The SS5Y3/5-4ST/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>
<th>b</th>
<th>Cv</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>1.1</td>
<td>0.28</td>
<td>0.29</td>
</tr>
<tr>
<td>SY5000</td>
<td>2.8</td>
<td>0.37</td>
<td>0.90</td>
</tr>
<tr>
<td>SY7000</td>
<td>4.5</td>
<td>0.28</td>
<td>1.4</td>
</tr>
<tr>
<td>SY9000</td>
<td>10</td>
<td>0.29</td>
<td>2.5</td>
</tr>
</tbody>
</table>

* Long service life
* Please contact SMC if life test data is required.
**Cylinder Speed Chart**

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

### Body Ported

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>C2 series</th>
<th>CM2 series</th>
<th>MB, CA2 series</th>
<th>CS1 series</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pressure 0.5 MPa</td>
<td>Load rate: 50%</td>
<td>Pressure 0.5 MPa</td>
<td>Load rate: 50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stroke 60 mm</td>
<td>Stroke 300 mm</td>
<td>Stroke 500 mm</td>
<td>Stroke 1000 mm</td>
</tr>
<tr>
<td>SY3120-C6</td>
<td></td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY5120-01</td>
<td></td>
<td>T0604 x 1 m</td>
<td>T0606 x 1 m</td>
<td>T0806 x 1 m</td>
<td>T0808 x 1 m</td>
</tr>
<tr>
<td>SY7120-02</td>
<td></td>
<td>T0604 x 1 m</td>
<td>T0606 x 1 m</td>
<td>T0806 x 1 m</td>
<td>T0808 x 1 m</td>
</tr>
<tr>
<td>SY9120-03</td>
<td></td>
<td>T0604 x 1 m</td>
<td>T0606 x 1 m</td>
<td>T0806 x 1 m</td>
<td>T0808 x 1 m</td>
</tr>
</tbody>
</table>

### Base Mounted

<table>
<thead>
<tr>
<th>Series</th>
<th>Average speed (mm/s)</th>
<th>C2 series</th>
<th>CM2 series</th>
<th>MB, CA2 series</th>
<th>CS1 series</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pressure 0.5 MPa</td>
<td>Load rate: 50%</td>
<td>Pressure 0.5 MPa</td>
<td>Load rate: 50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stroke 60 mm</td>
<td>Stroke 300 mm</td>
<td>Stroke 500 mm</td>
<td>Stroke 1000 mm</td>
</tr>
<tr>
<td>SY3140-01</td>
<td></td>
<td>ø6 ø10 ø16 ø20 ø25 ø32 ø40 ø40 ø50 ø63 ø80 ø100 ø125 ø140 ø160</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY5140-02</td>
<td></td>
<td>T0604 x 1 m</td>
<td>T0606 x 1 m</td>
<td>T0806 x 1 m</td>
<td>T0808 x 1 m</td>
</tr>
<tr>
<td>SY7140-03</td>
<td></td>
<td>T0604 x 1 m</td>
<td>T0606 x 1 m</td>
<td>T0806 x 1 m</td>
<td>T0808 x 1 m</td>
</tr>
<tr>
<td>SY9140-04</td>
<td></td>
<td>T0604 x 1 m</td>
<td>T0606 x 1 m</td>
<td>T0806 x 1 m</td>
<td>T0808 x 1 m</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: \((\text{Load mass} \times 9.8) / \text{Theoretical force}\) 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>SY9120-03</td>
<td>SGP10A x 1 m</td>
</tr>
<tr>
<td>Silencer</td>
<td>AN20-02</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Body Ported</th>
<th>CS1 series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY7140-03</td>
<td>SGP15A x 1 m</td>
</tr>
<tr>
<td>Silencer</td>
<td>AN30-03</td>
</tr>
<tr>
<td>SY9140-04</td>
<td>SGP15A x 1 m</td>
</tr>
<tr>
<td>Silencer</td>
<td>AN40-04</td>
</tr>
</tbody>
</table>

398
## Valve Variations

<table>
<thead>
<tr>
<th>Series</th>
<th>Sonic conductance C [dm³/(s·bar)]</th>
<th>Actuation</th>
<th>Voltage</th>
<th>Electrical entry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4/2→5/3  (A/B→EA/EB)</td>
<td>2 position</td>
<td>3 position</td>
<td>Light/surge voltage suppressor</td>
</tr>
<tr>
<td>P.404</td>
<td>SY3 □ 20 0.65</td>
<td>Single</td>
<td>DC 24 V</td>
<td>Grommet</td>
</tr>
<tr>
<td></td>
<td>SY5 □ 20 2.4</td>
<td>Single</td>
<td>DC 12 V</td>
<td>M plug connector</td>
</tr>
<tr>
<td>Base mounted</td>
<td>SY7 □ 20 3.3</td>
<td>Single</td>
<td>DC 6 V</td>
<td>Din terminal</td>
</tr>
<tr>
<td></td>
<td>SY9 □ 20 8.6</td>
<td>Single</td>
<td>DC 5 V</td>
<td>M8 connector</td>
</tr>
<tr>
<td>P.420</td>
<td>SY3 □ 40 1.1</td>
<td>Single</td>
<td>AC 100 V/50Hz</td>
<td>Note 4)</td>
</tr>
<tr>
<td></td>
<td>SY5 □ 40 2.8</td>
<td>Single</td>
<td>AC 110 V/50Hz</td>
<td>Note 4)</td>
</tr>
<tr>
<td></td>
<td>SY7 □ 40 4.5</td>
<td>Single</td>
<td>AC 200 V/50Hz</td>
<td>Note 4)</td>
</tr>
<tr>
<td></td>
<td>SY9 □ 40 10</td>
<td>Single</td>
<td>AC 220 V/50Hz</td>
<td>Note 4)</td>
</tr>
</tbody>
</table>

### Manualoverride

- **Non-locking push type**
- **Push-turn locking lever type**
- **Push-turn locked type**

### Series

<table>
<thead>
<tr>
<th>Series</th>
<th>P, EA, EB port size</th>
<th>A, B port size</th>
<th>Valve option</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3 □ 20</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SY5 □ 20</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SY7 □ 20</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SY9 □ 20</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Note

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

<table>
<thead>
<tr>
<th>Body ported</th>
<th>Valve Series</th>
<th>Connection</th>
<th>Wiring</th>
<th>Common specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar stock type</td>
<td>Individual wiring</td>
<td>Individual wiring</td>
<td>Flat ribbon cable (26 pins)</td>
<td>Plug-in type flat ribbon cable (26, 20, 10 pins)</td>
</tr>
<tr>
<td>Type 20</td>
<td>SY3□20</td>
<td>SY5□20</td>
<td>SY7□20</td>
<td></td>
</tr>
<tr>
<td>Type 20P</td>
<td>SY3□20</td>
<td>SY5□20</td>
<td>SY7□20</td>
<td></td>
</tr>
<tr>
<td>Stacking type</td>
<td>Individual wiring</td>
<td>Individual wiring</td>
<td>Flat ribbon cable</td>
<td>Flat ribbon cable</td>
</tr>
<tr>
<td>Type 23</td>
<td>SY3□20</td>
<td>SY5□20</td>
<td>SY7□20</td>
<td></td>
</tr>
<tr>
<td>Type 23P</td>
<td>SY3□20</td>
<td>SY5□20</td>
<td>SY7□20</td>
<td></td>
</tr>
<tr>
<td>Bar stock type</td>
<td>Flat ribbon cable</td>
<td>Flat ribbon cable</td>
<td>Serial transmission unit</td>
<td>Positive common</td>
</tr>
<tr>
<td>Type 20SA</td>
<td>SY3□20</td>
<td>SY5□20</td>
<td>SY7□20</td>
<td></td>
</tr>
<tr>
<td>Stacking type</td>
<td>Flat ribbon cable</td>
<td>Flat ribbon cable</td>
<td>Serial transmission unit</td>
<td>Positive common</td>
</tr>
<tr>
<td>Type 23SA</td>
<td>SY3□20</td>
<td>SY5□20</td>
<td>SY7□20</td>
<td></td>
</tr>
<tr>
<td>Cassette type</td>
<td>Individual wiring</td>
<td>Individual wiring</td>
<td>Flat ribbon cable</td>
<td>Serial transmission unit</td>
</tr>
<tr>
<td>Type 60</td>
<td>SY3□60</td>
<td>SY5□60</td>
<td>SY7□60</td>
<td></td>
</tr>
</tbody>
</table>

*Standard  Option  Made to order (Refer to page “Made to Order”)*

**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>Valve option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blanking plate</td>
<td>1/8 1/4 3/8</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>Individual SUP spacer</td>
<td></td>
<td>Mixed mounting</td>
</tr>
<tr>
<td>Individual EXH spacer</td>
<td></td>
<td>Low pressure specifications</td>
</tr>
<tr>
<td>SUP block disk</td>
<td></td>
<td>Dual pressure</td>
</tr>
<tr>
<td>EXH block disk</td>
<td></td>
<td>Exhaust throttle</td>
</tr>
<tr>
<td>Label for One-touch fitting</td>
<td></td>
<td>Bundle wiring</td>
</tr>
<tr>
<td>Built-in silencer</td>
<td></td>
<td>Mixed fitting sizes</td>
</tr>
<tr>
<td>Connector</td>
<td></td>
<td>IP65 enclosure</td>
</tr>
<tr>
<td>M5</td>
<td></td>
<td>Interface regulator</td>
</tr>
</tbody>
</table>

### A, B port size

- **C4**
- **C6**
- **C8**
- **C10**
- **C12**
- **N3**
- **N7**
- **N9**
- **N11**
- **C12**

### Valve option

- **Sup with function/Vacuum release valve with restrictor**
- **3 Port Valve/Mixed mounting**
- **Silencer for One-touch fitting**
- **Built-in silencer**
- **Connector**
- **M5**
- **Mixed mounting**
- **Vacuum specifications**
- **Low pressure specifications**
- **Different pressure**
- **Dual pressure**
- **Exhaust throttle**
- **Bundle wiring**
- **Mixed fitting sizes**
- **IP65 enclosure**
- **Interface regulator**

### Note

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

<table>
<thead>
<tr>
<th>Valve Series</th>
<th>Connection</th>
<th>Wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Individual wiring</td>
</tr>
<tr>
<td>Compact bar stock type Individual wiring</td>
<td>Type 41</td>
<td>SY3 40</td>
</tr>
<tr>
<td>Compact bar stock type Flat ribbon cable</td>
<td>Type 41P</td>
<td>SY3 40</td>
</tr>
<tr>
<td>Bar stock type/Common external EXH Individual wiring</td>
<td>Type 42</td>
<td>SY3 40</td>
</tr>
<tr>
<td>Bar stock type/Common external EXH Flat ribbon cable</td>
<td>Type 42P</td>
<td>SY3 40</td>
</tr>
<tr>
<td>Stacking type Individual wiring</td>
<td>Type 43</td>
<td>SY9 40</td>
</tr>
<tr>
<td>Stacking type Flat ribbon cable</td>
<td>Type 43P</td>
<td>SY9 40</td>
</tr>
<tr>
<td>Bar stock type EX510 gateway type</td>
<td>Type 42SA</td>
<td>SY3 40</td>
</tr>
<tr>
<td>Stacking type EX510 gateway type</td>
<td>Type 43SA</td>
<td>SY9 40</td>
</tr>
<tr>
<td>Stacking type/DIN rail mounted Individual wiring</td>
<td>Type 45</td>
<td>SY3 40</td>
</tr>
<tr>
<td>Stacking type/DIN rail mounted Connector box</td>
<td>Type 45S4A</td>
<td>SY3 40</td>
</tr>
<tr>
<td>Stacking type/DIN rail mounted EX510 gateway type Plug-in</td>
<td>Type 45S6A</td>
<td>SY3 40</td>
</tr>
<tr>
<td>Stacking type/DIN rail mounted EX510 gateway type Plug-in</td>
<td>Type 45S6B</td>
<td>SY3 40</td>
</tr>
</tbody>
</table>

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

**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>Valve option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blanking plate</td>
<td>M5 1/8 1/4 3/8</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>Individual SUP spacer</td>
<td></td>
<td>Mixed mounting</td>
</tr>
<tr>
<td>Individual EXH spacer</td>
<td></td>
<td>Low pressure specifications</td>
</tr>
<tr>
<td>SUP block disk</td>
<td></td>
<td>Mixed pressure</td>
</tr>
<tr>
<td>EXH block disk</td>
<td></td>
<td>Exhaust throttle</td>
</tr>
<tr>
<td>Label for block fitting</td>
<td></td>
<td>Mixed fitting sizes</td>
</tr>
<tr>
<td>Built-in silencer</td>
<td></td>
<td>IP65 enclosure</td>
</tr>
<tr>
<td>Connector</td>
<td></td>
<td>Interface regulator</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>C4</th>
<th>C6</th>
<th>C8</th>
<th>C10</th>
<th>N3</th>
<th>N9</th>
<th>N11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

How to Order

SY 5 1 20  5 L 01

Series ●
3 SY3000
5 SY5000
7 SY7000
9 SY9000

Type of actuation ●
1 2 position single (A + 2 (B)
EA 5 1 (EB) (P)
2 2 position double (A + 2 (B)
EA 5 1 (EB) (P)
3 3 position closed center (A + 2 (B)
EA 5 1 (EB) (P)
4 3 position exhaust center (A + 2 (B)
EA 5 1 (EB) (P)
5 3 position pressure center (A + 2 (B)
EA 5 1 (EB) (P)

Note) For details about Symbol of the
3 position type of the SY9000
series, refer to page 407.

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

For DC
S: 24 VDC
6: 12 VDC
V: 6 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 ●

Electrical entry ●

Grommet Plug connector M plug connector DIN terminal
M: Lead wire length 300 mm M: Lead wire length 300 mm M: Without lead wire
N: Lead wire length 600 mm L: Without lead wire L: Without lead wire
D: Y: With connector D: Y: With connector
G: Electrical entry

* LN, MN type with 2 sockets.
* For DIN terminal of SY3000 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.
* 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.
Note) Enter the cable length symbols in
[ ]. Please be
sure to fill in the blank referring to page 642.

A, B port size

Symbol Port size Applicable series
M5 M5 x 0.8 SY3000
01 1/8 SY5000
02 1/4 SY7000
03 5/32 SY9000

One-touch fitting (Metric size)
Symbol Port size Applicable series
C4 One-touch fitting for 4 SY3000
C6 One-touch fitting for 6 SY5000
C8 One-touch fitting for 8 SY7000
C10 One-touch fitting for 10 SY9000

One-touch fitting (Inch size)
Symbol Port size Applicable series
N3 One-touch fitting for 3/16 SY3000
N5 One-touch fitting for 5/32 SY5000
N7 One-touch fitting for 7/32 SY7000
N9 One-touch fitting for 9/32 SY9000

One-touch fitting (Metal size)
Symbol Port size Applicable series
M5 M5 x 0.8 SY3000
01 1/8 SY5000
02 1/4 SY7000
03 5/32 SY9000

Manual override ●

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

Light/Surge voltage suppressor ●

Made to Order ●

Thread type●

CE-compliant ●

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

Nil: Non-locking push type
S: With surge voltage suppressor
Z: With surge voltage suppressor
U: With surge voltage suppressor

Electrical entry for D, Y

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

Note) When placing an order for body ported solenoid valve as a single unit, mounting
cable for manifold and gasket are not attached. Order them separately, if
necessary. (For details, refer to page 647.)

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

Bracket●

Nil: Without bracket
F1: With foot bracket
F2: With side bracket

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.

Thread type●

CE-compliant ●

Note) Made to Order models that are CE-compliant
have DIN terminals only.
**Specifications**

<table>
<thead>
<tr>
<th>Series</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
<th>SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal pilot range (MPa)</td>
<td>2 position single</td>
<td>0.15 to 0.7</td>
<td>0.15 to 0.7</td>
<td>0.15 to 0.7</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>2 position double</td>
<td>0.1 to 0.7</td>
<td>0.1 to 0.7</td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>3 position</td>
<td>–10 to 50 (No freezing)</td>
<td>–10 to 50 (No freezing)</td>
<td>–10 to 50 (No freezing)</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>Common exhaust type for main and pilot valve</td>
<td></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>
<tr>
<td>Impact/Vibration resistance (m/s²)</td>
<td>Dust proof (+ DIN terminal and M8 connector: IP65)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</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)

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>Grommet (G), (H)</th>
<th>DIN terminal (D), (Y)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L plug connector (L)</td>
<td>M plug connector (M)</td>
</tr>
<tr>
<td></td>
<td>G, H, L, M, W</td>
<td>D, Y</td>
</tr>
<tr>
<td>Coil rated voltage (V)</td>
<td>DC</td>
<td>AC 60/50 Hz</td>
</tr>
<tr>
<td></td>
<td>24, 12, 6, 5, 3</td>
<td>100, 110, 200, 220</td>
</tr>
<tr>
<td>Allowable voltage fluctuation</td>
<td>DC</td>
<td>0.35 (With indicator light: 0.4 DIN terminal with indicator light: 0.46)</td>
</tr>
<tr>
<td></td>
<td>0.1 (With indicator light only)</td>
<td>[Starting 0.4, Holding 0.1]</td>
</tr>
<tr>
<td>Power consumption (W)</td>
<td>DC</td>
<td>0.76 (With indicator light: 0.81)</td>
</tr>
<tr>
<td></td>
<td>0.86 (With indicator light: 0.89)</td>
<td>0.86 (With indicator light: 0.87)</td>
</tr>
<tr>
<td></td>
<td>0.94 (With indicator light: 0.97)</td>
<td>[0.94 (With indicator light: 1.07)]</td>
</tr>
<tr>
<td></td>
<td>1.18 (With indicator light: 1.22)</td>
<td>1.15 (With indicator light: 1.30)</td>
</tr>
<tr>
<td></td>
<td>1.30 (With indicator light: 1.34)</td>
<td>1.27 (With indicator light: 1.46)</td>
</tr>
<tr>
<td></td>
<td>1.42 (With indicator light: 1.46)</td>
<td>[1.39 (With indicator light: 1.60)]</td>
</tr>
<tr>
<td>Apparent power (VA)</td>
<td>AC</td>
<td>0.35 (With indicator light: 0.4 DIN terminal with indicator light: 0.46)</td>
</tr>
<tr>
<td></td>
<td>0.78 (With indicator light: 0.81)</td>
<td>0.78 (With indicator light: 0.87)</td>
</tr>
<tr>
<td></td>
<td>0.86 (With indicator light: 0.89)</td>
<td>0.86 (With indicator light: 0.87)</td>
</tr>
<tr>
<td></td>
<td>0.94 (With indicator light: 0.97)</td>
<td>[0.94 (With indicator light: 1.07)]</td>
</tr>
<tr>
<td></td>
<td>1.18 (With indicator light: 1.22)</td>
<td>1.15 (With indicator light: 1.30)</td>
</tr>
<tr>
<td></td>
<td>1.30 (With indicator light: 1.34)</td>
<td>1.27 (With indicator light: 1.46)</td>
</tr>
<tr>
<td></td>
<td>1.42 (With indicator light: 1.46)</td>
<td>[1.39 (With indicator light: 1.60)]</td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Standard</td>
<td>Led (AC of DIN connector is neon light.)</td>
</tr>
<tr>
<td>Indicator light</td>
<td>[Starting 0.4, Holding 0.1]</td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

* For details, refer to page 636.

### 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) (at the pressure of 0.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>12 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>10 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>15 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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>19 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>18 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>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></td>
<td>Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>31 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>27 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>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></td>
<td>Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>35 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>35 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>62 or less</td>
</tr>
</tbody>
</table>
## SY3000/5000/7000/9000 Series

### Flow Rate Characteristics/Weight

#### SY3000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size (A, B)</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
<th>LM plug</th>
<th>DIN connector</th>
<th>W M8 (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000-20×50</td>
<td>Single Double</td>
<td>4/2</td>
<td>0.61 0.44 0.16 0.64 0.46 0.18</td>
<td>51 53 57</td>
<td>68 74 82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY3000-20×70</td>
<td>Single Double</td>
<td>4/2</td>
<td>0.48 0.46 0.13 0.47 0.43 0.13</td>
<td>71 78 84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY3000-20×80</td>
<td>Single Double</td>
<td>4/2</td>
<td>0.47 0.42 0.13 0.47 0.41 0.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY3000-20×90</td>
<td>Single Double</td>
<td>4/2</td>
<td>0.50 0.46 0.15 0.47 0.43 0.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SY7000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size (A, B)</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
<th>LM plug</th>
<th>DIN connector</th>
<th>W M8 (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY7000-20×2</td>
<td>Single Double</td>
<td>4/2</td>
<td>4.1 0.23 0.93 3.3 0.33 0.81</td>
<td>101 104 125</td>
<td>108</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY7000-20×4</td>
<td>Single Double</td>
<td>4/2</td>
<td>2.9 0.31 0.70 2.4 0.38 0.63</td>
<td>125 125 167</td>
<td>133</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY7000-20×6</td>
<td>Single Double</td>
<td>4/2</td>
<td>2.5 0.39 0.88 3.4 0.35 0.82</td>
<td>128 133 175</td>
<td>141</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY7000-20×8</td>
<td>Single Double</td>
<td>4/2</td>
<td>4.3 0.23 0.97 0.40 0.25 0.58</td>
<td>134 140 182</td>
<td>148</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY7000-20×10</td>
<td>Single Double</td>
<td>4/2</td>
<td>3.2 0.26 0.77 3.2 0.37 0.82</td>
<td>107 110 131</td>
<td>140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY7000-20×12</td>
<td>Single Double</td>
<td>4/2</td>
<td>2.8 0.24 0.63 2.3 0.31 0.62</td>
<td>122 127 169</td>
<td>135</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SY5000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size (A, B)</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
<th>LM plug</th>
<th>DIN connector</th>
<th>W M8 (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY5000-20×2</td>
<td>Single Double</td>
<td>4/2</td>
<td>7.0 0.33 1.7 7.6 0.35 2.0</td>
<td>241 244 265</td>
<td>248</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY5000-20×4</td>
<td>Single Double</td>
<td>4/2</td>
<td>6.7 0.37 1.7 6.4 0.34 1.6</td>
<td>268 290 332</td>
<td>298</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY5000-20×6</td>
<td>Single Double</td>
<td>4/2</td>
<td>6.4 0.36 1.6 8.3 0.41 2.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY5000-20×8</td>
<td>Single Double</td>
<td>4/2</td>
<td>8.0 0.27 1.8 0.8 0.46 0.22</td>
<td>279 285 327</td>
<td>293</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY5000-20×10</td>
<td>Single Double</td>
<td>4/2</td>
<td>7.9 0.33 1.9 6.6 0.27 1.6</td>
<td>252 261 303</td>
<td>269</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY5000-20×12</td>
<td>Single Double</td>
<td>4/2</td>
<td>8.0 0.30 1.9 8.7 0.34 2.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SY9000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size (A, B)</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
<th>LM plug</th>
<th>DIN connector</th>
<th>W M8 (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY9000-20×2</td>
<td>Single Double</td>
<td>4/2</td>
<td>4.3 0.28 0.96 7.1 0.32 1.7</td>
<td>293 296 317</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY9000-20×4</td>
<td>Single Double</td>
<td>4/2</td>
<td>4.3 0.31 0.99 6.1 0.28 1.4</td>
<td>312 318 360</td>
<td>328</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY9000-20×6</td>
<td>Single Double</td>
<td>4/2</td>
<td>4.3 0.31 0.99 7.4 0.36 1.9</td>
<td>336 342 384</td>
<td>350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY9000-20×8</td>
<td>Single Double</td>
<td>4/2</td>
<td>4.4 0.35 1.0 6.2 0.41 0.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY9000-20×10</td>
<td>Single Double</td>
<td>4/2</td>
<td>4.3 0.31 0.99 7.4 0.36 1.9</td>
<td>279 282 303</td>
<td>298</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY9000-20×12</td>
<td>Single Double</td>
<td>4/2</td>
<td>5.6 0.25 1.3 8.4 0.33 2.0</td>
<td>322 328 370</td>
<td>336</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY9000-20×14</td>
<td>Single Double</td>
<td>4/2</td>
<td>6.1 0.28 1.4 7.9 0.32 1.9</td>
<td>296 304 346</td>
<td>312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY9000-20×16</td>
<td>Single Double</td>
<td>4/2</td>
<td>5.9 0.30 1.4 6.5 0.26 1.5</td>
<td>298 304 346</td>
<td>312</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: [ ] denotes normal position.
Body Ported SY3000/5000/7000/9000 Series

Construction

SY series

Symbol
2 position single

(A) 2(B)

(EA) 1 3(EB)

(P)

Symbol
2 position double

(A) 4 2(B)

(EA) 1 3(EB)

(P)

Symbol
3 position closed center / exhaust center / pressure center

(A) 4 2(B)

(EA) 1 3(EB)

(P)

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 de-casted (SY3000: Zinc de-casted)</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Adapter plate</td>
<td>Resin</td>
<td>(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>

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)
- M5 port block Assembly (Cassette type)

Caution

Mounting screw tightening torques

SY3000 (M2): 0.12 N-m
SY3000 (M3): 0.5 N-m
SY9000 (M4): 1.4 N-m

* Refer to “How to Order Port Block Assembly” on page 629 for part no.
**Dimensions: SY3000 Series**

**Foot bracket**

SY3120-□□□□H G: Approx. 300
H: Approx. 600
66.9 [69.1]

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

2 x ø2.2 (For manifold mounting)

Manual override

One-touch fitting (A, B port)

2 x M3 x 0.5 depth 4 (For mounting bracket)

2 x ø3.2 (For mounting)

**L plug connector (L):** SY3120-□□□□-9.5 C4, N3 C6, N7 (-F2)

Grommet (G), (H): SY3120-□□□□-9.5 C4, N3 C6, N7 (-F2)

SY3120-□□□□M5 (-F2)

**M plug connector (M):** SY3120-□□□□-9.5 C4, N3 C6, N7 (-F2)

M plug connector (M): SY3120-□□□□-9.5 C4, N3 C6, N7 (-F2)

**M8 connector (WO):** SY3120-□□□□-9.5 C4, N3 C6, N7 (-F2)

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

2 position double
Grommet (G), (H): SY3220-□ □  C4, N3, C6, N7 (-F2)

SY3220-□ □  M5(-F2)

---

L plug connector (L):
SY3220-□ □  C4, N3, C6, N7 (-F2)

M plug connector (M):
SY3220-□ □  C4, N3, C6, N7 (-F2)

M8 connector (WO):
SY3220-WO □ □  C4, N3, C6, N7 (-F2)

---

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

Dimensions: SY3000 Series

3 position closed center / exhaust center / pressure center
Grommet (G), (H): SY3\(\frac{3}{8}\)20-\(\frac{3}{8}\)& H\(\frac{3}{8}\)-C4, N3 (-F2)

Grommet (G), (H): SY3\(\frac{3}{8}\)20-\(\frac{3}{8}\)& H\(\frac{3}{8}\)-C4, N3 (-F2)

L plug connector (L):
SY3\(\frac{3}{8}\)20-L\(\frac{3}{8}\)-C4, N3 (-F2)

M plug connector (M):
SY3\(\frac{3}{8}\)20-M\(\frac{3}{8}\)-C4, N3 (-F2)

M8 connector (WO):
SY3\(\frac{3}{8}\)20-WO\(\frac{3}{8}\)-C4, N3 (-F2)

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

2 position single
Grommet (G), (H): SY5120-□G□□□-□□-□□□(F2)

Foot bracket
SY5120-□G□□□-□□-□□□(F1)

L plug connector (L):
SY5120-□L□□□-□□□□□□(F2)

M plug connector (M):
SY5120-□M□□□-□□□□□□(F2)

DIN terminal (D, Y):
SY5120-□D□□□-□□□□□□(F2)

M8 connector (WO):
SY5120-□WO□□□-□□□□□□(F2)

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
For manifold mounting

One-touch fitting
For mounting bracket

Applicable tubing O.D.: Ø4, Ø5/32" :
Ø6, Ø1/4" :
Ø8, Ø5/16"

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

SY5220-□□□□□□□□□□(-F2)
SY5220-□□□□□□□□□□(-F2)
SY5220-□□□□□□□□□□(-F2)
SY5220-□□□□□□□□□□(-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, H]-C8, N9, C10, N11-[(-F2)]

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

G: Approx. 300
H: Approx. 600

(Lead wire length)

One-touch fitting
(A, B port)

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

Manual override

2 x ø4.2
(For manifold mounting)

Light/surge voltage suppressor

For manifold gasket positioning

2 x ø4.2 die-cast hole

For manifold gasket positioning

2 x ø4.2
(For mounting)

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-Y-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.
**Dimensions: SY7000 Series**

- **2 position double**
  - Grommet (G), (H): SY7220-GH□□C8, N9□□□C10, N11-□□(F2)

**Body Ported SY3000/5000/7000/9000 Series**

**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)

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

3 position closed center / exhaust center / pressure center
Grommet (G), (H): SY7⁷/₈ 20-□□□□ C8, N9 C10, N11 □ (-F2)

For manifold gasket positioning

2 x ø2.2 die-cast hole

2 x M4 x 0.7 depth 6.5

(Fo r mounting bracket)

One-touch fitting

(Lead wire length)

Manual override

2 x ø4.2

(Fo r manifold mounting)

(Lead wire length)

(applicable tubing O.D.: ø8, ø5/16"

: ø10, ø3/8"

Approx. 300

Approx. 600

Light/surge voltage suppressor

2 x ø2.2 die-cast hole

For manifold gasket positioning

SY7³/₄ 20-□□□□ -02□ (-F2)

SY7⁷/₈ 20-□□□□ C8, N9 C10, N11 □ (-F2)

SY7¹ 20-□□□□ C8, N9 C10, N11 □ (-F2)

SY7⁷/₈ 20-□□□□ C8, N9 C10, N11 □ (-F2)

M8 connector (WO):

DIN terminal (D, Y):

L plug connector (L):

M plug connector (M):

(For mounting bracket)

(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): SY9120-□□□□-□□□□
C8, N9
C10, N11
C12

G: Approx. 300
H: Approx. 600

Manual override

One-touch fitting

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

For manifold mounting

3 x ø3.2

Body Ported SY3000/5000/7000/9000 Series

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

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

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

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

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

Applicable cable O.D.
ø3.5 to ø7

[Light/surge voltage suppressor]
Dimensions: SY9000 Series

3 position closed center / exhaust center / pressure center

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

Manual override

G: Approx. 300
H: Approx. 600

(Lead wire length) 73.9 [76.1]
164.3 [168.7]

Medium wire length

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

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

(For manifold mounting)

4A 2B

51.7
68.2

A 6.5

3 x ø3.2

(For mounting)

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

3/8, 1/4

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

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

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

[For manifold mounting]

L plug connector (L): SY9\(\frac{3}{5}\) 20-□□□ C8, N9 C10, N11 C12

M plug connector (M): SY9\(\frac{3}{5}\) 20-□□□ C8, N9 C10, N11 C12

DIN terminal (D, Y): SY9\(\frac{3}{5}\) 20-□□□ C8, N9 C10, N11 C12

M8 connector (WO): SY9\(\frac{3}{5}\) 20-□□□ C8, N9 C10, N11 C12

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 1/8 With sub-plate SY5000
02 1/4 With sub-plate SY7000
03 3/8 With sub-plate SY9000
04 1/2 With sub-plate SY9000

Thread type
Nil Rc F G N NPT T NPTF

Made to Order
Nil — X90
Man valve fluororubber (Refer to page 64.)

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

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 surge voltage suppressor (Non-polar type)
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.

For “J” type, it is already built-in to the rectifier.

