Without connector cable

- CE-compliant
  Note) AC-type models that are CE-compliant have DIN terminals only.

- Note)
  - AC-type models that are CE-compliant have DIN terminals only.
  - Power saving circuit is only available in the "Z" 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.
  - For AC-type models that are CE-compliant have DIN terminals only.

- For DC
  S: 24 VDC
  6: 12 VDC
  V: 6 VDC
  S: 5 VDC
  R: 3 VDC

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

- Note)
  - DC specifications of type D, Y, DO and YO are only available with 12 and 24 VDC.
  - For type W, DC voltage is only available.

- Made to Order
  - Power saving circuit is only available in the "Z" type.
  - For "R" and "U", DC voltage is only available.
  - Power saving circuit is only available in the "Z" 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.
  - For AC-type models that are CE-compliant have DIN terminals only.

- Coil specifications
  - Nil: With power saving circuit (24, 12 VDC only)
  - T: Standard
  - Power saving circuit is only available in the case of D, Y, DO, YO or W type.

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

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

- Note)
  - The DIN terminal of SY3000 series cannot be mounted on the standard sub-plate. For details, refer to page 639.
  - For connector cable of MB connector, refer to page 641.
  - Refer to page 623 for details.
  - The DIN terminal of SY3000 series cannot be mounted on the standard sub-plate. For details, refer to page 639.
  - For connector cable of MB connector, refer to page 641.
  - Refer to page 623 for details.
  - The DIN terminal of SY3000 series cannot be mounted on the standard sub-plate. For details, refer to page 639.
  - For connector cable of MB connector, refer to page 641.
  - Refer to page 623 for details.

- Made to Order
  - Power saving circuit is only available in the "Z" type.
  - For "R" and "U", DC voltage is only available.
  - Power saving circuit is only available in the "Z" 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.
  - For AC-type models that are CE-compliant have DIN terminals only.

- Made to Order
  - Power saving circuit is only available in the "Z" type.
  - For "R" and "U", DC voltage is only available.
  - Power saving circuit is only available in the "Z" type.
  - For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.
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  - 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.
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  - For "R" and "U", DC voltage is only available.
  - Power saving circuit is only available in the "Z" type.
  - For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.
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  - Power saving circuit is only available in the "Z" type.
  - For "R" and "U", DC voltage is only available.
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  - For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.
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- Made to Order
  - Power saving circuit is only available in the "Z" type.
  - For "R" and "U", DC voltage is only available.
  - Power saving circuit is only available in the "Z" 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.
  - For AC-type models that are CE-compliant have DIN terminals only.
**Base Mounted SY3000/5000/7000/9000 Series**

### Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
<th>SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal pilot</td>
<td>2 position single</td>
<td>0.15 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating pressure range (MPa)</td>
<td>2 position double</td>
<td>0.1 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating pressure range (MPa)</td>
<td>3 position</td>
<td>0.2 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External pilot</td>
<td>Pilot 2 position single</td>
<td>0.25 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating pressure range (MPa)</td>
<td>Pressure 2 position double</td>
<td>0.25 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating pressure range (MPa)</td>
<td>3 position</td>
<td>0.25 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 50 (No freezing)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double</td>
<td>10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Manual override (Manual operation)</td>
<td>Non-locking push-type, Push-turn locking slotted type, Push-turn locking lever type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilot exhaust method</td>
<td>Internal pilot</td>
<td>Common exhaust type for main and pilot valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>External pilot</td>
<td>Pilot valve individual exhaust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Unrestricted</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Impact/Vibration resistance (m/s²) | Dust proof (+ DIN terminal and M8 connector: IP65) | Note: Implant 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. (Values at the initial period)
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve armature. (Values at the initial period)

### Response Time

**Note:** Based on dynamic performance test, JIS B 8419: 2010. (Coil temperature: 20°C, at rated voltage)

**SY3000**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms)</th>
<th>(at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light surge, voltage suppressor</td>
<td>Type: S, Z Type: R, U</td>
<td></td>
</tr>
<tr>
<td>2 position single</td>
<td>12 or less</td>
<td>15 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>10 or less</td>
<td>13 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>15 or less</td>
<td>20 or less</td>
</tr>
</tbody>
</table>

**SY5000**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms)</th>
<th>(at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light surge, voltage suppressor</td>
<td>Type: S, Z Type: R, U</td>
<td></td>
</tr>
<tr>
<td>2 position single</td>
<td>19 or less</td>
<td>26 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>18 or less</td>
<td>22 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>32 or less</td>
<td>38 or less</td>
</tr>
</tbody>
</table>

**SY7000**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms)</th>
<th>(at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light surge, voltage suppressor</td>
<td>Type: S, Z Type: R, U</td>
<td></td>
</tr>
<tr>
<td>2 position single</td>
<td>31 or less</td>
<td>38 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>27 or less</td>
<td>30 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>50 or less</td>
<td>56 or less</td>
</tr>
</tbody>
</table>

**SY9000**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms)</th>
<th>(at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without light surge, voltage suppressor</td>
<td>Type: S, Z Type: R, U</td>
<td></td>
</tr>
<tr>
<td>2 position single</td>
<td>35 or less</td>
<td>41 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>35 or less</td>
<td>41 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>62 or less</td>
<td>64 or less</td>
</tr>
</tbody>
</table>

### Solenoid Specifications

**Electrical entry**

<table>
<thead>
<tr>
<th>Fluid</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
<th>SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>G, H, L, M, W</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M plug connector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIN terminal (D, Y)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L plug connector (L)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M plug connector (M)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIN terminal (D)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M8 connector (W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Allowable voltage fluctuation**

| AC 90±10 Hz | 100, 110, 200, 220 | 24, 12, 6, 5, 3 |

**Power consumption (W)**

| DC | Standard | 0.35 (With indicator light: 0.4 DIN terminal with indicator light: 0.45) |
| DC With power saving circuit | 0.1 (With indicator light only) |

**Apparent power (VA)**

<table>
<thead>
<tr>
<th>AC</th>
<th>100 V</th>
<th>110 V [115 V]</th>
<th>200 V</th>
<th>220 V</th>
<th>[230 V]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.78 (With indicator light: 0.81)</td>
<td>0.86 (With indicator light: 0.89)</td>
<td>1.15 (With indicator light: 1.30)</td>
<td>1.27 (With indicator light: 1.46)</td>
<td>1.39 (With indicator light: 1.60)</td>
<td></td>
</tr>
</tbody>
</table>

**Surge voltage suppressor**

| Diode (Varistor is for DIN terminal and Non-polar type) |
| LED (AC of DIN terminal is neon light) |

**Note:** 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 ±10% to ±5% of rated voltage.

DIN terminal and M8 connector with power saving circuit are not available.

For details, refer to page 636.
### Flow Rate Characteristics/Weight

#### SY3000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
<th>Weight (g) Note 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>b</td>
<td>Cv</td>
<td>b</td>
</tr>
<tr>
<td>SY3000-40-01</td>
<td>Single 2 position</td>
<td>1/8</td>
<td>1.0</td>
<td>0.30</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>Double 2 position</td>
<td></td>
<td>0.77</td>
<td>0.28</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>0.73</td>
<td>0.31</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td>1.2</td>
<td>0.24</td>
<td>0.29</td>
</tr>
</tbody>
</table>

Note 1) [ ] denotes the normal position. Note 2) ( ) denotes without sub-plate.

#### SY5000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
<th>Weight (g) Note 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>b</td>
<td>Cv</td>
<td>b</td>
</tr>
<tr>
<td>SY5000-40-02</td>
<td>Single 2 position</td>
<td>1/4</td>
<td>2.4</td>
<td>0.41</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Double 2 position</td>
<td></td>
<td>1.8</td>
<td>0.47</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>1.4</td>
<td>0.55</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td>3.3</td>
<td>0.36</td>
<td>0.85</td>
</tr>
</tbody>
</table>

Note 1) [ ] denotes the normal position. Note 2) ( ) denotes without sub-plate.

#### SY7000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
<th>Weight (g) Note 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>b</td>
<td>Cv</td>
<td>b</td>
</tr>
<tr>
<td>SY7000-40-02</td>
<td>Single 2 position</td>
<td>1/4</td>
<td>4.1</td>
<td>0.41</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Double 2 position</td>
<td></td>
<td>3.0</td>
<td>0.43</td>
<td>0.80</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>2.6</td>
<td>0.42</td>
<td>0.71</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td>5.3</td>
<td>0.39</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Note 1) [ ] denotes the normal position. Note 2) ( ) denotes without sub-plate.

#### SY9000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
<th>Weight (g) Note 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>b</td>
<td>Cv</td>
<td>b</td>
</tr>
<tr>
<td>SY9000-40-03</td>
<td>Single 2 position</td>
<td>3/6</td>
<td>7.9</td>
<td>0.34</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Double 2 position</td>
<td></td>
<td>7.5</td>
<td>0.33</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>7.2</td>
<td>0.34</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Pressure center</td>
<td></td>
<td>12 [3.3]</td>
<td>0.49</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Note 1) [ ] denotes the normal position. Note 2) ( ) denotes without sub-plate.
**Construction**

**SY Series**

**Symbol**

2 position single

\[
\begin{align*}
(A) & \quad 2(B) \\
(EA) & \quad 3(EB) \\
(P) & \quad 1
\end{align*}
\]

2 position double

\[
\begin{align*}
(A) & \quad 2(B) \\
(EA) & \quad 3(EB) \\
(P) & \quad 1
\end{align*}
\]

3 position closed center

\[
\begin{align*}
(A) & \quad 2(B) \\
(R1) & \quad 3(R2) \\
(P) & \quad 1
\end{align*}
\]

3 position exhaust center

\[
\begin{align*}
(A) & \quad 2(B) \\
(R1) & \quad 3(R2) \\
(P) & \quad 1
\end{align*}
\]

3 position pressure center

\[
\begin{align*}
(A) & \quad 2(B) \\
(R1) & \quad 3(R2) \\
(P) & \quad 1
\end{align*}
\]

**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 (SY3000: Zinc die-casted)</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Adapter plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>End plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>Resin</td>
<td>–</td>
</tr>
<tr>
<td>5</td>
<td>Spool valve assembly</td>
<td>Aluminum, H-NBR</td>
<td>–</td>
</tr>
</tbody>
</table>

**Replacement Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>SY3(\times)40</th>
<th>SY5(\times)40</th>
<th>SY7(\times)40</th>
<th>SY9(\times)40</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Sub-plate (Note)</td>
<td>SY3000-27-1</td>
<td>SY5000-27-1</td>
<td>SY7000-27-1</td>
<td>SY9000-27-1</td>
<td>Aluminum die-casted</td>
</tr>
<tr>
<td>7</td>
<td>Pilot valve assembly</td>
<td>SY3000-11-25</td>
<td>SY5000-11-15</td>
<td>SY7000-11-11</td>
<td>SY9000-11-2</td>
<td>H-NBR</td>
</tr>
<tr>
<td>8</td>
<td>Gasket</td>
<td>SY3000-11-15</td>
<td>SY5000-11-15</td>
<td>SY7000-11-14</td>
<td>SY9000-11-2</td>
<td></td>
</tr>
</tbody>
</table>

**Mounting screw tightening torques**

- M2: 0.16 N·m
- M3: 0.8 N·m
- M4: 1.4 N·m

**Caution**

- Mounting screw tightening torques
- For valve mounting (Matt nickel plated)

* Thread type
**How to Order Interface Regulator**

**SY3000 series**

**ARBY3000**

- Pressure gauge connection port
- Regulating port
- P port
- P port (P controlled type, A port regulation)
- B port (P controlled type, B port regulation)

**ARBY3000-05-□-2**

**ARBY3000-M1-□-2**

Note) ARBY is not CE-compliant.

**SY5000 series**

**ARBY5000**

- Pressure gauge connection port
- Regulating port
- P port
- P port (P controlled type, A port regulation)
- B port (P controlled type, B port regulation)

**ARBY5000-00-□-2**

**ARBY5000-M1-□-2**

**SY7000 series**

**ARBY7000**

- Pressure gauge connection port
- Regulating port
- P port
- P port (P controlled type, A port regulation)
- B port (P controlled type, B port regulation)

**ARBY7000-00-□-2**

**ARBY7000-M1-□-2**

**Accessory**

<table>
<thead>
<tr>
<th>Series</th>
<th>Round head combination screw</th>
<th>Gasket</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARBY3000</td>
<td>SX3000-23-10 (M2 x 36)</td>
<td>SX3000-57-4</td>
</tr>
<tr>
<td>ARBY5000</td>
<td>AC00283 (M3 x 48.5)</td>
<td>SX5000-57-6</td>
</tr>
<tr>
<td>ARBY7000</td>
<td>AC00282 (M4 x 58)</td>
<td>SX7000-57-5</td>
</tr>
</tbody>
</table>

**Caution**

Mounting screw tightening torques

- M2: 0.16 N·m
- M3: 0.8 N·m
- M4: 1.4 N·m
Dimensions: SY3000 Series

2 position single
Grommet (G), (H): SY3140(R)-□G□□-01□

With interface regulator

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

M5 x 0.8
(External pilot port)
(Light/surge voltage suppressor)

Manual override
(For mounting)

2 x ø3.2

1/8
(A, B port)

14.5

22

35

5

9

44.7

66.9 [69.1]

With interface regulator

With plug (12.5)
41 (36.8)

Grommet (G), (H): SY3140(R)-□G□□-01□

L plug connector (L):
SY3140(R)-□L□□-01□

M plug connector (M):
SY3140(R)-□M□□-01□

M8 connector (WO):
SY3140(R)-□WO□□-01□

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY3000 Series

2 position double
Grommet (G), (H): SY3240(R)-□G□-01□

G: Approx. 300
H: Approx. 600

(Pilot EXH port)

M5 x 0.8
(External pilot port)

38.1
19
17

(Light/surge voltage suppressor)

Manual override
2 x ø3.2

88.8 [93.2]

(For mounting)

44.4

35

With interface regulator

140.7

With plug (12.5)

20.5

11

19

17

M5 x 0.8
(Lead wire length)

41

(36.8)

53.5 [60.5]

68

41

20.5

88 [93.4]

108.6 [115]

11

7.5

16.5

24.5

53.5 [60.5]

38.1

20.5

11

7.5

16.5

24.5

50

58

M8 x 1

40.5

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY3000 Series

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY3\(\frac{3}{5}\)40(R)-□□□-01□

(Light/surge voltage suppressor)

M5 x 0.8
(External pilot port)

G: Approx. 300
H: Approx. 600

(Lead wire length)

Manual override

2 x ø3.2
(For mounting)

19
17

P, EA, EB port

With interface regulator

With plug (12.5)

P, EA, EB port

L plug connector (L):
SY3\(\frac{3}{5}\)40(R)-□L□□-01□

M plug connector (M):
SY3\(\frac{3}{5}\)40(R)-□M□□-01□

M8 connector (WO):
SY3\(\frac{3}{5}\)40(R)-□WO□□-01□

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY5000 Series

2 position single

Grommet (G), (H): SY5140(R)-□□-02

(Light/surge voltage suppressor)

M5 x 0.9

(Pilot EXH port)

<In the case of external pilot type>

G: Approx. 300

H: Approx. 600

(Lead wire length)

With interface regulator

Manual override

2 x ø4.3

(For mounting)

157

With plug (16.5)

56

(P, EA, EB port)

68.5

59

(Applicable cable O.D.)

ø3.5 to ø7

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY5000 Series

2 position double
Grommet (G), (H): SY5240(R)-□□□-02□

With interface regulator

L plug connector (L): SY5240(R)-□L□-02□
M plug connector (M): SY5240(R)-□M□-02□
DIN terminal (D, Y): SY5240(R)-□D□-02□
M8 connector (WO): SY5240(R)-□WO□-02□

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY5000 Series

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY5 3/4(R)-□H-□02□

G: Approx. 300
H: Approx. 600

(Lead wire length)

With interface regulator

L plug connector (L): SY5 3/4(R)-□L-□02□
M plug connector (M): SY5 3/4(R)-□M-□02□
DIN terminal (D, Y): SY5 3/4(R)-□D-□02□
M8 connector (WO): SY5 3/4(R)-□WO-□02□

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY7000 Series

2 position single

Grommet (G), (H): SY7140(R)-□□□□-02□□

(Light/surge voltage suppressor)

With interface regulator

Manual override

With plug (17)

L plug connector (L): SY7140(R)-□L□□-02□□

M plug connector (M): SY7140(R)-□M□□-03□□

DIN terminal (D, Y): SY7140(R)-□D□□-02□□

M8 connector (WO): SY7140(R)-□WO□□-02□□

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY7000 Series

2 position double
Grommet (G), (H): SY7240(R)-□□-□□-□□

(Light/surge voltage suppressor)

Manual override

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

With interface regulator

L plug connector (L):
SY7240(R)-□□□□-□□-□

(Lead wire length) Approx. 300

43.1
21.5
61

21
M5 x 0.8
(Pilot EXH port)

<In the case of external pilot type>

Grommet (G), (H): SY7240(R)-□□-□□-□□

With plug (17)

M plug connector (M):
SY7240(R)-□□□□-□□-□

DIN terminal (D, Y):
SY7240(R)-□□□□-□□-□

M8 connector (WO):
SY7240(R)-□□□□-□□-□

Approx. 300

Pilot EXH port

(Applicable cable O.D. ø3.5 to ø7)

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY7000 Series

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY7\frac{3}{5}40(R)-□□□

With plug (17)

M5 x 0.8

(External pilot port)

M5 x 0.8

(Lead wire length)

With interface regulator

L plug connector (L):
SY7\frac{3}{5}40(R)-□□□

M plug connector (M):
SY7\frac{3}{5}40(R)-□□□

DIN terminal (D, Y):
SY7\frac{3}{5}40(R)-□□□

M8 connector (WO):
SY7\frac{3}{5}40(R)-□□□

(Applicable cable O.D. ø3.5 to ø7)

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY9000 Series

2 position single
Grommet (G), (H): SY9140(R)-□□□-□□□-□□□

(Light/surge voltage suppressor)
(Pilot EXH port)

<In the case of external pilot type>

Manual override

G: Approx. 300
H: Approx. 600

[4(A), 2(B) port]

(Lead wire length)

DIN terminal (D, Y): SY9140(R)-□□□-□□□-□□□

M8 connector (WO): SY9140(R)-□□□-□□□-□□□

L plug connector (L): SY9140(R)-□□□-□□□-□□□

M plug connector (M): SY9140(R)-□□□-□□□-□□□

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY9000 Series

2 position double
Grommet (G), (H): SY9240(R)-□03□04

(Light/surge voltage suppressor)

(Pilot EXH port)

[In the case of external pilot type]

Manual override

[1(P), 5(EA), 3(EB) port]

(Pilot EXH port)

External pilot port

[4(A), 2(B) port]

(Light/surge voltage suppressor)

(Applicable cable O.D.)

Note) Refer to page 642 for dimensions of connector types.
Dimensions: SY9000 Series

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY9\(^3\_40\)(R)-□□\(\text{G}\) \text{□□-}\text{03}\(\text{□}\) \text{□□-}\text{04}\(\text{□}\)

(Light/surge voltage suppressor)

Manual override

3/8, 1/2
[4(A), 2(B) port]

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

Note) Refer to page 642 for dimensions of connector types.
How to Order Manifold

SS5Y 5 - 20 - 05 -

Manifold series
3 SY3000
5 SY5000
7 SY7000

Stations
02 2 stations
20 20 stations

Thread type
Nil Rc
00F G
00N NPT
00T NPTF

CE-compliant
Nil
Q CE-compliant

Note) AC-type models that are CE-compliant have DIN terminals only.

How to Order Manifold Assembly (Example)

Example
Cylinder port size
C6: With One-touch fitting for ø6

Double solenoid (24 VDC)
SY3220-5G-C6 (2 sets)

Single solenoid (24 VDC)
SY3120-5G-C6 (2 sets)

Blanking plate assembly
SY3000-26-9A (1 set)

Manifold base (5 stations)
SSSY3-20-05

Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.
**Series**

- 3 SY3000
- 5 SY5000
- 7 SY7000

**Type of actuation**

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

**Coil specifications**

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

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

**Rated voltage**

For **DC**

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

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

- 1 100 VAC
- 2 200 VAC
- 3 110 VAC (115 VAC)
- 4 220 VAC (230 VAC)

**Thread type**

- **Nil**: Non-locking push type
- **F**: Push-turn locking slotted type
- **G**: Push-turn locking lever type

**Light/Surge voltage suppressor**

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

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

**Electrical entry for D, Y**

- **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)

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

**Manual override**

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

**Made to Order**

- **Nil**: —
- **X90**: Valve manifold fluororubber (Refer to page 624.)

**CE-compliant**

- **Nil**: —
- **Q**: CE-compliant

*Note: AC-type models that are CE-compliant have DIN terminals only.

**Thread piping**

- **Symbol**: Port size
- **Applicable series**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>M5 x 0.8</td>
<td>SY3000</td>
</tr>
<tr>
<td>01</td>
<td>1/4</td>
<td>SY5000</td>
</tr>
<tr>
<td>02</td>
<td>1/4</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

**One-touch fitting (Metric size)**

- **Symbol**: Port size
- **Applicable series**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>One-touch fitting for ø5</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø5</td>
<td>SY3000</td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for ø5</td>
<td>SY3000</td>
</tr>
<tr>
<td>N11</td>
<td>One-touch fitting for ø5</td>
<td>SY3000</td>
</tr>
</tbody>
</table>

**One-touch fitting (Inch size)**

- **Symbol**: Port size
- **Applicable series**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>One-touch fitting for ø1/4</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø1/4</td>
<td>SY3000</td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for ø1/4</td>
<td>SY3000</td>
</tr>
<tr>
<td>N11</td>
<td>One-touch fitting for ø1/4</td>
<td>SY3000</td>
</tr>
</tbody>
</table>

**Electrical entry**

<table>
<thead>
<tr>
<th>24, 12, 6, 5, 3 VDC/100, 110, 200, 220 VAC</th>
<th>24, 12 VDC/100, 110, 200, 220 VAC</th>
<th>24, 12, 6, 5, 3 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grommet</td>
<td>L plug connector</td>
<td>M plug connector</td>
</tr>
<tr>
<td>GL: Lead wire length 300 mm &amp; 600 mm</td>
<td>L: With lead wire (Length 300 mm) &amp; 600 mm</td>
<td>M: With lead wire (Length 300 mm) &amp; 600 mm</td>
</tr>
</tbody>
</table>

**Gasket assembly part no.**

- Round head combination screw
- Gasket

**Note:** When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary.
Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y3-20(-Q)</th>
<th>SS5Y5-20(-Q)</th>
<th>SS5Y7-20(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY3:20</td>
<td>SY5:20</td>
<td>SY7:20</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td>Common SUP, Common EXH</td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port location</td>
<td>P, EA, EB port</td>
<td>1/8</td>
<td>1/4</td>
</tr>
<tr>
<td>Valve size</td>
<td>M5 x 0.8</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td>Port size</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>C10 (One-touch fitting for ø10)</td>
</tr>
<tr>
<td>Manifold base weight W (g)</td>
<td>W = 13n + 24</td>
<td>W = 36n + 64</td>
<td>W = 43n + 35</td>
</tr>
</tbody>
</table>

Note 1) For more than 10 stations (more than 5 stations in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

Note 2) Refer to “Manifold Option” on page 467.

Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 → 4/2 (P → A/B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C [dm³/(s·bar)]</td>
</tr>
<tr>
<td>SS5Y3-20(-Q)</td>
<td>1/8</td>
<td>C6</td>
</tr>
<tr>
<td>SS5Y5-20(-Q)</td>
<td>1/4</td>
<td>C8</td>
</tr>
<tr>
<td>SS5Y7-20(-Q)</td>
<td>1/4</td>
<td>C10</td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.
Body Ported **SY3000/5000/7000 Series**

**Grommet (G)**

-One-touch fitting (A, B port)
-Applicable tubing O.D.: \(4, 5/32\)\(\text{"} \), \(6, 1/4\)\(\text{"} \)

**Dimensions when mounting individual EXH spacer**

-EXH port
-M5 x 0.5
-(A, B port)

**Dimensions when mounting individual SUP spacer**

-(SUP port is at the end plate of single solenoid)

**L plug connector (L)**

-M5 x 0.8
-(Both sides)

**M plug connector (M)**

-M5 x 0.8
-(Both sides)

**M8 connector (WO)**

-M8 x 1

**Note:** Refer to page 664 for dimensions of connector types.

---

<table>
<thead>
<tr>
<th>Stations n</th>
<th>2 stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</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>40</td>
<td>50.5</td>
<td>61</td>
<td>71.5</td>
<td>82</td>
<td>92.5</td>
<td>103</td>
<td>113.5</td>
<td>124</td>
<td>134.5</td>
<td>145</td>
<td>155.5</td>
<td>166</td>
<td>176.5</td>
<td>187</td>
<td>197.5</td>
<td>208</td>
<td>218.5</td>
<td>229</td>
</tr>
<tr>
<td>L2</td>
<td>30.5</td>
<td>41</td>
<td>51.5</td>
<td>62</td>
<td>72.5</td>
<td>83</td>
<td>93.5</td>
<td>104</td>
<td>114.5</td>
<td>125</td>
<td>135.5</td>
<td>146</td>
<td>156.5</td>
<td>167</td>
<td>177.5</td>
<td>188</td>
<td>198.5</td>
<td>209</td>
<td>219.5</td>
</tr>
</tbody>
</table>

---
**SY5000: SS5Y5-20- Stations**

Grommet (G)

<table>
<thead>
<tr>
<th>Manual override</th>
<th>One-touch fitting (A, B port)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Applicable tubing O.D.: ø4, ø5/32&quot;, ø8, ø1/4&quot;</td>
</tr>
<tr>
<td></td>
<td>(Station n) - (Station 1)</td>
</tr>
<tr>
<td></td>
<td>(Station 1)</td>
</tr>
<tr>
<td></td>
<td>(Light/surge voltage suppressor)</td>
</tr>
</tbody>
</table>

**Dimensions when mounting individual EXH spacer**

- EXH port 1/8 (Both sides)
- Dimensions when mounting individual SUP spacer
  - (SUP port is at the end plate of single solenoid)

**L plug connector (L)**

**M plug connector (M)**

**DIN terminal (D, Y)**

**M8 connector (WO)**

**Applicable cable O.D.: ø3.5 to ø7**

**Note:** Refer to page 642 for dimensions of connector types.

<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 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>60</td>
<td>76</td>
<td>92</td>
<td>108</td>
<td>124</td>
<td>140</td>
<td>156</td>
<td>172</td>
<td>188</td>
<td>204</td>
<td>220</td>
<td>236</td>
<td>252</td>
<td>268</td>
<td>284</td>
<td>300</td>
<td>316</td>
<td>332</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>
</tbody>
</table>
**Body Ported SY3000/5000/7000 Series Type 20**

**SY7000: SS5Y7-20 Stations**

**Grommet (G)**

L1  L2  4.5

4 x ø4.5
(For mounting)

Dimensions when mounting individual EXH spacer

One-touch fitting
(A, B port)

Applicable tubing O.D.: ø8, ø5/16" ø10, ø3/8"

(Light/surge voltage suppressor)

Dimensions when mounting individual SUP spacer
SUP port is at the end plate of single solenoid.

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

**Stations**

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>55</td>
<td>46</td>
</tr>
<tr>
<td>2</td>
<td>74</td>
<td>65</td>
</tr>
<tr>
<td>3</td>
<td>93</td>
<td>84</td>
</tr>
<tr>
<td>4</td>
<td>112</td>
<td>103</td>
</tr>
<tr>
<td>5</td>
<td>131</td>
<td>122</td>
</tr>
<tr>
<td>6</td>
<td>150</td>
<td>141</td>
</tr>
<tr>
<td>7</td>
<td>169</td>
<td>160</td>
</tr>
<tr>
<td>8</td>
<td>188</td>
<td>179</td>
</tr>
<tr>
<td>9</td>
<td>207</td>
<td>198</td>
</tr>
<tr>
<td>10</td>
<td>226</td>
<td>217</td>
</tr>
<tr>
<td>11</td>
<td>245</td>
<td>236</td>
</tr>
<tr>
<td>12</td>
<td>264</td>
<td>255</td>
</tr>
<tr>
<td>13</td>
<td>283</td>
<td>274</td>
</tr>
<tr>
<td>14</td>
<td>302</td>
<td>293</td>
</tr>
<tr>
<td>15</td>
<td>321</td>
<td>312</td>
</tr>
<tr>
<td>16</td>
<td>340</td>
<td>331</td>
</tr>
<tr>
<td>17</td>
<td>359</td>
<td>350</td>
</tr>
<tr>
<td>18</td>
<td>378</td>
<td>369</td>
</tr>
<tr>
<td>19</td>
<td>397</td>
<td>388</td>
</tr>
<tr>
<td>20</td>
<td>416</td>
<td>407</td>
</tr>
</tbody>
</table>

Note) Refer to page 642 for dimensions of connector types.
How to Order Manifold

Type 23/External pilot capable

**SS5Y 9-23-05**

Valve stations

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

* This also includes the number of blanking plate assemblies.

Thread type

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Direct mounting</td>
</tr>
<tr>
<td>Rc</td>
<td>DIN rail mounting (with DIN rail)</td>
</tr>
<tr>
<td>G</td>
<td>DIN rail mounting (without DIN rail)</td>
</tr>
<tr>
<td>NPT</td>
<td></td>
</tr>
<tr>
<td>NPTF</td>
<td></td>
</tr>
</tbody>
</table>

Option

<table>
<thead>
<tr>
<th>CE-compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>Q CE-compliant</td>
</tr>
</tbody>
</table>

**Note** AC-type models that are CE-compliant have DIN terminals only.

How to Order Manifold Assembly (Example)

**Example**

- Cylinder port size
  - C12: With One-touch fitting for ø12

**Cylinder port size**

- **SSSY9-23-05**
  - SY9000-26-1A - 1 set (Blanking plate assembly part no.)
  - SY9120-5LOZ-C12 - 2 sets (Single solenoid part no.)
  - SY9220-5LOZ-C12 - 2 sets (Double solenoid part no.)

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

Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.
How to Order Valve

Note) AC-type models that are CE-compliant have DIN terminals only.

Made to Order

Series

Type of actuation

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

Pilot specifications

- Nil Internal pilot
- L External pilot

Coil specifications

For DC
- 5 24 VDC
- 6 12 VDC
- V 6 VDC
- S 5 VDC
- R 3 VDC

For AC (%/Hz)
- 1 100 VAC
- 2 200 VAC
- 3 110 VAC [115 VAC]
- 4 220 VAC [230 VAC]

Rated voltage

- With power saving circuit (24 VDC, 12 VDC only)
- Nil Power saving circuit is not available in the case of D, Y, DO, YO or W type.

Manual override

- Nil Non-locking push type
- D Push-turn locking slotted type
- P Push-turn locking lever type

Light/Surge voltage suppressor

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

Electrical entry for D, Y

- Nil Without light/surge voltage suppressor
- S With surge voltage suppressor
- Z With light/surge voltage suppressor

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

- Nil Without light/surge voltage suppressor
- S With surge voltage suppressor
- Z With light/surge voltage suppressor

Thread type

- Nil Rc
- F T
- P NPT
- N NPT

Thread piping

- Nil Port size
- C8 One-touch fitting for ø8
- C10 One-touch fitting for ø10
- C12 One-touch fitting for ø12

One-touch fitting (Metric size)

- Nil Port size
- N9 One-touch fitting for ø9
- N11 One-touch fitting for ø11

One-touch fitting (Inch size)

- Nil Port size
- W0 One-touch fitting for ø1

Electrical entry

Note) When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary.

Gasket assembly part no.

Note) The gasket assembly includes 10 sets of mounting screws and a gasket.
## Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y9-23(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY9...20</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Stacking type</td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td>Common SUP, Common EXH</td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations Note (1)</td>
</tr>
<tr>
<td>A, B port location</td>
<td>Valve</td>
</tr>
<tr>
<td>Port size</td>
<td>P, EA, EB port</td>
</tr>
<tr>
<td></td>
<td>A, B port</td>
</tr>
<tr>
<td></td>
<td>⅛</td>
</tr>
<tr>
<td></td>
<td>¼</td>
</tr>
<tr>
<td></td>
<td>⅜</td>
</tr>
<tr>
<td></td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
<tr>
<td></td>
<td>C10 (One-touch fitting for ø10)</td>
</tr>
<tr>
<td></td>
<td>C12 (One-touch fitting for ø12)</td>
</tr>
<tr>
<td>Manifold base weight W (g)</td>
<td>W = 66n + 246</td>
</tr>
</tbody>
</table>

Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

Note 2) Refer to “Manifold Option” on page 467.

## Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port size</td>
<td>1 → 4/2 (P → A/B)</td>
</tr>
<tr>
<td>1, 5, 3 (P, EA, EB)</td>
<td>(A, B)</td>
</tr>
<tr>
<td>SS5Y9-23(-Q)</td>
<td>⅛</td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.
How to Order Manifold Assembly (Example)

Example

Cylinder port size
C6: With One-touch fitting for ø6
(Single solenoid) Connector assembly
SY3000-37-3A

Double solenoid (24 VDC)
SY3220-5LOU-C6 (2 sets)
SY3120-5LOU-C6 (3 sets)
SY3000-37-4A
Blanking plate assembly
SY3000-26-10A (1 set)

Manifold base (6 stations)
SS5Y3-20P-06

Manifold series
SS5Y 5 - 20P - 05 -

Stations
3 stations 12 stations
Note) SS5Y3 has 4 to 12 stations.

Thread type
Nil Rc
00F G
00N NPT
00T NPTF

CE-compliant
Nil —
Q CE-compliant

Note) CE-compliant: For DC only.

For 24 VDC

<table>
<thead>
<tr>
<th>Specification</th>
<th>SY3000</th>
<th>SY5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single solenoid, 3 position type</td>
<td>SY3000-37-3A</td>
<td>SY5000-37-3A</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY5000-37-5A</td>
<td>SY5000-37-5A</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY3000-37-6A</td>
<td>SY5000-37-6A</td>
</tr>
</tbody>
</table>

For 100 VAC

<table>
<thead>
<tr>
<th>Specification</th>
<th>SY3000</th>
<th>SY5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single solenoid, 3 position type</td>
<td>SY3000-37-3A</td>
<td>SY5000-37-3A</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY5000-37-15A</td>
<td>SY5000-37-15A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY3000-37-16A</td>
<td>SY5000-37-16A</td>
</tr>
</tbody>
</table>

For 100 VAC (115 VAC)

<table>
<thead>
<tr>
<th>Specification</th>
<th>SY3000</th>
<th>SY5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single solenoid, 3 position type</td>
<td>SY3000-37-3A</td>
<td>SY5000-37-3A</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY5000-37-15A</td>
<td>SY5000-37-15A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY3000-37-16A</td>
<td>SY5000-37-16A</td>
</tr>
</tbody>
</table>

Note) Spacer assembly indicates Individual SUP/EXH.

Caution

- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.
How to Order Valve

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

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

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

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

- **Rated voltage**
  - CE-compliant
  - Nil: —
  - Q: CE-compliant

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

- **A, B port size**

- **Thread piping**

- **One-touch fitting (Metric size)**

- **One-touch fitting (Inch size)**

- **Gasket assembly part no.**
  - Series | Gasket assembly part no. | Applicable series
  - SY3000 | SY3000-GS-1
  - SY5000 | SY5000-GS-1
  - SY7000 | SY7000-GS-1

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

- **Note**:
  - Z: Positive common specifications only.
  - Power saving circuit is only available in the "Z" type.

- **Light/surge voltage suppressor**
  - Note: In the case of flat cable type, "U" and "Z" types are for DC specifications and "Z" type is for AC specifications. "Z" for DC is positive common specifications only. For the other combination, please contact SMC.

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

- **CE-compliant**
  - Nil: —

- **Note**: For DC only.

- **Series**
  - 3: SY3000
  - 5: SY5000
  - 7: SY7000

- **Note**:
  - CE-compliant: For DC only.

- **Thread type**
  - N: —

- **One-touch fitting (Inch size)**

- **Note**:
  - When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary.
  - Since the electrical entry is “LO”, select a connector assembly part no. from those stated on page 448.

- **Thread piping**

- **One-touch fitting (Metric size)**

- **Gasket assembly part no.**

- **Round head combination screw**

- **Note**: The gasket assembly includes 10 sets of mounting screws and a gasket.
**Manifold Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y3-20P(-Q)</th>
<th>SS5Y5-20P(-Q)</th>
<th>SS5Y7-20P(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY3:20</td>
<td>SY5:20</td>
<td>SY7:20</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td>Common SUP, Common EXH</td>
<td></td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td>4 to 12 stations(1)</td>
<td>3 to 12 stations(1)</td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>A, B port location</td>
<td>Valve: C (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td>Port size</td>
<td>P, EA, EB port</td>
<td>1/6</td>
<td>1/6</td>
</tr>
<tr>
<td>A, B port</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
<tr>
<td>Port size</td>
<td>C (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
<tr>
<td>Manifold base weight (g)</td>
<td>W = 19n + 45</td>
<td>W = 43n + 77</td>
<td>W = 51n + 81</td>
</tr>
<tr>
<td>Stations</td>
<td>12, 24 VDC 100, 110 VAC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) For more than 10 stations (more than 5 stations in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

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

Note 3) Refer to “Manifold Option” on page 467.

Note 4) CE-compliant: For DC only.

**Flow Rate Characteristics**

<table>
<thead>
<tr>
<th>Model</th>
<th>1, 5, 3 (P, EA, EB)</th>
<th>4, 2 (A, B)</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C [dm³/(s·bar)] b</td>
<td>Cv</td>
<td>C [dm³/(s·bar)] b</td>
<td>Cv</td>
</tr>
<tr>
<td>SS5Y3-20P</td>
<td>1/6</td>
<td>C6</td>
<td>0.72</td>
<td>0.29</td>
</tr>
<tr>
<td>SS5Y5-20P</td>
<td>1/4</td>
<td>C8</td>
<td>1.9</td>
<td>0.28</td>
</tr>
<tr>
<td>SS5Y7-20P</td>
<td>1/4</td>
<td>C10</td>
<td>3.0</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.

**Internal Wiring of Manifold**

- **Triangle mark**
  - SOL.a (+) (-)
  - SOL.b (+) (-)
- **Station 1**
  - SOL.a (+) (-)
  - SOL.b (+) (-)
- **Station 2**
  - SOL.a (+) (-)
  - SOL.b (+) (-)
- **Station 3**
  - SOL.a (+) (-)
  - SOL.b (+) (-)
- **Station 4**
  - SOL.a (+) (-)
  - SOL.b (+) (-)
- **Station 12 (Max. 12 stations)**
  - SOL.a (+) (-)
  - SOL.b (+) (-)
  - Common (-) (+)
  - Common (-) (+)
  - Connected on PCB

**Note**
- Terminal no. is not indicated on the connector. The terminal no. indicated in the connection schematic of connector, as shown in the reference, means a correlation of 1, 2, 3—26 from the triangle mark side on the flat ribbon cable of connector.
- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.
- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.

---

**Caution**
- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.
- Multiple valve wiring is simplified through the use of the flat cable connector.
- Clean appearance

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

---

**SY3000/5000/7000 Series**

- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.
SY3000: SS5Y3-20P - Stations

Body Ported SY3000/5000/7000 Series

- Manual override
- One-touch fitting
- Applicable tubing O.D.: ø4, ø5/32" : ø6, ø1/4"
- Triangle mark
- M5 x 0.8 (A, B port)
- 4 x ø4.5 (For mounting)
- P, EA, EB port
- N7: 57.9
- C6: 54.1
- (Station n) - (Station 1)
- (Light/surge voltage suppressor)

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

<table>
<thead>
<tr>
<th>Stations n</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>72.5</td>
<td>85</td>
<td>97.5</td>
<td>110</td>
<td>122.5</td>
<td>135</td>
<td>147.5</td>
<td>160</td>
<td>172.5</td>
</tr>
<tr>
<td>L2</td>
<td>64.5</td>
<td>77</td>
<td>89.5</td>
<td>102</td>
<td>114.5</td>
<td>127</td>
<td>139.5</td>
<td>152</td>
<td>164.5</td>
</tr>
</tbody>
</table>
SY5000: SS5Y5-20P Stations

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

Applicable tubing O.D.: ø4, ø5/32"
ø6, ø1/4"
ø8, ø5/16"

(A, B port)

(Light/surge voltage suppressor)

Stations n | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12
---|---|---|---|---|---|---|---|---|---|---
L1 | 77 | 94.5 | 112 | 129.5 | 147 | 164.5 | 182 | 199.5 | 217 | 234.5
L2 | 67 | 84.5 | 102 | 119.5 | 137 | 154.5 | 172 | 189.5 | 207 | 224.5
SY7000: SS5Y7-20P- Stations

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

Applicable tubing O.D.: ø8, ø5/16", ø10, ø3/8"

A, B port

Manual override
(Pitch)
P=20.5

1/4
A, B port

One-touch fitting

Triangle mark

Stations n | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12
---|---|---|---|---|---|---|---|---|---|---
L1 | 88 | 108.5 | 129 | 149.5 | 170 | 190.5 | 211 | 231.5 | 252 | 272.5
L2 | 68 | 88.5 | 109 | 129.5 | 150 | 170.5 | 191 | 211.5 | 232 | 252.5
How to Order Manifold

<table>
<thead>
<tr>
<th>Type 23P/Common external pilot capable</th>
<th>SS5Y 9 – 23P – 05 –</th>
<th></th>
</tr>
</thead>
</table>

**Valve stations**
- **Symbol Stations**: 04 4 stations
- **Thread type**: Rc

**Option**
- **CE-compliant**: Nil

**Manual override**
- **Type 23P**
- **Common external pilot capable**

**Coil specifications**
- **Nil**
- **Standard**
- **With power saving circuit**

**Rated voltage**
- **Nil** CE-compliant
- **5** 24 VDC
- **6** 12 VDC

**Thread piping**
- **Symbol Port size**: 02 1/4, 03 3/8

**One-touch fitting (Metric size)**
- **Symbol Port size**: C8, C10, C12

**One-touch fitting (Inch size)**
- **Symbol Port size**: N9, N11

**Thread type**
- **Nil**
- **Rc**

**Pilot specifications**
- **Nil**
- **Internal pilot**
- **External pilot**

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

**Rated voltage**
- **Nil** CE-compliant
- **1** 100 VAC
- **3** 110 VAC (115 VAC)

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

How to Order Valve

**For DC: SY 9**
- **1** 20
- **5** LO Z
- **02**

**For AC: SY 9**
- **1** 20
- **1** LOZ
- **02**

**Series**
- **9** SY9000

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

**Coil specifications**
- **Nil**
- **Standard**
- **With power saving circuit**

**Rated voltage**
- **Nil** CE-compliant
- **5** 24 VDC
- **6** 12 VDC

**Thread piping**
- **Symbol Port size**: 02 1/4, 03 3/8

**One-touch fitting (Metric size)**
- **Symbol Port size**: C8, C10, C12

**One-touch fitting (Inch size)**
- **Symbol Port size**: N9, N11

**Thread type**
- **Nil**
- **Rc**

**Pilot specifications**
- **Nil**
- **Internal pilot**
- **External pilot**

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

**Rated voltage**
- **Nil** CE-compliant
- **1** 100 VAC
- **3** 110 VAC (115 VAC)

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

**Note** CE-compliant: For AC only.

Gasket assembly part no.
- **Round head combination screw**
  - **Series** SY9000
  - **Gasket assembly part no.** SY9000-GS-1

**Note** The gasket assembly includes 10 sets of mounting screws and a gasket.
• Multiple valve wiring is simplified through the use of the flat cable connector.
• Clean appearance
  In the case of a flat ribbon cable type, each valve is wired on the print board of manifold base to allow the external wiring to be piped all together with 26 pins MIL connector.

## Connector Assembly

### For 12, 24 VDC

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY9000-37-1A</td>
</tr>
<tr>
<td>Double solenoid 3 position</td>
<td>SY9000-37-2A</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY9000-37-3A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY9000-37-4A</td>
</tr>
</tbody>
</table>

### For 100 VAC

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY9000-37-1B</td>
</tr>
<tr>
<td>Double solenoid 3 position</td>
<td>SY9000-37-2B</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY9000-37-3B</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY9000-37-4B</td>
</tr>
</tbody>
</table>

### For 110 VAC (115 VAC)

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY9000-37-1C</td>
</tr>
<tr>
<td>Double solenoid 3 position</td>
<td>SY9000-37-2C</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY9000-37-3C</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY9000-37-4C</td>
</tr>
</tbody>
</table>

Note) Spacer assembly indicates Individual SUP/EXH.

---

### Caution

- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.

## Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y9-23P(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY9:20</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Stacking type</td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td>Common SUP, Common EXH</td>
</tr>
</tbody>
</table>

### Valve stations

4 to 12 stations (Max)

### A, B port location

<table>
<thead>
<tr>
<th>Valve</th>
<th>P, EA, EB port</th>
<th>1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A, B port</td>
<td>3/4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C8 (One-touch fitting for Ø8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C10 (One-touch fitting for Ø10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C12 (One-touch fitting for Ø12)</td>
</tr>
</tbody>
</table>

### Port size

<table>
<thead>
<tr>
<th>n: Stations</th>
<th>Manifold base weight W (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>W = 73n + 259</td>
</tr>
</tbody>
</table>

### Applicable flat ribbon cable connector

Flat ribbon cable connector, Socket: 26 pins MIL with strain relief, Conforming to MIL-C-83503

### Internal wiring

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

### Rated voltage (Max)

12, 24 VDC, 100, 110 VAC

---

### Flow Rate Characteristics

#### For 1, 5, 3 (P, EA, EB)

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y9-23P(-Q)</td>
<td>1/2 C12 6.3 0.20 1.5 8.2 0.28 1.9</td>
<td></td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.

