- Valve width 7 mm
- Weight 5 g (single unit valve)
- Power consumption 0.35 W (Standard), 0.1 W * (With power saving circuit)
- Operation noise 38 dB (A) or less
- Sonic conductance: C 0.060 [dm³/(s·bar)]
- Stacking type manifold

* Refer to page 1388 for details.
3 Port Solenoid Valve
Compact Direct Operated

**S070 Series**

**How to Order Valve**

### Symbol Specifications
- **Grommet type, Special lead wire length**
- **Universal type**
- ** Normally open type**
  - X26
  - X50
  - X62

### Made to Order
(Refer to page 1382 for details.)
- **Symbol**
  - X26: Grommet type, Special lead wire length
  - X50: Universal type
  - X62: Normally open type

### Port size
- **Symbol**
  - Nil
  - M3: Without sub-plate
  - M5: With sub-plate

### Body type
- **Body type**
  - **Symbol**
    - B: Base mounted with screws
    - C: Body ported

### Port size
- **Symbol**
  - Connection: Barb fitting
  - Applicable tubing: ø3.18/ø2

### Coil voltage
- **Symbol**
  - S: 24 VDC
  - 6: 12 VDC
  - V: 6 VDC
  - S: 5 VDC
  - R: 3 VDC

### Electrical entry
- **Symbol**
  - G: Grommet
  - C: Plug lead with light/surge voltage suppressor
  - CO: Plug lead without connector and with light/surge voltage suppressor

### Power consumption – Pressure specification – Flow rate
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Power consumption (W)</th>
<th>Maximum operating pressure (MPa)</th>
<th>Cv factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.35</td>
<td>0.1</td>
<td>0.016</td>
</tr>
<tr>
<td>B</td>
<td>0.3</td>
<td>0.3</td>
<td>0.011</td>
</tr>
<tr>
<td>C</td>
<td>0.5</td>
<td>0.3</td>
<td>0.016</td>
</tr>
<tr>
<td>D</td>
<td>0.1</td>
<td>0.5</td>
<td>0.011</td>
</tr>
<tr>
<td>E (Note)</td>
<td>0.1 (With power saving circuit)</td>
<td>0.1</td>
<td>0.011</td>
</tr>
<tr>
<td>F (Note)</td>
<td>0.3</td>
<td>0.1</td>
<td>0.006</td>
</tr>
</tbody>
</table>

*Note: An option only applicable to 24 VDC plug lead type.*
Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air/Low vacuum (1.33 x 10² Pa)</td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>0.3 MPa (0.35 W, 0.1 W), 0.5 MPa (0.5 W)</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>1 MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–10 to 50°C</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
</tr>
<tr>
<td>Impact/Vibration resistance</td>
<td>30/150 m/s²</td>
</tr>
<tr>
<td>Enclosure</td>
<td>IP40</td>
</tr>
<tr>
<td>Weight</td>
<td>5 g (Single unit valve)</td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Free</td>
</tr>
</tbody>
</table>

**Note 1)** Use dry air and prevent condensation at low temperatures.
**Note 2)** Vibration resistance: No malfunction resulted in a one-sweep test performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.
**Note 3)** With the low vacuum specification, the operating pressure range is 1.33 x 10² Pa to the maximum operating pressure.

**Solenoid Specifications**

<table>
<thead>
<tr>
<th>Power consumption</th>
<th>0.35 W (Standard), 0.5 W (High voltage), 0.1 W (Holding)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated coil voltage</td>
<td>3, 5, 6, 12, 24 VDC</td>
</tr>
<tr>
<td>Allowable voltage fluctuation</td>
<td>±10% of the rated voltage</td>
</tr>
<tr>
<td>Coil insulation type</td>
<td>Equivalent to class B</td>
</tr>
</tbody>
</table>

**Note 1)** With a light/surge voltage suppressor and power saving circuit, the light consumes a power equivalent to 2 mA.

**Flow Rate Specifications/Response Time**

<table>
<thead>
<tr>
<th>Power consumption</th>
<th>Maximum operating pressure</th>
<th>Flow rate characteristics</th>
<th>Response time ms</th>
<th>Note 2, 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 W DC</td>
<td>0.5 MPa</td>
<td>C [dm³/(s·bar)]</td>
<td>0.042 0.27 0.011</td>
<td>3 or less 3 or less</td>
</tr>
<tr>
<td></td>
<td>0.3 MPa</td>
<td></td>
<td>0.060 0.28 0.016</td>
<td>5 or less 3 or less</td>
</tr>
<tr>
<td></td>
<td>0.1 MPa</td>
<td></td>
<td>0.042 0.27 0.011</td>
<td>3 or less 3 or less</td>
</tr>
<tr>
<td>0.35 W DC</td>
<td>0.5 MPa</td>
<td>C [dm³/(s·bar)]</td>
<td>0.042 0.27 0.016</td>
<td>5 or less 3 or less</td>
</tr>
<tr>
<td></td>
<td>0.3 MPa</td>
<td></td>
<td>0.021 0.27 0.006</td>
<td>3 or less 6 or less</td>
</tr>
<tr>
<td></td>
<td>0.1 MPa</td>
<td></td>
<td>0.042 0.28 0.011</td>
<td>5 or less 6 or less</td>
</tr>
</tbody>
</table>