Rated voltage
For DC 24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC
5 24 VDC
6 12 VDC
V 6 VDC
S 5 VDC
R 3 VDC

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

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

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

Type of actuation

1 2 position single (A) 1/8 (EA) 1/3 (EB)
2 2 position double (A) 1/8 (EA) 1/3 (EB)
3 3 position closed center (A) 1/8 (EA) 1/3 (EB)
4 3 position exhaust center (A) 1/8 (EA) 1/3 (EB)
5 3 position pressure center (A) 1/8 (EA) 1/3 (EB)

For details about Symbol of the 3 position type of SY9000 series, refer to page 423.

For connector cable of M8 connector, refer to page 641.

Electrical entry

24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC
G: Lead wire length 300 mm
L: Lead wire length 300 mm
M: Lead wire length 300 mm
MN: Without lead wire
D: Y: Without connector
W: Without connector cable

For DC 24, 12 VDC
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]

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

Note) The DIN terminal of SY3000 series cannot be mounted on the standard sub-plate. For details, refer to page 639.

Note) “Y” type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.

Note) For connector cable of MB connector, refer to page 641.

Note) For connector cable of MB connector conforming to IEC60947-5-2 standard is also available. Refer to page 623 for details.

Note) Refer to page 638 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.

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

Note) Made in Japan Lean-to box

Note) CE-compliant have DIN terminals only.

Note) Made in Japan Lean-to box

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Note) Made in Japan Lean-to box

Note) CE-compliant have DIN terminals only.
Response Time

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

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
<th>SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response time (ms)</td>
<td>2 position single</td>
<td>2 position double</td>
<td>2 position single, double</td>
<td>3 position</td>
</tr>
<tr>
<td>(at the pressure of 0.5 MPa)</td>
<td>0.15 to 0.7</td>
<td>0.1 to 0.7</td>
<td>0.25 to 0.7</td>
<td>0.25 to 0.7</td>
</tr>
</tbody>
</table>

Solenoid Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
<th>SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Internal pilot | 2 position single | 2 position double | 2 position single, double | 3 position |
| Operating pressure range (MPa) | 0.15 to 0.7 | 0.1 to 0.7 | 0.25 to 0.7 | 0.25 to 0.7 |

| External pilot | 2 position single | 2 position double | 3 position |
| Operating pressure range (MPa) | 0.15 to 0.7 | 0.1 to 0.7 | 0.25 to 0.7 |

<table>
<thead>
<tr>
<th>Pilot exhaust method</th>
<th>Internal pilot</th>
<th>External pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot valve individual exhaust</td>
<td>Common exhaust type for main and pilot valve</td>
<td>Pilot valve individual exhaust</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manual override (Manual operation)</th>
<th>No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states every once for each condition. (Values at the initial period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact/Vibration resistance (m/s²) (Note)</td>
<td>Dust proof (± DIN terminal and M8 connector: IP65)</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dust proof (± DIN terminal and M8 connector: IP65)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fluid</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
<th>SY9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solenoid Specifications</th>
<th>Grommet (G), (H)</th>
<th>DIN terminal (D), (Y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical entry</td>
<td>L plug connector (L)</td>
<td>M plug connector (M)</td>
</tr>
<tr>
<td>Coil rated voltage (V)</td>
<td>DC 90/60 Hz</td>
<td>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 Standard</td>
<td>0.35 (With indicator light: 0.4 DIN terminal with indicator light: 0.45)</td>
</tr>
<tr>
<td>Apparent power (VA)</td>
<td>AC 100 V</td>
<td>0.78 (With indicator light: 0.81)</td>
</tr>
<tr>
<td>Surge voltage suppressor</td>
<td>Diode (Varistor is for DIN terminal and Non-polar type.)</td>
<td></td>
</tr>
<tr>
<td>Indicator light</td>
<td>LED (AC of DIN connector is neon light.)</td>
<td></td>
</tr>
</tbody>
</table>

- In common between 110 VAC and 115 VAC, and between 220 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.
### 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>Grommet</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000-01</td>
<td>Single</td>
<td>1/2</td>
<td>1.0 0.30 0.24 1.1 0.30 0.26</td>
<td>84 (50) 85 (53) 89 (57)</td>
<td>102 (68) 107 (73) 115 (81)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>0.77 0.28 0.18 0.85 0.30 0.19</td>
<td>104 (69) 109 (74) 117 (82)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure center</td>
<td>1.2 0.24 0.29 0.89 0.47 0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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>Grommet</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY5000-02</td>
<td>Single</td>
<td>1/4</td>
<td>2.4 0.41 0.64 2.8 0.29 0.66</td>
<td>121 (58) 123 (61) 154 (92)</td>
<td>139 (76) 144 (81) 186 (123) 152 (89)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>1.8 0.47 0.50 1.8 0.40 0.47</td>
<td>144 (82) 150 (87) 192 (129) 158 (95)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure center</td>
<td>3.3 0.36 0.85 0.85 0.36 0.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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>Grommet</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY7000-02</td>
<td>Single</td>
<td>1/4</td>
<td>4.1 0.41 1.1 4.1 0.29 1.0</td>
<td>218 (89) 221 (92) 242 (113) 225 (96)</td>
<td>237 (108) 242 (113) 284 (155) 250 (121)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>3.0 0.43 0.80 2.6 0.41 0.72</td>
<td>239 (110) 245 (116) 287 (158) 253 (124)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure center</td>
<td>5.3 0.39 1.3 0.65 2.2 0.49 0.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY7000-03</td>
<td>Single</td>
<td>3/6</td>
<td>4.9 0.29 1.2 4.5 0.27 1.1</td>
<td>218 (89) 221 (92) 242 (113) 225 (96)</td>
<td>237 (108) 242 (113) 284 (155) 250 (121)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>3.0 0.40 0.80 2.6 0.45 0.73</td>
<td>239 (110) 245 (116) 287 (158) 253 (124)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure center</td>
<td>5.3 0.31 1.3 0.64 2.3 0.45 0.66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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>Grommet</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY9000-03</td>
<td>Single</td>
<td>3/6</td>
<td>7.9 0.34 2.0 9.6 0.43 2.6</td>
<td>469 (172) 472 (175) 493 (196) 476 (179)</td>
<td>488 (191) 494 (197) 535 (239) 502 (205)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>7.5 0.33 1.8 7.3 0.30 1.7</td>
<td>512 (215) 518 (221) 560 (263) 526 (229)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure center</td>
<td>7.2 0.34 1.7 13 [4.0] 0.23 2.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY9000-04</td>
<td>Single</td>
<td>1/2</td>
<td>8.0 0.48 2.2 10 0.29 2.5</td>
<td>448 (172) 453 (175) 472</td>
<td>467 (191) 473 (197) 515 481 (205)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td></td>
<td>7.6 0.32 1.8 7.3 0.32 1.8</td>
<td>491 (215) 497 (221) 539 505 (229)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure center</td>
<td>7.3 0.42 2.0 13 [4.7] 0.32 3.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) [ ] denotes the normal position. Note 2) ( ) denotes without sub-plate.
Base Mounted **SY3000/5000/7000/9000 Series**

**Construction**

**SY Series**

### Symbol

**2 position single**

(A) 2(B)

(EA) 3(EB) (P)

**2 position double**

(A) 2(B)

(EA) 3(EB) (P)

**3 position closed center**

(A) 2(B)

(EA) 3(EB) (P)

**3 position exhaust center**

(A) 2(B)

(EA) 3(EB) (P)

**3 position pressure center**

(A) 2(B)

(EA) 3(EB) (P)

### 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></td>
<td>(SY3000: Zinc die-casted)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Adapter plate</td>
<td>Resin</td>
<td>White</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(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>
<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>
</tr>
<tr>
<td></td>
<td></td>
<td>SY3000-27-2</td>
<td>SY5000-27-2</td>
</tr>
</tbody>
</table>

| 7   | Pilot valve assembly | SY3000-11-25 | SY5000-11-25               |
|     |                    | SY3000-11-18 | SY5000-11-18               |

| 8   | Gasket            | SY3000-23-4  | SY3000-23-4                 |
|     |                   | AC00077      | AC00296                     |
|     | Round head combination screw | (M2 x 21) | (M3 x 26)                 |
|     | Reference screw size | AC00077 | AC00296                     |

**Caution**

- **Mounting screw tightening torques**
  - M2: 0.16 N·m
  - M3: 0.8 N·m
  - M4: 1.4 N·m

* Thread type

(This figure shows a closed center type.)
How to Order Interface Regulator

SY3000 series

ARBY3000 - 05 - P - 2

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)

Regulating port
- P P port
- A1 A port (P controlled type, A port regulation)
- B1 B port (P controlled type, B port regulation)

ARBY3000-05-□-2

ARBY3000-M1-□-2

Note) ARBY is not CE-compliant.

SY5000 series

ARBY5000 - 00 - P - 2

Pressure gauge connection port
- 00 Pressure gauge (G15-10-01)
- M1 Plug (M-5P)

Regulating port
- P P port
- A1 A port (P controlled type, A port regulation)
- B1 B port (P controlled type, B port regulation)

ARBY5000-00-□-2

ARBY5000-M1-□-2

SY7000 series

ARBY7000 - 00 - P - 2

Pressure gauge connection port
- 00 Pressure gauge (G15-10-01)
- M1 Plug (M-5P)

Regulating port
- P P port
- A1 A port (P controlled type, A port regulation)
- B1 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 size</th>
<th>Reference screw size</th>
<th>Gasket</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARBY3000</td>
<td>SY3000-23-10</td>
<td>(M2 x 36)</td>
<td>SX3000-57-4</td>
</tr>
<tr>
<td>ARBY5000</td>
<td>AC002283</td>
<td>(M3 x 48.5)</td>
<td>SX5000-57-6</td>
</tr>
<tr>
<td>ARBY7000</td>
<td>AC002282</td>
<td>(M4 x 56)</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

Note) The M8 connector for wiring cannot be mounted for the ARBY3000 series.
Dimensions: SY3000 Series

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

With interface regulator

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□

Manual override
(For mounting)
2 x ø3.2

With interface regulator

L plug connector (L):
SY3240(R)-□L□□-01□

M plug connector (M):
SY3240(R)-□M□□-01□

M8 connector (WO):
SY3240(R)-□WO□□-01□

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\(^{3/5}\)40(R)-□□□-01□

(Light/surge voltage suppressor)

M5 x 0.8
(External pilot port)

38.1
19
17

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

Manual override

M5 x 0.8
(Pilot EXH port)

In the case of external pilot type

With interface regulator

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

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

M8 connector (WO):
SY3\(^{3/5}\)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)-□□G□□-02□

Pilot EXH port
(A, B port)

Light/surge voltage suppressor

Manual override

External pilot port

(Lead wire length)

With interface regulator

L plug connector (L):
SY5140(R)-□L□□-02□

M plug connector (M):
SY5140(R)-□M□□-02□

DIN terminal (D, Y):
SY5140(R)-□D□□-02□

M8 connector (WO):
SY5140(R)-□WO□□-02□

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)-□□□-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 3/40(R)-□□□□-02

(Light/surge voltage suppressor)

M5 x 0.8
(External pilot port)

Manual override

G: Approx. 300
H: Approx. 600

(P, EA, EB port)

M5 x 0.8
(Pilot EXH port)

<In the case of external pilot type>

Approx. 300

(Applicable cable O.D.
ø3.5 to ø7)

L plug connector (L):
SY5 3/40(R)-□□□□-02

M plug connector (M):
SY5 3/40(R)-□□□□-02

DIN terminal (D, Y):
SY5 3/40(R)-□□□□-02

M8 connector (WO):
SY5 3/40(R)-□□□□-02

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

2 position single
Grommet (G), (H): SY7140(R)-RH03
Pilot EXH port
Light/surge voltage suppressor
(Pilot EXH port) 43.1
Manual override
61 10.4 2 x ø4.3
(For mounting)
69 21.5
3/8, 1/4
100.1 [102.3] (A, B port)
77.9

With interface regulator

L plug connector (L): SY7140(R)-LH03
M plug connector (M): SY7140(R)-MH03
DIN terminal (D, Y): SY7140(R)-DH03
M8 connector (WO): SY7140(R)-WOH03

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

2 position double
Grommet (G), (H): SY7240(R)-□□□□02□□03

Light/surge voltage suppressor

Manual override

G: Approx. 300
H: Approx. 600

(Lead wire length)

With interface regulator

L plug connector (L):
SY7240(R)-□□□□03

M plug connector (M):
SY7240(R)-□□□□03

DIN terminal (D, Y):
SY7240(R)-□□□□03

M8 connector (WO):
SY7240(R)-□□□□03

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)-

(Light/surge voltage suppressor)

Manual override

(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)-

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

2 position single
Grommet (G), (H): SY9140(R)-□□□-□□□-03-□□

Manual override

(Pilot EXH port)

(Light/surge voltage suppressor)

(Approx. 300)

(Approx. 600)

(Lead wire length)

(Applicable cable O.D. ø3.5 to ø7)

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>

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

Manual override

(For mounting)

L plug connector (L):
SY9240(R)-□L□□□□

M plug connector (M):
SY9240(R)-□M□□□□

DIN terminal (D, Y):
SY9240(R)-□□D□□□□

M8 connector (WO):
SY9240(R)-□WO□□□□

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\(\frac{3}{5}\)40(R)-□□□ 03□ 04□

(Light/surge voltage suppressor)

Manual override

(Pilot EXH port)

(External pilot port)

L plug connector (L):
SY9\(\frac{3}{5}\)40(R)-□□□ 03□ 04□

M plug connector (M):
SY9\(\frac{3}{5}\)40(R)-□□□ 03□ 04□

DIN terminal (D, Y):
SY9\(\frac{3}{5}\)40(R)-□□□ 03□ 04□

M8 connector (WO):
SY9\(\frac{3}{5}\)40(R)-□WO□ 03□ 04□

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

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

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

* This also includes the number of blanking plate assemblies.

**Thread type**
- Nil
- R
- G
- 00F: NPT
- 00T: NPTF

**CE-compliant**
- Nil
- Q: CE-compliant

*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)
  - SY3120-5G-C6 (2 sets)

- **Single solenoid (24 VDC)**
  - SY3000-26-9A (1 set)

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

- **Manifold base (5 stations)**
  - SSSY3-20-05

*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

**Body Ported SY3000/5000/7000 Series**

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

### How to Order Valve

**SY 5 1 20** - **5 L** - **01** - **** - **** - **Made to Order**

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

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

- **Coil specifications**
  - **T** With power saving circuit (24 VDC, 12 VDC only)
  - **N** Non-locking push type
  - **F** Push-turn locking slotted type
  - **G** Push-turn locking lever type

- **Thread type**
  - **Nil**
  - **Rc**
  - **G**
  - **N**
  - **NT**

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

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

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

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

- **Thread piping**
  - **C4**
  - **C6**

- **One-touch fitting (Metric size)**
  - **C4**
  - **C6**

- **One-touch fitting (Inch size)**
  - **C4**
  - **C6**

- **Electrical entry for**

#### Gasket assembly part no.

- **SY3000-GS-1**
- **SY5000-GS-1**
- **SY7000-GS-1**

**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 **X**. Please be sure to fill in the blank referring to page 642.

- **L, MN** type: with 2 sockets.
- **N** type is a DIN terminal conforming to EN-175301-803C (former DIN43650C).

**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</td>
<td>SY5</td>
<td>SY7</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Single base/B mount</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td>Common SUP, Common EXH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations Note 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port location</td>
<td>Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P, EA, EB port</td>
<td>¼</td>
<td>¼</td>
<td>¼</td>
</tr>
<tr>
<td>A, B port</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SS5Y3-20(-Q)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SS5Y5-20(-Q)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SS5Y7-20(-Q)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manifold base weight W (g)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n: Stations</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>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 → 4/2 (P → A/B)</td>
</tr>
<tr>
<td>Port size</td>
<td></td>
</tr>
<tr>
<td>1, 5, 3</td>
<td>4, 2</td>
</tr>
<tr>
<td>(P, EA, EB)</td>
<td>(A, B)</td>
</tr>
<tr>
<td>C</td>
<td>b</td>
</tr>
<tr>
<td>(dm³/(s·bar))</td>
<td>(dm³/(s·bar))</td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>(dm³/(s·bar))</td>
<td></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 Type 20

SY3000: SS5Y3-20- Stations

Grommet (G)

One-touch fitting
(A, B port)
Applicable tubing O.D.
: Ø4, Ø5/32"
: Ø6, Ø1/4"

Manual override

Dimensions when mounting individual EXH spacer

Manual override

Dimensions when mounting individual SUP spacer

(P, EA, EB port)

4 x Ø4.5
(For mounting)
M5 x 0.5
(A, B port)

(Pitch)
P = 10.5

(Approx. 300)
(Lead wire length)

(Approx. 300)
(Lead wire length)

(Approx. 300)
(Lead wire length)

L plug connector (L)

M plug connector (M)

M8 connector (WO)

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

Table of Dimensions

<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</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>
Grommet (G)

Manual override

One-touch fitting (A, B port)

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

Dimensions when mounting individual EXH spacer

Dimensions when mounting individual SUP spacer

(Light/surge voltage suppressor)

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

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>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>76</td>
<td>56</td>
</tr>
<tr>
<td>5</td>
<td>92</td>
<td>72</td>
</tr>
<tr>
<td>6</td>
<td>108</td>
<td>88</td>
</tr>
<tr>
<td>7</td>
<td>124</td>
<td>104</td>
</tr>
<tr>
<td>8</td>
<td>140</td>
<td>120</td>
</tr>
<tr>
<td>9</td>
<td>156</td>
<td>136</td>
</tr>
<tr>
<td>10</td>
<td>172</td>
<td>152</td>
</tr>
<tr>
<td>11</td>
<td>188</td>
<td>168</td>
</tr>
<tr>
<td>12</td>
<td>204</td>
<td>184</td>
</tr>
<tr>
<td>13</td>
<td>220</td>
<td>200</td>
</tr>
<tr>
<td>14</td>
<td>236</td>
<td>216</td>
</tr>
<tr>
<td>15</td>
<td>252</td>
<td>232</td>
</tr>
<tr>
<td>16</td>
<td>268</td>
<td>248</td>
</tr>
<tr>
<td>17</td>
<td>284</td>
<td>264</td>
</tr>
<tr>
<td>18</td>
<td>300</td>
<td>280</td>
</tr>
<tr>
<td>19</td>
<td>316</td>
<td>296</td>
</tr>
<tr>
<td>20</td>
<td>332</td>
<td>312</td>
</tr>
<tr>
<td>21</td>
<td>348</td>
<td>328</td>
</tr>
</tbody>
</table>

Type 20 SY3000/5000/7000 Series

SY5000: SS5Y5-20-[Stations]
### SY7000: SS5Y7-20 Stations

**Grommet (G)**

![Diagram of grommet and dimensions](image)

- Manual override
- Dimensions when mounting individual EXH spacer
- Dimensions when mounting individual SUP spacer

**L plug connector (L)**

- Approx. 300 (Lead wire length)
- 43.1 [58.5]
- 59.5 [62.5]
- 74.6

**M plug connector (M)**

- Approx. 300 (Lead wire length)
- 43.1 [58.5]
- 59.5 [62.5]
- 74.6

**DIN terminal (D, Y)**

- Applicable cable O.D.: \( \phi 3.5 \) to \( \phi 7 \)

**M8 connector (WO)**

- Applicable tubing O.D.: \( \phi 8, \phi 5/16'' \), \( \phi 10, \phi 3/8'' \)

### Specifications

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>55</td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td>74</td>
<td>65</td>
</tr>
<tr>
<td>5</td>
<td>93</td>
<td>84</td>
</tr>
<tr>
<td>6</td>
<td>112</td>
<td>103</td>
</tr>
<tr>
<td>7</td>
<td>131</td>
<td>122</td>
</tr>
<tr>
<td>8</td>
<td>131</td>
<td>141</td>
</tr>
<tr>
<td>9</td>
<td>150</td>
<td>160</td>
</tr>
<tr>
<td>10</td>
<td>169</td>
<td>179</td>
</tr>
<tr>
<td>11</td>
<td>188</td>
<td>198</td>
</tr>
<tr>
<td>12</td>
<td>207</td>
<td>217</td>
</tr>
<tr>
<td>13</td>
<td>226</td>
<td>236</td>
</tr>
<tr>
<td>14</td>
<td>245</td>
<td>255</td>
</tr>
<tr>
<td>15</td>
<td>264</td>
<td>274</td>
</tr>
<tr>
<td>16</td>
<td>283</td>
<td>293</td>
</tr>
<tr>
<td>17</td>
<td>302</td>
<td>312</td>
</tr>
<tr>
<td>18</td>
<td>321</td>
<td>331</td>
</tr>
<tr>
<td>19</td>
<td>359</td>
<td>378</td>
</tr>
<tr>
<td>20</td>
<td>378</td>
<td>397</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>D</td>
<td>DIN rail mounting (with DIN rail)</td>
</tr>
<tr>
<td>DO</td>
<td>DIN rail mounting (without DIN rail)</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>
</tbody>
</table>

Option

CE-compliant

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

SSS9Y-23-05

Double solenoid (24 VDC)
SY9220-SL0Z-C12 (2 sets)
SY9120-SL0Z-C12 (2 sets)

Blanking plate assembly
SY9000-26-1A (1 set)
Manifold base (5 stations)
SSS9Y-23-05

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.

Prefix it to the part nos. of the solenoid valve, etc.

SY9000 Series

5 Port Solenoid Valve

Body Ported Manifold

Stacking Type/Individual Wiring

SY9000

Mounting Symbol

Nil

D

DO

D*

When a longer DIN rail is desired than the specified stations, specify the station number to be required into * mark.
### How to Order Valve

#### SY 9000 Series

#### 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

#### Electrical entry for G, H, L, M, W
- Nil: Without light/surge voltage suppressor
- D: 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 Y, YO
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor

#### Light/Surge voltage suppressor
- Nil: Made to Order
- X90: Man valve fluororubber (Refer to page 614.)

#### Made to Order
- Nil: Made to Order
- X90: Made to Order

#### Power saving circuit
- Nil: Power saving circuit is not available in the case of D, Y, DO, YO or W type.
- For type D, Y, DO and YO is only available with 12 and 24 VDC.
- For type W, DC voltage is only available.

#### Electrical entry for D, Y
- Nil: Without light/surge voltage suppressor
- S: With surge voltage suppressor
- Z: With light/surge voltage suppressor

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

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

#### Electrical port size
- Nil: Nil
- 02: ¼
- 03: ½

#### Thread piping
- Nil: Nil
- C8: One-touch fitting for ø8
- C10: One-touch fitting for ø10
- C12: One-touch fitting for ø12
- N9: One-touch fitting for ø9
- N11: One-touch fitting for ø11

#### Gasket assembly part no.
- Nil: Nil
- SY9000-GS-1

#### Note
- AC-type models that are CE-compliant have DIN terminals only.
- For connector cable of M8 connector, refer to page 641.
- For connector cable of 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 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.

---

**How to Order Valve**

**Type 23**

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

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

**L**

[Option]

**How to Order Valve**

**SY 9000 Series**

**Type 23**

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

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

**L**

[Option]
**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 (^{Note1})</td>
</tr>
<tr>
<td>A, B port location</td>
<td>Valve</td>
</tr>
<tr>
<td>P, EA, EB port</td>
<td>(\frac{3}{8})</td>
</tr>
<tr>
<td>A, B port</td>
<td>(\frac{1}{4})</td>
</tr>
<tr>
<td></td>
<td>(\frac{3}{8})</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>Port size</td>
<td></td>
</tr>
<tr>
<td>Manifold base weight W (g) n: Stations</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>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1, 5, 3</td>
<td>4, 2</td>
</tr>
<tr>
<td>SS5Y9-23(-Q)</td>
<td>(\frac{3}{8})</td>
<td>C12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
<tr>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
<tr>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
</tbody>
</table>

Note) The value is for manifold base with 5 stations and individually operated 2 position type.
5 Port Solenoid Valve
Body Ported Manifold
Bar Stock Type/Flat Ribbon Cable
SY3000/5000/7000 Series

How to Order Manifold

Note) CE-compliant: For DC only.

Manifold series
3 SY3000
5 SY5000
7 SY7000

Stations
03 3 stations
12 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.

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) Connector assembly
SY3000-37-4A

SS5Y3-20P-06 1 set (Type 20P, 6-station manifold part no.)
SX3000-26-10A 1 set (Blanking plate assembly part no.)
SY3120-5LOU-C6 3 sets (Single solenoid part no.)
SY3220-5LOU-C6 2 sets (Double solenoid part no.)
SY3000-37-3A 3 sets (Connector assembly part no.)
SY3000-37-4A 2 sets (Connector assembly 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.

Note) Please indicate the connector assembly part no. below that connects the valve and the manifold.

Connector Assembly

For 12, 24 VDC

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY3000</th>
<th>For SY5000/7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY3000-37-3A</td>
<td>SY5000-37-3A</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY3000-37-4A</td>
<td>SY5000-37-4A</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY3000-37-3A</td>
<td>SY5000-37-3A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY3000-37-6A</td>
<td>SY5000-37-6A</td>
</tr>
</tbody>
</table>

Note) Spacer assembly indicates Individual SUP/EXH.

For 100 VAC

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY3000</th>
<th>For SY5000/7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY3000-37-32A</td>
<td>SY5000-37-15A</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY3000-37-33A</td>
<td>SY5000-37-16A</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY3000-37-15A</td>
<td>SY5000-37-17A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY3000-37-34A</td>
<td>SY5000-37-18A</td>
</tr>
</tbody>
</table>

For 100 VAC (115 VAC)

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY3000</th>
<th>For SY5000/7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>SY3000-37-36A</td>
<td>SY5000-37-19A</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY3000-37-37A</td>
<td>SY5000-37-20A</td>
</tr>
<tr>
<td>Single with spacer assembly</td>
<td>SY5000-37-19A</td>
<td>SY5000-37-21A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY3000-37-37A</td>
<td>SY5000-37-22A</td>
</tr>
</tbody>
</table>

Note) 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.
Body Ported \textit{SY3000/5000/7000} Series

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:
    - 5: 100 VAC
    - 3: 110 VAC (115 VAC)

- **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

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

- **Thread type**
  - Rc
  - F
  - G
  - NPT
  - T

- **Thread piping**
  - Symbol Port size Applicable series
    - M5 x 0.8 SY3000
    - ½ SY9500
    - ¾ SY7000

- **One-touch fitting (inch size)**
  - Symbol Port size Applicable series
    - ½ SY3000
    - ¾ SY5000
    - 1 SY7000

- **One-touch fitting (Metric size)**
  - Symbol Port size Applicable series
    - ¼ SY3000
    - 5/32 SY9500
    - 3/16 SY7000

- **Thread piping**
  - Note) CE-compliant: For DC only.
  - 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.
  - Note) Since the electrical entry is “LO”, select a connector assembly part no. from those stated on page 448.

- **Gasket assembly part no.**
  - Round head combination screw
  - Series Gasket assembly part no.
    - SY3000 SY3000-GS-1
    - SY5000 SY5000-GS-1
    - SY7000 SY7000-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.

---

### 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>Common SUP, Common EXH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>4 to 12 stations(1)</td>
<td>3 to 12 stations(1)</td>
<td></td>
</tr>
<tr>
<td>A, B port location</td>
<td>Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size A, B port</td>
<td>1/8</td>
<td>1/4</td>
<td>1/4</td>
</tr>
<tr>
<td>Port size</td>
<td>C5 (One-touch fitting for ø4)</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td>Manifold base weight W (g)</td>
<td>n: Stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n: Stations</td>
<td>W = 19n + 45 W = 43n + 77 W = 51n + 81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applicable flat ribbon cable connector</td>
<td>Flat ribbon cable connector, Socket: 26 pins MIL type with strain relief, Conforming to MIL-C-83503</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal wiring</td>
<td>In common between +COM and –COM (Z type: +COM only).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>12, 24 VDC 100, 110 VAC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note 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>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 5, 3 (P, EA, EB)</td>
<td>1 → 4/2 (P → A/B)</td>
</tr>
<tr>
<td>4, 2 (A, B)</td>
<td>4/2 → 5/3 (A/B → EA/EB)</td>
</tr>
<tr>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
<tr>
<td>SS5Y3-20P</td>
<td>1/8</td>
</tr>
<tr>
<td>SS5Y5-20P</td>
<td>1/4</td>
</tr>
<tr>
<td>SS5Y7-20P</td>
<td>1/4</td>
</tr>
</tbody>
</table>

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

---

### Internal Wiring of Manifold

**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.
Body Ported SY3000/5000/7000 Series

SY3000: SS5Y3-20P·Stations

<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>

Manual override

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

Triangle mark

(Light/surge voltage suppressor)

Applicable connector: 26 pins MIL type with strain relief

Conforming to MIL-C-83503
SY5000: SS5Y5-20P—Stations

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

(A, B port)

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

A, B port

Manual override

Triangle mark

One-touch fitting

(Light/surge voltage suppressor)

<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>
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<tbody>
<tr>
<td>L1</td>
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<td>112</td>
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<tr>
<td>L2</td>
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<td>84.5</td>
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<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>
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</tbody>
</table>
SY7000: SS5Y7-20P Stations

<table>
<thead>
<tr>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>88</td>
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<tr>
<td>4</td>
<td>108.5</td>
<td>88.5</td>
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<tr>
<td>5</td>
<td>129</td>
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<tr>
<td>6</td>
<td>149.5</td>
<td>129.5</td>
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<td>7</td>
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<td>150</td>
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<tr>
<td>8</td>
<td>190.5</td>
<td>170.5</td>
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<tr>
<td>9</td>
<td>211</td>
<td>191</td>
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<td>10</td>
<td>231.5</td>
<td>211.5</td>
</tr>
<tr>
<td>11</td>
<td>252</td>
<td>232</td>
</tr>
<tr>
<td>12</td>
<td>272.5</td>
<td>252.5</td>
</tr>
</tbody>
</table>
5 Port Solenoid Valve
Body Ported Manifold
Stacking Type/Flat Ribbon Cable
SY9000 Series

How to Order Manifold

Type 23P/Common external pilot capable
SS5Y 9 – 23P – 05

Valve stations
Symbol Stations Option
04 4 stations
06 6 stations
12 12 stations
* This also includes the number of blanking plate assemblies.
Thread type
Option
Nil Rc
00F G
00N NPT
00T NPTF
CE-compliant
Nil –
Q CE-compliant

How to Order Valve

Coil specifications
Nil Standard
T With power saving circuit

Rated voltage
Note) CE-compliant: For DC only.
5 24 VDC
6 12 VDC

For DC: SY 9
1 20
5 LO Z
02

For AC: SY 9
1 20
1 LOZ
02

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
* Type 23P manifolds can be used for both internal and external pilots.

Light/Surge voltage suppressor
Note) Z: Positive common specifications only.
* Power saving circuit is only available in the “Z” type.

Thread type
Nil Rc
F G
N NPT
T NPTF

How to Order Manifold Assembly (Example)

Example
Cylinder port Port size
C12: One-touch fitting for ø12

Double solenoid (24 VDC)
SY9220-SLOU-C12 (2 sets)
SY9120-SLOU-C12 (2 sets)

Blanking plate assembly
SY9000-26-3A (1 set)

Manifold base (5 stations)
SS5Y9-23P-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.

Note) Please indicate the connector assembly part no. (page 455) that connects the valve and the manifold.

Gasket assembly part no.

Round head combination screw
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.

### Flow Rate Characteristics

<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</td>
<td>C12 6.3 0.20 1.5 8.2 0.28 1.9</td>
</tr>
</tbody>
</table>

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

### Internal Wiring of Manifold

- 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.

⚠️ 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.
**SY9000: SS5Y9-23P- Stations-(D)**

**Grommet (G)**

- **L1** to **L5**
- **M5 x 0.8**
- **DIN rail holding screw**

**Applicable connector: 26 pins MIL type with strain releaf**

**When attaching the DIN rail**
- **Light/surge voltage suppressor**
- **Manual override**
- **Triangular mark**

**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

**Manifold series**

| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

**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></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>PNP output (–COM.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


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)
SSSY3-20SA-06

SSSY3-20SA-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

### SY 3 1 20 - 5 LO Z - M5 -

### Series

1. 3: SY3000
2. 5: SY5000
3. 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

### Light/Surge voltage suppressor

- Z: With light/surge voltage suppressor
- U: With 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.

