The plug-in cassette system makes valve replacement easy.

A plug-in manifold has been created with a height of 43.5 mm (including DIN rail). Valve replacement can be performed easily. Moreover, since spare terminates for wiring (receptacle housings) are contained inside the manifold, terminal changes (additions) can be performed quickly and easily. (The number of additional stations is limited by the manifold specifications. For details, refer to page 1-3-19.)

Valves equipped with switches

Adjustment and maintenance of equipment can be performed with greater safety, since the power to each valve can be shut off individually with built-in switches.

High speed response of 10 ms

(SZ3000 double, 0.5 MPa
24 VDC, Without surge voltage suppressor)

Low power consumption and a faster response time of 10 ms are obtained with a unique pilot valve construction.

Low power consumption: 0.6 W

(Current draw: 25 mA at 24 VDC)

Low power consumption enables direct operation by a PLC. Cost savings are realized through the use of a smaller power supply and the elimination of relay cards.

Easy attaching/detaching of the tubing

The interval between ports A and B is a wide 20.5 mm, allowing easy changes of fittings and tubing.

High reliability and long service life exceeding 50 million cycles or more

High reliability and long service life have been achieved with guide ring construction which prevents eccentricity of the main valve, and a return piston with increased return force. (Single and double solenoid type)

Size and weight reduced by eliminating the manifold base

<table>
<thead>
<tr>
<th>Series</th>
<th>SZ3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>Δ31% reduction</td>
</tr>
<tr>
<td>Weight</td>
<td>Δ12% reduction</td>
</tr>
</tbody>
</table>

(Compared with SX3000-45 with DIN rail manifold and 5 stations)
Precautions 1

Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 1-7-2.

Manual Override Operation

Warning
Handle carefully, as connected equipment can be actuated through manual override operation.

Non-locking push type

- Manual override for solenoid B
  - Green
- Manual override for solenoid A
  - Orange

Push-turn locking slotted type

After pushing down, turn in the direction of the arrow. If it is not turned, it can be operated the same way as the non-locking type.

Caution
When locking the manual override with the push-turn locking slotted type, be sure to push it down before turning. Turning without first pushing it down can cause damage to the manual override and other trouble such as air leakage, etc.

Valves with Switches

Warning
When turning OFF with the switch, be sure to move the switch to the locked position. Connected equipment may be actuated if current flow occurs with the switch at an improper position.

ON position

OFF position

Normal operating condition. Switching of valve is based on an electric signal from the connector.

Electric circuit diagram (With positive common and light/surge voltage suppressor)

Solenoid B

Solenoid A

Lever

Socket model no. DXT170-71-1

Lead wire

Crimping area

Core wire

Insulation

Core wire crimping area

(0.2 to 0.33 mm²)

Max. cover diameter: ø1.7 mm

How to Use Plug Connector

Caution
When attaching and detaching a connector, first shut off the electric power and the air supply. Also, crimp the lead wires and sockets securely.

1. Attaching and detaching connectors

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

2. Crimping of lead wires and sockets

Peel 3.2 to 3.7 mm of the tip of lead wire, enter the core wires neatly into a socket and crimp it with a special crimp tool. Be careful so that the cover of lead wire does not enter into the crimping part.

3. Attaching and detaching lead wires with sockets

Attaching

Insert the sockets into the square holes of the connector (with + and - indication), and continue to push the sockets all the way in until the 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 is used again, spread the hook outward.

Plug connector lead wire lengths

Plug connector lead wires have a standard length of 300 mm, however, the following lengths are also available.

M Type Connector Assembly Part No.

<table>
<thead>
<tr>
<th>Positive common specifications</th>
<th>Lead wire length</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid: SX100-40-4S-</td>
<td>Nil 300 mm</td>
</tr>
<tr>
<td>For double solenoid: SX100-40-4D-</td>
<td>6 600 mm</td>
</tr>
<tr>
<td>For 3 position type: SX100-41-4S-</td>
<td>10 1000 mm</td>
</tr>
<tr>
<td>For 4 position type: SX100-41-4D-</td>
<td>15 1500 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negative common specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid: SX100-41-4S-</td>
</tr>
<tr>
<td>For double solenoid: SX100-41-4D-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How to Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.</td>
</tr>
</tbody>
</table>

Example: Lead wire length 2000 mm

S3160-SMC-M5

SX100-40-4S-20
Series SZ3000

⚠️ Precautions 2

Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 1-7-2.

Common Connector Assembly for Manifold

⚠️ Caution

By using a common connector assembly for the solenoid valves on a manifold, the common wiring for each solenoid valve is reduced to one line, making it possible to reduce the labor savings on wiring work.

Common connector assembly part numbers

<table>
<thead>
<tr>
<th>Positive common specifications</th>
<th>Negative common specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>For single solenoid</td>
<td>For single solenoid</td>
</tr>
<tr>
<td>SX100-42-4S</td>
<td>SX100-43-4S</td>
</tr>
<tr>
<td>For double solenoid, 3 position type, 4 position type SX100-42-4D</td>
<td>For double solenoid, 3 position type, 4 position type SX100-43-4D</td>
</tr>
<tr>
<td>With common lead wire for single solenoid SX100-40-4S</td>
<td>With common lead wire for single solenoid SX100-41-4S</td>
</tr>
<tr>
<td>With common lead wire for double solenoid, 3 position type, 4 position type SX100-40-4D</td>
<td>With common lead wire for double solenoid, 3 position type, 4 position type SX100-41-4D</td>
</tr>
</tbody>
</table>

(Lead wire length 300 mm) (Lead wire length 300 mm)

How to Order

Include the common connector assembly part number together with the manifold and solenoid valve part numbers. If the arrangement becomes complicated, then indicate on the manifold specification sheet.

Note 1) Take note that applications with unused connectors or with blanking plates between stations are not possible.

Note 2) For the solenoid valve, specify “without connector” for the plug connect or type. The grommet type cannot be used.

Note 3) In places where signals will be sent to the common wiring, use a connector assembly with a common lead wire. (This is limited to the first station or the last station of a manifold.)

One-touch Fittings

⚠️ Caution

The pitch of each piping port (P, A, B, etc.) for Series SZ is based on the assumption that Series KJ One-touch fittings will be used. For this reason, when other 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.

Exhaust Restriction

⚠️ Caution

Since Series SZ is a type in which the pilot valve exhaust joins the main valve exhaust inside the valve, care must be taken that the piping from the exhaust port is not restricted.

Series SZ3000 Used as a 3 Port Valve

⚠️ Caution

Using a 5 port valve as a 3 port valve

Series SZ3000 valves can be used as normally closed (N.C.) or normally open (N.O.) 3 port valves by closing one or the cylinder ports (A or B) with a plug. However, they should be used with the exhaust ports kept open. They are convenient at times when a double solenoid type 3 port valve is required.

![Diagram of Common Connector Assembly for Manifold](image)

Plastic connector assembly SX100-42-4D

Common connector assembly SX100-42-4D

Single solenoid

Common connector assembly SX100-40-4S

With common lead wire SX100-40-4S

Double solenoid

Common connector assembly SX100-44-4D

With common lead wire SX100-44-4D

<table>
<thead>
<tr>
<th>Plug position</th>
<th>B port</th>
<th>A port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of actuation</td>
<td>N.C.</td>
<td>N.O.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of solenoids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of solenoids</th>
<th>Single</th>
<th>Double</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug position</td>
<td>(A)</td>
<td>(A)</td>
</tr>
<tr>
<td>B port</td>
<td>(B)</td>
<td>(B)</td>
</tr>
<tr>
<td>A port</td>
<td>(EA)</td>
<td>(EA)</td>
</tr>
<tr>
<td>(P) (EB)</td>
<td>(P) (EB)</td>
<td></td>
</tr>
</tbody>
</table>

The “*” mark denotes the assembling symbol. Prefix “*” to the part nos. of solenoid valves, etc.
## Precautions 3

Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 1-7-2.