### Internal Wiring of Manifold

![Diagram of manifold internal wiring](image)

Note) Terminal no. is not indicated on the connector. The terminal no. indicated in the connection schematic of connector, as shown in the reference, means a correlation of 1, 2, 3…26 from the triangle mark side on the flat ribbon cable of connector.

- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.

---

<table>
<thead>
<tr>
<th>Station 1</th>
<th>SOLa (+) (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station 2</td>
<td>SOLb (+) (-)</td>
</tr>
<tr>
<td>Station 3</td>
<td>SOLa (+) (-)</td>
</tr>
<tr>
<td>Station 4</td>
<td>SOLb (+) (-)</td>
</tr>
<tr>
<td>Station 12 (Max. 12 stations)</td>
<td>Common (-) (+)</td>
</tr>
</tbody>
</table>

Note: Connected on PCB

---

**Warning**

- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.
### SY9000: SS5Y9-23P - Stations - (D)

#### Grommet (G)

<table>
<thead>
<tr>
<th>Stations</th>
<th>O.D.</th>
<th>Width</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>ø8</td>
<td>68.2</td>
<td>68.2</td>
</tr>
<tr>
<td>L2</td>
<td>ø5/16</td>
<td>51.2</td>
<td>51.2</td>
</tr>
<tr>
<td>L3</td>
<td>ø10</td>
<td>35.5</td>
<td>35.5</td>
</tr>
<tr>
<td>L4</td>
<td>ø3/8</td>
<td>25.5</td>
<td>25.5</td>
</tr>
<tr>
<td>L5</td>
<td>ø12</td>
<td>20.5</td>
<td>20.5</td>
</tr>
</tbody>
</table>

Note: In the case of direct mounting without DIN rail, total width of manifold is L3.
# EX510 Gateway-type Serial Transmission System

## Body Ported Manifold/Integrated Base

### SY3000/5000/7000 Series

## How to Order Manifold

### SS5Y3 - 20SA - 04 -

**Manifold series**
- 3: SY3000
- 5: SY5000
- 7: SY7000

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

**SI unit part no.**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>SI unit specifications</th>
<th>SI unit part no.</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>NPN output (+COM.)</td>
<td>EX510-S001</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>PNP output (-COM.)</td>
<td>EX510-S101</td>
<td></td>
</tr>
</tbody>
</table>

### Valve stations

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>3 stations</td>
<td>Double wiring (Note 1)</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>3 stations</td>
<td>Specified layout (Note 2)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>(Compatible with 16 solenoid valves)</td>
</tr>
</tbody>
</table>

- **Note 1**: Double wiring: Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
- **Note 2**: Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

### How to Order Manifold Assembly (Example)

#### Example

**Cylinder port size**
- D6: With One-touch fitting for ø6

**Double solenoid (24 VDC)**
- SY3220-SLOU-C6 (2 sets)

**Single solenoid (24 VDC)**
- SY3120-SLOU-C6 (4 sets)

**Manifold base (6 stations)**
- SSYS3-20SA-06

**SSYS3-20SA-06**
- 1 set (20SA type 6-station manifold part no.)
- SY3120-SLOU-C6 - 4 sets (Single solenoid part no.)
- SY3220-SLOU-C6 - 2 sets (Double solenoid part no.)

The asterisk denotes the symbol for assembly. Prefix to the part no. of the solenoid valve, etc.

Add the valve and option part number under the manifold base part number. When entry of part numbers becomes complicated, indicate by the manifold specification sheet. For a manifold for an EX510, the length of the lead wire for a connector assembly depends on the number of stations. Therefore, the manifold assembly is shipped with the valves (including blanking plates) and connector assembly mounted on it, as the standard specification. Be sure to specify the part nos. of the solenoid valves to be mounted.
How to Order Valves

**Series**
- SY3000
- SY5000
- SY7000

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

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

**Thread type**
- Nil: Rc
- Q: CE-compliant

**Thread piping**
- M5 x 0.8
- 1/8
- 1/4

**One-touch fitting (Metric size)**
- SY3000
- SY5000
- SY7000

**One-touch fitting (Inch size)**
- SY3000
- SY5000
- SY7000

**Rated voltage:** 24 VDC

**Light/Surge voltage suppressor**
- Z: With light/surge voltage suppressor
- U: Without light/surge voltage suppressor (non-polar type)

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

**A, B port size**

**Note 1:** Power saving circuit is only available in the "Z" type.
**Note 2:** When the SI unit is the PNP output (-COM.), only the "U" type is available.

**Gasket assembly part no.**

- Round head combination screw

**Note:** When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary.
SY3000: SS5Y3-20SA - Stations -

<table>
<thead>
<tr>
<th>Stations n</th>
<th>4 stations</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>72.5</td>
<td>85</td>
<td>97.5</td>
<td>110</td>
<td>122.5</td>
<td>135</td>
<td>147.5</td>
<td>160</td>
<td>172.5</td>
<td>185</td>
<td>197.5</td>
<td>210</td>
<td>222.5</td>
</tr>
<tr>
<td>L2</td>
<td>64.5</td>
<td>77</td>
<td>89.5</td>
<td>102</td>
<td>114.5</td>
<td>127</td>
<td>139.5</td>
<td>152</td>
<td>164.5</td>
<td>177</td>
<td>189.5</td>
<td>202</td>
<td>214.5</td>
</tr>
</tbody>
</table>
### SY5000: SS5Y5-20SA - Stations -

#### Body Ported Manifold SY3000/5000/7000 Series

<table>
<thead>
<tr>
<th>Stations n</th>
<th>3 stations</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>77</td>
<td>94.5</td>
<td>112</td>
<td>129.5</td>
<td>147</td>
<td>164.5</td>
<td>182</td>
<td>199.5</td>
<td>217</td>
<td>234.5</td>
<td>252</td>
<td>269.5</td>
<td>287</td>
<td>304.5</td>
</tr>
<tr>
<td>L2</td>
<td>67</td>
<td>84.5</td>
<td>102</td>
<td>119.5</td>
<td>137</td>
<td>154.5</td>
<td>172</td>
<td>189.5</td>
<td>207</td>
<td>224.5</td>
<td>242</td>
<td>259.5</td>
<td>277</td>
<td>294.5</td>
</tr>
</tbody>
</table>

**Manual override**

(Pitch) \( P = 17.5 \)

<table>
<thead>
<tr>
<th>16.5</th>
<th>11.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>(P, EA, EB port)</td>
</tr>
</tbody>
</table>

**One-touch fitting**

(A, B port)

Applicable tubing O.D.: \( \phi 4, \phi 5/32'' \)

\( \phi 6, \phi 1/4'' \)

\( \phi 8, \phi 5/16'' \)

**Output no.**

1/8  (A, B port)

**Connector lock pin**

(Take out when wiring the connector assembly.)

**Si unit**

**Light/surge voltage suppressor**

(Station n)  (Station 1)

**Si unit**

(hand / surge voltage suppressor)
## SY7000: SS5Y7-20SA - Stations -

### Specifications

<table>
<thead>
<tr>
<th>Stations n</th>
<th>3 stations</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>88</td>
<td>108.5</td>
<td>129</td>
<td>149.5</td>
<td>170</td>
<td>190.5</td>
<td>211</td>
<td>231.5</td>
<td>252</td>
<td>272.5</td>
<td>293</td>
<td>313.5</td>
<td>334</td>
<td>354.5</td>
</tr>
<tr>
<td>L2</td>
<td>68</td>
<td>88.5</td>
<td>109</td>
<td>129.5</td>
<td>150</td>
<td>170.5</td>
<td>191</td>
<td>211.5</td>
<td>232</td>
<td>252.5</td>
<td>273</td>
<td>293.5</td>
<td>314</td>
<td>334</td>
</tr>
</tbody>
</table>

### Diagram

- **Manual override**
- **One-touch fitting**
  - (A, B port)
  - Applicable tubing O.D.: ø8, ø5/16"  
  - ø10, ø3/8"
- **Connector lock pin**
  - (Take out when wiring the connector assembly.)
- **SI unit**
- **Output no.**
- **(Light/surge voltage suppressor)**
- **(Station n) - - - - - - - - - (Station 1)**

### Table

<table>
<thead>
<tr>
<th>Stations n</th>
<th>3 stations</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
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<td>108.5</td>
<td>129</td>
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<td>231.5</td>
<td>252</td>
<td>272.5</td>
<td>293</td>
<td>313.5</td>
<td>334</td>
<td>354.5</td>
</tr>
<tr>
<td>L2</td>
<td>68</td>
<td>88.5</td>
<td>109</td>
<td>129.5</td>
<td>150</td>
<td>170.5</td>
<td>191</td>
<td>211.5</td>
<td>232</td>
<td>252.5</td>
<td>273</td>
<td>293.5</td>
<td>314</td>
<td>334</td>
</tr>
</tbody>
</table>
**EX510 Gateway-type Serial Transmission System**

**Body Ported Manifold/Stacking Type**

**SY9000 Series**

---

### How to Order Manifold

**SS5Y9-23SA**

- **Si unit**
  - **Nil**: NPN output (+COM.)
  - **N**: PNP output (-COM.)

**Valve stations**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>3 stations</td>
<td>Double wiring (Note 1)</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td>Specified layout (Note 2) (Compatible with 16 solenoid valves)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td></td>
</tr>
</tbody>
</table>

*The number of the blanking plate assembly is also included.*

**Note 1**: Double wiring: Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

**Note 2**: Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

---

### How to Order Manifold Assembly (Example)

**Example**

- **Cylinder port size**: CT2: With One-touch fitting for ø12
- **Double solenoid (24 VDC)**: SY9220-5LOU-CT2 (2 sets)
- **Single solenoid (24 VDC)**: SY9120-5LOU-CT2 (3 sets)
- **Manifold base (5 stations)**: SS5Y9-23SA-05

**SS5Y9-23SA-05**

- **1 set (23SA type 5-station manifold part no.)**
- **SY9120-5LOU-CT2**
- **SY9220-5LOU-CT2**

*The asterisk denotes the symbol for assembly. Prefix to the part no. of the solenoid valve, etc.*

---

**SI unit specifications**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>SI unit specifications</th>
<th>SI unit part no.</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>NPN output (+COM.)</td>
<td>EX010-S001</td>
<td>P.897</td>
</tr>
<tr>
<td>N</td>
<td>PNP output (-COM.)</td>
<td>EX010-S101</td>
<td></td>
</tr>
</tbody>
</table>

**How to Order Valves**

**Type of actuation**

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

**Pilot specifications**

<table>
<thead>
<tr>
<th>Nil</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal pilot</td>
<td>External pilot</td>
</tr>
</tbody>
</table>

**Coil specifications**

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

**Rearage voltage**: 24 VDC

**Light/Surge voltage suppressor**

<table>
<thead>
<tr>
<th>Z</th>
<th>Without light/surge voltage suppressor (non-polar type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>With light/surge voltage suppressor</td>
</tr>
</tbody>
</table>

**Thread type**

<table>
<thead>
<tr>
<th>Nil</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE-compliant</td>
<td>CE-compliant</td>
</tr>
</tbody>
</table>

**A, B port size**

<table>
<thead>
<tr>
<th>02</th>
<th>1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>3/8</td>
</tr>
</tbody>
</table>

**Thread piping**

<table>
<thead>
<tr>
<th>02</th>
<th>1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>3/8</td>
</tr>
</tbody>
</table>

**One-touch fitting (Metric size)**

<table>
<thead>
<tr>
<th>C8</th>
<th>One-touch fitting for ø8</th>
</tr>
</thead>
<tbody>
<tr>
<td>C10</td>
<td>One-touch fitting for ø10</td>
</tr>
<tr>
<td>C12</td>
<td>One-touch fitting for ø12</td>
</tr>
</tbody>
</table>

**One-touch fitting (Inch size)**

<table>
<thead>
<tr>
<th>N9</th>
<th>One-touch fitting for ø5/16&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>N11</td>
<td>One-touch fitting for ø3/8&quot;</td>
</tr>
</tbody>
</table>

**Manual override**

<table>
<thead>
<tr>
<th>Nil</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-locking push type</td>
<td>Push-turn locking slotted type</td>
<td>Push-turn locking lever type</td>
</tr>
</tbody>
</table>

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

**Note** 2) When the SI unit is the PNP output (-COM.), only the "U" type is available.

---

**Gasket assembly part no.**

**Round head combination screw**

**Series**

| SY9000 |

**Gasket assembly part no.**

| SY9000-GS-1 |

**Note** The gasket assembly includes 10 sets of mounting screws and a gasket.

---

**Body Ported Manifold SY9000 Series Type 23SA**
SY9000: SS5Y9-23SA - Stations - (-D)

<table>
<thead>
<tr>
<th>Stations n</th>
<th>3 stations</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>148</td>
<td>173</td>
<td>198</td>
<td>223</td>
<td>248</td>
<td>273</td>
<td>298</td>
<td>323</td>
<td>335.5</td>
<td>360.5</td>
<td>385.5</td>
<td>410.5</td>
<td>435.5</td>
<td>460.5</td>
</tr>
<tr>
<td>L2</td>
<td>137.5</td>
<td>162.5</td>
<td>187.5</td>
<td>212.5</td>
<td>237.5</td>
<td>262.5</td>
<td>287.5</td>
<td>312.5</td>
<td>325</td>
<td>350</td>
<td>375</td>
<td>400</td>
<td>425</td>
<td>450</td>
</tr>
<tr>
<td>L3</td>
<td>120</td>
<td>144</td>
<td>168</td>
<td>192</td>
<td>216</td>
<td>240</td>
<td>264</td>
<td>288</td>
<td>312</td>
<td>336</td>
<td>360</td>
<td>384</td>
<td>408</td>
<td>432</td>
</tr>
<tr>
<td>L4</td>
<td>14</td>
<td>14.5</td>
<td>15</td>
<td>15.5</td>
<td>16</td>
<td>16.5</td>
<td>17</td>
<td>17.5</td>
<td>12</td>
<td>12.5</td>
<td>13</td>
<td>13.5</td>
<td>14</td>
<td>14.5</td>
</tr>
<tr>
<td>L5</td>
<td>90</td>
<td>114</td>
<td>138</td>
<td>162</td>
<td>186</td>
<td>210</td>
<td>234</td>
<td>258</td>
<td>282</td>
<td>306</td>
<td>330</td>
<td>354</td>
<td>378</td>
<td>402</td>
</tr>
</tbody>
</table>

Note) In the case of direct mounting without DIN rail, total width of manifold is L3.
## Manifold Option

### Type 20, 23, 20SA, 23SA
Blanking plate assembly

<table>
<thead>
<tr>
<th>&lt;Standard&gt;</th>
<th>Assembly part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-26-9A</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-26-20A</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-26-22A</td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-26-1A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&lt;CE-compliant&gt;</th>
<th>Assembly part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-26-19A-Q</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-26-1A-Q</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-26-1A-Q</td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-26-1A-Q</td>
</tr>
</tbody>
</table>

### Type 20P, 23P
Blanking plate assembly

<table>
<thead>
<tr>
<th>&lt;Standard&gt;</th>
<th>Assembly part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-26-10A</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-26-21A</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-26-23A</td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-26-3A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&lt;CE-compliant&gt;</th>
<th>Assembly part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-26-20A-Q</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-26-3A-Q</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-26-3A-Q</td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-26-3A-Q</td>
</tr>
</tbody>
</table>

### Individual SUP spacer assembly

<table>
<thead>
<tr>
<th>Series</th>
<th>Assembly part no.</th>
<th>Port size</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-38-20A(-Q)</td>
<td>M5 x 0.8</td>
<td>10.5</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-38-1A(-Q)</td>
<td>1/8</td>
<td>15</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-38-1A(-Q)</td>
<td>1/4</td>
<td>18</td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-38-1A(-Q)</td>
<td>1/4</td>
<td>20</td>
</tr>
</tbody>
</table>

Note) The SUP port of SY3000/5000/7000 may be either on the lead wire side or on the end plate side. However, as the CE-compliant products (-Q) must be mounted in the specified direction, the port directions cannot be changed. (An assembly is shipped under the conditions shown in the figure.)

- For the SY9000, it can only be used on the end plate side.

### Individual EXH spacer assembly

### Individual SUP spacer assembly + Individual EXH spacer assembly (Double spacer)

### Warning

**Mounting screw tightening torques**

- M2: 0.16 N·m
- M3: 0.8 N·m
- M4: 1.4 N·m

**Warning**

When mounting a valve or spacer on the manifold base or sub-plate, etc., those mounting directions are determined. If mounted in the wrong direction, the equipment to be connected may cause malfunction. Refer to external dimensions, and then mount it.

### Thread type

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

### Note)

- The SUP port of SY3000/5000/7000 may be either on the lead wire side or on the end plate side. However, as the CE-compliant products (-Q) must be mounted in the specified direction, the port directions cannot be changed. (An assembly is shipped under the conditions shown in the figure.)

- For the SY9000, it can only be used on the end plate side.

- The individual SUP spacer's port does not have an orientation. However, as the CE-compliant products (-Q) must be mounted in the specified direction, the port directions cannot be changed. (If the EXH ports, adjust the symbol “5” to the pilot valve side. Also, please make sure to connect the individual ports to protect the wiring section of the pilot valve from drainage, etc.

- The individual SUP spacer and EXH spacer can be mounted either on the upper side or lower side. (The above illustration shows the condition when the product is shipped out from a factory.)
### SY3000/5000/7000/9000 Series

#### Manifold Option

**Connector assembly**

For single solenoid (SY3000-37-81A-□-N)

For double solenoid (SY3000-37-81A-□-□)

---

**Connector assembly order no.** (Can be used for the manifold without a specified layout (8 stations or less))

**Integrated type**

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Connector mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y3-20SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-2-N</td>
<td>Single: For 5 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-2-4</td>
<td>Double/3 position: For 5 to 8 stations</td>
</tr>
<tr>
<td>SS5Y5-20SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 8 stations</td>
</tr>
<tr>
<td>SS5Y7-20SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-N</td>
<td>Single: For 5 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-7</td>
<td>Double/3 position: For 5 to 8 stations</td>
</tr>
</tbody>
</table>

**Housing (8 pcs./set)**

SY3000-44-3A

---

**Connector assembly order no.** (Can be used for the manifold with a specified layout)

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Connector mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y3-20SA</td>
<td>SY3000-37-80A-3</td>
<td>For A side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-6</td>
<td>For A side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-4</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-7</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td>SS5Y5-20SA</td>
<td>SY3000-37-80A-3</td>
<td>For A side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-6</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-4</td>
<td>For A side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-7</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td>SS5Y7-20SA</td>
<td>SY3000-37-80A-3</td>
<td>For A side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-6</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-4</td>
<td>For A side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-7</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td>SS5Y9-23SA</td>
<td>SY3000-37-80A-3</td>
<td>For A side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-6</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-9</td>
<td>For A side: For 9 to 12 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-14</td>
<td>For B side: For 13 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-13</td>
<td>For A side: For 13 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-18</td>
<td>For B side: For 13 to 16 stations</td>
</tr>
</tbody>
</table>

---

Notes:
1. The above is for station addition or maintenance. When ordering a connector assembly separately, a number will not be printed on the connector.
2. After inserting the connector assembly into the housing, be sure to confirm that the lead wire will not come off by lightly pulling the wire. Furthermore, do not reuse the lead wire after it has been inserted and removed.
3. Wiring is set longer than the actual wiring distance.
Body Ported Manifold SY9000 Series

Manifold Option

• SUP blocking disk (For SY9000)

By installing a SUP blocking disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.

• EXH blocking disk (For SY9000)

By installing an EXH blocking disk in the exhaust passage of a manifold valve, it is possible to divide the valve's exhaust so that it does not affect another valve. (Two blocking disks are needed to divide both exhausts.)

• Label for blocking disk (For SY9000)

The labels shown below are used on manifold stations containing SUP/EXH blocking disk(s) to show their location. (3 pcs. each)

VZ3000-123-1A

Label for SUP block disk Label for EXH block disk Label for SUP/EXH block disk

When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

• DIN Rail Dimensions/Weight for SY9000

VZ1000-11 - 4 - A

Refer to L dimensions

<table>
<thead>
<tr>
<th>No.</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>L Dimension</td>
<td>98</td>
<td>110.5</td>
<td>123</td>
<td>135.5</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>24.8</td>
<td>28</td>
<td>31.1</td>
<td>34.3</td>
<td>37.4</td>
<td>40.6</td>
<td>43.8</td>
<td>46.9</td>
<td>50.1</td>
<td>53.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</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>
</tr>
</thead>
<tbody>
<tr>
<td>L Dimension</td>
<td>223</td>
<td>235.5</td>
<td>248</td>
<td>260.5</td>
<td>273</td>
<td>285.5</td>
<td>298</td>
<td>310.5</td>
<td>323</td>
<td>335.5</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>56.4</td>
<td>59.6</td>
<td>62.7</td>
<td>65.9</td>
<td>69.1</td>
<td>72.2</td>
<td>75.4</td>
<td>78.6</td>
<td>81.7</td>
<td>84.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
<th>26</th>
<th>27</th>
<th>28</th>
<th>29</th>
</tr>
</thead>
<tbody>
<tr>
<td>L Dimension</td>
<td>348</td>
<td>360.5</td>
<td>373</td>
<td>385.5</td>
<td>398</td>
<td>410.5</td>
<td>423</td>
<td>435.5</td>
<td>448</td>
<td>460.5</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>88</td>
<td>91.2</td>
<td>94.4</td>
<td>97.5</td>
<td>100.7</td>
<td>103.9</td>
<td>107</td>
<td>110.2</td>
<td>113.3</td>
<td>116.5</td>
</tr>
</tbody>
</table>

Note: For DIN rail, refer to page 640.

- Refer to L1 dimension on pages 447, 456 and 466 for lengths that correspond to the number of manifold stations.

Cable assembly (For 20P, 23P)

AXT100-FC26-1

Connector Assembly for Flat Ribbon Cables

<table>
<thead>
<tr>
<th>Cable length (L)</th>
<th>Assembly part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 m</td>
<td>AXT100-FC26-1</td>
<td></td>
</tr>
<tr>
<td>3 m</td>
<td>AXT100-FC26-2</td>
<td></td>
</tr>
<tr>
<td>5 m</td>
<td>AXT100-FC26-3</td>
<td></td>
</tr>
</tbody>
</table>

* For other commercial connectors, use a 26 pins with strain relief conforming to MIL-C-83503.

Connector manufacturers’ example

• HIROSE ELECTRIC CO., LTD.
• Japan Aviation Electronics Industry, Limited
• 3M Japan Limited
• J.S.T. Mfg. Co., Ltd.
• Fujitsu Limited

Plug

These are inserted in unused cylinder ports and SUP, EXH ports. Purchasing order is available in units of 10 pieces.

Dimensions

<table>
<thead>
<tr>
<th>Applicable fittings size ød</th>
<th>Model</th>
<th>A</th>
<th>L</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>KQ2P-04</td>
<td>16</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>KQ2P-06</td>
<td>18</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>KQ2P-08</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>KQ2P-10</td>
<td>22</td>
<td>43</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>KQ2P-12</td>
<td>24</td>
<td>44.5</td>
<td>14</td>
</tr>
<tr>
<td>½&quot;</td>
<td>KQ2P-01</td>
<td>16</td>
<td>31.5</td>
<td>5</td>
</tr>
<tr>
<td>5/32&quot;</td>
<td>KQ2P-03</td>
<td>16</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>¼&quot;</td>
<td>KQ2P-07</td>
<td>18</td>
<td>35</td>
<td>8.5</td>
</tr>
<tr>
<td>5/16&quot;</td>
<td>KQ2P-09</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>⅜&quot;</td>
<td>KQ2P-11</td>
<td>22</td>
<td>43</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Note: For DIN rail, refer to page 640.

- Refer to L1 dimension on pages 447, 456 and 466 for lengths that correspond to the number of manifold stations.
How to Increase Manifold Bases (SY9000 series only)  

Manifold case can be added at any location.  

When a type 23 manifold base is added, tension bolts as well as manifold block assembly will be required. Order the tension bolt suitable for the stations after a station was increased (decreased), since the length of a tension bolt differs by the number of stations. (For changing the number of stations for a type 23P manifold, wiring unit for the stations and lead assembly will be required.)

1. Loosen the tension bolts connecting the manifold base, and pull out both of 2 tension bolts.  
2. (When equipped with a DIN rail, loosen one DIN rail holding screw on either U side or D side.)  
3. Separate the blocks at the location where station expansion is desired.  
4. Mount additional manifold block assembly.  
5. Press block-to-block so that there’s no gap. After connection, insert a tension bold for desired stations and then tighten it.

Caution  
(Tightening torque: 2.9 N·m)  
(When equipped with a DIN rail, be sure to tighten the DIN rail holding screws after tightening the tension bolts. Tightening torque: 1.4 N·m)

Caution  
1. Be sure to shut off the power and air supplies before disassembly. Furthermore, since air may remain inside the actuator, piping and manifold, confirm that the air is completely exhausted before performing any work.  
2. When disassembly and assembly are performed, air leakage may result if connections between blocks and tightening of the end block's holding screw, is inadequate.  
3. By adding wiring unit assembly to type 23 manifold, it can be changed to type 23P manifold, too.

Body Ported Manifold Exploded View, 23/23P Common

As for body ported manifold, it is available only for SY9000 series to disassemble or increase the manifold.

Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manifold block assembly</td>
<td>SY9000-50-1A</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>D side SUP/EXH block assembly</td>
<td>SY9000-51-2A</td>
<td>Common use for the internal pilot and external pilot</td>
</tr>
<tr>
<td>3</td>
<td>U side SUP/EXH block</td>
<td>SY9000-51-4</td>
<td>Common use for the internal pilot and external pilot</td>
</tr>
<tr>
<td>4</td>
<td>Hexagon nut</td>
<td>SY9000-25-1</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td>5</td>
<td>Tension bolt</td>
<td>SY9000-23-□</td>
<td>Since □ at the end of part number corresponds with the number of stations, fill in the same number as the number of stations.</td>
</tr>
<tr>
<td>6</td>
<td>Bush assembly</td>
<td>SY9000-61-1A</td>
<td>Included in the Manifold block assembly and the D side SUP/EXH block assembly.</td>
</tr>
<tr>
<td>7</td>
<td>Bush assembly</td>
<td>SY9000-61-3A</td>
<td>Included in the Manifold block assembly and the D side SUP/EXH block assembly.</td>
</tr>
<tr>
<td>8</td>
<td>Round head combination screw</td>
<td>SY9000-18-2</td>
<td>Included in the Manifold block assembly.</td>
</tr>
<tr>
<td>9</td>
<td>Manifold gasket</td>
<td>SY9000-11-1</td>
<td>Included in the Manifold block assembly.</td>
</tr>
<tr>
<td>10</td>
<td>Clamp sub assembly</td>
<td>SY9000-29-1A</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>DIN rail</td>
<td>VZ1000-11-4-□</td>
<td>Refer to page 469.</td>
</tr>
<tr>
<td>12</td>
<td>Wiring unit assembly</td>
<td>SY9000-36-□A</td>
<td>Since □ in part number corresponds with the number of stations, fill in the number of stations (4 to 12).</td>
</tr>
<tr>
<td>13</td>
<td>Connector assembly</td>
<td>SY9000-37-□-□</td>
<td>Refer to page 455.</td>
</tr>
</tbody>
</table>
5 Port Solenoid Valve
Body Ported Manifold
Cassette Type

SY3000/5000/7000 Series

How to Order

<table>
<thead>
<tr>
<th>Series</th>
<th>Valve stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 SY3000</td>
<td>2 stations</td>
</tr>
<tr>
<td>5 SY5000</td>
<td>1 station</td>
</tr>
<tr>
<td>7 SY7000</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

• CE-compliant
  - Nil
  - Q CE-compliant

Option
When a DIN rail longer than standard is required, enter the number of manifold stations that corresponds with the length of DIN rail needed. Max. 20 stations

SUP/EXH block assembly mounting position

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting position</th>
<th>Applicable stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
<td>2 to 10 stations</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
<td>2 to 20 stations</td>
</tr>
<tr>
<td>B</td>
<td>Both sides</td>
<td>2 to 20 stations</td>
</tr>
<tr>
<td>M</td>
<td>Special location</td>
<td></td>
</tr>
</tbody>
</table>

* For special specifications, indicate separately by the manifold specification sheet.

Example
Cylinder port size
M5: M5 x 0.8
C6: With One-touch fitting for ø6

Manifold base (4 stations)
SSSY3-60-04U

Double solenoid (24 VDC)
SY3260-5G-C6 (2 sets)

Single solenoid (24 VDC)
SY3160-5G-M5 (2 sets)

R port
C8: With One-touch fitting for ø8

P port
C8: With One-touch fitting for ø8

SSSY3-60-04U ......................... 1 set (Type 60, 4-station manifold base part no.)
• SY3260-5G-C6 .................... 2 sets (Double solenoid part no.)
• SY3160-5G-M5 .................... 2 sets (Single solenoid part no.)

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

Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.
Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SSSY3-60(-Q)</th>
<th>SSSY5-60(-Q)</th>
<th>SSSY7-60(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY3-60</td>
<td>SY5-60</td>
<td>SY7-60</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Stacking type/DIN rail mounted</td>
<td>Common SUP/Common EXH</td>
<td></td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations (Note 1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A, B port location</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>P, R port</td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
<tr>
<td></td>
<td>C10 (One-touch fitting for ø10)</td>
</tr>
<tr>
<td></td>
<td>C12 (One-touch fitting for ø12)</td>
</tr>
<tr>
<td>A, B port</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td></td>
<td>C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td></td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td>Port size</td>
<td>1/8</td>
</tr>
<tr>
<td></td>
<td>C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td></td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td></td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
</tbody>
</table>

Manifold base weight W (g) (Note 2):
- W = 13n + m + 36 for SSSY3-60(-Q)
- W = 41.2n + m + 77.6 for SSSY5-60(-Q)
- W = 65.4n + m + 128.2 for SSSY7-60(-Q)

Note 1) In cases such as those where many valves are operated simultaneously, use “station B (SUP/EXH block on both sides)”, applying pressure to the P ports on both sides and exhausting from the R ports on both sides.

Note 2) For DIN rail weight, refer to page 478.

Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>C8</th>
<th>C10</th>
<th>C12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port size</td>
<td>1/8</td>
<td>1/4</td>
<td>1/4</td>
</tr>
<tr>
<td>1,5/3 (P,R)</td>
<td>M5</td>
<td>C6</td>
<td>C8</td>
</tr>
<tr>
<td>4,2 (A,B)</td>
<td>C4</td>
<td>C6</td>
<td>C8</td>
</tr>
<tr>
<td>Flow rate characteristics</td>
<td>1.0 → 4/2(P→A/B)</td>
<td>4/2 → 5/3(A/B→R)</td>
<td></td>
</tr>
<tr>
<td>C (dm³/(s·bar))</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>Cv</td>
<td>0.55</td>
<td>0.8</td>
<td>0.37</td>
</tr>
<tr>
<td>0.29</td>
<td>0.3</td>
<td>0.28</td>
<td></td>
</tr>
<tr>
<td>0.14</td>
<td>0.44</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>0.72</td>
<td>2.1</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>0.24</td>
<td>0.17</td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td>0.18</td>
<td>0.47</td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td>0.24</td>
<td>0.17</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td>0.17</td>
<td>0.19</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>0.20</td>
<td>0.94</td>
<td>0.96</td>
<td></td>
</tr>
<tr>
<td>0.19</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.
How to Order Valve

SY 3 1 60 - 5 L - C6 - -

Series
3 SY3000
5 SY5000
7 SY7000

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

Type of valve
M5 0.8 shaft, M5 1.8 shaft
M2 1/4 shaft

Made to Order
X20 Body ported external pilot (Refer to page 624.)
X90 Main valve fluoro rubber (Refer to page 624.)

Coil specifications
Nil
T With power saving circuit (34 VDC, 12 VDC only)

Rated voltage
For DC
S 24 VDC
6 12 VDC
V 6 VDC
R 5 VDC

For AC (50/60Hz)
1 100 VAC
2 200 VAC
3 110 VAC
4 220 VAC

Light/Surge voltage suppressor
Electrical entry for D, Y (SY5000/7000 only)
Nil Without light/surge voltage suppressor
S With light/surge voltage suppressor
Z With surge voltage suppressor
R With surge voltage suppressor

Electrical entry for G, H, L, M, W
Nil Without light/surge voltage suppressor
S With light/surge voltage suppressor
Z With surge voltage suppressor
R With surge voltage suppressor

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

Manual override—Electrical entry

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>M5 x 0.8</td>
<td>SY3000</td>
</tr>
<tr>
<td>M2</td>
<td>1/4</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

Note 1) The DIN terminal of the SY3000 series cannot be mounted on a standard manifold. For details, refer to page 639.

Note 2) Enter the cable length symbols in [ ] . Please be sure to fill in the blank referring to page 642.

Note 3) When ordering single unit of the cassette type solenoid valve, the bushing assembly is included.

Manifold mounting
SY3000
SY5000
SY7000

CE-compliant
DC
AC

Note 1) Made to Order
Note 2) Do not make a mistake in the manifold assembly with cover for L and M plug connectors.
## Specifications

### Fluid

<table>
<thead>
<tr>
<th>Series</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal pilot</td>
<td>2 position single</td>
<td>0.15 to 0.7</td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td>2 position double</td>
<td>0.1 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 position</td>
<td>0.2 to 0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>Max. 50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum operating frequency (Hz)</td>
<td>2 position double</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>1 position</td>
<td>5</td>
<td></td>
<td></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>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilot exhaust method</td>
<td>Common exhaust type for main and pilot valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting position</td>
<td>Unrestricted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact/Vibration resistance (Note)</td>
<td>Dust proof (DIN terminal, M8 connector: IP65)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosure</td>
<td>2 position single</td>
<td>150/30</td>
<td></td>
</tr>
<tr>
<td>2 position double</td>
<td>0.1 (With indicator light only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 position</td>
<td>0.1 (With indicator light only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.35 [With indicator light: 0.4 (DIN terminal with indicator light: 0.45)]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.30 (With indicator light: 1.34)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.27 (With indicator light: 1.46)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.15 (With indicator light: 1.30)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.15 (With indicator light: 1.30)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.86 (With indicator light: 0.97)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.86 (With indicator light: 0.97)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.78 (With indicator light: 0.87)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.78 (With indicator light: 0.87)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 V</td>
<td>1.30 (With indicator light: 1.46)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>110 V [115 V]</td>
<td>1.27 (With indicator light: 1.46)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>200 V</td>
<td>1.18 (With indicator light: 1.22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>220 V [230 V]</td>
<td>1.15 (With indicator light: 1.30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Diode (Varistor is for DIN terminal and non-polar)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator light</td>
<td>LED (AC of DIN connector is neon light.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Response Time

#### Note

* Based on IEC60529

* 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 a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values in the initial stage)

#### Enclosure

* Dust proof (DIN terminal, M8 connector: IP65)

### Solenoid Specifications

<table>
<thead>
<tr>
<th>Electrical entry</th>
<th>Grommet (G), (H)</th>
<th>L plug connector (L)</th>
<th>M plug connector (M)</th>
<th>DIN terminal (D), (Y)</th>
<th>M8 connector (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil rated voltage (V)</td>
<td>DC 24, 12, 5, 3</td>
<td>AC 50/60 Hz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC 100, 110, 200, 220</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apparent power (VA)</td>
<td>100 V 0.78 (With indicator light: 0.81)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110 V [115 V] 0.86 (With indicator light: 0.99)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200 V 1.18 (With indicator light: 1.22)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>220 V [230 V] 1.30 (With indicator light: 1.34)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Diode (Varistor is for DIN terminal and non-polar)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator light</td>
<td>LED (AC of DIN connector is neon light.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Note

* Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage)

#### SY3000

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms) (at the pressure of 0.5 MPa)</th>
<th>With surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position single</td>
<td>12 or less</td>
<td>15 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>10 or less</td>
<td>13 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>15 or less</td>
<td>20 or less</td>
</tr>
</tbody>
</table>

#### SY5000

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms) (at the pressure of 0.5 MPa)</th>
<th>With surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position single</td>
<td>19 or less</td>
<td>26 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>18 or less</td>
<td>22 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>32 or less</td>
<td>38 or less</td>
</tr>
</tbody>
</table>

#### SY7000

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Response time (ms) (at the pressure of 0.5 MPa)</th>
<th>With surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position single</td>
<td>31 or less</td>
<td>38 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>27 or less</td>
<td>30 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>50 or less</td>
<td>56 or less</td>
</tr>
</tbody>
</table>
### Weight

#### SY3000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000-M5</td>
<td>Single 2 position</td>
<td>A, B</td>
<td>49, 51, 55</td>
<td>M5 x 0.8</td>
<td>70, 73, 81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>73, 76, 84</td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
<tr>
<td>SY3000-C4</td>
<td>Single 2 position</td>
<td>C4</td>
<td>62, 61, 65</td>
<td>One-touch fitting for ø4</td>
<td>80, 83, 91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>82, 86, 94</td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
<tr>
<td>SY3000-C6</td>
<td>Single 2 position</td>
<td>C6</td>
<td>55, 57, 61</td>
<td>One-touch fitting for ø6</td>
<td>78, 82, 90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
</tbody>
</table>

#### SY5000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SY5000-C1</td>
<td>Single 2 position</td>
<td>A, B</td>
<td>67, 69, 90</td>
<td>1/8</td>
<td>91, 94, 136</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>97, 100, 142</td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
<tr>
<td>SY5000-C4</td>
<td>Single 2 position</td>
<td>C4</td>
<td>91, 93, 114</td>
<td>One-touch fitting for ø4</td>
<td>113, 116, 158</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>119, 122, 164</td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
<tr>
<td>SY5000-C6</td>
<td>Single 2 position</td>
<td>C6</td>
<td>86, 88, 109</td>
<td>One-touch fitting for ø6</td>
<td>108, 111, 153</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>114, 117, 159</td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
<tr>
<td>SY5000-C8</td>
<td>Single 2 position</td>
<td>C8</td>
<td>78, 80, 101</td>
<td>One-touch fitting for ø8</td>
<td>106, 109, 151</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
</tbody>
</table>

#### SY7000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SY7000-02</td>
<td>Single 2 position</td>
<td>A, B</td>
<td>103, 105, 126</td>
<td>1/4</td>
<td>109, 125, 136</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>133, 136, 178</td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
<tr>
<td>SY7000-C6</td>
<td>Single 2 position</td>
<td>C8</td>
<td>138, 139, 160</td>
<td>One-touch fitting for ø8</td>
<td>168, 171, 213</td>
<td>179</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
<tr>
<td>SY7000-C10</td>
<td>Single 2 position</td>
<td>C10</td>
<td>123, 125, 146</td>
<td>One-touch fitting for ø10</td>
<td>145, 149, 191</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td>Pressure center</td>
</tr>
</tbody>
</table>

Note) [ ] denotes normal position.
**Manifold Option**

### Individual SUP block assembly

- **Blocking disk**

<table>
<thead>
<tr>
<th>One-touch fitting (Metric size)</th>
<th>Port size</th>
<th>Assembly part no.</th>
<th>Applicable ser.</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for ø6</td>
<td>SY3000-54-2C(-Q)</td>
<td>SY3000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø8</td>
<td>SY3000-54-1C(-Q)</td>
<td>SY3000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø10</td>
<td>SY3000-54-1C(-Q)</td>
<td>SY7000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø12</td>
<td>SY7000-54-3C(-Q)</td>
<td>SY7000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>One-touch fitting (Inch size)</th>
<th>Port size</th>
<th>Assembly part no.</th>
<th>Applicable ser.</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for ø5/16&quot;</td>
<td>SY3000-54-2C(-Q)</td>
<td>SY3000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø3/8&quot;</td>
<td>SY5000-54-2C(-Q)</td>
<td>SY5000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø3/8&quot;</td>
<td>SY7000-54-3C(-Q)</td>
<td>SY7000</td>
<td></td>
</tr>
</tbody>
</table>

**When supplying the manifold with 2 different supply pressures.**

Specify arrangement of individual SUP block assembly on the manifold specification sheet. (When using SSSY□-60□□D, blocking disk is assembled on D side.)

<Manifold model no.: SSSY□-60□□D>

![Individual SUP block assembly](image)

**When a different supply pressure is required for only a middle valve.**

Specify arrangement of individual SUP block assembly and SUP blocking disk on the manifold specification sheet.

(Applicable manifold model no.: SSSY□-60□□B)

![Individual SUP block assembly](image)

### Individual EXH block assembly

- **Blocking disk**

<table>
<thead>
<tr>
<th>One-touch fitting (Metric size)</th>
<th>Port size</th>
<th>Assembly part no.</th>
<th>Applicable ser.</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for ø8</td>
<td>SY3000-55-1B(-Q)</td>
<td>SY3000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø10</td>
<td>SY5000-55-1B(-Q)</td>
<td>SY5000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø12</td>
<td>SY7000-55-3B(-Q)</td>
<td>SY7000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>One-touch fitting (Inch size)</th>
<th>Port size</th>
<th>Assembly part no.</th>
<th>Applicable ser.</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for ø3/8&quot;</td>
<td>SY3000-55-2B(-Q)</td>
<td>SY3000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø3/8&quot;</td>
<td>SY5000-55-2B(-Q)</td>
<td>SY5000</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø3/8&quot;</td>
<td>SY7000-55-3B(-Q)</td>
<td>SY7000</td>
<td></td>
</tr>
</tbody>
</table>

**When 2 different EXH passages are required.**

Specify arrangement of individual EXH block assembly on the manifold specification sheet. (When using SSSY□-60□□D, blocking disk is assembled on D side.)

<Manifold model no.: SSSY□-60□□D>

![Individual EXH block assembly](image)

**When a separate exhaust passage is needed on only a middle valve.**

Specify arrangement of individual EXH block assembly and EXH blocking disk on the manifold specification sheet.

(Applicable manifold model no.: SSSY□-60□□B)

![Individual EXH block assembly](image)
**Manifold Option**

- **SUP blocking disk**
  By installing a SUP blocking disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold. (This is the same block disk used with the individual SUP block assembly.)

- **EXH blocking disk**
  By installing an EXH blocking disk in the exhaust passage of a manifold valve, it is possible to divide the valve’s exhaust so that it does not affect another valve. (Two blocking disks are needed to separate both EXH passages. It is the same block disk that is used in the individual EXH block assembly.)

- **Label for block disk**
  The labels shown below are used on manifold stations containing SUP/EXH blocking disk(s) to show their location. (3 pcs. each)

- **Silencer with One-touch fitting**
  The silencer plugs directly into the One-touch fittings of the manifold.

- **Plug**
  These are inserted in unused cylinder ports and SUP, EXH ports. Purchasing order is available in units of 10 pieces.

**Dimensions**

<table>
<thead>
<tr>
<th>Applicable fittings size ø</th>
<th>Model</th>
<th>A</th>
<th>L</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>KQ2P-04</td>
<td>16</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>KQ2P-06</td>
<td>18</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>KQ2P-08</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>KQ2P-12</td>
<td>22</td>
<td>43</td>
<td>12</td>
</tr>
<tr>
<td>5/32&quot;</td>
<td>KQ2P-03</td>
<td>24</td>
<td>45.5</td>
<td>14</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>KQ2P-07</td>
<td>18</td>
<td>35</td>
<td>8.5</td>
</tr>
<tr>
<td>5/16&quot;</td>
<td>KQ2P-09</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>KQ2P-11</td>
<td>22</td>
<td>43</td>
<td>11.5</td>
</tr>
</tbody>
</table>

**DIN Rail Dimensions/Weight for SY3000/5000**

**VZ1000-11-1**

- Refer to the L dimension tables
  - Enter a number from the DIN rail dimension table below in them.

<table>
<thead>
<tr>
<th>L dimension</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>76.4</td>
</tr>
<tr>
<td>19</td>
<td>116.5</td>
</tr>
<tr>
<td>29</td>
<td>140.7</td>
</tr>
<tr>
<td>39</td>
<td>156.8</td>
</tr>
<tr>
<td>49</td>
<td>174.9</td>
</tr>
<tr>
<td>59</td>
<td>195.0</td>
</tr>
</tbody>
</table>

**DIN Rail Dimensions/Weight for SY7000**

**VZ1000-11-4**

- Refer to the L dimension tables
  - Enter a number from the DIN rail dimension table below in them.

<table>
<thead>
<tr>
<th>L dimension</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>64.9</td>
</tr>
<tr>
<td>19</td>
<td>94.4</td>
</tr>
<tr>
<td>29</td>
<td>135.5</td>
</tr>
<tr>
<td>39</td>
<td>165.5</td>
</tr>
<tr>
<td>49</td>
<td>185.5</td>
</tr>
<tr>
<td>59</td>
<td>205.5</td>
</tr>
</tbody>
</table>

**Notes**
- For DIN rail mounting, refer to page 640.
Body Ported SY3000/5000/7000 Series

Construction

SY series

**Symbol**
- **2 position single**
  (EA)5 1 (P) 3(EB) 2 (A)4
- **2 position double**
  (EA)5 1 (P) 3(EB) 2 (A)4
- **3 position closed center**
  (EA)5 1 (P) 3(EB) 2 (A)4
- **3 position exhaust center**
  (EA)5 1 (P) 3(EB) 2 (A)4
- **3 position pressure center**
  (EA)5 1 (P) 3(EB) 2 (A)4

This figure shows a closed center type.