### Manual override

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

### Coil specifications

- T: With power saving circuit
- Nil: Standard

### Rated voltage: 24 VDC

### Thread type

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

### Thread piping

- M5 x 0.8: SY3000
- 1/8: SY5000
- 1/4: SY7000

### A, B port size

- SY3000
- SY5000
- SY7000

### One-touch fitting (Metric size)

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

### One-touch fitting (Inch size)

<table>
<thead>
<tr>
<th>Type</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>One-touch fitting for ø5/32&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø1/4&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N3</td>
<td>One-touch fitting for ø5/32&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø1/4&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for ø5/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for ø5/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N11</td>
<td>One-touch fitting for ø3/8&quot;</td>
<td></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.

#### Gasket assembly part no.

<table>
<thead>
<tr>
<th>Series</th>
<th>Gasket assembly part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-GS-1</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-GS-1</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-GS-1</td>
</tr>
</tbody>
</table>

Note: The gasket assembly includes 10 sets of mounting screws and a gasket.
SY7000: SS5Y7-20SA - Stations -

<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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</thead>
<tbody>
<tr>
<td>L1</td>
<td>88</td>
<td>108.5</td>
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<td>149.5</td>
<td>170</td>
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<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>
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<td>211.5</td>
<td>232</td>
<td>252.5</td>
<td>273</td>
<td>293.5</td>
<td>314</td>
<td>334.5</td>
</tr>
</tbody>
</table>
**SY9000 Series**

**How to Order Manifold**

**SS5Y9-23SA**

- **Nil**
- **D**
- **DO**

**Direct mounting**

- **DIN rail mounting (With DIN rail)**
- **DIN rail mounting (Without DIN rail)**

**Option**

- When a longer DIN rail is desired than the specified stations, specify the station number to be required into * mark.

**Valve stations**

- **Symbol**
- **Stations**
- **Note**
  - **03**
    - 3 stations
    - Double wiring (Note 1)
  - **08**
    - 8 stations
  - **03**
    - 3 stations
    - Specified layout (Note 2)
      (Compatible with 16 solenoid valves)
  - **16**
    - 16 stations

*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.)

**Example**

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

**Double solenoid (24 VDC)**

- SY9220-SLOU-C12 (2 sets)

**Single solenoid (24 VDC)**

- SY9120-SLOU-C12 (3 sets)

**Manifold base (5 stations)**

- SS5Y9-23SA-05

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

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.

**Example**

- **C12: With One-touch fitting for ø12**

  - **Double solenoid (24 VDC)**
    - SY9220-SLOU-C12 (2 sets)
  - **Single solenoid (24 VDC)**
    - SY9120-SLOU-C12 (3 sets)
  - **Manifold base (5 stations)**
    - SS5Y9-23SA-05

**SS5Y9-23SA-05**

- 1 set (23SA type 5-station manifold part no.)
- SY9120-SLOU-C12 -- 3 sets (Single solenoid part no.)
- SY9220-SLOU-C12 -- 2 sets (Double solenoid part no.)

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

**CE-compliant**

- **Nil**
  - NPN output (+COM.)
  - PNP output (-COM.)

- **Q**
  - CE-compliant

**Option**

- **Nil**
  - Direct mounting
- **D**
  - DIN rail mounting (With DIN rail)
- **DO**
  - DIN rail mounting (Without DIN rail)
- **D’**
  - When a longer DIN rail is desired than the specified stations, specify the station number to be required into * mark.

**P, R port thread type**

- **Nil**
  - Rc
- **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>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

SY9120-5LOZ-02-

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

Light/Surge voltage suppressor
Z With light/surge voltage suppressor
U With 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.

Thread type
Nil
F G
N NPT
T NPTF

A, B port size
Thread piping
02 1/4
03 3/8

One-touch fitting (Metric size)
C8 One-touch fitting for ø8
C10 One-touch fitting for ø10
C12 One-touch fitting for ø12

One-touch fitting (Inch size)
N9 One-touch fitting for ø5/16"
N11 One-touch fitting for ø3/8"

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

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

Gasket assembly part no.

Round head combination screw

Note) The gasket assembly includes 10 sets of mounting screws and a gasket.
SY9000: SS5Y9-23SA (-D) Stations

<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</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>
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<tr>
<td>L2</td>
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<td>162.5</td>
<td>187.5</td>
<td>212.5</td>
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<td>262.5</td>
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<td>350</td>
<td>375</td>
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<td>425</td>
<td>450</td>
</tr>
<tr>
<td>L3</td>
<td>120</td>
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<td>216</td>
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<td>264</td>
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<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

- **<Standard>**
  - **Series** | **Assembly part no.**
  - SY3000 | SY3000-26-9A
  - SY5000 | SY5000-26-20A
  - SY7000 | SY7000-26-22A
  - SY9000 | SY9000-26-1A

- **<CE-compliant>**
  - **Series** | **Assembly part no.**
  - SY3000 | SY3000-26-19A-Q
  - SY5000 | SY5000-26-1A-Q
  - SY7000 | SY7000-26-1A-Q
  - SY9000 | SY9000-26-1A-Q

■ Type 20P, 23P
Blanking plate assembly

- **<Standard>**
  - **Series** | **Assembly part no.**
  - SY3000 | SY3000-26-10A
  - SY5000 | SY5000-26-21A
  - SY7000 | SY7000-26-23A
  - SY9000 | SY9000-26-3A

■ Gasket assembly part no.

Round head combination screw

■ Individual SUP spacer assembly

- **Sup port**

- **Exh port**

- **Series** | **Assembly part no.** | **Port size** | **T**
  - SY3000 | SY3000-38-20A(-Q) | M5 x 0.8 | 10.5
  - SY5000 | SY5000-38-1A(-Q) | 1/8 | 15
  - SY7000 | SY7000-38-1A(-Q) | 1/4 | 18
  - SY9000 | SY9000-38-1A(-Q) | 1/4 | 20

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.

Caution

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.

![Diagram of individual SUP spacer assembly with SUP port and EXH port](image)

Note: The individual SUP and EXH spacers 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.)

Caution

Thread type

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

<table>
<thead>
<tr>
<th>Applicable manifold types</th>
<th>20</th>
<th>20P</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SY5000</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SY7000</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Note: The 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. As for 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.

Note: In case of 20P and 23P, 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.
### SY3000/5000/7000/9000 Series

**Manifold Option**

<table>
<thead>
<tr>
<th>Connector assembly</th>
<th>For single solenoid (SY3000-37-81A-□-N)</th>
<th>For double solenoid (SY3000-37-81A-□□□□)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Red) Connector</td>
<td>(Red) Housing</td>
</tr>
<tr>
<td></td>
<td>(Black) Triangle mark</td>
<td>(Black) Triangle mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Red) Triangle mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Black) Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Red) Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Black) Triangle mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Red) Triangle mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Black) Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Red) Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Black) Triangle mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Red) Triangle mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Black) Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Red) Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Black) Triangle mark</td>
</tr>
<tr>
<td></td>
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<td>(Red) Triangle mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Black) Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Red) Connector</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Integrated Type</th>
<th>Model</th>
<th>Part no.</th>
<th>Connector mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated type</td>
<td>SS5Y3-20SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y3-20SA</td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y3-20SA</td>
<td>SY3000-37-81A-2-N</td>
<td>Single: For 5 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y3-20SA</td>
<td>SY3000-37-81A-2-4</td>
<td>Double/3 position: For 5 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y5-20SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y5-20SA</td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y7-20SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y7-20SA</td>
<td>SY3000-37-81A-3-6</td>
<td>Double/3 position: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y7-20SA</td>
<td>SY3000-37-81A-4-N</td>
<td>Single: For 5 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SS5Y7-20SA</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 the station addition or maintenance. When ordering a connector assembly separately, a number would not be printed on the connector.

#### 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 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>SS5Y5-20SA</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 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>SS5Y7-20SA</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>SS5Y9-23SA</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.

**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.
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 -**

![Rail mounting pitch 12.5](image)

> Refer to L dimensions

- Fill in □ 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>
</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>

- **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>

> Cable 26 core x 28 AWG

- **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.
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.

(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 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-□</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</td>
<td>SY3000 2 stations</td>
</tr>
<tr>
<td>5</td>
<td>SY5000 1 station</td>
</tr>
<tr>
<td>7</td>
<td>SY7000 20 stations</td>
</tr>
</tbody>
</table>

SS5Y 3  60  05 D

- **Series**: SY3000, SY5000, SY7000
- **Valve stations**: 2 stations, 1 station, 20 stations
- **CE-compliant**: Nil, 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>

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

How to Order Manifold Assembly (Example)

**Example**

- **Cylinder port size**: M5: M5 x 0.8
- **Cylinder port size**: C6: With One-touch fitting for ø6
- **Manifold base (4 stations)**: SS5Y3-60-04U
- **Double solenoid (24 VDC)**: SY3260-5G-C6 (2 sets)
- **Single solenoid (24 VDC)**: SY3160-5G-M5 (2 sets)

**Example**

- **R port**: C8: With One-touch fitting for ø8
- **P port**: C8: With One-touch fitting for ø8

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>Manifold type</th>
<th>P (SUP)/R (EXH)</th>
<th>Valve stations</th>
<th>A, B port location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applicable valve</strong></td>
<td>SY3000-60</td>
<td>SY5000-60</td>
<td>SY7000-60</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Manifold type</strong></td>
<td>Stacking type/DIN rail mounted</td>
<td>Common SUP/Common EXH</td>
<td>2 to 20 stations (Note 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>P, R port</strong></td>
<td>C8 (One-touch fitting for ø8)</td>
<td>C10 (One-touch fitting for ø10)</td>
<td>C12 (One-touch fitting for ø12)</td>
<td>P, R port</td>
<td></td>
</tr>
<tr>
<td><strong>A, B port</strong></td>
<td>M5 x 0.8</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
<td>A, B port</td>
<td></td>
</tr>
<tr>
<td><strong>Port size</strong></td>
<td>C6 (One-touch fitting for ø6)</td>
<td>1/8</td>
<td>1/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Manifold base weight W (g)</strong> (Note 2)</td>
<td>W = 13n + m + 36</td>
<td>W = 41.2n + m + 77.6</td>
<td>W = 65.4n + m + 128.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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>Port size</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>1,5/3(P,R)</td>
<td>4,2(A,B)</td>
</tr>
<tr>
<td><strong>Port size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SSSY3-60(-Q)</strong></td>
<td>C8</td>
<td>M5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C6</td>
</tr>
<tr>
<td><strong>SSSY5-60(-Q)</strong></td>
<td>1/8</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C8</td>
</tr>
<tr>
<td><strong>SSSY7-60(-Q)</strong></td>
<td>1/4</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C10</td>
</tr>
</tbody>
</table>

Note): The value is for manifold base with 5 stations and individually operated 2 position type.
**Type 60 SY3000/5000/7000 Series**

### How to Order Valve

#### Series

<table>
<thead>
<tr>
<th>3</th>
<th>SY3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>SY5000</td>
</tr>
<tr>
<td>7</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

**Type of actuation**

1. 2 position single
   - Symbol: A, B
   - Port size: M5
   - Thread type: Nil

2. 2 position double
   - Symbol: A1, A2
   - Port size: M5 x 0.8
   - Thread type: Nil

3. 3 position closed center
   - Symbol: C8
   - Port size: C6
   - Thread type: Nil

4. 3 position exhaust center
   - Symbol: C8
   - Port size: C6
   - Thread type: Nil

5. 3 position pressure center
   - Symbol: C6
   - Port size: C6
   - Thread type: Nil

**Coil specifications**

<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>D2</td>
<td>1/4&quot;</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>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>N1</td>
<td>One-touch fitting for ø1</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø7</td>
<td>SY5000</td>
</tr>
<tr>
<td>N11</td>
<td>One-touch fitting for ø11</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>N</td>
<td>Nil</td>
<td>—</td>
</tr>
<tr>
<td>F</td>
<td>Rc</td>
<td>—</td>
</tr>
<tr>
<td>N</td>
<td>Rp</td>
<td>—</td>
</tr>
<tr>
<td>Y</td>
<td>NPT</td>
<td>—</td>
</tr>
<tr>
<td>T</td>
<td>NPTF</td>
<td>—</td>
</tr>
</tbody>
</table>

#### Made to Order

- **X20** Body ported external pilot (Refer to page 624.)
- **X90** Manifold fluoro rubber (Refer to page 624.)

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

### Electrical entry

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

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

#### Light/Surge voltage suppressor

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

### Rated voltage

**For DC**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>24 VDC</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>12 VDC</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>6 VDC</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>5 VDC</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>3 VDC</td>
<td></td>
</tr>
</tbody>
</table>

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

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

### Coil specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>1/8&quot;</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>5/32&quot;</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>1/4&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### Manual override

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

### CE-compliant

- **Nil:** CE-compliant

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

---

**Table of Connector Specifications**

<table>
<thead>
<tr>
<th>Connector Type</th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grommet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plug connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M plug connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIN terminal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M8 connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WO: Without connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WO: With connector</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Manifold mounting**

- SY3000
- SY5000
- SY7000

**CE-compliant**

- DC
- AC

---

**Note**

1. The DIN terminal of the SY3000 series cannot be mounted on a standard manifold. For details, refer to page 639.
2. Enter the cable length symbols in [ ]. Please be sure to fill in the blank referring to page 642.
3. When ordering single unit of the cassette type solenoid valve, the bushing assembly is included.
4. For connector cable of M8 connector, refer to page 641.
5. M8 connector connecting to IEC60947-5-2 standard is also available. Refer to page 623 for details.
6. Refer to page 638 for the lead wire length of L and M plug connectors.
7. Refer to page 639 for the connector assembly with cover for L and M plug connectors.
## Specifications

**Series**

<table>
<thead>
<tr>
<th></th>
<th>SY3000</th>
<th>SY5000</th>
<th>SY7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal pilot</td>
<td>2 position single</td>
<td>0.15 to 0.7</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>
</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>Max. operating frequency (Hz)</td>
<td>2 position double</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>1 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>
</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 (^{\text{Note}})</td>
<td>150/30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dust proof (DIN terminal, M8 connector: IP65)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

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)

* Based on IEC60529

### Solenoid Specifications

#### Electrical entry

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

#### Allowable voltage fluctuation

±10% of rated voltage

#### Power consumption

<table>
<thead>
<tr>
<th>DC Power consumption (W)</th>
<th>Standard</th>
<th>With power saving circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 V</td>
<td>0.35 [With indicator light: 0.4 (DIN terminal with indicator light: 0.45)]</td>
<td>0.1 [With indicator light only] * [Starting 0.4, Holding 0.1]</td>
</tr>
<tr>
<td>110 V [115 V]</td>
<td>0.86 [With indicator light: 0.99] [0.94 with indicator light: 0.97]</td>
<td>0.94 [With indicator light: 1.07]</td>
</tr>
<tr>
<td>200 V</td>
<td>1.18 [With indicator light: 1.22]</td>
<td>1.15 [With indicator light: 1.30]</td>
</tr>
<tr>
<td>220 V [230 V]</td>
<td>1.30 [With indicator light: 1.34] [1.42 with indicator light: 1.46]</td>
<td>1.27 [With indicator light: 1.46] [1.39 with indicator light: 1.60]</td>
</tr>
</tbody>
</table>

#### Surge voltage suppressor

Diode (Varistor is for DIN terminal and non-polar)

#### Indicator light

LED (AC of DIN connector is neon light.)

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

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

* For details, refer to page 636.

## Response Time

**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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>12 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>10 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>15 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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>19 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>18 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>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></td>
<td>Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2 position single</td>
<td>31 or less</td>
</tr>
<tr>
<td>2 position double</td>
<td>27 or less</td>
</tr>
<tr>
<td>3 position</td>
<td>50 or less</td>
</tr>
</tbody>
</table>

* For details, refer to page 636.
## Weight

### SY3000 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000-M5</td>
<td>Single 2 position</td>
<td>M5 x 0.8</td>
<td>49 51 55</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>70 73 81</td>
</tr>
<tr>
<td>SY3000-C4</td>
<td>Single 2 position</td>
<td>C4</td>
<td>62 61 65</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>80 83 91</td>
</tr>
<tr>
<td>SY3000-C6</td>
<td>Single 2 position</td>
<td>C6</td>
<td>55 57 61</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Pressure center</td>
<td>78 82 90</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>
</tr>
</thead>
<tbody>
<tr>
<td>SY5000-C6</td>
<td>Single 2 position</td>
<td>C6</td>
<td>67 69 71</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>91 94 102</td>
</tr>
<tr>
<td>SY5000-C4</td>
<td>Single 2 position</td>
<td>C4</td>
<td>91 93 97</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>113 116 124</td>
</tr>
<tr>
<td>SY5000-C6</td>
<td>Single 2 position</td>
<td>C6</td>
<td>86 88 92</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>108 111 119</td>
</tr>
<tr>
<td>SY5000-C8</td>
<td>Single 2 position</td>
<td>C8</td>
<td>78 80 84</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>100 103 111</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>
</tr>
</thead>
<tbody>
<tr>
<td>SY7000-C6</td>
<td>Single 2 position</td>
<td>C4</td>
<td>103 105 126</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>125 128 136</td>
</tr>
<tr>
<td>SY7000-C8</td>
<td>Single 2 position</td>
<td>C8</td>
<td>109 111 123</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>133 136 144</td>
</tr>
<tr>
<td>SY7000-C10</td>
<td>Single 2 position</td>
<td>C10</td>
<td>123 125 146</td>
</tr>
<tr>
<td></td>
<td>Double 3 position</td>
<td>Closed center</td>
<td>145 149 157</td>
</tr>
</tbody>
</table>

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

### Individual SUP block assembly

![Diagram of Individual SUP block assembly](image1)

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

<table>
<thead>
<tr>
<th>Port size</th>
<th>Assembly part no.</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for ø6</td>
<td>SY3000-54-2C(-Q)</td>
<td>SY3000</td>
</tr>
<tr>
<td>One-touch fitting for ø8</td>
<td>SY3000-54-1C(-Q)</td>
<td>SY3000</td>
</tr>
<tr>
<td>One-touch fitting for ø10</td>
<td>SY5000-54-1C(-Q)</td>
<td>SY5000</td>
</tr>
<tr>
<td>One-touch fitting for ø12</td>
<td>SY7000-54-1C(-Q)</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Port size</th>
<th>Assembly part no.</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for 5/16&quot;</td>
<td>SY3000-54-3C(-Q)</td>
<td>SY3000</td>
</tr>
<tr>
<td>One-touch fitting for 3/8&quot;</td>
<td>SY5000-54-3C(-Q)</td>
<td>SY5000</td>
</tr>
<tr>
<td>One-touch fitting for 3/8&quot;</td>
<td>SY7000-54-3C(-Q)</td>
<td>SY7000</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 SSY3000-60-D:D, blocking disk is assembled on D side.)

<Manifold model no.: SSY3000-60-D:D>

### Individual EXH block assembly

![Diagram of Individual EXH block assembly](image2)

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

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

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

<table>
<thead>
<tr>
<th>Port size</th>
<th>Assembly part no.</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for 5/16&quot;</td>
<td>SY3000-55-2B(-Q)</td>
<td>SY3000</td>
</tr>
<tr>
<td>One-touch fitting for 3/8&quot;</td>
<td>SY5000-55-2B(-Q)</td>
<td>SY5000</td>
</tr>
<tr>
<td>One-touch fitting for 3/8&quot;</td>
<td>SY7000-55-3B(-Q)</td>
<td>SY7000</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 SSY3000-60-D:D, blocking disk is assembled on D side.)

<Manifold model no.: SSY3000-60-D:D>

### Additional Information

-[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.: SSY3000-60-D:D)

-[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.: SSY3000-60-D:D)
**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)

**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.

### 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

**Applicable fittings size ød**

<table>
<thead>
<tr>
<th>Model</th>
<th>A</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-12</td>
<td>24</td>
<td>45.5</td>
<td>14</td>
</tr>
<tr>
<td>KQ2P-03</td>
<td>16</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>KQ2P-07</td>
<td>18</td>
<td>35</td>
<td>8.5</td>
</tr>
<tr>
<td>KQ2P-09</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<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.

**VZ1000-11-9**

Refer to the L dimension tables

Enter a number from the DIN rail dimension table below in them.

### 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.

### Series

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Model</th>
<th>Effective area mm²</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000-S</td>
<td>AN15-C08</td>
<td>20</td>
<td>ø13</td>
<td>20</td>
<td>45</td>
</tr>
<tr>
<td>SY5000-6</td>
<td>AN20-C08</td>
<td>30</td>
<td>ø16.5</td>
<td>30.5</td>
<td>57.5</td>
</tr>
<tr>
<td>SY7000-2</td>
<td>AN30-C12</td>
<td>41</td>
<td>ø20</td>
<td>43.5</td>
<td>71.5</td>
</tr>
</tbody>
</table>

### Note

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

Construction

SY series

Symbol
2 position single
(A) 1-2
(EB) 3-1 (P) 5

2 position double
(A) 1-2
(B) 3-1 (P) 5

3 position closed center
(A) 1-2
(B) 3-1 (EB) 5

3 position exhaust center
(A) 1-2
(B) 3-1 (EB) 5

3 position pressure center
(A) 1-2
(B) 3-1 (EB) 5

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</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>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 (new)</td>
<td>SY3000-41-2A (with screw, gasket)</td>
</tr>
<tr>
<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.
### Specifications

#### SY3000/5000/7000 Series

**Model:** SSSY3-60

**Station B**

**Manual override**

- **U side**
- **L side**

**One-touch fitting**

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

**Light/surge voltage suppressor**

**Station n**

**Station 1**

**Applicable tubing O.D.:** ø8, ø5/16"

**DIN rail holding screw**

**DIN rail holding screw**

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

---

### Dimensions

**L plug connector (L)**

- **Lead wire length:** Approx. 300
- **Dimensions:**
  - 38.2 [45.2]
  - 117.1 [121.5]
  - 108.6 [113]

**M plug connector (M)**

- **Lead wire length:** Approx. 300
- **Dimensions:**
  - 49.3 [56.3]
  - 89.5 [93.4]
  - 44.5

**M8 connector (WO)**

- **Dimensions:**
  - 53.4
  - 53.4
  - 42.7
  - 25.2
  - 92
  - 100.5

---

**Tables**

<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>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>110.5</td>
<td>123</td>
<td>136.5</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>173</td>
<td>186.5</td>
<td>198</td>
<td>210.5</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></td>
</tr>
<tr>
<td>L2</td>
<td>100</td>
<td>112.5</td>
<td>125</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>225</td>
<td>237.5</td>
<td>250</td>
<td>262.5</td>
<td>275</td>
<td>287.5</td>
<td>300</td>
<td>312.5</td>
<td>325</td>
<td></td>
</tr>
<tr>
<td>L3</td>
<td>86</td>
<td>96.5</td>
<td>107</td>
<td>117.5</td>
<td>128</td>
<td>138.5</td>
<td>149</td>
<td>159.5</td>
<td>170</td>
<td>180.5</td>
<td>191</td>
<td>201.5</td>
<td>212</td>
<td>222.5</td>
<td>233</td>
<td>243.5</td>
<td>254</td>
<td>264.5</td>
<td>275</td>
<td></td>
</tr>
<tr>
<td>L4</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>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Refer to page 642 for dimensions of connector types.
Body Ported SY3000/5000/7000 Series Type 60

SSSY7-60- Stations B

---

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.
### 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>SY3□60-□□□□□(-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-□□1A(-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>SY3000-56-1A(-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>SY3000-56-1B(-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>VZ1000-11-1□</td>
<td>Refer to page 478.</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>1</td>
<td>Valve</td>
<td>SY5000-100-☐-☐-☐(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(☐)</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(☐)</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(☐)</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

**Valves can be added at any station on the rail.**

1. Loosen the manifold base clamping screw ①.
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 ② to fix them to the DIN rail.

**Caution**

- Tightening torque
  - SY3000: 1 N·m
  - SY5000: 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 ① 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-♦3A-(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>Refer to page 478.</td>
</tr>
<tr>
<td>5</td>
<td>DIN rail</td>
<td>VZ1000-11-4-</td>
<td></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. When removing the end block assembly from the DIN rail, loosen the holding screws for DIN rail at first, then slide it to the edge of the rail.
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 Assembly (Example)

Example

Single solenoid (24 VDC)
SY3140-5G (2 sets)
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.

SS5Y3-41-05-C6
Manifold base (5 stations)
C6: With One-touch fitting for ø6

A, B port size

Cylinder port size
N: With One-touch fitting for ø4

Manifold series
SY3000/5000/7000 Series

[Option]

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

490
How to Order Valve

### Series

<table>
<thead>
<tr>
<th>#</th>
<th>Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>SY3000</td>
</tr>
<tr>
<td>5</td>
<td>SY5000</td>
</tr>
<tr>
<td>7</td>
<td>SY7000</td>
</tr>
</tbody>
</table>

#### Type of actuation

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

#### Pilot type

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

#### Light/ Surge voltage suppressor

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

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

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

- Made to Order
  - Nil
  - Q CE-compliant

#### Electrical entry for D, Y

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

#### 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
- 7: 6 VDC
- 8: 5 VDC
- R: 3 VDC

**For AC (%/s 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(C), DC voltage is only available.
- Note) AC-type models that are CE-compliant have DIN terminals only.

#### Manual override

- Nil
- D Push-turn locking slotted type
- E Push-turn locking lever type

#### Electrical entry for D, Y

- Made to Order
  - Nil
  - S With surge voltage suppressor
  - Z With surge voltage suppressor (Non-polar type)
  - 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

**24, 12, 6, 5, 3 VDC**

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

#### Grommet

- L: Lead wire length 300 mm lead
- H: Lead wire length 600 mm

#### L plug connector

- M: With lead wire (Length 300 mm)
- MN: Without lead wire (Length 300 mm)
- MO: Without connector

#### M plug connector

- D: With connector (SY5000/7000 only)
- DO: Without connector
- Y: With connector (SY5000/7000 only)
- YO: Without connector

#### WO: Without connector cable

- W: With connector cable

#### Note

1. The DIN terminal of the SY3000 series cannot be mounted on a standard manifold. For details, refer to page 639.
2. Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 642.
3. For type W(C), DC voltage is only available.
4. Refer to page 638 for the lead wire length of L and M plug connectors.
5. Refer to page 639 for the connector assembly with cover for L and M plug connectors.
## SY3000/5000/7000 Series

### 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>Common SUP, Common EXH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porting specification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port direction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Port size

<table>
<thead>
<tr>
<th>Port</th>
<th>Location</th>
<th>Direction</th>
<th>A, B port</th>
<th>P, EA, EB port</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Base</td>
<td>Side</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1/8</td>
<td>1/8</td>
<td>1/4</td>
<td>1/4</td>
</tr>
</tbody>
</table>

### Manifold base weight

<table>
<thead>
<tr>
<th>W (g)</th>
<th>Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>W = 30n + 50</td>
<td>5 stations</td>
</tr>
<tr>
<td>W = 37n + 63</td>
<td>6 stations</td>
</tr>
<tr>
<td>W = 61n + 101</td>
<td>8 stations</td>
</tr>
<tr>
<td>W = 79n + 127</td>
<td>10 stations</td>
</tr>
<tr>
<td>W = 100n + 151</td>
<td>12 stations</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</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1, 5, 3</td>
<td>4, 2</td>
</tr>
<tr>
<td></td>
<td>(P, EA, EB)</td>
<td>(A, B)</td>
</tr>
<tr>
<td></td>
<td>1 → 4/2 (P → A/B)</td>
<td>4/2 → 5/3 (A/B → EA/EB)</td>
</tr>
<tr>
<td></td>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
<tr>
<td>SS5Y3-41(-Q)</td>
<td>1/8</td>
<td>C6</td>
</tr>
<tr>
<td>SS5Y3-42(-Q)</td>
<td>1/6</td>
<td>C6</td>
</tr>
<tr>
<td>SS5Y5-41(-Q)</td>
<td>1/4</td>
<td>C8</td>
</tr>
<tr>
<td>SS5Y5-42(-Q)</td>
<td>1/4</td>
<td>C8</td>
</tr>
<tr>
<td>SS5Y7-42(-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.
SY3000/5000/7000 Series

SY5000: SS5Y5-41- Stations-01

Grommet (G)

With interface regulator (with gauge)

For 1/8

(Light/surge voltage suppressor)

One-touch fitting

Applicable tubing O.D.: ø6, ø1/4”, ø8, ø5/16”

L plug connector (L)

M plug connector (M)

DIN terminal (D, Y)

M8 connector (WO)

<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>52.5</td>
<td>68.5</td>
<td>84.5</td>
<td>100.5</td>
<td>116.5</td>
<td>132.5</td>
<td>148.5</td>
<td>164.5</td>
<td>180.5</td>
<td>196.5</td>
<td>212.5</td>
<td>228.5</td>
<td>244.5</td>
<td>260.5</td>
<td>276.5</td>
<td>292.5</td>
<td>308.5</td>
<td>324.5</td>
<td>340.5</td>
</tr>
<tr>
<td>L2</td>
<td>42</td>
<td>58</td>
<td>74</td>
<td>90</td>
<td>106</td>
<td>122</td>
<td>138</td>
<td>154</td>
<td>170</td>
<td>186</td>
<td>202</td>
<td>218</td>
<td>234</td>
<td>250</td>
<td>266</td>
<td>282</td>
<td>298</td>
<td>314</td>
<td>330</td>
</tr>
</tbody>
</table>
**SY3000: SS5Y3-42- Stations [C4, N3]**

**Grommet (G)**

- **Manual override**
- **Approx. 300 (P, EA, EB port)**
- **1/8 (F, EA, EB port)**
- **M5 x 0.8 (External pilot port)**
- **M5 x 0.8 (Pilot EXH port)**
- **One-touch fitting (A, B port)**
- **Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"**
- **Light/surge voltage suppressor**
- **P = 10.5**
- **Pitch**
- **4 x ø4.5 (For mounting)**

**With interface regulator (with gauge)**

- **75.5**
- **76 [63]**
- **40**
- **32**
- **125.8**
- **112.3**
- **7.4**
- **22.2**
- **32**
- **10.5**
- **P = 10.5**

**L plug connector (L)**

- **Approx. 300 (Lead wire length)**
- **61 [68]**
- **45.6**
- **117.1 [121.5]**
- **83 [85.5]**

**M plug connector (M)**

- **Approx. 300 (Lead wire length)**
- **72.1 [79.1]**
- **73.3 [75.5]**
- **97.5 [101.9]**
- **89 [93.4]**

**M8 connector (WO)**

- **M8 x 1**
- **65.5**
- **48**
- **115.3**
- **105.8**
- **103.3**
- **92**
- **79.5**
- **62.2**

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

Grommet (G)

With interface regulator (with gauge)

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

<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>
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<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.
Base Mounted **SY3000/5000/7000 Series**

**SY5000: SS5Y5-42-** Stations [C6, N7] C6, N9

---

**Grommet (G)**

- Manual override
- With interface regulator (with gauge)
- Applicable tubing O.D.: ø6, ø1/4" ø8, ø5/16"
- Applicable cable O.D.: ø3.5 to ø7
- L plug connector (L)
- M plug connector (M)
- DIN terminal (D, Y)
- M8 connector (WO)

---

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

---

**Stations n**

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 stations</td>
<td>52</td>
<td>42</td>
</tr>
<tr>
<td>3 stations</td>
<td>68</td>
<td>58</td>
</tr>
<tr>
<td>4 stations</td>
<td>84</td>
<td>74</td>
</tr>
<tr>
<td>5 stations</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>6 stations</td>
<td>116</td>
<td>106</td>
</tr>
<tr>
<td>7 stations</td>
<td>132</td>
<td>122</td>
</tr>
<tr>
<td>8 stations</td>
<td>148</td>
<td>138</td>
</tr>
<tr>
<td>9 stations</td>
<td>164</td>
<td>154</td>
</tr>
<tr>
<td>10 stations</td>
<td>180</td>
<td>170</td>
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<tr>
<td>11 stations</td>
<td>196</td>
<td>186</td>
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<td>12 stations</td>
<td>212</td>
<td>202</td>
</tr>
<tr>
<td>13 stations</td>
<td>228</td>
<td>218</td>
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<tr>
<td>14 stations</td>
<td>244</td>
<td>234</td>
</tr>
<tr>
<td>15 stations</td>
<td>260</td>
<td>250</td>
</tr>
<tr>
<td>16 stations</td>
<td>276</td>
<td>266</td>
</tr>
<tr>
<td>17 stations</td>
<td>292</td>
<td>282</td>
</tr>
<tr>
<td>18 stations</td>
<td>308</td>
<td>298</td>
</tr>
<tr>
<td>19 stations</td>
<td>324</td>
<td>314</td>
</tr>
<tr>
<td>20 stations</td>
<td>340</td>
<td>330</td>
</tr>
</tbody>
</table>
**Type 42 SY3000/5000/7000 Series**

**SY5000: SS5Y5-42 - Stations 02**

### Grommet (G)

- Manual override
- Light/surge voltage suppressor
- Lead wire length: 119.8 [124.2]
- DIN: 12 [13]
- P = 17.5

### With interface regulator (with gauge)

- M5 x 0.8
- Lead wire length: Approx. 300
- DIN: 70.7
- P = 17.5
- Light/surge voltage suppressor
- Lead wire length: 101.5 [103.7]
- DIN: 70.7

### L plug connector (L)

- Lead wire length: 66.6 [73.6]
- Applicable cable O.D.: ø3.5 to ø7

### M plug connector (M)

- Lead wire length: 51.2

### DIN terminal (D, Y)

- Lead wire length: 29
- DIN: 103.7
- DIN: 103.7

### M8 connector (WO)

- Lead wire length: 19
- DIN: 103.7
- DIN: 103.7

### Applicable Cable O.D.

- ø3.5 to ø7
- ø3.5 to ø7

### Note)

Refer to page 642 for dimensions of connector types.