### Light/ Surge Voltage Suppressor

**Caution**

**Pos. common specifications**
- Single solenoid type
  - Light/Surge voltage suppressor
    - Diode to prevent reverse current
    - Refer to Note.
  - Surge voltage suppressor
    - Diode to prevent reverse current
    - Refer to Note.

**Neg. common specifications**
- Single solenoid type
  - Light/Surge voltage suppressor
    - Diode to prevent reverse current
    - Refer to Note.
  - Surge voltage suppressor
    - Diode to prevent reverse current
    - Refer to Note.

**Pos. common specifications**
- Double solenoid, 3 position type, 4 position type
  - Light/Surge voltage suppressor
    - Diode to prevent reverse current
    - Refer to Note.
  - Surge voltage suppressor
    - Diode to prevent reverse current
    - Refer to Note.

**Neg. common specifications**
- For double solenoid, 3 position type, 4 position type
  - Light/Surge voltage suppressor
    - Diode to prevent reverse current
    - Refer to Note.
  - Surge voltage suppressor
    - Diode to prevent reverse current
    - Refer to Note.

### Light Indication

**Caution**

When equipped with indicator light and surge voltage suppressor, the light window turns orange when solenoid A is energized, and it turns green when solenoid B is energized.

### Changing the Connector Entry Direction

**Caution**

To change the connector’s entry direction, press the levers on both sides of the connector, take it off, and change the direction as shown in the drawing. Since lead wires are attached to the connector, excessive pulling or twisting can cause broken wires or other trouble. Also, take care that lead wires are not pinched when installing the connector.

If an excessive force is applied on the connector in the LOCK position, the connector block may be damaged. Also, using in such a way that the connector floats in the FREE position, it may cause the lead wire, etc. to break. Thus, refrain from using in these ways.

- Switch for locking a connector

### Note

Connect so that polarity is matched to the connector’s (+), (−) and A, B and COM indicators. In case of voltage specifications other than 12 or 24 VDC, take care to avoid mistaking polarity, as there is no diode to prevent reverse current.

In the event that lead wires are connected in advance, they will be as shown below.

#### Pos. common specifications

- A (−): Black
- COM (+): Red
- B (−): White (No lead wire in case of single solenoid)

#### Neg. common specifications A

- A (+): Black
- COM (−): Yellow
- B (+): White (No lead wire in case of single solenoid)
**Fitting Assembly Replacement**

**Caution**

By replacing a valve’s fitting assembly, it is possible to change the connection diameter of the A, B, P, and R ports. When replacing it, pull out the fitting assembly after removing the clip with a flat head screwdriver, etc. To mount a new fitting assembly, insert it into place and then fully reinsert the clip.

**Part No.**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-touch fitting assembly for ø4</td>
<td>VVO1000-50A-C4</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø6</td>
<td>VVO1000-50A-C6</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø4 (Elbow type)</td>
<td>SZ3000-73-1A-L4</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø6 (Elbow type)</td>
<td>SZ3000-73-1A-L6</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø4 (Long elbow type)</td>
<td>SZ3000-73-2A-L4</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø6 (Long elbow type)</td>
<td>SZ3000-73-2A-L6</td>
</tr>
<tr>
<td>M5 port block assembly</td>
<td>SZ3000-56-1A</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø6</td>
<td>VVO1000-51A-C6</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø8</td>
<td>VVO1000-51A-C8</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø6 (Elbow type)</td>
<td>SZ3000-74-1A-L6</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø8 (Elbow type)</td>
<td>SZ3000-74-1A-L8</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø8 (Long elbow type)</td>
<td>SZ3000-74-2A-L6</td>
</tr>
<tr>
<td>One-touch fitting assembly for ø8 (Long elbow type)</td>
<td>SZ3000-74-2A-L8</td>
</tr>
</tbody>
</table>

Note 1) When changing the connection diameters for ports 1(P) and 3(R) indicate this on the manifold specification sheets.

Note 2) Be careful to avoid damage or contamination of O-rings, as this can cause air leakage.

Note 3) When removing a straight type fitting assembly from valve, after removing the clip, connect a tube or plug (KQ10-□□) to the One-touch fitting and pull it out by holding the tube (or plug). If the fitting assembly is pulled out by holding its release button (resin part), the release bushing may be damaged.

Note 4) 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.

Note 5) When inserting tubing into an elbow type fitting assembly, insert the tubing while holding the elbow fitting assembly body with your hand. If the tubing is inserted without holding the elbow, excessive force can be applied to the valve and fitting assembly, causing air leakage or damage, etc.

**How to Calculate the Flow Rate**

For obtaining the flow rate, refer to page 1-1-12.
5 Port Solenoid Valve
Series SZ3000
Plug-in Type

How to Order

- Plug-in manifold with power supply terminals

SS5Z3–60 F D 1–05 U P

Connector type
- F: D-sub connector (25 pins)
- P: Flat ribbon cable (26 pins)
- PG: Flat ribbon cable (20 pins)
- PH: Flat ribbon cable (10 pins)

SUP/EXH block mounting position
- U: U side (2 to 10 stations)
- D: D side (2 to 10 stations)
- B: Both sides (2 to 20 stations)
- M: Special specifications

- For special specifications, indicate separately by the manifold specification sheet.
- Note: A total of up to 3 SUP/EXH blocks can be mounted. Please contact SMC if 4 or more will be mounted.

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

Power supply terminals
- Symbol
- Specifications
- P: 24 VDC, Positive common
- P12: 12 VDC, Positive common
- N: 24 VDC, Negative common
- NT12: 12 VDC, Negative common

SUP/EXH block fitting specifications
- Nil
- Internal pilot
- R
- External pilot

Valve stations

Connector mounting position
- Symbol
- Mounting position
- D: D side

Connector entry direction
- 1: Perpendicular connector
- 2: Lateral connector

Pilot type

Valve stations

F: D-sub connector

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring specifications (1)</td>
</tr>
<tr>
<td>10</td>
<td>10 stations</td>
<td>Double wiring specifications</td>
</tr>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Specified layout (2) (Up to 21 solenoids possible)</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
<td>Specified layout (Up to 22 solenoids possible)</td>
</tr>
</tbody>
</table>

P: Flat ribbon cable connector (26 pins)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring specifications</td>
</tr>
<tr>
<td>11</td>
<td>11 stations</td>
<td>Double wiring specifications</td>
</tr>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Specified layout (Up to 22 solenoids possible)</td>
</tr>
<tr>
<td>20</td>
<td>20 stations</td>
<td>Specified layout (Up to 22 solenoids possible)</td>
</tr>
</tbody>
</table>

PG: Flat ribbon cable connector (20 pins)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring specifications</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td>Double wiring specifications</td>
</tr>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Specified layout (Up to 16 solenoids possible)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>Specified layout (Up to 16 solenoids possible)</td>
</tr>
</tbody>
</table>

PH: Flat ribbon cable connector (10 pins)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring specifications</td>
</tr>
<tr>
<td>04</td>
<td>4 stations</td>
<td>Double wiring specifications</td>
</tr>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Specified layout (Up to 8 solenoids possible)</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td>Specified layout (Up to 8 solenoids possible)</td>
</tr>
</tbody>
</table>

Note 1) Double wiring specifications: Single, double, 3 position and 4 position solenoid valves can be used at all of the manifold stations.
Note 2) Specialized layout: Indicate wiring specifications on a manifold specification sheet.
(Please note that in locations where single solenoid wiring is indicated, it will be impossible to use double or 3 position/4 position valves.)
**How to Order**

- **Plug-in manifold without power supply terminals**

  **SS5Z3-60**

  **Connector type**
  - F: D-sub connector (25 pins)
  - D: Flat ribbon cable (26 pins)
  - PG: Flat ribbon cable (20 pins)
  - PH: Flat ribbon cable (10 pins)

  **SUP/EXH block mounting position**
  - U: U side (2 to 10 stations)
  - D: D side (2 to 10 stations)
  - B: Both sides (2 to 20 stations)
  - M*: Special specifications

  For special specifications, indicate separately by the manifold specification sheet. A total of up to 3 SUP/EXH blocks can be mounted. Please contact SMC if 4 or more will be mounted.