**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Aluminum die-casted</td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>SY3000: Zinc die-casted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Adapter plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>End plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>Resin</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>Spool valve assembly</td>
<td>Aluminum/H-NBR</td>
<td>—</td>
</tr>
</tbody>
</table>

**Replacement Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>No.</th>
<th>Description</th>
<th>Refer to “How to Order Pilot Valve Assembly” on page 629.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Pilot valve assembly</td>
<td>7</td>
<td>Port block assembly</td>
<td>Refer to “How to Order Port Block Assembly” on page 629.</td>
</tr>
<tr>
<td>8</td>
<td>Bottom cover assembly</td>
<td></td>
<td></td>
<td>SY3000-41-2A (with screw, gasket)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SY5000-41-2A (with screw, gasket)</td>
</tr>
</tbody>
</table>

Note) There is no bottom cover assembly available for SY7000.
**Dimensions**

### SY3000/5000/7000 Series

#### SS5Y3-60 [Stations] U

**U side**

One-touch fitting

(A, B port)

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

Manual override

M5 x 0.8

DIN rail

**D side**

(Rail mounting hole pitch: 12.5)

**Stations**

<table>
<thead>
<tr>
<th>Stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>98</td>
<td>110.5</td>
<td>123</td>
<td>135.5</td>
<td>135.5</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>87.5</td>
<td>100</td>
<td>112.5</td>
<td>125</td>
<td>125</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>L3</td>
<td>69.5</td>
<td>80</td>
<td>90.5</td>
<td>101</td>
<td>111.5</td>
<td>122</td>
<td>132.5</td>
<td>143</td>
<td>153.5</td>
<td></td>
</tr>
<tr>
<td>L4</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

#### SS5Y3-60 [Stations] D

**U side**

One-touch fitting

(A, B port)

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

Manual override

M5 x 0.8

DIN rail

**D side**

(Rail mounting hole pitch: 12.5)

**Stations**

<table>
<thead>
<tr>
<th>Stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>98</td>
<td>110.5</td>
<td>123</td>
<td>135.5</td>
<td>135.5</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>87.5</td>
<td>100</td>
<td>112.5</td>
<td>125</td>
<td>125</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>L3</td>
<td>69.5</td>
<td>80</td>
<td>90.5</td>
<td>101</td>
<td>111.5</td>
<td>122</td>
<td>132.5</td>
<td>143</td>
<td>153.5</td>
<td></td>
</tr>
<tr>
<td>L4</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>
Body Ported SY3000/5000/7000 Series

SSSY3-60—Stations B

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32”, ø6, ø1/4"

Manual override

L plug connector (L)

(MM) plug connector (M)

M8 connector (WO)

Note) Refer to page 642 for dimensions of connector types.
### SSSY5-60—Stations

<table>
<thead>
<tr>
<th>Station</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>119.8</td>
<td>107.2</td>
<td>51.5</td>
<td>34.9</td>
</tr>
<tr>
<td>2</td>
<td>127 [131.4]</td>
<td>107.4 [111.8]</td>
<td>51.5 [55.2]</td>
<td>34.9</td>
</tr>
<tr>
<td>3</td>
<td>135.5</td>
<td>128</td>
<td>73</td>
<td>44</td>
</tr>
<tr>
<td>4</td>
<td>145.2</td>
<td>139.6</td>
<td>82.6</td>
<td>53.6</td>
</tr>
<tr>
<td>5</td>
<td>157.8</td>
<td>152.5</td>
<td>97.9</td>
<td>67.4</td>
</tr>
<tr>
<td>6</td>
<td>167.8</td>
<td>162.5</td>
<td>107.9</td>
<td>77.4</td>
</tr>
<tr>
<td>7</td>
<td>177.5</td>
<td>172.2</td>
<td>118.4</td>
<td>87.4</td>
</tr>
<tr>
<td>8</td>
<td>187.2</td>
<td>182.5</td>
<td>129.1</td>
<td>97.4</td>
</tr>
<tr>
<td>9</td>
<td>197.9</td>
<td>192.5</td>
<td>140.0</td>
<td>107.4</td>
</tr>
<tr>
<td>10</td>
<td>207.5</td>
<td>202.5</td>
<td>150.6</td>
<td>117.4</td>
</tr>
<tr>
<td>11</td>
<td>217.2</td>
<td>212.5</td>
<td>161.2</td>
<td>127.4</td>
</tr>
<tr>
<td>12</td>
<td>227.9</td>
<td>222.5</td>
<td>171.9</td>
<td>137.4</td>
</tr>
<tr>
<td>13</td>
<td>237.6</td>
<td>232.5</td>
<td>182.6</td>
<td>147.4</td>
</tr>
<tr>
<td>14</td>
<td>247.3</td>
<td>242.5</td>
<td>193.3</td>
<td>157.4</td>
</tr>
<tr>
<td>15</td>
<td>257.0</td>
<td>252.5</td>
<td>204.0</td>
<td>167.4</td>
</tr>
<tr>
<td>16</td>
<td>266.7</td>
<td>261.5</td>
<td>214.7</td>
<td>177.4</td>
</tr>
<tr>
<td>17</td>
<td>276.4</td>
<td>271.5</td>
<td>225.4</td>
<td>187.4</td>
</tr>
<tr>
<td>18</td>
<td>286.1</td>
<td>281.5</td>
<td>236.1</td>
<td>197.4</td>
</tr>
<tr>
<td>19</td>
<td>295.8</td>
<td>290.5</td>
<td>246.8</td>
<td>207.4</td>
</tr>
<tr>
<td>20</td>
<td>305.5</td>
<td>300.5</td>
<td>257.5</td>
<td>217.4</td>
</tr>
</tbody>
</table>

**Note:** Refer to page 642 for dimensions of connector types.

---

### L plug connector (L)

- **(Lead wire length)**: Approx. 300
- **Max. 10**: 51.5 [55.2]
- **Applicable cable O.D.**: ø3.5 to ø7

### M plug connector (M)

- **(Lead wire length)**: Approx. 300
- **50.6 [57.6]

### DIN terminal (D, Y)

### M8 connector (WO)

- **M8 x 1**: 26.6

---

**Applicable cable O.D.:** ø3.5 to ø7

**Applicable tubing O.D.:** ø10, ø3/8" ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"
## DIN Rail Manifold Exploded View

### SY3000

**Type 60**

![Diagram of DIN Rail Manifold Exploded View]

### Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Valve</td>
<td>SY3000-56-□-(Q)</td>
<td>□ at the end of part number denotes A, B port size: M5, C4, C6, N3, N7. Includes bushing assembly (SY3000-52-5A) 3 pcs.</td>
</tr>
<tr>
<td>2</td>
<td>SUP/EXH block assembly</td>
<td>SY3000-55-□A-(Q)</td>
<td>P, R port (1: One-touch fitting for ø8, 2: One-touch fitting for ø5/16&quot;) Includes bushing assembly (SY3000-52-5A) 3 pcs.</td>
</tr>
<tr>
<td>3</td>
<td>End block assembly</td>
<td>SY3000-56-□A-(Q)</td>
<td>For D side (Bushing assembly: Not available for SY3000-52-5A)</td>
</tr>
<tr>
<td>4</td>
<td>End block assembly</td>
<td>SY3000-56-□B-(Q)</td>
<td>For U side (Bushing assembly: Not available for SY3000-52-5A)</td>
</tr>
<tr>
<td>5</td>
<td>Bushing assembly</td>
<td>SY3000-52-5A</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>DIN rail</td>
<td>VZ1000-11-□</td>
<td>Refer to page 478.</td>
</tr>
</tbody>
</table>

- □ at the end of part number denotes A, B port size: M5, C4, C6, N3, N7. Includes bushing assembly (SY3000-52-5A) 3 pcs.
- For D side (Bushing assembly: Not available for SY3000-52-5A)
- For U side (Bushing assembly: Not available for SY3000-52-5A)
SY5000
Type 60

Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Valve</td>
<td>SY5000-50-□□□□(-Q)</td>
<td>□ at the end of part number denotes A, B port size: 01, C4, C6, C8, N3, N7, N9. Includes bushing assembly (SY5000-52-3A) 3 pcs.</td>
</tr>
<tr>
<td>2</td>
<td>SUP/EXH block assembly</td>
<td>SY5000-55-1A(-Q)</td>
<td>P, R port (1: One-touch fitting for ø10, 2: One-touch fitting for ø3/8&quot;) Includes bushing assembly (SY5000-52-3A) 3 pcs.</td>
</tr>
<tr>
<td>3</td>
<td>End block assembly</td>
<td>SY5000-56-1A(-Q)</td>
<td>For D side (Bushing assembly: Not available for SY5000-52-3A)</td>
</tr>
<tr>
<td>4</td>
<td>End block assembly</td>
<td>SY5000-56-1B(-Q)</td>
<td>For U side (Bushing assembly: Not available for SY5000-52-3A)</td>
</tr>
<tr>
<td>5</td>
<td>Bushing assembly</td>
<td>SY5000-52-3A</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>DIN rail</td>
<td>VZ1000-11-1□□</td>
<td>Refer to page 478.</td>
</tr>
</tbody>
</table>

How to Add Additional Valves to the DIN Rail

1. Loosen the manifold base clamping screw ③.
2. Separate the valves at the point where more valves are to be added.
3. Mount the additional valves on the DIN rail as shown in Fig. 1
4. Connect them together while pressing the block assemblies toward each other, and tighten the holding screw ③ to fix them to the DIN rail.

Caution

Tightening torque
SY3000: 1 N·m
SY5000: 1.4 N·m
(While tightly holding the blocks after fixing an end block on one side, tighten the other end block for better sealing after no gap between valves is confirmed.)

- Bushing assembly must be seated properly to each valve block in order to prevent air leaks from occurring.
- Refer to the fig. 2 when dismounting the valve from the DIN rail.

Caution

When clamping screw ③ of the end block is not sufficiently tightened during reassembly, air leakage may result. Before supplying air, check that there are no gaps between valves and that the end block is firmly secured to the DIN rail in order to ensure air supply without leakage.
**DIN Rail Manifold Exploded View**

**SY7000 Type 60**

**Replacement Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Valve</td>
<td>SY7□60□□□□□(-Q)</td>
<td>□ at the end of part number denotes A. B port size: 02, C8, C10, N9, N11. Includes bushing assembly (SY7000-70-1A) 3 pcs.</td>
</tr>
<tr>
<td>2</td>
<td>SUP/EXH block assembly</td>
<td>SY7000-75-1A(-Q)</td>
<td>P,R port size: 1: ø12 One-touch fitting, 3: 3/8&quot;One-touch fitting) Includes bushing assembly (SY7000-70-1A) 3pcs.</td>
</tr>
<tr>
<td>3</td>
<td>End block assembly</td>
<td>SY7000-56-1A(-Q)</td>
<td>In common for D side and U side (Bushing assembly: Not available for SY7000-70-1A.)</td>
</tr>
<tr>
<td>4</td>
<td>Bushing assembly</td>
<td>SY7000-70-1A</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>DIN rail</td>
<td>VZ1000-11-4□</td>
<td>Refer to page 478.</td>
</tr>
</tbody>
</table>

**How to Add Additional Valves to the DIN Rail**

Valves can be added at any station on the rail.

1. Loosen the rail holding screw □ at both of 2 locations which holds the manifold base either in the U side or D side.
2. Separate the valves at the point where more valves are to be added.
3. Mount the additional valves on the DIN rail as shown in Fig. 1.
4. Connect them together while pressing the block assemblies toward each other, and tighten the 2 holding screws □ for DIN rail alternately (2 to 3 times) with the prescribed torque (1.4 N·m) to fix them to the DIN rail.

**Caution**

- **Tightening torque**
  - SY7000: 1.4 N·m
  - (While lightly holding the blocks after fixing an end block on one side, tighten the other end block for better sealing after no gap between valves is confirmed.)
- Bushing assembly must be seated properly to each valve block in order to prevent air leaks from occurring.
- Refer to the fig. 2 when dismounting the valve from the DIN rail.

**Caution**

When clamping screw □ of the end block is not sufficiently tightened during reassembly, air leakage may result. Before supplying air, check that there are no gaps between valves and that the end block is firmly secured to the DIN rail in order to ensure air supply without leakage.
How to Order Manifold

**Type 41/Compact type**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Applicable Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y</td>
<td>Manifold series</td>
<td>SY3000/5000/7000 Series</td>
</tr>
<tr>
<td>5</td>
<td>Stations</td>
<td>SY3000/5000/7000 Series</td>
</tr>
<tr>
<td>41</td>
<td>Stations</td>
<td>SY3000/5000/7000 Series</td>
</tr>
<tr>
<td>05</td>
<td>Stations</td>
<td>SY3000/5000/7000 Series</td>
</tr>
<tr>
<td>C8</td>
<td>Thread type</td>
<td>SY3000/5000/7000 Series</td>
</tr>
</tbody>
</table>

- **A, B port size**
  - Symbol: Port size: SY3000/5000/7000 Series
  - M5: M5 x 0.8
  - φ1: 1/8

- **One-touch fitting (Metric size)**
  - Symbol: Port size: SY3000/5000/7000 Series
  - C4: One-touch fitting for ø4
  - C6: One-touch fitting for ø6
  - C8: One-touch fitting for ø8

- **One-touch fitting (Inch size)**
  - Symbol: Port size: SY3000/5000/7000 Series
  - N3: One-touch fitting for ø5/32
  - N7: One-touch fitting for ø1/4
  - N9: One-touch fitting for ø5/16

How to Order Manifold Assembly (Example)

**Example**

- Single solenoid (24 VDC)
  - SY3140-5G (2 sets)
- Double solenoid (24 VDC)
  - SY3240-5G (2 sets)
- Blanking plate assembly
  - SY3000-26-9A (1 set)

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

Note) AC-type models that are CE-compliant have DIN terminals only.

---

**Type 42/External pilot capable**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Applicable Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y</td>
<td>Manifold series</td>
<td>SY3000/5000/7000 Series</td>
</tr>
<tr>
<td>5</td>
<td>Stations</td>
<td>SY3000/5000/7000 Series</td>
</tr>
<tr>
<td>42</td>
<td>Stations</td>
<td>SY3000/5000/7000 Series</td>
</tr>
<tr>
<td>05</td>
<td>Stations</td>
<td>SY3000/5000/7000 Series</td>
</tr>
<tr>
<td>C8</td>
<td>Thread type</td>
<td>SY3000/5000/7000 Series</td>
</tr>
</tbody>
</table>

- **A, B port size**
  - Symbol: Port size: SY3000/5000/7000 Series
  - φ01: 1/8
  - φ02: 1/4

- **One-touch fitting (Metric size)**
  - Symbol: Port size: SY3000/5000/7000 Series
  - C4: One-touch fitting for ø4
  - C6: One-touch fitting for ø6
  - C8: One-touch fitting for ø8
  - C10: One-touch fitting for ø10

- **One-touch fitting (Inch size)**
  - Symbol: Port size: SY3000/5000/7000 Series
  - N3: One-touch fitting for ø5/32
  - N7: One-touch fitting for ø1/4
  - N9: One-touch fitting for ø5/16
  - N11: One-touch fitting for ø3/8

Note) AC-type models that are CE-compliant have DIN terminals only.
How to Order Valve

**SY Series**

- **Electrical entry for G, H, L, M, W**
  - Nil
  - Without light/surge voltage suppressor
  - S
  - Z
  - With surge voltage suppressor
  - With light/surge voltage suppressor

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

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

- **Made to Order**
  - Nil
  - X90 (Main valve fluororubber, Refer to page 624.)

- **Manual override**
  - Nil
  - Internal pilot
  - R
  - External pilot

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

- **Coil specifications**
  - Nil
  - T
  - Standard
  - With power saving circuit (24 VDC, 12 VDC only)
  - Power saving circuit is not available in the case of D, Y, DO, YO or W type.

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

- **Rated voltage**
  - For DC
    - 5: 24 VDC
    - 6: 12 VDC
    - 7: 6 VDC
    - R: 3 VDC
  - For AC (%/Hz)
    - 1: 100 VAC
    - 2: 200 VAC
    - 3: 110 VAC [115 VAC]
    - 4: 220 VAC [230 VAC]

- **Grommet**
  - 24, 12, 6, 5, 3 VDC/100, 110, 200, 220 VAC

- **Electrical entry**

**Base Mounted SY3000/5000/7000 Series**

- **Type**
  - 41
  - 42

- **Note** AC-type models that are CE-compliant have DIN terminals only.

- **Manifold mounting**
  - SY3000
  - SY5000
  - SY7000
  - CE-compliant
  - DC
  - AC

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

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

- **Manifold mounting**
  - SY3000
  - SY5000
  - SY7000
  - CE-compliant
  - DC
  - AC

- **Electrical entry**
  - 24, 12, 6, 5, 3 VDC

**Grommet**

- L plug connector
- M plug connector
- DIN terminal
- M8 connector

**Manifold mounting**

- SY3000
- SY5000
- SY7000
- CE-compliant
- DC
- AC

**Electrical entry**

- 24, 12, 6, 5, 3 VDC

Note) AC-type models that are CE-compliant have DIN terminals only.

- Note) When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the manifold are included.

- Note 1) The DIN terminal of the SY3000 series cannot be mounted on a standard manifold. For details, refer to page 639.
- Note 2) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 642.
- □: LN, MN type: with 2 sockets.
- □: "Y" type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.
- □: For connector cable of M8 connector, refer to page 641.
- □: M8 connector conforming to IEC60947-5-2 standard is also available. Refer to page 623 for details.
- □: Refer to page 638 for the lead wire length of L and M plug connectors.
- □: Refer to page 639 for the connector assembly with cover for L and M plug connectors.

**Light/Surge voltage suppressor**

- Nil
- Without light/surge voltage suppressor
- S
- Z
- With surge voltage suppressor
- With light/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.

**Manifold mounting**

- SY3000
- SY5000
- SY7000
- CE-compliant
- DC
- AC

**Electrical entry**

- 24, 12, 6, 5, 3 VDC

**Grommet**

- L plug connector
- M plug connector
- DIN terminal
- M8 connector

**Manifold mounting**

- SY3000
- SY5000
- SY7000
- CE-compliant
- DC
- AC

**Electrical entry**

- 24, 12, 6, 5, 3 VDC

Note) AC-type models that are CE-compliant have DIN terminals only.

- Note) When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the manifold are included.

- Note 1) The DIN terminal of the SY3000 series cannot be mounted on a standard manifold. For details, refer to page 639.
- Note 2) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 642.
- □: LN, MN type: with 2 sockets.
- □: "Y" type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.
- □: For connector cable of M8 connector, refer to page 641.
- □: M8 connector conforming to IEC60947-5-2 standard is also available. Refer to page 623 for details.
- □: Refer to page 638 for the lead wire length of L and M plug connectors.
- □: Refer to page 639 for the connector assembly with cover for L and M plug connectors.
## Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y3-41(-Q)</th>
<th>SS5Y3-42(-Q)</th>
<th>SS5Y5-41(-Q)</th>
<th>SS5Y5-42(-Q)</th>
<th>SS5Y7-42(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY3□40</td>
<td>SY5□40</td>
<td>SY7□40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P(SUP)/R(EXH)</td>
<td>Common SUP, Common EXH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations (^{Note 1)})</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### A, B port

<table>
<thead>
<tr>
<th>Location</th>
<th>Base</th>
<th>Direction</th>
<th>Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porting specifications</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port size</th>
<th>P, EA, EB port</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B port</td>
<td>M5 x 0.8, 04 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td>Porting specification</td>
<td>1/8</td>
</tr>
<tr>
<td>Porting specification</td>
<td>1/4</td>
</tr>
<tr>
<td>Porting specification</td>
<td>1/4</td>
</tr>
<tr>
<td>Porting specification</td>
<td>1/4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manifold base weight W (g)</th>
<th>30n + 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>SS5Y3-41(-Q)</td>
</tr>
<tr>
<td>Location</td>
<td>SY3□40</td>
</tr>
<tr>
<td>Base</td>
<td>Common SUP, Common EXH</td>
</tr>
<tr>
<td>A, B port</td>
<td>2 to 20 stations (^{Note 1)})</td>
</tr>
</tbody>
</table>

Note 1) For more than 10 stations (more than 5 stations in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

Note 2) Refer to “Manifold Option” on page 530.

## Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate characteristics 1, 5, 3 (P, EA, EB)</th>
<th>4, 2 (A, B)</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y3-41(-Q)</td>
<td>1/8</td>
<td>C6</td>
<td>0.75</td>
<td>0.19</td>
<td>0.18</td>
</tr>
<tr>
<td>SS5Y3-42(-Q)</td>
<td>1/6</td>
<td>C6</td>
<td>0.75</td>
<td>0.20</td>
<td>0.18</td>
</tr>
<tr>
<td>SS5Y5-41(-Q)</td>
<td>1/4</td>
<td>C8</td>
<td>1.8</td>
<td>0.23</td>
<td>0.44</td>
</tr>
<tr>
<td>SS5Y5-42(-Q)</td>
<td>1/4</td>
<td>C8</td>
<td>1.9</td>
<td>0.20</td>
<td>0.46</td>
</tr>
<tr>
<td>SS5Y7-42(-Q)</td>
<td>1/4</td>
<td>C10</td>
<td>3.0</td>
<td>0.25</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.
SY3000: SS5Y3-41–Stations–M5, C4, N3

Grommet (G)  

With interface regulator (with gauge)

For M5

(Light/surge voltage suppressor)

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

M5 x 0.8

(A, B port)

Manual override

8.5

4 x ø4.5

(For mounting)

P = 10.5

13.6

1/8

(P, EA, EB port)

One-touch fitting

(Light/surge voltage suppressor)

For M5

(Light/surge voltage suppressor)

(Light/surge voltage suppressor)

M8 connector (WO)

(Approx. 300)

(Approx. 300)

(Approx. 300)

(M8 x 1)

Note) Refer to page 642 for dimensions of connector types.

<table>
<thead>
<tr>
<th>Stations n</th>
<th>2 stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</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></td>
<td>L1</td>
<td>38.5</td>
<td>49</td>
<td>59.5</td>
<td>70</td>
<td>80.5</td>
<td>91</td>
<td>101.5</td>
<td>112</td>
<td>122.5</td>
<td>133</td>
<td>143.5</td>
<td>154</td>
<td>164.5</td>
<td>175</td>
<td>185.5</td>
<td>196</td>
<td>206.5</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td>L2</td>
<td>30.5</td>
<td>41</td>
<td>51.5</td>
<td>62</td>
<td>72.5</td>
<td>83</td>
<td>93.5</td>
<td>104</td>
<td>114.5</td>
<td>125</td>
<td>135.5</td>
<td>146</td>
<td>156.5</td>
<td>167</td>
<td>177.5</td>
<td>188</td>
<td>198.5</td>
<td>209</td>
</tr>
</tbody>
</table>

SY3000/5000/7000 Series
With interface regulator (with gauge)

L plug connector (L)

M plug connector (M)

M8 connector (WO)

Note) Refer to page 642 for dimensions of connector types.
### SY3000: SS5Y3-42- Stations-01

**Grommet (G)**

![Diagram of grommet](image)

**L plug connector (L)**

![Diagram of L plug connector](image)

**M plug connector (M)**

![Diagram of M plug connector](image)

**M8 connector (WO)**

![Diagram of M8 connector](image)

<table>
<thead>
<tr>
<th>Stations n</th>
<th>2 stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</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>47.5</td>
<td>60</td>
<td>72.5</td>
<td>85</td>
<td>97.5</td>
<td>110</td>
<td>122.5</td>
<td>135</td>
<td>147.5</td>
<td>160</td>
<td>172.5</td>
<td>185</td>
<td>197.5</td>
<td>210</td>
<td>222.5</td>
<td>235</td>
<td>247.5</td>
<td>260</td>
<td>272.5</td>
</tr>
<tr>
<td>L2</td>
<td>39.5</td>
<td>52</td>
<td>64.5</td>
<td>77</td>
<td>89.5</td>
<td>102</td>
<td>114.5</td>
<td>127</td>
<td>139.5</td>
<td>152</td>
<td>164.5</td>
<td>177</td>
<td>189.5</td>
<td>202</td>
<td>214.5</td>
<td>227</td>
<td>239.5</td>
<td>252</td>
<td>264.5</td>
</tr>
</tbody>
</table>

**Note:** Refer to page 642 for dimensions of connector types.
**SY5000: SS5Y5-42**

**Stations**

C6, N7

**Grommet (G)**

- Manual override
- In the case of external pilot type solenoid valve

**With interface regulator (with gauge)**

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

**L plug connector (L)**

- With plug

**M plug connector (M)**

- With plug

**DIN terminal (D, Y)**

- Applicable O.D.: ø3.5 to ø7

**M8 connector (WO)**

- M8 x 1

**Note**

Refer to page 642 for dimensions of connector types.

**Stations n**

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</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></td>
<td>68</td>
<td>74</td>
<td>106</td>
<td>106</td>
<td>132</td>
<td>154</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
</tr>
</tbody>
</table>
### SY5000: SS5Y5-42- [Stations] -02

**Grommet (G)**

- Manual override
- Light/surge voltage suppressor

- With interface regulator (with gauge)

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

**Applicable cable O.D.**

- ø3.5 to ø7

- **Note:** Refer to page 642 for dimensions of connector types.

**Stations n**

| Stations n | 2 stations | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20 stations |
|------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|
|            |            | 59.5| 77  | 94.5| 112 | 129.5| 147 | 164.5| 182 | 199.5| 217 | 234.5| 252 | 269.5| 287 | 304.5| 322 | 339.5 | 357 | 374.5 |
|            |            | 49.5| 67  | 84.5| 102 | 119.5| 137 | 154.5| 172 | 189.5| 207 | 224.5| 242 | 259.5| 277 | 294.5| 312 | 329.5 | 347 | 364.5 |
SY7000: SS5Y7-42- [Stations] 02, C10, N11

Grommet (G)

With interface regulator (with gauge)

For 1/4

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

Note: Refer to page 642 for dimensions of connector types.
How to Order Manifold

**SS5Y 9 - 43 - 05 U C8**

- **Manifold series**
  - SS5Y 9
- **Valve stations**
  - Symbol: U, D, B
  - Stations: 2 to 10 stations, 2 to 20 stations
- **P, R port outlets**
  - Symbol: U, D, B
  - Applicable stations: 2 to 10 stations, 2 to 20 stations
- **SUP/EXH block assembly specifications**
  - Symbol: Nil, R, S, RS

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Thread piping</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>Ø8</td>
<td>One-touch fitting for Ø8</td>
</tr>
<tr>
<td>D</td>
<td>Ø10</td>
<td>One-touch fitting for Ø10</td>
</tr>
<tr>
<td>B</td>
<td>Ø12</td>
<td>One-touch fitting for Ø12</td>
</tr>
<tr>
<td>S</td>
<td>NPT</td>
<td>NPTF</td>
</tr>
</tbody>
</table>

- **Option**
  - Symbol: Nil, D

- **A, B port size**
  - Symbol: 02, 03

- **CE-compliant**
  - Symbol: Nil, Q

*Note: AC-type models that are CE-compliant have DIN terminals only.*

---

How to Order Manifold Assembly (Example)

**Example**

- **Cylinder port size**
  - C12: With One-touch fitting for Ø12

- **Manifold base (5 stations)**
  - SS5Y9-43-05-C12

- **Components**
  - Double solenoid (24 VDC)
    - SY9240-5LOZ (2 sets)
  - Single solenoid (24 VDC)
    - SY9140-5LOZ (2 sets)
  - Blanking plate assembly
    - SY9000-26-2A (1 set)

- **Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.**

---

Type 43

SY9000 Series

5 Port Solenoid Valve
Base Mounted Manifold
Stacking Type/Individual Wiring

[Option]

Note: AC-type models that are CE-compliant have DIN terminals only.
How to Order Valve

**SY 9 2 40**

**Series**
- 9: SY9000

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

**Pilot type**
- Nil: Internal pilot
- R: External pilot

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

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

- For AC (50/60 Hz):
  - 1: 100 VAC
  - 2: 200 VAC
  - 3: 110 VAC (115 VAC)
  - 4: 220 VAC (230 VAC)

**Light/Surge voltage suppressor**
- CE-compliant
- Nil: —
- G: CE-compliant

**Made to Order**
- Nil: —
- X90: Main valve fluororubber (Refer to page 624.)

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

**Electrical entry for G, H, L, M, W**
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With indicator light and surge voltage suppressor
- R: With surge voltage suppressor (Non-polar type)
- U: With light/surge voltage suppressor (Non-polar type)

**Electrical entry for D, Y**
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor (Non-polar type)

**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 length 300 mm</td>
<td>L: With lead wire (Length 300 mm)</td>
<td>M: With lead wire (Length 300 mm)</td>
<td>D: With connector (Length 300 mm)</td>
<td>W: Without connector cable</td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>L: Without lead wire</td>
<td>M: Without lead wire</td>
<td>D: Without connector</td>
<td>W: Without connector cable</td>
</tr>
</tbody>
</table>

**For DC**
- L plug connector: —
- M plug connector: —
- DIN terminal: —
- M8 connector: —

**For AC**
- L plug connector: —
- M plug connector: —
- DIN terminal: —
- M8 connector: —

Note) When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the manifold are included.

Related Notes:
- AC-type models that are CE-compliant have DIN terminals only.
- 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.
- DOZ and YOZ are not available.

Additional Notes:
- DC specifications of Type D, Y, DO and YO is only available with 12 and 24 VDC.
- For Type W, DC voltage is only available.
- For connector cable of M8 connector, refer to page 641.
- Refer to page 638 for the lead wire length of L and M plug connectors.

Refer to page 639 for the connector assembly with cover for L and M plug connectors.

Note) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 642.
### Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y9-43(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY9-40</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Stacking type</td>
</tr>
<tr>
<td>P(SUP)/R(EXH)</td>
<td>Common SUP, Common EXH</td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations</td>
</tr>
<tr>
<td>A, B port Porting specifications</td>
<td>Location: Base, Direction: Side</td>
</tr>
<tr>
<td>Port size</td>
<td>A, B port (P, EA, EB port) (1/4, 3/8)</td>
</tr>
<tr>
<td></td>
<td>C12 (One-touch fitting for ø12)</td>
</tr>
<tr>
<td></td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
<tr>
<td></td>
<td>C10 (One-touch fitting for ø10)</td>
</tr>
<tr>
<td></td>
<td>C12 (One-touch fitting for ø12)</td>
</tr>
<tr>
<td>Manifold base weight</td>
<td>W = 107n + 330</td>
</tr>
</tbody>
</table>

Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

Note 2) Refer to “Manifold Option” on page 530.

### Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y9-43(-Q)</td>
<td>1, 5, 3 (P, EA, EB)</td>
<td>1→4/2 (P→A/B)</td>
</tr>
<tr>
<td></td>
<td>4, 2 (A, B)</td>
<td>C (dm³/(s·bar))</td>
</tr>
<tr>
<td></td>
<td>C12</td>
<td>C12</td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.
**Grommet (G)**

(Pitch) \( P = 24 \), 24.3, 22.3

One-touch fitting

- 11(P), 3/5(R) port
- Applicable tubing O.D.: \( \phi 8, \phi 5/16" \)
- \( \phi 0.10, \phi 3/32" \)
- 1/4, 3/8

[4(A), 2(B) port]

Applicable tubing O.D.: \( \phi 0.12, \phi 3/32" \)

With External Pilot Specifications

- Air discharge port on the built-in silencer type and the external pilot’s extracting position are in the D side.

DIN rail holding screw

- Tightening torque: 0.55 to 0.65N-m

**L plug connector (L)**

**M plug connector (M)**

**DIN terminal (D, Y)**

**M8 connector (WO)**

**Note:** Refer to page 642 for dimensions of connector types.
**Type 43 SY9000 Series**

**SY9000: SS5Y9-43- Stations**

**Grommet (G)**

- **One-touch fitting**
- Applicable tubing O.D.: ø12, ø3/8"
- Effective pitch: P=24, 24.3, 22.3

**With External Pilot Specifications**

- Air discharge port on the built-in silencer type and the external pilot's extracting position are in the D side.

**DIN rail holding screw**

- Tightening torque: 0.55 to 0.65 N·m

**Mounting hole when not using DIN rail**

- M8 x 1

**L plug connector (L)**

- Applicable cable O.D.: ø3.5 to ø6.7

**M plug connector (M)**

- Applicable cable O.D.: ø3.5 to ø6.7

**DIN terminal (D, Y)**

- Applicable cable O.D.: ø6, ø1/4"

**M8 connector (WO)**

- Applicable cable O.D.: ø12, ø3/8"

---

**Note:** Refer to page 542 for dimensions of connector types.
**SY9000: SS5Y-43- Stations**

- **Grommet (G)**

<table>
<thead>
<tr>
<th>Light/surge voltage suppressor</th>
<th>Manual override</th>
<th>DIN rail holding screw</th>
</tr>
</thead>
</table>

- When P, R port outlets are indicated on the B side, the P, R ports on both sides are in the open state.

### With External Pilot Specifications

- Air discharge port on the built-in silencer type and the external pilot's extracting position are in the B side (both sides).

#### DIN rail holding screw
- Tightening torque: 0.55 to 0.65 N·m

#### L plug connector (L)
- M plug connector (M)
- DIN terminal (D, Y)
- M8 connector (WO)

### Note
- Refer to page 642 for dimensions of connector types.
How to Order Manifold

**Type 41P/Compact type**

SS5Y 5 - 41P - 05 - C8 -

**Manifold series**
- 3 SY3000
- 5 SY5000

**Stations**
- 03 3 stations
- 12 12 stations

* SS5Y3 has 4 to 12 stations.
* This also includes the number of blanking plate assemblies.

**A, B port size**

**Thread piping**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>M5 x 0.8</td>
<td>SY3000</td>
</tr>
<tr>
<td>01</td>
<td>1/8</td>
<td>SY5000</td>
</tr>
</tbody>
</table>

**One-touch fitting (Metric size)**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>One-touch fitting for ø4</td>
<td>SY3000</td>
</tr>
<tr>
<td>C6</td>
<td>One-touch fitting for ø6</td>
<td>SY3000</td>
</tr>
<tr>
<td>C8</td>
<td>One-touch fitting for ø8</td>
<td>SY5000</td>
</tr>
</tbody>
</table>

**One-touch fitting (Inch size)**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>One-touch fitting for ø5/8</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø7/8</td>
<td>SY5000</td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for ø9/8</td>
<td>SY5000</td>
</tr>
</tbody>
</table>

**Thread type**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rc</td>
<td>NC</td>
<td>SY3000</td>
</tr>
<tr>
<td>N</td>
<td>NPT</td>
<td>SY5000</td>
</tr>
<tr>
<td>G</td>
<td>NPTF</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

**CE-compliant**

* For DC only.

---

**Type 42P/Common external pilot capable**

SS5Y 5 - 42P - 05 - C8 -

**Manifold series**
- 3 SY3000
- 5 SY5000
- 7 SY7000

**Stations**
- 03 3 stations
- 12 12 stations

* SS5Y3 has 4 to 12 stations.
* This also includes the number of blanking plate assemblies.

**A, B port size**

**Thread piping**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1/8</td>
<td>SY3000</td>
</tr>
<tr>
<td>02</td>
<td>1/4</td>
<td>SY5000</td>
</tr>
<tr>
<td>03</td>
<td>1/4</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

**One-touch fitting (Metric size)**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>One-touch fitting for ø4</td>
<td>SY3000</td>
</tr>
<tr>
<td>C6</td>
<td>One-touch fitting for ø6</td>
<td>SY3000</td>
</tr>
<tr>
<td>C8</td>
<td>One-touch fitting for ø8</td>
<td>SY5000</td>
</tr>
<tr>
<td>C10</td>
<td>One-touch fitting for ø10</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

**One-touch fitting (Inch size)**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>One-touch fitting for ø5/8</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø7/8</td>
<td>SY5000</td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for ø9/8</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

**Thread type**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rc</td>
<td>NC</td>
<td>SY3000</td>
</tr>
<tr>
<td>N</td>
<td>NPT</td>
<td>SY5000</td>
</tr>
<tr>
<td>G</td>
<td>NPTF</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

**CE-compliant**

* For DC only.

---

**How to Order Manifold Assembly (Example)**

**Example**

- Blanking plate assembly
  - SY3000-26-10A (1 set)
  - SY3140-5LOU (3 sets)

- Double solenoid (24 VDC)
  - SY3240-5LOU (2 sets)

**Note**

- CE-compliant: For DC only.
- The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

**Note**

- Please indicate the connector assembly part no. (page 507) that connects the valve and the manifold.
**Base Mounted SY3000/5000/7000 Series**

**How to Order Valve**

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

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

**Pilot type**
- Nil: Internal pilot
- R: External pilot

**Rated voltage**
- CE-compliant
- \( U \): With light/surge voltage suppressor
- \( Z \): With light/surge voltage suppressor

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

**Light/Surge voltage suppressor**
- \( Z \): Positive common specifications only
- *: Power saving circuit is only available in the "Z" type.

**CE-compliant**
- Nil
- Q

**Made to Order**
- Nil
- X90: Main valve fluororubber (Refer to page 624.)

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

**Connector Assembly**

**For 12, 24 VDC**
- Specifications
  - For SY3000
  - For SY5000/7000
- For single solenoid
  - SY3000-37-3A
  - SY5000-37-3A
- Double solenoid, 3 position type
  - SY3000-37-4A
  - SY5000-37-4A
- Single with spacer assembly
  - SY5000-37-3A
  - SY5000-37-6A
- Double, 3 position with spacer assembly
  - SY3000-37-6A
  - SY5000-37-9A

**For 100 VAC**
- Specifications
  - For SY3000
  - For SY5000/7000
- For single solenoid
  - SY3000-37-32A
  - SY5000-37-15A
- Double solenoid, 3 position type
  - SY3000-37-33A
  - SY5000-37-16A
- Single with spacer assembly
  - SY5000-37-15A
  - SY5000-37-18A
- Double, 3 position with spacer assembly
  - SY3000-37-34A
  - SY3000-37-19A

**For 100 VAC (115 VAC)**
- Specifications
  - For SY3000
  - For SY5000/7000
- For single solenoid
  - SY3000-37-35A
  - SY5000-37-19A
- Double solenoid, 3 position type
  - SY3000-37-36A
  - SY5000-37-20A
- Single with spacer assembly
  - SY5000-37-19A
  - SY5000-37-21A
- Double, 3 position with spacer assembly
  - SY3000-37-37A
  - SY5000-37-22A

**Note)** When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the manifold are included.

**Note)** In the case of flat cable type, "U" and "Z" types are for DC specifications and "Z" type is for AC specifications. "Z" type for DC is positive common specification only.

For the other combination, please contact SMC.

**Rated voltage**
- 100 VAC

**Note)** CE-compliant: For DC only.

**Rated voltage**
- 110 VAC (115 VAC)

**Note)** CE-compliant: For DC only.

**Note)** CE-compliant: For DC only.

**Note)** CE-compliant: For DC only.

**Made to Order**
- Nil
- X90: Main valve fluororubber (Refer to page 624.)

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

**Connector Assembly**

**For 12, 24 VDC**
- Specifications
  - For SY3000
  - For SY5000/7000
- For single solenoid
  - SY3000-37-3A
  - SY5000-37-3A
- Double solenoid, 3 position type
  - SY3000-37-4A
  - SY5000-37-4A
- Single with spacer assembly
  - SY5000-37-3A
  - SY5000-37-6A
- Double, 3 position with spacer assembly
  - SY3000-37-6A
  - SY5000-37-9A

**For 100 VAC**
- Specifications
  - For SY3000
  - For SY5000/7000
- For single solenoid
  - SY3000-37-32A
  - SY5000-37-15A
- Double solenoid, 3 position type
  - SY3000-37-33A
  - SY5000-37-16A
- Single with spacer assembly
  - SY5000-37-15A
  - SY5000-37-18A
- Double, 3 position with spacer assembly
  - SY3000-37-34A
  - SY3000-37-19A

**For 100 VAC (115 VAC)**
- Specifications
  - For SY3000
  - For SY5000/7000
- For single solenoid
  - SY3000-37-35A
  - SY5000-37-19A
- Double solenoid, 3 position type
  - SY3000-37-36A
  - SY5000-37-20A
- Single with spacer assembly
  - SY5000-37-19A
  - SY5000-37-21A
- Double, 3 position with spacer assembly
  - SY3000-37-37A
  - SY5000-37-22A

**Note)** Spacer assembly indicates individual SUP/EXH spacer.
Flat Ribbon Cable Manifold Specifications

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

**Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>SY3Y-41P(-Q)</th>
<th>SY3Y-42P(-Q)</th>
<th>SY5Y-41P(-Q)</th>
<th>SY5Y-42P(-Q)</th>
<th>SY7Y-42P(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY3...40</td>
<td>SY5...40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Manifold type**

- Single base/B mount

**P(SUP)/R(EXH)**

- Common SUP, Common EXH

**Valve stations**

- A, B port

**Location**

- Direction

**Port size**

- A, B port

**Porting specifications**

- P, EA, EB port

**Manifold base weight**

- W (g), n: Stations

**Applicable flat ribbon cable connector**

- Flat ribbon cable connector, Socket: 26 pins MIL type with strain relief, Conforming to MIL-C-83503

**Internal wiring**

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

**Rated voltage**

- 12, 24 VDC, 100, 110 VAC

**Flow Rate Characteristics**

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1, 5, 3 (P, EA, EB)</td>
<td>4, 2 (A, B)</td>
</tr>
<tr>
<td></td>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
<tr>
<td>SSSY3-41P</td>
<td>1/4</td>
<td>C6</td>
</tr>
<tr>
<td>SSSY3-42P</td>
<td>1/4</td>
<td>C6</td>
</tr>
<tr>
<td>SSSY5-41P</td>
<td>1/4</td>
<td>C8</td>
</tr>
<tr>
<td>SSSY5-42P</td>
<td>1/4</td>
<td>C8</td>
</tr>
<tr>
<td>SSSY7-42P</td>
<td>1/4</td>
<td>C10</td>
</tr>
</tbody>
</table>

**Internal Wiring of Manifold**

**Caution**

- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.
SY3000: SS5Y3-41P- [Stations] M5, C4, N3

Base Mounted SY3000/5000/7000 Series

For M5 x 0.8

With interface regulator (with gauge)

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

With strain relief

Applicable connector: 26 pins MIL type

(Conforming to MIL-C-83503)

Manual override

Triangle mark

One-touch fitting

(Pitch) P=12.5

(A, B port)

4 x ø4.5

(For mounting)

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

(Light/surge voltage suppressor)

Applicable connector: 26 pins MIL type
with strain relief

(Conforming to MIL-C-83503)

<table>
<thead>
<tr>
<th>Stations</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>72.5</td>
<td>88</td>
<td>97.5</td>
<td>110</td>
<td>122.5</td>
<td>135</td>
<td>147.5</td>
<td>160</td>
<td>172.5</td>
</tr>
<tr>
<td>L2</td>
<td>64.5</td>
<td>77</td>
<td>88.5</td>
<td>102</td>
<td>114.5</td>
<td>127</td>
<td>139.5</td>
<td>152</td>
<td>164.5</td>
</tr>
</tbody>
</table>

509
SY5000: SS5Y5-41P- Stations -01, C6,N7
C8,N9

For 1/8

(Pitch) P=17.5
1/8
(A, B port)

(Station n).............. (Station 1)

4 x ø4.5
(For mounting)

Manual
override

Triangle mark

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

With interface regulator (with gauge)

(Pitch) P=17.5
1/4
(P, EA, EB port)

4 x ø4.5
(For mounting)

With plug ø15

<table>
<thead>
<tr>
<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>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>77</td>
<td>94.5</td>
<td>112</td>
<td>129.5</td>
<td>147</td>
<td>164.5</td>
<td>182</td>
<td>199.5</td>
<td>217</td>
<td>234.5</td>
</tr>
<tr>
<td>L2</td>
<td>87</td>
<td>84.5</td>
<td>102</td>
<td>119.5</td>
<td>137</td>
<td>154.5</td>
<td>172</td>
<td>189.5</td>
<td>207</td>
<td>224.5</td>
</tr>
</tbody>
</table>

Applicable tubing O.D.: ø6, ø1/4"
ø8, ø5/16"

One-touch fitting

(A, B port)

(Pitch) P=17.5
18
7.5
12

139.6 [144]
127.1 [131.4]
100.3 [102.5]
82.2
62.8
43
28.5
10.9

Conforming to MIL-C-83503

Light/surge voltage suppressor

15.2
13.8
10.5
6.9

45
33
10.8
60.8

SY3000/5000/7000 Series
### Base Mounted SY3000/5000/7000 Series type 42P

**SY3000: SS5Y3-42P**
- **Stations**: 01, C4, N3, C6, N7

#### One-Touch Fitting
- **A, B port**
- Applicable tubing O.D.: Ø4, Ø4/32: Ø6, Ø1/4

#### Manual Override
- Triangle mark

#### Applicable Connector
- 26 pins MIL type
- With strain relief
- Conforming to MIL-C-83503

#### Applicable Tubing O.D.
- Ø4, Ø5/32
- Ø6, Ø1/4

#### With Interface Regulator (with Gauge)
- M5 x 0.8
- (Pilot EXH port)

#### 1/8
- (Pitch) $P=12.5$
- 4 x Ø4.5

#### Station n
- Light/surge voltage suppressor

#### Applicable Connector
- 61 [68]
- 1/8

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

#### SY3000: SS5Y3-42P
- Stations: 01, C4, N3, C6, N7

### Specifications

<table>
<thead>
<tr>
<th>Stations</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>72.5</td>
<td>85</td>
<td>97.5</td>
<td>110</td>
<td>122.5</td>
<td>135</td>
<td>147.5</td>
<td>160</td>
<td>172.5</td>
</tr>
<tr>
<td>L2</td>
<td>64.5</td>
<td>77</td>
<td>89.5</td>
<td>102</td>
<td>114.5</td>
<td>127</td>
<td>139.5</td>
<td>152</td>
<td>164.5</td>
</tr>
</tbody>
</table>
### SY3000/5000/7000 Series

#### SY5000: SS5Y5-42P- Stations -02, C6, N7, C8, N9

**Grommet (G)**

- One-touch fitting (A, B port)
- Applicable tubing O.D.: ø6, ø1/4" ø8, ø5/16"
- Manual override
- Triangle mark
- Applicable connector: 26 pins MIL type
- With strain releaf
- (Conforming to MIL-C-83503)

**For 1/4**

- (Pitch) P=17.5
- 1/4 (A, B port)
- M5 x 0.8 (External pilot port)
- M5 x 0.8 (Pilot EXH port)

- <In the case of external pilot type solenoid valve>

**With interface regulator (with gauge)**

- (Pitch) P=17.5
- 4 x ø4.5 (For mounting)
- M5 x 0.8 (Pilot EXH port)

**Applicable tubing O.D.: ø6, ø1/4" ø8, ø5/16"**

**Table:**

<table>
<thead>
<tr>
<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>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>77</td>
<td>94.5</td>
<td>112</td>
<td>129.5</td>
<td>147</td>
<td>164.5</td>
<td>182</td>
<td>199.5</td>
<td>217</td>
<td>234.5</td>
</tr>
<tr>
<td>L2</td>
<td>67</td>
<td>84.5</td>
<td>102</td>
<td>119.5</td>
<td>137</td>
<td>154.5</td>
<td>172</td>
<td>189.5</td>
<td>207</td>
<td>224.5</td>
</tr>
</tbody>
</table>

**Diagram:**

- SY3000/5000/7000 Series
- Grommet (G)
- One-touch fitting (A, B port)
- Applicable tubing O.D.: ø6, ø1/4" ø8, ø5/16"
- Manual override
- Triangle mark
- Applicable connector: 26 pins MIL type
- With strain releaf
- (Conforming to MIL-C-83503)

**For 1/4**

- (Pitch) P=17.5
- 1/4 (A, B port)
- M5 x 0.8 (External pilot port)
- M5 x 0.8 (Pilot EXH port)

- <In the case of external pilot type solenoid valve>

**With interface regulator (with gauge)**

- (Pitch) P=17.5
- 4 x ø4.5 (For mounting)
- M5 x 0.8 (Pilot EXH port)
SY7000: SS5Y7-42P- Stations -02, C10, N11

Grommet (G)

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø10, ø3/8"

Manual override

Triangle mark

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

With interface regulator (with gauge)

<table>
<thead>
<tr>
<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>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>88</td>
<td>108.5</td>
<td>129</td>
<td>149.5</td>
<td>170</td>
<td>190.5</td>
<td>211</td>
<td>231.5</td>
<td>252</td>
<td>272.5</td>
</tr>
<tr>
<td>L2</td>
<td>76</td>
<td>96.5</td>
<td>117</td>
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<td>178.5</td>
<td>199</td>
<td>219.5</td>
<td>240</td>
<td>260.5</td>
</tr>
</tbody>
</table>

For \(\frac{1}{4}\)

With plug

With strain relieaf
<In the case of external pilot type solenoid valve>

SY7000: SS5Y7-42P- Stations -02, C10, N11

Grommet (G)
5 Port Solenoid Valve
Base Mounted Manifold
Stacking Type/Flat Ribbon Cable

**SY9000 Series**

### How to Order Manifold

#### SS5Y9-43P-05 U-C8-

<table>
<thead>
<tr>
<th>Manifold series</th>
<th>SY9000</th>
</tr>
</thead>
</table>

#### Valve stations

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>4 stations</td>
</tr>
<tr>
<td>D</td>
<td>12 stations</td>
</tr>
</tbody>
</table>

*This also includes the number of blanking plate assemblies.*

#### P, R port outlets

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port outlet</th>
<th>Applicable stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
<td>4 to 10 stations</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
<td>4 to 12 stations</td>
</tr>
<tr>
<td>B</td>
<td>Both sides</td>
<td></td>
</tr>
</tbody>
</table>

#### SUP/EXH block assembly specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Standard/Internal pilot specification</td>
</tr>
<tr>
<td>R</td>
<td>External pilot specification</td>
</tr>
<tr>
<td>S</td>
<td>Internal pilot/ Built-in silencer</td>
</tr>
<tr>
<td>RS</td>
<td>External pilot/ Built-in silencer</td>
</tr>
</tbody>
</table>

### How to Order Manifold Assembly (Example)

**Example**

- **Double solenoid (24 VDC)**
  - SY9240-5LOU (2 sets)
  - SY9000-37-2A

- **Single solenoid (24 VDC)**
  - SY9140-5LOU (2 sets)
  - SY9000-37-1A

**Blanking plate assembly**

- SY9000-26-4A (1 set)
  - Cylinder port size C12, with one-touch fitting ø12

**Manifold base**

- SS5Y9-43P-05B-C12

**Note**

- CE-compliant: For DC only.