---

<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>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>59.5</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>
<td>322</td>
<td>339.5</td>
<td>357</td>
</tr>
<tr>
<td>L2</td>
<td>49.5</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>
<td>312</td>
<td>329.5</td>
<td>347</td>
</tr>
</tbody>
</table>
How to Order Manifold Assembly (Example)

Example

Double solenoid (24 VDC)
SY9220-5LOZ (2 sets)

Single solenoid (24 VDC)
SY9140-5LOZ (2 sets)

Blanking plate assembly
SY9000-26-2A (1 set)

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

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

Stations: 3 2 1

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.

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

SY9000 Series
5 Port Solenoid Valve
Base Mounted Manifold
Stacking Type/Individual Wiring

Type 43

SS5Y9 - 43 - 05 U - C8 -

Manifold series
9 SY9000

Valve stations
Symbol| Stations
---|---
02| 2 stations
20| 20 stations

* This also includes the number of blanking plate assemblies.

P, R port outlets
Symbol| Port outlet| Applicable stations
---|---|---
U| U side| 2 to 10 stations
D| D side| 2 to 20 stations
B| Both sides| 2 to 20 stations

SUP/EXH block assembly specifications
Symbol| Specifications
---|---
R| Standard/Internal pilot specification
S| External pilot specification
RS| Internal pilot/Built-in silencer

A, B port size
Symbol| Port size
---|---
C8| ø8
C10| ø10
C12| ø12
M| Mixed

* In the case of mixed specifications (M), indicate separately on the manifold specification sheet.

Thread type
Symbol| Thread piping
---|---
Nil| Direct mounting
Rc| DIN rail mounting (with DIN rail)
F| DIN rail mounting (without DIN rail)
G| When a longer DIN rail is desired than the specified stations, specify the station number to be required into * mark

Option
Symbol| Mounting
---|---
Nil| Direct mounting
D| DIN rail mounting (with DIN rail)
DO| DIN rail mounting (without DIN rail)
D*| When One-touch fittings are selected for “A, B port size”, the symbol is nil.

Thread type
Symbol| Specifications
---|---
Nil| Standard/Internal pilot specification
R| External pilot specification
S| Internal pilot/Built-in silencer
RS| External pilot/Built-in silencer

One-touch fitting (Inch size)
Symbol| Port size
---|---
N9| One-touch fitting for ø5/16
N11| One-touch fitting for ø3/8
M| Mixed

One-touch fitting (Metric size)
Symbol| Port size
---|---
C8| One-touch fitting for ø8
C10| One-touch fitting for ø10
C12| One-touch fitting for ø12
M| Mixed

* In the case of mixed specifications (M), indicate separately on the manifold specification sheet.

CE-compliant
Symbol| CE-compliant
---|---
Nil| Nil
Q| CE-compliant

Note) AC-type models that are CE-compliant have DIN terminals only.
**Base Mounted SY9000 Series**

**Type**: 43

---

**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 (50Hz)**:
    - 1: 100 VAC
    - 2: 200 VAC
    - 3: 110 VAC (115 VAC)
    - 4: 220 VAC (230 VAC)

- **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 indicator light and surge voltage suppressor
    - R: With surge voltage suppressor (Non-polar type)
    - U: With 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

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

---

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

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y9-43(-Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY9-430</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 Direction</td>
</tr>
<tr>
<td>P, EA, EB port</td>
<td>Base Side</td>
</tr>
<tr>
<td>A, B port</td>
<td>C12 (One-touch fitting for ø12)</td>
</tr>
<tr>
<td>Port size</td>
<td>1/4 3/8 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)</td>
</tr>
<tr>
<td>Manifold base weight W (g), n: Stations</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></td>
<td>1, 5, 3 (P, EA, EB)</td>
<td>4, 2 (A, B)</td>
</tr>
<tr>
<td>SS5Y9-43(-Q)</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.
SY9000 Series Type 43

Grommet (G)

With External Pilot Specifications

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.
### SY9000: SS5Y9-43- Stations

#### Grommet (G)

- **One-touch fitting**
  - [1(P), 3/5(R) port]
  - [4(A), 2(B) port]
- **Applicable tubing O.D.**
  - ø12, ø3/8" **(Pitch)**
  - ø10, ø3/8" **(A)**
  - ø12 **(B)**

- **Manual override**
  - [4(A), 2(B) port]
  - [1(P), 3/5(R) port]

- **Silencer (Air discharge port)**
  - (with built-in silencer specifications)

- **DIN rail**
  - Approx. 300

- **Plugs**
  - [4(A), 2(B) port]
  - [1(P), 3/5(R) port]

#### With External Pilot Specifications

- **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**
  - <When attaching the DIN rail>
  - Tightening torque: 0.55 to 0.65 N·m

#### L plug connector (L)

- **Approx. 300**
- **(Lead wire length)**
- **78.8**
- **94.2 [101.2]**

#### M plug connector (M)

- **Approx. 105.9 [112.3]**
- **(Lead wire length)**
- **78.8**
- **94.2 [101.2]**

#### DIN terminal (D, Y)

- **Approx. 300**
- **(Lead wire length)**
- **82.7**
- **88.7**

#### M8 connector (WO)

- **M8 x 1**
- **Note:** Refer to page 642 for dimensions of connector types.
How to Order Type 41P/Compact Manifold

**Manifold series**
- SS5Y 5
- 41P
- 05
- C8

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

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

**Thread piping**

Symbol | Port size | Applicable series
--- | --- | ---
M5 | M5 x 0.8 | SY3000
01 | ½ | SY5000

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

Symbol | Port size | Applicable series
--- | --- | ---
C4 | One-touch fitting for ø4 | SY3000
C6 | One-touch fitting for ø6 | SY5000
C8 | One-touch fitting for ø8 | SY7000

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

**Manifold series**
- SS5Y 5
- 42P
- 05
- C8

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

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

**Thread piping**

Symbol | Port size | Applicable series
--- | --- | ---
01 | ½ | SY3000
02 | ¼ | SY5000

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

Symbol | Port size | Applicable series
--- | --- | ---
C4 | One-touch fitting for ø4 | SY3000
C6 | One-touch fitting for ø6 | SY5000
C8 | One-touch fitting for ø8 | SY7000
C10 | One-touch fitting for ø10 | SY7000

How to Order Manifold Assembly (Example)

**Example**

- Blanking plate assembly
  - SY3000-26-10A (1 set)
  - SY3140-SLOU (3 sets)
  - SY3240-SLOU (2 sets)
- Double solenoid (24 VDC)
  - SY3000-37-3A
  - SY3000-37-4A

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

**Note**
- Please indicate the connector assembly part no. (page 507) that connects the valve and the manifold.
### How to Order Valve

**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.

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

**Note:** Made to Order
- 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

**Rated voltage**
- Nil
- R External pilot

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

**CE-compliant**
- Nil
- Q CE-compliant

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

**Rated voltage**
- 24 VDC
- 12 VDC

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

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

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

**Made to Order**
- Nil
- Q CE-compliant

**Connector Assembly**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY3000</th>
<th>For SY5000/7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 12, 24 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY3000-37-3A</td>
<td>SY5000-37-3A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY5000-37-3A</td>
<td>SY5000-37-6A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY3000</th>
<th>For SY5000/7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 100 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For single solenoid</td>
<td>SY3000-37-32A</td>
<td>SY5000-37-15A</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY3000-37-33A</td>
<td>SY5000-37-16A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY3000-37-34A</td>
<td>SY5000-37-18A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specifications</th>
<th>For SY3000</th>
<th>For SY5000/7000</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 100 VAC (115 VAC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For single solenoid</td>
<td>SY3000-37-35A</td>
<td>SY5000-37-19A</td>
</tr>
<tr>
<td>Double solenoid, 3 position type</td>
<td>SY3000-37-36A</td>
<td>SY5000-37-20A</td>
</tr>
<tr>
<td>Double, 3 position with spacer assembly</td>
<td>SY3000-37-37A</td>
<td>SY5000-37-22A</td>
</tr>
</tbody>
</table>

**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 Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SSYSY3-41P(-Q)</th>
<th>SSYSY3-42P(-Q)</th>
<th>SSYSY5-41P(-Q)</th>
<th>SSYSY5-42P(-Q)</th>
<th>SSYSY7-42P(-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>
</tbody>
</table>

### Valve Stations

- A, B port
- Location
- Direction
- Side

### Port size

- A, B port
- Size
- Porting specifications

### Manifold base weight

- W (g), n: Stations

### Internal wiring

- Solenoid A side
- Solenoid B side

### 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>SSYSY3-41P</td>
<td>1/8 C6</td>
<td>1/8 C6</td>
<td>0.75</td>
<td>0.18 0.18 0.81 0.23 0.20</td>
</tr>
<tr>
<td>SSYSY3-42P</td>
<td>1/8 C6</td>
<td>1/8 C6</td>
<td>0.75</td>
<td>0.18 0.18 0.82 0.20 0.20</td>
</tr>
<tr>
<td>SSYSY5-41P</td>
<td>1/4 C8</td>
<td>1/4 C8</td>
<td>1.8</td>
<td>0.23 0.44 1.9 0.16 0.45</td>
</tr>
<tr>
<td>SSYSY5-42P</td>
<td>1/4 C8</td>
<td>1/4 C8</td>
<td>1.9</td>
<td>0.20 0.46 1.9 0.12 0.43</td>
</tr>
<tr>
<td>SSYSY7-42P</td>
<td>1/4 C10</td>
<td>1/4 C10</td>
<td>3.0</td>
<td>0.25 0.75 3.0 0.12 0.66</td>
</tr>
</tbody>
</table>

### Internal Wiring of Manifold

- 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.

### Caution

- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (2), only use with positive COM as the valve does not operate correctly when used with negative COM.
SY3000: SS5Y3-41P - Stations M5, C4, N3, C6, N7

- **Type 41P**

**For M5 x 0.8**

(Pitch) P=12.5

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

**With interface regulator (with gauge)**

(Pitch) P=12.5

**Manual override**

**Triangle mark**

**Applicable connector: 26 pins MIL type with strain relief**

(Conforming to MIL-C-83503)

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

- **SY3000: SS5Y3-41P - Stations M5, C4, N3, C6, N7**

<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>89</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>

- **(Light/surge voltage suppressor)**

- **With interface regulator (with gauge)**

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

- **One-touch fitting**

- **(Pitch)**

- **(A, B port)**
SY5000: SS5Y5-41P

Stations -01, C6/N7 C8/N9

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

(Pitch)
P = 17.5
18
7.5
12

Manual
override

Triangle mark

(Station n) ............... (Station 1)

For 1/8

(Pitch)
P = 17.5
18
7.5
12

L1
L2

4 x ø4.5
(For mounting)

For mounting

(Pitch)
P = 17.5
18
7.5
12

(Pitch)
P = 17.5
18
7.5
12

4 x ø4.5
(For mounting)

(Pitch)
P = 17.5
18
7.5
12

(Stations)
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

41P Type

SY3000/5000/7000 Series

510
SY3000: SS5Y3-42P - Stations -01, C4, N3 C6, N7

Base Mounted SY3000/5000/7000 Series

**For 1/8**

(Pitch) P=12.5

(A, B port)

M5 x 0.8

(Pilot EXH port)

<In the case of external pilot type solenoid valve>

M5 x 0.8

(P, EA, EB port)

(System 1)

(Station n) ...........(Station 1)

Applicable connector: 26 pins MIL type

With strain releaf

(Conforming to MIL-C-83503)

With interface regulator (with gauge)

---

**Stations n**

<table>
<thead>
<tr>
<th></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>

---

4 x ø4.5

(For mounting)

(Pitch) P=12.5

L1

L2

4

12.5

18.5

28.5

(Station 1)
Grommet (G)

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

(Pitch)
P=17.5
9.5 18
9.5
18

107.1 [103.8]
90.1 [86.8]
50.5 [47.5]
25.0 [22.5]
13.2 [12.0]
6.1
6.5
5.5
5.5
9.5
18

(Pitch)
P=17.5
9.5
18

4 x ø4.5
(For mounting)

66.6 [73.6]
28.5
28.5

(Station n) .................. (Station 1)

(Short/ surge voltage suppressor)

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

M5 x 0.8
(External pilot port)

For 1/4

<Pilot EXH port>

<In the case of external pilot type solenoid valve>

With interface regulator (with gauge)

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

One-touch fitting
(A, B port)

(Pitch)
P=17.5
9.5 18
9.5
18

107.1 [103.8]
90.1 [86.8]
50.5 [47.5]
25.0 [22.5]
13.2 [12.0]
6.1
6.5
5.5
5.5
9.5
18

(Pitch)
P=17.5
9.5
18

4 x ø4.5
(For mounting)

66.6 [73.6]
28.5
28.5

4 x ø4.5
(For mounting)

68 [ø15]

M5 x 0.8
(External pilot port)

L1
L2

With plug

512
One-touch fitting
(A, B port)
Applicable tubing O.D.: ø10, ø3/8"

Manual override

Triangle mark

4 x ø4.5
(For mounting)

(Light/surge voltage suppressor)

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

With interface regulator (with gauge)

<table>
<thead>
<tr>
<th>Station n</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</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>
<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>
</tr>
</tbody>
</table>

With plug
How to Order Manifold

**Manifold series**

- SS5Y9-43P-05 U C8 1
  - **Manifold base (5 stations)**
  - SY9000 Series
  - Type 43P
  - Stacking Type/Flat Ribbon Cable

- **Valve stations**
  - Symbol: Stations
  - U: 4 stations
  - D: 12 stations
  - This also includes the number of blanking plate assemblies.

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

- **Option**
  - Direct mounting
  - DIN rail mounting with DIN rail
  - DIN rail mounting without DIN rail

- **A, B port size**
  - Thread piping
    - Symbol: Port size
    - 02: 1/4
    - 03: 5/16

- **One-touch fitting (Metric size)**
  - Symbol: Port 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)**
  - Symbol: Port size
  - N9: One-touch fitting for ø5/16
  - N11: One-touch fitting for ø5/8
  - M: Mixed

- **SUP/EXH block assembly specifications**
  - Symbol: Specifications
  - Nil
  - R: Standard/Internal pilot specification
  - S: External pilot specification
  - N: Internal pilot/Built-in silencer
  - RS: External pilot/Built-in silencer

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

---

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

**Example**

- **Double solenoid (24 VDC)**
  - SY9000-37-1A
  - SY9240-5LOU (2 sets)

- **Single solenoid (24 VDC)**
  - SY9000-26-4A (1 set)
  - SY9140-5LOU (2 sets)
  - SY9000-37-2A

- **Blanking plate assembly**
  - SY9000-26-4A (1 set)

- **Cylinder port size**
  - C12: With one-touch fitting for ø12

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

- **Connector assembly**
  - SY9000-37-1A (2 sets)
  - SY9000-37-2A (2 sets)

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

---

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.

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 515) that connects the valve and the manifold.

---

**Note**

- CE-compliant: For DC only.
How to Order Valve

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

Rated voltage
- Z: 24 VDC (CE-compliant)
- U: 12 VDC

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

Note) Z: Positive common specifications only.
- Power saving circuit is only available in the “Z” type.

How to Order Valve

For DC: SY 9 1 40 - 5 LO Z - -
For AC: SY 9 1 40 - 1 LOZ - -
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

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

Made to Order
- CE-compliant
- Nil
- Q: CE-compliant

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

Note) CE-compliant: For DC only.

Connector Assembly

For 12, 24 VDC
Specifications: For SY9000
- Double solenoid, 3 position type: SY9000-37-1A
- Single with spacer assembly: SY9000-37-2A
- Double, 3 position with spacer assembly: SY9000-37-3A
- Double solenoid, 3 position type: SY9000-37-4A

Note) Spacer indicates individual SUP/EXH spacer.

For 100 VAC
Specifications: For SY9000
- Double solenoid, 3 position type: SY9000-37-1B
- Single with spacer assembly: SY9000-37-2B
- Double, 3 position with spacer assembly: SY9000-37-3B
- Double solenoid, 3 position type: SY9000-37-4B

For 110 VAC (115 VAC)
Specifications: For SY9000
- For single solenoid: SY9000-37-1C
- Double solenoid, 3 position type: SY9000-37-2C
- Single with spacer assembly: SY9000-37-3C
- Double, 3 position with spacer assembly: SY9000-37-4C

Note) CE-compliant: For DC 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.
• Multiple valve wiring is simplified through the use of the flat ribbon cable connector.
• Clean appearance

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

### Flat Ribbon Cable Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SS5Y9-43P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable valve</td>
<td>SY9:430</td>
</tr>
<tr>
<td>Manifold type</td>
<td>Stacking type</td>
</tr>
<tr>
<td>Porting specifications A, B port</td>
<td>Location: Base, Direction: Side</td>
</tr>
<tr>
<td>Port size P, EA, EB port</td>
<td>C12 (One-touch fitting for ø12)</td>
</tr>
<tr>
<td>A, B port C8 (One-touch fitting for ø8)</td>
<td></td>
</tr>
<tr>
<td>C10 (One-touch fitting for ø10)</td>
<td></td>
</tr>
<tr>
<td>C12 (One-touch fitting for ø12)</td>
<td></td>
</tr>
<tr>
<td>Manifold base weight W (g): Stations</td>
<td>W = 114n + 343</td>
</tr>
<tr>
<td>Applicable for ribbon cable connector</td>
<td>Flat ribbon cable connector, Socket: 26 pins MIL with strain relief, Conforming to MIL-C-83503</td>
</tr>
<tr>
<td>Internal wiring</td>
<td>In common between +COM and –COM (Z type: +COM only)</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>12, 24 VDC, 100, 110 VAC</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) 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.

### Flow Rate Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size 1, 5, 3 (P, EA, EB) 4, 2 (A, B)</th>
<th>Flow rate characteristics C (dm³/(s·bar)) b Cy</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5Y9-43P</td>
<td>C12 C12 6.4 0.29 1.6 7.3 0.29 1.8</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 (Non-polar type)

- 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.

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.
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.

* When P, R port outlets are indicated on the D side, the P, R ports on the opposite side are plugged.

- (P) = 24 22.2 22.2

<table>
<thead>
<tr>
<th>Station n</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>
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<tr>
<td>L3</td>
<td>165</td>
<td>189</td>
<td>213</td>
<td>237</td>
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<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>
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<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>

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

Silencer (Air discharge port) (with built-in silencer specifications)

Light/surge voltage suppressor

Applicable tubing O.D.: ø6, ø1/4"
When P, R port outlets are indicated on the U 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 n</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>
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<td>13</td>
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</tr>
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<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>
### SY9000: SS5Y9-43P [Stations B] (-D)

#### With External Pilot Specifications

- When P, R port outlets are indicated on the B side, the P, R ports on the 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).

#### External Pilot Specifications

- Applicable tubing O.D.: ø6, ø1/4"

#### One-touch Fitting

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

#### SY9000 Series Type 43P

#### Applicable Connector

- Applicable connector: 26 pins MIL type with strain relief

#### DIN Rail Holding Screw

- DIN rail holding screw
- (When attaching the DIN rail)
- Tightening torque: (0.55 to 0.65) N·m

#### Manual Override

- Manual override (with built-in silencer specifications) (L4)

#### Applicable Connector

- Applicable connector: 26 pins MIL type with strain relief

#### Light/Surge Voltage Suppressor

- Light/surge voltage suppressor

#### 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</th>
<th>11</th>
<th>12 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
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<td>248</td>
<td>260.5</td>
<td>310.5</td>
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<tr>
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<td>L5</td>
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<td>175</td>
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<td>223</td>
<td>247</td>
<td>271</td>
<td>295</td>
<td>319</td>
<td>343</td>
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</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**

### 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>! !</td>
<td>! !</td>
<td>Specified layout Note 2</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td>(Compatible with 16 solenoid valves)</td>
</tr>
<tr>
<td>03</td>
<td>3 stations</td>
<td></td>
</tr>
<tr>
<td>! !</td>
<td>! !</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td></td>
</tr>
</tbody>
</table>

- SS5Y3 can be set from 4 stations.
- 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.)

### A, B port size

<table>
<thead>
<tr>
<th>Thread piping</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
</tr>
<tr>
<td>02</td>
</tr>
</tbody>
</table>

### One-touch fitting (Metric size)

<table>
<thead>
<tr>
<th>One-touch fitting</th>
<th>Size</th>
<th>Manifold series</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>ø4</td>
<td>SY3000</td>
</tr>
<tr>
<td>C6</td>
<td>ø6</td>
<td>SY5000</td>
</tr>
<tr>
<td>C8</td>
<td>ø8</td>
<td>SY7000</td>
</tr>
<tr>
<td>C10</td>
<td>ø10</td>
<td></td>
</tr>
</tbody>
</table>

### One-touch fitting (Inch size)

<table>
<thead>
<tr>
<th>One-touch fitting</th>
<th>Size</th>
<th>Manifold series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>ø5/32&quot;</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>ø1/4&quot;</td>
<td>SY5000</td>
</tr>
<tr>
<td>N9</td>
<td>ø5/16&quot;</td>
<td>SY7000</td>
</tr>
<tr>
<td>N11</td>
<td>ø3/8&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### 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

**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>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>


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.
Base Mounted Manifold SY3000/5000/7000 Series

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 With 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.
Base Mounted Manifold SY3000/5000/7000 Series

SY5000: SS5Y5-42SA Stations -02 C1, N7 C2, N9

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

(Pitch) P=17.5
18
9.2
7.2
27.3

Manual override
(Pitch) P=17.5
L1
L2

4 x ø4.5 (For mounting)

Output no.

(Station n) ————-(Station 1)

Light/surge voltage suppressor

Connector lock pin
(Take out when wiring the connector assembly)

SI unit

For 1/4

With interface regulator (with gauge)

<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</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16 stations</th>
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<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>
**Dimensions**

**SY7000: SS5Y7-42SA**

- **Stations**: 02
- **C10, N11**

---

**For 1/4"**

- **P=20.5**
- **(Pitch)**
- **19.5**
- **(A, B port)**

---

**Manual override**

- **L1**
- **L2**

---

**Output no.**

- **37**

---

**With interface regulator (with gauge)**

- **M5 x 0.8**
- **(External pilot port)**
- **M5 x 0.8**
- **(Pilot EXH port)**

---

**Stations n**

- **3 stations**
- **4**
- **5**
- **6**
- **7**
- **8**
- **9**
- **10**
- **11**
- **12**
- **13**
- **14**
- **15**
- **16 stations**

---

**SI unit**

- **Connector lock pin**
- **(Take out when wiring the connector assembly.)**
EX510 Gateway-type Serial Transmission System
Base Mounted Manifold/Stacking Type

SY9000 Series

How to Order Manifold

SS5Y9 – 43SA – 03 U – 02 – – –

Sl. 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)</td>
</tr>
<tr>
<td>03</td>
<td>3 stations</td>
<td>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 (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

SS5Y9-43SA-05B-C12 – 1 set (43SA type 5-station manifold part no.)
- SY9140-SLOU …………… 3 sets (Single solenoid part no.)
- SY9240-SLOU …………… 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.

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.)

Thread type

Nil Rc
D Direct mounting
G NPT
S NPTF

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

* For the mixed specification, indicate separately on a manifold specification sheet.

SUP/EXH block assembly specifications

Nil Standard/Internal pilot
R External pilot
S Internal pilot, Built-in silencer
RS External pilot, Built-in silencer

P, R port outlets

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Station</th>
</tr>
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<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Station</th>
<th>3 to 10 stations</th>
</tr>
</thead>
</table>

Sl. unit part no.

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

SY9000 Series

How to Order Valves

SY9 1 40 [Option] - 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 With 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**

SY9000: SS5Y9-43SA - Stations U, 4, 8, 9 C8, N9 C16, N11 (-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.

**One-touch fitting**

- 1(P), 3/5(R) port
- Applicable tubing O.D.: ø12, ø3/8"

**One-touch fitting**

- 4(A), 2(B) port
- Applicable tubing O.D.: ø6, ø5/16"; ø10, ø3/8"; ø12

**Connector lock pin**

- (Take out when wiring the connector assembly.)

**Light/surge voltage suppressor**

**DIN rail holding screw**

- (When attaching the DIN rail)
- Tightening torque: (0.55 to 0.65) N·m

**Stations n**

<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>
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<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>
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<tr>
<td>L5</td>
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<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 - Stations D - C8, N8, C16, H11 (-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 D side.

One-touch fitting

- Applicable tubing O.D.: ø6, ø3/8*

One-touch fitting

- Applicable tubing O.D.: ø6, ø3/4*

One-touch fitting

- Applicable tubing O.D.: ø12, ø3/8*

One-touch fitting

- Applicable tubing O.D.: ø8, ø5/16*

With Built-in Silencer Specifications

- Applicable tubing O.D.: ø6, ø3/8*

Specifications

- Applicable tubing O.D.: ø8, ø5/16*

- Applicable tubing O.D.: ø12

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.

Mounting hole

- When not using DIN rail

Slouer (Air discharge port)

- With built-in silencer specifications

When attaching the DIN rail

- Tightening torque: (0.55 to 0.65) N·m

Connector lock pin

- Take out when wiring the connector assembly.

Connector lock pin

- Height when using DIN rail

DIN rail holding screw

- Height when using DIN rail

Stations

<table>
<thead>
<tr>
<th>Stations</th>
<th>Stations D</th>
<th>Stations C8</th>
<th>Stations N8</th>
<th>Stations C16</th>
<th>Stations H11</th>
<th>Stations (-D)</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>
</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>
</tr>
<tr>
<td>L3</td>
<td>141</td>
<td>165</td>
<td>189</td>
<td>213</td>
<td>237</td>
<td>261</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>
</tr>
<tr>
<td>L5</td>
<td>127</td>
<td>151</td>
<td>175</td>
<td>199</td>
<td>223</td>
<td>247</td>
</tr>
</tbody>
</table>
SY9000: SS5Y9-43SA - Stations B

With External Pilot Specifications

- When P, R port outlets are indicated on the B side, the P, R ports on the 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.: ø8, ø1/4" (PE: Pilot EXH port)

Applicable tubing O.D.: ø12, ø3/8" (X: External pilot port)

Manual override

Output no.

Silencer (Air discharge port)
(with built-in silencer specifications)

DIN rail holding screw
(When attaching the DIN rail)

Tightening torque: (0.55 to 0.65) N·m

Connector lock pin
(Take out when wiring the connector assembly.)

Stations n

<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>
<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>
<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>
<td>360.5</td>
<td>385.5</td>
<td>410.5</td>
<td>435.5</td>
<td>460.5</td>
<td>485.5</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>
<td>350</td>
<td>375</td>
<td>400</td>
<td>425</td>
<td>450</td>
<td>475</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>
<td>333</td>
<td>357</td>
<td>381</td>
<td>405</td>
<td>429</td>
<td>453</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>
<td>14</td>
<td>14.5</td>
<td>15</td>
<td>15.5</td>
<td>16</td>
<td>16.5</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>
<td>319</td>
<td>343</td>
<td>367</td>
<td>391</td>
<td>415</td>
<td>439</td>
</tr>
</tbody>
</table>
**Manifold Option**

**SY3000/5000/7000/9000 Series**

### Type 41, 42, 43, 42SA, 43SA

**Blanking plate assembly**

<table>
<thead>
<tr>
<th>Series</th>
<th>Assembly part no.</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-26-10A(-Q)</td>
<td>1/8</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-26-21A(-Q)</td>
<td>1/4</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-26-23A(-Q)</td>
<td>1/4</td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-26-4A(-Q)</td>
<td>1/4</td>
</tr>
</tbody>
</table>

### Type 41P, 42P, 43P

**Blanking plate assembly**

<table>
<thead>
<tr>
<th>Series</th>
<th>Assembly part no.</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-26-9A(-Q)</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-26-20A(-Q)</td>
<td>1/4</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-26-22A(-Q)</td>
<td>1/4</td>
</tr>
<tr>
<td>SY9000</td>
<td>SY9000-26-2A(-Q)</td>
<td>1/4</td>
</tr>
</tbody>
</table>

### Gasket assembly part no.

<table>
<thead>
<tr>
<th>Series</th>
<th>Gasket assembly part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>SY3000-GS-2</td>
</tr>
<tr>
<td>SY5000</td>
<td>SY5000-GS-2(-Q)</td>
</tr>
<tr>
<td>SY7000</td>
<td>SY7000-GS-2(-Q)</td>
</tr>
<tr>
<td>SY9000</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

- **SUP port**

### Individual EXH spacer assembly

- **EXH port**

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

### 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:**
- The gasket assembly includes 10 sets of mounting screws and a gasket.
- 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.

**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:**
- 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. (An assembly is shipped under the condition shown in the figure.)
- For the SY9000, it can only be used on the end plate side.

**Caution**

- * Thread type

**Mounting screw tightening torques**

<table>
<thead>
<tr>
<th>Nil</th>
<th>Rc</th>
<th>G</th>
<th>N</th>
<th>NPT</th>
<th>T</th>
<th>NPTF</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2</td>
<td>0.16 N·m</td>
<td>M3</td>
<td>0.8 N·m</td>
<td>M4</td>
<td>1.4 N·m</td>
<td></td>
</tr>
</tbody>
</table>

**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 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.

**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:**
- 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)

- SSY3-42SA
- SSY5-42SA
- SSY7-42SA

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

- SSY9-43SA

#### 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>SSY3-42SA</td>
<td>SY3000-37-81A-3-N</td>
<td>Single: For 1 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-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>SSY5-42SA</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>SSY7-42SA</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 1) 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

**SY3000-37-80A-□**

- SSY3-42SA
- SSY5-42SA
- SSY7-42SA
- SSY9-43SA

#### 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>SSY3-42SA</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>SSY5-42SA</td>
<td>SY3000-37-80A-3</td>
<td>For A side: For 9 to 16 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 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>SSY7-42SA</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-9</td>
<td>For A side: For 13 to 16 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-11</td>
<td>For B side: For 13 to 16 stations</td>
</tr>
<tr>
<td>SSY9-43SA</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.