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

  **SUP/EXH block fitting specifications**
  - Nil
  - L: Elbow fittings (Upward)
  - D: Elbow fittings (Downward)

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

  **Valve stations**

  **F: D-sub connector**
  - Symbol: 02, 12, 02, 20
  - Stations: 2 stations, 12 stations, 2 stations, 20 stations
  - Note: Double wiring specifications (1), Specified layout (2) (Up to 24 solenoids possible)

  **P: Flat ribbon cable connector (26 pins)**
  - Symbol: 02, 12, 02, 02
  - Stations: 2 stations, 12 stations, 2 stations, 20 stations
  - Note: Double wiring specifications, Specified layout (Up to 25 solenoids possible)

  **PG: Flat ribbon cable connector (20 pins)**
  - Symbol: 02, 09, 02, 19
  - Stations: 2 stations, 9 stations, 2 stations, 19 stations
  - Note: Double wiring specifications, Specified layout (Up to 19 solenoids possible)

  **PH: Flat ribbon cable connector (10 pins)**
  - Symbol: 02, 04, 02, 09
  - Stations: 2 stations, 4 stations, 2 stations, 9 stations
  - Note: Double wiring specifications, Specified layout (Up to 9 solenoids possible)

  **Note**
  - 1) Double wiring specifications: Single, double, 3 position and 4 position solenoid valves can be used at all of the manifold stations.
  - 2) Specified layout: Indicate wiring specifications on a manifold specification sheet. (Please note that in locations where single solenoid wiring is indicated, it will be impossible to use double or 3 position/4 position valves.)

---

**Connector mounting position**
- Symbol: D
- Mounting position: D side

**Connector entry direction**
- 1: Perpendicular connector
- 2: Lateral connector
How to Order

- **How to order solenoid valves** For plug-in (Common for both with and without power supply terminals)

### Type of actuation

1. **2 position single solenoid**
   - A, B port size
   - Rated voltage
   - Switch specifications
   - Back pressure check valve
   - Pilot type
   - Manual override

2. **2 position double solenoid**
   - A, B port size
   - Rated voltage
   - Switch specifications
   - Back pressure check valve
   - Pilot type
   - Manual override

3. **3 position closed center**
   - A, B port size
   - Rated voltage
   - Switch specifications
   - Back pressure check valve
   - Pilot type
   - Manual override

4. **3 position exhaust center**
   - A, B port size
   - Rated voltage
   - Switch specifications
   - Back pressure check valve
   - Pilot type
   - Manual override

5. **3 position pressure center**
   - A, B port size
   - Rated voltage
   - Switch specifications
   - Back pressure check valve
   - Pilot type
   - Manual override

6. **4 position dual 3 port valve: N.C./N.C.**
   - A, B port size
   - Rated voltage
   - Switch specifications
   - Back pressure check valve
   - Pilot type
   - Manual override

7. **4 position dual 3 port valve: N.O./N.O.**
   - A, B port size
   - Rated voltage
   - Switch specifications
   - Back pressure check valve
   - Pilot type
   - Manual override

8. **4 position dual 3 port valve: N.C./N.O.**
   - A, B port size
   - Rated voltage
   - Switch specifications
   - Back pressure check valve
   - Pilot type
   - Manual override

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

- **Switch specifications**
  - Nil: Without switch
  - J: With switch

- **Back pressure check valve**
  - Nil: None
  - K: Built-in

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

- **Manual override**
  - Nil: Non-locking push type
  - D: Push-turn locking slotted type
How to Order Valve Manifold Assembly

Ordering example (SZ3000, positive common with power supply terminals)

Double solenoid (24 VDC)
SZ3260-5LOZ-C6 (3 sets)

Single solenoid (24 VDC)
SZ3160-5LOZ-C6 (2 sets)

With power supply terminals
Plug-in manifold
SSSZ3-60PD2-05U-P

SUP/EXH block (U side mounting)

Stations are counted from D side as the 1st one. Indicate the valves to be attached below the manifold part number, in order starting from station 1 as shown in the drawing. When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

Made to Order Specifications
(For details, refer to page 1-3-38.)

---

Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>D-sub connector Type 60F</th>
<th>Flat ribbon cable type 60P Type 60F</th>
<th>Type 60P</th>
<th>Type 60PG</th>
<th>Type 60PH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold</td>
<td>Plug-in type</td>
<td>Common SUP, EXH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (P: SUP), 3/5 (R: EXH) system</td>
<td>2 to 20 stations</td>
<td>2 to 16 stations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valve stations (With power terminal)</td>
<td>D-sub connector confirming to MIL-C-24308 JIS-X-5101</td>
<td>Flat ribbon cable connector connecting to MIL-C-83503</td>
<td>Flat ribbon cable connector with strain relief</td>
<td>Flat ribbon cable connector with strain relief</td>
<td>Flat ribbon cable connector with strain relief</td>
</tr>
<tr>
<td>Applicable connector</td>
<td>Internal wiring + COM, −COM</td>
<td>Location Valve Lateral, Upward, Downward</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porting specification</td>
<td>Porting size 1 (P), 3/5 (R) port C8</td>
<td>4 (A), 2 (B) port C4, C6, M5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight W (g) (P)</td>
<td>n1: Stations m: Weight of DIN rail</td>
<td>W = 3.2n1 + 53n2 + m + 126.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) In cases such as those where many valves are operated simultaneously, use type B (double side SUP/EXH), applying pressure to the 1(P) ports on both sides and exhausting from the 3(R) ports on both sides.

Note 2) The weight W is the value for the D-sub connector manifold with power supply terminals only. To obtain the weight with solenoid valves attached, add the solenoid valve weights given on page 1-3-10 for the appropriate number of stations. For DIN rail weight, refer to page 1-3-12.

---

Flow Characteristics

<table>
<thead>
<tr>
<th>Port size (P, EA, EB)</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 5, 3 (P, EA, EB)</td>
<td>4, 2 (A, B) C [dm³/(s·bar)] b C [dm³/(s·bar)] b C [dm³/(s·bar)] b C [dm³/(s·bar)] b</td>
</tr>
<tr>
<td>C4</td>
<td>0.58 [0.49] 0.26 [0.36] 0.14 [0.13] 0.76 [0.65] 0.15 [0.20] 0.18 [0.15]</td>
</tr>
<tr>
<td>C6</td>
<td>0.73 [0.64] 0.24 [0.27] 0.18 [0.16] 0.77 [0.74] 0.19 [0.16] 0.19 [0.19]</td>
</tr>
<tr>
<td>M5</td>
<td>0.60 [0.57] 0.38 [0.35] 0.17 [0.15] 0.67 [0.58] 0.16 [0.39] 0.16 [0.16]</td>
</tr>
</tbody>
</table>

Note) • The value is for manifold base with 5 stations and individually operated 2 position type.
• Values inside [ ] are for 4 position dual 3 port valves.
## Solenoid Valve Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal pilot operating pressure range (MPa)</td>
<td>2 position single 0.15 to 0.7, 2 position double 0.1 to 0.7, 3 position 0.2 to 0.7, 4 position dual 3 port valve 0.15 to 0.7</td>
</tr>
<tr>
<td>External pilot operating pressure range (MPa)</td>
<td>Operating pressure range −100 kPa to 0.7, Pilot pressure range 2 position single 0.25 to 0.7, 2 position double 0.25 to 0.7, 3 position 0.25 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>−10 to 50 (No freezing, Refer to page 1-7-4.)</td>
</tr>
<tr>
<td>Max. operating frequency (Hz)</td>
<td>2 position single, double 10, 4 position dual 3 port valve 3</td>
</tr>
<tr>
<td>Manual override (Manual operation)</td>
<td>Non-locking push type, Push-turn locking slotted type</td>
</tr>
<tr>
<td>Pilot type</td>
<td>Common exhaust type for main and pilot valve</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Unrestricted</td>
</tr>
<tr>
<td>Impact/Vibration resistance m/s² Note)</td>
<td>150/30</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dust-protected</td>
</tr>
</tbody>
</table>