---

**CE-compliant**

- Nil
- Q

---

### Thread piping

#### One-touch fitting (Metric size)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>C8</td>
<td>One-touch fitting ø8</td>
</tr>
<tr>
<td>C10</td>
<td>One-touch fitting ø10</td>
</tr>
<tr>
<td>C12</td>
<td>One-touch fitting ø12</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

#### One-touch fitting (Inch size)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>N9</td>
<td>One-touch fitting ø5/8</td>
</tr>
<tr>
<td>N11</td>
<td>One-touch fitting ø5/4</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

*In the case of mixed specifications (M), indicate separately on the manifold specification sheet.*

---

### Option

#### Symbol | Mounting
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Nil</td>
<td>Direct mounting</td>
</tr>
<tr>
<td>D</td>
<td>DIN rail mounting with DIN rail</td>
</tr>
<tr>
<td>D0</td>
<td>DIN rail mounting without DIN rail</td>
</tr>
</tbody>
</table>

**Example**

- (Single solenoid) Connector assembly SY9000-37-1A
- (Double solenoid) Connector assembly SY9000-37-2A
- Blanking plate assembly SY9000-26-4A
- Cylinder port size C12, with one-touch fitting ø12

Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.

---

**Note**

- Please indicate the connector assembly part no. (page 515) that connects the valve and the manifold.

---

**Type 43P**
### How to Order Valve

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

#### Pilot type
- **Nil**: Standard
- **T**: With power saving circuit

#### Rated voltage
- **NE**: 100 VAC
- **QE**: 110 VAC (115 VAC)

#### CE-compliant
- **Nil**: —
- **Q**: CE-compliant

#### Made to Order
- **Nil**: —
- **X90**: Main valve fluororubber (Refer to page 624.)

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

#### Coils specifications
- **NE**: Standard
- **TE**: With power saving circuit

#### Light/Surge voltage suppressor
- **ZE**: With light/surge voltage suppressor
- **UE**: With light/surge voltage suppressor (Non-polar type)

#### Note
- Power saving circuit is only available in the "Z" type.
- CE-compliant: For DC only.
- CE-compliant: For AC specifications only.
- Note: In the case of flat cable type, "U" and "Z" types are for DC specifications and "Z" type is for AC specifications. "Z" type for DC is positive common specification only. For the other combination, please contact SMC.
- Note: Since the electrical entry is "LO", select an appropriate connector assembly part no.

### Connector Assembly

#### For 12, 24 VDC

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY9000-37-1A</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY9000-37-2A</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY9000-37-3A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY9000-37-4A</td>
</tr>
</tbody>
</table>

Notes:
- Spacer indicates individual SUP/EXH spacer.

#### For 100 VAC

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY9000-37-1B</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY9000-37-2B</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY9000-37-3B</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY9000-37-4B</td>
</tr>
</tbody>
</table>

#### For 110 VAC (115 VAC)

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY9000-37-1C</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY9000-37-2C</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY9000-37-3C</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY9000-37-4C</td>
</tr>
</tbody>
</table>
For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.

**Caution**

- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.

**Clean appearance**

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

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

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y9-43P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY9:40</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Stacking type</td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td>Common SUP, Common EXH</td>
</tr>
</tbody>
</table>

**Valve stations**

- 4 to 12 stations [Note 1]

**A, B port**

- Location: Base
- Direction: Side

**Port size**

- P, EA, EB port: C12 (One-touch fitting for ø12)
- A, B port: 1/4, 3/8, C8 (One-touch fitting for ø8), C10 (One-touch fitting for ø10), C12 (One-touch fitting for ø12)

**Manifold base weight**

- W (g): n: Stations

**Applicable for ribbon cable connector**

- Flat ribbon cable connector, Socket: 26 pins MIL with strain relief, Conforming to MIL-C-83503

**Internal wiring**

- In common between +COM and –COM (Z type: +COM only)
- 12, 24 VDC, 100, 110 VAC

**Flow Rate Characteristics**

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y9-43P</td>
<td>C12</td>
<td>1 → 4/2 (P → A/B) 4/2 → 5/3 (A/B → EA/EB)</td>
</tr>
<tr>
<td>Port size</td>
<td>1, 5, 3 (P, EA, EB)</td>
<td>4, 2 (A, B)</td>
</tr>
<tr>
<td>C (dm³/(s·bar)) b Cv</td>
<td>6.4 0.29 1.6 7.3 0.29 1.8</td>
<td></td>
</tr>
</tbody>
</table>

**Internal Wiring of Manifold (Non-polar type)**

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

- Triangle mark

- Station 1

- Station 2

- Station 3

- Station 4

- Station 12 (Max. 12 stations)

- Connected on PCB

<table>
<thead>
<tr>
<th>Wiring unit</th>
<th>Solenoid A side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference figure</td>
<td>Solenoid B side</td>
</tr>
</tbody>
</table>

**Note**

- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.

**Note 1**

- For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

**Note 2**

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

**Note 3**

- Refer to “Manifold Option” on page 530.

**Note 4**

- CE-compliant: For DC only.
SY9000: SS5Y9-43P- Stations D [ ] AC

- When P, R port outlets are indicated on the D side, the P, R ports on the opposite side are plugged.

With External Pilot Specifications

- Air discharge port on the built-in silencer type and the external pilot’s extracting position are in the D side.

Applicable tubing O.D.: ø6, ø1/4”

<table>
<thead>
<tr>
<th>Stations</th>
<th>4 stations</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>198</td>
<td>223</td>
<td>248</td>
<td>260.5</td>
<td>285.5</td>
<td>310.5</td>
<td>335.5</td>
</tr>
<tr>
<td>L1</td>
<td>187.5</td>
<td>212.5</td>
<td>237.5</td>
<td>250</td>
<td>275</td>
<td>300</td>
<td>325</td>
</tr>
<tr>
<td>L2</td>
<td>165</td>
<td>189</td>
<td>213</td>
<td>237</td>
<td>261</td>
<td>285</td>
<td>309</td>
</tr>
<tr>
<td>L3</td>
<td>16.5</td>
<td>17</td>
<td>17.5</td>
<td>12</td>
<td>12.5</td>
<td>13</td>
<td>13.5</td>
</tr>
<tr>
<td>L4</td>
<td>151</td>
<td>175</td>
<td>199</td>
<td>223</td>
<td>247</td>
<td>271</td>
<td>295</td>
</tr>
<tr>
<td>L5</td>
<td>184</td>
<td>198.5</td>
<td>218.5</td>
<td>238.5</td>
<td>263.5</td>
<td>288.5</td>
<td>313.5</td>
</tr>
</tbody>
</table>

DIN rail holding screw
(When attaching the DIN rail)
Tightening torque: (0.55 to 0.65) N·m

Applicable connector: 26 pins MIL type with strain relief
(Conforming to Mil-C-83503)
**SY9000 Series**

**SY9000: SS5Y9-43P [Stations U] C8, N9 C10, N11 C12 (-D)**

- When P, R port outlets are indicated on the U side, the P, R ports on the opposite side are plugged.

**With External Pilot Specifications**

- Air discharge port on the built-in silencer type and the external pilot's extracting position are in the U side.

**Table**

<table>
<thead>
<tr>
<th>Stations</th>
<th>4 stations</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>198</td>
<td>223</td>
<td>248</td>
<td>260.5</td>
<td>285.5</td>
<td>310.5</td>
<td>335.5</td>
</tr>
<tr>
<td>L2</td>
<td>187.5</td>
<td>212.5</td>
<td>237.5</td>
<td>250</td>
<td>275</td>
<td>300</td>
<td>325</td>
</tr>
<tr>
<td>L3</td>
<td>165</td>
<td>189</td>
<td>213</td>
<td>237</td>
<td>261</td>
<td>285</td>
<td>309</td>
</tr>
<tr>
<td>L4</td>
<td>16.5</td>
<td>17</td>
<td>17.5</td>
<td>12</td>
<td>12.5</td>
<td>13</td>
<td>13.5</td>
</tr>
<tr>
<td>L5</td>
<td>151</td>
<td>175</td>
<td>199</td>
<td>223</td>
<td>247</td>
<td>271</td>
<td>295</td>
</tr>
</tbody>
</table>

**DIN rail holding screw**

- (When attaching the DIN rail)
- Tightening torque: (0.55 to 0.65) N·m

**Silencer (Air discharge port) (with built-in silencer specifications)**

(Light/surge voltage suppressor)

**Applicable connector:** 26 pins MIL type with strain releaf

(Conforming to MIL-C-83503)
One-touch fitting [4(A), 2(B) port]
Applicable tubing O.D.: ø8, ø5/16", ø10, ø3/8": ø12

One-touch fitting [1(P), 3/5(R) port]
Applicable tubing O.D.: ø12, ø3/8"

With External Pilot Specifications

- Air discharge port on the built-in silencer type and the external pilot’s extracting position are in the B side (both sides).

- When P, R port outlets are indicated on the B side, the P, R ports on the both sides are in the open state.

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

<table>
<thead>
<tr>
<th>Stations n</th>
<th>4 stations</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>198</td>
<td>223</td>
<td>248</td>
<td>260.5</td>
<td>285.5</td>
<td>310.5</td>
<td>335.5</td>
<td>360.5</td>
<td>385.5</td>
</tr>
<tr>
<td>L2</td>
<td>187.5</td>
<td>212.5</td>
<td>237.5</td>
<td>250</td>
<td>275</td>
<td>300</td>
<td>325</td>
<td>350</td>
<td>375</td>
</tr>
<tr>
<td>L3</td>
<td>165</td>
<td>189</td>
<td>213</td>
<td>237</td>
<td>261</td>
<td>285</td>
<td>309</td>
<td>333</td>
<td>357</td>
</tr>
<tr>
<td>L4</td>
<td>16.5</td>
<td>17</td>
<td>17.5</td>
<td>12</td>
<td>12.5</td>
<td>13</td>
<td>13.5</td>
<td>14</td>
<td>14.5</td>
</tr>
<tr>
<td>L5</td>
<td>151</td>
<td>175</td>
<td>199</td>
<td>223</td>
<td>247</td>
<td>271</td>
<td>295</td>
<td>319</td>
<td>343</td>
</tr>
</tbody>
</table>
EX510 Gateway-type Serial Transmission System
Base Mounted Manifold/Integrated Type
SY3000/5000/7000 Series

How to Order Manifold

SS5Y 3 - 42SA - 03 - 01

Manifold series
3 SY3000
5 SY5000
7 SY7000

SI unit
N NPN output (+COM.)
Q PNP output (–COM.)

Thread type
N Nil
F Rc
G NPT
T NPTF

A, B port size

01 1/8 SY3000
02 1/4 SY5000/7000

One-touch fitting (Metric size)

C4 One-touch fitting for ø4
C6 One-touch fitting for ø6
C8 One-touch fitting for ø8
C10 One-touch fitting for ø10

One-touch fitting (Inch size)

N3 One-touch fitting for ø5/32"
N7 One-touch fitting for ø1/4"
N9 One-touch fitting for ø5/16"
N11 One-touch fitting for ø3/8"

How to Order Manifold Assembly (Example)

Example

Double solenoid (24 VDC)
SY3240-5LOU (2 sets)

Single solenoid (24 VDC)
SY3140-5LOU (4 sets)

Manifold base (6 stations)
SS5Y3-42SA-06-C6

Stations... 3

Symbol Stations Note
03 3 stations Double wiring Note 1)
08 8 stations
03 3 stations (Compatible with 16 solenoid valves)
16 16 stations

Note 1) Double wiring: Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

Si unit part no.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Si unit specifications</th>
<th>Si unit part no.</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>NPN output (+COM.)</td>
<td>EX510-S001</td>
<td>P.897</td>
</tr>
<tr>
<td>Q</td>
<td>PNP output (–COM.)</td>
<td>EX510-S101</td>
<td></td>
</tr>
</tbody>
</table>

How to Order Valves

**SY 3 1 40 - 5 LO Z - -**

**Series**
- 3 SY3000
- 5 SY5000
- 7 SY7000

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

**Pilot specifications**
- Nil Internal pilot
- R External pilot

**Coil specifications**
- Nil Standard
- T With power saving circuit

**Rated voltage:** 24 VDC

**CE-compliant**
- Nil —
- Q CE-compliant

**Made to Order**
- Nil —
- X90 Main valve fluororubber (Refer to page 624.)

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

**Light/Surge voltage suppressor**
- Z With light/surge voltage suppressor
- U Without light/surge voltage suppressor (non-polar type)

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

Note 2) When the SI unit is the PNP output (-COM.), only the "U" type is available.

---

Note) When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the manifold are included.
**Dimensions**

**SY3000: SS5Y3-42SA**

<table>
<thead>
<tr>
<th>Stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>72.5</td>
<td>85</td>
<td>97.5</td>
<td>110</td>
<td>122.5</td>
<td>135</td>
<td>147.5</td>
<td>160</td>
<td>172.5</td>
<td>185</td>
<td>197.5</td>
<td>210</td>
<td>222.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>64.5</td>
<td>77</td>
<td>89.5</td>
<td>102</td>
<td>114.5</td>
<td>127</td>
<td>139.5</td>
<td>152</td>
<td>164.5</td>
<td>177</td>
<td>189.5</td>
<td>202</td>
<td>214.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SY3000/5000/7000 Series**

**For 1/8**

One-touch fitting

(A, B port) Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"

Dimensions

SY3000: SS5Y3-42SA

(Pitch) P=12.5

4 x ø4.5 (For mounting)

M5 x 0.8

(Pilot EXH port)

<In the case of external pilot type solenoid valve>

Manual override

Output no.

1/8

(P, EA, EB port)

With interface regulator (with gauge)

Connector lock pin

(Take out when wiring the connector assembly.)

Light/surge voltage suppressor

Connector lock pin

SI unit

(Light/surge voltage suppressor)

(Station n)  (Station 1)

(Pitch) P=12.5

4 x ø4.5 (Pitch) P=12.5

15

4

18.5

8

55.8

32.5

4

8

4 x ø4.5

(For mounting)

1/8

(P, EA, EB port)

With interface regulator (with gauge)
Base Mounted Manifold SY3000/5000/7000 Series Type 42SA

SY5000: SS5Y5-42SA

For ¼

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

(Pitch) P=17.5
18
7.2
17.2
27.3
20.2

Manual override
L1
L2

(Pitch) P=17.5
18
7.2
17.2
27.3
20.2

Output no.

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

Connector lock pin
(Take out when wiring the connector assembly.)

With interface regulator (with gauge)

P=17.5
L1
L2

4 x ø4.5
(For mounting)

M5 x 0.8
(External pilot port)

M5 x 0.8
(P, EA, EB port)

<In the case of external pilot type solenoid valve>

Output no.

38.2
38.9
(4.9)
20.2

4 x ø4.5
(For mounting)

Station dimensions

<table>
<thead>
<tr>
<th>Stations n</th>
<th>3 stations</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16 stations</th>
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<tbody>
<tr>
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<td>119.5</td>
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<td>224.5</td>
<td>242</td>
<td>259.5</td>
<td>277</td>
<td>294.5</td>
</tr>
</tbody>
</table>
Dimensions

SY7000: SS5Y7-42SA [Stations-02] C10, N11

- One-touch fitting (A, B port)
- Applicable tubing O.D.: ø10, ø3/8"
- Manual override
- Output no.
- (Light/surge voltage suppressor)
- Connector lock pin
- SI unit

For 1/4
- (Pitch) P=20.5
- (A, B port)
- 4 x ø4.5 (For mounting)
- External pilot port
- In the case of external pilot type solenoid valve

With interface regulator (with gauge)

<table>
<thead>
<tr>
<th>Stations n</th>
<th>3 stations</th>
<th>4 stations</th>
<th>5 stations</th>
<th>6 stations</th>
<th>7 stations</th>
<th>8 stations</th>
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<th>10 stations</th>
<th>11 stations</th>
<th>12 stations</th>
<th>13 stations</th>
<th>14 stations</th>
<th>15 stations</th>
<th>16 stations</th>
</tr>
</thead>
<tbody>
<tr>
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<td>88</td>
<td>108.5</td>
<td>129</td>
<td>149.5</td>
<td>170</td>
<td>190.5</td>
<td>211</td>
<td>231.5</td>
<td>252</td>
<td>272.5</td>
<td>293</td>
<td>313.5</td>
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</tr>
<tr>
<td>L2</td>
<td>76</td>
<td>96.5</td>
<td>117</td>
<td>137.5</td>
<td>158</td>
<td>178.5</td>
<td>199</td>
<td>219.5</td>
<td>240</td>
<td>260.5</td>
<td>281</td>
<td>301.5</td>
<td>322</td>
<td>342.5</td>
</tr>
</tbody>
</table>
How to Order Manifold

**SS5Y9 – 43SA**

**CE-compliant**
- Nil
- Q CE-compliant

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>3 stations</td>
<td>Double wiring (Note 1)</td>
</tr>
<tr>
<td>!</td>
<td>!</td>
<td>Specified layout (Note 2) (Compatible with 16 solenoid valves)</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>3 stations</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td></td>
</tr>
</tbody>
</table>

* The number of the blanking plate assembly is also included.

Note 1) Double wiring: Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

**How to Order Manifold Assembly (Order Example)**

**Example**

- Double solenoid (24 VDC)
  - SY9240-SLOU (2 sets)
- Single solenoid (24 VDC)
  - SY9140-SLOU (3 sets)
- Cylinder port size
  - C12: With One-touch fitting for ø12

**Manifold base (5 stations)**
- SS5Y9-43SA-05B-C12

**SUP/EXH block assembly specifications**

<table>
<thead>
<tr>
<th>Nil</th>
<th>Standard/Internal pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>External pilot</td>
</tr>
<tr>
<td>S</td>
<td>Internal pilot, Built-in silencer</td>
</tr>
<tr>
<td>RS</td>
<td>External pilot, Built-in silencer</td>
</tr>
</tbody>
</table>

**Thread type**

<table>
<thead>
<tr>
<th>Nil</th>
<th>Rc</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Direct mounting</td>
</tr>
<tr>
<td>D*</td>
<td>When a longer DIN rail is desired than the specified stations, specify the station number to be required into * mark</td>
</tr>
<tr>
<td>N</td>
<td>NPT</td>
</tr>
<tr>
<td>T</td>
<td>NPTF</td>
</tr>
</tbody>
</table>

**One-touch fitting (Metric size)**

| C8  | One-touch fitting for ø8 |
| C10 | One-touch fitting for ø10 |
| C12 | One-touch fitting for ø12 |
| M   | Mixed |

**One-touch fitting (Inch size)**

| N9  | One-touch fitting for ø5/16 |
| N11 | One-touch fitting for ø3/8 |
| M   | Mixed |

**P, R port outlets**

| U   | U side    | 3 to 10 stations |
| D   | D side    | 3 to 16 stations |
| B   | Both sides | 3 to 16 stations |

**SI unit part no.**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>SI unit specifications</th>
<th>SI unit part no.</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>NPN output (+COM)</td>
<td>EX510-S001</td>
<td>P.897</td>
</tr>
<tr>
<td>N</td>
<td>PNP output (-COM)</td>
<td>EX510-S101</td>
<td></td>
</tr>
</tbody>
</table>

How to Order Valves

SY9 1 40 - 5 LO Z - -

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

Pilot specifications
Nil Internal pilot
R External pilot

Coil specifications
Nil Standard
T With power saving circuit

Rated voltage: 24 VDC

CE-compliant
Nil
Q CE-compliant

Made to Order
Nil
X90 Main valve fluororubber (Refer to page 624.)

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

Light/Surge voltage suppressor
Z With light/surge voltage suppressor
U Without light/surge voltage suppressor (non-polar type)

Note 1) Power saving circuit is only available in the "Z" type.
Note 2) When the SI unit is the PNP output (-COM.), only the "U" type is available.

Nil

When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the manifold are included.
Dimensions

SY9000: SS5Y9-43SA - Stations U - (-D)

With External Pilot Specifications

- When P, R port outlets are indicated on the D side, the P, R ports on the opposite side are plugged.
- Air discharge port on the built-in silencer type and the external pilot’s extracting position are in the U side.

<table>
<thead>
<tr>
<th>Stations</th>
<th>3 stations</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>173</td>
<td>198</td>
<td>223</td>
<td>248</td>
<td>260.5</td>
<td>285.5</td>
<td>310.5</td>
<td>335.5</td>
</tr>
<tr>
<td>L2</td>
<td>162.5</td>
<td>187.5</td>
<td>212.5</td>
<td>237.5</td>
<td>250</td>
<td>275</td>
<td>300</td>
<td>325</td>
</tr>
<tr>
<td>L3</td>
<td>141</td>
<td>165</td>
<td>189</td>
<td>213</td>
<td>237</td>
<td>261</td>
<td>285</td>
<td>309</td>
</tr>
<tr>
<td>L4</td>
<td>16</td>
<td>16.5</td>
<td>17</td>
<td>17.5</td>
<td>12</td>
<td>12.5</td>
<td>13</td>
<td>13.5</td>
</tr>
<tr>
<td>L5</td>
<td>127</td>
<td>151</td>
<td>175</td>
<td>199</td>
<td>223</td>
<td>247</td>
<td>271</td>
<td>295</td>
</tr>
</tbody>
</table>
Dimensions

**SY9000 Series**

**SY9000: SS5Y9-43SA**

*With External Pilot Specifications*

- When P, R port outlets are indicated on the D side, the P, R ports on the opposite side are plugged.
- Air discharge port on the built-in silencer type and the external pilot's extracting position are in the D side.

### Dimensions Table

<table>
<thead>
<tr>
<th>Stations</th>
<th>3 stations</th>
<th>4 stations</th>
<th>5 stations</th>
<th>6 stations</th>
<th>7 stations</th>
<th>8 stations</th>
<th>9 stations</th>
<th>10 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>173</td>
<td>198</td>
<td>223</td>
<td>248</td>
<td>260.5</td>
<td>285.5</td>
<td>310.5</td>
<td>335.5</td>
</tr>
<tr>
<td>L2</td>
<td>162.5</td>
<td>187.5</td>
<td>212.5</td>
<td>237.5</td>
<td>250</td>
<td>275</td>
<td>300</td>
<td>325</td>
</tr>
<tr>
<td>L3</td>
<td>141</td>
<td>165</td>
<td>189</td>
<td>213</td>
<td>237</td>
<td>261</td>
<td>285</td>
<td>309</td>
</tr>
<tr>
<td>L4</td>
<td>16</td>
<td>16.5</td>
<td>17</td>
<td>17.5</td>
<td>12</td>
<td>12.5</td>
<td>13</td>
<td>13.5</td>
</tr>
<tr>
<td>L5</td>
<td>127</td>
<td>151</td>
<td>175</td>
<td>199</td>
<td>223</td>
<td>247</td>
<td>271</td>
<td>295</td>
</tr>
</tbody>
</table>

(SO)
With External Pilot Specifications

- When P, R ports are indicated on the B side, the P, R ports on both sides are in the open state.
- Air discharge port on the built-in silencer type and the external pilot’s extracting position are in the B side (both sides).

One-touch fitting

Applicable tubing O.D.: ø6, ø1/4"

- [4 (A), 2 (B) port]
- [1 (P), 3/5 (R) port]

Connector lock pin
(Take out when wiring the connector assembly.)
**Manifold Option**

**Type 41, 42, 43, 42SA, 43SA**
Blanking plate assembly

**Type 41P, 42P, 43P**
Blanking plate assembly

**Gasket assembly part no.**

<table>
<thead>
<tr>
<th>Series</th>
<th>Assembly part no.</th>
<th>Gasket assembly part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-39-2A(-Q)</td>
<td>SY3000-GS-2</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-39-16A(-Q)</td>
<td>SY5000-GS-2(-Q)</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-39-16A(-Q)</td>
<td>SY7000-GS-2(-Q)</td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-39-2A(-Q)</td>
<td>SY9000-GS-2</td>
</tr>
</tbody>
</table>

Note: The gasket assembly includes 10 sets of mounting screws and a gasket.

**Individual SUP spacer assembly**

**Individual EXH spacer assembly**

**Individual SUP spacer assembly**
+ Individual EXH spacer assembly
(Double spacer)

<table>
<thead>
<tr>
<th>Series</th>
<th>Assembly part no.</th>
<th>Port size</th>
<th>Application manifold types</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-38-2A(-Q)</td>
<td>M5 x 0.8</td>
<td>41 41P 42 42P 45 45-A 45-NA 45*</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-38-16A(-Q)</td>
<td>1/4</td>
<td></td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-38-16A(-Q)</td>
<td>1/4</td>
<td></td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-38-2A(-Q)</td>
<td>1/4</td>
<td></td>
</tr>
</tbody>
</table>

Caution

* Thread type

Mounting screw tightening torques

- M2: 0.16 N·m
- M3: 0.8 N·m
- M4: 1.4 N·m

Warning

When mounting a valve or spacer on the manifold base or sub-plate, etc., those mounting directions are determined. If mounted in the wrong direction, the equipment to be connected may cause malfunction. Refer to external dimensions, and then mount it.

**Note**

- In case of 41P, 42P and 43P, for protection of the wiring unit section from drainage, piping at the EA port should be arranged so that it will not be directly exposed to exhaust from the valve. However, as the CE-compliant products (-Q) must be mounted in the specified direction, the port directions cannot be changed. (An assembly is shipped under the condition shown in the figure.)
- For the SY9000, it can only be used on the end plate side.

1. Mounting screw tightening torques
2. Caution
3. Warning

**Note**

- The port on a spacer can be directed to the pilot valve side or end plate side. However, as the CE-compliant products (-Q) must be mounted in the specified direction, the port directions cannot be changed. For mounting the port to the pilot valve side, please make sure to connect the ports to protect the pilot valve wiring section from drainage.
- The individual SUP spacer and EXH spacer can be mounted either on the upper side or lower side. (The above illustration shows the condition when the product is shipped out from a factory.)
**Manifold Option**

- **Connector assembly**
  For single solenoid (SY3000-37-81A-□-N)

  ![Connector assembly diagram]

  - **SS5Y3-42SA**
    - SY3000-37-81A-3-N: Single: For 1 to 8 stations
    - SY3000-37-81A-3-6: Double/3 position: For 1 to 4 stations
    - SY3000-37-81A-2-N: Single: For 5 to 8 stations
    - SY3000-37-81A-2-4: Double/3 position: For 5 to 8 stations

  - **SS5Y5-42SA**
    - SY3000-37-81A-3-N: Single: For 1 to 8 stations
    - SY3000-37-81A-3-6: Double/3 position: For 1 to 8 stations

  - **SS5Y7-42SA**
    - SY3000-37-81A-3-N: Single: For 1 to 4 stations
    - SY3000-37-81A-3-6: Double/3 position: For 1 to 4 stations
    - SY3000-37-81A-4-N: Single: For 5 to 8 stations
    - SY3000-37-81A-4-7: Double/3 position: For 5 to 8 stations

  **Connector assembly order no. (Can be used for the manifold without a specified layout (8 stations or less))**

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Connector mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y3-42SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-2-N</td>
<td>Single: For 5 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-2-4</td>
<td>Double/3 position: For 5 to 8 stations</td>
</tr>
<tr>
<td>SS5Y5-42SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 8 stations</td>
</tr>
<tr>
<td>SS5Y7-42SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-N</td>
<td>Single: For 5 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-7</td>
<td>Double/3 position: For 5 to 8 stations</td>
</tr>
</tbody>
</table>

  **Note:** The above is for station addition or maintenance. When ordering a connector assembly separately, a number will not be printed on the connector.

- **Connector assembly**
  For double solenoid (SY3000-37-81A-□□)

  ![Connector assembly diagram]

- **Housing (8 pcs./set)**
  SY3000-44-3A

  ![Housing diagram]

  **Connector assembly order no. (Can be used for the manifold with a specified layout)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Connector mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y3-42SA</td>
<td>SY3000-37-80A-3</td>
<td>For A side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-6</td>
<td>For B side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-4</td>
<td>For A side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-7</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td>SS5Y5-42SA</td>
<td>SY3000-37-80A-3</td>
<td>For A side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-6</td>
<td>For B side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-9</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-7</td>
<td>For A side: For 9 to 16 stations</td>
</tr>
<tr>
<td>SS5Y7-42SA</td>
<td>SY3000-37-80A-4</td>
<td>For A side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-7</td>
<td>For B side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-8</td>
<td>For A side: For 9 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-11</td>
<td>For B side: For 9 to 16 stations</td>
</tr>
<tr>
<td>SS5Y9-43SA</td>
<td>SY3000-37-80A-6</td>
<td>For A side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-11</td>
<td>For B side: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-9</td>
<td>For A side: For 9 to 12 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-14</td>
<td>For B side: For 9 to 12 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-13</td>
<td>For A side: For 13 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-18</td>
<td>For B side: For 13 to 16 stations</td>
</tr>
</tbody>
</table>

  **Note:**
  1. The above is for station addition or maintenance. When ordering a connector assembly separately, a number will not be printed on the connector.
  2. After inserting the connector assembly into the housing, be sure to confirm that the lead wire will not come off by lightly pulling the wire. Furthermore, do not reuse the lead wire after it has been inserted and removed.
  3. Wiring is set longer than the actual wiring distance.
### Manifold Option

**SUP blocking disk (For SY9000)**

By installing a SUP blocking disk in the pressure supply passage of a manifold base, it is possible to supply two or more different high and low pressures to one manifold.

**EXH blocking disk (For SY9000)**

By installing an EXH blocking disk in the exhaust passage of a manifold base, it is possible to divide the valve’s exhaust so that it does not affect another valve. (Two blocking disks are needed to divide both exhausts.)

**Label for block disk (For SY9000)**

The labels shown below are used on manifold stations containing SUP/EXH block disk(s) to show their location. (3 pcs. each)

**VZ3000-123-1A**

Label for SUP block disk  Label for EXH block disk  Label for SUP/EXH block disk

Note: When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

**Silencer with One-touch fitting (For SY9000)**

The silencer plugs directly into the One-touch fittings of the manifold R (exhaust) port.

**DIN Rail Dimensions/Weight for SY9000**

**Cable assembly (For 41P, 42P, 43P)**

AXT100-FC26-1

<table>
<thead>
<tr>
<th>Cable length (L)</th>
<th>Assembly part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5m</td>
<td>AXT100-FC26-1</td>
<td></td>
</tr>
<tr>
<td>3m</td>
<td>AXT100-FC26-2</td>
<td></td>
</tr>
<tr>
<td>5m</td>
<td>AXT100-FC26-3</td>
<td></td>
</tr>
</tbody>
</table>

* For other commercial connectors, use a 26 pins with strain relief conforming to MIL-C-83503.

**Connector manufacturers’ example**

- HIROSE ELECTRIC CO., LTD.
- Japan Aviation Electronics Industry, Limited
- 3M Japan Limited
- J.S.T. Mfg. Co., Ltd.
- Fujitsu Limited

**Plug**

These are inserted in unused cylinder ports and SUP, EXH ports. Purchasing order is available in units of 10 pieces.
Manifold Option

- How to Order Interface Regulator

### SY3000 series

**ARBY3000-05-P-2**

- Pressure gauge connection port
  - **05** Pressure gauge (G15-10-1) for odd number stations
  - **06** Pressure gauge (G15-10-1) for even number stations
- **M1** Plug (M-SP)

**Regulating port**
- **P** P port
  - **A1** A port (P controlled type, A port regulation)
  - **B1** B port (P controlled type, B port regulation)

*Note* In the case of the ARBY3000 series with a pressure gauge when mounting on the manifold, use caution that the part numbers are different between the odd no. stations and the even no. stations to avoid gauges from interfering from each others.

**ARBY3000-05-P-2** (For odd number stations)

**ARBY3000-06-P-2** (For even number stations)

### SY5000 series

**ARBY5000-00-P-2**

- Pressure gauge connection port
  - **00** Pressure gauge (G15-10-1)
- **M1** Plug (M-SP)

**Regulating port**
- **P** P port
  - **A1** A port (P controlled type, A port regulation)
  - **B1** B port (P controlled type, B port regulation)

### SY7000 series

**ARBY7000-00-P-2**

- Pressure gauge connection port
  - **00** Pressure gauge (G15-10-1)
- **M1** Plug (M-SP)

**Regulating port**
- **P** P port
  - **A1** A port (P controlled type, A port regulation)
  - **B1** B port (P controlled type, B port regulation)

### Accessory

<table>
<thead>
<tr>
<th>Series</th>
<th>Screw head combination screw</th>
<th>Gasket</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARBY3000</td>
<td>M2 x 36 <strong>(M2 x 36)</strong></td>
<td>SX3000-57-4</td>
</tr>
<tr>
<td>ARBY5000</td>
<td>M3 x 48 <strong>(M3 x 48)</strong></td>
<td>SX5000-57-6</td>
</tr>
<tr>
<td>ARBY7000</td>
<td>M4 x 58 <strong>(M4 x 58)</strong></td>
<td>SX7000-57-5</td>
</tr>
</tbody>
</table>

*Note* ARBY is not CE compliant.

### Caution

- **Mounting screw tightening torques**
  - **M2:** 0.16 N·m
  - **M3:** 0.8 N·m
  - **M4:** 1.4 N·m
Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manifold block assembly</td>
<td>SY9000-50-2A-C8</td>
<td>C8: A, B port with One-touch fitting for ø8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-C10</td>
<td>C10: A, B port with One-touch fitting for ø10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-C12</td>
<td>C12: A, B port with One-touch fitting for ø12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-N9</td>
<td>N9: A, B port with One-touch fitting for ø9/16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-N11</td>
<td>N11: A, B port with One-touch fitting for ø11/16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-02+</td>
<td>02: A, B port 1/4&quot; (+ thread type)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-03+</td>
<td>03: A, B port 5/16&quot; (+ thread type)</td>
</tr>
<tr>
<td>4</td>
<td>Round head combination screw</td>
<td>SY9000-18-2</td>
<td>M3 x 42, Matt nickel plated</td>
</tr>
<tr>
<td>5</td>
<td>Gasket</td>
<td>SY9000-1-12</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Tension bolt</td>
<td>SY9000-23-1</td>
<td>at the end of part number corresponds with the number of manifold stations. Specify the same number as the number of stations.</td>
</tr>
<tr>
<td>7</td>
<td>Hexagon nut</td>
<td>SY9000-25-1</td>
<td>Refer to page 532.</td>
</tr>
<tr>
<td>8</td>
<td>DIN rail</td>
<td>VZ1000-11-4</td>
<td>Refer to page 515.</td>
</tr>
<tr>
<td>9</td>
<td>Connecting assembly</td>
<td>SY9000-36-1A</td>
<td>Refer to page 515.</td>
</tr>
<tr>
<td>10</td>
<td>Lead wire cover</td>
<td>SY9000-41-1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Clamp sub assembly</td>
<td>SY9000-30-1A</td>
<td>Included only with the DIN rail mounting type.</td>
</tr>
</tbody>
</table>

2) SUP/EXH block assembly no. (D side mounting)

- Direct mount type: SY9000-70-A-
- DIN rail mount type: SY9000-72-A-

3) SUP/EXH block assembly no. (U side mounting)

- Direct mount type: SY9000-71-A-
- DIN rail mount type: SY9000-73-A-

 Specifications

1) Internal pilot type
2) External pilot type
3) Internal pilot / Built-in silencer type
4) Internal pilot / Built-in silencer type
5) External pilot / Built-in silencer type

Caution
For type 43P (Flat cable manifold) of the SY9000 series, the lead wire cover is attached for bundling the lead wires for each solenoid. In case such as adding double solenoid valve, etc., order separately lead wire cover as well.

How to assemble lead wire cover
Lead wire cover is only usable for double solenoid valves. Lead wire is inserted into the lead wire cover as magnifying figure, then push it until it touches the valve body.

DIN rail holding screw
* There is not the case for direct mount type.
**How to Increase Manifold Bases (SY9000 series only)**

Manifold case can be added at any location.

When a type 43 manifold base is added, tension bolts as well as manifold block assembly will be required. Order the tension bolt suitable for the stations after a station was increased (decreased), since the length of a tension bolt differs by the number of stations. (For changing the number of stations for a type 43P manifold, wiring unit for the stations and lead assembly will be required.)

1. Loosen the tension bolts connecting the manifold base, and pull out both of 2 tension bolts.
   (When equipped with a DIN rail, loosen one DIN rail holding screw on either U side or D side.)
2. Separate the blocks at the location where station expansion is desired.
3. Mount additional manifold block assembly.
4. Press block-to-block so that there’s no gap. After connection, insert a tension bold for desired stations and then tighten it.
   **Caution** (Tightening torque: 2.9 N-m)
   (When equipped with a DIN rail, be sure to tighten the DIN rail holding screws after tightening the tension bolts. Tightening torque: 1.4 N-m)

**Caution**

1. Be sure to shut off the power and air supplies before disassembly. Furthermore, since air may remain inside the actuator, piping and manifold, confirm that the air is completely exhausted before performing any work.
2. When disassembly and assembly are performed, air leakage may result if connections between blocks and tightening of the end block’s holding screw, is inadequate.
3. By adding wiring unit assembly to type 43 manifold, it can be changed to type 43P manifold, too.

**How to Replace A, B Port Fitting Assembly**

By replacing manifold block fitting assemblies or the threaded port block assembly of a type 43(P) manifold, the port size of the A and B ports can be changed. To replace these parts, remove the clip with a flat head screwdriver after the valve has been removed. Insert the fitting assemblies or threaded port block assembly, and then reinsert the clip so that it does not protrude from the manifold block.

---

**Fitting Assembly Part No.**

<table>
<thead>
<tr>
<th>Port size</th>
<th>No.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting assembly for ø8</td>
<td>VVQ4000-50B-C8</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting assembly for ø10</td>
<td>VVQ4000-50B-C10</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting assembly for ø12</td>
<td>VVQ4000-50B-C12</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø1/8''</td>
<td>VVQ4000-50B-N9</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø1/4''</td>
<td>VVQ4000-50B-N11</td>
<td></td>
</tr>
<tr>
<td>1/4 threaded type port block assembly</td>
<td>SY9000-58A-02+</td>
<td>→ at the end of part number denotes the thread type.</td>
</tr>
<tr>
<td>3/8 threaded type port block assembly</td>
<td>SY9000-58A-03+</td>
<td>→ at the end of part number denotes the thread type.</td>
</tr>
<tr>
<td>Plug assembly</td>
<td>SY9000-62-1A</td>
<td></td>
</tr>
</tbody>
</table>

Note 1) Be careful to avoid damage or contamination of O-rings, as this can cause air leakage.
Note 2) Although replacing One-touch fittings of P, R port is also possible, use caution to the cases, etc. in which solenoid valves are often used at the same time by using the smaller sized fittings than the standard size (ø12). Because there may not be able to supply or exhaust air sufficiently in comparison with the valve performances. Besides, although fittings used for A, B port are the same, it is not possible to use the threaded type port block assembly.
Note 3) The basic order unit of the One-touch fitting is 10 pcs.
How to Order Manifold

**SY3000/5000 Series**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting position</th>
<th>Applicable no. of stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
<td>2 to 10 stations</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
<td>2 to 20 stations</td>
</tr>
<tr>
<td>B</td>
<td>(Both sides)</td>
<td>20 stations</td>
</tr>
<tr>
<td>M</td>
<td>Special specifications</td>
<td></td>
</tr>
</tbody>
</table>

**SUP/EXH block assembly mounting position**

- **U**: U side
- **D**: D side
- **B**: (Both sides)
- **M**: Special specifications

*For special specifications, indicate separately by the manifold specification sheet.

**How to Order Manifold Assembly (Example)**

Example

- **SSSYP3-45-05D-C6**: Manifold base (5 stations)
- **SX3000-75-1A**: Blanking plate assembly
- **SY3140-5G**: Single solenoid (24 VDC)
- **SY3240-5G**: Double solenoid (24 VDC)

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

**Option**

- **CE-compliant**
  - **Nil**: Non-compliant
  - **Q**: CE-compliant

Note: AC-type models that are CE-compliant have DIN terminals only.