**Note 1)** 0.35 W DC at inrush (100 ms) and 0.1 W DC at holding.
**Note 2)** The response time is the value at the rated voltage, maximum operating pressure, ambient and fluid temperature (approx. 25°C).
**Note 3)** If the product is used in the following conditions or environment, switching of the valve may be sigificantly delayed compared to the above values.
   1. The first response time when the valve is not used for a long period of time
   2. When using at low supply pressure (0.1 MPa or less)
   3. When using in an environment where the ambient and fluid temperature is low (10°C or less)
## Construction

### Component Parts

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Solenoid coil</td>
<td>—</td>
</tr>
<tr>
<td>2</td>
<td>Body</td>
<td>Resin</td>
</tr>
<tr>
<td>3</td>
<td>Core</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>4</td>
<td>Armature assembly</td>
<td>Stainless steel, resin</td>
</tr>
<tr>
<td>5</td>
<td>Return spring</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>6</td>
<td>Poppet</td>
<td>FKM</td>
</tr>
<tr>
<td>7</td>
<td>Interface gasket</td>
<td>HNBR</td>
</tr>
<tr>
<td>8</td>
<td>Mounting screw</td>
<td>Carbon steel</td>
</tr>
<tr>
<td>9</td>
<td>Sub-plate</td>
<td>Aluminum</td>
</tr>
</tbody>
</table>

### Replacement Parts

#### Plug connector assembly (for plug lead)

**S070–14A–**

- **Lead wire length**
  - Nil: 150 mm
  - 3: 300 mm
  - 6: 600 mm
  - 10: 1000 mm

**S070–S–**

- **Port size**
  - M3: M3 female thread
  - M5: M5 female thread

#### Interface gasket (10 pcs.)

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Gasket no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S070A</td>
<td>S070A-80A-1</td>
</tr>
<tr>
<td>S070B</td>
<td>S070B-80A-1</td>
</tr>
<tr>
<td>S070M</td>
<td>S070M-80A-1</td>
</tr>
</tbody>
</table>

#### Mounting screw (20 pcs.)

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Mounting screw no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S070B</td>
<td>AX7632-106A-1</td>
</tr>
<tr>
<td>S070C</td>
<td>AX7632-106A-2</td>
</tr>
</tbody>
</table>

#### Bracket/S070B (10 pcs.)

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Bracket no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>S070B</td>
<td>S070B-80A-2</td>
<td>For sub-plates and manifolds (more than 3 stations)</td>
</tr>
<tr>
<td>SS073B</td>
<td>S070B-80A-3</td>
<td>For manifolds (2 stations only)</td>
</tr>
</tbody>
</table>

* This is used when mounting a valve on the sub-plate and manifold.

* The above figure is an example of S070B-□□□□G base piping type (mounted with screws).
Dimensions

Base mounted with screws

S070B-□□G-M3
Grommet type

S070B-□□C-M3
Plug lead type

0.1 W with power saving circuit

S070 Series

3 Port Solenoid Valve
Compact Direct Operated

VV061
VV100
V100
S070
VQD
VQD-V
VK
VT
**S070 Series**

**Dimensions**

Base mounted with screws

S070B-□□G-M5  
Grommet type

---

2 x ø3.4 mounting hole

---

S070B-□□C-M5  
Plug lead type

---

0.1 W with power saving circuit
3 Port Solenoid Valve
Compact Direct Operated **S070 Series**

Dimensions

Body ported

S070C-□□□G-32
Grommet type

---

S070C-□□□C-32
Plug lead type

---

Mounting screw (AXT632-106A-2)
M2 x 0.4, thread depth 6 mm or more

---

0.1 W with power saving circuit

---

© SMC
3 Port Solenoid Valve
S070 Series/Base Mounted Manifold
Separable Base Type

How to Order Manifold

Base mounted manifold separable base

SS07 3 A01 08 C

Ports

3 3 port

Port size

<table>
<thead>
<tr>
<th>Symbol</th>
<th>SUP/EXH port (Applicable tubing)</th>
<th>OUT port Applicable tubing</th>
</tr>
</thead>
<tbody>
<tr>
<td>A01</td>
<td>Barb fittings (ø6/ø4)</td>
<td>ø3.18/ø2.5</td>
</tr>
<tr>
<td>A02</td>
<td>Barb fittings</td>
<td>ø4/ø2.5</td>
</tr>
<tr>
<td>A03</td>
<td></td>
<td>ø2/ø1.2</td>
</tr>
</tbody>
</table>

Note) The outside and inside diameters of the "applicable tubing" are indicated for the barb fitting.