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.
**Series No.**
SY9000
SY9000-57-1A

**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.)

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

**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)

**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.

**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**

<table>
<thead>
<tr>
<th>VZ1000-11-4</th>
<th>Refer to L dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>L Dimension</td>
<td>Weight (g)</td>
</tr>
<tr>
<td>10</td>
<td>110.5</td>
</tr>
<tr>
<td>11</td>
<td>123</td>
</tr>
<tr>
<td>12</td>
<td>135.5</td>
</tr>
<tr>
<td>13</td>
<td>148</td>
</tr>
<tr>
<td>14</td>
<td>160.5</td>
</tr>
<tr>
<td>15</td>
<td>173</td>
</tr>
<tr>
<td>16</td>
<td>185.5</td>
</tr>
<tr>
<td>17</td>
<td>198</td>
</tr>
<tr>
<td>18</td>
<td>210.5</td>
</tr>
</tbody>
</table>

**Cable assembly (For 41P, 42P, 43P)**

- **AXT100-FC26-1**
- **AXT100-FC26-2**
- **AXT100-FC26-3**

**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>1.5m</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>

Note) 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 d</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>1/4</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>1/4&quot;</td>
<td>KQ2P-07</td>
<td>18</td>
<td>35</td>
<td>8.5</td>
</tr>
<tr>
<td>5/32&quot;</td>
<td>KQ2P-09</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>9/32&quot;</td>
<td>KQ2P-11</td>
<td>22</td>
<td>43</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Note) Refer to page 640 for DIN rail.
Refer to L1 dimension on pages 503 to 505, 517 to 519 and 527 to 529 for lengths that correspond to the number of manifold stations.
Manifold Option

How to Order Interface Regulator

**SY3000 series**

**ARBY3000-05-P-2**

- Pressure gauge connection port
  - 05: Pressure gauge (G15-10-01) for odd number stations
  - 06: Pressure gauge (G15-10-01) for even number stations
  - M1: Plug (M-5P)

**ARBY5000-00-P-2**

- Pressure gauge connection port
  - 00: Pressure gauge (G15-10-01)
  - M1: Plug (M-5P)

**SY5000 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)

**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)

**SY7000 series**

**ARBY7000-00-P-2**

- Pressure gauge connection port
  - 00: Pressure gauge (G15-10-01)
  - M1: Plug (M-5P)

**ARBY7000-00-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)

Note: The M8 connector for wiring cannot be mounted for the ARBY3000 series.

Note: ARBY is not CE compliant.

Accessory

<table>
<thead>
<tr>
<th>Series</th>
<th>Thread / head combination screw</th>
<th>Gasket</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARBY3000</td>
<td>M3 x 40 3° 21/32-5/64&quot;</td>
<td>SX3000-57-4</td>
</tr>
<tr>
<td>ARBY5000</td>
<td>M4 x 46 5° 9/32-11/32&quot;</td>
<td>SX5000-57-6</td>
</tr>
<tr>
<td>ARBY7000</td>
<td>M4 x 56 6° 5/32-11/32&quot;</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
**Base Mounted 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>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>N: A, B port with One-touch fitting for øN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-N11</td>
<td>N11: A, B port with One-touch fitting for øN11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-02+</td>
<td>02: A, B port ( \frac{1}{2} ) (+ thread type)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-50-2A-03+</td>
<td>03: A, B port ( \frac{3}{8} ) (+ thread type)</td>
</tr>
<tr>
<td>4</td>
<td>Round head combination screw</td>
<td>SY9000-18-2</td>
<td>M3 x 42, Matte nickel plated</td>
</tr>
<tr>
<td>5</td>
<td>Gasket</td>
<td>SY9000-1-1-2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Tension bolt</td>
<td>SY9000-23-</td>
<td>Refer to page 532</td>
</tr>
<tr>
<td>7</td>
<td>Hexagon nut</td>
<td>SY9000-25-1</td>
<td>Refer to page 515</td>
</tr>
<tr>
<td>8</td>
<td>DIN rail</td>
<td>VZ1000-11-4-</td>
<td>Refer to page 532</td>
</tr>
<tr>
<td>9</td>
<td>Wiring unit assembly</td>
<td>SY9000-36-1A</td>
<td>Refer to page 515</td>
</tr>
<tr>
<td>10</td>
<td>Connector assembly</td>
<td>SY9000-37-</td>
<td>Refer to page 515</td>
</tr>
<tr>
<td>11</td>
<td>Lead wire cover</td>
<td>SY9000-41-1</td>
<td>Refer to page 515</td>
</tr>
<tr>
<td>12</td>
<td>Clamp sub assembly</td>
<td>SY9000-30-1A</td>
<td>Included only with the DIN rail mounting type</td>
</tr>
</tbody>
</table>

### 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.

### 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.

---

**Specifications**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Internal pilot type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>External pilot type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Internal pilot / Built-in silencer type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>External pilot / Built-in silencer type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>External pilot / Built-in silencer type</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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: 0.55 to 0.65 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 ø 3/8&quot;</td>
<td>VVQ4000-50B-N9</td>
<td></td>
</tr>
<tr>
<td>One-touch fitting for ø 3/4&quot;</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

### SSY₃ - 45 - 05 U - C6 - - -

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

- **Valve stations**
  - 02: 2 stations
  - 1: 1 station
  - 20: 20 stations

- **SUP/EXH block assembly mounting position**
  - **Symbol**
  - U: U side
  - D: D side
  - B: (Both sides)
  - 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. (20 stations at maximum)

### CE-compliant

- Nil
- Q: CE-compliant

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

### A, B port size

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

*In the case of mixed specifications (M), indicate separately on the manifold specification sheet.

### Example

- SSY3-45-05D-C6  1 set (Type 45, 5-station manifold base part no.)
- SX3000-75-1A  1 set (Blanking plate assembly part no.)
- SY3140-5G  2 sets (Single solenoid part no.)
- SY3240-5G  2 sets (Double solenoid part no.)

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

### How to Order Manifold Assembly (Example)

- 1 set (Type 45, 5-station manifold base part no.)
- 1 set (Blanking plate assembly part no.)
- 2 sets (Single solenoid part no.)
- 2 sets (Double solenoid part no.)

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.

*Refer to pages 616 to 620 for external pilot specifications and built-in silencer.
How to Order Valve

**SY3000/5000 Series**

**Base Mounted**

**Type**

45

**Note**

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

**Series**

- SY5240
- SY5 L

**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

**CE-compliant**

- Nil
- G: CE-compliant

**Made to Order**

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

**Manual override**

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

**Light/Surge voltage suppressor**

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

**Coil specifications**

- Nil: With power saving circuit (24, 12 VDC only)
- T: With power saving circuit (24, 12, 5, 3 VDC/100, 110, 200, 220 VAC)

**Rated voltage**

- For DC
  - S: 24 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)

**Electrical entry**

<table>
<thead>
<tr>
<th>Grommet</th>
<th>24, 12 VDC/100, 110, 200, 220 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>L plug connector</td>
<td>M plug connector</td>
</tr>
<tr>
<td>G: Lead wire length 300 mm</td>
<td>L: With lead wire (Length 300 mm)</td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire</td>
</tr>
<tr>
<td>M: With lead wire (Length 300 mm)</td>
<td>MN: Without lead wire</td>
</tr>
</tbody>
</table>

**DIN terminal**

- SY3000: 3
- SY5000: 5
- DC: 4
- AC: 0

**Manifold mounting**

- SY3000: ●
- SY5000: ●
- DC: ●
- AC: ●

**CE-compliant**

- 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 642 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 (Note 1)</td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>Location</td>
<td>Base</td>
</tr>
<tr>
<td>Porting specifications</td>
<td>Direction</td>
<td>Side</td>
</tr>
<tr>
<td>P, R port</td>
<td>C6 (One-touch fitting for ø6)</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>C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td></td>
<td>C6 (One-touch fitting for ø6)</td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td></td>
<td>C8 (One-touch fitting for ø8)</td>
<td>C8 (One-touch fitting for ø8)</td>
</tr>
<tr>
<td>Port size</td>
<td>2 to 10 stations: W = 22n + 118</td>
<td>2 to 10 stations: W = 47n + 156</td>
</tr>
<tr>
<td></td>
<td>11 to 20 stations: W = 22n + 140</td>
<td>11 to 20 stations: W = 47n + 190</td>
</tr>
<tr>
<td>W (g), n: Stations</td>
<td>2 to 10 stations: W = 22n + 118</td>
<td>2 to 10 stations: W = 47n + 156</td>
</tr>
<tr>
<td></td>
<td>11 to 20 stations: W = 22n + 140</td>
<td>11 to 20 stations: W = 47n + 190</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 → 4/2 (P → A/B)</td>
<td>4/2 → 5/3 (A/B → EA/EB)</td>
</tr>
<tr>
<td>SS5Y3-45</td>
<td>C8</td>
<td>C6</td>
</tr>
<tr>
<td></td>
<td>0.88</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>0.22</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td>0.18</td>
<td>0.18</td>
</tr>
<tr>
<td>SSSY5-45</td>
<td>C10</td>
<td>C8</td>
</tr>
<tr>
<td></td>
<td>2.2</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>0.53</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>0.18</td>
<td>0.58</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

**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.
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)

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.

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 (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>

Note) ARBY is not CE-compliant.

Caution

Mounting screw tightening torques

- M2: 0.16 N-m
- M3: 0.8 N-m
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" : ø6, ø1/4"
- Button for DIN rail release
  - Pitch: P=10.5, 13.5, 24.8

Approx. 300 (Lead wire length)

Manual override

(Light/surge voltage suppressor)

(DIN rail)

(DIN rail holding screw)

(Rail mounting hole pitch: 12.5)

Block separation button

(Push type)

With interface regulator (with gauge)

SS5Y3-45 [Stations U-C4, N3, C6, N7]

- 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"
- Button for DIN rail release
  - Pitch: P=10.5, 13.5, 24.8

Approx. 300 (Lead wire length)

Manual override

(Light/surge voltage suppressor)

(DIN rail)

(DIN rail holding screw)

(Rail mounting hole pitch: 12.5)

Approx. 300 (Lead wire length)

With interface regulator (with gauge)
### Dimensions: SY3000 Series

#### SS5Y3-45- Stations B, C4, N3, C6, N7

Button for DIN rail release

Applicable tubing O.D.: ø4, ø5/32" : ø6, ø1/4" (Light/surge voltage suppressor)

One-touch fitting (A, B port)

One-touch fitting (P, R port)

Applicable tubing O.D.: ø8, ø5/16"

#### L plug connector

Approx. 300

(Din rail holding screw) (Rail mounting hole pitch: 12.5)

#### M plug connector

Approx. 300

(Din rail holding screw) (Rail mounting hole pitch: 12.5)

#### M8 connector (WO)

M8 x 1

### Stations

<table>
<thead>
<tr>
<th>Stations</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, 4, 5</td>
<td>110.5</td>
<td>100</td>
<td>87</td>
<td>11.5</td>
</tr>
<tr>
<td>6, 7, 8, 9</td>
<td>135.5</td>
<td>125</td>
<td>108</td>
<td>12.5</td>
</tr>
</tbody>
</table>

#### LED wire length

- Stations 3-8: 74.4 [81.4]
- Stations 9-19: 210.5 [221.5]

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

**Type 45 SY3000/5000 Series**

**SS5Y5-45- Stations D**
- 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"
- Manual override
- DIN rail holding screw
- (Rail mounting hole pitch: 12.5)
- Block separation button
  - (Push type)

**SS5Y5-45- Stations U**
- Button for DIN rail release
- One-touch fitting
  - P, R port
  - Applicable tubing O.D.: ø10, ø3/8" (Light/surge voltage suppressor)
- One-touch fitting
  - A, B port
  - Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"

**With interface regulator (with gauge)**

---

Approx. 300

(Approx. wire length)
Dimensions: SY5000 Series

SS5Y3-45– Stations

- Button for DIN rail release
- One-touch fitting
- Manual override
- DIN rail holding screw
- L plug connector
- M plug connector
- M8 connector (WO)
-适用母管外径：ø8, ø5/16"（A, B 口）
- 适用母管外径：ø10, ø3/8"（P, R 口）
- 适用电缆外径：ø3.5 to ø7

Note) Refer to page 642 for dimensions of connector types.
## DIN Rail Manifold Exploded View

### Type 45

![Diagram of DIN Rail Manifold Exploded View](image)

### replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>SY3000</th>
<th>SY5000</th>
<th>Note</th>
</tr>
</thead>
</table>
| 1   | Manifold block assembly      |          | SX3000-50-1A (Q) | SX5000-50-1A (Q) | SY3000 (Metric size) C4: With One-touch fitting for ø4 (Inch size) N3: With One-touch fitting for ø\(\frac{5}{16}\)" C6: With One-touch fitting for ø6 (Inch size) N7: With One-touch fitting for ø\(\frac{1}{4}\)" C8: With One-touch fitting for ø8 (Inch size) N9: With One-touch fitting for ø\(\frac{3}{8}\)"
|     |                              |          |        |        | (Gasket 6 is supplied as an accessory)     |
| 2   | SUP/EXH block assembly       | (Metric size) SX3000-51-1A (Inch size) SX3000-51-15A | (Metric size) SX3000-51-1A (Inch size) SX3000-51-15A | P, R port SY3000 (Metric size) C4: With One-touch fitting for ø8 (Inch size) N3: With One-touch fitting for ø\(\frac{5}{16}\)" C6: With One-touch fitting for ø10 (Inch size) N7: With One-touch fitting for ø\(\frac{1}{4}\)" C8: With One-touch fitting for ø12 (Inch size) N9: With One-touch fitting for ø\(\frac{3}{8}\)"
| 3   | End block assembly R         |          | SX3000-52-1A (Q) | SX5000-52-1A (Q) | For D side                                |
| 4   | End block assembly L         |          | SX3000-53-1A (Q) | SX5000-53-1A (Q) | For U side                                |
| 5   | Round head combination screw | SY3000-23-4 | AC00077 | (M2 x 21) (M3 x 26) | Reference screw size                      |
| 6   | Gasket                       |          | SX3000-57-4 | SX5000-57-6 | Refer to page 539.                      |
| 7   | DIN rail                     |          | VZ1000-11-1 |        |                                           |
**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 (3) 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 (6) 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.**

**Metric size**

<table>
<thead>
<tr>
<th>MANIFOLD</th>
<th>ONE-TOUCH FITTING</th>
<th>PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>One-touch fitting for ø4</td>
<td>VVQ1000-50A-C4</td>
</tr>
<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>
</tr>
<tr>
<td></td>
<td>One-touch fitting for ø8</td>
<td>VVQ1000-51A-C8</td>
</tr>
</tbody>
</table>

**Inch size**

<table>
<thead>
<tr>
<th>MANIFOLD</th>
<th>ONE-TOUCH FITTING</th>
<th>PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>One-touch fitting for ø5/32&quot;</td>
<td>VVQ1000-50A-N3</td>
</tr>
<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>
<tr>
<td></td>
<td>One-touch fitting for ø5/16&quot;</td>
<td>VVQ1000-51A-N9</td>
</tr>
</tbody>
</table>

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**Note**

1) P and R ports cannot be changed.
2) Use caution that O-rings must be free from scratches and dust.
3) Otherwise, air leakage may result.
4) Purchasing order is available in units of 10 pieces.
How to Order Manifold

**SY3000/5000 Series**

**How to Order Manifold (Example)**

**Example (SY3000, +COM, U side)**

- SS5Y3-45-AU-05D-C6: 1 set (Type 45, 5-station manifold base part no.)
- SY3240-5LOU (2 sets) Double solenoid (24 VDC)
- SY3140-5LOU (2 sets) Single solenoid (24 VDC)
- SX3000-75-1A 1 set (Blanking plate assembly part no.)
- SSY3-45-AU-05D-C6 1 set (Type 45, 5-station manifold base part no.)

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. SSY3-45-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 how to order on page 554.

**How to Order Valve**

- **SY 5 2 40 5 LOU**
  - **Series**
    - 3 SY3000
    - 5 SY5000
  - **Rated voltage**
    - 5 24 VDC
  - **Type of actuation**
    - 1 2 position single
    - 2 2 position double
    - 3 3 position closed center
    - 4 3 position exhaust center
    - 5 3 position pressure center
  - **Manual override**
    - Nil Non-locking push type
    - D Push-turn locking slotted type
    - E Push-turn locking lever type
  - **Made to Order**
    - CE-compliant Nil — Q CE-compliant

* Refer to pages 616 to 620 for external pilot specifications and built-in silencer.

* 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 16 stations</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A, B port</th>
<th>Porting specifications</th>
<th>Location</th>
<th>Direction</th>
<th>Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>P, R port</td>
<td>C8 (One-touch fitting for ø8)</td>
<td>C10 (One-touch fitting for ø10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>C6 (One-touch fitting for ø6)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port size</th>
<th>Manifold base weight W (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n: Stations</td>
<td>2 to 10 stations: W = 26n + 207</td>
</tr>
<tr>
<td></td>
<td>11 to 20 stations: W = 26n + 229</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applicable flat ribbon cable connector</th>
<th>Flat ribbon cable connector Socket: 20 pins MIL type with strain relief conforming to MIL-C-83503</th>
</tr>
</thead>
</table>

| Wiring specifications | +COM specifications (Type 45-A), –COM specifications (Type 45-NA) |

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>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 5, 3</td>
<td>1 → 4/2 (P → A/B)</td>
</tr>
<tr>
<td>(P, EA, EB)</td>
<td>4/2 → 5/3 (A/B → EA/EB)</td>
</tr>
<tr>
<td>4, 2</td>
<td>(A, B)</td>
</tr>
<tr>
<td>C (dm³/(s·bar))</td>
<td>b</td>
</tr>
</tbody>
</table>

| SS5Y3-45-(Q) | C8 | C6 | 0.88 | 0.21 | 0.22 | 0.95 | 0.18 | 0.22 |
| SS5Y5-45-(Q) | C10| C8 | 2.2  | 0.24 | 0.53 | 2.5  | 0.18 | 0.58 |

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**
  - Connector box for +COM allows transmission until G71-OD16, 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.

- **–COM electric circuit diagram**
  - Connector box for –COM electric circuit diagram
  - With 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
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)

Series Assembly part no. Port size
SY3000 SY3000-3-92-2A (-Q) 5.8 11
SY5000 SY5000-39-16A (-Q) 5.8 15

Cable assembly
AXT100-FC20

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-FC20-1</td>
<td></td>
</tr>
<tr>
<td>3 m</td>
<td>AXT100-FC20-2</td>
<td></td>
</tr>
<tr>
<td>5 m</td>
<td>AXT100-FC20-3</td>
<td></td>
</tr>
</tbody>
</table>

For other commercial connectors, use a 20 pins with strain relief conforming to MIL-C-83503.

Connector manufacturers’ example
- 3M Japan Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.

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 (d)</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>⅛&quot;</td>
<td>KQ2P-01</td>
<td>16</td>
<td>31.5</td>
<td>5</td>
</tr>
<tr>
<td>⅛&quot;</td>
<td>KQ2P-03</td>
<td>16</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>½&quot;</td>
<td>KQ2P-07</td>
<td>18</td>
<td>35</td>
<td>8.5</td>
</tr>
<tr>
<td>½”</td>
<td>KQ2P-09</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
</tbody>
</table>

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** - 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.

**Accessory**

<table>
<thead>
<tr>
<th>Series</th>
<th>Round head combination screw</th>
<th>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>
<td></td>
</tr>
<tr>
<td>ARBY5000</td>
<td>AC00283 (M3 x 48.5)</td>
<td>SX5000-57-6</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.
### Dimensions: SY5000 Series

**SSSY5-45-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"
- Applicable connector: 20 pins MIL type
- With strain releaf

- Manual override
- DIN rail holding screw

**SSSY5-45-AD** - Stations U: C4, N3, C6, N7, C8, N9

- One-touch fitting (A, B port)
- Applicable tubing O.D.: ø10, ø3/8"
- Applicable connector: 20 pins MIL type
- With strain releaf

- Button for DIN rail release
- Manual override
- DIN rail holding screw

**SY3000/5000 Series**

- Type 45-NA

---

*Two SUP/EXH blocks are provided for models with 11 stations or more.*

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### Additional Information

- DIN rail holding screw
- LED for power supply
- Power supply terminal
- Block separation button
- (Push type)

---

**Notes:**

- Dimensions: SY5000 Series
- Specifications and options available upon request.

---

**Tables:**

<table>
<thead>
<tr>
<th>Station</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>160.9</td>
<td>165.3</td>
<td>169.8</td>
<td>174.5</td>
<td>179.3</td>
<td>184.1</td>
<td>189.9</td>
<td>195.7</td>
<td>201.5</td>
<td>207.3</td>
<td>213.1</td>
<td>218.9</td>
<td>224.7</td>
<td>230.5</td>
</tr>
<tr>
<td>L2</td>
<td>150</td>
<td>155</td>
<td>160.5</td>
<td>166.0</td>
<td>171.5</td>
<td>177.0</td>
<td>182.5</td>
<td>188.0</td>
<td>193.5</td>
<td>199.0</td>
<td>204.5</td>
<td>210.0</td>
<td>215.5</td>
<td>221.0</td>
</tr>
<tr>
<td>L3</td>
<td>84</td>
<td>90</td>
<td>96</td>
<td>102</td>
<td>108</td>
<td>114</td>
<td>120</td>
<td>126</td>
<td>132</td>
<td>138</td>
<td>144</td>
<td>150</td>
<td>156</td>
<td>162</td>
</tr>
<tr>
<td>L4</td>
<td>115.5</td>
<td>121.5</td>
<td>127.5</td>
<td>133.5</td>
<td>139.5</td>
<td>145.5</td>
<td>151.5</td>
<td>157.5</td>
<td>163.5</td>
<td>169.5</td>
<td>175.5</td>
<td>181.5</td>
<td>187.5</td>
<td>193.5</td>
</tr>
</tbody>
</table>

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*SMC*
## 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><strong>SY5000</strong></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><strong>SY3000</strong></td>
<td><strong>SY5000</strong></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><strong>SY3000</strong></td>
<td><strong>SY5000</strong></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></td>
<td></td>
<td><strong>SY3000</strong></td>
<td><strong>SY5000</strong></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></td>
<td></td>
<td><strong>SY3000</strong></td>
<td><strong>SY5000</strong></td>
</tr>
<tr>
<td>5</td>
<td>Connector box</td>
<td>VZ3000-106-1A</td>
<td>For 24 VDC only</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>SY3000</strong></td>
<td><strong>SY5000</strong></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>SY3000-43-2A-□</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY3000-43-2A-□</td>
<td>SY3000-43-3A-□</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY3000-43-1NA-□</td>
<td>SY3000-43-2NA-□</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY3000-43-2NA-□</td>
<td>SY3000-43-3NA-□</td>
</tr>
<tr>
<td>8</td>
<td>Dust cap</td>
<td>VZ3000-63-2</td>
<td>For 24 VDC only</td>
</tr>
<tr>
<td>9</td>
<td>Round head combination screw</td>
<td>SY3000-23-4</td>
<td>AC00077</td>
</tr>
<tr>
<td>10</td>
<td>Gasket</td>
<td>SX3000-57-4</td>
<td>SX5000-57-6</td>
</tr>
<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 (⑧) fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons (⑪) at two locations, separate the manifold base from the DIN rail.)
2. Press manifold block assembly dividing button (⑬), that are at the location where manifold bases are to be added, until button (⑮) 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 (⑧) 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 (⑰) 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.

### 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>
</tr>
<tr>
<td></td>
<td>One-touch fitting for ø8</td>
<td>VVQ1000-51A-C8</td>
</tr>
</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>
<tr>
<td></td>
<td>One-touch fitting for ø5/16&quot;</td>
<td>VVQ1000-51A-N9</td>
</tr>
</tbody>
</table>

**Note**

- 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

**Manifold series**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>U 02 U</td>
<td>2 stations</td>
<td></td>
</tr>
<tr>
<td>D 08 D</td>
<td>8 stations</td>
<td></td>
</tr>
<tr>
<td>U 02 U</td>
<td>2 stations</td>
<td></td>
</tr>
<tr>
<td>D 16 D</td>
<td>16 stations</td>
<td></td>
</tr>
</tbody>
</table>

**SI unit mounting position**

- U side
- D side

**Valve stations**

- Double wiring (Note 1)
- Specified layout (Note 2)

**Option**

- When a DIN rail that is longer than the specified stations is desired, specify the required station number. (Max. 20 stations)

**A, B port size**

- One-touch fitting (Metric size)
  - C4: One-touch fitting for ø4
  - C6: One-touch fitting for ø6
  - M: Mixed

- 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"
  - M: Mixed

**Serie specifications**

- Null
- NPN output (+COM.)
- NPN output (–COM.)
- CE-compliant

**CE-compliant**

- Q CE-compliant

**Double solenoid (24 VDC)**

- SY3140-5LOU (3 sets)
- SY3240-5LOU (2 sets)

**Cylinder port size**

- C6: With One-touch fitting for ø6
- Manifold base (5 stations)

**SUP/EXH block assembly mounting position**

- U side: 2 to 10 stations
- D side: Special specifications

**Note**

- Double wiring
- Specified layout

**Example**

- Single solenoid (24 VDC)
  - SY3140-5LOU (3 sets)
- Double solenoid (24 VDC)
  - SY3240-5LOU (2 sets)

**Pilot specifications**

- Null
- S Internal pilot
- R External pilot
- RS External pilot/built-in silencer

**SUP/EXH block assembly mounting position**

- U side: 2 to 10 stations
- D side: Special specifications
- B Both sides: 2 to 16 stations
- M: Special specifications

**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>N</td>
<td>NPN output (+COM.)</td>
<td>EX510-S001</td>
<td>P.897</td>
</tr>
<tr>
<td>N</td>
<td>NPN output (–COM.)</td>
<td>EX510-S101</td>
<td></td>
</tr>
</tbody>
</table>

How to Order Valves

**SY Series**
- **3**: SY3000
- **5**: 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

**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**: With light/surge voltage suppressor (non-polar type)

* 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 Series

#### SY5000: SS5Y5-45S6A D- Stations U- C4, N3 C6, N7 C8, N9

**Dimensions**

- **SY5000:** SS5Y5-45S6A
- **D- Stations:** U-

**Button for DIN rail release**

- (Pitch) P=16
- Applicable tubing O.D.: ø10, ø3/8”

**One-touch fitting**

- (P, R port)
- Applicable tubing O.D.: ø4, ø5/32”
- ø6, ø1/4”
- ø8, ø5/16”

**Applicable tubing O.D.:**
- ø10, ø3/8”
- ø4, ø5/32”
- ø6, ø1/4”
- ø8, ø5/16”

**X side**

- L1
- L2
- L3
- (Rail mounting hole pitch: 12.5)

**DIN rail holding screw**

- SI unit

**Manual override**

- Output no.

**Connector lock pin**

- (Take out when wiring the connector assembly.)

**Light/surge voltage suppressor**

- Block separation button
  - (Push type)

### Tables

<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>148</td>
<td>160.5</td>
<td>173</td>
<td>198</td>
<td>210.5</td>
<td>223</td>
<td>248</td>
<td>260.5</td>
<td>273</td>
</tr>
<tr>
<td>L2</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>187.5</td>
<td>200</td>
<td>212.5</td>
<td>237.5</td>
<td>250</td>
<td>262.5</td>
</tr>
<tr>
<td>L3</td>
<td>84</td>
<td>100</td>
<td>116</td>
<td>132</td>
<td>148</td>
<td>164</td>
<td>180</td>
<td>196</td>
<td>212</td>
</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>
SY5000: SS5Y5-45S6A

Button for DIN rail release

One-touch fitting

Applicable tubing O.D.: φ4, φ5/32"
φ6, φ1/4"
φ8, φ5/16"

One-touch fitting

(P, R port)

Applicable tubing O.D.: φ10, φ3/8"

With interface regulator (with gauge)

Connector lock pin
(Take out when wiring the connector assembly.)

(Station n)--- (Station 1)

(Light/surge voltage suppressor)

Block separation button
(Push type)
**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>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>
<tr>
<td>SSSY5-45S6A</td>
<td>SY3000-37-81A-4-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-4-4</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-6-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-6-6</td>
<td>Double/3 position: Starting from the SI unit side From unit 5 to unit 8</td>
</tr>
<tr>
<td>SSSY9-□□□SA</td>
<td>SY3000-37-81A-4-N</td>
<td>Single: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-4-9</td>
<td>Double/3 position: For 1 to 4 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-6-N</td>
<td>Single: For 5 to 8 stations</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-81A-6-11</td>
<td>Double/3 position: For 5 to 8 stations</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.

---

**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>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>
<tr>
<td>SSSY5-45S6A</td>
<td>SY3000-37-80A-4</td>
<td>Starting from the SI unit side: From unit 1 to unit 4</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-6</td>
<td>Starting from the SI unit side: From unit 5 to unit 8</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-8</td>
<td>Starting from the SI unit side: From unit 9 to unit 12</td>
</tr>
<tr>
<td></td>
<td>SY3000-37-80A-10</td>
<td>Starting from the SI unit side: From unit 13 to unit 16</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.

**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.

**Note 3:** Do not reuse the lead wire after it has been inserted and removed.

**Note 4:** 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>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>

* Thread type

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

⚠ Caution

Mounting screw tightening torques

M2: 0.16 N·m
M3: 0.8 N·m
M4: 1.4 N·m
## How to Order Manifold

### Type 45F (D-sub connector, 25 pins)

**SS5Y3-45FD05UC4**

- **Series**
  - 3 SY3000
  - 5 SY5000

**Common specifications**
- Nil: Positive common
- N: Negative common

**Connector 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

**Valve stations**
- Symbol | Stations | Note
  - 02 | 2 stations | Single wiring spec. (Applicable up to 20 solenoid valves.)
  - 20 | 20 stations

**Voltage**
- Nil: 24 VDC
- 12V: 12 VDC

### How to Order Valve (Type 45F, 45PC, 45T, 45T1)

**Example (Type 45F/D-sub connector (25 pin))**

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Manual override</th>
<th>Rated voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double, 3 position</td>
<td>Nil</td>
<td>5 24 VDC</td>
</tr>
<tr>
<td>3 position exhausted center</td>
<td>D</td>
<td>5 12 VDC</td>
</tr>
<tr>
<td>3 position pressure center</td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

**Made to Order**

- CE-compliant

### How to Order Manifold Assembly (Example)

**Example (Type 45F/D-sub connector (25 pin))**

- Double solenoid (24 VDC)
  - SY3140-5FU (2 sets)
  - SX3000-75-2A (1 set)
- Single solenoid (24 VDC)
  - SY3245-5FU (1 set)

**SS5Y3-45FD05UC6**

**SUP/EXH block assembly mounting position**
- Symbol | Mounting position | Stations
  - U | U side |
  - D | D side |
  - B | (Both sides) |
  - M | Special specifications

**A, B port size**
- One-touch fitting (Metric size)
  - Symbol | Port size | Applicable series
    - C4 | One-touch fitting for ø4 | SY3000
    - C6 | One-touch fitting for ø6 | SY3000
    - M | Mixed | SY5000

**One-touch fitting (Inch size)**
- Symbol | Port size | Applicable series
    - N3 | One-touch fitting for ø5/32" | SY3000
    - N7 | One-touch fitting for ø1/4" | SY3000
    - M | Mixed | SY5000

**Option**

- 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.
How to Order Manifold

**Type 45P** (Flat ribbon cable)

**SS5Y 3 - 45 P**

- **Series**
  - 3 SY3000
  - 5 SY5000

- **Common specifications**
  - Nil Positive common
  - N Negative common

- **Connector poles**
  - Symbol | Poles | Stations
  - Nil | 26 | 2 to 20 stations
  - G | 20 | 2 to 16 stations
  - H | 10 | 2 to 8 stations

- **Connector mounting position**
  - Symbol | Mounting position | U | U side
  - | | D | D side

- **Valve stations**
  - Symbol | Note | Stations
  - 02 | Single wiring spec. (Applicable up to 20 solenoid valves.)
  - 20 | Single wiring spec. (Applicable up to 8 solenoid valves.)