**A, B port size**

- **SY3000**
  - **C4**: One-touch fitting for ø4
  - **C6**: One-touch fitting for ø6
  - **M**: Mixed

- **SY5000**
  - **C4**: One-touch fitting for ø4
  - **C6**: One-touch fitting for ø6
  - **M**: Mixed

*In the case of mixed specifications (M), indicate separately on the manifold specification sheet.

*Refer to pages 616 to 620 for external pilot specifications and built-in silencer.*

536
**Base Mounted SY3000/5000 Series**

**How to Order Valve**

**Series**
- SY3000
- SY5000

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

**Coil specifications**

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

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

**Rated voltage**

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

**AC (Hz) (%)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100 VAC</td>
</tr>
<tr>
<td>2</td>
<td>200 VAC</td>
</tr>
<tr>
<td>3</td>
<td>110 VAC [115 VAC]</td>
</tr>
<tr>
<td>4</td>
<td>220 VAC [230 VAC]</td>
</tr>
</tbody>
</table>

- DC specifications of type D, Y, DO and YO are only available with 12 and 24 VDC.
- For type W□, DC voltage is only available.
- D and DO only available for SY5000.

**Light/Surge voltage suppressor**

<table>
<thead>
<tr>
<th>Type</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 indicator light and surge voltage suppressor</td>
</tr>
<tr>
<td>R</td>
<td>With surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>U</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

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

**Manual override**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Non-locking push type</td>
</tr>
<tr>
<td>D</td>
<td>Push-turn locking slotted type</td>
</tr>
<tr>
<td>E</td>
<td>Push-turn locking lever type</td>
</tr>
</tbody>
</table>

**Made to Order**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>X90 Main valve fluororubber (Refer to page 624.)</td>
</tr>
</tbody>
</table>

**Electrical entry**

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

**DIN terminal**

<table>
<thead>
<tr>
<th>SY3000</th>
<th>SY5000</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note 1)** The DIN terminal of the SY3000 series cannot be mounted on a standard manifold. For details, refer to page 639.

**Note 2)** Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 642.

- LN, MN type: with 2 sockets.
- “Y” type is a DIN terminal conforming to EN-175301-803C (former DIN43650C).
- Refer to page 638 for details.
- Refer to page 641 for connector cable of M8 connector.
- Refer to page 623 for details.
- Refer to page 638 for the lead wire length of L and M plug connectors.
- Refer to page 639 for the connector assembly with cover for L and M plug connectors.

- When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the integrated manifold are supplied with the solenoid valve, but the stacking type gaskets are not included. When the stacking type gaskets are required, order them separately.
## Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y3-45(-Q)</th>
<th>SS5Y5-45(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY3□40</td>
<td>SY5□40</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Stacking type/DIN rail mounted</td>
<td></td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td>Common SUP, Common EXH</td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations</td>
<td></td>
</tr>
<tr>
<td>A, B port Porting specifications</td>
<td>Location</td>
<td>Base</td>
</tr>
<tr>
<td>Direction</td>
<td>Side</td>
<td></td>
</tr>
<tr>
<td>P, R port</td>
<td>C8 (One-touch fitting for ø8)</td>
<td>C10 (One-touch fitting for ø10)</td>
</tr>
<tr>
<td>A, B port</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td>Port size</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
<tr>
<td>Manifold base weight</td>
<td>W (g), n: Stations</td>
<td></td>
</tr>
<tr>
<td>2 to 10 stations:</td>
<td>W = 22n + 118</td>
<td></td>
</tr>
<tr>
<td>11 to 20 stations:</td>
<td>W = 22n + 140</td>
<td></td>
</tr>
</tbody>
</table>

Note 1) For more than 11 stations, supply pressure to P port on both sides and exhaust from R port on both sides.

## Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.5,3 (P,EA,EB)</td>
<td>4,2 (A,B)</td>
</tr>
<tr>
<td></td>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
<tr>
<td>SS5Y3-45</td>
<td>C8</td>
<td>C6</td>
</tr>
<tr>
<td>SS5Y5-45</td>
<td>C10</td>
<td>C8</td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.
**Manifold Option**

- **Individual SUP spacer assembly**
- **Individual EXH spacer assembly**

**Blanking plate assembly**

**Dimensions/DIN rail**

**SUP blocking disk**

By installing a SUP blocking disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.

**EXH blocking disk**

By installing an EXH blocking disk in the exhaust passage of a manifold valve, it is possible to divide the valve’s exhaust so that it does not affect another valve. (Two blocking disks are needed to divide both exhausts.)

**Label for block disk**

The labels shown below are used on manifold stations containing SUP/EXH blocking disk(s) to show their location. (3 pcs. each)

**Silencer with One-touch fitting**

The silencer plugs directly into the One-touch fittings of the manifold.

**Plug**

These are inserted in unused cylinder ports and SUP, EXH ports. Purchasing order is available in units of 10 pieces.

---

**Notes**

1. The SUP port may be either on the lead wire side or on the end plate side. However, as the CE-compliant products (-Q) must be mounted in the specified direction, the port directions cannot be changed. (An assembly is shipped under the condition shown in the figure.)

2. When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

---

### SUP/EXH blocking disk

<table>
<thead>
<tr>
<th>Series</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SX3000-77-1A</td>
</tr>
<tr>
<td>SY5000</td>
<td>SX5000-77-1A</td>
</tr>
</tbody>
</table>

### SUP blocking disk

<table>
<thead>
<tr>
<th>Series</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY5000</td>
</tr>
</tbody>
</table>

### EXH blocking disk

<table>
<thead>
<tr>
<th>Series</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SX3000-77-1A</td>
</tr>
<tr>
<td>SY5000</td>
<td>SX5000-77-1A</td>
</tr>
</tbody>
</table>

---

### Label for block disk

<table>
<thead>
<tr>
<th>Series</th>
<th>Model</th>
<th>Effective area mm²</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>AN15-C08</td>
<td>20</td>
<td>ø13</td>
<td>20</td>
<td>45</td>
</tr>
<tr>
<td>SY5000</td>
<td>AN20-C10</td>
<td>30</td>
<td>ø16.5</td>
<td>30.5</td>
<td>57.5</td>
</tr>
</tbody>
</table>

---

### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Size (ø)</th>
<th>L</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>KQ2P-04</td>
<td>16</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>KQ2P-06</td>
<td>18</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>KQ2P-08</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>KQ2P-10</td>
<td>22</td>
<td>43</td>
<td>12</td>
</tr>
<tr>
<td>KQ2P-09</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
</tbody>
</table>

---

### Purchasing order

Purchasing order is available in units of 10 pieces.

---

### Notes

1. The EXH port may be either on the lead wire side or on the end plate side. However, as the CE-compliant products (-Q) must be mounted in the specified direction, the port directions cannot be changed. (An assembly is shipped under the condition shown in the figure.)

2. The EXH port may be either on the lead wire side or on the end plate side. However, as the CE-compliant products (-Q) must be mounted in the specified direction, the port directions cannot be changed. (An assembly is shipped under the condition shown in the figure.)

---

### DIN rail dimensions

- **VZ1000**: 11 - 1 - [Diagram]

#### Refer to L dimensions

- Fill in [Diagram] with an appropriate no. listed on the table of DIN rail dimensions shown below.

<table>
<thead>
<tr>
<th>No.</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>L Dimension</td>
<td>98</td>
<td>112.5</td>
<td>123</td>
<td>135.5</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
<td>223</td>
</tr>
<tr>
<td>No.</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>L Dimension</td>
<td>230.5</td>
<td>248</td>
<td>260.5</td>
<td>273</td>
<td>285.5</td>
<td>298</td>
<td>310.5</td>
<td>323</td>
<td>335.5</td>
<td>348</td>
<td>360.5</td>
</tr>
<tr>
<td>No.</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>L Dimension</td>
<td>373</td>
<td>385.5</td>
<td>398</td>
<td>410.5</td>
<td>423</td>
<td>435.5</td>
<td>448</td>
<td>460.5</td>
<td>473</td>
<td>485.5</td>
<td>498</td>
</tr>
<tr>
<td>No.</td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>36</td>
<td>37</td>
<td>38</td>
<td>39</td>
<td>40</td>
<td>41</td>
<td>42</td>
<td>43</td>
</tr>
<tr>
<td>L Dimension</td>
<td>510.5</td>
<td>523</td>
<td>535.5</td>
<td>548</td>
<td>560.5</td>
<td>573</td>
<td>585.5</td>
<td>598</td>
<td>610.5</td>
<td>623</td>
<td>635.5</td>
</tr>
<tr>
<td>No.</td>
<td>44</td>
<td>45</td>
<td>46</td>
<td>47</td>
<td>48</td>
<td>49</td>
<td>50</td>
<td>51</td>
<td>52</td>
<td>53</td>
<td>54</td>
</tr>
<tr>
<td>L Dimension</td>
<td>648</td>
<td>660.5</td>
<td>673</td>
<td>685.5</td>
<td>698</td>
<td>710.5</td>
<td>723</td>
<td>735.5</td>
<td>748</td>
<td>760.5</td>
<td>773</td>
</tr>
<tr>
<td>No.</td>
<td>55</td>
<td>56</td>
<td>57</td>
<td>58</td>
<td>59</td>
<td>60</td>
<td>61</td>
<td>62</td>
<td>63</td>
<td>64</td>
<td>65</td>
</tr>
<tr>
<td>L Dimension</td>
<td>785.5</td>
<td>798</td>
<td>810.5</td>
<td>823</td>
<td>835.5</td>
<td>848</td>
<td>860.5</td>
<td>873</td>
<td>885.5</td>
<td>898</td>
<td>910.5</td>
</tr>
<tr>
<td>No.</td>
<td>66</td>
<td>67</td>
<td>68</td>
<td>69</td>
<td>70</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L Dimension</td>
<td>923</td>
<td>935.5</td>
<td>948</td>
<td>960.5</td>
<td>973</td>
<td>985.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Refer to L dimension on pages starting with pages 542 to 545 for lengths that correspond to the number of manifold stations.
Manifold Option

How to Order Interface Regulator (SY3000, 5000 only)

SY3000 series

ARBY3000 – 05 – P – 2

- Regulating port
  - P: P port
  - A1: A port (P controlled type, A port regulation)
  - B1: B port (P controlled type, B port regulation)

- Pressure gauge connection port
  - 05: Pressure gauge (G15-10-01) [for odd number station]
  - 06: Pressure gauge (G15-10-01) [for even number station]
  - M1: Plug (M-5P)

- In the case of the ARBY3000 series with a pressure gauge when mounting on the manifold, use caution that the part numbers are different between the odd no. stations and the even no. stations to avoid gauges from interfering from each others.

SY5000 series

ARBY5000 – 00 – P – 2

- Regulating port
  - P: P port
  - A1: A port (P controlled type, A port regulation)
  - B1: B port (P controlled type, B port regulation)

- Pressure gauge connection port
  - 00: Pressure gauge (G15-10-01)
  - M1: Plug (M-5P)

Accessory

<table>
<thead>
<tr>
<th>Series</th>
<th>Round head combination screw</th>
<th>Gasket</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARBY3000</td>
<td>SY3000-23-10</td>
<td>SX3000-57-4</td>
</tr>
<tr>
<td></td>
<td>(M2 x 36)</td>
<td></td>
</tr>
<tr>
<td>ARBY5000</td>
<td>AC00283</td>
<td>SX5000-57-6</td>
</tr>
<tr>
<td></td>
<td>(M3 x 48.5)</td>
<td></td>
</tr>
</tbody>
</table>

Caution

Mounting screw tightening torques

M2: 0.16 N·m
M3: 0.8 N·m

Note) ARBY is not CE-compliant.
**Type 45 SY3000/5000 Series**

### Dimensions: SY3000 Series

**SS5Y3-45-** Stations D-C4, N3 C6, N7

- One-touch fitting (A, B port)
  - Applicable tubing O.D.: Ø8, Ø5/16"
- One-touch fitting (P, R port)
  - Applicable tubing O.D.: Ø8, Ø5/16"
- Button for DIN rail release
- Manual override
- Block separation button (Push type)

- Approx. 300 (Lead wire length)
- Station n–(Station 1)
- DIN rail holding screw
- Rail mounting hole pitch: 12.5
- (Light/surge voltage suppressor)

**SS5Y3-45-** Stations U-C4, N3 C6, N7

- One-touch fitting
  - Applicable tubing O.D.: Ø4, Ø5/32"
- Button for DIN rail release
- Manual override
- Block separation button (Push type)

- Approx. 300 (Lead wire length)
- (Station n–(Station 1)
- DIN rail holding screw
- Rail mounting hole pitch: 12.5
- (Light/surge voltage suppressor)

### With interface regulator (with gauge)

- (Pitch) P=10.5, 13.5, 24.8
- 78.3 [85.3]
- 42.3
- 34.5
- 34
- 33
- 33
- 98.5
- 35
- 35
- 7.5
- 6.3 [70.3]
- 47.2
- 37.9 [40.1]

### Applicable tubing O.D.: Ø4, Ø5/32"

- Ø6, Ø1/4"

### Applicable tubing O.D.: Ø8, Ø5/16"

- Ø6, Ø1/4"

### Notes:

- C6, N7 SS5Y3-45- Stations
- SY3000 Series
- Dimensions: SY3000 Series
- [ ] : AC

---

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**SMC**
Dimensions: SY3000 Series

SS5Y3-45-

<table>
<thead>
<tr>
<th>Stations</th>
<th>B</th>
<th>C4, N3</th>
<th>C6, N7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Button for DIN rail release

One-touch fitting

(Applicable tubing O.D.: ø4, ø5/32"

(Light/surge voltage suppressor)

(Pitch)
P = 10.5

13.5

24.8

10.2

(Applicable tubing O.D.: ø8, ø5/16"

One-touch fitting

M plug connector

M8 connector (WO)

Approx. 300

74.4

97.3

38 [40.2]

108 [113]

117 [121.5]

50 [53.7]

67.8

100.5

92.5

119.5

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Note) Refer to page 642 for dimensions of connector types.
**Type 45 SY3000/5000 Series**

### Dimensions: SY5000 Series

**SS5Y5-45**

- Stations D: C4, N3, C6, N9
- Stations U: C4, N3, C6, N9

**Button for DIN rail release**

- (Pitch) \( P = 16 \)
- One-touch fitting
- Applicable tubing O.D.: \( 6, 6, 5/32" \)
- \( 8, 6, 5/16" \)

**Manual override**

**DIN rail holding screw**

**Block separation button**

- \( 7.5 \) [78.1]
- \( 7.5 \) [37.7]

**Light/surge voltage suppressor**

**With interface regulator (with gauge)**

- \( 94.1 \) [101.1]
- \( \phi 15 \) [42.7]
- \( 45 \) [87.2]
- \( 46.5 \) [87.2]
- \( 69.8 \) [87.2]

**Rail mounting hole pitch: 12.5**

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

**L1**

- \( 110.5 \) [124.2]
- \( 100 \) [111.6]
- \( 84 \) [101.1]
- \( 13 \) [116]
- \( 173 \) [196]
- \( 235.5 \) [225]

**L2**

- \( 150 \) [164]
- \( 148 \) [150]
- \( 116 \) [148]
- \( 132 \) [148]
- \( 160.5 \) [180]

**L3**

- \( 180 \) [196]
- \( 173 \) [150]
- \( 164 \) [160.5]
- \( 148 \) [150]

**L4**

- \( 15 \) [13.5]
- \( 14 \) [14.8]
- \( 12.5 \) [15]
- \( 17 \) [15]

---

**SS5Y5-45**

- Stations D: C4, N3, C6, N9
- Stations U: C4, N3, C6, N9

**Button for DIN rail release**

- (Pitch) \( P = 16 \)
- One-touch fitting
- Applicable tubing O.D.: \( 10, 10, 3/8" \)
- \( 16, 8, 5/16" \)

**Manual override**

**DIN rail holding screw**

**Block separation button**

- \( 7.5 \) [78.1]
- \( 7.5 \) [37.7]

**Light/surge voltage suppressor**

**With interface regulator (with gauge)**

- \( 94.1 \) [101.1]
- \( \phi 15 \) [42.7]
- \( 45 \) [87.2]
- \( 46.5 \) [87.2]
- \( 69.8 \) [87.2]

**Rail mounting hole pitch: 12.5**

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

**L1**

- \( 110.5 \) [124.2]
- \( 100 \) [111.6]
- \( 84 \) [101.1]
- \( 13 \) [116]
- \( 173 \) [196]
- \( 235.5 \) [225]

**L2**

- \( 150 \) [164]
- \( 148 \) [150]
- \( 116 \) [148]
- \( 132 \) [148]
- \( 160.5 \) [180]

**L3**

- \( 180 \) [196]
- \( 173 \) [150]
- \( 164 \) [160.5]
- \( 148 \) [150]

**L4**

- \( 15 \) [13.5]
- \( 14 \) [14.8]
- \( 12.5 \) [15]
- \( 17 \) [15]
Dimensions: SY5000 Series

Button for DIN rail release

One-touch fitting

(A, B port)
Applicable tubing O.D.: ø4, ø5/32", ø6, ø1/4", ø8, ø5/16"

One-touch fitting

(P, R port)
Applicable tubing O.D.: ø10, ø3/8"

Light/surge voltage suppressor

Manual override

DIN rail holding screw

DIN rail

(Applicable cable O.D. ø3.5 to ø7)

Note) Refer to page 642 for dimensions of connector types.
## Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SY3000</td>
<td>SY5000</td>
</tr>
<tr>
<td>1</td>
<td>Manifold block assembly</td>
<td>SX3000-50-1A(-Q)</td>
<td>SX5000-50-1A(-Q)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SX3000-51-15A</td>
<td>SX5000-51-15A</td>
</tr>
<tr>
<td>2</td>
<td>SUP/EXH block assembly</td>
<td>SX3000-51-1A</td>
<td>SX5000-51-1A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Inch size)</td>
<td>(Inch size)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SX3000-51-15A</td>
<td>SX5000-51-15A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Metric size)</td>
<td>(Metric size)</td>
</tr>
<tr>
<td>3</td>
<td>End block assembly R</td>
<td>SX3000-52-1A(-Q)</td>
<td>SX5000-52-1A(-Q)</td>
</tr>
<tr>
<td>4</td>
<td>End block assembly L</td>
<td>SX3000-53-1A(-Q)</td>
<td>SX5000-53-1A(-Q)</td>
</tr>
<tr>
<td>5</td>
<td>Round head combination screw</td>
<td>SY3000-23-4</td>
<td>AC00077</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Metric size)</td>
<td>(Metric size)</td>
</tr>
<tr>
<td>6</td>
<td>Gasket</td>
<td>SX3000-57-4</td>
<td>SX5000-57-6</td>
</tr>
<tr>
<td>7</td>
<td>DIN rail</td>
<td>VZ1000-11-1-□</td>
<td></td>
</tr>
</tbody>
</table>
**DIN Rail Manifold Exploded View**

**How to Increase Manifold Bases**

1. Loosen DIN rail holding screw ② fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons ④, at two locations, separate the manifold base from the DIN rail.)
2. Press manifold block assembly dividing button ⑤, that are at the location where manifold bases are to be added, until button ⑥ locks, and then separate the block assemblies.
3. Mount additional manifold block assembly on the DIN rail as shown in the figure 1.
4. Press the block assemblies until a click sound is produced, and tighten the DIN rail holding screw ② to fix them to the DIN rail.

⚠️ **Caution** (Tightening torque: 1.4 N·m) (While lightly holding the blocks after fixing an end block on one side, tighten the other end block for better sealing.)

**How to Change Fitting Assembly**

Type 45 manifold permits change in the A and B port sizes by changing the manifold block fitting assembly.

After removing the valve, remove the clip with a screwdriver, etc. For mounting a new fitting assembly, insert it and then insert a clip until it will not come out of the manifold block.

**Fitting Assembly Part No.**

<table>
<thead>
<tr>
<th>Metric size</th>
<th>SY3000</th>
<th>SY5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for ø4</td>
<td>VVQ1000-50A-C4</td>
<td>VVQ1000-51A-C4</td>
</tr>
<tr>
<td>One-touch fitting for ø6</td>
<td>VVQ1000-50A-C6</td>
<td>VVQ1000-51A-C6</td>
</tr>
<tr>
<td>One-touch fitting for ø8</td>
<td>VVQ1000-51A-C8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inch size</th>
<th>SY3000</th>
<th>SY5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for ø5/32&quot;</td>
<td>VVQ1000-50A-N3</td>
<td>VVQ1000-51A-N3</td>
</tr>
<tr>
<td>One-touch fitting for ø1/4&quot;</td>
<td>VVQ1000-50A-N7</td>
<td>VVQ1000-51A-N7</td>
</tr>
<tr>
<td>One-touch fitting for ø5/16&quot;</td>
<td>VVQ1000-51A-N9</td>
<td></td>
</tr>
</tbody>
</table>

Note 1) P and R ports cannot be changed.
Note 2) Use caution that O-rings must be free from scratches and dust. Otherwise, air leakage may result.
Note 3) Purchasing order is available in units of 10 pieces.

---

Fig. (1) Block mounting procedure

Hook the DIN rail here and press down in the direction of the arrow until a click sound is heard.
5 Port Solenoid Valve
Base Mounted Manifold
Stacking Type/DIN Rail Mounted/Connector Box

SY3000/5000 Series

How to Order Manifold

SSSYY 3 45 A U 05 D C6

Series

Symbol Specifications
A With connector box (COM spec.)
NA With connector box (N-COM spec.)

Specifications

Symbol Port size .Applicable series
C8 One-touch fitting for ø8 SY3000
C6 One-touch fitting for ø6 SY3000
C4 One-touch fitting for ø4 SY3000

C6 One-touch fitting for ø6 SY5000
C4 One-touch fitting for ø4 SY5000

C8 One-touch fitting for ø8 SY5000
C6 One-touch fitting for ø6 SY5000
C4 One-touch fitting for ø4 SY5000

Connector box mounting position

Symbol Mounting position
U U side
D D side

 Valve stations

Symbol Stations Note
02 2 stations Applicable up to 16 solenoid valves.
16 16 stations

SUP/EXH block assembly mounting position

Symbol Mounting position Applicable stations
U U side 2 to 10 stations
D D side
B Both sides 2 to 16 stations
M Special specifications

* For special specifications, indicate separately by the manifold specification sheet.

Option

When a longer DIN rail is desired than the specified stations, specify the station number to be required. (Max. 20 stations)

Example (SY3000, +COM, U side)

Double solenoid (24 VDC)
SY3240-5LOU (2 sets)
Single solenoid (24 VDC)
SY3140-5LOU (2 sets)
Cylinder port size
Q6 With One-touch fitting for ø6
Blanking plate assembly
SSSY3-45-AU-05D-C6

The valve arrangement is numbered as the 1st. station from D side regardless of the mounting position of connector box. In ordering, specify the part nos. in the order from the 1st. station on D side. Besides, when the arrangement will be complicated, fill out the manifold specification sheet to instruct us.

SSSY3-45-AU-05D-C6 is assembled with solenoid valve and lead wire assembly when shipping. When ordering manifold only (without valves/wires/options), refer to how to order on page 536 and list the connector box (VZ3000-106-1A) and the rail stopper (TXE1-SMC) below the manifold to allow for the connector box mounting at U side. (Be sure to order DIN rail 3 station longer than number of the manifold stations.) In this case, please note that dimensions, L1 and L2 on pages 552 and 553 may vary slightly.) For other components, refer to page 554.

How to Order Valve

SY 5 2 40 5 LOU

Series

Symbol Port size .Applicable series
C4 One-touch fitting for ø4 SY3000
C6 One-touch fitting for ø6 SY3000
M Mixed SY5000

C4 One-touch fitting for ø4 SY5000
C6 One-touch fitting for ø6 SY5000
M Mixed

Type of actuation

1 Position single
2 Position double
3 Position closed center
4 Position exhaust center
5 Position pressure center

Manual override

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

Made to Order

CE-compliant
Nil — Q —

When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the integrated manifold are supplied with the solenoid valve, but the stacking type gaskets are not included. When the stacking type gaskets are required, order them separately.
Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y3-45-(Q)</th>
<th>SS5Y5-45-(Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY3-40</td>
<td>SY5-40</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Stacking type/DIN rail mounted</td>
<td>Common SUP, Common EXH</td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td>Valve stations 2 to 16 stations (Note 1, 2)</td>
<td></td>
</tr>
<tr>
<td>A, B port Porting specifications</td>
<td>Location</td>
<td>Base</td>
</tr>
<tr>
<td>Direction</td>
<td>Side</td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>P, R port</td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
<tr>
<td>A, B port</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td>A, B port</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td>C8 (One-touch fitting for ø8)</td>
<td>C10 (One-touch fitting for ø10)</td>
<td></td>
</tr>
<tr>
<td>Manifold base weight W (g) n: Stations</td>
<td>2 to 10 stations: W = 26n + 207</td>
<td>2 to 10 stations: W = 26n + 245</td>
</tr>
<tr>
<td>11 to 20 stations: W = 26n + 229</td>
<td>11 to 16 stations: W = 52n + 279</td>
<td></td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Flat ribbon cable connector Socket: 20 pins MIL type with strain relief conforming to MIL-C-83503</td>
<td></td>
</tr>
<tr>
<td>Wiring specifications</td>
<td>+COM specifications (Type 45-A), –COM specifications (Type 45-NA)</td>
<td></td>
</tr>
</tbody>
</table>

Note 1) For more than 11 stations, supply pressure to P port on both sides and exhaust from R port on both sides.
Note 2) There is a limit depending on the number of solenoids. Refer to “How to Order”.

Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size (P, EA, EB)</th>
<th>Flow rate characteristics 1 → 4/2 (P → A/B) 4/2 → 5/3 (A/B → EA/EB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y3-45-</td>
<td>C8 C6</td>
<td>0.88 0.21 0.22 0.95 0.18 0.22</td>
</tr>
<tr>
<td>SS5Y5-45-</td>
<td>C10 C8</td>
<td>2.2 0.24 0.53 2.5 0.18 0.58</td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.

Manifold Wiring Diagram (Circuit diagram for the reference layout)

- +COM electric circuit diagram
- -COM electric circuit diagram

Connector box for +COM allows transmission until G71-GD16, manufactured by OMRON Corp., to be connected directly for serial transmission.
- When an external power source must be supplied to the manifold, correct polarity must be observed, otherwise damage to PLC is possible.
- The wiring of solenoid valves, corresponds with the labeled connector box 0 to 15 from D side.
- If valves other than non-polar type are used, this may cause malfunction.
Manifold Option

- Individual SUP spacer assembly
- Individual EXH spacer assembly
- SUP blocking disk
- EXH blocking disk

By installing a SUP blocking disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.

By installing an EXH blocking disk in the exhaust passage of a manifold valve, it is possible to divide the valve’s exhaust so that it does not affect another valve. (Two blocking disks are needed to divide both exhausts.)

- Label for block disk

The labels shown below are used on manifold stations containing SUP/EXH blocking disk(s) to show their location. (3 pcs. each)

- Silencer with One-touch fitting

The silencer plugs directly into the One-touch fittings of the manifold.

- Plug

These are inserted in unused cylinder ports and SUP, EXH ports. Purchasing order is available in units of 10 pieces.

**Warning**

When mounting a valve or spacer on the manifold base or sub-plate, etc., those mounting directions are determined. If mounted in the wrong direction, the equipment to be connected may cause malfunction. Refer to external dimensions, and then mount it.
**How to Order Interface regulator (SY3000, 5000 only)**

**SY3000 series**

- **ARBY3000** – 05–P–2
  - For odd number stations
- **ARBY3000-06–P–2**
  - For even number stations

**SY5000 series**

- **ARBY5000–00–P–2**
  - Regulating port
  - P port
  - A1: A port (P controlled type, A port regulation)
  - B1: B port (P controlled type, B port regulation)
- **ARBY5000-00–P–2**
  - Pressure gauge connection port
  - 00: Pressure gauge (G15-10-01)
  - M1: Plug (M-5P)

- **ARBY5000–00–P–2**
  - Regulating port
  - P port
  - A1: A port (P controlled type, A port regulation)
  - B1: B port (P controlled type, B port regulation)

In the case of the ARBY3000 series with a pressure gauge when mounting on the manifold, use caution that the part numbers are different between the odd no. stations and the even no. stations to avoid gauges from interfering from each others.

---

**Accessory**

<table>
<thead>
<tr>
<th>Series</th>
<th>Round head combination screw Reference screw size</th>
<th>Gasket</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARBY3000</td>
<td>SY3000-23-10 (M2 x 36)</td>
<td>SX3000-57-4</td>
</tr>
<tr>
<td>ARBY5000</td>
<td>AC00283 (M3 x 48.5)</td>
<td>SX5000-57-6</td>
</tr>
</tbody>
</table>

**Caution**

- Mounting screw tightening torques
  - M2: 0.16 N-m
  - M3: 0.8 N-m

Note) ARBY is not CE-compliant.
Dimensions: SY5000 Series

**SSS5Y5-45-AU- Stations D-C4, N3 C6, N7 C8, N9**

One-touch fitting (A, B port)
Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"

With interface regulator (with gauge)

**SSS5Y5-45-AD- Stations U-C4, N3 C6, N7 C8, N9**

One-touch fitting (A, B port)
Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"

With interface regulator (with gauge)

Applicable connector: 20 pins MIL type

Conforming to MIL-C-83503

---

*Two SUP/EXH blocks are provided for models with 11 stations or more.*
## Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>SY3000</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>SY5000</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Manifold block assembly</td>
<td>SX3000-50-1A-□□□-(-Q)</td>
<td>□□□: Mark tube no.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SX5000-50-1A-□□□-(-Q)</td>
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</tr>
<tr>
<td>2</td>
<td>SUP/EXH block assembly</td>
<td>(Metric size) SX3000-51-1A-□□□</td>
<td>P, R port SY3000 □□□ With One-touch fitting for ø□□□</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Metric size) SX3000-51-15A-□□□</td>
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<td></td>
<td></td>
<td>(Metric size) SX5000-51-1A-□□□</td>
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</tr>
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<td></td>
<td></td>
<td>(Metric size) SX5000-51-15A-□□□</td>
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</tr>
<tr>
<td>3</td>
<td>End block assembly R</td>
<td>SX3000-52-1A-□□□-(-Q)</td>
<td>For D side</td>
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<tr>
<td>4</td>
<td>End block assembly L</td>
<td>SX3000-53-1A-□□□-(-Q)</td>
<td>For U side</td>
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<tr>
<td>5</td>
<td>Connector box</td>
<td>VZ3000-106-1A</td>
<td>For 24 VDC only</td>
</tr>
<tr>
<td>6</td>
<td>Rail stopper</td>
<td>TXE1-SMC</td>
<td>Made by Kasuga Electric Works</td>
</tr>
<tr>
<td>7</td>
<td>Connector assembly</td>
<td>SY3000-43-1A-□□□</td>
<td>□□□: Mark tube no.</td>
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<tr>
<td></td>
<td></td>
<td>SY3000-43-2A-□□□</td>
<td>+COM Type D, 2 to 8 stations</td>
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<tr>
<td></td>
<td></td>
<td>SY3000-43-3A-□□□</td>
<td>+COM Type D, 9 to 16 stations</td>
</tr>
<tr>
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<td></td>
<td>SY3000-43-1NA-□□□</td>
<td>--COM Type D, 2 to 8 stations</td>
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<td>SY3000-43-2NA-□□□</td>
<td>--COM Type D, 9 to 16 stations</td>
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<tr>
<td>8</td>
<td>Dust cap</td>
<td>VZ3000-63-2</td>
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<tr>
<td>9</td>
<td>Round head combination screw</td>
<td>SY3000-23-4</td>
<td>AC00077</td>
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<tr>
<td></td>
<td>Reference screw size</td>
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<td>(M3 x 26)</td>
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<tr>
<td>10</td>
<td>Gasket</td>
<td>SX3000-57-4</td>
<td>SX5000-57-6</td>
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<tr>
<td>11</td>
<td>DIN rail</td>
<td>VZ1000-11-1-□□□</td>
<td>Refer to page 539.</td>
</tr>
</tbody>
</table>
**How to Increase Manifold Bases**

Station expansion is possible at any position.

1. Loosen DIN rail holding screw (⑤) fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons (⑥), at two locations, separate the manifold base from the DIN rail.)

2. Press manifold block assembly dividing button (⑦), that are at the location where manifold bases are to be added, until button (⑧) locks, and then separate the block assemblies.

3. Mount additional manifold block assembly on the DIN rail as shown in the figure 1.

4. Press the block assemblies until a click sound is produced, and tighten the DIN rail holding screw (⑤) to fix them to the DIN rail.

   **Caution** (Tightening torque: 1.4 N·m)
   (While lightly holding the blocks after fixing an end block on one side, tighten the other end block for better sealing.)

5. Untighten the rail stopper bolt (③) to demount the connector box from the DIN rail, and when remounting it, tighten the bolt while pressing it against the rail.

**Caution**

Note 1) When there are 10 or fewer manifold block assemblies, and more are added to make a total of 11 or more, a supply/exhaust block assembly must also be added.

Note 2) When disassembly and assembly are performed, air leakage may result if connections between blocks and tightening of the end block’s holding screw, is inadequate. Before supplying air, confirm that there are no gaps, etc. between blocks, and that manifold blocks are securely fastened to the DIN rail. Then supply air and confirm that there is no air leakage before operating.

Note 3) One connector assembly is necessary for one solenoid. When a number is necessary for the connector assembly mark tube, suffix the number to the part no. (0 to 15 are provided as mark tube numbers.)

Ex) +COM spec.: D type for 2 to 8 stations: No. 10
SY3000-43-1A-10

**How to Change Fitting Assembly**

Type 45 manifold permits change in the A and B port sizes by changing the manifold block fitting assembly. After removing the valve, remove the clip with a screwdriver, etc. For mounting a new fitting assembly, insert it and then insert a clip until it will not come out of the manifold block.

**Fitting Assembly Part No.**

**Metric size**

<table>
<thead>
<tr>
<th>SY3000</th>
<th>One-touch fitting for ø4</th>
<th>VVQ1000-50A-C4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One-touch fitting for ø6</td>
<td>VVQ1000-50A-C6</td>
</tr>
<tr>
<td>SY5000</td>
<td>One-touch fitting for ø4</td>
<td>VVQ1000-51A-C4</td>
</tr>
<tr>
<td></td>
<td>One-touch fitting for ø6</td>
<td>VVQ1000-51A-C6</td>
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</tbody>
</table>

**Inch size**

<table>
<thead>
<tr>
<th>SY3000</th>
<th>One-touch fitting for ø5/32&quot;</th>
<th>VVQ1000-50A-N3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One-touch fitting for ø1/4&quot;</td>
<td>VVQ1000-50A-N7</td>
</tr>
<tr>
<td>SY5000</td>
<td>One-touch fitting for ø5/32&quot;</td>
<td>VVQ1000-51A-N3</td>
</tr>
<tr>
<td></td>
<td>One-touch fitting for ø1/4&quot;</td>
<td>VVQ1000-51A-N7</td>
</tr>
</tbody>
</table>

Note 1) P and R ports cannot be changed.

Note 2) Use caution that O-rings must be free from scratches and dust. Otherwise, air leakage may result.

Note 3) Purchasing order is available in units of 10 pieces.
EX510 Gateway-type Serial Transmission System Base Mounted Manifold/Stacking Type
SY3000/5000 Series

How to Order Manifold

SS5Y 3 - 45S6A U - 02 U - C4 - -

Manifold series

<table>
<thead>
<tr>
<th>3</th>
<th>SY3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>SY5000</td>
</tr>
</tbody>
</table>

SI unit

<table>
<thead>
<tr>
<th>Nil</th>
<th>NPN output (+COM.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>PNP output (–COM.)</td>
</tr>
</tbody>
</table>

Valve stations

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring (Note 1)</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td>Specified layout (Note 2) (Compatible with 16 solenoid valves)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td></td>
</tr>
</tbody>
</table>

Note 1: Double wiring: Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2: Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

How to Order Manifold Assembly (Order Example)

Example

Double solenoid (24 VDC)
SY3240-5LOU (2 sets)
Single solenoid (24 VDC)
SY3140-5LOU (3 sets)
Cylinder port size
C6: With One-touch fitting for ø6
Manifold base (5 stations)
SSSY3-45S6AD-05D-C6

SUP/EXH block assembly mounting position

<table>
<thead>
<tr>
<th>U</th>
<th>U side</th>
<th>2 to 10 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>D side</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Both sides</td>
<td>2 to 16 stations</td>
</tr>
<tr>
<td>M</td>
<td>Special specifications*</td>
<td></td>
</tr>
</tbody>
</table>

*For the special specifications, indicate separately on a manifold specification sheet.

CE-compliant

| Nil | CE-compliant |

Nil

NPN output (+COM.)

PNP output (–COM.)

SI unit specifications

<table>
<thead>
<tr>
<th>Nil</th>
<th>NPN output (+COM.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>PNP output (–COM.)</td>
</tr>
</tbody>
</table>

Pilot specifications

<table>
<thead>
<tr>
<th>Nil</th>
<th>Internal pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Internal pilot/built-in silencer</td>
</tr>
<tr>
<td>R</td>
<td>External pilot</td>
</tr>
<tr>
<td>RS</td>
<td>External pilot/built-in silencer</td>
</tr>
</tbody>
</table>

One-touch fitting (Metric size)

<table>
<thead>
<tr>
<th>C4</th>
<th>One-touch fitting for ø4</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6</td>
<td>One-touch fitting for ø6</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
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<tr>
<td>C4</td>
<td>One-touch fitting for ø4</td>
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<tr>
<td>C6</td>
<td>One-touch fitting for ø6</td>
</tr>
<tr>
<td>C8</td>
<td>One-touch fitting for ø8</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
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</tbody>
</table>

SY3000

SY5000

One-touch fitting (Inch size)

<table>
<thead>
<tr>
<th>N3</th>
<th>One-touch fitting for ø5/32&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>N7</td>
<td>One-touch fitting for ø1/4&quot;</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
</tr>
<tr>
<td>N3</td>
<td>One-touch fitting for ø5/32&quot;</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø1/4&quot;</td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for ø5/16&quot;</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

SY3000

SY5000

Add the valve and option part number under the manifold base part number. When entry of part numbers becomes complicated, indicate by the manifold specification sheet. For a manifold for an EX510, the length of the lead wire for a connector assembly depends on the number of stations. Therefore, the manifold assembly is shipped with the valves (including blanking plates) and connector assembly mounted on it, as the standard specification. Be sure to specify the part nos. of the solenoid valves to be mounted.

Note 1) Double wiring: Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

P.897


SMC
How to Order Valves

**Base Mounted Manifold SY3000/5000 Series**

### Series

- SY3000
- SY5000

### Type of actuation

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

### Pilot specifications

- Nil: Internal pilot
- R: External pilot

### Rated voltage: 24 VDC

### Light/Surge voltage suppressor

- Z: With light/surge voltage suppressor
- U: Without light/surge voltage suppressor (non-polar type)

### Made to Order

- X90: Main valve fluororubber (Refer to page 624.)

### CE-compliant

- Nil
- Q: CE-compliant

### Manual override

- Nil
- D: Push-turn locking type
- E: Push-turn locking lever type

### Option

- When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the integrated manifold are supplied with the solenoid valve, but the stacking type gaskets are not included. When the stacking type gaskets are required, order them separately.
Dimensions

SY3000: SS5Y3-45S6A | D- Stations | U- C4, N3, C6, N7

Button for DIN rail release
(Pitch) P=10.5
Applicable tubing O.D.: Ø8 Ø5/16" one-touch fitting
(A, B port)
Applicable tubing O.D.: Ø4, Ø5/32" Ø6, Ø1/4"

L1
L2
L3
L4

Manual override
Output no.

DIN rail holding screw

(Station n) - - (Station 1)

(Light/surge voltage suppressor)

Block separation button
(Push type)

<table>
<thead>
<tr>
<th>Stations n</th>
<th>2 stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>135.5</td>
<td>148</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
<td>223</td>
</tr>
<tr>
<td>L2</td>
<td>125</td>
<td>137.5</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>212.5</td>
</tr>
<tr>
<td>L3</td>
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<td>81</td>
<td>91.5</td>
<td>102</td>
<td>112.5</td>
<td>123</td>
<td>133.5</td>
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<td>154.5</td>
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<td>L4</td>
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<td>12</td>
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<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>
SY3000: SS5Y3-45S6A

- Stations
  - L1
  - L2
  - L3
  - L4

- Base Mounted Manifold SY3000/5000 Series type 45S6A

- Button for DIN rail release
  - One-touch fitting

- (Pitch) P=10.5
  - 13.5
  - 14.8
  - 10.2

- (A, B port)
  - Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"

With interface regulator (with gauge)

- SI unit
  - U side
  - D side

- Manual override
  - Output no.

- DIN rail holding screw

- Connector lock pin
  - (Take out when wiring the connector assembly.)

- L1 L2 L3 L4 (Rail mounting hole pitch: 12.5)

- Block separation button
  - (Push type)

- (Station n) - - (Station 1)

- SI unit DIN rail holding screw
  - DIN rail

- With interface regulator (with gauge)

- (Pitch) P=10.5
  - 13.5
  - 24.8

- Applicable tubing O.D.: ø8, ø5/16"

- One-touch fitting

- (F, R port)
  - Applicable tubing O.D.: ø8, ø5/16"

- SY3000: SS5Y3-45S6A
  - U- Stations
  - B- C4, N3 C6, N7

- SY
  - SJ
  - SY
  - S0700
  - S0700

- Stations n 2 stations

<table>
<thead>
<tr>
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<th>6</th>
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<tbody>
<tr>
<td>L1</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
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<td>18</td>
<td>12.5</td>
<td>13.5</td>
<td>14.5</td>
<td>15.5</td>
</tr>
</tbody>
</table>
**Type 45S6A SY3000/5000 Series**

### Dimensions

**SY5000: SS5Y5-45S6A**

- **Button for DIN rail release**
- **One-touch fitting (P, R port)**
  - Applicable tubing O.D.: ø10, ø3/8”
- **One-touch fitting (A, B port)**
  - Applicable tubing O.D.: ø4, ø5/32”
  - ø6, ø1/4”
  - ø8, ø5/16”

<table>
<thead>
<tr>
<th>Stations</th>
<th>2 stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 stations</th>
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<tbody>
<tr>
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<td>148</td>
<td>160.5</td>
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<td>210.5</td>
<td>223</td>
<td>248</td>
<td>260.5</td>
<td>273</td>
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<tr>
<td>L2</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>187.5</td>
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<td>262.5</td>
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<td>100</td>
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<td>132</td>
<td>148</td>
<td>164</td>
<td>180</td>
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<td>212</td>
</tr>
<tr>
<td>L4</td>
<td>15.5</td>
<td>14</td>
<td>12</td>
<td>16.5</td>
<td>15</td>
<td>13</td>
<td>17.5</td>
<td>16</td>
<td>14</td>
</tr>
</tbody>
</table>
**Base Mounted Manifold**  SY3000/5000 Series  type 45S6A

**SY5000: SS5Y5-45S6A**

*U- Stations B- C4, N3  C6, N7  C8, N9*

- **Button for DIN rail release**
- **One-touch fitting**  (A, B port)
  - Applicable tubing O.D.: ø4, ø5/32”
  - ø6, ø1/4”
  - ø8, ø5/16”

- **One-touch fitting**  (P, R port)
  - Applicable tubing O.D.: ø10, ø3/8”

**With interface regulator (with gauge)**

- **DIN rail holding screw**
- **Manual override**
- **Connector lock pin**  (Push type)
- **(Station n) - (Station 1)**
- **Light/surge voltage suppressor**
- **Block separation button**  (Push type)

---

**Table:**

<table>
<thead>
<tr>
<th>Stations n</th>
<th>2 stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>L1</strong></td>
<td>160.5</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
<td>223</td>
<td>248</td>
<td>260.5</td>
<td>273</td>
<td>298</td>
<td>310.5</td>
<td>323</td>
<td>335.5</td>
<td>360.5</td>
<td>373</td>
<td>385.5</td>
</tr>
<tr>
<td><strong>L2</strong></td>
<td>150</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>212.5</td>
<td>237.5</td>
<td>250</td>
<td>262.5</td>
<td>287.5</td>
<td>300</td>
<td>312.5</td>
<td>325</td>
<td>350</td>
<td>362.5</td>
<td>375</td>
</tr>
<tr>
<td><strong>L3</strong></td>
<td>102</td>
<td>118</td>
<td>134</td>
<td>150</td>
<td>166</td>
<td>182</td>
<td>198</td>
<td>214</td>
<td>230</td>
<td>246</td>
<td>262</td>
<td>278</td>
<td>294</td>
<td>310</td>
<td>326</td>
</tr>
<tr>
<td><strong>L4</strong></td>
<td>13</td>
<td>17.5</td>
<td>15.5</td>
<td>14</td>
<td>12</td>
<td>16.5</td>
<td>15</td>
<td>13</td>
<td>13</td>
<td>16</td>
<td>14</td>
<td>12.5</td>
<td>17</td>
<td>15</td>
<td>13.5</td>
</tr>
</tbody>
</table>
Manifold Option

- Connector assembly
  For single solenoid (SY3000-37-81A-N)
  For double solenoid (SY3000-37-81A-□□)

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Connector mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSSY3-45S6A</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: Starting from the SI unit side From unit 1 to unit 4</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-3-3</td>
<td>Double/3 position: Starting from the SI unit side From unit 1 to unit 4</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-N</td>
<td>Single: Starting from the SI unit side From unit 5 to unit 8</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-4</td>
<td>Double/3 position: Starting from the SI unit side From unit 5 to unit 8</td>
</tr>
</tbody>
</table>

- Connector assembly
  SY3000-37-80A-□

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Connector mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSSY3-45S6A</td>
<td>SY3000-37-80A-3</td>
<td>Starting from the SI unit side: From unit 1 to unit 4</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-4</td>
<td>Starting from the SI unit side: From unit 5 to unit 8</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-6</td>
<td>Starting from the SI unit side: From unit 9 to unit 12</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-7</td>
<td>Starting from the SI unit side: From unit 13 to unit 16</td>
</tr>
</tbody>
</table>

Note) The above is for the station addition or maintenance. When ordering a connector assembly separately, a number would not be printed on the connector.