How to Order Valves

S070 A 5 B G

Body type

Symbol | Body type
------|------------
A      | Base mounted with clips

Coil voltage

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

Electrical entry

C Grommet/Plug lead

How to Order Manifold Assembly

Enter the part numbers of the valves and options to be mounted below the manifold base part number.

<Example>
SS073A01-04C 1 set Manifold Base no.
* S070A-5BG 3 sets Valve no.
* SS070A-10A 1 set Blanking plate assembly no.

Prefix the symbol "*" to the solenoid valve part number.

Write sequentially from the 1st station on the D side.

Stations

| 02 | 2 stations |
| 03 | 3 stations |
| 20 | 20 stations |

Maximum of 20 stations

Electrical entry

G Grommet
C Plug lead with light/surge voltage suppressor
CO Plug lead without connector and with light/surge voltage suppressor

Power consumption – Pressure specification – Flow rate

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Power consumption (W)</th>
<th>Maximum operating pressure (MPa)</th>
<th>Cv factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.35</td>
<td>0.1</td>
<td>0.016</td>
</tr>
<tr>
<td>B</td>
<td>0.3</td>
<td>0.5</td>
<td>0.016</td>
</tr>
<tr>
<td>C</td>
<td>0.1</td>
<td>0.1</td>
<td>0.011</td>
</tr>
<tr>
<td>D</td>
<td>0.1 (With power saving circuit)</td>
<td>0.1</td>
<td>0.011</td>
</tr>
<tr>
<td>E</td>
<td>0.3</td>
<td>0.3</td>
<td>0.006</td>
</tr>
<tr>
<td>F</td>
<td>0.5</td>
<td>0.5</td>
<td>0.011</td>
</tr>
</tbody>
</table>

Note) Semi-standard, only applicable to 24 VDC plug lead type.
Dimensions

Base mounted manifold/Separable base

SS073A<sub>02</sub> Stations C

Formulas: L1 = n x 7.2 + 14.8, L2 = n x 7.2 + 18.4, n: Stations (maximum 20 stations)

<table>
<thead>
<tr>
<th>L1</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>29.2</td>
<td>36.4</td>
<td>43.6</td>
<td>50.8</td>
<td>58</td>
<td>65.2</td>
<td>72.4</td>
<td>79.6</td>
<td>86.8</td>
<td>94</td>
<td>101.2</td>
<td>108.4</td>
<td>115.6</td>
<td>122.8</td>
<td>130</td>
<td>137.2</td>
<td>144.4</td>
<td>151.6</td>
<td>158.8</td>
</tr>
<tr>
<td>L2</td>
<td>32.8</td>
<td>40</td>
<td>47.2</td>
<td>54.4</td>
<td>61.6</td>
<td>68.8</td>
<td>76</td>
<td>83.2</td>
<td>90.4</td>
<td>97.6</td>
<td>104.8</td>
<td>112</td>
<td>119.2</td>
<td>126.4</td>
<td>133.6</td>
<td>140.8</td>
<td>148</td>
<td>155.2</td>
<td>162.4</td>
</tr>
</tbody>
</table>

Dimensions
3 Port Solenoid Valve
S070 Series/Base Mounted Manifold
Bar Base Specifications

How to Order Manifold

Base mounted manifold bar base

SS07  3  B01 – 08  C

Ports

3  - 3 port

Port size

Symbol  SUP/EXH port (Applicable tubing)  OUT port (Applicable tubing)
B01  M5 female screw  M3 female screw

Stations

02  2 stations
03  3 stations
20  20 stations

Note) Maximum of 20 stations

Electrical entry

C Grommet/Plug lead

How to Order Manifold Assembly

Enter the part numbers of the valves and options to be mounted below the manifold base part number.

<Example>
SS073B01-04C  1 set  Manifold Base no.
S070B-SBG  3 sets  Valve no.
SS070B-10A  1 set  Blanking plate assembly no.

Prefix the symbol "∗" to the solenoid valve part number.

Write sequentially from the 1st station on the D side.