- **Option**
  - Nil
  - Q

The SS5YS/3-45T/1宁 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 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.

**Type 45T** (9 pins terminal block)

**SS5Y 3 - 45T D - 05 U - C4**

- **Series**
  - 3 SY3000
  - 5 SY5000

- **Terminal block mounting position**
  - Symbol | Mounting position | U | U side
  - | | D | D side

- **Option**
  - Nil
  - Q

**Type 45T1** (18 pins terminal block)

**SS5Y 3 - 45T1 D - 15 B - C4**

- **Series**
  - 3 SY3000
  - 5 SY5000

- **Terminal block mounting position**
  - Symbol | Mounting position | U | U side
  - | | D | D side

The terminal block (45T1) manifold has no common polarity. It can be used for both positive and negative common.

- In the case of mixed specifications (M), indicate separately by the manifold specification sheet.

- Note) The terminal block (45T1) manifold has no common polarity. It can be used for both positive and negative common.
Base Mounted SY3000/5000 Series

Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>D-sub connector Type 45F</th>
<th>Flat ribbon cable Type 45PI</th>
<th>Terminal block Type 45P</th>
<th>Type 45PG</th>
<th>Type 45PH</th>
<th>Type 45T</th>
<th>Type 45TI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold Plug-in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P (SUP)/R (EXH)</td>
<td>Common SUP, Common EXH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations (Note 1, 2)</td>
<td>2 to 20 stations</td>
<td>2 to 16 stations</td>
<td>2 to 8 stations</td>
<td>2 to 17 stations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port Porting specifications</td>
<td>Location</td>
<td>Base</td>
<td>Direction</td>
<td>Side</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>P, R port</td>
<td>SY3000</td>
<td>SY5000</td>
<td>SY3000</td>
<td>SY5000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, B port</td>
<td>SY3000</td>
<td>SY5000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applicable connector</td>
<td>D-sub connector</td>
<td>Terminal block</td>
<td>Type 45P</td>
<td>Type 45PG</td>
<td>Type 45PH</td>
<td>Type 45T</td>
<td>Type 45TI</td>
</tr>
<tr>
<td>Internal wiring</td>
<td>Common SUP, Common EXH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manifold base weight W (g)</td>
<td>SY3000</td>
<td>2 to 10 stations: W = 26n + 172</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n: Stations (D-sub connector)</td>
<td>SY5000</td>
<td>11 to 20 stations: W = 26n + 199</td>
<td></td>
<td></td>
<td></td>
<td></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</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></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></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C (dm³/(s·bar))</td>
</tr>
<tr>
<td>SSYS3-45F</td>
<td>C8</td>
<td>C6</td>
</tr>
<tr>
<td>SSYS5-45F</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**

- **D-sub connector (25 pins)/Cable assembly**
  - AXT100-DS25-015
  - AXT100-DS25-030
  - AXT100-DS25-050

- **Flat Ribbon Cable Connector/Cable assembly**
  - AXT100-FC

- **D-sub connector cable assembly**
  - Terminal numbers
  - Electric characteristics
  - Cable length (L)
    - 1.5 m
    - 3 m
    - 5 m

- **Flat Ribbon Cable Assembly**
  - Cable length (L)
    - 10 pins
    - 20 pins
    - 26 pins
  - No.
  - L dimension

- **Dimensions/DIN rail**
  - VZ1000 - 11 - □
  - Refer to L dimensions

**Connector manufacturers’ example**
- HIROSE ELECTRIC CO., LTD.
- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.

**Electric characteristics**
- Conductor resistance
  - 65 or less
- Voltage limit
  - 1000
- Insulation resistance
  - 5 or more

**Note**
- The min. bending radius of D-sub cable assembly is 20 mm.

**Cable manufacturers’ example**
- HIROSE ELECTRIC CO., LTD.
- 3M Japan Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited
- J.S.T. Mfg. Co., Ltd.

**Dimensions/DIN rail**
- VZ1000 - 11 - □
  - Refer to L dimensions

- **Fill in □ with an appropriate no. listed on the table of DIN rail dimensions shown below.**

- **Cable 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.

**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.

### 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.

**Reference figure**

- 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)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.

<For positive common (45PG)> <For negative common (45NPG)>

- 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.

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.

<For positive common (45PH)> <For negative common (45NPH)>

- 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.

- 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.

**Type 45T1/Terminal Block**

- 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\(\Box\) (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.
SY3000/5000 Series

SY3000: D-sub Connector/Plug-in

SS5Y3-45FU- Stations D-C4, N3, C6, N7

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)

(DIN rail) PortSO.l, SOL.b

One-touch fitting

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

D side

U side

Manual override

Press and turn to operate and lock override.
A side: Blue B side: Yellow

Press and turn to operate
and lock override.

Power supply terminals

The voltage indication marking is for 24 VDC.

(DIN rail) PortSO.l, SOL.b

One-touch fitting

Applicable tubing O.D.: ø8, ø5/16"

One-touch fitting

Applicable tubing O.D.: ø8, ø5/16"

Block separation button

(Push type)

L3

L1

L2

L4

Terminal no. 1

M2.6

Terminal screw

DIU rail holding screw

Press and turn to operate

Manual override

A side: Blue
B side: Yellow

Note) The L1 to L4 dimensions of SS5Y3-45FU- Stations U-C4, N3, C6, N7 are identical to those of SS5Y3-45FU- Stations D-C4, N3, C6, N7.

Stations

<table>
<thead>
<tr>
<th>Number of Stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Number of Stations</th>
</tr>
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<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>
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<tr>
<td>L2</td>
<td>125</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>
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<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>
<td>165</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>
<td>16.5</td>
</tr>
</tbody>
</table>

SS5Y3-45FU- Stations B-C4, N3, C6, N7

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)

One-touch fitting

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

D side

U side

Manual override

Press and turn to operate and lock override.
A side: Blue B side: Yellow

Press and turn to operate

Manual override

A side: Blue
B side: Yellow

Note) The L1 to L4 dimensions of SS5Y3-45FU- Stations U-C4, N3, C6, N7 are identical to those of SS5Y3-45FU- Stations D-C4, N3, C6, N7.

Stations

<table>
<thead>
<tr>
<th>Number of Stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Number of Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>135.5</td>
<td>148</td>
<td>148</td>
<td>160.5</td>
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<td>210.5</td>
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<td>L2</td>
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<td>154.5</td>
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<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>
<td>16.5</td>
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</table>

Stations

<table>
<thead>
<tr>
<th>Number of Stations</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>Number of Stations</th>
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</thead>
<tbody>
<tr>
<td>L1</td>
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<td>248</td>
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<td>298</td>
<td>310.5</td>
<td>310.5</td>
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<tr>
<td>L2</td>
<td>225</td>
<td>237.5</td>
<td>250</td>
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<td>275</td>
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<td>300</td>
<td>306</td>
<td>312.5</td>
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<tr>
<td>L3</td>
<td>209.5</td>
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<td>255</td>
<td>265.5</td>
<td>276</td>
<td>286.5</td>
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<tr>
<td>L4</td>
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<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>
SSY3-45FD- Stations U C4, N3 C6, N7

One-touch fitting (P, R port)
Applicable tubing O.D.: ø8, ø5/16" (Pitch) P = 10.5

Button for DIN rail release

DIN rail holding screw
DIN rail

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.

SSY3-45FD- Stations B C4, N3 C6, N7

One-touch fitting (P, R port)
Applicable tubing O.D.: ø8, ø5/16" (Pitch) P = 10.5

Button for DIN rail release

DIN rail holding screw
DIN rail

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.

Note) The L1 to L4 dimensions of SSY3-45FD- Stations C4, N3 C6, N7 are identical to those of SSY3-45FD- Stations U C4, N3 C6, N7.
**SY3000/5000 Series**

**SY5000: D-sub Connector/Plug-in**

**SSSY5-45FU- Stations D**

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32”
ø6, ø1/4”
ø8, ø5/16”

(Pitch) P = 16

17 26

Button for DIN rail release

**SSSY5-45FU- Stations B**

One-touch fitting
(P, R port)
Applicable tubing O.D.: ø10, ø3/8”

(Pitch) P = 16

17 26

Button for DIN rail release

Note: The L1 to L4 dimensions of SS5Y5-45FU- Stations U are identical to those of SS5Y5-45FU- Stations D.

---

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)

- **Terminal no. 1**
  - Power supply terminals
  - The voltage indication marking is for 24 VDC.

- **Terminal screw**

- **Block separation button** (Push type)

- **Manual override**
  - Depress and turn to operate and lock override.
  - A side: Blue
  - B side: Yellow

---

**SSSY5-45FU- Stations D**

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32”
ø6, ø1/4”
ø8, ø5/16”

(Pitch) P = 16

17 26

Button for DIN rail release

**SSSY5-45FU- Stations B**

One-touch fitting
(P, R port)
Applicable tubing O.D.: ø10, ø3/8”

(Pitch) P = 16

17 26

Button for DIN rail release

---

**Terminal no. 1**

- Power supply terminals
- The voltage indication marking is for 24 VDC.

- **Manual override**
  - Press and turn to operate and lock override.
  - A side: Blue
  - B side: Yellow
**SY3000: Flat Ribbon Cable/Plug-in**

**SS5Y3-45PU- Stations D**

- **C4, N3** (26 pins)
- **Button for DIN rail release**
- One-touch fitting
  - (A, B port)
  - Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"
- One-touch fitting
  - (P, R port)
  - Applicable tubing O.D.: ø8, ø5/16"
- **Power supply terminals**
  - The voltage indication marking is for 24 VDC.
- **Triangle mark position**
  - L1: 12.5
  - L2: (Rail mounting hole pitch: 12.5)
- **Manual override**
  - Press and turn to operate and lock override.
  - A side: Blue
  - B side: Yellow
- **DIN rail holding screw**
- **Block separation button** (Push type)
- **Applicable connector:** 26 pins MIL type With strain relief

**SS5Y3-45PU- Stations B**

- **C4, N3** (26 pins)
- **Button for DIN rail release**
- One-touch fitting
  - (A, B port)
  - Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"
- One-touch fitting
  - (P, R port)
  - Applicable tubing O.D.: ø8, ø5/16"
- **Power supply terminals**
  - The voltage indication marking is for 24 VDC.
- **Triangle mark position**
  - L1: 12.5
  - L2: (Rail mounting hole pitch: 12.5)
- **Manual override**
  - Press and turn to operate and lock override.
  - A side: Blue
  - B side: Yellow
- **DIN rail holding screw**
- **Block separation button** (Push type)
- **Applicable connector:** 26 pins MIL type With strain relief

---

**Note**

The L1 to L4 dimensions of SS5Y3-45PU- Stations D-C4, N3 are identical to those of SS5Y3-45PU- Stations D-C6, N7.

---

**SY3000/5000 Series**
SY3000: Flat Ribbon Cable/Plug-in

SS5Y3-45PD- Stations B  (26 pins)  

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"

Applicable connector: 26 pins MIL type  
With strain releaf  
(Corning to MIL-C-83503)

DIN rail holding screw

L1

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.

Triangle mark position

Press and turn to operate and lock override.

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

SS5Y3-45PD- Stations U  (26 pins)  

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"

Applicable connector: 26 pins MIL type  
With strain releaf  
(Corning to MIL-C-83503)

DIN rail holding screw

L1

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.

Triangle mark position

Press and turn to operate and lock override.

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

Note) The L1 to L4 dimensions of SS5Y3-45PD- Stations B are identical to those of SS5Y3-45PD- Stations U.

Specifications:

<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 or more stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>123</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>
</tr>
<tr>
<td>L2</td>
<td>125</td>
<td>125</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>L3</td>
<td>102</td>
<td>112.5</td>
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<td>135.5</td>
<td>144</td>
<td>154.5</td>
<td>165</td>
<td>175.5</td>
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</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>
<td>16.5</td>
<td>17.5</td>
</tr>
</tbody>
</table>

Base Mounted SY3000/5000 Series Type 45
SSYSY-45PU- Stations D- C4, N3 C8, N9 (26 pins)

SSYSY-45PU- Stations D- C4, N3 C8, N9 (26 pins)

SY5000: Flat Ribbon Cable

ø6, ø1/4" 

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

Applicable connector: 26 pins MIL type

ø8, ø5/16"

Applicable connector: 26 pins MIL type

(Conforming to MIL-C-83503)

DIN rail holding screw

Manual override (Depress and turn to operate and lock override)

A side: Blue B side: Yellow

U side: Yellow

A side: Blue

P = 16 17 26 (Pitch)

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

L1

L2

L3

L4

Station 1

Station n

Applicable connector: 26 pins MIL type

With strain releaf

One-touch fitting

(A, B port)

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

Applicable connector: 26 pins MIL type

ø8, ø5/16"

Applicable connector: 26 pins MIL type

(Conforming to MIL-C-83503)

DIN rail holding screw

DIN rail

Triangle mark position

Manual override (Press and turn to operate and lock override)

A side: Blue B side: Yellow

P = 16 17 26 (Pitch)

(Station n) - - - - - - (Station 1)
SY3000: 9 Pins Terminal Block/Plug-in

**SSSY3-45TU- Stations** B, C, D, N (9 pins)

- **Button for DIN rail release**
- **One-touch fitting**
- **Applicable tubing O.D.: ø8, ø5/16"**
- **A, B port**
- **Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"**

**Note:** The L1 to L4 dimensions of SSSY3-45TU-Stations U to N, SSSY3-45TD-Stations U to N, SSSY3-45TD-Stations B to N are identical to those of SSSY3-45TU-Stations B to N.

**SY3000/5000 Series**

---

**SSSY3-45TU- Stations** C, N (9 pins)

- **Button for DIN rail release**
- **One-touch fitting**
- **Applicable tubing O.D.: ø8, ø5/16"**
- **A, B port**
- **Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"**

**Note:** The L1 to L4 dimensions of SSSY3-45TU-Stations U to N, SSSY3-45TD-Stations U to N, SSSY3-45TD-Stations B to N are identical to those of SSSY3-45TU-Stations B to N.

---

**SSSY3-45TU- Stations** D, C, N (9 pins)

- **Button for DIN rail release**
- **One-touch fitting**
- **Applicable tubing O.D.: ø8, ø5/16"**
- **A, B port**
- **Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4"**

**Note:** The L1 to L4 dimensions of SSSY3-45TU-Stations U to N, SSSY3-45TD-Stations U to N, SSSY3-45TD-Stations B to N are identical to those of SSSY3-45TU-Stations B to N.

---

**SY3000/5000 Series**

---

**Stations**

<table>
<thead>
<tr>
<th>Stations</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>B stations</th>
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<tbody>
<tr>
<td>L1</td>
<td>123</td>
<td>135.5</td>
<td>148</td>
<td>148</td>
<td>160.5</td>
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<tr>
<td>L2</td>
<td>112.5</td>
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<td>L3</td>
<td>91.5</td>
<td>102</td>
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<td>123</td>
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<td>L4</td>
<td>15.5</td>
<td>16.5</td>
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<td>12.5</td>
<td>13.5</td>
<td>14.5</td>
</tr>
</tbody>
</table>
SY5000: 9 Pins Terminal Block/Plug-in

SSSY5-45TU- Stations D - C6, N9 (9 pins)

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

Note) The L1 to L4 dimensions of SSSY5-45TU-
StationsD - C6, N9, SSSY5-45TD- StationsD - C6, N9
are identical those of SSSY5-45TU- StationsP - C4, N3.

Press and turn to operate and lock override.
A side: Blue
B side: Yellow

Manual override

Block separation button

Din rail holding screw

L1 11.4
L2 14.5
L3 27.5
L4 47

DIN rail

DIN rail holding screw

Note) The L1 to L4 dimensions of SSSY5-45TD-
StationsP - C4, N3 are identical to those of
SSSY5-45TU- StationsP - C4, N3.

SSSY5-45TU- Stations B - C6, N7 (9 pins)

One-touch fitting
(P, R port)
Applicable tubing O.D.: \( \phi 10, \phi 3/8' \)

Button for DIN rail release

Press and turn to operate and lock override.
A side: Blue
B side: Yellow

Manual override

Block separation button

P, R port

Applicable tubing O.D.: \( \phi 4, \phi 5/32' \)
\( \phi 6, \phi 1/4' \)
\( \phi 8, \phi 5/16' \)

Note) The L1 to L4 dimensions of SSSY5-45TU-
StationsB - C4, N3, SSSY5-45TD- StationsB - C4, N3
are identical to those of SSSY5-45TU- StationsB - C4, N3.

Stations D - C4, N3, SSSY5-45TU- Stations D - C4, N3
Stations P - C4, N3, SSSY5-45TD- Stations P - C4, N3

Stations B - C4, N3, SSSY5-45TU- Stations B - C4, N3
Stations P - C4, N3, SSSY5-45TD- Stations P - C4, N3

Applicable tubing O.D.: \( \phi 4, \phi 5/32' \)
\( \phi 6, \phi 1/4' \)
\( \phi 8, \phi 5/16' \)

One-touch fitting

SY5000: 9 Pins Terminal Block/Plug-in
SY3000: 18 Pins Terminal Block/Plug-in

SS5Y3-45T1U- Stations D, C4, N3 (18 pins)

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

SY3000/5000 Series
SY3000: 9 Pins Terminal Block/Plug-in

SSY3Y-45T1D- Stations U- (18 pins)

One-touch fitting
(P, R port)
Applicable tubing O.D.: ø8, ø5/16"

DIN rail holding screw

U side

Button for DIN rail release

Manual override
Press and turn to operate and lock override.
A side: Blue
B side: Yellow

L2 (Rail mounting hole pitch: 12.5)

(Light/surge voltage suppressor)

SSY3Y-45T1D- Stations B- (18 pins)

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

DIN rail holding screw

U side

Button for DIN rail release

Manual override
Press and turn to operate and lock override.
A side: Blue
B side: Yellow

L2 (Rail mounting hole pitch: 12.5)

Note) The L1 to L4 dimensions of SSY3Y-45T1D- Stations U- are identical to those of SSY3Y-45T1D- Stations B-.
**SY5000: 18 Pins Terminal Block/Plug-in**

**SSSY5-45T1U- Stations D- (18 pins)**

- One-touch fitting
- Applicable tubing O.D.: ø4, ø5/32“, ø6, ø1/4“, ø8, ø3/16“

**DIN rail holding screw**

**U side**

- 48.5
- 27.5

**D side**

- 48.5
- 27.5

**L1**

- 16.5
- 173
- 185.5
- 198
- 223
- 235.5
- 248
- 273
- 285.5

**L2**

- 150
- 162.5
- 175
- 187.5
- 212.5
- 225
- 237.5
- 262.5
- 275

**L3**

- 126
- 142
- 158
- 174
- 190
- 206
- 222
- 238
- 254

**L4**

- 17
- 15.5
- 13.5
- 12
- 16.5
- 14.5
- 13
- 17.5
- 15.5

---

Note: The L1 to L4 dimensions of SSSYS-45T1U- Stations are identical to those of SSSYS-45T1U- Stations C4-N3-C8-N9.

---

**SSSY5-45T1U- Stations B- (18 pins)**

- One-touch fitting
- Applicable tubing O.D.: ø10, ø3/8“

**DIN rail holding screw**

**U side**

- 48.5
- 27.5

**D side**

- 48.5
- 27.5

**L1**

- 14.5
- 12.5
- 17
- 15.5
- 13
- 12
- 16.5
- 14.5

**L2**

- 13.5
- 14
- 15
- 16

**L3**

- 12
- 13
- 14
- 15
- 16

**L4**

- 13
- 17.5
- 15.5
- 14
- 12
- 16.5
- 15
- 13

---

**Manual override**

Press and turn to operate and lock override. A side: Blue, B side: Yellow

---

**Block separation button**

(Push type)

---

**Applicable tubing O.D.: ø10, ø3/8“**

---

**Applicable tubing O.D.: ø4, ø5/32“, ø6, ø1/4“, ø8, ø3/16“**

---

**Stations**

- C4, N3, C8, N9

---

**Stations**

- C8, N9
SY5000: 18 Pins Terminal Block/Plug-in

SSYS5-45T1D- Stations U- (18 pins)

- One-touch fitting
- Applicable tubing O.D.: ø10, ø3/8"
- Button for DIN rail release
- Press and turn to operate and lock override.
- A side: Blue
- B side: Yellow
- (Rail mounting hole pitch: 12.5)

SSYS5-45T1D- Stations B- (18 pins)

- One-touch fitting
- Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"
- Button for DIN rail release
- Manual override
- Press and turn to operate and lock override.
- A side: Blue
- B side: Yellow
- (Rail mounting hole pitch: 12.5)

Note: The L1 to L4 dimensions of SSYS5-45T1D- Stations D- are identical to those of SSYS5-45T1D- Stations U-.
DIN Rail Manifold Exploded View

Type 45F (D-sub Connector) Manifold

**No.** | **Description** | **Part no.** | **SY3000** | **SY5000** | **Note** |
---|---|---|---|---|---|
1 | Manifold block assembly | | | | Manifold block assembly part number differs according to an attached lead wire assembly based on the connector spec. Select an appropriate part number from the table of manifold block assembly part number shown below. (Gasket 7 is supplied as an accessory.) |
2 | SUP/EXH block assembly (for D-sub connector) | SX3000-51-2A | SX3000-51-2A | | Metric size SY3000: P, R port with One-touch fitting for ø8 SY5000: P, R port with One-touch fitting for ø10 |
3 | End block assembly (for 26 pins flat cable) | SX3000-52-2A(-Q) | SX5000-52-2A(-Q) | | For D side |
4 | End block assembly (for 26 pins flat cable) | SX3000-53-2A(-Q) | SX5000-53-2A(-Q) | For U side |
5-1 | Connector block assembly (for D-sub connector) | SX3000-64-1A | SX5000-64-1A | -1A: +COM -1NA: -COM |
5-2 | Connector block assembly (for 26 pins flat cable) | SX3000-64-2A | SX5000-64-2A | -2A: +COM -2NA: -COM |
5-3 | Connector block assembly (for 20 pins flat cable) | SX3000-64-2A | SX5000-64-2A | -2A: +COM -2NA: -COM |
5-4 | Connector block assembly (for 20 pins flat cable) | SX3000-64-2A | SX5000-64-2A | -2A: +COM -2NA: -COM |
5-5 | Connector block assembly (for 10 pins flat cable) | SX3000-64-2A | SX5000-64-2A | -2A: +COM -2NA: -COM |
5-6 | Connector block assembly (for 10 pins flat cable) | SX3000-64-2A | SX5000-64-2A | -2A: +COM -2NA: -COM |
6 | Round head combination screw | SY3000-23-4A | SX5000-64-3A | | For D side |
7 | Gasket | SX3000-57-4 | SX5000-57-6 | | Refer to page 568. |
8 | DIN rail | VZ10000-11-1 | | | |

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** | **Manifold block assembly part no.** | **Note** |
---|---|---|
For 45(N)F (D-sub connector) | SX3000-50-3A (-Q) | AB port SY3000 (metric size) A: With One-touch fitting for ø4 C: With One-touch fitting for ø6 N: With One-touch fitting for ø5/8
For 45(N)F (Flat ribbon cable) | SX3000-50-5A (-Q) | A, B port SY5000 (metric size) C: With One-touch fitting for ø4 C: With One-touch fitting for ø6 N: With One-touch fitting for ø5/8
For 45(N)F (Terminal block) | SX3000-50-7A (-Q) | (inch size)

Note) The lead wire assembly is supplied with the manifold block assembly.
How to Increase Manifold Bases

1. Loosen DIN rail holding screw ⑥ 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. Additional bases are to be added to the U side. Press splitting button ⑥ of the manifold block assembly on the U side until button ⑥ locks, and then separate the block assemblies.

3. Separate the connector block assembly in the same manner as ① 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 ⑥. (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 ⑥ 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>VVQ1000-50A-C4</td>
</tr>
<tr>
<td>One-touch fitting for ø6</td>
<td>VVQ1000-50A-C6</td>
</tr>
<tr>
<td>One-touch fitting for ø8</td>
<td>VVQ1000-51A-C8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SY5000</th>
<th>SY5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting for ø4</td>
<td>VVQ1000-51A-C4</td>
</tr>
<tr>
<td>One-touch fitting for ø6</td>
<td>VVQ1000-51A-C6</td>
</tr>
<tr>
<td>One-touch fitting for ø8</td>
<td>VVQ1000-51A-C8</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

**SS5Y 3-45S V-05 U-C6**

**Series**
- 3 | SY3000
- 5 | SY5000

**SI unit specifications**
- Symbol: Protocol type
  - 0: Without SI unit
  - H: NKE Corp.: Fieldbus H System
  - Q: DeviceNet
  - R1: OMRON Corp.: CompoBus/S (16 outputs) compatible
  - R2: OMRON Corp.: CompoBus/S (8 outputs) compatible
  - V: CC-LINK
  - ZB: CompoNet™ (Positive common)
  - ZBN: CompoNet™ (Negative common)

- CE-compliant: Nil - Q
  - Refer to the SI unit part no. for the SI unit comparable with CE.

**Valve stations**
- Symbol: Stations
  - U: U side
  - D: D side
  - B: (Both sides)
  - M: Special specifications

- U side: 2 to 10 stations
- D side: 2 to 10 stations
- B side: 2 to 16 stations
- M side: Special specifications

**SUP/EXH block assembly mounting position**
- Symbol: Mounting position
  - U: U side
  - D: D side
  - B: (Both sides)
  - M: Special specifications

- Note: Single wining spec. (Applicable up to 16 solenoid valves.)
- This also includes the number of blanking plate assemblies.
- Two stations are necessary for the double, 3 position
  (Dual body type).

- Even though when it is not equipped with SI unit, DIN rail length is long enough for future expectancy of mounting SI unit.

**How to Order Valve**

**2 position single**
SY 3 1 4 0 - 5 FU

**Double, 3 position**
SY 3 2 4 5 - 5 FU

**Series**
- 3 | SY3000
- 5 | SY5000

**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)**

**Made to Order**
- Nil - Q
  - Main valve fluororubber
  - Made to Order

**CE-compliant**
- Nil - Q

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

**Example**

**Double solenoid (24 VDC)**
SY3245-5FU

**Single solenoid (24 VDC)**
SY3140-5FU

**Manifold base (5 stations)**
SS5Y3-45SV-05U-C6

**Option**
- When ordering double solenoid valves/3 position (Dual body type), please keep in mind that they require two manifold stations.
- Si unit is available only for the D-side mounting type.
SY3000 Series: EX122 Integrated-type (For Output) Serial Transmission System/Plug-in

SS5Y3-45S□-Stations U-C4, N3 C6, N7

- One-touch fitting (P, R port)
  Applicable tubing O.D.: ø8, ø5/16”
- Button for DIN rail release
- Light/surge voltage suppressor (Station 1)(Station n)
- SI unit
- Manual override
  Press and turn to operate (and lock override).
  A side: Blue
  B side: Yellow
- Block separation button (Push type)

SS5Y3-45S□-Stations B-C4, N3 C6, N7

- One-touch fitting (A, B port)
  Applicable tubing O.D.: ø4, ø5/32” ø6, ø1/4”
- Button for DIN rail release
- DIN rail
- DIN rail holding screw
- (Rail mounting hole pitch: 12.5)

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.

---

SY3000/5000 Type 45S
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)
- DIN rail holding screw
- Light/surge voltage suppressor
- Manual override
- Block separation button

SSSY5-45S□-Stations B-C4, N3, C8, N9

- Button for DIN rail release
- One-touch fitting (A, B port)
- DIN rail holding screw
- Manual override

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.

<table>
<thead>
<tr>
<th>Stations</th>
<th>P inches</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>18 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
<td>223.5</td>
<td>236.5</td>
<td>249</td>
<td>262.5</td>
<td>285.5</td>
</tr>
<tr>
<td>L2</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>213.5</td>
<td>227</td>
<td>240.5</td>
<td>254</td>
<td>277.5</td>
</tr>
<tr>
<td>L3</td>
<td>100</td>
<td>116</td>
<td>132</td>
<td>148</td>
<td>164</td>
<td>180</td>
<td>196</td>
<td>212</td>
<td>228</td>
</tr>
<tr>
<td>L4</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>17.5</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stations</th>
<th>P inches</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>18 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>185.5</td>
<td>198</td>
<td>223</td>
<td>236.5</td>
<td>249</td>
<td>262.5</td>
<td>285.5</td>
<td>298</td>
<td>310.5</td>
</tr>
<tr>
<td>L2</td>
<td>175</td>
<td>187.5</td>
<td>212.5</td>
<td>225</td>
<td>238.5</td>
<td>250</td>
<td>263.5</td>
<td>276</td>
<td>290</td>
</tr>
<tr>
<td>L3</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>
</tr>
<tr>
<td>L4</td>
<td>14.5</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>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stations</th>
<th>P inches</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>18 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>335.5</td>
<td>348</td>
<td>360.5</td>
<td>373</td>
<td>386</td>
<td>399</td>
</tr>
<tr>
<td>L2</td>
<td>325</td>
<td>337.5</td>
<td>350</td>
<td>362.5</td>
<td>378.5</td>
<td>394.5</td>
</tr>
<tr>
<td>L3</td>
<td>262</td>
<td>278</td>
<td>294</td>
<td>310</td>
<td>326</td>
<td>342</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>
</tr>
</tbody>
</table>
**SY3000/5000 Base Mounted Manifold**

**Stacking Type/DIN Rail Mounted**

**EX 121 Separate Type (For Output) Serial Transmission System**

---

### How to Order Manifold

#### SS5Y Series

- **SY3000**
- **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>O</td>
<td>Without SI unit</td>
<td>EX121-SUH1</td>
<td>—</td>
</tr>
<tr>
<td>H</td>
<td>NKE Corp.: Fieldbus H System</td>
<td>EX121-SDN1</td>
<td>●</td>
</tr>
<tr>
<td>Q</td>
<td>DeviceNet</td>
<td>EX121-SCS1</td>
<td>●</td>
</tr>
<tr>
<td>R1</td>
<td>OMRON Corp.: CompoBus/S (16 outputs) compatible</td>
<td>EX121-SCS1</td>
<td>●</td>
</tr>
<tr>
<td>R2</td>
<td>OMRON Corp.: CompoBus/S (8 outputs) compatible</td>
<td>EX121-SCS2</td>
<td>●</td>
</tr>
<tr>
<td>V</td>
<td>CC-LINK</td>
<td>EX121-SMJ1</td>
<td>●</td>
</tr>
<tr>
<td>ZB</td>
<td>CompoNet™ (Positive common)</td>
<td>EX121-SCM1</td>
<td>●</td>
</tr>
<tr>
<td>ZBN</td>
<td>CompoNet™ (Negative common)</td>
<td>EX121-SCM3</td>
<td>●</td>
</tr>
</tbody>
</table>

#### SI unit 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>

#### Option

- When a longer DIN rail is desired than the specified stations, specify the station number to be required. (Max. 20 stations)

#### A, B port size

- **One-touch fitting (Metric size)**
  - C4 One-touch fitting for ø4
  - C6 One-touch fitting for ø6
  - M Mixed
  - C4 One-touch fitting for ø4
  - C6 One-touch fitting for ø6
  - C8 One-touch fitting for ø8
  - M Mixed

- **One-touch fitting (Inch size)**
  - N3 One-touch fitting for ø5/8
  - N7 One-touch fitting for ø1
  - N3 One-touch fitting for ø5/8
  - N7 One-touch fitting for ø1
  - N9 One-touch fitting for ø5/8*
  - M Mixed

**SUP/EXH block assembly mounting position**

- U U side
- D D side
- B Both sides
- M Special specifications

#### 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>Single wiring spec. (Applicable up to 16 solenoid valves.)</td>
</tr>
<tr>
<td>1</td>
<td>16 stations</td>
<td></td>
</tr>
</tbody>
</table>

- This also includes the number of blanking plate assemblies.
- Two stations are necessary for the double, 3 position (Dual body type).