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

| Electrical entry | L type (For plug-in), M type plug connector (M) |
| Rated coil voltage (V) Note) | 24, 12, 6, 5, 3 DC |
| Allowable voltage fluctuation | ±10% of rated voltage |
| Power consumption (W) | 0.6 (With light: 0.65) |
| Surge voltage suppressor | Diode |
| Indicator light | LED |

**Note)** Only 24 VDC and 12 VDC are available for plug-in use.

### Response Time

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

<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></td>
<td>S, Z type</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>
<tr>
<td>4 position dual 3 port valve</td>
<td>30 or less</td>
</tr>
</tbody>
</table>

### Weight

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Port size (A), (B)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SZ3□□0□-□-C4</td>
<td>2 position</td>
<td>Single</td>
<td>C4 (One-touch fitting for ø4)</td>
</tr>
<tr>
<td></td>
<td>2 position</td>
<td>Double</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Closed center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Exhaust center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Pressure center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 position</td>
<td>Dual 3 port valve</td>
<td></td>
</tr>
<tr>
<td>SZ3□□0□-□-C6</td>
<td>2 position</td>
<td>Single</td>
<td>C6 (One-touch fitting for ø6)</td>
</tr>
<tr>
<td></td>
<td>2 position</td>
<td>Double</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Closed center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Exhaust center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Pressure center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 position</td>
<td>Dual 3 port valve</td>
<td></td>
</tr>
<tr>
<td>SZ3□□0□-□-M5</td>
<td>2 position</td>
<td>Single</td>
<td>M5 x 0.8</td>
</tr>
<tr>
<td></td>
<td>2 position</td>
<td>Double</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Closed center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Exhaust center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 position</td>
<td>Pressure center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 position</td>
<td>Dual 3 port valve</td>
<td></td>
</tr>
</tbody>
</table>
Manifold Option

**SUP block disk**
By installing a SUP block 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. (Use in combination with a pilot port block disk.)

<table>
<thead>
<tr>
<th>Series</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SZ3000</td>
<td>SZ3000-114-4A</td>
</tr>
</tbody>
</table>

**EXH block disk**
By installing an EXH block 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 block disks are needed to divide both exhausts.)

<table>
<thead>
<tr>
<th>Series</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SZ3000</td>
<td>SZ3000-114-4A</td>
</tr>
</tbody>
</table>

**Pilot port block disk**
By installing a pilot port block disk in the pilot passage of a manifold valve, it can be function as an internal pilot/external pilot mixed manifold.

<table>
<thead>
<tr>
<th>Series</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SZ3000</td>
<td>SZ3000-114-4A</td>
</tr>
</tbody>
</table>

**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)

**Silencer with One-touch fitting**
This silencer can be mounted on the manifolds’ port R (exhaust) with a single touch.

**Blanking block assembly**
SZ3000-55-1A
These are mounted when later addition of valves is planned, etc.

**Plug (White)**
These are inserted in cylinder ports or SUP/EXH ports which are not being used.
Purchasing order is available in units of 10 pieces.

**Dimensions**

<table>
<thead>
<tr>
<th>Applicable fittings size ød</th>
<th>Model</th>
<th>A</th>
<th>L</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>KQ2P-04</td>
<td>16</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>KQ2P-06</td>
<td>18</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>KQ2P-08</td>
<td>20.5</td>
<td>39</td>
<td>10</td>
</tr>
</tbody>
</table>

* 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.
**Series SZ3000**

**Manifold Option**

### DIN rail dimensions/Weight

Refer to the L dimension tables

- Enter a number from the DIN rail dimension table 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 (mm)</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>17.6</td>
<td>19.9</td>
<td>22.1</td>
<td>24.4</td>
<td>26.6</td>
<td>28.9</td>
<td>31.1</td>
<td>33.4</td>
<td>35.6</td>
<td>37.9</td>
</tr>
</tbody>
</table>

| No. | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| L dimension (mm) | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 |
| Weight (g) | 40.1 | 42.4 | 44.6 | 46.9 | 49.1 | 51.4 | 53.6 | 55.9 | 58.1 | 60.4 |

<table>
<thead>
<tr>
<th>No.</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
<th>26</th>
<th>27</th>
<th>28</th>
<th>29</th>
</tr>
</thead>
<tbody>
<tr>
<td>L dimension (mm)</td>
<td>348</td>
<td>360.5</td>
<td>373</td>
<td>385.5</td>
<td>398</td>
<td>410.5</td>
<td>423</td>
<td>435.5</td>
<td>448</td>
<td>460.5</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>62.6</td>
<td>64.9</td>
<td>67.1</td>
<td>69.4</td>
<td>71.6</td>
<td>73.9</td>
<td>76.1</td>
<td>78.4</td>
<td>80.6</td>
<td>82.9</td>
</tr>
</tbody>
</table>

### Flat ribbon cable type/Cable assembly

**AXT100-FC**

- **Flat Ribbon Cable Assembly**
  - Cable length (L) | 10 pins | 20 pins | 26 pins
  - 1.5 m | AXT100-FC10-1 | AXT100-FC20-1 | AXT100-FC26-1
  - 3 m | AXT100-FC10-2 | AXT100-FC20-2 | AXT100-FC26-2
  - 5 m | AXT100-FC10-3 | AXT100-FC20-3 | AXT100-FC26-3

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

### D-sub connector (25 pins)/Cable assembly

**AXT100-DS25-**

- **D-sub Connector Cable Assembly**
  - **Terminal No.**
    - **Lead wire color**
    - **Dot marking**
    - 1 | Black | None
    - 2 | Brown | None
    - 3 | Red | None
    - 4 | Orange | None
    - 5 | Yellow | None
    - 6 | Pink | None
    - 7 | Blue | None
    - 8 | Purple | White
    - 9 | Gray | Black
    - 10 | White | Black
    - 11 | White | Red
    - 12 | Yellow | Red
    - 13 | Orange | Red
    - 14 | Yellow | Black
    - 15 | Pink | Black
    - 16 | Blue | White
    - 17 | Purple | None
    - 18 | Gray | None
    - 19 | Orange | Black
    - 20 | Red | White
    - 21 | Brown | White
    - 22 | Pink | Red
    - 23 | Gray | Red
    - 24 | Black | White
    - 25 | White | None

- **D-sub Connector Cable Assembly**
  - **Characteristics**
    - **Cable length (L)** | **Assembly part no.** | **Note**
    - 1.5 m | AXT100-DS25-015 | Cable 25 cores x 24AWG
    - 3 m | AXT100-DS25-030 |
    - 5 m | AXT100-DS25-050 |

- **Electric Characteristics**
  - **Item** | **Characteristics**
  - Conductor resistance | 65 or less (Ω/km, 20°C)
  - Voltage limit | 1000 VAC, 1 min.
  - Insulation resistance | 5 or less (MΩ/km, 20°C)

- **Note** The minimum bending radius for D-sub connector cables is 20 mm.

- **For other commercial connectors, use a type with female connector conforming to MIL-C-24308.**

- **For other commercial connectors, use a 25 pins type with female connector conforming to MIL-C-83503.**

- **For other commercial connectors, use a type with strain relief conforming to MIL-C-83503.**
Manifold Electrical Wiring

**Type 60F D-sub Connector Type (25 pins)**

- **Without Power Supply Terminal**
  - The common polarity should be the same as the common specifications of the valve to be used.
  - The maximum number of stations that can be accommodated is 20 manifold stations, with up to 24 solenoids.