- Connector assembly
  SY3000-37-81A-N

- Housing (8 pcs./set)
  SY3000-44-3A

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Connector mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSSY3-45S6A</td>
<td>SY3000-37-81A-3-N</td>
<td>Starting from the SI unit side: From unit 1 to unit 4</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-3-3</td>
<td>Starting from the SI unit side: From unit 1 to unit 4</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-N</td>
<td>Starting from the SI unit side: From unit 5 to unit 8</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-4</td>
<td>Starting from the SI unit side: From unit 5 to unit 8</td>
</tr>
</tbody>
</table>

Note 1) The above is for station addition or maintenance. When ordering a connector assembly separately, a number will not be printed on the connector.

Note 2) After inserting the connector assembly into the housing, be sure to confirm that the lead wire will not come off by lightly pulling the wire. Furthermore, do not reuse the lead wire after it has been inserted and removed.

Note 3) Wiring is set longer than the actual wiring distance.
Stacking Type/DIN Rail Mounted/Individual Wiring: Common Manifold Option

- Blanking plate assembly

(The shape varies depending on the series.)

<table>
<thead>
<tr>
<th>Thread type</th>
<th>Nil</th>
<th>Rc</th>
<th>F</th>
<th>G</th>
<th>N</th>
<th>NPT</th>
<th>T</th>
<th>NPTF</th>
</tr>
</thead>
</table>

- Caution

Mounting screw tightening torques

- M2: 0.16 N·m
- M3: 0.8 N·m
- M4: 1.4 N·m

<table>
<thead>
<tr>
<th>Series</th>
<th>Assembly part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SX3000-75-1A(-Q)</td>
</tr>
<tr>
<td>SY5000</td>
<td>SX5000-76-5A(-Q)</td>
</tr>
</tbody>
</table>
5 Port Solenoid Valve
Base Mounted Manifold
Stacking Type/DIN Rail Mounted/Plug-in
SY3000/5000 Series

How to Order Manifold

Type 45F (D-sub connector, 25 pins)

SS5Y 3-45 F D-05 U C4-

Series
3 SY3000
5 SY5000

Common specifications
 Nil Positive common
 N Negative common

Connector mounting position
 Symbol  Mounting position  Voltage
 U  U side  Nil 24VDC
 D  D side

Valve stations
 Symbol  Stations  Note
 02  2 stations  Single wiring spec.
 1  1 (Applicable up to 20 stations)
 20  20 stations

* This also includes the number of blanking plate assemblies.
* Two stations are necessary for the double, 3 position (Dual body type).

SUP/EXH block assembly mounting position
 Symbol  Mounting position  Stations
 U  U side  2 to 10 stations
 D  D side  2 to 10 stations
 B  (Both sides)  2 to 20 stations
 M  Special specifications

For special specifications, indicate separately by the manifold specification sheet.

A, B port size
One-touch fitting (Metric size)  One-touch fitting (Inch size)
 Symbol  Port size  Applicable series  Symbol  Port size  Applicable series
 C4  One-touch fitting for ø4  SY3000
 C6  One-touch fitting for ø6  SY3000
 M  Mixed  SY5000
 C4  One-touch fitting for ø4  SY5000
 C6  One-touch fitting for ø6  SY5000
 G6  One-touch fitting for ø8  SY5000
 M  Mixed  SY5000
 M  Mixed

In the case of mixed specifications (M), indicate separately on the manifold specification sheet.

How to Order Valve (Type 45F, 45PC, 45T, 45T1)

Symbols  Port size  Applicable series
 N3  One-touch fitting for ø3/8  SY3000
 N7  One-touch fitting for ø7/32  SY3000
 M  Mixed  SY5000
 N3  One-touch fitting for ø3/8  SY5000
 N7  One-touch fitting for ø7/32  SY5000
 N9  One-touch fitting for ø9/32  SY5000
 M  Mixed  SY5000
 M  Mixed

When a longer DIN rail is desired than the specified stations, specify the station number to be required. (20 stations at maximum)

CE-compliant
 Nil  Q CE-compliant

Refer to pages 618 to 620 for external pilot specifications and built-in silencer.

* When ordering plug-in type solenoid valve as a single unit, gaskets are not included. Order them separately, if necessary. (Refer to page 592 for details.)
* With light/surge voltage suppressor (Non-polar type)
### How to Order Manifold

#### Type 45P □ (Flat ribbon cable)

**SS5Y 3 - 45 □ P □ D - 05 □ U □ C4 □**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>02</td>
<td>2 stations</td>
</tr>
<tr>
<td>G</td>
<td>01</td>
<td>1 station</td>
</tr>
<tr>
<td>U</td>
<td>20</td>
<td>20 stations</td>
</tr>
</tbody>
</table>

**Common specifications**

- Nil: Positive common
- N: Negative common

**Connector poles**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Poles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>26</td>
<td>2 to 20 stations</td>
</tr>
<tr>
<td>G</td>
<td>20</td>
<td>2 to 16 stations</td>
</tr>
<tr>
<td>H</td>
<td>10</td>
<td>2 to 8 stations</td>
</tr>
</tbody>
</table>

**Connector mounting position**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
</tr>
</tbody>
</table>

**SUP/EXH block assembly mounting position**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
</tr>
</tbody>
</table>

**Valve stations (Blanking plate assemblies are included.)**

- 26 pins (P) connector
- 20 pins (PG) connector
- 10 pins (PH) connector

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Single wiring spec. (Applicable up to 20 solenoid valves.)</td>
</tr>
<tr>
<td>01</td>
<td>1 station</td>
<td>Single wiring spec. (Applicable up to 16 solenoid valves.)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>Single wiring spec. (Applicable up to 16 solenoid valves.)</td>
</tr>
</tbody>
</table>

**Option**

- Nil: CE-compliant
- Q: CE-compliant

### Type 45T (9 pins terminal block)

**SS5Y 3 - 45T □ D - 05 □ U □ C4 □**

**Common specifications**

- Nil: Positive common
- N: Negative common

**Connector poles**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Poles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>26</td>
<td>2 to 20 stations</td>
</tr>
<tr>
<td>G</td>
<td>20</td>
<td>2 to 16 stations</td>
</tr>
<tr>
<td>H</td>
<td>10</td>
<td>2 to 8 stations</td>
</tr>
</tbody>
</table>

**Connector mounting position**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
</tr>
</tbody>
</table>

**Sup/Exh block assembly mounting position**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
</tr>
</tbody>
</table>

**Valve stations**

- 02: 2 stations
- 08: 8 stations

- Nil: CE-compliant
- Q: CE-compliant

### Type 45T1 (18 pins terminal block)

**SS5Y 3 - 45T1 □ D - 15 □ B □ C4 □**

**Common specifications**

- Nil: Positive common
- N: Negative common

**Connector poles**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Poles</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>26</td>
<td>2 to 20 stations</td>
</tr>
<tr>
<td>G</td>
<td>20</td>
<td>2 to 16 stations</td>
</tr>
<tr>
<td>H</td>
<td>10</td>
<td>2 to 8 stations</td>
</tr>
</tbody>
</table>

**Connector mounting position**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
</tr>
</tbody>
</table>

**Sup/Exh block assembly mounting position**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
</tr>
</tbody>
</table>

**Valve stations**

- 02: 2 stations
- 17: 17 stations

- Nil: CE-compliant
- Q: CE-compliant

---

Note: The terminal block (45T1□) manifold has no common polarity. It can be used for both positive and negative common.

---

The SS5Y/3-45T1□ type plug-in terminal block manifold is to be discontinued as of December 2019. Therefore, we recommend considering the SY3000/5000/7000 plug-in connector connecting base terminal block box type manifold as a substitute. (Click here for details.) However, keep in mind that there is no specification or mounting compatibility between the two products.
### Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Porting specifications</th>
<th>Location</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>C8 (One-touch fitting for ø8)</td>
<td>P, R port</td>
<td>SY3000</td>
</tr>
<tr>
<td>SY5000</td>
<td>C10 (One-touch fitting for ø10)</td>
<td>SY5000</td>
<td></td>
</tr>
<tr>
<td>SY3000</td>
<td>C4 (One-touch fitting for ø4)/C6 (One-touch fitting for ø6)</td>
<td>A, B port</td>
<td>SY5000</td>
</tr>
</tbody>
</table>

#### Applicable connector

- D-sub connector Type 45F
- Flat ribbon cable Type 45PI
- Terminal block Type 45P
- Flat ribbon cable Type 45PG
- Terminal block Type 45PH
- Flat ribbon cable Type 45PF
- Terminal block Type 45PI
- Flat ribbon cable Type 45T
- Terminal block Type 45T1
- Flat ribbon cable Type 45T1
- Terminal block Type 45T11

#### Internal wiring

- +COM (Type 45□), –COM (Type 45N□)
- Input: 9 pins
- Terminal block (M3)
- Terminal block (M3)

#### Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSY53-45F</td>
<td>C8</td>
<td>0.88</td>
</tr>
<tr>
<td>SSY55-45F</td>
<td>C10</td>
<td>2.2</td>
</tr>
</tbody>
</table>

#### Note

1. For more than 11 stations, supply pressure to P port on both sides and exhaust from R port on both sides.
2. There is a limit depending on the number of solenoids. Refer to “How to Order”.

---

**Manifold Base**

- **SY3000/5000 Series**
- **Type 45□**
- **D-sub connector**
- **Flat ribbon cable**
- **Terminal block**

**Valve stations**

- **Note 1, 2**
- **Common SUP, Common EXH**
- **A, B port**
- **Porting specifications**
  - **Location**
  - **Direction**
- **Port size**
  - **P, R port**
  - **A, B port**
- **Applicable connector**
  - **Terminal block**
  - **Internal wiring**

**Model**

- **SY3000**
- **SY5000**

**Manifold base weight W (g)**

- **SY3000**
  - 2 to 10 stations: W = 26n + 172
  - 11 to 20 stations: W = 26n + 199
- **SY5000**
  - 2 to 10 stations: W = 54n + 227
  - 11 to 20 stations: W = 52n + 264

**Note**

- The value is for manifold base with 5 stations and individually operated 2 position type.
Manifold Option

- **D-sub connector (25 pins)/Cable assembly**
  - AXT100-DS25-015, AXT100-DS25-030, AXT100-DS25-050

- **Flat Ribbon Cable Connector/Cable assembly**
  - AXT100-FC (10 pins, 20 pins, 26 pins)

**D-sub connector cable assembly**

<table>
<thead>
<tr>
<th>Terminal no.</th>
<th>Lead wire color</th>
<th>Dot marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Black</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Brown</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>Red</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>Orange</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>Yellow</td>
<td>None</td>
</tr>
<tr>
<td>6</td>
<td>Pink</td>
<td>None</td>
</tr>
<tr>
<td>7</td>
<td>Blue</td>
<td>None</td>
</tr>
<tr>
<td>8</td>
<td>Purple</td>
<td>White</td>
</tr>
<tr>
<td>9</td>
<td>Gray</td>
<td>Black</td>
</tr>
<tr>
<td>10</td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>11</td>
<td>White</td>
<td>Red</td>
</tr>
<tr>
<td>12</td>
<td>Yellow</td>
<td>Red</td>
</tr>
<tr>
<td>13</td>
<td>Orange</td>
<td>Red</td>
</tr>
<tr>
<td>14</td>
<td>Yellow</td>
<td>Black</td>
</tr>
<tr>
<td>15</td>
<td>Pink</td>
<td>Black</td>
</tr>
<tr>
<td>16</td>
<td>Blue</td>
<td>Black</td>
</tr>
<tr>
<td>17</td>
<td>Purple</td>
<td>Black</td>
</tr>
<tr>
<td>18</td>
<td>Gray</td>
<td>Black</td>
</tr>
<tr>
<td>19</td>
<td>Orange</td>
<td>Black</td>
</tr>
<tr>
<td>20</td>
<td>Red</td>
<td>White</td>
</tr>
<tr>
<td>21</td>
<td>Brown</td>
<td>White</td>
</tr>
<tr>
<td>22</td>
<td>Pink</td>
<td>Red</td>
</tr>
<tr>
<td>23</td>
<td>Gray</td>
<td>Red</td>
</tr>
<tr>
<td>24</td>
<td>Black</td>
<td>White</td>
</tr>
<tr>
<td>25</td>
<td>White</td>
<td>None</td>
</tr>
</tbody>
</table>

**Electric characteristics**

- Cable length (L): 1.5 m, 3 m, 5 m
- Conductor resistance: 1Ω/km, 20°C
- Voltage limit: 1000 V, 1 min, AC
- Insulation resistance: 5 MΩ/km, 20°C

**Note:** The min. bending radius of D-sub cable assembly is 20 mm.

**Dimensions/DIN rail**

**VZ1000-11-1**

Refer to L dimensions

* Fill in □ with an appropriate no. listed on the table of DIN rail dimensions shown below.

**Connector manufacturers’ example**

- HIROSE ELECTRIC CO., LTD.
- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.

**Flat Ribbon Cable Assembly**

- Cable length (L): 1.5 m, 3 m, 5 m
- 10 pins: AXT100-FC10-1, AXT100-FC20-1, AXT100-FC26-1
- 20 pins: AXT100-FC10-2, AXT100-FC20-2, AXT100-FC26-2
- 26 pins: AXT100-FC10-3, AXT100-FC20-3, AXT100-FC26-3

* For other commercial connectors, use a type with strain relief that conform to MIL-C-83503.

**Connector manufacturers’ example**

- HIROSE ELECTRIC CO., LTD.
- 3M Japan Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.
**Manifold Internal Wiring**

**45(N)F/D-sub Connector**

A D-sub connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.

- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 20 manifold stations, with up to 20 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

**Type 45(N)P/Flat Ribbon Cable (26 pins)**

A flat ribbon cable connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.

- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 20 manifold stations, with up to 20 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.
Manifold Internal Wiring

**Type 45(N)PG/Flat Ribbon Cable (20 pins)**
A flat ribbon cable connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.

**Type 45(N)PH/Flat Ribbon Cable (10 pins)**
A flat ribbon cable connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.

---

**Note)**
Terminal no. is not indicated on the connector. The terminal no. indicated in the connection schematic of connector, as shown in the reference, means a correlation of 1, 2, 3-20 from the triangle mark side on the flat ribbon cable of connector.

---

**<For positive common (45PG)>**
- Positive pole (common)
- Negative pole
- Station 16

**<For negative common (45NPG)>**
- Positive pole (common)
- Negative pole
- Station 16

- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 16 manifold stations, with up to 16 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

---

**<For positive common (45PH)>**
- Positive pole (common)
- Negative pole
- Station 8

**<For negative common (45NPH)>**
- Positive pole (common)
- Negative pole
- Station 8

- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 8 manifold stations, with up to 8 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.
Manifold Internal Wiring

**Type 45T/Terminal Block**
A terminal block type permits direct cable connection without treatment of lead wires.

**Type 45T1/Terminal Block**

- The maximum number of stations that can be accommodated is 8 manifold stations, with up to 8 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.
- There is no polarity in the COM wiring. Supply positive power for +COM spec. and negative power for –COM spec.

- The maximum number of stations that can be accommodated is 17 manifold stations, with up to 17 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.
- There is no polarity in the COM wiring. Supply positive power for +COM spec. and negative power for –COM spec.
How to Connect SS5Y□-45□ (Plug-in)

Power terminal is equipped with plug-in manifold of the SY series as standard. Power terminal enables the power supply to valve from either of manifold or controller side. The wiring examples should be used for reference when wiring is performed.

1. Wiring example when using manifold power supply terminals

2. Wiring example when not using manifold power supply terminals (Power is supplied to the controller side or along the wiring, etc.)

Caution
- Single wire, COM position, etc. of PLC are different from each manufacturer. When connecting with PLC, read the specifications carefully and understand the electrical circuit. Poor wiring could cause damage to PLC, power source, etc. as well as manifold and valve.
### SY3000: D-sub Connector/Plug-in

#### SS5Y3-45FU- Stations D-C4, N3 C6, N7

- **One-touch fitting**
  - \((A, B\) port)
  - Applicable tubing O.D.: \(\phi 4, \phi 5/32\"\)
  - \(\phi 6, \phi 1/4\"

- **Button for DIN rail release**
  - \((P, R\) port)
  - Applicable tubing O.D.: \(\phi 8, \phi 5/16\"

- **DIN rail holding screw**

#### SS5Y3-45FU- Stations B-C4, N3 C6, N7

- **One-touch fitting**
  - \((A, B\) port)
  - Applicable tubing O.D.: \(\phi 4, \phi 5/32\"\)
  - \(\phi 6, \phi 1/4\"

- **Block separation button**

#### Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)

- **Applicable tubing O.D.:** \(\phi 4, \phi 5/32\"\)
- \(\phi 6, \phi 1/4\"

### Notes
- The L1 to L4 dimensions of SS5Y3-45FU- Stations U-C4, N7 are identical to those of SS5Y3-45FU- Stations D-C4, N7.

### SMC Corporation

574
SY3000: D-sub Connector/Plug-in

SS5Y3-45FD- Stations U-C4, N3, C6, N7

Button for DIN rail release

One-touch fitting

Applicable tubing O.D.: ø8, ø5/16”

P = 10.5

One-touch fitting

Applicable tubing O.D.: ø4, ø5/32”

ø6, ø1/4”

L3

(L4)

Terminal no. 1

Power supply terminals

The voltage indication marking is for 24 VDC.

M2.6

Manual override

(Press and turn to operate and lock override.
A side: Blue
B side: Yellow

Press and turn to operate

and lock override.

Terminal screw

(Station n) . . . (Station 1)

Note) The L1 to L4 dimensions of SS5Y3-45FD- Stations B-C4, N3, C6, N7 are identical to those of SS5Y3-45FD- Stations U-C4, N3, C6, N7.

SS5Y3-45FD- Stations B-C4, N3, C6, N7

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)

DIN rail holding screw

DIN rail

Manual override

(Station 1)

(Rail mounting hole pitch: 12.5)

M3

Terminal screw

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)

L2

(Hole mounting hole pitch: 12.5)

L1

Station(s) No. 2 station(s) 3 4 5 6 7 8 9 10

L1 123 135.5 148 148 160.5 173 185.5 198 210.5

L2 112.5 125 137.5 150 162.5 175 187.5 200

L3 91.5 102 112.5 123 133.5 144 154.5 165 175.5

L4 15.5 16.5 17.5 12.5 13.5 14.5 15.5 16.5 17.5

Station(s) No. 10 station(s)

L1 235.5 248 248 260.5 273 285.5 298 310.5 323

L2 225 237.5 237.5 250 262.5 275 287.5 300 300 312.5

L3 202.5 213 223.5 234 244.5 255 265.5 276 286.5 297

L4 16.5 17.5 12 13 14 15 16 17 12 13

SS5Y3-45FD- Stations D-C4, N3, C6, N7

Note) The L1 to L4 dimensions of SS5Y3-45FD- Stations D-C4, N3, C6, N7 are identical to those of SS5Y3-45FD- Stations U-C4, N3, C6, N7.
SY5000: D-sub Connector/Plug-in

SSSY5-45FD- Stations

Note) The L1 to L4 dimensions of SSSY5-45FD- Stations D (C4, N3) are identical to those of SSSY5-45FD- Stations U (C6, N7, C8, N9).

DIN rail holding screw

Manual override
Press and turn to operate and lock override.
A side: Blue
B side: Yellow

Terminal no. 1
(Rail mounting hole pitch: 12.5)

Power supply terminals
The voltage indication marking is for 24 VDC.

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)

DIN rail

One-touch fitting
(P, R port)
Applicable tubing O.D.: ø10, ø3/8" (A, B port)
Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"

One-touch fitting

Block separation button
(Push type)

Station 1

L1
135.5
148
160.5
165.5
198
210.5
235.5
248
260.5

L2
125
137.5
150
175
187.5
200
225
237.5
250

L3
105
121
137
153
169
185
201
217
233

L4
15
13.5
11.5
16
14.5
12.5
17
15.5
13.5

Stations n
3 4 5 6 7 8 9 10 stations

L1
148
173
185.5
198
210.5
235.5
248
260.5
285.5

L2
137.5
162.5
175
187.5
200
225
237.5
250
275

L3
123
139
155
171
187
203
219
235
251

L4
12.5
17
15
13.5
11.5
16
14.5
12.5
17

Stations n
11 stations

L1
298
310.5
323
348
360.5
373
398
410.5
423
435.5

L2
287.5
300
312.5
327.5
350
362.5
387.5
400
412.5
425

L3
267
283
299
315
331
347
363
379
395
411

L4
15.5
13.5
12
16.5
14.5
13
17.5
15.5
14
12

Stations n
12 stations
SY3000: Flat Ribbon Cable/Plug-in


.DIN rail holding screw

DIN rail

Manual override

Press and turn to operate and lock override.
A side: Blue
B side: Yellow

Power supply terminals:
The voltage indication marking is for 24 VDC.

Button for DIN rail release

(U side) L1

(D side) L3

Triangle mark position

Applicable connector: 26 pins MIL type

(Conforming to MIL-C-83503)

M3

Terminal screw

SSY3Y-45PD–Stations B-C6.N7 (26 pins) (Pitch)

.DIN rail holding screw

DIN rail

Manual override

Press and turn to operate and lock override.
A side: Blue
B side: Yellow

Power supply terminals:
The voltage indication marking is for 24 VDC.

Button for DIN rail release

(U side) L1

(D side) L3

Triangle mark position

Applicable connector: 26 pins MIL type

(Conforming to MIL-C-83503)

Note) The L1 to L4 dimensions of SY3Y3-45PD- Stations are identical to those of SY3Y3-45PD- Stations U- .

SJ SY SY S0700 S0700

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**SY5000: Flat Ribbon Cable/Plug-in**

**SS5Y5-45PU** - Stations

- **Stations D**: C4, N3, C8, N9 (26 pins)
- **Stations B**: C4, N3, C8, N9 (26 pins)

**Type 45PH (10 pins)**

- Applicable connector: 10 pins MIL type
- With strain releaf
- (Conforming to MIL-C-83503)
- DIN rail holding screw
- Manual override
  - Depress and turn to operate
  - (Push type)
- (P, R port)

**Type 45PG (20 pins)**

- Applicable connector: 20 pins MIL type
- With strain releaf
- (Conforming to MIL-C-83503)
- DIN rail holding screw
- Manual override
  - Depress and turn to operate
  - (Push type)
- (P, R port)

**Note:**

- The L1 to L4 dimensions of **SS5Y5-45PU** are identical to those of **SS5Y5-45PG**.
- Stations **U**, **D**, **N**, **E**, **N**, **O**, **P**, **R** are identical to those of **SS5Y5-45PG**.
### SY3000: 9 Pins Terminal Block/Plug-in

#### SSYSY3-45TU- Stations

**Stations**

- **C4, N3**
- **C6, N7**

**Button for DIN rail release**

**Note**

The L1 to L4 dimensions of SSYSY3-45TU-Stations B- are identical to those of SSYSY3-45TU-Stations B-.

#### SSYSY3-45TU- Stations

**Stations**

- **C4, N3**
- **C6, N7**

**Button for DIN rail release**

**Note**

The L1 to L4 dimensions of SSYSY3-45TU-Stations U- are identical to those of SSYSY3-45TU-Stations U-.

### Dimensions

<table>
<thead>
<tr>
<th>Stations</th>
<th>U stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>B stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>123</td>
<td>135.5</td>
<td>148</td>
<td>148</td>
<td>180.5</td>
<td>173</td>
<td>185.5</td>
</tr>
<tr>
<td>L2</td>
<td>112.5</td>
<td>125</td>
<td>137.5</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
</tr>
<tr>
<td>L3</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>
</tr>
<tr>
<td>L4</td>
<td>15.5</td>
<td>16.5</td>
<td>17.5</td>
<td>12.5</td>
<td>13.5</td>
<td>14.5</td>
<td>15.5</td>
</tr>
</tbody>
</table>

### Notes

- **Light/surge voltage suppressor**
- **Manual override**
- **Block separation button**
- **DIN rail holding screw**

**Applicable tubing O.D.**

- ø4, ø5/32"
- ø6, ø1/4"

**One-touch fitting**

**Terminal screw**

- M3 (N7: 7)
- C6: 3.2

**DIN rail holding screw**

- 15.7
- 34
- 87.7

**Pitch**

- P = 10.5
- 13.5
- 24.8
SY5000: 9 Pins Terminal Block/Plug-in

SSSY5-45TU- Stations D C4, N3 C6, N9 (9 pins)

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32
ø6, ø1/4
ø8, ø5/16

Button for DIN rail release

Note) The L1 to L4 dimensions of SSSY5-45TU-
Stations D C4, N3 C6, N9, SSSY5-45TD- Stations D C4, N3 C6, N9 are identical to those of SSSY5-45TU- Stations D C4, N3 C6, N9.

L1
135.5 148 160.5 185.5 198 210.5 235.5
L2
125 137.5 150 175 187.5 200 225
L3
105 121 137 153 169 185 201
L4
15 13.5 11.5 16 14.5 12.5 17

Note) The L1 to L4 dimensions of SSSY5-45TD-
Stations B C4, N3 C6, N9 are identical to those of SSSY5-45TU- Stations B C4, N3 C6, N9.

L1
148 173 185.5 198 210.5 235.5 248
L2
137.5 162.5 175 187.5 200 225 237.5
L3
123 139 155 171 187 203 219
L4
12.5 17 15 13.5 11.5 16 14.5

SY3000/5000 Series Type 45
SY3000: 9 Pins Terminal Block/Plug-in

SSY3Y-45T1D- Stations U- C4, N3, (18 pins)

DIN rail holding screw
DIN rail

Manual override
Press and turn to operate
and lock override.
A side: Blue
B side: Yellow
L2 (Rail mounting hole pitch: 12.5)

Button for DIN rail release

One-touch fitting
Applicable tubing O.D.: ø8, ø5/16”

(P, R port)

One-touch fitting
Applicable tubing O.D.: ø4, ø5/32” ø6, ø1/4”

(A, B port)

<table>
<thead>
<tr>
<th>Stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>148</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
</tr>
<tr>
<td>L2</td>
<td>137.5</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
</tr>
<tr>
<td>L3</td>
<td>112.5</td>
<td>112.5</td>
<td>123</td>
<td>135.5</td>
<td>144</td>
<td>154.5</td>
<td>165</td>
</tr>
<tr>
<td>L4</td>
<td>17.5</td>
<td>12.5</td>
<td>13.5</td>
<td>14.5</td>
<td>15.5</td>
<td>16.5</td>
<td>17.5</td>
</tr>
</tbody>
</table>

Note) The L1 to L4 dimensions of SSY3Y-45T1D- Stations U- C4, N3 are identical to those of SSY3Y-45T1D- Stations D- C6, N7.  

SSY3Y-45T1D- Stations B- C6, N7 (18 pins)

DIN rail holding screw
DIN rail

Manual override
Press and turn to operate
and lock override.
A side: Blue
B side: Yellow
L2 (Rail mounting hole pitch: 12.5)

Button for DIN rail release

One-touch fitting
Applicable tubing O.D.: ø8, ø5/16”

(P, R port)

One-touch fitting
Applicable tubing O.D.: ø4, ø5/32” ø6, ø1/4”

(A, B port)

<table>
<thead>
<tr>
<th>Stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
<td>223</td>
<td>235.5</td>
</tr>
<tr>
<td>L2</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>212.5</td>
<td>225</td>
</tr>
<tr>
<td>L3</td>
<td>129</td>
<td>139.5</td>
<td>150</td>
<td>160.5</td>
<td>171</td>
<td>181.5</td>
<td>192</td>
</tr>
<tr>
<td>L4</td>
<td>15.5</td>
<td>16.5</td>
<td>17.5</td>
<td>18.5</td>
<td>19.5</td>
<td>20.5</td>
<td>21.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stations</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>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>248</td>
<td>248</td>
<td>260.5</td>
<td>273</td>
<td>285.5</td>
<td>298</td>
<td>310.5</td>
<td>310.5</td>
</tr>
<tr>
<td>L2</td>
<td>237.5</td>
<td>237.5</td>
<td>250</td>
<td>262.5</td>
<td>275</td>
<td>287.5</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>L3</td>
<td>213</td>
<td>223.5</td>
<td>234</td>
<td>244.5</td>
<td>255</td>
<td>265.5</td>
<td>276</td>
<td>286.5</td>
</tr>
<tr>
<td>L4</td>
<td>17.5</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>12</td>
</tr>
</tbody>
</table>

Base Mounted SY3000/5000 Series Type 45
**SY5000: 18 Pins Terminal Block/Plug-in**

**SS5Y5-45T1U- Stations D-**

- 18 pins
- One-touch fitting (A, B port)
- Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"
- Manual override
  - Press and turn to operate and lock override.
  - A side: Blue
  - B side: Yellow
- Block separation button (Push type)
  - P = 16

**SS5Y5-45T1U- Stations B-**

- 18 pins
- One-touch fitting (P, R port)
- Applicable tubing O.D.: ø10, ø3/8"
- Manual override
  - Press and turn to operate and lock override.
  - A side: Blue
  - B side: Yellow
- Block separation button (Push type)
  - P = 16

---

**Note:** The L1 to L4 dimensions of SSYS5-45T1U-Stations D, N are identical to those of SSYS5-45T1U-Stations N, N.
SY5000: 18 Pins Terminal Block/Plug-in

SS5Y5-45T1D- Stations U- (18 pins)

**Button for DIN rail release**

**one-touch fitting**

Applicable tubing O.D.: ø10, ø3/8"

**Press and turn to operate and lock override.**

A side: Blue
B side: Yellow

**Manual override**

**DIN rail holding screw**

(Light/surge voltage suppressor)

SS5Y5-45T1D- Stations B- (18 pins)

**Block separation button**

(Push type)

**one-touch fitting**

(A, B port)

Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"

**one-touch fitting**

(P, R port)

Applicable tubing O.D.: ø10, ø3/8"

**Manual override**

Press and turn to operate and lock override.

A side: Blue
B side: Yellow

**DIN rail holding screw**

(Light/surge voltage suppressor)
### SY3000/5000 Series

#### DIN Rail Manifold Exploded View

**Type 45F (D-sub Connector) Manifold**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manifold block assembly</td>
<td>SY3000: SX3000-64-1A (Metric size) SX5000-64-1A (Inch size)</td>
<td>SY5000: SX3000-64-1A (Metric size) SX5000-64-1A (Inch size)</td>
</tr>
<tr>
<td>2</td>
<td>SUP/EXH block assembly</td>
<td>SX3000-51-2A</td>
<td>SX5000-51-2A</td>
</tr>
<tr>
<td>3</td>
<td>End block assembly</td>
<td>SX3000-52-2A(-Q) SX5000-52-2A(-Q)</td>
<td>For D side</td>
</tr>
<tr>
<td>4</td>
<td>End block assembly</td>
<td>SX3000-53-2A(-Q) SX5000-53-2A(-Q)</td>
<td>For U side</td>
</tr>
<tr>
<td>5-1</td>
<td>Connector block assembly (for D-sub connector)</td>
<td>SX3000-64-1A-1A SX5000-64-1A-1A</td>
<td>-1A: +COM -1A-1NA: -COM</td>
</tr>
<tr>
<td>5-3</td>
<td>Connector block assembly (for 20 pins flat cable)</td>
<td>SX3000-64-2A-20 SX5000-64-2A-20</td>
<td>Note) For 24 VDC</td>
</tr>
<tr>
<td>5-4</td>
<td>Connector block assembly (for 10 pins flat cable)</td>
<td>SX3000-64-2A-10 SX5000-64-2A-10</td>
<td>In common between +COM and –COM.</td>
</tr>
<tr>
<td>5-5</td>
<td>Connector block assembly for 9 to 17 stations</td>
<td>SX3000-64-3A SX5000-64-3A</td>
<td>For U side</td>
</tr>
<tr>
<td>5-6</td>
<td>Connector block assembly for 2 to 8 stations (T, T1)</td>
<td>SX3000-64-4A SX5000-64-4A</td>
<td>-4A: +COM -4A-4NA: -COM</td>
</tr>
<tr>
<td>6</td>
<td>Round head combination screw</td>
<td>SY3000-23-4 SX5000-23-4</td>
<td>(M2 x 21)</td>
</tr>
<tr>
<td>7</td>
<td>Gasket</td>
<td>SX3000-57-4 SX5000-57-4</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>DIN rail</td>
<td>VZ10000-11-1-1 (Metric size) VZ10000-11-1-1 (Inch size)</td>
<td>Refer to page 568.</td>
</tr>
</tbody>
</table>

Note 1) The numbers 5-1 to 4 are for 24 VDC. For 12 VDC, suffix "-12V" to the end of parts number. (Example) SX3000-64-1A-12 V

Note 2) Two manifold block assemblies are necessary for the double, 3 position (Dual body type).

#### Type of manifold

<table>
<thead>
<tr>
<th>Type of manifold</th>
<th>Manifold block assembly part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 45(N)F (D-sub connector)</td>
<td>SX3000-50-3A-□□□(Q)</td>
<td>A, B port SY3000 (metric size) C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6</td>
</tr>
<tr>
<td>For 45(N)F (Flat ribbon cable)</td>
<td>SX3000-50-5A-□□□(Q)</td>
<td>A, B port SY5000 (metric size) C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6</td>
</tr>
<tr>
<td>For 45(F) (Terminal block)</td>
<td>SX3000-50-7A-□□□(Q)</td>
<td>A, B port SY5000 (metric size) C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6</td>
</tr>
</tbody>
</table>

Note) The lead wire assembly is supplied with the manifold block assembly.
How to Increase Manifold Bases

1. Loosen DIN rail holding screw fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons, at two locations, separate the manifold base from the DIN rail.)

2. Additional bases are to be added to the U side. Press splitting button of the manifold block assembly on the U side until button locks, and then separate the block assemblies.

3. Separate the connector block assembly in the same manner as and remove the connector mounting screw shown in Fig. 1.

4. Loosen the valve mounting screw on the U side, remove the valve, and take out the receptacle housing. (Refer to Fig. 2.)

5. Insert the common wire (red) of the manifold block assembly to be added into the pin insertion section (N mark) of the receptacle housing that was taken out in 4, mount it on the manifold block, and mount the removed valve.

6. As shown in Fig. 3, mount the additional manifold block assembly on the DIN rail on the U side. Refer to the circuit diagram, and insert the lead wire (black) as shown in Fig. 4.

7. Press the blocks against each other until a click sound is produced, place the lead wire in the manifold block, and close the lid without pinching the lead wire.

8. While lightly holding the blocks together so that there are no gaps between them, secure them to the DIN rail by tightening the DIN rail holding screws. (Tightening torque: 1.4 N·m)

Caution
1. Depending on the connector, there is a limit to the number of solenoids that can be used. Manifold bases that can be added cannot exceed the number of usable solenoids.

2. The manifold block assembly mounting position for additional manifold bases is always on the U side, because wires are connected to respective connectors sequentially from the D side.

3. When DIN rail holding screw for the end block is not sufficiently tightened during reassembly, air leakage may result. Before supplying air, check that there is no gap between blocks and that the manifold block is firmly fixed to the DIN rail in order to ensure air supply without leakage.

How to Change Fitting Assembly

Type 45 manifold permits change in the A and B port sizes by changing the manifold block fitting assembly.

After removing the valve, remove the clip with a screwdriver, etc. For mounting a new fitting assembly, insert it and then insert a clip until it will not come out of the manifold block.

Fitting Assembly Part No.

<table>
<thead>
<tr>
<th>Metric size</th>
<th>Inch size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000</td>
</tr>
<tr>
<td>One-touch fitting for ø4</td>
<td>One-touch fitting for ø(\frac{1}{8})</td>
</tr>
<tr>
<td>One-touch fitting for ø6</td>
<td>One-touch fitting for ø(\frac{1}{4})</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000</td>
</tr>
<tr>
<td>One-touch fitting for ø8</td>
<td>One-touch fitting for ø(\frac{1}{8})</td>
</tr>
</tbody>
</table>

Note 1) P and R ports cannot be changed.
Note 2) Use caution that O-rings must be free from scratches and dust. Otherwise, air leakage may result.
Note 3) Purchasing order is available in units of 10 pieces.
How to Order Manifold

**SY3000/5000 Base Mounted Manifold**

**Stacking Type/DIN Rail Mounted**

**EX122 Integrated-type (For Output) Serial Transmission System**

### How to Order Manifold

**SS5Y 3-45S V 05 U C6**

#### Series

| 3 | SY3000 |
| 5 | SY5000 |

#### SI unit specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Protocol type</th>
<th>SI unit No.</th>
<th>CE-compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Without SI unit</td>
<td>—</td>
<td>Nil</td>
</tr>
<tr>
<td>H</td>
<td>NKE Corp.: Fieldbus H System</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Q</td>
<td>DeviceNet</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>R1</td>
<td>OMRON Corp.: CompoBus/S (16 outputs) compatible</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>R2</td>
<td>OMRON Corp.: CompoBus/S (8 outputs) compatible</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>V</td>
<td>CC-LINK</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>ZB</td>
<td>CompoNet™ (Positive common)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>ZBN</td>
<td>CompoNet™ (Negative common)</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

- Even though when it is not equipped with SI unit, DIN rail length is long enough for future expectancy of mounting SI unit.
- SI unit is available only for the D-side mounting type.

#### Valve stations

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
</tr>
<tr>
<td>B</td>
<td>(Both sides)</td>
</tr>
<tr>
<td>M</td>
<td>Special specifications</td>
</tr>
</tbody>
</table>

#### SUP/EXH block assembly mounting position

- U side: 2 to 10 stations
- D side: 2 to 10 stations
- Special specifications: 2 to 16 stations

#### Note

- For special specifications, indicate separately by the manifold specification sheet.

### How to Order Manifold Assembly (Example)

**Example**

- **Double solenoid (24 VDC)**
  - SY3245-5FU
  - SY3245-5FU

- **Single solenoid (24 VDC)**
  - SY3140-5FU

### How to Order Valve

<table>
<thead>
<tr>
<th>2 position single</th>
<th>SY 3</th>
<th>1 4 0 - 5 FU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Series</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>SY3000</td>
<td></td>
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<tr>
<td>5</td>
<td>SY5000</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th><strong>Manual override</strong></th>
<th></th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Push-turn locking lever type</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Push-turn locking slotted type</td>
<td></td>
</tr>
</tbody>
</table>

**Rated voltage**

- S 24 VDC

**Made to Order**

- X90 Main valve fluororubber
  (Refer to page 624.)

#### Note

- When ordering plug-in type solenoid valve as a single unit, gaskets are not included. Order them separately, if necessary.
  (Refer to page 592 for details.)
- With light/surge voltage suppressor (Non-polar type)
SY3000 Series: EX122 Integrated-type (For Output) Serial Transmission System/Plug-in

**SS5Y3-45S- Stations U-C4, N3 C6, N7**

- **Button for DIN rail release**
- **One-touch fitting** (P, R port)
- **Applicable tubing O.D.: ø8, ø5/16”**
- **Light/surge voltage suppressor**
- **DIN rail holding screw**
- **Manual override**
  - A side: Blue
  - B side: Yellow
- **Press and turn to operate and lock override.**
- **Block separation button**
  - (Push type)
- **SY3000 Series: EX122 Integrated-type (For Output) Serial Transmission System/Plug-in**

**SS5Y3-45S- Stations B-C4, N3 C6, N7**

- **Button for DIN rail release**
- **One-touch fitting** (P, R port)
- **Applicable tubing O.D.: ø8, ø5/16”**
- **DIN rail holding screw**
- **Manual override**
  - A side: Blue
  - B side: Yellow
- **Press and turn to operate and lock override.**

**Note:** The L1 to L4 dimensions of SS5Y3-45S- Stations U-C4, N3 C6, N7 are identical to those of SS5Y3-45S- Stations B-C4, N3 C6, N7.
SY5000 Series: EX122 Integrated-type (For Output) Serial Transmission System/Plug-in

SSSY5-45S□-Stations U-C4, N3, C8, N9

Button for DIN rail release

One-touch fitting (P, R port)
Applicable tubing O.D.: ø10, ø3/8"

DIN rail holding screw

DIN rail

U side

D side

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

Block separation button (Push type)

SSSY5-45S□-Stations B-C4, N3, C8, N9

Button for DIN rail release

One-touch fitting (P, R port)
Applicable tubing O.D.: ø10, ø3/8"

DIN rail holding screw

DIN rail

U side

D side

Manual override
Press and turn to operate and lock override.
A side: Blue
B side: Yellow

Note) The L1 to L4 dimensions of SSSY5-45S□-Stations U-C4, N3, C8, N9 are identical to those of SSSY5-45S□-Stations B-C4, N3, C8, N9.
SY3000/5000 Base Mounted Manifold
Stacking Type/DIN Rail Mounted
EX 121 Separate Type (For Output) Serial Transmission System

How to Order Manifold

**SI unit specifications**

- Even though when it is not equipped with SI unit, DIN rail length is long enough for future expectancy of mounting SI unit.
- When a shorter rail is required (same as type 45S1), suffix "0" in the optional blank at the end of part number.

**Option**

- When a longer DIN rail is desired than the specified stations, specify the station number to be required. (Max. 20 stations)

**CE-compliant**

- Refer to the SI unit part no. for the SI unit compatible with CE.

**A, B port size**

- One-touch fitting (Metric size)
  - Symbol: C4
  - Port size: One-touch fitting for ø4
  - Applicable series: SY3000
  - Symbol: C6
  - Port size: One-touch fitting for ø6
  - Applicable series: SY3000
  - Symbol: M
  - Port size: Mixed
  - Applicable series: SY3000

- One-touch fitting (Inch size)
  - Symbol: N3
  - Port size: One-touch fitting for ø 5/32
  - Applicable series: SY3000
  - Symbol: N7
  - Port size: One-touch fitting for ø 1/4
  - Applicable series: SY3000
  - Symbol: N9
  - Port size: One-touch fitting for ø 5/32
  - Applicable series: SY3000

- In the case of mixed specifications, indicate separately on the manifold specification sheet.

**SUP/EXH block assembly mounting position**

- Symbol: U
- Mounting position: U side
- Stations: 2 to 10 stations

- Symbol: D
- Mounting position: D side
- Stations: 2 to 10 stations

- Symbol: B
- Mounting position: Both sides
- Stations: 2 to 16 stations

- Symbol: M
- Special specifications

**Valve stations**

- Symbol: 02
- Stations: 2 stations
- Note: Single wiring spec. (Applicable up to 16 solenoid valves.)

**SI Unit Part No.**

- Symbol: H
  - Protocol type: NKE Corp.: Fieldbus H System
  - SI unit No.: EX121-SUH1

- Symbol: Q
  - Protocol type: DeviceNet
  - SI unit No.: EX121-SDN1

- Symbol: R1
  - Protocol type: OMRON Corp.: CompoBus/S (16 outputs) compatible
  - SI unit No.: EX121-SCS1

- Symbol: R2
  - Protocol type: OMRON Corp.: CompoBus/S (8 outputs) compatible
  - SI unit No.: EX121-SCS2

- Symbol: V
  - Protocol type: CC-LINK
  - SI unit No.: EX121-SM1

- Symbol: ZB
  - Protocol type: CompoNet™ (Positive common)
  - SI unit No.: EX121-SCM1

- Symbol: ZBN
  - Protocol type: CompoNet™ (Negative common)
  - SI unit No.: EX121-SCM3

- For external pilot specifications and built-in silencer, refer to pages 616 to 620.

Refer to page 777 and the Operation Manual for the details of EX121 Separate Type (For Output) Serial Transmission System.
Please download the Operation Manual via our website, http://www.smcworld.com
When ordering plug-in type solenoid valve as a single unit, gaskets are not included. Order them separately, if necessary. (Refer to page 592 for details.)

With light/surge voltage suppressor (Non-polar type)
SY3000: EX121 Separate Type (For Output) Serial Transmission System/Plug-in

SS5Y3-45S1□U-Stations D- C4, N3 C6, N7

Button for DIN rail release

One-touch fitting
(P, R port)
Applicable tubing O.D.: ø8, ø5/16"

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"

Manual override
Press and turn to operate and lock override.
A side: Blue
B side: Yellow

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

DIN rail holding screw

SS5Y3-45S1□U-Stations B- C4, N3 C6, N7

Button for DIN rail release

One-touch fitting
(P, R port)
Applicable tubing O.D.: ø8, ø5/16"

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"

Note) The L1 to L4 dimensions of SS5Y3-45S1□U-Stations D- C4, N3 are identical to those of SS5Y3-45S1□U-Stations B- C4, N3.

Block separation button (Push type)

SY3000/5000 type 45S1

Base Mounted
SY3000: EX121 Separate Type (For Output) Serial Transmission System/Plug-in

SY3000/5000

SSY3-45S1□D- Stations U-C4, N3 C6, N7

Button for DIN rail release

One-touch fitting (P, R port)
Applicable tubing O.D.: ø8, ø5/16" (Station 1)

One-touch fitting (A, B port)
Applicable tubing O.D.: ø4, ø5/32", ø6, ø1/4" (Station n)

DIN rail
DIN rail holding screw

Manual override
Press and turn to operate and lock override.
A side: Blue
B side: Yellow

Light/surge voltage suppressor

Block separation button
(Push type)

Press and turn to operate and lock override.