---

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
How to Order Valve Manifold Assembly (Example)

Example

Double solenoid (24 VDC) SY3245-5FU
Single solenoid (24 VDC) SY3140-5FU

U side

D side

Stations 2 1

Manifold base (5 stations) SSYSY3-4SS1VD-05U-C6

SSYSY3-4SS1VD-05U-C6 — 1 set (Type 45S1 with serial unit 5-station manifold base part no.)
* SY3140-5FU — 3 sets (Single solenoid part no.)
* SY3245-5FU — 1 set (Double 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 SI unit.
* When ordering double solenoid valves/3 position (Dual body type), please keep in mind that they require two manifold stations.

How to Order Valve

2 position single

SY 3 1 4 0 - 5 FU

Double, 3 position

SY 3 2 4 5 - 5 FU

Series

3 SY3000
5 SY5000

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)

Rated voltage

5 24 VDC

Manual override

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

CE-compliant

Nil
Q CE-compliant

* 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 C4, N3
C6, N7

Button for DIN rail release
(Pitch)
P = 10.5 135 24.8
One-touch fitting
Applicable tubing O.D.: ø8, ø5/16”
One-touch fitting
Applicable tubing O.D.: ø4, ø5/32”, ø6, ø1/4”
One-touch fitting
Applicable tubing O.D.: ø4, ø5/16”

Manual override
Press and turn to operate
and lock override.
A side: Blue
B side: Yellow

Button for DIN rail release
(Pitch)
P = 10.5 135 24.8
One-touch fitting
Applicable tubing O.D.: ø8, ø5/16”
One-touch fitting
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

Note) The L1 to L4 dimensions of SS5Y3-45S1□U- Stations C4, N3, C6, N7 are identical to those of SS5Y3-45S1□U- Stations C4, N3, C6, N7.

SY3000/5000 Type 4S1
SY3000: EX121 Separate Type (For Output) Serial Transmission System/Plug-in

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”

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

DIN rail
DIN rail holding screw

Light/surge voltage suppressor

Block separation button
(Push type)

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”

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

DIN rail
DIN rail holding screw

Note: The L1 to L4 dimensions of SSY3-45S1 D- Stations for U- are identical to those of SSY3-45S1 D- Stations for C4, N3, C6, N7.

Station
L1 L2 L3 L4

U- 160.5 150 91.5 14

B- 173 162.5 91.5 14

C4, N3,C6, N7

3 4 5 6 7 8 9 10

 Stations

<table>
<thead>
<tr>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td>160.5</td>
<td>150.0</td>
<td>91.5</td>
<td>14</td>
</tr>
<tr>
<td>173.0</td>
<td>162.2</td>
<td>91.5</td>
<td>14</td>
</tr>
</tbody>
</table>

U- 160.5 150 91.5 14

B- 173 162.5 91.5 14

C4, N3,C6, N7

3 4 5 6 7 8 9 10

 Stations

<table>
<thead>
<tr>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
</tr>
</thead>
<tbody>
<tr>
<td>160.5</td>
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</tr>
<tr>
<td>173.0</td>
<td>162.2</td>
<td>91.5</td>
<td>14</td>
</tr>
</tbody>
</table>

SY3000/5000

Type 45S1 SY3000/5000
SY5000: EX121 Separate Type (For Output) Serial Transmission System/Plug-in

SSS5Y5-45S1 U- Stations D- C4, N3, C8, N9

One-touch fitting (A, B port)
Applicable tubing O.D.: ø4, ø5/32”, ø6, ø1/4”, ø8, ø5/16”

Button for DIN rail release

(Pitch)
P = 16 17 26

Light/surge voltage suppressor

Note: The L1 to L4 dimensions of SSS5Y5-45S1 U Stations D, C4, N3, C8, N9 are identical to those of SSS5Y5-45S1 U Stations B, C4, N3, C8, N9.

Manual override
(Press and turn to operate and lock override.
A side: Blue
B side: Yellow

SSS5Y5-45S1 U- Stations B- C4, N3, C8, N9

One-touch fitting (A, B port)
Applicable tubing O.D.: ø4, ø5/32”, ø6, ø1/4”, ø8, ø5/16”

Block separation button
(Push type)

DIN rail holding screw

<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>
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<tr>
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<td>185.5</td>
<td>210.5</td>
<td>223</td>
<td>235.5</td>
<td>260.5</td>
<td>273</td>
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<tr>
<td>L2</td>
<td>162.5</td>
<td>175</td>
<td>200</td>
<td>212.5</td>
<td>225</td>
<td>250</td>
<td>262.5</td>
</tr>
<tr>
<td>L3</td>
<td>105</td>
<td>121</td>
<td>137</td>
<td>153</td>
<td>169</td>
<td>185</td>
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<tr>
<td>L4</td>
<td>13.5</td>
<td>12</td>
<td>16.5</td>
<td>14.5</td>
<td>13</td>
<td>17.5</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Base Mounted SY3000/5000 Type 45S1 U
SY5000: EX121 Separate Type (For Output) Serial Transmission System/Plug-in

SS5YS-45S1□D- Stations U

C4, N3
C6, N7
C8, N9

Button for DIN rail release

(Pitch) 46

One-touch fitting

Applicable tubing O.D.: $\varnothing 10$, $\varnothing 3/8''$

DIN rail holding screw

L1

(Pitch) 12.5

(DIN rail mounting hole pitch: 12.5)

L2

Manual override

(Press and turn to operate and lock override.)

A side: Blue

B side: Yellow

Light/surge voltage suppressor

(Station n) ——— (Station 1)

Block separation button

(Push type)

SS5YS-45S1□D- Stations B

C4, N3
C6, N7
C8, N9

Button for DIN rail release

(Pitch) 47

One-touch fitting

Applicable tubing O.D.: $\varnothing 4$, $\varnothing 5/32''$

$\varnothing 6$, $\varnothing 1/4''$

$\varnothing 8$, $\varnothing 5/16''$

DIN rail holding screw

L1

(Pitch) 12.5

(DIN rail mounting hole pitch: 12.5)

L2

Note: The L1 to L4 dimensions of SS5YS-45S1□D- Stations U, C4, N3, C6, N7, C8, N9, are identical to those of SS5YS-45S1□D- Stations B, C4, N3, C6, N7, C8, N9.

<table>
<thead>
<tr>
<th>Station</th>
<th>L1</th>
<th>175</th>
<th>185.5</th>
<th>210.5</th>
<th>235.5</th>
<th>260.5</th>
<th>273</th>
<th>285.5</th>
<th>287.5</th>
<th>310.5</th>
<th>323</th>
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</thead>
<tbody>
<tr>
<td>L2</td>
<td>162.5</td>
<td>175</td>
<td>200</td>
<td>212.5</td>
<td>225</td>
<td>250</td>
<td>262.5</td>
<td>275</td>
<td>287.5</td>
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<tr>
<td>L3</td>
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<td>121</td>
<td>137</td>
<td>153</td>
<td>169</td>
<td>185</td>
<td>201</td>
<td>217</td>
<td>233</td>
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<td></td>
</tr>
<tr>
<td>L4</td>
<td>13.5</td>
<td>12</td>
<td>16.5</td>
<td>14.5</td>
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<td>17.5</td>
<td>15.5</td>
<td>14</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SY3000/5000 45S1 Type

SY5000: EX121 Separate Type (For Output) Serial Transmission System/Plug-in

SS5YS-45S1□D- Stations U

C4, N3
C6, N7
C8, N9

Button for DIN rail release

(Pitch) 46

One-touch fitting

Applicable tubing O.D.: $\varnothing 10$, $\varnothing 3/8''$

DIN rail holding screw

L1

(Pitch) 12.5

(DIN rail mounting hole pitch: 12.5)

L2

Manual override

(Press and turn to operate and lock override.)

A side: Blue

B side: Yellow

Light/surge voltage suppressor

(Station n) ——— (Station 1)

Block separation button

(Push type)

SS5YS-45S1□D- Stations B

C4, N3
C6, N7
C8, N9

Button for DIN rail release

(Pitch) 47

One-touch fitting

Applicable tubing O.D.: $\varnothing 4$, $\varnothing 5/32''$

$\varnothing 6$, $\varnothing 1/4''$

$\varnothing 8$, $\varnothing 5/16''$

DIN rail holding screw

L1

(Pitch) 12.5

(DIN rail mounting hole pitch: 12.5)

L2

Note: The L1 to L4 dimensions of SS5YS-45S1□D- Stations U, C4, N3, C6, N7, C8, N9, are identical to those of SS5YS-45S1□D- Stations B, C4, N3, C6, N7, C8, N9.

<table>
<thead>
<tr>
<th>Station</th>
<th>L1</th>
<th>175</th>
<th>185.5</th>
<th>210.5</th>
<th>235.5</th>
<th>260.5</th>
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<th>285.5</th>
<th>287.5</th>
<th>310.5</th>
<th>323</th>
</tr>
</thead>
<tbody>
<tr>
<td>L2</td>
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<td>175</td>
<td>200</td>
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<td>225</td>
<td>250</td>
<td>262.5</td>
<td>275</td>
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</tr>
<tr>
<td>L3</td>
<td>105</td>
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<td>137</td>
<td>153</td>
<td>169</td>
<td>185</td>
<td>201</td>
<td>217</td>
<td>233</td>
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<td></td>
</tr>
<tr>
<td>L4</td>
<td>13.5</td>
<td>12</td>
<td>16.5</td>
<td>14.5</td>
<td>13</td>
<td>17.5</td>
<td>15.5</td>
<td>14</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## How to Order Manifold

### SS5Y - 45S6B U - 02 U - C4 -

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

**SI unit**
- Nil NPN output (+COM.)
- N PNP output (–COM.)

**SI unit mounting position**
- U U side
- D D side

**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></td>
</tr>
</tbody>
</table>
| 16     | 16 stations | Compatible with 16 solenoid valves

**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>
</tr>
<tr>
<td>N</td>
<td>PNP output (–COM.)</td>
<td>EX510-S102A</td>
<td></td>
</tr>
</tbody>
</table>

### How to Order Manifold Assembly (Example)

**Example**

- Double solenoid (24 VDC) SY3245-5FU (1 set)
- Single solenoid (24 VDC) SY3140-5FU (3 sets)
- Manifold base (5 stations) SS5Y3-45S6BD-05B-C6

**SUP/EXH block (U side mounting)**

<table>
<thead>
<tr>
<th>SUP/EXH block assembly mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>U U side</td>
</tr>
<tr>
<td>D D side</td>
</tr>
<tr>
<td>B Both sides</td>
</tr>
<tr>
<td>M Special specifications*</td>
</tr>
</tbody>
</table>

**CE-compliant**
- Nil —
- Q CE-compliant

**Option**
- When a DIN rail that is longer than the specified stations is desired, specify the required station number. (Max. 20 stations)

#### A, B port size

**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 φ4</td>
<td>SY3000</td>
</tr>
<tr>
<td>C5</td>
<td>One-touch fitting for φ5</td>
<td>SY3000</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
<td>SY3000</td>
</tr>
<tr>
<td>C4</td>
<td>One-touch fitting for φ4</td>
<td>SY5000</td>
</tr>
<tr>
<td>C5</td>
<td>One-touch fitting for φ5</td>
<td>SY5000</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
<td>SY5000</td>
</tr>
<tr>
<td>C8</td>
<td>One-touch fitting for φ8</td>
<td>SY5000</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</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 φ5/32&quot;</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for φ1/4&quot;</td>
<td>SY3000</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
<td>SY3000</td>
</tr>
<tr>
<td>N3</td>
<td>One-touch fitting for φ5/32&quot;</td>
<td>SY5000</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for φ1/4&quot;</td>
<td>SY5000</td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for φ5/16&quot;</td>
<td>SY5000</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
<td>SY5000</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>

### Valley stations

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

### Option

- For the mixed specification, indicate separately on a manifold specification sheet.

#### SUP/EXH block assembly mounting position

- U U side 2 to 10 stations
- D D side 2 to 16 stations
- B Both sides 2 to 16 stations
- M Special specifications*

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

**How to Order Valves**

**Type of actuation**
1. Normally closed
2. Normally open

**Solenoid type**
- Nil: Single solenoid
- C: Double solenoid (Dual body type)

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

**Body option**
0: Standard (Single only)
5: Dual body type (Double/3 position)

**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

**Rated voltage: 24 VDC**

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

*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**

**SY3000/5000 Series**

**SS5Y3-45S6B**

- **D- Stations**
- **U- Stations**

**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>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>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>124.5</td>
<td>135</td>
<td>145.5</td>
<td>156</td>
<td>166.5</td>
<td>177</td>
<td>187.5</td>
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<tr>
<td>L4</td>
<td>12</td>
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<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>

**Notes**

- **Button for DIN rail release**
- **One-touch fitting** (P, R port)
- **Applicable tubing O.D.:** ø4, ø5/32"
- **Applicable tubing O.D.:** ø6, ø1/4"

---

**Diagram**

- **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**
- **(Station n) − − − − − − − − (Station 1)**
- **(Light/surge voltage suppressor)**
- **Block separation button** (Push type)
**Dimensions**

**Base Mounted Manifold** SY3000/5000 Series

**SY3000 Series**

**SS5Y3-45S6B**

- **Button for DIN rail release**
- **One-touch fitting**
  - (A, B port)
  - Applicable tubing O.D.: ø4, ø5/32" : ø6, ø1/4"
- **One-touch fitting**
  - (P, R port)
  - Applicable tubing O.D.: ø8 : ø5/16"

**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>
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<td>273</td>
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<td>2</td>
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<tr>
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<td>3</td>
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<tr>
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<td>18</td>
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<td>14.5</td>
<td>15.5</td>
<td>16.5</td>
<td>17.5</td>
</tr>
</tbody>
</table>

**n: Stations**
Dimensions

**SS5Y5-45S6B**

**L: Dimensions**

<table>
<thead>
<tr>
<th>n</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<th>10</th>
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<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**
### 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.

**SUP 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.)

**EXH blocking disk**

- **Label for block 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)
  - SX3000-77-1A
  - SX5000-77-1A

- **SUP blocking disk**
  - SY3000
  - SY5000

- **EXH blocking disk**
  - SY3000
  - SY5000

- **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 fitting 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>⅜”</td>
<td>KQ2P-01</td>
<td>16</td>
<td>31.5</td>
<td>5</td>
</tr>
<tr>
<td>⅜”</td>
<td>KQ2P-03</td>
<td>16</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>⅜”</td>
<td>KQ2P-07</td>
<td>18</td>
<td>35</td>
<td>8.5</td>
</tr>
<tr>
<td>⅜”</td>
<td>KQ2P-09</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
</tbody>
</table>

- **Series Assembly part no.**
  - SY3000-75-2A-(Q)
  - SX3000-76-6A-(Q)

- **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.

---

**Caution**

Mounting screw tightening torques

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

---

**Individual EXH spacer assembly**

- **Series**
  - SY3000
  - SY5000

- **Individual SUP spacer assembly**

- **Series**
  - SY3000
  - SY5000
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)

- 5 port valve: Double solenoid
  - SY3220-5G-C6 (2 sets)

- 3 port valve: Single solenoid (N.C.)
  - SY313-5G-C6 (2 sets)

- Manifold base (5 stations)
  - SS5Y3-20-05

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 SS5Y[^1]–20

| 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, or YO type.

**Rated voltage**

For DC:
- 5: 24 VDC
- 6: 12 VDC
- 7: 6 VDC
- 8: 5 VDC
- 9: 3 VDC

For AC:
- 01: 100 VAC
- 02: 200 VAC
- 03: 110 VAC (115 VAC)
- 04: 220 VAC (230 VAC)

**Thread type**

- Nil: Without bracket
- F: With foot bracket (Single solenoid only)
- T: With side bracket

**Thread piping**

<table>
<thead>
<tr>
<th>Series</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY300</td>
<td>M5 x 0.8</td>
<td>SY300</td>
</tr>
<tr>
<td>SY500</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>SY300</td>
<td>One-touch fitting to ø6</td>
<td>SY300</td>
</tr>
<tr>
<td>SY500</td>
<td>One-touch fitting to ø6</td>
<td>SY500</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>SY300</td>
<td>One-touch fitting to 1/4&quot;</td>
<td>SY300</td>
</tr>
<tr>
<td>SY500</td>
<td>One-touch fitting to 1/4&quot;</td>
<td>SY500</td>
</tr>
</tbody>
</table>

**Electrical entry**

<table>
<thead>
<tr>
<th>Series</th>
<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>SY300</td>
<td>G: Lead wire 300 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY500</td>
<td>H: Lead wire 600 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bracket**

- Nil: CE-compliant
- G: CE-compliant

**Manual override**

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

**Light/Surge voltage suppressor**

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

### Gasket assembly part no.

- Series | Gasket assembly part no.
- SY300  | SY3000-GS-1
- SY500  | SY5000-GS-1

* 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.
* Refer to page 623 for details.
* For connector cable of M8 connector, refer to page 641.
* M8 connector conforming to IEC60947-5-2 standard is also available. Refer to page 638 for details.
* Refer to page 638 for the lead wire length of L and M plug connectors.

Note) Enter the cable length symbols in the case of D, Y, DO, or YO 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.

[^1]: For single and individual wiring: For SS5Y–20

Note) AC-type models that are CE-compliant have DIN terminals only.
SY300/500 Series

Body Mounted/How to Order Valve

Flat ribbon cable
EX10 Gateway-type serial transmission system:

<table>
<thead>
<tr>
<th>Coils specifications</th>
<th>Symbol Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>SS5Y^3-20P/20SA</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Light/Surge voltage suppressor

<table>
<thead>
<tr>
<th>Rated voltage</th>
<th>Light/Surge voltage suppressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
<tr>
<td>U</td>
<td>With light/surge voltage suppressor (Non-polar type)</td>
</tr>
</tbody>
</table>

One-touch fitting (Metric size)

Symbol Port size Applicable series
M5 M5 x 0.8 SY300
01 1/6 SY500
C4 One-touch fitting for D SY300
C6 One-touch fitting for D SY300
C8 One-touch fitting for D SY500
N3 One-touch fitting for D SY300
N7 One-touch fitting for D SY500
N5 One-touch fitting for D SY500

20P/20SA
For DC
SY 5 1 3
SY 5 0 LO Z
For AC
SY 5 1 3
SY 5 0 LO Z

- Rated voltage 1 100 VAC
- Rated voltage 3 110 VAC[115 VAC]
- Manual override Nil Non-locking push type
- Coil specifications Nil T With power saving circuit
- Type of actuation 1 Normally closed (N.C.)
- Solenoid type Nil Single solenoid
- Pilot type Nil R External pilot
- Thread type Nil Made to Order

Base Mounted/How to Order Valve

For single and individual wiring: ForSS5Y^3-41/42/45

<table>
<thead>
<tr>
<th>Series</th>
<th>SY300</th>
<th>SY500</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>SY300</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>SY500</td>
<td></td>
</tr>
</tbody>
</table>

Type of actuation

<table>
<thead>
<tr>
<th>Type of actuation</th>
<th>Solenoid type</th>
<th>Electric entry for G, H, L, M, W</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Single solenoid</td>
<td>Nil Without light/surge voltage suppressor</td>
</tr>
<tr>
<td>2</td>
<td>Double solenoid</td>
<td>D: Push-turn locking slotted type</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E: Push-turn locking lever type</td>
</tr>
</tbody>
</table>

- Rated voltage
- Manual override
- Made to Order

Note) CE-compliant: For AC only.

* Power saving circuit is only available in the “Z” type.
* For Type D, Y, DO and YO it is available with 12 and 24 VDC.
* DC specifications of Type D, Y, DO and YO are only available with 12 and 24 VDC.
* “Y” type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). For details, refer to page 638.
* Refer to page 641 for connector cable of MB connector.
* 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.
* Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 642.
Flat ribbon cable: For SS5Y₅³-41P/42P/45-A
Connector box type:

<table>
<thead>
<tr>
<th>Series</th>
<th>3 SY300</th>
<th>5 SY500</th>
</tr>
</thead>
</table>

Type of actuation

| 1 | Normally closed (N.C.) |
| 2 | Normally open (N.O.) |

Solenoid type

| Nil | Single solenoid |
| D  | Double solenoid |

Pilot type

| Nil | Internal pilot |
| R   | External pilot |

*External pilot is not available for Type 41P manifold.

Rated voltage

- For DC: SY 5 1 5 - 5 LO Z -
- For AC: SY 5 1 5 - 1 LOZ -

Light/Surge voltage suppressor

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

Made to Order

- Nil
- X90 Main valve fluororubber (Refer to page 624.)

Manual override

- Nil
- D Push-turn locking slotted type
- E Push-turn locking lever type

CE-compliant

- Nil
- G CE-compliant

Rated voltage

- For DC:
  - 1 100 VAC
  - 3 110 VAC [115 VAC] (Non-polar type)

Note) CE-compliant: For DC only.

Plug-in: For SS5Y₅³-45

<table>
<thead>
<tr>
<th>Single solenoid: SY 5 1 5</th>
<th>- 5 FU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>3 SY300</td>
</tr>
<tr>
<td>Type of actuation</td>
<td>1 Normally closed (N.C.)</td>
</tr>
</tbody>
</table>

Double solenoid: SY 5 1 5C - 5 FU |

| Series | 3 SY300 | 5 SY500 |
| Type of actuation | 1 Normally closed (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

- For DC:
  - 5 24 VDC
  - 6 12 VDC
SY300/500 Series

**Construction: Body Ported**

![Diagram of SY300/500 Series components]

**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>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Pilot valve assembly</td>
<td></td>
<td>Refer to “How to Order Pilot Valve Assembly” on page 625.</td>
</tr>
<tr>
<td>7</td>
<td>M5 port block assembly</td>
<td></td>
<td>Refer to “How to Order Port Block Assembly” below.</td>
</tr>
</tbody>
</table>

**How to Order M5 Port Block Assembly**

<table>
<thead>
<tr>
<th>SY</th>
<th>00 – 2A – Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>SY300 series</td>
</tr>
<tr>
<td>5</td>
<td>SY500 series</td>
</tr>
</tbody>
</table>

- **Thread piping**
  - M5 x 0.8 (SY300)
  - ½ (SY500)

- **One-touch fitting (Metric size)**
  - C4: One-touch fitting for ø4 (SY300)
  - C6: One-touch fitting for ø6 (SY500)
  - C8: One-touch fitting for ø8 (SY500)
  - C4: One-touch fitting for ø4 (SY500)

- **One-touch fitting (Inch size)**
  - N3: One-touch fitting for 5/32" (SY300)
  - N7: One-touch fitting for 1/4" (SY500)
  - N9: One-touch fitting for 5/16" (SY500)

**Caution**

Mounting screw tightening torques

SY300 (M2) : 0.12 N·m
SY500 (M3) : 0.6 N·m

- Only replacement of the fittings assembly is possible.
### Construction: Base Mounted

**Symbol**
- Single
  - Normally closed (N.C.)
    - Single solenoid
  - Double solenoid
- Normally open (N.O.)
  - Single solenoid
  - Double solenoid

### 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></td>
<td>(SY3000: Zinc die-casted)</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>Part No.</th>
<th>Note</th>
<th>Thread type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Sub-plate</td>
<td>SY3000-27-1</td>
<td>SY5000-27-1</td>
<td>Aluminum die-casted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY9000-27-1</td>
<td>SY7000-27-1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Sub-plate</td>
<td>SY3000-23-4</td>
<td>AC00077</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY5000-11-8</td>
<td>AC00296</td>
<td>(M2 x 21)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY5000-11-15</td>
<td></td>
<td>(M3 x 26)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SY7000-11-11</td>
<td></td>
<td>(M4 x 31)</td>
</tr>
</tbody>
</table>

---

Caution: Mounting screw tightening torques
- M2: 0.16 N·m
- M3: 0.8 N·m
- M4: 1.4 N·m

---

* Thread type
# Weight

## Body ported
### SY300 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Weight (g) Grommet</th>
<th>Weight (g) L, M plug connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY300-3-M5</td>
<td>Single</td>
<td>51</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>68</td>
<td>74</td>
</tr>
<tr>
<td>SY300-3-C4-N3</td>
<td>Single</td>
<td>56</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>74</td>
<td>79</td>
</tr>
<tr>
<td>SY300-3-C6-N7</td>
<td>Single</td>
<td>54</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>72</td>
<td>77</td>
</tr>
</tbody>
</table>

## Base mounted
### SY300 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Weight (g) Grommet</th>
<th>Weight (g) L, M plug connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY300-5</td>
<td>Single</td>
<td>47(82)</td>
<td>50(85)</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>65(100)</td>
<td>70(105)</td>
</tr>
</tbody>
</table>

### SY500 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Weight (g) Grommet</th>
<th>Weight (g) L, M plug connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY300-5</td>
<td>Single</td>
<td>55(118)</td>
<td>58(121)</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>72(136)</td>
<td>78(141)</td>
</tr>
</tbody>
</table>

## SY500 series

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Weight (g) Grommet</th>
<th>Weight (g) L, M plug connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY300-5</td>
<td>Single</td>
<td>47(82)</td>
<td>50(85)</td>
</tr>
<tr>
<td></td>
<td>Double</td>
<td>65(100)</td>
<td>70(105)</td>
</tr>
</tbody>
</table>

Note: The values shown in (    ) are for values with sub-plate.
## 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>
<tbody>
<tr>
<td>SY3000</td>
<td>SY5000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Valve stations**

- **Symbol Stations**
  - S: stations
  - U: U side
  - D: D side
  - B: Both sides
  - M: Special specifications
- **SUP/EXH block assembly mounting position**
  - U: U side
  - D: D side
  - B: Both sides
  - M: Special specifications
- **SUP/EXH block assembly specifications**
  - R: External pilot specifications
  - S: Internal pilot/Built-in silencer
  - RS: External pilot/Built-in silencer

<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>

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

<table>
<thead>
<tr>
<th>Port</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>SY3000</td>
</tr>
<tr>
<td>C6</td>
<td>SY5000</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Port</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>SY5000</td>
</tr>
<tr>
<td>M</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

**A, B port size**

- **Option**
  - When a longer DIN rail is desired than the specified stations, specify the station number to be required. (Max. 20 stations)

**CE-compliant**

- **Nil**
- **Q**: CE-compliant

---

### 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)**

- SY3140R-5G (5 sets) (Single solenoid part no.)

**SS5Y3-4505DRS-C6**

- 1 set (External pilot specification with built-in silencer part no.)

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.
How to Order Valve

**SY 5 2 40**

**Series**
- 3 SY3000
- 5 SY5000

**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

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

**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 type.

**Rated voltage**

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

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

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

**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.
- DOZ and YOZ are not available.

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

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

**For AC**

<table>
<thead>
<tr>
<th>For AC</th>
<th>1</th>
<th>100 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>200 VAC</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>110 VAC</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>220 VAC</td>
</tr>
</tbody>
</table>

* 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 D, Y (SY5000 only)**

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

**Do not order**
- LN, MN type: with 2 sockets.
- D, Y, DO and YO only available for SY5000.
- "Y" type is a DIN terminal conforming to EN-175301-803C (former DIN43650C). Refer to page 638 for details.
- Setting "SLOU" is available only for connector box type.
- Refer to page 641 for connector cable of M8 connector.
- Refer to page 639 for 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.

* 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.
The SSYSY3-45T/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.

**Type 45**

**SY3000/5000**

**How to Order Manifold**

**SY3Y3-45FU-05DRS-C6**

**Series**

- 3 SY3000
- 5 SY5000

**Common specifications**

- N Positive common
- P Negative common
- D Nil

**Connector type**

- Symbol: U U side
- Symbol: D D side
- Symbol: S A, B port size

**Valve stations**

- Symbol: Stations Note
- Symbol: U 2 to 10 stations
- Symbol: D 2 to 20 stations
- Symbol: B 2 to 20 stations
- Symbol: M Special specifications

**SUP/EXH block assembly specifications**

- Symbol: U U side
- Symbol: D D side
- Symbol: B Both sides
- Symbol: M Special specifications

**How to Order Valve**

**SY3140R-5FU**

**Series**

- 3 SY3000
- 5 SY5000

**Type of actuation**

- 0 Standard
- 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**

- N Internal pilot
- R External pilot

**Rated voltage**

- 24 VDC
- 12 VDC

**Manual override**

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

**Made to Order**

- X90
- Q CE-compliant

**Option**

- CE-compliant
- Nil

**Voltage**

- 24 VDC
- 12 VDC

**Option**

- CE-compliant
- Nil

**Supplementary**

- For details, refer to pages from 564.

**SUP/EXH block assembly mounting position**

- Symbol: Stations Note
- Symbol: U 2 to 10 stations
- Symbol: D 2 to 20 stations
- Symbol: M Special specifications

**SUP/EXH block assembly specifications**

- Symbol: U U side
- Symbol: D D side
- Symbol: B Both sides
- Symbol: M Special specifications

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

**Example**

- Single solenoid (external pilot specifications)
  - SY3140R-5FU (3 sets)

- Double solenoid (external pilot specifications)
  - SY3245R-5FU-05DRS-C6

**Built-in silencer**

- Manifold base (5 stations)
  - SSYSY3-45FU-05DRS-C6

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 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 (SSYSY3-45FU-05DRS-C6), for special specifications, can also be mounted. Please specify the mounting position, by correctly filling in the blank space on the manifold specification sheet.

Two stations of the manifold base are necessary for the double, 3 position (Dual body type). Use caution when specifying the number of stations required for the manifold base.

**Option**

- CE-compliant
- Nil

**Voltage**

- 24 VDC
- 12 VDC

**Manual override**

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

**Made to Order**

- X90
- Q CE-compliant

**Connector type**

- Symbol: Mounting position
- Symbol: U U side
- Symbol: D D side

**Connector mounting position**

- Symbol: Mounting position
- Symbol: U U side
- Symbol: D D side

**Valve stations**

- Symbol: Stations Note
- Symbol: U 2 to 10 stations
- Symbol: D 2 to 20 stations
- Symbol: M Special specifications

**A, B port size**

- Symbol: Stations Note
- Symbol: U 2 to 10 stations
- Symbol: D 2 to 20 stations
- Symbol: M Special specifications

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

- C4 1-touch fitting ø4
- C6 1-touch fitting ø6

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

- C4 1-touch fitting ø4
- C6 1-touch fitting ø6

**CE-compliant**

- Nil
- Q CE-compliant

**How to Order Manifold**

**Type 45**

**SY3Y3-45FU-05DRS-C6**

**Series**

- 3 SY3000
- 5 SY5000

**Common specifications**

- N Positive common
- P Negative common
- D Nil

**Connector type**

- Symbol: Mounting position
- Symbol: U U side
- Symbol: D D side

**SUP/EXH block assembly mounting position**

- Symbol: Stations Note
- Symbol: U 2 to 10 stations
- Symbol: D 2 to 20 stations
- Symbol: M Special specifications

**SUP/EXH block assembly specifications**

- Symbol: Stations Note
- Symbol: U 2 to 10 stations
- Symbol: D 2 to 20 stations
- Symbol: M Special specifications
External Pilot/Built-in Silencer

SY3000: SS5Y3-45FU-Stations DRS-C4,N3-C8,N7

One-touch fitting

Applicable tubing O.D.: \( \phi 4, \phi 5/32'' \)
\( \phi 6, \phi 1/4'' \)

(Pitch)
\( P = 10.5, 13.5, 24.8 \)

Button for DIN rail release

(P port)
Applicable tubing O.D.: \( \phi 8, \phi 5/16'' \)

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

(D, B port)

(Applicable tubing O.D.: \( \phi 4, \phi 5/32'' \)
\( \phi 6, \phi 1/4'' \))

Button for DIN rail release

(P port)
Applicable tubing O.D.: \( \phi 8, \phi 5/16'' \)

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

(D, B port)

Equivalent to the applicable
D-sub connector (JIS-X-5101, MIL-C-24308)

Terminal no. 1

Power supply terminals

The voltage indication marking is for 24 VDC.