- **With Power Supply Terminal**
  - The common polarity should be the same as the common specifications of the valve to be used.
  - The maximum number of stations that can be accommodated is 20 manifold stations, with up to 21 solenoids.

- **Positive common**
  - Power supply terminal

- **Negative common**
  - Power supply terminal

- The circuits above are for the double wiring specifications with up to 10 or 12 stations. Connect to SOLA in the case of a single solenoid. Moreover, when wiring instructions are given on a manifold specification sheet, the “A” signal for single and the “A, B” signals for double should be wired in order 1, 14, 2, 15.... etc., without skipping or leaving any connectors remaining.

- Stations are counted from D side as the 1st one.

- The circuits above are for the double wiring specifications with up to 11 or 12 stations. Connect to SOLA in the case of a single solenoid. Moreover, when wiring instructions are given on a manifold specification sheet, the “A” signal for single and the “A, B” signals for double should be wired in order 1, 2, 3, 4.... etc., without skipping or leaving any connectors remaining.

- Stations are counted from D side as the 1st one.

- Since terminal numbers are not indicated on the flat cable, use the triangle mark as a reference for wiring.

---

**Type 60P Flat Ribbon Cable Type (26 pins)**

- **Without Power Supply Terminal**
  - The common polarity should be the same as the common specifications of the valve to be used.
  - The maximum number of stations that can be accommodated is 20 manifold stations, with up to 25 solenoids.

- **With Power Supply Terminal**
  - The common polarity should be the same as the common specifications of the valve to be used.
  - The maximum number of stations that can be accommodated is 20 manifold stations, with up to 21 solenoids.

- **Positive common**
  - Power supply terminal

- **Negative common**
  - Power supply terminal

- The circuits above are for the double wiring specifications with up to 11 or 12 stations. Connect to SOLA in the case of a single solenoid. Moreover, when wiring instructions are given on a manifold specification sheet, the “A” signal for single and the “A, B” signals for double should be wired in order 1, 14, 2, 15.... etc., without skipping or leaving any connectors remaining.

- Stations are counted from D side as the 1st one.

- Since terminal numbers are not indicated on the flat cable, use the triangle mark as a reference for wiring.
Manifold Electrical Wiring

Type 60PG Flat Ribbon Cable Type (20 pins)

- **Without Power Supply Terminal**

  - Positive pin (Common)  
  - Negative pin

  - Station 2
  - Station 1
  - SOL.B
  - SOL.A
  - Triangle mark

- **With Power Supply Terminal**

  - Positive pin (Common)  
  - Negative pin

  - Station 2
  - Station 1
  - SOL.B
  - SOL.A
  - Triangle mark

- The maximum number of stations that can be accommodated is 16 manifold stations, with up to 16 solenoids.

- The circuits above are for the double wiring specifications with up to 8 or 9 stations. Connect to SOL.A in the case of a single solenoid. Moreover, when wiring instructions are given on a manifold specification sheet, the "A" signal for single and the "A, B" signals for double should be wired in order 1, 2, 3, 4......etc., without skipping or leaving any connectors remaining.

- Stations are counted from D side as the 1st one.

- Since terminal numbers are not indicated on the flat cable, use the triangle mark as a reference for wiring.

- The common polarity should be the same as the common specifications of the valve to be used.

Type 60PH Flat Ribbon Cable Type (10 pins)

- **Without Power Supply Terminal**

  - Positive pin (Common)  
  - Negative pin

  - Station 2
  - Station 1
  - SOL.B
  - SOL.A
  - Triangle mark

- **With Power Supply Terminal**

  - Positive pin (Common)  
  - Negative pin

  - Station 2
  - Station 1
  - SOL.B
  - SOL.A
  - Triangle mark

- The maximum number of stations that can be accommodated is 8 manifold stations, with up to 8 solenoids.

- The circuits above are for the double wiring specifications with up to 4 stations. Connect to SOL.A in the case of a single solenoid. Moreover, when wiring instructions are given on a manifold specification sheet, the "A" signal for single and the "A, B" signals for double should be wired in order 1, 2, 3, 4......etc., without skipping or leaving any connectors remaining.

- Stations are counted from D side as the 1st one.

- Since terminal numbers are not indicated on the flat cable, use the triangle mark as a reference for wiring.

- The common polarity should be the same as the common specifications of the valve to be used.
Wiring of Plug-in Type Manifold with Power Supply Terminal (Example)

1. Wiring example when using manifold power supply terminal

Since the power supply to drive valves with power supply terminals can be supplied from either the control side or the manifold side, these wiring examples should be used for reference when wiring is performed.

2. Wiring example when not using manifold power supply terminal
(Power is supplied to the control 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.
Series SZ3000

Construction

JIS Symbol
2 position single

![Diagram of 2 position single with back pressure check valve]

JIS Symbol
2 position double

![Diagram of 2 position double with back pressure check valve]

JIS Symbol
3 position closed center

![Diagram of 3 position closed center with back pressure check valve]

JIS Symbol
3 position exhaust center

![Diagram of 3 position exhaust center with back pressure check valve]

JIS Symbol
3 position pressure center

![Diagram of 3 position pressure center]

Component Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Zinc die-casted</td>
<td>—</td>
</tr>
<tr>
<td>2</td>
<td>Adapter plate</td>
<td>Resin</td>
<td>Urban white</td>
</tr>
<tr>
<td>3</td>
<td>Pilot body</td>
<td>Resin</td>
<td>Urban white</td>
</tr>
<tr>
<td>4</td>
<td>Molded coil</td>
<td>—</td>
<td>Urban gray</td>
</tr>
<tr>
<td>5</td>
<td>Body cover</td>
<td>Resin</td>
<td>Urban white</td>
</tr>
<tr>
<td>6</td>
<td>Spool valve assembly</td>
<td>Aluminum/HNBR</td>
<td>—</td>
</tr>
<tr>
<td>7</td>
<td>Port block</td>
<td>Resin</td>
<td>Urban white</td>
</tr>
<tr>
<td>8</td>
<td>Bottom cover assembly</td>
<td>—</td>
<td>Urban white</td>
</tr>
</tbody>
</table>

Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>One-touch fitting</td>
<td>Refer to One-touch fitting part number information on page 1-3-5.</td>
</tr>
<tr>
<td>10</td>
<td>Clip</td>
<td>SX3000-115-2</td>
</tr>
</tbody>
</table>
JIS Symbol
4 position dual 3 port valve
SZ3A60 [N.C. valve x 2 pcs.]

SZ3A60K/With back pressure check valve

SZ3B60 [N.C. valve x 2 pcs.]

SZ3B60K/With back pressure check valve

SZ3C60 [N.C. valve, N.O. valve 1 pc. each]

SZ3C60K/With back pressure check valve

SZ3A60K/With back pressure check valve

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>Spool valve assembly</td>
<td>Resin/HNBR</td>
<td>For N.C. (Normally closed)</td>
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<td>Resin/HNBR</td>
<td>For N.O. (Normally open)</td>
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<td>Zinc die-cast</td>
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<td>Resin</td>
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<td>Pilot body</td>
<td>Resin</td>
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<td>6</td>
<td>Molded coil</td>
<td>—</td>
<td>Urban gray</td>
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<td>7</td>
<td>Body cover</td>
<td>Resin</td>
<td>Urban white</td>
</tr>
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<td>Resin</td>
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</tr>
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<td>9</td>
<td>Bottom cover assembly</td>
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Replacement Parts

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<tr>
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<td>One-touch fitting</td>
<td>SX3000-115-2</td>
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<td>11</td>
<td>Clip</td>
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### Component Parts

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<td>1</td>
<td>SUP/EXH block assembly</td>
<td>SZ3000-50-1A</td>
<td>C6: With One-touch fitting for ø6</td>
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<td>C8: With One-touch fitting for ø8</td>
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<td>L8: With One-touch fitting for ø8 (Elbow fetching upward)</td>
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<td>B6: With One-touch fitting for ø6 (Elbow fetching downward)</td>
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<td>B8: With One-touch fitting for ø8 (Elbow fetching downward)</td>
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<td>End block assembly</td>
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<td>Housing holder</td>
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<td>VZ1000-11-1-1/L50132</td>
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<td>7</td>
<td>Connector block assembly</td>
<td>SZ3000-42-3A/L50132</td>
<td>Refer to connector block assembly part no. table below.</td>
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### Connector Block Assembly Part No.