Notes: The L1 to L4 dimensions of SSY3-45S1□D- Stations U-C4, N3 C6, N7 are identical to those of SSY3-45S1□D- Stations B-C4, N3 C6, N7.

SSY3-45S1□D- Stations B-C4, N3 C6, N7

Button for DIN rail release

One-touch fitting (P, R port)
Applicable tubing O.D.: ø8, ø5/16" (Station 1)

One-touch fitting (A, B port)
Applicable tubing O.D.: ø4, ø5/32", ø6, ø1/4" (Station n)

DIN rail
DIN rail holding screw

Manual override
Press and turn to operate and lock override.
A side: Blue
B side: Yellow

SI unit

(Station n)- (Station 1)

Note: The L1 to L4 dimensions of SSY3-45S1□D- Stations B-C4, N3 C6, N7 are identical to those of SSY3-45S1□D- Stations U-C4, N3 C6, N7.

<table>
<thead>
<tr>
<th>Stations</th>
<th>3 stations</th>
<th>4 stations</th>
<th>5 stations</th>
<th>6 stations</th>
<th>7 stations</th>
<th>8 stations</th>
<th>9 stations</th>
<th>N stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>198</td>
<td>210.5</td>
<td>223</td>
<td>235.5</td>
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<tr>
<td>L2</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>187.5</td>
<td>200</td>
<td>212.5</td>
<td>225</td>
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<tr>
<td>L3</td>
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<td>133.5</td>
<td>144</td>
<td>154.5</td>
<td>165</td>
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<td>L4</td>
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<td>16</td>
<td>17</td>
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<table>
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<th>14 stations</th>
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<th>N stations</th>
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<tbody>
<tr>
<td>L1</td>
<td>173</td>
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<td>198</td>
<td>210.5</td>
<td>223</td>
<td>235.5</td>
</tr>
<tr>
<td>L2</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>212.5</td>
<td>225</td>
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<tr>
<td>L3</td>
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<tr>
<td>L4</td>
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<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
</tbody>
</table>

SI unit

P = 10.5 42.8

Applicable tubing O.D.: ø8, ø5/16" (P, R port)

Applicable tubing O.D.: ø4, ø5/32", ø6, ø1/4" (A, B port)

U side D side

C4, N3 C6, N7

Note: The L1 to L4 dimensions of SSY3-45S1□D- Stations B-C4, N3 C6, N7 are identical to those of SSY3-45S1□D- Stations U-C4, N3 C6, N7.
SSY5-45S1-U Stations

C4, N3 C6, N7 C8, N9

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"

One-touch fitting
(P, R port)
Applicable tubing O.D.: ø10, ø3/8"

Manual override
(Press and turn to operate)
A side: Blue
B side: Yellow

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

Block separation button
(Push type)

SY5000: EX121 Separate Type (For Output) Serial Transmission System/Plug-in

Note: The L1 to L4 dimensions of SSY5-45S1-U Stations are identical to those of SSY5-45S1-U Stations D, C8, N9.
SY5000: EX121 Separate Type (For Output) Serial Transmission System/Plug-in

SS5Y5-45S1□D- Stations U-C4, N3 C6, N7 C8, N9

- One-touch fitting (P, R port)
  - Applicable tubing O.D.: \( \phi 10, \phi 3/8" \)

- One-touch fitting (A, B port)
  - Applicable tubing O.D.: \( \phi 4, \phi 5/32" \), \( \phi 6, \phi 1/4" \), \( \phi 8, \phi 5/16" \)

- Button for DIN rail release

- Light/surge voltage suppressor (Station 1)

- Block separation button (Push type)

- DIN rail holding screw

- Manual override (Press and turn to operate and lock override. A side: Blue; B side: Yellow)

- Note) The L1 to L4 dimensions of SS5Y5-45S1□D- Stations U-C4, N3 C6, N7 C8, N9 are identical to those of SS5Y5-45S1□D- Stations B-C4, N3 C6, N7 C8, N9.

SS5Y5-45S1□D- Stations B-C4, N3 C6, N7 C8, N9

- Button for DIN rail release (P, R port)
  - Applicable tubing O.D.: \( \phi 10, \phi 3/8" \)

- Manual override (Press and turn to operate and lock override. A side: Blue; B side: Yellow)

- Note) The L1 to L4 dimensions of SS5Y5-45S1□D- Stations B-C4, N3 C6, N7 C8, N9 are identical to those of SS5Y5-45S1□D- Stations U-C4, N3 C6, N7 C8, N9.

<table>
<thead>
<tr>
<th>Station(s)</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
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<tr>
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<td>175</td>
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<tr>
<td>L2</td>
<td>162.5</td>
<td>175</td>
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<tr>
<td>L3</td>
<td>105</td>
<td>121</td>
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<td>153</td>
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<td>185</td>
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<td>13</td>
<td>17.5</td>
<td>15.5</td>
<td>14</td>
</tr>
</tbody>
</table>

SY3000/5000
**How to Order Manifold**

**Manifold series**
- SS5Y 3-45S6B
- U 02 U
- C4

**SI unit**
- Nil
- NPN output (+COM.)
- N PNP output (–COM.)

**SI unit part no.**
<table>
<thead>
<tr>
<th>Symbol</th>
<th>SI unit specifications</th>
<th>SI unit part no.</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>NPN output (+COM.)</td>
<td>EX510-S002A</td>
<td>P.897</td>
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<tr>
<td>N</td>
<td>PNP output (–COM.)</td>
<td>EX510-S102A</td>
<td></td>
</tr>
</tbody>
</table>

**SI unit mounting position**
- U side
- D side

**Valve stations**
- Symbol: 02
  - Stations: 2
  - Note: Compatible with 16 solenoid valves
- Symbol: 16
  - Stations: 16

**How to Order Manifold Assembly (Example)**

**Example**
- SUP/EXH block (U side mounting)
- Double solenoid (24 VDC)
  - SY3245-SFU (1 set)
- Single solenoid (24 VDC)
  - SY3140-SFU (3 sets)
- Manifold base (5 stations)
  - SSYSY3-45S6BD-05B-C6

**SUP/EXH block assembly mounting position**
- U side
  - 2 to 10 stations
- D side
  - 2 to 16 stations
- B Both sides
  - 2 to 16 stations
- M Special specifications*

**SUP/EXH block assembly mounting position**

**Pilot specifications**
- Nil: Internal pilot
- S: Internal pilot/built-in silencer
- R: External pilot
- RS: External pilot/built-in silencer

**How to Order Manifold Assembly (Example)**

- EX510 Gateway-type Serial Transmission System
- Base Mounted Manifold/Stacking Type/Plug-in Type
- SY3000/5000 Series


---

*The number of the blanking plate assembly is also included.*

*For the special specifications, indicate separately on a manifold specification sheet.*

*They will be assembled in the order listed starting at the first station at the D side whether the connector box is located at either end.

*When ordering double solenoid valves/3 position (dual body type), please keep in mind that they require two manifold stations.*
Base Mounted Manifold  **SY3000/5000 Series**

### How to Order Valves

#### Type of actuation

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

#### Solenoid type

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Single solenoid</td>
</tr>
<tr>
<td>C</td>
<td>Double solenoid (Dual body type)</td>
</tr>
</tbody>
</table>

#### Series

3 | SY300
5 | SY500

#### 3 port solenoid valve

SY 3 1 5 - 5FU

#### 5 port solenoid valve

SY 3 1 4 0 - 5FU

#### Type of actuation

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

#### Body option

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Standard (Single only)</td>
</tr>
<tr>
<td>5</td>
<td>Dual body type (Double/3 position)</td>
</tr>
</tbody>
</table>

#### CE-compliant

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>—</td>
</tr>
<tr>
<td>Q</td>
<td>CE-compliant</td>
</tr>
</tbody>
</table>

#### Made to Order

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>—</td>
</tr>
<tr>
<td>X90</td>
<td>Main valve fluororubber (Refer to page 624)</td>
</tr>
</tbody>
</table>

#### Manual override

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Non-locking push type</td>
</tr>
<tr>
<td>D</td>
<td>Push-turn locking slotted type</td>
</tr>
<tr>
<td>E</td>
<td>Push-turn locking lever type</td>
</tr>
</tbody>
</table>

#### Pilot specifications

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Internal pilot</td>
</tr>
<tr>
<td>R</td>
<td>External pilot</td>
</tr>
</tbody>
</table>

### Notes

- When ordering plug-in type solenoid valve as a single unit, gaskets are not included. Order them separately, if necessary. (Refer to page 592 for details.)
- With light/surge voltage suppressor (Non-polar type)
### Dimensions

**Type 45S6B**

#### SY3000/5000 Series

<table>
<thead>
<tr>
<th>SS5Y3-45S6B</th>
<th>Stations</th>
<th>U side</th>
<th>D side</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6, N3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4, N3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Button for DIN rail release

- (Pitch) \( P = 10.5 \)
- \( \text{Dimension} \)

#### One-touch fitting

- (P, R port)
  - Applicable tubing O.D.: \( \phi 8 \) : \( \phi 5/16" \)
- (A, B port)
  - Applicable tubing O.D.: \( \phi 4 \), \( \phi 5/32" \) : \( \phi 6 \), \( \phi 1/4" \)

#### SI unit

- (C6: 3.2)
- (N7: 7)
- (3)

#### Port and dimensions

- PORT SOL.a
- PORT SOL.b
- PWR COM

#### DIN rail

- DIN rail holding screw

#### Manual override

- (Press and turn to operate and lock override.)
  - A side: Blue
  - B side: Yellow

#### Rail mounting hole pitch

- 12.5

#### Light/surge voltage suppressor

- (Push type)

#### Block separation button

- (Push type)

#### L: Dimensions

<table>
<thead>
<tr>
<th>L</th>
<th>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>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td></td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
<td>223</td>
<td>223</td>
<td>235.5</td>
</tr>
<tr>
<td>L2</td>
<td></td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>212.5</td>
<td>212.5</td>
<td>225</td>
</tr>
<tr>
<td>L3</td>
<td></td>
<td>124.5</td>
<td>135</td>
<td>145.5</td>
<td>156</td>
<td>166.5</td>
<td>177</td>
<td>187.5</td>
<td>198</td>
<td>208.5</td>
</tr>
<tr>
<td>L4</td>
<td></td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>12.5</td>
<td>13.5</td>
</tr>
</tbody>
</table>

**n: Stations**
### Dimensions

**SSS55Y-45S6B Type D- Stations**

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>173</td>
<td>162.5</td>
<td>138</td>
<td>17.5</td>
</tr>
<tr>
<td>2</td>
<td>185.5</td>
<td>175</td>
<td>154</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>198</td>
<td>187.5</td>
<td>170</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>210.5</td>
<td>200</td>
<td>186</td>
<td>12.5</td>
</tr>
<tr>
<td>5</td>
<td>235.5</td>
<td>225</td>
<td>202</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>248</td>
<td>237.5</td>
<td>218</td>
<td>17</td>
</tr>
<tr>
<td>7</td>
<td>260.5</td>
<td>250</td>
<td>234</td>
<td>15</td>
</tr>
<tr>
<td>8</td>
<td>285.5</td>
<td>275</td>
<td>250</td>
<td>13.5</td>
</tr>
<tr>
<td>9</td>
<td>298</td>
<td>287.5</td>
<td>266</td>
<td>18</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

**DIN rail holding screw**

**Button for DIN rail release**

**One-touch fitting**

**DIN rail**

**SI unit**

**Manual override**

(Press and turn to operate and lock override.)

A side: Blue  B side: Yellow

**Light/surge voltage suppressor**

**One-touch fitting**

(P, R port)

Applicable tubing O.D.: \(\phi 10\), \(\phi 3/8\)"

**(Pitch)**

P=16

**Applicable tubing O.D.:**

- \(\phi 4\), \(\phi 5/32\)"
- \(\phi 6, \phi 1/4\)"
- \(\phi 8, \phi 5/16\)"

---

**L: Dimensions**

<table>
<thead>
<tr>
<th>L</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>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
<td>235.5</td>
<td>248</td>
<td>260.5</td>
<td>285.5</td>
<td>298</td>
</tr>
<tr>
<td>L2</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>225</td>
<td>237.5</td>
<td>250</td>
<td>275</td>
<td>287.5</td>
</tr>
<tr>
<td>L3</td>
<td>138</td>
<td>154</td>
<td>170</td>
<td>186</td>
<td>202</td>
<td>218</td>
<td>234</td>
<td>250</td>
<td>266</td>
</tr>
<tr>
<td>L4</td>
<td>17.5</td>
<td>16</td>
<td>14</td>
<td>12.5</td>
<td>17</td>
<td>15</td>
<td>13.5</td>
<td>18</td>
<td>16</td>
</tr>
</tbody>
</table>

---

**n: Stations**

- **L1**: 173, 185.5, 198, 210.5, 235.5, 248, 260.5, 285.5, 298
- **L2**: 162.5, 175, 187.5, 200, 225, 237.5, 250, 275, 287.5
- **L3**: 138, 154, 170, 186, 202, 218, 234, 250, 266
- **L4**: 17.5, 16, 14, 12.5, 17, 15, 13.5, 18, 16

---

This document provides detailed specifications for Type 45S6B SY3000/5000 Series components, including dimensions, mounting instructions, and operational details. The diagrams and tables illustrate the physical dimensions and key features of the units, ensuring clear understanding for installation and maintenance purposes.
Manifold Option

- **Blanking plate assembly**
  By installing a SUP blocking disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.

- **EXH blocking disk**
  By installing an EXH blocking disk in the exhaust passage of a manifold valve, it is possible to divide the valve's exhaust so that it does not affect another valve. (Two blocking disks are needed to divide both exhausts.)

- **SUP blocking disk**
  The labels shown below are used on manifold stations containing SUP/EXH block disk(s) to show their location. (3 pcs. each)
  VZ3000-123-1A (In common with SY3000, 5000)
  Label for SUP block disk Label for EXH block disk Label for SUP/EXH block disk

- **Trailer with One-touch fitting**
  The silencer plugs directly into the One-touch fittings of the manifold.

- **Silencer with One-touch fitting**
  The silencer plugs directly into the One-touch fittings of the manifold.

- **Mounting screw tightening torques**
  M2: 0.16 N·m
  M3: 0.8 N·m
  M4: 1.4 N·m

- **Individual EXH spacer assembly**
- **Individual SUP spacer assembly**

- **Plug**
  These are inserted in unused cylinder ports and SUP, EXH ports. Purchasing order is available in units of 10 pieces.

- **Dimensions**
  Applicable fitting size ø
  Model | A | B | C
  --- | --- | --- | ---
  KQ2P-04 | 16 | 32 | 6
  KQ2P-06 | 18 | 35 | 8
  KQ2P-08 | 20.5 | 39 | 10
  KQ2P-10 | 22 | 43 | 12
  KQ2P-01 | 16 | 31.5 | 5
  KQ2P-03 | 16 | 32 | 6
  KQ2P-07 | 16 | 35 | 8.5
  KQ2P-09 | 20.5 | 39 | 10

---

**Note**
- Please be careful because the dual body type (double solenoid, 3-position) requires two pieces. In this case, the exhaust is performed in the direction of the arrow mark indicated on the valve surface.
3 Port Valve
Mixed Mounting Type on 5 Port Valve Manifold

**SY300/500 Series**

3 port valve can be mounted on manifold for 5 port valve.

**Single Unit**

Brackets and sub-plates are the same as the SY3000/5000 series.

**Applications**

Possible to be mounted on all kinds of manifolds for the SY3000/5000 series.
Refer to “How to Order Manifold” for the details.

**How to Order Manifold Assembly (Example)**

**Example**

- **Cylinder port size**
  - C6: With One-touch fitting for ø6

- **5 port valve: Single solenoid**
  - SY3120-5G-C6 (1 set)

- **3 port valve: Single solenoid (N.C.)**
  - SY313-5G-C6 (2 sets)

- **Manifold base (5 stations)**
  - SSSY3-20-05

- **5 port valve: Double solenoid**
  - SY3220-5G-C6 (2 sets)

---

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

Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.

**Specifications**

Dimensions, specifications, solenoid specifications, response time and effective area are the same as 5 port valve.
**3 Port Valve SY300/500 Series**

### Body Ported/How to Order Valve

**For single and individual wiring:** For SS5Y2-20

- **Series**: SY 5 1 3 - 5 L - 01

### Type of actuation

1. Normally closed (N.C.)
2. Normally open (N.O.)

### Solenoid type

- Nil: Single solenoid
- D: Double solenoid

### Coil specifications

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

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

### Rated voltage

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

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

### Electrical entry

<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>SY500 only: With connector</td>
<td>W: Without connector</td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>L0: Without lead wire</td>
<td>M0: Without lead wire</td>
<td>SY500 only: Without connector</td>
<td>W: Without connector</td>
</tr>
</tbody>
</table>

* LN, MN type: with 2 sockets.
* Refer to page 639 for DIN terminal type of the SY3000 series.
* "Y" type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.
* For connector cable of MB connector, refer to page 641.

### Made to Order

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

- **Bracket**
  - Nil: CE-compliant
  - G: CE-compliant

* Brackets are the same as the SY3000/5000 series.
* For bracket pin number, refer to page 407.

### CE-compliant

- SY300
- SY500

### Gasket assembly part no.

- SY3000-GS-1
- SY3000-GS-2

* When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary.

### Manual override

- Non-locking push type (D)
- Push-turn locking slotted type (E)
- Push-turn locking lever type (P.632)

### Light/Surge voltage suppressor

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

### Electrical entry for D, Y (SY500 only)

|-----------------------------------------|---------------------------------|-----------------------------------------------|---------------------------------|

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

### Note

- When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary.
**SY300/500 Series**

**Flat ribbon cable**
EX10 Gateway-type serial transmission system:

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

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

**Rated voltage**
- 20P/20SA
  - For DC: SY 5 3 1
  - For AC: SY 5 3 1

**Solenoid type**
- Nil: Single solenoid
- OL: Double solenoid

**Thread type**
- Nil
- F: External pilot
- G: Internal pilot

**Port size**
- Nil: Without sub-plate
- 01: With 1/8 sub-plate
- 02: With 1/4 sub-plate

**Thread piping**
- Symbol: Port size
- Applicable series
  - M5: SY300
  - M5 x 0.8: SY300

**One-touch fitting (Metric size)**
- Symbol: Port size
- Applicable series
  - C4: SY300
  - C6: SY300
  - C8: SY300

**One-touch fitting (Inch size)**
- Symbol: Port size
- Applicable series
  - N3: SY300
  - N7: SY300
  - N5: SY300

**Made to Order**
- X20: Body ported external pilot (Refer to page 621.)
- X90: Main valve fluorocarbon (Refer to page 624.)

**Base Mounted/How to Order Valve**

For single and individual wiring: For SS5Y3-41/42/45

### Series
- SY 5 3 1
- SY 5 3 1

**Type of actuation**
- Normally closed (N.C.)
- Normally open (N.O.)

**Solenoid type**
- Single solenoid
- Double solenoid

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

**Rated voltage**
- For DC: 100 VAC
- For AC: 110 VAC [115 VAC]

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

**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 for G, H, L, M, W**
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor (Non-polar type)

**Electrical entry for D, Y (SY500 only)**
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor (Non-polar type)

**Thread type**
- Nil
- F: External pilot
- G: Internal pilot

**Pilot type**
- Nil: Internal pilot
- R: External pilot

**Note**
- AC-type models that are CE-compliant have DIN terminals only.
- DC specifications of Type D, Y, DO and YO are only available with 12 and 24 VDC.
- For type W, DC voltage is only available.
- For type Y, DC voltage is only available.
- For type YO, DC voltage is only available.
- For type D, Y, DO and YO is only available with 12 and 24 VDC.
- For M8 connector, conforming to IEC60947-5-2 standard is also available. Refer to page 623 for details.
- Refer to page 638 for the lead wire length of L and M plug connectors.
- Refer to page 639 for the connector assembly with cover for L and M plug connectors.
- Refer to page 640 for the connector assembly with cover for L and M plug connectors.
Note) CE-compliant: For DC only.

When ordering double solenoid valves (Dual body type), please keep in mind that they require two manifold stations.

When ordering double solenoid valves (Dual body type), please keep in mind that they require two manifold stations.
SY300/500 Series

Construction: Body Ported

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></td>
<td>(SY300: Zinc die-casted)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Adapter plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>End plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>Resin</td>
<td>–</td>
</tr>
<tr>
<td>5</td>
<td>Spool valve assembly</td>
<td>Aluminum, H-NBR</td>
<td>–</td>
</tr>
</tbody>
</table>

Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Pilot valve assembly</td>
<td>Refer to “How to Order Pilot Valve Assembly” on page 629.</td>
</tr>
<tr>
<td>7</td>
<td>M5 port block assembly</td>
<td>Refer to “How to Order Port Block Assembly” below.</td>
</tr>
</tbody>
</table>

How to Order M5 Port Block Assembly

SY □□ 00 – 2A □□

A, B port size

- Series
  - SY300 series
  - SY500 series

Thread piping

<table>
<thead>
<tr>
<th>Thread piping</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>M5 x 0.8</td>
<td>SY300</td>
</tr>
<tr>
<td>1/8</td>
<td>1/8</td>
<td>SY500</td>
</tr>
</tbody>
</table>

One-touch fitting (Metric size)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>One-touch fitting for ø4</td>
<td>SY300</td>
</tr>
<tr>
<td>C6</td>
<td>One-touch fitting for ø6</td>
<td>SY500</td>
</tr>
<tr>
<td>C8</td>
<td>One-touch fitting for ø8</td>
<td>SY500</td>
</tr>
</tbody>
</table>

How to order (Inch size)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>One-touch fitting for Ø3/8&quot;</td>
<td>SY300</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for Ø1&quot;</td>
<td>SY500</td>
</tr>
<tr>
<td>K</td>
<td>One-touch fitting for Ø5/16&quot;</td>
<td>SY500</td>
</tr>
</tbody>
</table>

Metric size

SY300
- One-touch fitting for ø4
- One-touch fitting for ø6
- One-touch fitting for ø8

SY500
- One-touch fitting for ø4
- One-touch fitting for ø6
- One-touch fitting for ø8

Inch size

SY300
- One-touch fitting for Ø3/8"
- One-touch fitting for Ø1"
- One-touch fitting for Ø5/16"

SY500
- One-touch fitting for Ø3/8"
- One-touch fitting for Ø1"
- One-touch fitting for Ø5/16"

Caution

Mounting screw tightening torques

SY300 (M2) : 0.12 N·m
SY500 (M3) : 0.6 N·m
Construction: Base Mounted

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 (SY3000: Zinc die-casted)</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Adapter plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>End plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>Piston</td>
<td>Resin</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>Spool valve assembly</td>
<td>Aluminum, H-NBR</td>
<td>—</td>
</tr>
</tbody>
</table>

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-platter (Note)</td>
<td>SY3000-27-1</td>
<td>SY5000-27-1</td>
</tr>
<tr>
<td>7</td>
<td>Pilot valve assembly</td>
<td>Refer to “How to Order Pilot Valve Assembly” on page 629.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Gasket Standard</td>
<td>SY3000-11-15</td>
<td>SY5000-11-15</td>
</tr>
<tr>
<td></td>
<td>CE-compliant</td>
<td>SY3000-11-25</td>
<td>SY5000-11-15</td>
</tr>
<tr>
<td></td>
<td>Round head combination screw</td>
<td>SY3000-23-4</td>
<td>AC00077</td>
</tr>
<tr>
<td></td>
<td>Reference screw size</td>
<td>(M2 x 21)</td>
<td>(M3 x 26)</td>
</tr>
</tbody>
</table>

Caution

Mounting screw tightening torques:
M2: 0.16 N·m
M3: 0.8 N·m
M4: 1.4 N·m
## Weight

### Body ported

#### SY300 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Weight (g)</th>
<th>Note/Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3□□□□□□□□□-M5</td>
<td>Single</td>
<td>51</td>
<td>53</td>
</tr>
<tr>
<td>SY3□□□□□□□□□-C4□□□□</td>
<td>Single</td>
<td>56</td>
<td>59</td>
</tr>
<tr>
<td>SY3□□□□□□□□□-C6□□□□</td>
<td>Single</td>
<td>54</td>
<td>57</td>
</tr>
<tr>
<td>SY3□□□□□□□□□</td>
<td>Double</td>
<td>68</td>
<td>74</td>
</tr>
<tr>
<td>SY3□□□□□□□□□</td>
<td>Double</td>
<td>74</td>
<td>79</td>
</tr>
<tr>
<td>SY3□□□□□□□□□-N7</td>
<td>Double</td>
<td>72</td>
<td>77</td>
</tr>
</tbody>
</table>

#### SY500 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Weight (g)</th>
<th>Grommet</th>
<th>L, M plug connector</th>
<th>DIN terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY5□□□□□□□□□-O1</td>
<td>Single</td>
<td>69</td>
<td>72</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>SY5□□□□□□□□□</td>
<td>Double</td>
<td>87</td>
<td>93</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>SY5□□□□□□□□□-C4□□□□</td>
<td>Single</td>
<td>82</td>
<td>82</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>SY5□□□□□□□□□</td>
<td>Double</td>
<td>100</td>
<td>102</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>SY5□□□□□□□□□-C6□□□□</td>
<td>Single</td>
<td>79</td>
<td>77</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>SY5□□□□□□□□□</td>
<td>Double</td>
<td>97</td>
<td>98</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td>SY5□□□□□□□□□-C8□□□□</td>
<td>Single</td>
<td>75</td>
<td>84</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>SY5□□□□□□□□□</td>
<td>Double</td>
<td>93</td>
<td>105</td>
<td>147</td>
<td></td>
</tr>
</tbody>
</table>

Note: The values shown in (     ) are for values with sub-plate.

### Base mounted

#### SY300 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Note/Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3□□□□□□□□□</td>
<td>Single</td>
<td>47(82)</td>
</tr>
<tr>
<td>SY3□□□□□□□□□</td>
<td>Double</td>
<td>65(100)</td>
</tr>
</tbody>
</table>

#### SY500 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Note/Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY5□□□□□□□□□</td>
<td>Single</td>
<td>55(118)</td>
</tr>
<tr>
<td>SY5□□□□□□□□□</td>
<td>Double</td>
<td>73(136)</td>
</tr>
</tbody>
</table>

Note: The values shown in (     ) are for values with sub-plate.
**SY3000/5000**
Made to Order
External Pilot/Built-in Silencer

External pilot manifold bases for low-pressure/vacuum use are added to split type/ DIN rail manifolds. The built-in silencer has materialized a clear-cut appearance.

### Individual Wiring/Connector Box Type

#### How to Order Manifold

**Type 45**

<table>
<thead>
<tr>
<th>SS5Y3</th>
<th>45(-A)</th>
<th>05</th>
<th>U</th>
<th>R</th>
<th>C6</th>
</tr>
</thead>
</table>

**Series**

- 3 SY3000
- 5 SY5000

**Valve stations**

- Symbol
- Stations
- 02: 3 stations
- 1: 1 station
- 20: 20 stations
* The number of blanking plate assembly is included.

**SUP/EXH block assembly mounting position**

- Symbol
- Stations
- U: U side
- D: D side
- B: Both sides
- M: Special specifications

For special specifications, indicate separately by the manifold specification sheet.

### How to Order Manifold Assembly (Example)

**Example**

- Single solenoid (external pilot specifications)
  SY3140R-5G (5 sets)

- Built-in silencer
  SS5Y3-45-05DRS-C6

**Manifold base (5 stations)**

**SSSY3-45050RS-C6**

1 set (External pilot specification with built-in silencer part no.)

SY3140R-5G 5 sets (Single solenoid part no.)

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

The valve arrangement is numbered as the 1st. station from D side regardless of the mounting position of SUP/EXH block assembly. In ordering, specify the part nos. in the order from the 1st. station on D side. Besides, when the arrangement will be complicated, fill out the manifold specification sheet to instruct us.

For manifolds with SUP/EXH block assembly at each end of the manifold, external pilot ports and silencers will be also located at each end of the manifold.

The SUP/EXH block assembly (SX3/5000-51-1A), for special specifications as shown on page 546, can also be mounted. Please specify the mounting position, by correctly filling in the blank space on the manifold specification sheet.

### Note

**AC-type models that are CE-compliant have DIN terminals only.**

---

Type 45

**Individual Wiring/Connector Box Type**

<table>
<thead>
<tr>
<th>How to Order Manifold</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type 45</strong></td>
</tr>
<tr>
<td><strong>Series</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Valve stations</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

* The number of blanking plate assembly is included.

**SUP/EXH block assembly mounting position**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U side</td>
</tr>
<tr>
<td>D</td>
<td>D side</td>
</tr>
<tr>
<td>B</td>
<td>Both sides</td>
</tr>
<tr>
<td>M</td>
<td>Special specifications</td>
</tr>
</tbody>
</table>

For special specifications, indicate separately by the manifold specification sheet.

<table>
<thead>
<tr>
<th>One-touch fitting (Metric size)</th>
<th>One-touch fitting (Inch size)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4 One-touch fitting for ø4</td>
<td>N3 One-touch fitting for ø5/32</td>
</tr>
<tr>
<td>C6 One-touch fitting for ø6</td>
<td>N7 One-touch fitting for ø1/4</td>
</tr>
<tr>
<td>M Mixed</td>
<td>M Mixed</td>
</tr>
</tbody>
</table>

* In the case of mixed specifications, indicate separately on the manifold specification sheet.

**CE-compliant**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>External pilot specifications</td>
</tr>
<tr>
<td>S</td>
<td>Internal pilot/Built-in silencer</td>
</tr>
<tr>
<td>RS</td>
<td>External pilot/Built-in silencer</td>
</tr>
</tbody>
</table>

**Option**

When a longer DIN rail is desired than the specified stations, specify the station number to be required. (Max. 20 stations)

**SY3000**

- One-touch fitting for ø4
- One-touch fitting for ø6
- One-touch fitting for ø8

**SY5000**

- One-touch fitting (Metric size)
- One-touch fitting (Inch size)
  - 5/32" 1/4" 5/16"

**Nil**

**Q** CE-compliant

**Note**

AC-type models that are CE-compliant have DIN terminals only.
How to Order Valve

**SY 5 2 40**

**Series**
1. SY3000
2. SY5000

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

**Pilot type**
- Nil: Internal pilot
- R: External pilot

**Coil specifications**
- Standard
- T: With power saving circuit (5 VDC, 12 VDC only)

- Power saving circuit is not available in the case of D, Y, DO, YO or W type.

**Rated voltage**
- For DC
  - 5: 24 VDC
  - 6: 12 VDC
  - V: 6 VDC
  - S: 5 VDC
  - R: 3 VDC
- For AC (5/60 Hz)
  - 1: 100 VAC
  - 2: 200 VAC
  - 3: 110 VAC (115 VAC)
  - 4: 220 VAC (230 VAC)

- DC specifications of Type D, Y, DO and YO is only available with 12 and 24 VDC.
- For type W, DC voltage is only available.
- D, Y, DO and YO only available for SY5000.

**Electrical entry for G, H, L, M, W**
- S: Without light/surge voltage suppressor
- Z: With surge voltage suppressor
- R: With surge voltage suppressor (Non-polar type)
- U: With 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.

**Electrical entry for D, Y (SY5000 only)**
- S: Without light/surge voltage suppressor
- Z: With light/surge voltage suppressor (Non-polar type)

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

**Light/Surge voltage suppressor**
- E: Push-turn locking lever type

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

**CE-compliant**
- Q: CE-compliant

**Grommet**
- CE-compliant

**How to Order Valve**

1. **Series**
   - SY3000
   - SY5000

2. **Type of actuation**
   - 2 position single
   - 2 position double
   - 3 position closed center
   - 3 position exhaust center
   - 3 position pressure center

3. **Pilot type**
   - Nil: Internal pilot
   - R: External pilot

4. **Coil specifications**
   - Standard
   - T: With power saving circuit (5 VDC, 12 VDC only)

5. **Rated voltage**
   - For DC
     - 5: 24 VDC
     - 6: 12 VDC
     - V: 6 VDC
     - S: 5 VDC
     - R: 3 VDC
   - For AC (5/60 Hz)
     - 1: 100 VAC
     - 2: 200 VAC
     - 3: 110 VAC (115 VAC)
     - 4: 220 VAC (230 VAC)

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

7. **Electrical entry for D, Y (SY5000 only)**
   - S: Without light/surge voltage suppressor
   - Z: With light/surge voltage suppressor (Non-polar type)

8. **Light/Surge voltage suppressor**
   - E: Push-turn locking lever type

9. **Manual override**
   - D: Push-turn locking slotted type
   - E: Push-turn locking lever type

10. **CE-compliant**
    - Q: CE-compliant

11. **Grommet**
    - CE-compliant

Note: AC-type models that are CE-compliant have DIN terminals only.

* When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the integrated manifold are supplied with the solenoid valve, but the stacking type gaskets are not included. When the stacking type gaskets are required, order them separately.
**SY3000/5000**

The SSSY35-45T7.1 type plug-in terminal block manifold is to be discontinued as of December 2019. Therefore, we recommend considering the SY3000/5000/7000 plug-in connector connecting base terminal block box type manifold as a substitute. (Click here for details.) However, keep in mind that there is no specification or mounting compatibility between the two products.

---

### Plug-in

#### How to Order Manifold

**Type 45**

**SSSY3-45FU-05UR**

- **Series**
  - S SY3000
  - S SY5000

- **Common specifications**
  - Nil: Positive common
  - N: Negative common
  - No symbol is used for T, T1, S types.

- **Connector type**
  - Symbol: Mounting position
  - U: U side
  - D: D side

- **Valve stations**
  - Symbol: Stations
  - O2: 2 stations
  - i: i
  - 20: 20 stations

- **SUP/EXH block assembly mounting position**
  - Symbol: Mounting position
  - U: U side
  - D: D side
  - B: Both sides
  - M: Special specifications

- **SUP/EXH block assembly specifications**
  - Symbol: Specifications
  - R: External pilot specifications
  - S: Internal pilot/Built-in silencer
  - RS: External pilot/Built-in silencer

- **A, B port size**
  - One-touch fitting (Metric size)
    - C4: One-touch fitting tr ø4
    - C6: One-touch fitting tr ø6
    - C8: One-touch fitting tr ø8
    - X90: One-touch fitting tr ø9
  - One-touch fitting (Inch size)
    - N3: One-touch fitting tr ø5/8
    - N7: One-touch fitting tr ø7/8
    - N9: One-touch fitting tr ø9/8

- **Voltage**
  - Nil: 12 VDC
  - 24 VDC

- **Manual override**
  - Nil: Non-locking push type
  - X90: Push-turn locking slotted type
  - E: Push-turn locking lever type

- **Made to Order**
  - Nil: Man valve fluorubber
  - CE-compliant

---

### How to Order Manifold Assembly (Example)

**Example**

- **Single solenoid (external pilot specifications)**
  - SY3140R-5FU (3 sets)
- **Double solenoid (external pilot specifications)**
  - SY324SR-5FU (1 set)

- **Built-in silencer**
  - SY3140R-5FU-56DRS-C6

---

### How to Order Valve

**SY3140R-5FU**

- **Series**
  - S SY3000
  - S SY5000

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

- **Body Option**
  - 0: Standard (Single only)
  - 5: Dual body type (Double, 3 position)

- **Pilot type**
  - Nil: Internal pilot
  - R: External pilot

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

- **CE-compliant**
  - Nil
  - Q: CE-compliant

---

**Made to Order**

- Nil
  - X90: Man valve fluorubber
  - CE-compliant

---

**Note:**

- For details, refer to pages from 564.
- The valve arrangement is numbered as the 1st. station from D side regardless of the mounting position of SUP/EXH block assembly. In ordering, specify the part nos. in the order from the 1st. station on D side. Besides, when the arrangement will be complicated, fill out the manifold specification sheet to instruct us.

---

**Made to Order**

- Nil
  - CE-compliant
External Pilot/Built-in Silencer

**SY3000: SS5Y3-45FU- Stations**

DIN rail holding screw

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24306)

Power supply terminals

The voltage indication marking is for 24 VDC.

**SY5000: SS5Y5-45FU- Stations**

DIN rail holding screw

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24306)

Power supply terminals

The voltage indication marking is for 24 VDC.

SY3000/5000

620
Type M45

**Made to Order**

**Mixed Mounting Type**

This manifold makes it possible to mount SY3000 onto base of SY5000.

### How to Order Manifold

**Type M45 (Mixed mounting type)**

**SS5Y5-M45 - 05 U -C86**

- **Mixed mounting type**
  - Valve stations
    - SUP/EXH block assembly mounting position
      - Symbol | Station | Description
      - ---- | ------ | --------
      - 02 | D | U side
      - 20 | B | D side
      - 20 | B | D side
  - CE-compliant
    - Nil
  - Option
    - When a longer DIN rail is desired than the specified stations, specify the station number to be required.
    - (Max. 20 stations)
  - SY3000: One-touch fitting for ø4
  - SY5000: One-touch fitting for ø8

### One-touch fitting (Metric size)

<table>
<thead>
<tr>
<th>Port size</th>
<th>Station</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C44</td>
<td>SY5000: One-touch fitting for ø4</td>
<td>SY3000: One-touch fitting for ø4</td>
</tr>
<tr>
<td>C46</td>
<td>SY5000: One-touch fitting for ø4</td>
<td>SY3000: One-touch fitting for ø4</td>
</tr>
<tr>
<td>C64</td>
<td>SY5000: One-touch fitting for ø4</td>
<td>SY3000: One-touch fitting for ø4</td>
</tr>
<tr>
<td>C66</td>
<td>SY5000: One-touch fitting for ø4</td>
<td>SY3000: One-touch fitting for ø4</td>
</tr>
<tr>
<td>C84</td>
<td>SY5000: One-touch fitting for ø4</td>
<td>SY3000: One-touch fitting for ø4</td>
</tr>
<tr>
<td>C86</td>
<td>SY5000: One-touch fitting for ø4</td>
<td>SY3000: One-touch fitting for ø4</td>
</tr>
</tbody>
</table>

### How to Order Valve

**SY 5 2 40 - 5 L**

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

- **Coil specifications**
  - Nil: Standard
  - T: With power saving circuit (24 VDC, 16 VDC only)
  - Power saving circuit is already built-in to the rectifier circuit.

- **Rated voltage**
  - For DC: 24 VDC
  - For AC: 100 VAC
  - 100 VAC
  - 200 VAC
  - 110 VAC [115 VAC]
  - 220 VAC [230 VAC]

### Made to Order

- **CE-compliant**
  - Nil
  - Q

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

**Note** CE-compliant: For DC only.

### Electrical entry

- **For 24, 12, 6, 5 VDC/100, 110, 200, 220 VAC**
  - L plug connector
  - M plug connector

### Made to Order

- G: With light/surge voltage suppressor
  - H: With light/surge voltage suppressor
  - H: With light/surge voltage suppressor
  - M: With light/surge voltage suppressor
  - M: With light/surge voltage suppressor

- L: Without light/surge voltage suppressor
  - M: Without light/surge voltage suppressor

- LO: Without light/surge voltage suppressor
  - LO: Without light/surge voltage suppressor

- MN: Without light/surge voltage suppressor
  - MN: Without light/surge voltage suppressor

- MO: Without light/surge voltage suppressor
  - MO: Without light/surge voltage suppressor

### Option

- When a longer DIN rail is desired than the specified stations, specify the station number to be required.
  - (Max. 20 stations)

### Note

- CE-compliant: For DC only.

- When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the integrated manifold are supplied with the solenoid valve, but the stacking type gaskets are not included. When the stacking type gaskets are required, order them separately.

- In the case of mixed specifications, indicate separately on the manifold specification sheet.

- The asterisk denotes the symbol for assembly.

- Prefix it to the part nos. of the solenoid valve, etc.

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

**Refer to page 641 for connector cable of M8 connector.**

**Refer to page 623 for details.**

**Refer to page 623 for the lead wire length of L and M plug connectors.**

**Note** Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 642.
How to Order Valve

- **Type of actuation**
  - 3: Body ported
  - 5: Base mounted

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

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

- **CE-compliant**
  - Nil: CE-compliant
  - Q: CE-compliant

- **Light/Surge voltage suppressor**
  - Nil: Without light/surge voltage suppressor
  - With surge voltage suppressor
  - With indicator light and surge voltage suppressor
  - Without surge voltage suppressor (non-polar type)
  - Without light/surge voltage suppressor (non-polar type)

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

- **Made to Order**
  - X20: Body ported external pilot (Refer to page 624.)
  - X90: Main valve fluororubber (Refer to page 624.)

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

- **How to Order Pilot Valve**

- **V111**
  - **Rated voltage**
    - For DC:
      - 5: 24 VDC
      - 6: 12 VDC
      - V: 6 VDC
      - S: 5 VDC
      - R: 3 VDC

- **Light/Surge voltage suppressor**
  - Nil: Without light/surge voltage suppressor
  - S: With surge voltage suppressor
  - Z: With indicator light and surge voltage suppressor
  - Without surge voltage suppressor (non-polar type)
  - Without light/surge voltage suppressor (non-polar type)

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

- **For Base Mounted**

- **Note:** When placing an order for body ported solenoid valve as a single unit, gaskets are not included. Order them separately, if necessary. (Refer to catalog on page 467 for details.)
**SY3000/5000/7000/9000 Series**

**Made to Order**

**Body Ported External Pilot/Fluororubber for Main Valve**

---

**Body Ported External Pilot**

**Applicable solenoid valves:** SY3○○0, SY5○○0, SY7○○0 series

**Entry is the same as standard products.**

**Specifications and performance are the same as standard products.**

**Note:** AC-type models that are CE-compliant have DIN terminals only.

**External pilot port**

<table>
<thead>
<tr>
<th>Series</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>M3 x 0.5</td>
</tr>
<tr>
<td>SY5000</td>
<td>M5 x 0.8</td>
</tr>
</tbody>
</table>

**Dimensions**

- Manual override: M3 x 0.5
- External pilot port: M3 x 0.5

**Dimensions/External Pilot Port Position**

<table>
<thead>
<tr>
<th>Series</th>
<th>L1 dimensions</th>
<th>L2 dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>41.5</td>
<td>6.5</td>
</tr>
<tr>
<td>SY5000</td>
<td>60.4</td>
<td>9</td>
</tr>
<tr>
<td>SY7000</td>
<td>71.9</td>
<td>9</td>
</tr>
</tbody>
</table>

**Symbol**

- Body ported
  - 2 position single
    - X
  - 2 position double
    - (A) 3(E) (P)

- 3 position closed center
  - X
  - (A) 2(B)

- 3 position exhaust center
  - X
  - (A) 3(B)

- 3 position pressure center
  - X
  - (A) 3(B)

---

**Main Valve Fluororubber Specifications**

Fluororubber is used for rubber parts of the main valve to allow use in applications such as the following:

- When using a lubricant other than the recommended turbine oil, and there is a possibility of malfunction due to swelling of the spool valve seals.

**Applicable solenoid valves:** SY3○○0, SY5○○0, SY7○○0, SY9○○0 series

**Entry is the same as standard products.**

Specifications and performance are the same as standard products.

**Note:** AC-type models that are CE-compliant have DIN terminals only.
**Vacuum Release Valve with Throttle Valve: SY5A2R**

- Line for vacuum adsorption transfer
- Built-in throttle valve in the vacuum release valve
- Can be mounted on the SS5Y5-20-type (Individual wiring type) and SS5Y5-20P-type (Flat ribbon cable type) Manifold
- Valve effective area

<table>
<thead>
<tr>
<th>B port Port size (Note 1)</th>
<th>Effective area: mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA → B (Note 2)</td>
<td>B → EB</td>
</tr>
<tr>
<td>C6</td>
<td>4.4</td>
</tr>
<tr>
<td>C8</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Note 1) Refer to the part numbers for the port size.
Note 2) When the built-in throttle valve is fully open.

### Specifications

**Valve type**
External pilot type, Dual 2 port solenoid valve

**Type of actuation**
Normally closed (N.C. valve)

**Fluid**
Air

**Operating pressure range**
- P (External pilot pressure): 0.15 to 0.7 MPa
- EA (Vacuum release pressure): 0 to 0.7 MPa
- EB (Vacuum): –100 kPa to 0 MPa

**Pilot valve exhaust method**
Pilot valve individual exhaust

**Ambient and fluid temperature**
–10 to 50°C (No condensation)

### Effective Area/Weight

<table>
<thead>
<tr>
<th>B port Port size (Note 1)</th>
<th>Effective area: mm²</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA → B (Note 2)</td>
<td>B → EB</td>
<td></td>
</tr>
<tr>
<td>C6</td>
<td>4.4</td>
<td>6.8</td>
</tr>
<tr>
<td>C8</td>
<td>4.5</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Note 1) Refer to the part numbers for the port size.
Note 2) When the built-in throttle valve is fully open.

### How to Order

**Single unit: External pilot type dual 2 port solenoid valve**

**Sy5A2R**

- **Coil specifications (Note 3)**
- **Rated voltage**
- **Electrical entry**
- **Light/surge voltage suppressor**
- **Manual override**

**Bracket**
- Nil
- Without bracket
- P2
- With bracket (F2)

**B-port port size**
- C6 ø6 One-touch fitting
- C8 ø8 One-touch fitting

**CE-compliant (Note 3)**

**Example**
- SSYS5-20-05 —— 1 set
- SY5A2R-5LOU-C6 —— 5 sets

*Specify the part numbers for valves and options together beneath the manifold base part number in order starting from the first station.