SY5000: SS5Y5-45FU-Stations DRS-C4,N3-C8,N7

One-touch fitting

Applicable tubing O.D.: \( \phi 4, \phi 5/32'' \)
\( \phi 6, \phi 1/4'' \)
\( \phi 8, \phi 5/16'' \)

(Pitch)
\( P = 16, 26 \)

Button for DIN rail release

(P port)
Applicable tubing O.D.: \( \phi 10, \phi 3/8'' \)

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

(D, B port)

Equivalent to the applicable
D-sub connector (JIS-X-5101, MIL-C-24308)

Terminal no. 1

Power supply terminals

The voltage indication marking is for 24 VDC.

SY3000: SS5Y3-45FU-Stations DRS-C4,N3-C8,N7

One-touch fitting

Applicable tubing O.D.: \( \phi 4, \phi 5/32'' \)
\( \phi 6, \phi 1/4'' \)

(Pitch)
\( P = 10.5, 13.5, 24.8 \)

Button for DIN rail release

(P port)
Applicable tubing O.D.: \( \phi 8, \phi 5/16'' \)

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

(D, B port)

Equivalent to the applicable
D-sub connector (JIS-X-5101, MIL-C-24308)

Terminal no. 1

Power supply terminals

The voltage indication marking is for 24 VDC.

SS5Y3-45FU-Stations DR-C4,N3-C6,N7

One-touch fitting

(P, R port)
Applicable tubing O.D.: \( \phi 8, \phi 5/16'' \)

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

(D, B port)

SS5Y5-45FU-Stations DR-C4,N3-C8,N7

One-touch fitting

(P, R port)
Applicable tubing O.D.: \( \phi 10, \phi 3/8'' \)

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

(D, B port)

Equivalent to the applicable
D-sub connector (JIS-X-5101, MIL-C-24308)

Terminal no. 1

Power supply terminals

The voltage indication marking is for 24 VDC.

* The dimensions L1 to L4 are identical to those of SS5Y3-45FU-Stations DRS-C4,N3-C8,N7.

* The dimensions of SS5Y-45FU-Stations DR are identical to those of SS5Y1-45FU-Stations DR.
This manifold makes it possible to mount SY3000 onto base of SY5000.

How to Order Manifold

Type M45 (Mixed mounting type)

SS5Y5-M45 - 05U-C86 -

- Mixed mounting type

- Valve stations
  - Symbol: Station
  - Symbol: Station
  - Symbol: Station
  - Symbol: Station

- CE-compliant
  - Nil
  - Q

- Option
  - When a longer DIN rail is desired than the specified stations, specify the station number to be required.
  - (Max. 20 stations)

One-touch fitting (Metric size)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>C44</td>
<td>SY5000: One-touch fitting for ø4</td>
<td>2 to 10 stations</td>
</tr>
<tr>
<td>C46</td>
<td>SY3000: One-touch fitting for ø6</td>
<td>2 to 10 stations</td>
</tr>
<tr>
<td>C64</td>
<td>SY5000: One-touch fitting for ø6</td>
<td>2 to 10 stations</td>
</tr>
<tr>
<td>C66</td>
<td>SY5000: One-touch fitting for ø6</td>
<td>2 to 10 stations</td>
</tr>
<tr>
<td>C84</td>
<td>SY5000: One-touch fitting for ø8</td>
<td>2 to 10 stations</td>
</tr>
<tr>
<td>C86</td>
<td>SY5000: One-touch fitting for ø8</td>
<td>2 to 10 stations</td>
</tr>
</tbody>
</table>

A, B port size

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

How to Order Manifold Assembly (Example)

Example

Manifold base (5 stations)

SSSYS-M45-05U-C86

Single solenoid valve

SY5140-5G (2 sets)

SY5000

Manifold block assembly for SY3000

SX5000-50-BA-

The asterisk denotes the symbol for assembly.

- Prefix it to the part nos. of the solenoid valve, etc.

How to Order Valve

SY 5 2 40 - 5 L

- Series
  - SY5000
  - SY5000

- Type of actuation
  - 2 position single
  - 2 position double
  - 3 position exhaust center
  - 3 position pressure center

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

- 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)

- Made to Order
  - Nil: Non-locking push type
  - Q: CE-compliant

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

- Rated voltage
  - DC: 500 VDC

- Grommet
  - L: [Length 300 mm]
  - M: [Length 300 mm]

- Connector
  - W: Without connector cable
  - X: With connector cable

- Connector wire
  - L, MN type: with 2 sockets.
How to Order Valve

Type of actuation
- 3 Body ported
- 5 Base mounted

Type of actuation
- 1 Normally closed
- 2 Normally open

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

Pilot type
- Nil
- Internal pilot R
- External pilot

Thread type
- Nil
- Rc
- F
- NPT
- NPTF

CE-compliant
- Nil
- G
- CE-compliant

How to Order Pilot Valve

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

Light/Surge voltage suppressor
- Nil
- With indicator light and surge voltage suppressor
- Without surge voltage suppressor (non-polar type)
- With 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

Light/Surge voltage suppressor
- Nil
- Without light/surge voltage suppressor
- S
- With surge voltage suppressor
- Z
- With indicator light and surge voltage suppressor
- R
- Without surge voltage suppressor (non-polar type)
- U
- With light/surge voltage suppressor (non-polar type)

Made to Order

SY3000/5000/7000/9000/SY300/500 Series
Made to Order
M8 Connector Conforming to IEC60947-5-2

* For details on specifications, refer to page 637.
**Body Ported External Pilot**

Applicable solenoid valves: SY3\(\varnothing\)0, SY5\(\varnothing\)0, SY7\(\varnothing\)0 series

<table>
<thead>
<tr>
<th>Model no.</th>
<th>Entry is the same as standard products.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3(\varnothing)0</td>
<td>Nil</td>
</tr>
<tr>
<td>SY5(\varnothing)0</td>
<td>Q</td>
</tr>
<tr>
<td>SY7(\varnothing)0</td>
<td>CE-compliant</td>
</tr>
</tbody>
</table>

Operating pressure range MPa

<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>

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

External pilot port M3 x 0.5

Standard valve length + L2


**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.

<table>
<thead>
<tr>
<th>Model no.</th>
<th>Entry is the same as standard products.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3(\varnothing)0, SY5(\varnothing)0, SY7(\varnothing)0, SY9(\varnothing)0 series</td>
<td></td>
</tr>
</tbody>
</table>

Symbol

- Body ported
- 2 position single
- 2 position double
- 3 position closed center
- 3 position exhaust center
- 3 position pressure center
**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>
<th>B→EB</th>
</tr>
</thead>
<tbody>
<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.

**Specifications**

<table>
<thead>
<tr>
<th>Valve type</th>
<th>External pilot type, Dual 2 port solenoid valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of actuation</td>
<td>Normally closed (N.C. valve)</td>
</tr>
<tr>
<td>Fluid</td>
<td>Air</td>
</tr>
<tr>
<td>Operating pressure range</td>
<td>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</td>
</tr>
<tr>
<td>Pilot valve exhaust method</td>
<td>Pilot valve individual exhaust</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>-10 to 50°C (No condensation)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effective Area/Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>B port Port size (Note 1)</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>C6</td>
</tr>
<tr>
<td>C8</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**

**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.

---

**Example**

SSYS5-20-05 ·········· 1 set
SY5A2R-5LOU-C6 ··· 5 sets

The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.
SY5000

Dimensions/Single Unit: SY5A2R

**Details of Manual Portion**

Type D

- Manual override (Push and turn the locking type override)

Type E

- Manual override (Push and turn the locking type override)

**Light/surge voltage suppressor**

- Adjust with a torque of 0.3 N·m or less.

**Symbol**

- Sol.a
- Sol.b
- EA (P)
- EB (X)

**Dimensions**

- Approx. 300 (Lead wire length)
- 127.0
- 62.8
- 36.0
- 22.6
- 16.7

**Throttle valve**

- Adjust with a torque of 0.3 N·m or less.

**Manual portion**

- One-touch fitting (B Port)
- Applicable tubing O.D.: ø6 (SMC) : ø8 (SMC)

**Notes**

1. Refer to pages 450, 636 and 637 for the details of electrical entry and electrical circuit with a light/surge voltage suppressor.
2. Diagrams above are compatible with SY5A2R-□□□□□□□□□□□(F2).
3. When mounted with brackets, the product is mounted in a place specified with one dot chain lines.
4. Applicable pilot valves are SY114/SY115-□□□□□□□□□□□.

**Remarks for valves**
Body Ported Vacuum Release Valve with Throttle Valve  

**Dimensions/Manifold: SS5Y5-20P-**

**Pneumatic Circuit**

![Pneumatic Circuit Diagram](image)

**Schematic of Connector (Example: For this figure)**

(light/surge voltage suppressor is not included.)

**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><strong>L1</strong></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><strong>L2</strong></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>
</tbody>
</table>

*Applicable blanking plate assembly part no.: SS5Y5-20P: SY5000-26-20A (with screws and gaskets) SS5Y5-20P: SY5000-26-21A (with screws, gaskets and dust cap)  
*The product cannot be mounted with standard products the SY5000/500 series on a manifold.*
How to Use Manifold

⚠️ 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.)
**SY300/500 Series**

*Made to Order*

**Body Ported External Pilot**

**Applicable solenoid valves:** SY3□□3, SY5□□3

- **Model no.** SY 3□□3
  - Entry is the same as standard products.

  Note: DIN terminal is not available for the SY300 series.

- **Model no.** SY 5□□3
  - Entry is the same as standard products.

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

- **Operating pressure range** MPa
  - Operating pressure range: –100 kPa to 0.7
  - Pilot pressure range: 0.25 to 0.7

- **External pilot port**
  - | Series  | Port size  |
  - | SY300  | M3 x 0.5  |
  - | SY500  | M5 x 0.8  |

- **Dimensions**
  - Manual override
  - External pilot port: M3 x 0.5
  - Standard valve length + L2

- **Dimentions/External Pilot Port Position**
  - | Series  | L1 dimensions | L2 dimensions |
  - | SY300  | 41.5          | 6.5          |
  - | SY500  | 60.4          | 9.0          |

- **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.** SY 3□□3
  - Entry is the same as standard products.

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

- **Model no.** SY 5□□3
  - Entry is the same as standard products.

  Specifications and performance are the same as standard products.
### How to Order Pilot Valve Assembly

#### V111

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>DIN terminal (Type D)</td>
<td>With connector</td>
</tr>
<tr>
<td>O</td>
<td>DIN terminal (Type O)</td>
<td>Without connector</td>
</tr>
<tr>
<td>Y</td>
<td>DIN terminal (Type Y)</td>
<td>With connector</td>
</tr>
<tr>
<td>YO</td>
<td>DIN terminal (Type YO)</td>
<td>Without connector</td>
</tr>
</tbody>
</table>

#### Light/Surge voltage suppressor

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

#### Coil specifications

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

#### Power saving circuit

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

#### Rated voltage

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Voltage</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>24 VDC</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>6</td>
<td>24 VDC</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>V</td>
<td>6 VDC</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>S</td>
<td>5 VDC</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>R</td>
<td>3 VDC</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>1</td>
<td>100 VAC%</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>2</td>
<td>200 VAC%</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>3</td>
<td>110 VAC%</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>4</td>
<td>220 VAC%</td>
<td>50/60 Hz</td>
</tr>
</tbody>
</table>

#### Technical entry

- **G**: Grommet, 300 mm lead wire
- **H**: Grommet, 600 mm lead wire
- **L**: L plug connector
- **LN**: Without lead wire
- **L**: Without connector
- **M**: M plug connector
- **MN**: Without lead wire
- **MO**: Without connector
- **WO**: Without connector cable
- **W**: M8 connector with connector cable (Note 1)

#### Note

- For connector cable of M8 connector, refer to page 641.
- Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to page 642.

### How to Order Port Block Assembly

#### SY 000 – 6A –

#### Series

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>M5</td>
<td>SY3000</td>
</tr>
<tr>
<td>SY5000</td>
<td>M5 x 0.8</td>
<td>SY5000</td>
</tr>
<tr>
<td>SY7000</td>
<td>1/8</td>
<td>SY7000</td>
</tr>
<tr>
<td>SY9000</td>
<td>1/4</td>
<td>SY9000</td>
</tr>
</tbody>
</table>

#### Electrical entry

- **D**: DIN terminal (Type D)
- **O**: DIN terminal (Type O)
- **Y**: DIN terminal (Type Y)

#### Note

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

### How to Change Port Block Assembly

Connecting port size of A and B can be changed by replacing port block assembly mounted on body. When changing block assembly, correct screw torque must be achieved to avoid trouble; e.g. air leakage.

#### 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>SY3000</td>
<td>SY3000</td>
</tr>
<tr>
<td>C6</td>
<td>SY5000</td>
<td>SY5000</td>
</tr>
<tr>
<td>C8</td>
<td>SY7000</td>
<td>SY7000</td>
</tr>
<tr>
<td>C10</td>
<td>SY9000</td>
<td>SY9000</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>SY3000</td>
<td>SY3000</td>
</tr>
<tr>
<td>N7</td>
<td>SY5000</td>
<td>SY5000</td>
</tr>
<tr>
<td>N11</td>
<td>SY7000</td>
<td>SY7000</td>
</tr>
<tr>
<td>N15</td>
<td>SY9000</td>
<td>SY9000</td>
</tr>
</tbody>
</table>

### Caution

- Torque for mounting screws: SY3000 (M2): 0.12N·m, SY5000/7000 (M3): 0.6 N·m, SY9000 (M4): 1.4N·m
- For AC voltage valves there is no rectifier circuit.

#### Note

- Purchasing order is available in units of 10 pieces.

---

**Note:** Since V111 and V115 are CE-compliant as standard, the suffix "G" is not necessary.
## 5 Port Solenoid Valve

### Body Ported/Single Unit

**SY3000/5000/7000/9000 Series**

### How to Order

#### Type of actuation
- Conforming to UL standard
- Grommet L plug connector
- With connector cable (Length 5 m)
- With connector cable (Length 4 m)
- With connector cable (Length 3 m)
- With connector cable (Length 2 m)
- With connector cable (Length 1 m)
- With connector cable (Length 0.5 m)
- With connector cable (Length 0.3 m)
- Without connector cable

#### Coil specifications
- **Rated voltage**
  - DC: 24 VDC
  - 6 VDC
  - 5 VDC
  - 3 VDC
  - 12 VDC
  - 24 VDC

- **AC (Hz)**
  - B: 24 VAC

- **Power saving circuit**
  - Available

#### 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>01</td>
<td>1/6</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>

#### Lead wire
- Without connector
- With lead wire
- Length 300 mm
- M8 connector
- One-touch fitting for ø10

#### Made to Order
- CE-compliant
- Without light/surge voltage suppressor
- DOZ and YOZ are not available.
- For AC voltage valves there is no "S" option.
- It is already built in to the rectifier circuit.
- For "R" and "U", DC voltage is only available.
- Power saving circuit is only available in the "Z" type

### 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

30-SY 5 2 40 □ □ □ □ □ □

Type of actuation

1 2 position single
(A4: 2B)

2 2 position double
(A4: 2B)

3 3 position closed center
(A4: 3B)

4 3 position exhaust center
(A4: 2B)

5 3 position pressure center
(A4: 2B)

Coil specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1/2</td>
<td>Without sub-plate</td>
</tr>
<tr>
<td>02</td>
<td>1/4</td>
<td>With sub-plate</td>
</tr>
<tr>
<td>03</td>
<td>3/4</td>
<td>With sub-plate</td>
</tr>
<tr>
<td>04</td>
<td>1/2</td>
<td>With sub-plate</td>
</tr>
</tbody>
</table>

Rated voltage

DC 24 VDC
AC (50/60 Hz)

Electrical entry

24, 12, 6, 5, 3 VDC/24 VAC

Grommet L plug connector M plug connector DIN terminal M8 connector

G: Lead wire length 300 mm
L: With lead wire (Length 300 mm)
M: With lead wire (Length 300 mm)
MN: Without lead wire

D, Y: With connector
WO: Without connector cable
WAO: Without connector cable

Current 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.)

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

Solenoid type
Nil Single solenoid
D Double solenoid

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

Rated voltage
AC (kHz)
B 24 VAC

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

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.

Electrical entry for G, H, L, M, W
G: Without lead wire
H: Lead wire length 300 mm
L: With lead wire (Length 300 mm)
N: Without lead wire
M: Without connector

Electrical entry for D, Y
D: Without connector
Y: With connector

A port size
Symbol Port size Applicable series
M5 M5 x 0.8 SY300
01 1/8 SY500

One-touch fitting (Metric size)
Symbol Port size Applicable series
C4 One-touch fitting for ø4 SY300
C6 One-touch fitting for ø4 SY500
C8 One-touch fitting for ø4

One-touch fitting (Inch size)
Symbol Port size Applicable series
N3 One-touch fitting to 5/32 SY300
N5 One-touch fitting to 5/32 SY500
N7 One-touch fitting to 5/32
N9 One-touch fitting to 5/32

Thread type
Nil Rc
F G
N NPT
T NPTF

Thread piping
Nil

Bracket
Nil: Without bracket
F1: With foot bracket
F2: With side bracket

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

Electrical entry

24, 12, 6, 5, 3 VDC/24 VAC
24, 12 VDC/24 VAC
24, 12, 6, 5, 3 VDC

Grommet L plug connector M plug connector DIN terminal M8 connector
G: Lead wire length 300 mm L: With lead wire (Length 300 mm) M: Without lead wire (Length 300 mm) D: With connector
H: Lead wire length 600 mm N: Without lead wire (Length 600 mm) M: Without connector
M: Without connector W: Without connector
W: Without connector cable
W1: With connector cable (Length 300 mm)
W2: With connector cable (Length 500 mm)
W3: With connector cable (Length 1000 mm)
W4: With connector cable (Length 2000 mm)
W5: With connector cable (Length 3000 mm)
W6: With connector cable (Length 4000 mm)
W7: With connector cable (Length 5000 mm)

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

### Series
- **SY**
  - **3** SY300
  - **5** SY500

### Pilot type
- **R** Internal pilot
- **E** External pilot
- **N** Normally closed (N.C.)
- **O** Normally open (N.O.)

### Type of actuation
- **1** Normally closed (N.C.)
- **2** Normally open (N.O.)

### Solenoid type
- **S** Single solenoid
- **D** Double solenoid

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

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

### Port size
- **1** 1/8 Without sub-plate SY300
- **2** 1/4 With sub-plate SY500

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

### Light/Surge voltage suppressor
- **S** Without surge voltage suppressor
- **Z** With surge voltage suppressor
- **W** With surge voltage suppressor (Non-polar type)

### Made to Order
- Main valve fluororubber
- (Refer to page 624.)

### Option
- **G** Lead wire length 300 mm
- **H** Lead wire length 600 mm
- **L** Without lead wire (Length 300 mm)
- **M** Without lead wire (Length 600 mm)
- **O** Without lead wire
- **P** Without connector
- **Q** CE-compliant

### 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>
<th>M8 connector (IEC60947-5-2 Standard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q: Lead wire length 300 mm</td>
<td>L: With lead wire (Length 300 mm)</td>
<td>M: With lead wire (Length 300 mm)</td>
<td>D: With connector</td>
<td>W0: Without connector cable</td>
<td>WA0: Without connector cable</td>
</tr>
<tr>
<td>H: Lead wire length 600 mm</td>
<td>LN: Without lead wire (Length 300 mm)</td>
<td>MN: Without lead wire (Length 600 mm)</td>
<td>DO: Without connector</td>
<td>W1: With connector cable (Length 300 mm)</td>
<td>WA1: With connector cable (Length 300 mm)</td>
</tr>
<tr>
<td></td>
<td>LD: Without connector</td>
<td>MO: Without connector</td>
<td>Y: With connector</td>
<td>W2: With connector cable (Length 500 mm)</td>
<td>WA2: 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>
<td>WA3: 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>
<td>WA4: With connector cable (Length 2000 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>W5: With connector cable (Length 3000 mm)</td>
<td>WA5: With connector cable (Length 3000 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>W6: With connector cable (Length 4000 mm)</td>
<td>WA6: With connector cable (Length 4000 mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>W7: With connector cable (Length 5000 mm)</td>
<td>WA7: With connector cable (Length 5000 mm)</td>
</tr>
</tbody>
</table>

- **LN, MN type:** with 2 sockets.
- **For DIN terminal of SY300 series, refer to page 639.**
- **For "Y" type 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 643.**
- **For the M8 connector with a connector cable, only American certification (UL) is available.**
- **Refer to page 638 for the lead wire length of L and M plug connectors.**

Note) When ordering single unit of the base mounted type solenoid valve, the mounting screws and gaskets for the manifold are included.
**SY300/500 Series**

**Base Mounted/How to Order Valve**

**Plug-in: for SS5Y³⁻⁴⁵□**

**Single solenoid**

30 – SY 5 1 5 – 5 FU

**Double solenoid**

30 – SY 5 1 5C – 5 FU

### 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

### Made to Order

- Nil: CE-compliant
- Q: CE-compliant

### Manual override

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

### Pilot type

- Nil: Internal pilot
- R: External pilot

### Rated voltage

- 5: 24 VDC
- 6: 12 VDC

**Plug-in: For SS5Y³⁻⁴⁵□/⁴⁵□/⁴⁵T/⁴⁵T1**

**2 position single**

30 – SY 3 1 40 – 5 FU

**Double, 3 position**

30 – SY 3 2 45 – 5 FU

### Series

- 3 SY3000
- 5 SY5000

### Type of actuation

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

### Made to Order

- Nil: CE-compliant
- Q: CE-compliant

### Manual override

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

### Pilot type

- Nil: Internal pilot
- R: External pilot

### Rated voltage

- 5: 24 VDC
- 6: 12 VDC

---

**Made to Order**

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

---

**Manual override**

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

---

**Pilot type**

- Nil: Internal pilot
- R: External pilot

---

**Rated voltage**

- 5: 24 VDC
- 6: 12 VDC

---

**Series 3**

- SY300
- SY500

---

**SY300/500 Series**

---

**Option**

---

**CE**

---

**UL**

---

**SMC**
## 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.

### Caution

When operating the locking type D with a screwdriver, turn it gently using a watchmakers' screwdriver.

[Torque: Less than 0.1 N·m]

- **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 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.)

### Exhaust Throttle

#### 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.)

### Exhaust Throttle

#### 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.)

### Exhaust Throttle

#### 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.)
**SY Series**

**Specific Product Precautions 2**

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.

---

### How to Use Plug Connector

**Caution**

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

2. **Crimping 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)

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

**With light/surge voltage suppressor (□U)**

- Connect the standard type in accordance with the +, – polarity indication. (The non-polar type can be used with the connections made either way.)
- Since voltage specifications other than polar type 24 V and 12 VDC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- When wiring is done at the factory, positive (+) is red and negative (–) is black.

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

---

**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.

(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**

![DIN Terminal Diagram]

With surge voltage suppressor (DS)

```
NO.1 (+)
Varistor NO.2 (+)

(-) (+)

COIL
```

With light/surge voltage suppressor (DZ)

```
NO.1 (+)
Varistor NO.2 (+)

(-) (+)

COIL
```

DIN terminal has no polarity.

**M8 Connector**

- **Polar type**
  - With surge voltage suppressor (S)

```
1 (+)
4 (WA type)

3 (-)
3 (WA type)

COIL
```

- With light/surge voltage suppressor (Z)

```
1 (+)
4 (WA type)

3 (-)
3 (WA type)

LED
```

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

```
1 (+)
4 (WA type)

3 (-)
3 (WA type)

COIL
```

- With light/surge voltage suppressor (U)

```
1 (+)
4 (WA type)

3 (-)
3 (WA type)

LED
```

Solenoid valve side pin wiring diagram

- **W type** (Ground)

```
1
3

4
```

- **WA type**

```
1
3

4
```

Note) The WA-type valve cannot be grounded.

**Plug-in**

**Circuit for non-polar (FU)**

```
(-) (+)
Varistor
(+) (-)

LED

COIL
```

Plug-in valve has no polarity, so it's possible to use for both manifold bases for positive (SSSY^1^-45□) and negative its common (SSSY^1^-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]

```(-) (+)
Varistor
(+) (-)

LED

COIL
```

**DIN Terminal**

With light (DZ) (YZ)

```(-) (-)
Varistor
(-) (-)

NL: Neon ball

COIL```

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.

• 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.
SY Series
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.

**How to Order Connector Assembly**

<table>
<thead>
<tr>
<th>Lead wire color</th>
<th>Lead wire length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red, Black</td>
<td>Nil</td>
</tr>
<tr>
<td>Blue</td>
<td>300 mm</td>
</tr>
<tr>
<td>Red</td>
<td>600 mm</td>
</tr>
<tr>
<td>Red</td>
<td>1000 mm</td>
</tr>
<tr>
<td>Red</td>
<td>1500 mm</td>
</tr>
<tr>
<td>Red</td>
<td>2000 mm</td>
</tr>
<tr>
<td>Red</td>
<td>2500 mm</td>
</tr>
<tr>
<td>Red</td>
<td>3000 mm</td>
</tr>
<tr>
<td>Red</td>
<td>5000 mm</td>
</tr>
</tbody>
</table>

- **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>For DC</th>
<th>For AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3120-5LO-M5</td>
<td>SY3120-1LO-M5</td>
</tr>
<tr>
<td>SY100-30-4A-20</td>
<td>SY100-30-1A-20</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.

**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.

**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).

**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

- **Gland nut**
  - Tightening torque: 1.65 to 2.5 N·m
- **Holding screw**
  - Tightening torque: 0.4 N·m
- **Washer**
- **Grommet (Rubber)**
- **(Rating symbol)**
- **Refer to table of DIN connector part no.**
- **Terminal screw (3 locations)**
  - Tightening torque: 0.2 to 0.25 N·m
- **Figure of notch.**

**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-DY (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.

---

### 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.

  * The DIN terminal connector has no body ported external pilot specifications for both single unit and manifold.

---

## DIN Connector Part No.

### Caution

#### 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

- **Type D**
  - SY100-61-1

---

#### 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>SY100-82-3-05</td>
</tr>
<tr>
<td>12 VDC</td>
<td>12 VN</td>
<td>SY100-82-3-06</td>
</tr>
<tr>
<td>100 VAC</td>
<td>100 VN</td>
<td>SY100-82-2-01</td>
</tr>
<tr>
<td>200 VAC</td>
<td>200 VN</td>
<td>SY100-82-2-02</td>
</tr>
<tr>
<td>110 VAC (115 VAC)</td>
<td>110 VN</td>
<td>SY100-82-2-03</td>
</tr>
<tr>
<td>220 VAC (230 VAC)</td>
<td>220 VN</td>
<td>SY100-82-2-04</td>
</tr>
</tbody>
</table>

**With light**

- **Type Y**
  - SY100-82-1

---

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

**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
- SY100-68-A-10

**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]
  
- [Double, 3 position]

Note) Using a valve other than a non-polar type may cause trouble.

⚠️ 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

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 after connection.
  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
1. When using other than SMC brand tubing, confirm that the following specifications are satisfied with respect to the outside diameter tolerance of the tubing.
   1) Nylon tubing  within ±0.1 mm
   2) Soft nylon tubing  within ±0.1 mm
   3) Polyurethane tubing  within +0.15 mm, within −0.2 mm.

   Do not use tubing which do not meet these outside diameter tolerances. It may not be possible to connect them, or they may cause other trouble, such as air leakage or the tubing pulling out after connection.

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

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.
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

**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 |
| IEC60947-2 compliant |

**Cable length (mm)**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Cable length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>300</td>
</tr>
<tr>
<td>2</td>
<td>500</td>
</tr>
<tr>
<td>3</td>
<td>1000</td>
</tr>
<tr>
<td>4</td>
<td>2000</td>
</tr>
<tr>
<td>5</td>
<td>3000</td>
</tr>
<tr>
<td>6</td>
<td>4000</td>
</tr>
<tr>
<td>7</td>
<td>5000</td>
</tr>
</tbody>
</table>

Ex. 1) Cable length: 300mm

```
SY312-5W1ZE-C4
```

Symbol for electrical entry

2. To order connector cable only

**Connector dimensions**

- 3: 22 mm
- 4: 33.9 mm
- 5: 35 mm
- 6: 10 mm

**Sheath O.D.**

- ø3.4 mm

**Cover diameter**

- ø1.16 mm

**Conductor area**

- 0.16 mm²

**Part no.**

- V100-49-1-1
- V100-49-1-2
- V100-49-1-3
- V100-49-1-4
- V100-49-1-7
- V100-49-1-5
- V100-49-1-6

**Model**

- SY3000
- SY5000
- SY7000
- SY9000

**Thread size**

- M2
- M3
- M4
- M3

**Tightening torque**

- 0.16 N·m
- 0.8 N·m
- 1.4 N·m
- 0.8 N·m

### Replacement of Pilot Valve

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

**New type**

- Manual override (Blue)

**Current type**

- Manual override (Orange)
Interface Regulator

**Caution**

Specifications

<table>
<thead>
<tr>
<th>Interface regulator model</th>
<th>ARBY3000-05-P-2</th>
<th>ARBY3000-05-P-2</th>
<th>ARBY5000-00-P-2</th>
<th>ARBY5000-00-P-2</th>
<th>ARBY7000-00-P-2</th>
<th>ARBY7000-00-P-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable solenoid valve model</td>
<td>SY3-40(R)</td>
<td>SY5-40(R)</td>
<td>SY7-40(R)</td>
<td>SY7-40(R)</td>
<td>SY7-40(R)</td>
<td>SY7-40(R)</td>
</tr>
<tr>
<td>Regulated port</td>
<td>P</td>
<td>A</td>
<td>B</td>
<td>P</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Set pressure range</td>
<td>0.1 to 0.7 MPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>0.7 MPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid</td>
<td>Air</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>Max. 50°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connection port of pressure gauge</td>
<td>MS x 0.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight W (g)</td>
<td>46 g (05), 50 g (06)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With plug</td>
<td>20 g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>66.8 g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>110.8 g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply side effective area</td>
<td>2.45 mm²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.81 mm²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15.34 mm²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust side effective area</td>
<td>5.91 mm²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.1 mm²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15.71 mm²</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</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.

**Symbol**

<table>
<thead>
<tr>
<th>Set pressure (MPa)</th>
<th>0.1</th>
<th>0.15</th>
<th>0.2</th>
<th>0.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective area (%)</td>
<td>75</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**How to Order Interface Regulator**

**ARBY3000 - 05 - P - 2**

- **Regulated port**
  - P port
  - A1 A port (P controlled, A port regulated)
  - B1 B port (P controlled, B port regulated)

- **Pressure gauge connection port**
  - 05 Pressure gauge (G15-10-01) [for odd number stations]
  - 06 Pressure gauge (G15-10-01) [for even number stations]
  - M1 Plug (M-5P)

Note) For the ARBY3000 series with pressure gauge, note that the port numbers for odd number and even number stations differ to prevent interference between the pressure gauges when installing on the manifold.

**ARBY5000 - 00 - P - 2**

- **Regulated port**
  - P port
  - A1 A port (P controlled, A port regulated)
  - B1 B port (P controlled, B port regulated)

- **Pressure gauge connection port**
  - 00 Pressure gauge (G15-10-01)
  - M1 Plug (M-5P)

**ARBY7000 - 00 - P - 2**

- **Regulated port**
  - P port
  - A1 A port (P controlled, A port regulated)
  - B1 B port (P controlled, B port regulated)

- **Pressure gauge connection port**
  - 00 Pressure gauge (G15-10-01)
  - M1 Plug (M-5P)

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.)

**ARBY3000**
P port regulated (P→A, B)

**ARBY5000**
P port regulated (P→A, B)

**ARBY7000**
P port regulated (P→A, B)

A1 port regulated (P→A), B1 port regulated (P→B)

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Trademark
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