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<td>For serial</td>
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**Note:**
- Connector block assembly can be shipped as an assembly only in the case of double wiring. Since the possible number of stations differs depending on the connector type, refer to the valve station section on catalog pages 1-3-6, 1-3-7, and 1-3-32, and enter the number of stations in the mm section of the assembly part number. Please contact SMC if a connector block assembly is required having a wiring specification other than double wiring.

- The assembly part numbers with power supply terminals are 24 VDC specifications. If 12 VDC specifications are required, enter “12” at the end of the assembly part number.

*1: Perpendicular connector
*2: Lateral connector
P: Positive common
N: Negative common

**Note:**
- The assembly part numbers with power supply terminals are 24 VDC specifications. If 12 VDC specifications are required, enter “12” at the end of the assembly part number.
**Plug-in Manifold Station Expansion**

**Caution** In addition to solenoid valves, housing holders (SX3000-113-1) are necessary for expansion of manifold stations.

- Double wiring specifications manifolds which do not have the maximum number of stations, contain spare receptacle housings for expansion in the housing holder of the last station, or inside the supply/exhaust block assembly (for a maximum of 2 stations). When expanding stations, perform the disassembly and assembly of the manifold while referring to the expansion method shown below.

1. **Loosen the DIN rail holding screw if the end block on the U side.**
2. **Separate the end block and SUP/EXH block.**
3. **Take out the receptacle housing for expansion which is inside the SUP/EXH block, attach it to the newly added housing holder, and attach to the manifold. (Numbers are displayed on the side of the receptacle housings, and they should be used in order from the lowest number.)**
4. **Mount the valve on the DIN rail.**
5. **While pressing the manifold together from both sides, refasten the side U end block's DIN rail holding screw.**

**Caution** (Tightening torque: 1.4 N·m)

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. 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.
3. Note that for manifolds specified with other than double wiring, spare receptacle housings for expansion are not included unless indicated at the time of order.
**Series SZ3000**

**Dimensions: SZ3000 Plug-in**

**SS5Z3-60FD**

---

### Internal Pilot Manifold L Dimension

<table>
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### External Pilot Manifold L Dimension

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---

### Note

- For manifold dimensions with elbow fitting, refer to page 1-3-24.

---

**With external pilot**

- **Applicable connector:** JIS-X-5101, MIL-C-24308
- **D-sub equivalent**

---

**Switch for locking a connector**

- **Applicable connector:** D-sub equivalent JIS-X-5101, MIL-C-24308

---

**Manual override**

- Press and turn for the locking type.
- 4(A): Orange
- 2(B): Green

---

**DIN rail holding screw**

---

**Power supply terminals**

- **(M3 terminal screws)**

---

**Switch (When equipped with switch)**

---

**Light/Surge voltage suppressor**

- A side: Orange
- B side: Green

---

**DIN rail**

---

**Rail mounting hole pitch 12.5**

---

**With external pilot**

- Terminal no. 1
- The voltage indication marking is for 24 VDC.

---

**Applicable connector**

- JIS-X-5101, MIL-C-24308
- D-sub equivalent

---

**Initial Note**

For manifold dimensions with elbow fitting, refer to page 1-3-24.
**Cassette Type Manifold**

**Plug-in Type Series SZ3000**

**Dimensions: SZ3000 Plug-in**

**SSSZ3-60FD** - Stations B-

---

**With external pilot**

- **Applicable connector:** JIS-X-5101, MIL-C-24308
- **D-sub equivalent**

---

**Internal Pilot Manifold L Dimension**

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**External Pilot Manifold L Dimension**

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**Note:** For manifold dimensions with elbow fitting, refer to page 1-3-24.
**Series SZ3000**

Dimensions: SZ3000 Plug-in

SSSZ3-60PD - Stations U-□ (26 pins)

---

**Internal Pilot Manifold L Dimension**

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**External Pilot Manifold L Dimension**

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---

**With external pilot**

2- One-touch fitting
[X, PE ports]

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

---

**60PG (20 pins)**

Note 1) Types 60PG and 60PH differ only in their connectors, and the L1 through L4 dimensions are the same as type 60P.

Note 2) For manifold dimensions with elbow fitting, refer to page 1-3-24.

---

**60PH (10 pins)**
Series SZ3000

Dimensions with Elbow Fitting: SZ3000 Plug-in, D-sub Connector

SS5Z3-60FD1- Stations U/L -

(The fitting dimension of the flat cable and non plug-in types is the same.)

[Port 1 (P), 3 (R)]

Applicable tubing O.D.: ø8

[Valve]  [Supply/Exhaust block]

Downward (Type B)
5 Port Solenoid Valve
Series **SZ3000**
Non Plug-in Type

**How to Order**

- **Non plug-in manifold**

**SS5Z3-60-05U**

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</tr>
</tbody>
</table>

**SUP/EXH block mounting position**

- **D**: D side (2 to 10 stations)
- **U**: U side (2 to 10 stations)
- **B**: Both sides (2 to 20 stations)
- **M**: Special specifications

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

**Option**

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

**SUP/EXH block fitting specifications**

- **Nil**: Straight
- **L**: Elbow type (Upward)
- **B**: Elbow type (Downward)

**Pilot type**

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

---

**How to Order Valve Manifold Assembly**

**Ordering example (SZ3000, Non plug-in)**

- Double solenoid (24 VDC)
  - SZ3260-5MZ-C6 (3 sets)
- Single solenoid (24 VDC)
  - SZ3160-5MZ-C6 (2 sets)

SS5Z3-60-05U···················· 1 set (Manifold part number)

- SZ3160-5MZ-C6···················· 2 sets (Single solenoid part no.)
- SZ3260-5MZ-C6···················· 3 sets (Double solenoid part no.)

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

Stations are counted from D side as the 1st one. Indicate the valves to be attached below the manifold part number, in order starting from station 1 as shown in the drawing. When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

---

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How to Order

**Series SZ3000**

**SZ3 1 60 —— 5 M C6**

**Type of actuation**

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

**Pilot type**

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

**Back pressure check valve**

<table>
<thead>
<tr>
<th>Nil</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>Built-in</td>
</tr>
</tbody>
</table>

**Rated voltage**

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

**Common specifications**

<table>
<thead>
<tr>
<th>Nil</th>
<th>Positive common</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Negative common</td>
</tr>
</tbody>
</table>

- The symbol is "Nil" when not equipped with light/surge voltage suppressor.

**Light/Surge voltage suppressor**

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

**Electrical entry**

<table>
<thead>
<tr>
<th>W</th>
<th>With lead wire (Length 300 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MN</td>
<td>Without lead wire</td>
</tr>
<tr>
<td>MO</td>
<td>Without connector</td>
</tr>
</tbody>
</table>

**Manual override**

A, B port size

C4: One-touch fitting for ø4
C6: One-touch fitting for ø6

M5: M5 x 0.5

Elbow fitting assembly (Upward)
L4: ø4 elbow fitting assembly
L6: ø6 elbow fitting assembly

Elbow fitting assembly (Downward)
B4: ø4 elbow fitting assembly
B6: ø6 elbow fitting assembly

• The built-in back pressure check valve type has an effective area approximately 20% smaller.
• The 3 position closed center and 3 position pressure center are not available with back pressure check valve.

• The symbol is "Nil" when not equipped with light/surge voltage suppressor.

• The 4 position dual 3 port valve is not available with external pilot specifications.

• The built-in back pressure check valve type has an effective area approximately 20% smaller.