**Manifold: Body ported bar stock (20/20P/20SA type)**

- Specify the part numbers for valves and options together beneath the manifold base part number in order starting from the first station.

**SS5Y5-20P-08**

- **Nil**
- Individual wiring type
- **P**
- Flat ribbon cable type
- **SA**
- EX610 gateway type

**Stations (Note 3)**
- 03 → 3 stations
- 20 → 20 stations

**Thread type (Note 4)**

**CE-compliant (Note 3)**

**Example**
- SSYS5-20-05 —— 1 set
- SY5A2R-5LOU-C6 —— 5 sets

*Specify the part numbers for valves and options together beneath the manifold base part number in order starting from the first station.

Note 3) Refer to page 404 for details.
Note 4) Refer to pages 438 and 448 for details.
Note 5) 20P (Flat ribbon cable type): Max. 12 stations
[Remarks for valves]

Note 1) Refer to pages 450, 636 and 637 for the details of electrical entry and electrical circuit with a light/surge voltage suppressor.

Note 2) Diagrams above are compatible with SY5A2R-<><><><>(F2).

Note 3) When mounted with brackets, the product is mounted in a place specified with one dot chain lines.

Note 4) Applicable pilot valves are SY114/SY115-<><><>.
Body Ported Vacuum Release Valve with Throttle Valve SY5000

Dimensions/Manifold: SS5Y5-20P-[Stations]-[△]△-

Pneumatic Circuit

- Manual override (Non-locking)
- Throttle valve (Adjust with a torque of 0.3 N·m or less.)
- Light/surge voltage suppressor

Applicable tubing O.D.: ø6(SMC)

4 x ø4.5 (For mounting)

Solenoid b
Solenoid a

Station 1
Station 2
Station 3
Station 4
Station 5
Station 6
Station 7
Station 8

4 x ø4.5 (For mounting)

Manual override (Non-locking)

Light/surge voltage suppressor

Applyable connector: 26 pins, MIL type

With strain relief (Conforming to MIL-C-83503)

Polarization indication

Wiring unit

One-touch fitting

Applicable blanking plate assembly part no.:
SS5Y5-20P-1: SY5000-26-20A (with screws and gaskets)
SS5Y5-20P-2: SY5000-26-21A (with screws, gaskets and dust cap)

* The product cannot be mounted with standard products the SY5000/500 series on a manifold.

L: Dimensions: mm

<table>
<thead>
<tr>
<th>n: Stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>77</td>
<td>94.5</td>
<td>112</td>
<td>129.5</td>
<td>147</td>
<td>164.5</td>
<td>182</td>
<td>199.5</td>
<td>217</td>
<td>234.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>67</td>
<td>84.5</td>
<td>102</td>
<td>119.5</td>
<td>137</td>
<td>154.5</td>
<td>172</td>
<td>189.5</td>
<td>207</td>
<td>224.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L3</td>
<td>03</td>
<td>04</td>
<td>05</td>
<td>06</td>
<td>07</td>
<td>08</td>
<td>09</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Caution

<20/20P Type>
A piping port is different from that for the standard product. When not connected properly, the product will not operate properly.
[P port: External pilot port, EA port: Vacuum release pressure port, EB port: Vacuum suction port]

<20P Type>
1. If a large amount of drainage is included in the supply air, it may cause electrical trouble since a wiring unit is located in the place where exhaust from the PE port directly goes through. Be sure to control the supply air.

2. For more than 10 stations, both poles of the common should be wired.

3. When replacing a solenoid valve, etc., be sure to mount it by placing the solenoid a side on the connector (MIL type) side.

4. Terminal no. is not indicated on the connector.

5. The terminal no. indicated in the connection schematic of connector, as shown in the reference, means a correlation of 1, 2, 3...26 from the triangle mark side on the flat ribbon cable of connector. (Refer to the reference drawing.)
**Body Ported External Pilot**

**Applicable solenoid valves:** SY3□3, SY5□3

**Model no.** SY3□3, SY5□3

- Entry is the same as standard products.

Note) DIN terminal is not available for the SY300 series.

**CE-compliant**

- Nil
- Q CE-compliant

Note) AC-type models that are CE-compliant have DIN terminals only.

**Operating pressure range MPa**

<table>
<thead>
<tr>
<th>Operating pressure range</th>
<th>0 to 70 kPa to 100 kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot pressure range</td>
<td>0.25 to 0.7</td>
</tr>
</tbody>
</table>

**External pilot port**

<table>
<thead>
<tr>
<th>Series</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY300</td>
<td>M3 x 0.5</td>
</tr>
<tr>
<td>SY500</td>
<td>M5 x 0.8</td>
</tr>
</tbody>
</table>

**Dimensions**

- Manual override
- External pilot port M3 x 0.5

- Standard valve length + L2

**Dimensions/External Pilot Port Position**

<table>
<thead>
<tr>
<th>Series</th>
<th>L1 dimensions</th>
<th>L2 dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY300</td>
<td>41.5</td>
<td>6.5</td>
</tr>
<tr>
<td>SY500</td>
<td>60.4</td>
<td>9</td>
</tr>
</tbody>
</table>

**Symbol**

- Body ported
  - Normally closed (N.C.) Single solenoid
  - Normally open (N.O.) Single solenoid
- Normally closed (N.C.) Double solenoid
- Normally open (N.O.) Double solenoid

**Main Valve Fluororubber Specifications**

Fluororubber is used for rubber parts of the main valve to allow use in applications such as the following.

- When using a lubricant other than the recommended turbine oil, and there is a possibility of malfunction due to swelling of the spool valve seals.

**Applicable solenoid valves:** SY3□3, SY5□3

**Model no.** SY3□3, SY5□3

- Entry is the same as standard products.

Specifications and performance are the same as standard products.

**CE-compliant**

- Nil
- Q CE-compliant

Note) AC-type models that are CE-compliant have DIN terminals only.
Note) Do not replace V111 (G, H, L, M) to V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.

Note) Since V111 and V115 are CE-compliant as standard, the suffix “Q” is not necessary.
5 Port Solenoid Valve
Body Ported/Single Unit
SY3000/5000/7000/9000 Series

How to Order

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>M5 x 0.8</td>
<td>SY3000</td>
</tr>
<tr>
<td>01</td>
<td>1/4</td>
<td>SY5000</td>
</tr>
<tr>
<td>02</td>
<td>1/4</td>
<td>SY7000</td>
</tr>
<tr>
<td>03</td>
<td>3/8</td>
<td>SY9000</td>
</tr>
</tbody>
</table>

One-touch fitting (Metric size)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>One-touch fitting for ø4</td>
<td>SY3000</td>
</tr>
<tr>
<td>C6</td>
<td>One-touch fitting for ø6</td>
<td>SY3000</td>
</tr>
<tr>
<td>C8</td>
<td>One-touch fitting for ø8</td>
<td>SY3000</td>
</tr>
<tr>
<td>C10</td>
<td>One-touch fitting for ø10</td>
<td>SY7000</td>
</tr>
<tr>
<td>C12</td>
<td>One-touch fitting for ø12</td>
<td>SY9000</td>
</tr>
</tbody>
</table>

Coil specifications

- Nil: Standard
- T: With power saving circuit (24 VDC, 12 VDC only)
  - Power saving circuit is not available in the case of D, Y, DO, YO or W type.

Rated voltage

- B: 24 VAC
  - DC specifications of type D, Y, DO and YO is only available with 12 and 24 VDC.
  - For type W, DC voltage is only available.

Electrical entry

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Conforming to UL standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 position single (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
<tr>
<td>2</td>
<td>2 position double (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
<tr>
<td>3</td>
<td>3 position closed center (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
<tr>
<td>4</td>
<td>3 position exhaust center (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
<tr>
<td>5</td>
<td>3 position pressure center (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
</tbody>
</table>

Grommet L plug connector M plug connector DIN terminal

<table>
<thead>
<tr>
<th>G: Lead wire length 300 mm</th>
<th>L: With lead wire (Length 300 mm)</th>
<th>M: With lead wire (Length 300 mm)</th>
<th>WN: Without lead wire (Length 300 mm)</th>
<th>D: Y: With connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire</td>
<td>LN: Without lead wire</td>
<td>MO: Without connector</td>
<td>DO: YO: Without connector</td>
</tr>
</tbody>
</table>

* LN, MN type: with 2 sockets.
* For DIN terminal of SY3000 series, refer to page 638.
* "Y" type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.
* For connector cable of M8 connector, refer to page 641.
* Refer to page 638 for the lead wire length of L and M plug connectors.

Thread piping

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>M5 x 0.8</td>
<td>SY3000</td>
</tr>
<tr>
<td>01</td>
<td>1/4</td>
<td>SY5000</td>
</tr>
<tr>
<td>02</td>
<td>1/4</td>
<td>SY7000</td>
</tr>
<tr>
<td>03</td>
<td>3/8</td>
<td>SY9000</td>
</tr>
</tbody>
</table>

Coil specifications

- Nil: Standard
- T: With power saving circuit (24 VDC, 12 VDC only)
  - Power saving circuit is not available in the case of D, Y, DO, YO or W type.

Rated voltage

- B: 24 VAC
  - DC specifications of type D, Y, DO and YO is only available with 12 and 24 VDC.
  - For type W, DC voltage is only available.

Electrical entry

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Conforming to UL standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 position single (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
<tr>
<td>2</td>
<td>2 position double (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
<tr>
<td>3</td>
<td>3 position closed center (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
<tr>
<td>4</td>
<td>3 position exhaust center (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
<tr>
<td>5</td>
<td>3 position pressure center (A4, 2(B))</td>
</tr>
<tr>
<td></td>
<td>(EA) - (EB)</td>
</tr>
</tbody>
</table>

Grommet L plug connector M plug connector DIN terminal

<table>
<thead>
<tr>
<th>G: Lead wire length 300 mm</th>
<th>L: With lead wire (Length 300 mm)</th>
<th>M: With lead wire (Length 300 mm)</th>
<th>WN: Without lead wire (Length 300 mm)</th>
<th>D: Y: With connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire</td>
<td>LN: Without lead wire</td>
<td>MO: Without connector</td>
<td>DO: YO: Without connector</td>
</tr>
</tbody>
</table>

* LN, MN type: with 2 sockets.
* For DIN terminal of SY3000 series, refer to page 638.
* "Y" type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.
* For connector cable of M8 connector, refer to page 641.
* Refer to page 638 for the lead wire length of L and M plug connectors.

Made to Order

- CE-compliant Q

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

Light/Surge voltage suppressor

- Without light/surge voltage suppressor
- With light/surge voltage suppressor
- With surge voltage suppressor
- Made to Order

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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>With surge voltage suppressor</td>
<td>SY3000</td>
</tr>
<tr>
<td>Z</td>
<td>With surge voltage suppressor</td>
<td>SY5000</td>
</tr>
<tr>
<td>R</td>
<td>With surge voltage suppressor (Non-polar type)</td>
<td>SY7000</td>
</tr>
<tr>
<td>U</td>
<td>With surge voltage suppressor (Non-polar type)</td>
<td>SY9000</td>
</tr>
</tbody>
</table>

Electrical entry for D, Y

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Without light and surge voltage suppressor</td>
<td>SY3000</td>
</tr>
<tr>
<td>X</td>
<td>Body ported external pilot (Refer to page 624.)</td>
<td>SY9000</td>
</tr>
<tr>
<td>T</td>
<td>Made to Order</td>
<td>SY9000</td>
</tr>
</tbody>
</table>

Note) When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 407.)

Refer to the standard product for specifications and dimensions.
5 Port Solenoid Valve  
Base Mounted/Single Unit  
SY3000/5000/7000/9000 Series

How to Order

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1/8 With sub-plate</td>
<td>SY3000</td>
</tr>
<tr>
<td>02</td>
<td>1/4 With sub-plate</td>
<td>SY5000/7000</td>
</tr>
<tr>
<td>03</td>
<td>3/8 With sub-plate</td>
<td>SY7000/9000</td>
</tr>
<tr>
<td>04</td>
<td>1/2 With sub-plate</td>
<td>SY9000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Made to Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>Q</td>
</tr>
<tr>
<td>X90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 SY3000</td>
</tr>
<tr>
<td>5 SY5000</td>
</tr>
<tr>
<td>7 SY7000</td>
</tr>
<tr>
<td>9 SY9000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of actuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 position single (A4 2B)</td>
</tr>
<tr>
<td>2 position double (A4 2B)</td>
</tr>
<tr>
<td>3 position closed center (A4 2B)</td>
</tr>
<tr>
<td>3 position exhaust center (A4 2B)</td>
</tr>
<tr>
<td>3 position pressure center (A4 2B)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coil specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>T</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rated voltage DC</th>
<th>Nil</th>
<th>24 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</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>

<table>
<thead>
<tr>
<th>Rated voltage AC</th>
<th>Nil</th>
<th>24 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>24 VAC</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Light/Surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical entry for G, H, L, M, W</td>
</tr>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>S</td>
</tr>
<tr>
<td>Z</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Made to Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>Fc</td>
</tr>
<tr>
<td>T</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>G</td>
</tr>
<tr>
<td>N</td>
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</table>

<table>
<thead>
<tr>
<th>Electrical entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>24, 12, 6, 5, 3 VDC/24 VAC</td>
</tr>
<tr>
<td>G</td>
</tr>
<tr>
<td>L</td>
</tr>
<tr>
<td>M</td>
</tr>
<tr>
<td>MN</td>
</tr>
<tr>
<td>D, Y</td>
</tr>
<tr>
<td>D, YO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
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<td>X90</td>
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</table>

<table>
<thead>
<tr>
<th>CE-compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
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<tr>
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</tr>
<tr>
<td>Q</td>
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<tr>
<td>X90</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 SY3000</td>
</tr>
<tr>
<td>5 SY5000</td>
</tr>
<tr>
<td>7 SY7000</td>
</tr>
<tr>
<td>9 SY9000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PILOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>R</td>
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<table>
<thead>
<tr>
<th>Manual override</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil: Non-locking push type</td>
</tr>
<tr>
<td>D: Push-turn locking slotted type</td>
</tr>
<tr>
<td>E: Push-turn locking lever type</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical entry for D, Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>S</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Made to Order</th>
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</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Thread type</th>
</tr>
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<tbody>
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<tr>
<td>G</td>
</tr>
<tr>
<td>N</td>
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<table>
<thead>
<tr>
<th>Electrical entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>24, 12 VDC/24 VAC</td>
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<td>G</td>
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<tr>
<td>L</td>
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<table>
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<tbody>
<tr>
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<table>
<thead>
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</thead>
<tbody>
<tr>
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<tr>
<td>G</td>
</tr>
<tr>
<td>N</td>
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<table>
<thead>
<tr>
<th>Electrical entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>24, 12, 6, 5, 3 VDC</td>
</tr>
<tr>
<td>G</td>
</tr>
<tr>
<td>L</td>
</tr>
<tr>
<td>M</td>
</tr>
</tbody>
</table>

<table>
<thead>
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</thead>
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<tr>
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</tr>
<tr>
<td>Q</td>
</tr>
<tr>
<td>X90</td>
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<table>
<thead>
<tr>
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<tbody>
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</tr>
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</tr>
<tr>
<td>X90</td>
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</tbody>
</table>

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Q</td>
</tr>
<tr>
<td>X90</td>
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</tbody>
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<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Q</td>
</tr>
<tr>
<td>X90</td>
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</tbody>
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<thead>
<tr>
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</thead>
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<tr>
<td>X90</td>
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<tr>
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<tr>
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<td>X90</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Made to Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
</tr>
<tr>
<td>Q</td>
</tr>
<tr>
<td>X90</td>
</tr>
</tbody>
</table>

Refer to the standard product for specifications and dimensions.
3 Port Solenoid Valve
Body Ported/Single Unit
SY300/500 Series

How to Order

Series
3 SY300
5 SY500

UL standard compliant

Type of actuation
1 Normally closed (N.C.)
2 Normally open (N.O.)

Series
3 SY300
5 SY500

Type of actuation
1 Normally closed (N.C.)
2 Normally open (N.O.)

Nil
Single solenoid
D Double solenoid

Solenoid type
Nil Single solenoid
D Double solenoid

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

DC specifications of type D, Y, DO, YO or W type.
For type W type, DC voltage is only available.

AC (V/Hz)
5 24 VAC
B

AC specifications of type D, Y, DO and YO is only available with 12 and 24 VDC.
For type W type, DC voltage is only available.

Thread type
Nil —
Rc —
G —
N NPT
T NPTf

+ Except for M5

Thread piping
Nil —
Rc —
NPT —
NPTF —
T —
G —
F —

Thread piping
Nil —
Rc —
NPT —
NPTF —
T —
G —
F —

One-touch fitting (Metric size)
C4
C6
C8

One-touch fitting (Inch size)
N3
N7
N9

One-touch fitting (Inch size)
N3
N7
N9

One-touch fitting (Inch size)
N3
N7
N9

Electrical entry for G, H, L, M, W
Nil Without light/surge voltage suppressor
S With surge voltage suppressor
Z With light/surge voltage suppressor
R With surge voltage suppressor (Non-polar type)

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)

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 for D, Y
Nil Without light/surge voltage suppressor
S With surge voltage suppressor
Z With light/surge voltage suppressor

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
24, 12, 6, 5, 3 VDC/24 VAC

Electrical entry for G, H, L, M, W
Nil Without light/surge voltage suppressor
S With surge voltage suppressor
Z With light/surge voltage suppressor
R With surge voltage suppressor (Non-polar type)

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 for D, Y
Nil Without light/surge voltage suppressor
S With surge voltage suppressor
Z With light/surge voltage suppressor

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

For "R" and "U", DC voltage is only available.

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

Electrical entry

<table>
<thead>
<tr>
<th>G: Lead wire length 300 mm</th>
<th>L plug connector</th>
<th>L: With lead wire (Length 300 mm)</th>
<th>M plug connector</th>
<th>M: With lead wire (Length 300 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>L plug connector</td>
<td>L: Without lead wire</td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
</tr>
<tr>
<td></td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G: Lead wire length 300 mm</th>
<th>L plug connector</th>
<th>L: With lead wire (Length 300 mm)</th>
<th>M plug connector</th>
<th>M: With lead wire (Length 300 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>L plug connector</td>
<td>L: Without lead wire</td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
</tr>
<tr>
<td></td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G: Lead wire length 300 mm</th>
<th>L plug connector</th>
<th>L: With lead wire (Length 300 mm)</th>
<th>M plug connector</th>
<th>M: With lead wire (Length 300 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>L plug connector</td>
<td>L: Without lead wire</td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
</tr>
<tr>
<td></td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
<td>M plug connector</td>
<td>M: Without lead wire</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIN terminal</th>
<th>M8 connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>W0: Without connector cable</td>
<td>W1: With connector cable (Length 300 mm)</td>
</tr>
<tr>
<td>W1: With connector cable (Length 500 mm)</td>
<td></td>
</tr>
<tr>
<td>W2: With connector cable (Length 1000 mm)</td>
<td></td>
</tr>
<tr>
<td>W3: With connector cable (Length 2000 mm)</td>
<td></td>
</tr>
<tr>
<td>W4: With connector cable (Length 5000 mm)</td>
<td></td>
</tr>
</tbody>
</table>

Note: When placing an order for body ported solenoid valve as a single unit, mounting screw for manifold and gasket are not attached. Order them separately, if necessary.
(Refer to page 467 for details.)
3 Port Solenoid Valve
Base Mounted/Single Unit
SY300/500 Series

How to Order

![Diagram of SY300/500 Series]

**Series**
- SY300
- SY500

**Pilot type**
- Internal pilot
- External pilot

**Solenoid type**
- Single solenoid
- Double solenoid

**Type of actuation**
- Normally closed (N.C.)
- Normally open (N.O.)

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

**Rated voltage**
- DC: 5 VDC, 6 VDC, 24 VDC
- AC: B 24 VAC

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

**Thread size**
- Nil
- X90

**Port size**
- 1/8
- 1/4

**Made to Order**
- Main valve fluororubber
  (Refer to page 624.)

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

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

**Electrical entry**

<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>D: With connector</td>
<td>WO: Without connector cable</td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire</td>
<td>MN: Without lead wire</td>
<td>DO: Without connector</td>
<td>W1: With connector cable (Length 300 mm)</td>
</tr>
<tr>
<td></td>
<td>LO: Without connector</td>
<td>MO: Without connector</td>
<td>Y: With connector</td>
<td>W2: With connector cable (Length 500 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>YO: Without connector</td>
<td>W3: With connector cable (Length 1000 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>W4: With connector cable (Length 2000 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>W7: With connector cable (Length 5000 mm)</td>
</tr>
</tbody>
</table>

Note: When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the manifold are included.

* LN, MN type: with 2 sockets.
* For DIN terminal of SY300 series, refer to page 639.
* “Y” type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.
* For connector cable of MB connector, refer to page 641.
* Refer to page 638 for the lead wire length of L and M plug connectors.

SY300/500 Series
UL standard compliant

SY300/500 Series
UL standard compliant

CL, MN type: with 2 sockets.
For DIN terminal of SY300 series, refer to page 639.
"Y" type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.
For connector cable of M8 connector, refer to page 641.
Refer to page 638 for the lead wire length of L and M plug connectors.

SY300/500 Series
Made to Order

Main valve fluororubber
(Refer to page 624.)
Plug-in: For SS5Y³-45□

**SY300/500 Series**

**Base Mounted/How to Order Valve**

**Plug-in: for SS5Y³-45□**

**Single solenoid**

30 – SY 5

**Double solenoid**

30 – SY 5

**Series**

3 SY300
5 SY500

**Type of actuation**

1 Normally closed (N.C.)
2 Normally open (N.C.)

**Dual body type**

+ When ordering double solenoid valves (Dual body type), please keep in mind that they require two manifold stations.

**Pilot type**

- Nil Internal pilot
- R External pilot

**Rated voltage**

5 24 VDC
6 12 VDC

**CE-compliant**

Q CE-compliant

**Made to Order**

Nil —

**Manual override**

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

**Rated voltage**

5 24 VDC
6 12 VDC

**Plug-in: For SS5Y³-45F/45P□/45T/45T1**

**2 position single**

30 – SY 3 1

**Double, 3 position**

30 – SY 3 2

**Series**

3 SY300
5 SY500

**Type of actuation**

2 2 position double
3 3 position closed center
4 3 position exhaust center
5 3 position pressure center

**Dual body type**

(Double, 3 position)

**Pilot type**

- Nil Internal pilot
- R External pilot

**Rated voltage**

5 24 VDC
6 12 VDC

**CE-compliant**

Q CE-compliant

**Made to Order**

Nil —

**Manual override**

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

**Rated voltage**

5 24 VDC
6 12 VDC

**Made to Order**

X90 Main valve fluororubber (Refer to page 624.)

**Main valve fluororubber**

Refer to page 624.

**Manual override**

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

**Rated voltage**

5 24 VDC
6 12 VDC

**Manual override**

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

**Rated voltage**

5 24 VDC
6 12 VDC

**Manual override**

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

**Rated voltage**

5 24 VDC
6 12 VDC
**SY Series**

**Specific Product Precautions 1**

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

---

### Manual Override Operation

**Warning**

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

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

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

**Caution**

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

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

### Solenoid Valve for 200, 220 VAC Specifications

**Warning**

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

With 200 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.

---

### Exhaust Throttle

**Caution**

With the SY series, the pilot valve and main valve share a common exhaust inside the valve. Therefore, do not block the exhaust port when arranging the piping.

### SY3000/5000/7000/9000 Series

**Used as a 3-Port Valve**

**Caution**

In case of using a 5-port valve as a 3-port valve

The SY3000/5000/7000/9000 series can be used as normally closed (N.C.) or normally open (N.O.) 3-port port valves by closing one of the cylinder ports (A or B) with a plug. However, they should be used with the exhaust ports kept open. (Refer to pages 610 to 615 for dedicated 3-port solenoid valve.)

<table>
<thead>
<tr>
<th>Plug position</th>
<th>B port</th>
<th>A port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>(A)4 1</td>
<td>(A)4</td>
</tr>
<tr>
<td></td>
<td>2(B)</td>
<td>2(B)</td>
</tr>
<tr>
<td></td>
<td>(EA)5 1</td>
<td>(EA)5</td>
</tr>
<tr>
<td></td>
<td>3(EB)</td>
<td>3(EB)</td>
</tr>
<tr>
<td></td>
<td>(P)</td>
<td>(P)</td>
</tr>
<tr>
<td>Double</td>
<td>(A)4 1</td>
<td>(A)4</td>
</tr>
<tr>
<td></td>
<td>2(B)</td>
<td>2(B)</td>
</tr>
<tr>
<td></td>
<td>(EA)5 1</td>
<td>(EA)5</td>
</tr>
<tr>
<td></td>
<td>3(EB)</td>
<td>3(EB)</td>
</tr>
<tr>
<td></td>
<td>(P)</td>
<td>(P)</td>
</tr>
</tbody>
</table>
**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.

   ![Connector Diagram](image)

2. **Crimping connection of lead wire and socket**
   Strip 3.2 to 3.7 mm at the end of lead wires, insert the end of the core wires evenly into the sockets, and then crimp it by a crimping tool. When this is done, take care that the coverings of the lead wires do not enter the core wire crimping area.
   (Please contact SMC for the dedicated crimping tools.)

3. **Attaching and detaching lead wires with sockets**
   - **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.

**Surge Voltage Suppressor**

**Caution**

- **<For DC> Grommet, L/M Plug Connector**
  - **Polar type**
    - With surge voltage suppressor (□S)
      ![Polar type Diagram](image)
  - **Non-polar type**
    - With surge voltage suppressor (□R)
      ![Non-polar type Diagram](image)
  - **With light/surge voltage suppressor (□Z)**
    ![Light/surge voltage suppressor Diagram](image)
  - **With light/surge voltage suppressor (□U)**
    ![Light/surge voltage suppressor Diagram](image)

- **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.)

**Operating Principle**

With the above circuit, the current consumption when holding is reduced to save energy. Please refer to the electric wave data below.
  - Please be careful not to reverse the polarity, since a diode to prevent the reversed current is not provided for the power saving circuit.

![Electric Wave Diagram](image)

(In the case of SY∗∗0T, the electric wave form of energy saving type)
**SY Series**

**Specific Product Precautions 3**

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

---

**Surge Voltage Suppressor**

**DIN Terminal**

- **With surge voltage suppressor (DS)**
  - No. 1 (+)
  - Varistor
  - No. 2 (+)
  - Coil
  - Diode to prevent reverse current

- **With light/surge voltage suppressor (DZ)**
  - No. 1 (+)
  - Varistor
  - No. 2 (+)
  - LED
  - Diode to prevent reverse current

DIN terminal has no polarity.

**M8 Connector**

- Polar type
  - With surge voltage suppressor (S)
    - 1 (+)
    - 4 (WA type)
    - 3 (-)
    - 3 (WA type)
  - Diode to prevent reverse current

- With light/surge voltage suppressor (Z)
  - 1 (+)
  - 4 (WA type)
  - 3 (-)
  - 3 (WA type)
  - Diode to prevent reverse current

- Non-polar type
  - With surge voltage suppressor (R)
    - 1 (+) (+)
    - 4 (WA type)
    - 3 (-) (+)
    - 3 (WA type)
  - Diode to prevent reverse current

- With light/surge voltage suppressor (U)
  - 1 (+) (+)
  - 4 (WA type)
  - 3 (-) (+)
  - 3 (WA type)

**Plug-in**

**Circuit for non-polar (FU)**

- Plug-in valve has no polarity, so it's possible to use for both manifold bases for positive (SSSY-45) and negative its common (SSSY-45N) types.

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

**Grommet, L/M Plug Connector**

With light
- GZ
- [LZ, LOZ, MZ, MOZ]

**DIN Terminal**

- With light (DZ)
  - (Y)
  - (NC)
  - (NC)

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 voltage. The residual voltage of the diode is approximately 1 V.

---

**Note**

For wiring of the polar type, connect + to 1 and – to 3 for Type W, while + to 4 and – to 3 for Type WA.

Since voltage specifications other than polar type 24 V and 12 VDC do not have diodes for polarity protection, be careful not to make errors in the polarity.

---

**Solenoid valve side pin wiring diagram**

- **W type**
  - (Ground)
  - 1
  - 4
  - 3

- **WA type**
  - 1
  - 4
  - 3

Note) The WA-type valve cannot be grounded.
Specific Product Precautions 4

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

**Plug Connector Lead Wire Length**

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

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

**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

*How to Order*
Specify the part numbers of the solenoid valve without connector and the connector assembly with protective cover separately.

**Example**: Lead wire length 2000 mm

<table>
<thead>
<tr>
<th>Lead wire color</th>
<th>Red, Black</th>
<th>Blue</th>
<th>Red</th>
<th>Gray</th>
</tr>
</thead>
<tbody>
<tr>
<td>For DC:</td>
<td>SY100-30-4A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 100 VAC:</td>
<td>SY100-30-1A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 200 VAC:</td>
<td>SY100-30-2A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For other voltages of AC:</td>
<td>SY100-30-3A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without lead wire:</td>
<td>SY100-30-A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 gland nut.

**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).

**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 gland nut and holding screw within their specified torque ranges.

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

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

**Type “Y”**
DIN connector type Y is a DIN connector that confirms to the DIN pitch 8-mm standard.

- D type DIN connector with 9.4 mm pitch between terminals is not interchangeable.
- To distinguish from the D type DIN connector, “N” is listed at the end of voltage symbol. (For connector parts without lights, “N” is not indicated. Please refer to the name plate to distinguish.)
- Dimensions are completely the same as D type DIN connector.
- When exchanging the pilot valve assembly only, “V115-D” is interchangeable with “V115-Y”. Do not replace V111 (G, L, M) to V115-D to V115-Y (DIN terminal), and vice versa.
**SY Series**

**Specific Product Precautions 5**

Be sure to read this before handling the products.
Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

---

**SY300, SY3000 Series**

**How to Use DIN Terminal Connector**

**Caution**

- SMC can provide a DIN type terminal connector (body ported type, sub-plate type) for the SY300 and SY3000 series. This cannot be assembled to a standard manifold and sub-plate since the DIN connector width (15.8mm) exceeds that of the valve body (10mm). Contact SMC if you wish to use with a manifold and sub-plate. Please also note: that bracket F1 cannot be mounted.

* The DIN terminal connector has no body ported external pilot specifications for both single unit and manifold.

---

**DIN Connector Part No.**

**<Type D>**

**Without 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 V</td>
<td>SY100-61-3-05</td>
</tr>
<tr>
<td>12 VDC</td>
<td>12 V</td>
<td>SY100-61-3-06</td>
</tr>
<tr>
<td>100 VAC</td>
<td>100 V</td>
<td>SY100-61-2-01</td>
</tr>
<tr>
<td>200 VAC</td>
<td>200 V</td>
<td>SY100-61-2-02</td>
</tr>
<tr>
<td>110 VAC</td>
<td>110 V</td>
<td>SY100-61-2-03</td>
</tr>
<tr>
<td>220 VAC</td>
<td>220 V</td>
<td>SY100-61-2-04</td>
</tr>
</tbody>
</table>

**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 VN</td>
<td>SY100-61-3-05</td>
</tr>
<tr>
<td>12 VDC</td>
<td>12 VN</td>
<td>SY100-61-3-06</td>
</tr>
<tr>
<td>100 VAC</td>
<td>100 VN</td>
<td>SY100-61-2-01</td>
</tr>
<tr>
<td>200 VAC</td>
<td>200 VN</td>
<td>SY100-61-2-02</td>
</tr>
<tr>
<td>110 VAC (115 VAC)</td>
<td>110 VN</td>
<td>SY100-61-2-03</td>
</tr>
<tr>
<td>220 VAC (230 VAC)</td>
<td>220 VN</td>
<td>SY100-61-2-04</td>
</tr>
</tbody>
</table>

**<Type Y>**

**Without 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 VN</td>
<td>SY100-61-3-05</td>
</tr>
<tr>
<td>12 VDC</td>
<td>12 VN</td>
<td>SY100-61-3-06</td>
</tr>
<tr>
<td>100 VAC</td>
<td>100 VN</td>
<td>SY100-61-2-01</td>
</tr>
<tr>
<td>200 VAC</td>
<td>200 VN</td>
<td>SY100-61-2-02</td>
</tr>
<tr>
<td>110 VAC</td>
<td>110 VN</td>
<td>SY100-61-2-03</td>
</tr>
<tr>
<td>220 VAC</td>
<td>220 VN</td>
<td>SY100-61-2-04</td>
</tr>
</tbody>
</table>

**Circuit Diagram with Light**

- **AC circuit**
  - NL: Neon light
  - R: Register

- **DC circuit**
  - LED: Light emitting diode
  - R: Register

---

**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**

- **Lead wire length (L)**
  - Nil
  - 300 mm
  - 600 mm
  - 1000 mm
  - 1500 mm
  - 2000 mm
  - 2500 mm
  - 3000 mm
  - 5000 mm

---

**Connector Assembly with Cover: Dimensions**

- **Red**
- **Black**
- **Gray**

**How to Order**

Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.

- **Example 1**> Lead wire length of 2000 mm
  - SY3120-5LOZ-M5
  - SY100-68-A-20

- **Example 2**> Lead wire length of 300 mm (standard)
  - SY3120-5LPZ-M5

Symbol for connector assembly with cover

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

**Specific Product Precautions 6**

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

---

**Caution**

When using a double solenoid valve (Dual body type: SY 245-FU) on the plug-in type manifold (SSSY 45(N)(□)), two manifold stations are required per valve.

Output to A/B ports will be made through the manifold block on the side indicated by an arrow on the top of the solenoid valve. Therefore, arrange the piping on the side indicated by the arrow.

Although the "T" side will not be used, plugs will not be necessary since it is sealed with the valve.

(However, insert a plug into the A/B ports if dust intrusion is possible. Refer to page 567.)

**Manifold valve**  
SSSY □-45 (N)

Plug-in type solenoid valves consist of a non-polar solenoid valve and a plug-in socket. When ordering them separately, refer to the following part numbers.

### Single solenoid

- Plug in socket assembly  
  SY3000-59-2A

### Double, 3 position

- Plug in socket assembly (2)  
  SY3000-59-2A

Note: Using a valve other than a non-polar type may cause trouble.

---

**DIN Rail for SY7000/9000 Series**

**Caution**

The DIN rail used with the SY7000 and SY9000 series is stronger than that used with the SY3000 and SY5000 series. Use this exclusive DIN rail with the SY7000 and SY9000 series. Furthermore, if using a DIN rail other than that supplied by SMC, refer to the manifold mounting section below, and mount using the same method as prescribed for side facing and rear facing, regardless of the mounting orientation.

---

**Manifold Mounting**

**Caution**

1. For Type 23, 43, 45, 45□ and 60 DIN rail mounting, when attaching a manifold to a mounting surface, etc., with bolts, if the entire bottom surface of the DIN rail contacts the mounting surface in a horizontal mounting, it can be used by simply securing both ends of the DIN rail. However, for any other mounting method or for side facing and rear facing, etc., secure the DIN rail with bolts at uniform intervals using the following as a guide: 2 to 5 stations at 2 locations, 6 to 10 stations at 3 locations, 11 to 15 stations at 4 locations, and 16 to 20 stations at 5 locations. In addition, even in the case of a horizontal mounting, if the mounting surface is subject to vibration, etc., take the same measures indicated above. If secured at fewer than the specified number of locations, warping or twisting may occur in the DIN rail and manifold, causing trouble such as air leakage.

Also, when using mounting screws for the DIN rail on the bottom side (L3 dimension in the dimension table) of the manifold valve body, the height of the screw head has to be as follows.

- Type 23, 43 (SY9000): 8 mm or less
- Type 45 (SY3000, 5000): 5.8 mm or less
- For type 60:
  - SY3000: 4.7 mm or less
  - SY5000: 5.8 mm or less
  - SY7000: 8 mm or less

2. There will be slight variations in the width of manifold blocks due to tolerance (±0.15 mm) for the stacking manifold type of the SSSY9-23 series and SSSY9-43 series.

As the manifold is made up of a combination of manifold blocks, there will be an error due to accumulated tolerance between the actual pitch dimensions of the mounting holes used to secure the manifold and the values stated in the catalog. Keep this in mind when increasing the number of stations.
### SY Series
#### Specific Product Precautions 7

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

---

#### One-touch Fittings

⚠️ **Caution**

When fittings are used, they may interfere with one another depending on their types and sizes. Therefore, the dimensions of the fittings to be used should first be confirmed in their respective catalogs.

- **Tubing attachment/detachment for One-touch fittings**
  
  **1) Attaching of tubing**
  
  1. Take a tubing having no flaws on its periphery and cut it off at a right angle. When cutting the tubing, use tubing cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tubing cutters, the tubing may be cut diagonally or become flattened, etc., making a secure installation impossible, and causing problems such as the tubing pulling out after installation or air leakage. Allow some extra length in the tubing.
  
  2. Grasp the tubing, slowly push it straight (0 to 5°) into the One-touch fitting until it comes to a stop.
  
  3. After inserting the tubing, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tubing pulling out.

  **2) Detaching of tubing**
  
  1. Push in the release button sufficiently, pushing its collar equally around the circumference.
  
  2. Pull out the tubing while holding down the release button so that it does not come out. If the release button is not pressed down sufficiently, there will be increased bite on the tubing and it will become more difficult to pull it out.
  
  3. When the removed tubing is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tubing is used as is, this can cause trouble such as air leakage or difficulty in removing the tubing.

#### Other Tubing Brands

⚠️ **Caution**

When fittings are used, they may interfere with one another depending on their types and sizes. Therefore, the dimensions of the fittings to be used should first be confirmed in their respective catalogs.

- **Tubing attachment/detachment for One-touch fittings**

  **1) Attaching of tubing**
  
  1. Take a tubing having no flaws on its periphery and cut it off at a right angle. When cutting the tubing, use tubing cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tubing cutters, the tubing may be cut diagonally or become flattened, etc., making a secure installation impossible, and causing problems such as the tubing pulling out after installation or air leakage. Allow some extra length in the tubing.
  
  2. Grasp the tubing, slowly push it straight (0 to 5°) into the One-touch fitting until it comes to a stop.
  
  3. After inserting the tubing, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tubing pulling out.

  **2) Detaching of tubing**
  
  1. Push in the release button sufficiently, pushing its collar equally around the circumference.
  
  2. Pull out the tubing while holding down the release button so that it does not come out. If the release button is not pressed down sufficiently, there will be increased bite on the tubing and it will become more difficult to pull it out.
  
  3. When the removed tubing is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tubing is used as is, this can cause trouble such as air leakage or difficulty in removing the tubing.

#### M8 Connector

⚠️ **Caution**

1. M8 connector types have an IP65 (enclosure) rating, offering protection from dust and water. However please note: these products are not intended for use in water. Select a SMC connector cable (V100-49-1-) or a FA sensor type connector, with M8 threaded 3 pin specifications conforming to Nippon Electric Control Equipment Association Standard, NECA4202 (IEC60947-5-2). Make sure the connector O.D. is 10.5mm or less when used with the SY3000 series 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 0.6 N·m)

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

⚠️ **Caution**

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

**Connector cable mounting**

- **Triangle mark**
- **Arrow mark**

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.
Caution

- Connector cable
- Connector cable for M8 can be ordered as follows:
- Refer to page 637 for the surge voltage suppressor.

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.)

SY312-5W1ZE-C4

IEC Standards compliant
Nil: None
A: IEC60947-2 compliant

Cable length (mm)
1 300
2 500
3 1000
4 2000
5 3000
6 4000
7 5000

Ex. 1) Cable length: 300mm
SY312-5W1ZE-C4
Symbol for electrical entry

2. To order connector cable only

Connector dimensions
Brown: 1
Blue: 3

Cable length (L) Part no.
300 mm V100-49-1-1
500 mm V100-49-1-2
1000 mm V100-49-1-3
2000 mm V100-49-1-4
5000 mm V100-49-1-7
3000 mm V100-49-1-5
4000 mm V100-49-1-6

[Dimensions when installed]
Interface Regulator

Specifications

<table>
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<th></th>
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<th></th>
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<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Applicable solenoid valve</td>
<td>SY340(R)</td>
<td>SY540(R)</td>
<td>SY740(R)</td>
<td>SY940(R)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulated port</th>
<th>P</th>
<th>A</th>
<th>B</th>
<th>P</th>
<th>A</th>
<th>B</th>
<th>P</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set pressure range</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 to 0.7 MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.7 MPa</td>
<td></td>
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<tr>
<td>Fluid</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Air</td>
<td></td>
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<tr>
<td>Ambient and fluid temperature</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Max. 50°C</td>
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<tr>
<td>Connection port of pressure gauge</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M5 x 0.8</td>
<td></td>
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<tr>
<td>Weight W (g)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>With pressure gauge</td>
<td>46 g (05), 50 g (06)</td>
<td>66.8 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>With plug</td>
<td>20 g</td>
<td>60.4 g</td>
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<tr>
<td>Supply side effective area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P→A,B</td>
<td>4.05 mm²</td>
<td>3.91 mm²</td>
</tr>
<tr>
<td>Effective area (mm²)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A,B→EA,EB</td>
<td>2.45 mm²</td>
<td>7.61 mm²</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15.71 mm²</td>
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</table>

**Note 1)** Pressurize the interface regulator from P port on the base.
**Note 2)** With closed center and pressure center valves, the pressure can be regulated through P port only.
**Note 3)** Effective area, excluding the regulated port, when a primary pressure of 0.5 MPa is supplied with regulators mounted on the solenoid valves (2 positions) and sub-plate. Refer to “Flow Rate Characteristics” regarding the regulated port.
**Note 4)** Valves for weight include gasket and mounting screws.
**Note 5)** With A, B ports regulated (P port controlled A, B ports regulated), the effective area (Cv factor) for the regulated port and unregulated passage (P to B or P to A) decreases as shown in the graph below when the set pressure is 0.25 MPa or less.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>P port regulated</th>
<th>A port regulated (P controlled, A port regulated)</th>
<th>B port regulated (P controlled, B port regulated)</th>
</tr>
</thead>
</table>

**How to Order Interface Regulator**

**ARBY3000**
- Regulated port: P port
- Pressure gauge connection port:
  - P port
  - A port (P controlled, A port regulated)
  - B port (P controlled, B port regulated)
- Note: For the ARBY3000 series with pressure gauge, note that the part numbers for odd number and even number stations differ to prevent interference between the pressure gauges when installing on the manifold.

Note) The M8 connector for wiring cannot be mounted for the ARBY3000 series.
SY Series
Specific Product Precautions 10
Be sure to read this before handling the products.
Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

Flow Rate Characteristics
(Conditions: Inlet pressure 0.7 MPa when 2 position solenoid valve is mounted.)

<table>
<thead>
<tr>
<th>Device</th>
<th>Port Configuration</th>
<th>Flow Rate Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARBY3000</td>
<td>P port regulated (P→A, B)</td>
<td><img src="image1" alt="Graph" /></td>
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<tr>
<td>ARBY5000</td>
<td>P port regulated (P→A, B)</td>
<td><img src="image2" alt="Graph" /></td>
</tr>
<tr>
<td>ARBY7000</td>
<td>P port regulated (P→A, B)</td>
<td><img src="image3" alt="Graph" /></td>
</tr>
<tr>
<td></td>
<td>A1 port regulated (P→A), B1 port regulated (P→B)</td>
<td><img src="image4" alt="Graph" /></td>
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<tr>
<td></td>
<td>A1 port regulated (P→A), B1 port regulated (P→B)</td>
<td><img src="image5" alt="Graph" /></td>
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</table>

Trademark
DeviceNet™ is a trademark of ODVA.

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### Model Index (Alphanumerical Order)

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<th>Model Index</th>
<th>Description</th>
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<tr>
<td>SS5Y3-20P</td>
<td>SY Type 20P Body Ported Manifold: Bar Stock Type/Flat Ribbon Cable</td>
</tr>
<tr>
<td>SS5Y3-20SA</td>
<td>SY EX510 Gateway-type Body Ported Manifold: Bar Stock Type/Flat Stock Type</td>
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<td>SS5Y3-41</td>
<td>SY Type 41 Base Mounted Manifold: Bar Stock Type/Individual Wiring</td>
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<tr>
<td>SS5Y3-41P</td>
<td>SY Type 41P Base Mounted Manifold: Bar Stock Type/Flat Stock Type</td>
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<tr>
<td>SS5Y3-42</td>
<td>SY Type 42 Base Mounted Manifold: Bar Stock Type/Individual Wiring</td>
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<td>SY Type 42P Base Ported Manifold: Bar Stock Type/Flat Ribbon Cable</td>
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<td>SY Type 45 Base Mounted Manifold: Stacking Type/DIN Rail/Individual Wiring</td>
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<td>SY Type 45F Base Mounted Manifold: D-sub Connector, 25 Pins</td>
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<td>SS5Y3-45S</td>
<td>SY EX122 Integrated-type (For output) Base Mounted Manifold</td>
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<td>SS5Y3-45S6B</td>
<td>SY EX510 Gateway-type Base Mounted Manifold/Stacking Type/Plug-in</td>
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<td>SY Type 45T Base Mounted Manifold: 9 Pins Terminal Block</td>
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<td>SY Type 45T1 Base Mounted Manifold: 16 Pins Terminal Block</td>
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<td>SY Type 60 Base Ported Manifold: Cassette Type</td>
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<td>SY Type 20P Body Ported Manifold: Bar Stock Type/Flat Ribbon Cable</td>
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