• The 3 position closed center and 3 position pressure center are not available with back pressure check valve.

• The symbol is "Nil" when not equipped with light/surge voltage suppressor.
Cassette Type Manifold
Non Plug-in Type
Series S3000

Manifold Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type SS5Z3-60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold</td>
<td>Non plug-in type</td>
</tr>
<tr>
<td>1 (P: SUP), 3/5 (R: EXH) system</td>
<td>Common SUP, EXH</td>
</tr>
<tr>
<td>Valve stations</td>
<td>2 to 20 stations</td>
</tr>
<tr>
<td>Porting specifications</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Valve</td>
</tr>
<tr>
<td>Direction</td>
<td>Lateral, Upward, Downward</td>
</tr>
<tr>
<td>Port size</td>
<td></td>
</tr>
<tr>
<td>1(P), 3/5(R) port</td>
<td>C8</td>
</tr>
<tr>
<td>4(A), 2(B) port</td>
<td>C4, C6, M5</td>
</tr>
<tr>
<td>Weight W (g) (^{(2)})</td>
<td></td>
</tr>
<tr>
<td>(n): Number of SUP/EXH blocks</td>
<td>(W = 34n + m + 89)</td>
</tr>
<tr>
<td>(m): Weight of DIN rail</td>
<td></td>
</tr>
</tbody>
</table>

Note 1) In cases such as those where many valves are operated simultaneously, use type B (double side SUP/EXH), applying pressure to the 1(P) ports on both sides and exhausting from the 3(R) ports on both sides.

Note 2) The weight \(W\) is the value for the D-sub connector manifold with power supply terminals only. To obtain the weight with solenoid valves attached, add the solenoid valve weights given on page 1-3-10 for the appropriate number of stations. For DIN rail weight, refer to page 1-3-12.

Flow Characteristics

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 5, 3 (P, EA, EB)</td>
<td>4, 2 (A, B)</td>
</tr>
<tr>
<td></td>
<td>(C [dm^3/(s·bar)])</td>
</tr>
<tr>
<td>C8</td>
<td>0.58 [0.49]</td>
</tr>
<tr>
<td>C4</td>
<td>0.73 [0.64]</td>
</tr>
<tr>
<td>C6</td>
<td>0.60 [0.57]</td>
</tr>
</tbody>
</table>

Note 1) The value is for manifold base with 5 stations and individually operated 2 position type.
Note 2) Values inside [ ] are for 4 position dual 3 port valves.
**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
<th>Note</th>
</tr>
</thead>
</table>
| ①  | SUP/EXH block assembly       | SZ3000-50-2A                      | C6: With One-touch fitting for ø6  
                                   |                              | C8: With One-touch fitting for ø8  
                                   |                              | L6: With One-touch fitting for ø6 (Elbow fetching upward)  
                                   |                              | B6: With One-touch fitting for ø6 (Elbow fetching downward)  
                                   |                              | B8: With One-touch fitting for ø8 (Elbow fetching downward)  |
| ②  | End block assembly           | SZ3000-53-8A                      | D side                                                                |
| ③  | End block assembly           | SZ3000-53-7A                      | U side                                                                |
| ④  | SUP block bush assembly      | SZ3000-114-3A                     |                                                                      |
| ⑤  | SUP block bush assembly      | SZ3000-114-1A                     |                                                                      |
| ⑥  | DIN rail                     | VZ1000-11-1                       | Refer to page 1-3-12                                                  |

**Manifold Station Expansion** Station expansion is possible at any position.

1. 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 the valve on the DIN rail.
4. While pressing the manifold together from both sides, retighten the DIN rail holding screw of the end block assembly which was loosened.

⚠️ **Caution**  
(Tightening torque: 1.4 N·m)

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. 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.
Cassette Type Manifold
Non Plug-in Type Series SZ3000

Dimensions: SZ3000 Non Plug-in

SS5Z3-60- Stations U

2- One-touch fitting
[P, R port]
Applicable tubing O.D.: Ø6

L1
L2
L3
L4
L n

2- One-touch fitting
[X, PE ports]
Applicable tubing O.D.: Ø6

(Low voltage suppressor)
A side: Orange
B side: Green

Note) For manifold dimensions with elbow fitting, refer to page 1-3-24.
### Internal Pilot Manifold L Dimension

<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>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></td>
</tr>
<tr>
<td>L2</td>
<td>87.5</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></td>
</tr>
<tr>
<td>L3</td>
<td>70</td>
<td>80.5</td>
<td>91</td>
<td>101.5</td>
<td>112</td>
<td>122.5</td>
<td>133</td>
<td>143.5</td>
<td>154</td>
</tr>
<tr>
<td>L4</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
</tbody>
</table>

### External Pilot Manifold L Dimension

<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>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></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></td>
</tr>
<tr>
<td>L3</td>
<td>80.5</td>
<td>91</td>
<td>101.5</td>
<td>112</td>
<td>122.5</td>
<td>133</td>
<td>143.5</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>L4</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
</tbody>
</table>

Note) For manifold dimensions with elbow fitting, refer to page 1-3-24.
Dimensions: SZ3000 Non Plug-in

SS5Z3-60- Stations B

With external pilot

24 13.3
16.2
36.7

4- One-touch fitting
[1(P), 3(R) port]
Applicable tubing O.D.: ø8

2- One-touch fitting
(X, PE ports)
Applicable tubing O.D.: ø6

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

4- One-touch fitting
[1(P), 3(R) port]
Applicable tubing O.D.: ø8

2- One-touch fitting
(X, PE ports)
Applicable tubing O.D.: ø6

A4 A4 X
B2 A4
B2 A4
B2 B2PE
P1 R3
P1 R3

(Pitch)
P = 10.5

2- One-touch fitting
[1(P), 3(R) port]
Applicable tubing O.D.: ø8

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

Applicable tubing O.D.: ø4
ø6

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

Light/Surge voltage suppressor
A side: Orange
B side: Green

Note) For manifold dimensions with elbow fitting, refer to page 1-3-24.
**How to Order**

**Model**

SS5Z3-60S  Q  D  05  U

**Option**

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

**SUP/EXH block fitting specifications**

<table>
<thead>
<tr>
<th>Nil</th>
<th>Straight</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Elbow type (Upward)</td>
</tr>
<tr>
<td>B</td>
<td>Elbow type (Downward)</td>
</tr>
</tbody>
</table>

**Valve stations**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring specification</td>
</tr>
<tr>
<td>06</td>
<td>8 stations</td>
<td>Specified layout (Up to 16 solenoids possible.)</td>
</tr>
</tbody>
</table>

**Supplementary Ref**

1) Double wiring specifications: Single, double, 3 position and 4 position solenoid valves can be used at all of the manifold stations.

2) Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double, 3 and 4 position valves cannot be used where single solenoid wiring has been specified.)

3) R2 and J2 are available with up to 8 solenoids.

**How to Order Valve Manifold Assembly**

**Ordering example (OMRON Corporation compatible serial unit)**

<table>
<thead>
<tr>
<th>SUP/EXH block assembly (U side mounting)</th>
<th>Double solenoid (24 VDC)</th>
<th>Single solenoid (24 VDC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SZ3260-SLOZ-C6 (3 sets)</td>
<td>SZ3160-SLOZ-C6 (2 sets)</td>
<td></td>
</tr>
</tbody>
</table>

**SUP/EXH block mounting position**

| D | U side (2 to 10 stations) |
| B | Both sides (2 to 16 stations) |

**Pilot type**

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

Note 1) Double wiring specifications:

- Single, double, 3 position and 4 position solenoid valves can be used at all of the manifold stations.
- Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double, 3 and 4 position valves cannot be used where single solenoid wiring has been specified.)

Note 2) R2 and J2 are available with up to 8 solenoids.

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

Note 3) A total of up to 3 SUP/EXH blocks can be mounted. Please contact SMC if 4 or more will be mounted.

Stations are counted from D side as the 1st one. Indicate the valves to be attached below the manifold part number, in order starting from station 1 as shown in the drawing.

When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

---

**SUP/EXH block fittings specifications**

<table>
<thead>
<tr>
<th>Nil</th>
<th>Straight</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Elbow type (Upward)</td>
</tr>
<tr>
<td>B</td>
<td>Elbow type (Downward)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Note</th>
<th>SUP/EXH block mounting position</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>U side (2 to 10 stations)</td>
</tr>
<tr>
<td>B</td>
<td>Both sides (2 to 16 stations)</td>
</tr>
</tbody>
</table>

---

**Model**

Q: DeviceNet, CompoBus/D (OMRON Corp.)

R1: OMRON Corp.: CompoBus/S System (16 output points)

R2: OMRON Corp.: CompoBus/S System (8 output points)

V: Mitsubishi Electric Corp.: CC-LINK System

F: NKE Corp.: Uni-wire System (16 output points)

H: NKE Corp.: Uni-wire H System

J1: SUNX Corp.: S-LINK System (16 output points)

J2: SUNX Corp.: S-LINK System (8 output points)

0: Without SI unit

---

**Supplementary Ref**

- For special specifications, indicate separately by the manifold specification sheet.
- Note: A total of up to 3 SUP/EXH blocks can be mounted. Please contact SMC if 4 or more will be mounted.

---

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### How to Order Solenoid Valves

**Series SZ3000**

**Cassette Type Manifold**

**Serial Transmission Type**

---

#### Type of actuation

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

#### A, B port size

- A4: One-touch fitting for ø4
- B6: One-touch fitting for ø6

#### Switch specifications

- Nil: Without switch
- J: With switch

#### Manual override

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

#### Back pressure check valve

- Nil: None
- K: Built-in

- The built-in back pressure check valve type has an effective area approximately 20% smaller.
- The 3 position closed center and 3 position pressure center are not available with back pressure check valve.

#### Pilot type

- Nil: Internal pilot
- R: External pilot

- Dual 3 port valves are not available with external pilot specifications.

---

**Example Order:**

```
SZ3 1 60  5LOZ  C6
```

---

For switch operation, refer to page 1-3-2.

---

**Elbow fitting assembly (Upward)**

- L4: ø4 elbow fitting assembly
- B4: ø4 elbow fitting assembly

**Elbow fitting assembly (Downward)**

- L6: ø6 elbow fitting assembly
- B6: ø6 elbow fitting assembly
## Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>SI Unit Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External power supply</strong></td>
<td>24 VDC +10%/-5%</td>
</tr>
<tr>
<td><strong>Current consumption (Inside unit)</strong></td>
<td>0.1 A</td>
</tr>
<tr>
<td><strong>Symbol</strong></td>
<td><strong>Specifications</strong></td>
</tr>
<tr>
<td>Q</td>
<td>DeviceNet, CompoBus/D (OMRON Corp.)</td>
</tr>
<tr>
<td>R1</td>
<td>OMRON Corp.: CompoBus/S System (16 output points)</td>
</tr>
<tr>
<td>R2</td>
<td>OMRON Corp.: CompoBus/S System (8 output points)</td>
</tr>
<tr>
<td>V</td>
<td>Mitsubishi Electric Corp.: CC-LINK System</td>
</tr>
</tbody>
</table>

### Name of terminal block, LED

<table>
<thead>
<tr>
<th>LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POWER</strong></td>
<td>Green light ON with circuit power input</td>
</tr>
<tr>
<td><strong>MOD/NET</strong></td>
<td>Light OFF: When the unit is not online or circuit power is OFF</td>
</tr>
<tr>
<td>Green light ON continuously: When the unit is online and in operation</td>
<td></td>
</tr>
<tr>
<td>Red light blinks: When a reversible abnormal transmission occurs</td>
<td></td>
</tr>
<tr>
<td>Red light ON continuously: When irreversible abnormal transmission occurs or the same line is unable to go online</td>
<td></td>
</tr>
</tbody>
</table>

### Note

- DeviceNet
- OMRON Corporation CompoBus/D System
- Master unit: C200HW-DRM21
- No. of output points, 16 points

- CompoBus/S System
- Master unit: C200HW-SRM21
- Master unit: CQM1-SRM21
- No. of output points, 16 points (Type SR1)
- No. of output points, 8 points (Type SR2)

- CC-LINK System
- Master unit: AJ61BT11
- Master unit: A1SJ61BT11
- Master unit: AJ610BT11
- Master unit: A1SJ61QBT11
- No. of output points, 16 points

### Cable wiring
### Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>NKE Corp.: Uni-wire System</td>
<td>EX140-SUW1</td>
</tr>
<tr>
<td>H</td>
<td>NKE Corp.: Uni-wire H System</td>
<td>EX140-SUH1</td>
</tr>
<tr>
<td>J1</td>
<td>SUNX Corp.: S-LINK System (16 output points)</td>
<td>EX140-SSL1</td>
</tr>
<tr>
<td>J2</td>
<td>SUNX Corp.: S-LINK System (8 output points)</td>
<td>EX140-SSL2</td>
</tr>
</tbody>
</table>

### Note

- **Uni-wire System**
  - Send unit: SD-120
  - No. of output points, 16 points

- **Uni-wire H System**
  - Send unit: SD-H2
  - No. of output points, 16 points

- **S-LINK System**
  - S-LINK controller: SL-CU1
  - No. of output points, 16 points (Type SJ1)
  - No. of output points, 8 points (Type SJ2)

### Cable wiring

- **Uni-wire System**
  - Transmission line
  - Cable line
  - Power supply: 24 V, 0 V

- **Uni-wire H System**
  - Transmission line
  - Cable line
  - Power supply: 24 V, 0 V

- **S-LINK System**
  - Transmission line
  - Cable line
  - Power supply: 24 V, 0 V

The above is the example of using dedicated S-LINK flat ribbon cable SL-RCM00.
**Series SZ3000**

**Dimensions: SZ3000 Serial Transmission Type**

SS5Z3-60S □D- Stations U

---

[With external pilot]

2- One-touch fitting (X, PE ports)
Applicable tubing O.D.: ø6

[Internal Pilot Manifold L Dimension]

<table>
<thead>
<tr>
<th>n (Stations (n1 + n2))</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<tr>
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<td>148</td>
<td>160.5</td>
<td>173</td>
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<td>198</td>
<td>210.5</td>
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<tr>
<td>L2</td>
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<td>187.5</td>
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<tr>
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[External Pilot Manifold L Dimension]

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**Note:** For manifold dimensions with elbow fitting, refer to page 1-3-24.
Dimensions: SZ3000 Serial Transmission Type

SS5Z3-60S □D- Stations B

Cassette Type Manifold
Serial Transmission Type Series SZ3000

With external pilot

Dimensions:

L1 L2 L3 L4 L n
12 13 14 15 16

L1 L2 L3 L4 L n
45 67 8 9 3 2

Internal Pilot Manifold L Dimension

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External Pilot Manifold L Dimension

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Taken from SMC's catalog page 1-3-37. Note: For manifold dimensions with elbow fitting, refer to page 1-3-24.
**Series SZ3000**

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

1. **Main Valve Fluoro Rubber Specifications -X90**
   Fluoro rubber is used for rubber parts of the main valve to allow use in applications such as the following:
   1. 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.
   2. When ozone enters or is generated in the air supply.

   **Model no.**
   
   ![Diagram of SZ30 60(R) X90](image)

   - Entry is the same as standard products. Specifications and performance are the same as standard products.
   - Note) Because in series -X90 fluoro rubber is used for only main valve, the rubber parts of the application/usage in conditions requiring heat resistance should be avoided.

2. **Plug-in Manifold Connector and Serial Unit Mounted on Side U**
   Products are also available with the plug-in manifold connector mounting position and the serial unit mounting position on the reverse side (U side). For details about part numbers and wiring specifications, etc., please contact SMC.

   ![Diagram of Connector mounting position](image)