How to Order Valves

S070  B – 5  B  G

Body type

Symbol  Body type
B  Base mounted with screws

Electrical entry

G Grommet
C Plug lead with light/surge voltage suppressor
CO Plug lead without connector and with light/surge voltage suppressor

Coil voltage

Symbol  24 VDC  12 VDC  6 VDC  5 VDC  3 VDC
S  0.35  0.3  0.3  0.5  0.3
C  0.016  0.011  0.016  0.011  0.006

Power consumption – Pressure specification – Flow rate

Symbol  Power consumption (W)  Maximum operating pressure (MPa)  Cv factor
A  0.35  0.1  0.016
B  0.3  0.011
C  0.3  0.016
D  0.5  0.5  0.011
E  0.1  0.1  0.011
F  0.3  0.006

Note) Semi-standard, only applicable to 24 VDC plug lead type.
Dimensions

Base mounted manifold/Bar base

SS073B01- [Stations] C

Formulas: \( L_1 = n \times 7.2 + 8.8 \), \( L_2 = n \times 7.2 + 14.8 \), \( n \): Stations (maximum 20 stations)

<table>
<thead>
<tr>
<th>( n )</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<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>( L_1 )</td>
<td>23.2</td>
<td>30.4</td>
<td>37.6</td>
<td>44.8</td>
<td>52</td>
<td>59.2</td>
<td>66.4</td>
<td>73.6</td>
<td>80.8</td>
<td>88</td>
<td>95.2</td>
<td>102.4</td>
<td>109.6</td>
<td>116.8</td>
<td>124</td>
<td>131.2</td>
<td>138.4</td>
<td>145.6</td>
<td>152.8</td>
</tr>
<tr>
<td>( L_2 )</td>
<td>29.2</td>
<td>36.4</td>
<td>43.6</td>
<td>50.8</td>
<td>58</td>
<td>65.2</td>
<td>72.4</td>
<td>79.6</td>
<td>86.8</td>
<td>94</td>
<td>101.2</td>
<td>108.4</td>
<td>115.6</td>
<td>122.8</td>
<td>130</td>
<td>137.2</td>
<td>144.4</td>
<td>151.6</td>
<td>158.8</td>
</tr>
</tbody>
</table>
3 Port Solenoid Valve
S070 Series/Base Mounted Manifold
Stacking Type Specifications

How to Order Manifold

Body ported manifold stacking type

SS07 3 M01 – 08 C

Ports
3 3 port

Port size

<table>
<thead>
<tr>
<th>Symbol</th>
<th>SUP/EXH port (Applicable tubing)</th>
<th>OUT port (Applicable tubing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M01</td>
<td>Barb fittings (ø6/ø4)</td>
<td>ø3.18/ø2</td>
</tr>
<tr>
<td>M02</td>
<td>Barb fittings</td>
<td>ø4/ø2.5</td>
</tr>
</tbody>
</table>

Note) The outside and inside diameters of the “applicable tubing” are indicated for the barb fitting.

How to Order Valves

S070 M – 5 B G – 32

Body type

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Body type</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Body ported stacking manifold type</td>
</tr>
</tbody>
</table>

Coil voltage

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

How to Order Manifold Assembly

Enter the part numbers of the valves and options to be mounted below the manifold base part number.

<Example>
SS07M01-04C 1 set Manifold Base no.
S070M-5BG-32 4 sets Valve no.

Prefix the symbol “∗” to the solenoid valve part number.

Write sequentially from the 1st station on the D side.

Electrical entry

C Grommet/Plug lead

Stations

<table>
<thead>
<tr>
<th>Station</th>
<th>02</th>
<th>03</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 stations</td>
<td>3 stations</td>
<td>20 stations</td>
<td></td>
</tr>
</tbody>
</table>

Note) Maximum of 20 stations

Power consumption – Pressure specification – Flow rate

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Power consumption (W)</th>
<th>Maximum operating pressure (MPa)</th>
<th>Cv factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.35</td>
<td>0.1</td>
<td>0.016</td>
</tr>
<tr>
<td>B</td>
<td>0.5</td>
<td>0.3</td>
<td>0.011</td>
</tr>
<tr>
<td>C</td>
<td>0.1</td>
<td>0.5</td>
<td>0.016</td>
</tr>
<tr>
<td>D</td>
<td>0.1</td>
<td>0.1</td>
<td>0.011</td>
</tr>
<tr>
<td>E</td>
<td>0.3</td>
<td>0.3</td>
<td>0.006</td>
</tr>
</tbody>
</table>

Note) Semi-standard, only applicable to 24 VDC plug lead type.
Body ported stacking type manifold

SS073M02・Stations C

Dimensions

Formulas: $L1 = n \times 7.2 + 7$, $L2 = n \times 7.2 + 15$, $n$: Stations (maximum 20 stations)

<table>
<thead>
<tr>
<th>$n$</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
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<tbody>
<tr>
<td>$L1$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>21.4</td>
<td>28.6</td>
<td>35.8</td>
<td>43</td>
<td>50.2</td>
<td>57.4</td>
<td>64.6</td>
<td>71.8</td>
<td>79</td>
<td>86.2</td>
<td>93.4</td>
<td>100.6</td>
<td>107.8</td>
<td>115</td>
<td>122.2</td>
<td>129.4</td>
<td>136.8</td>
<td>143.8</td>
<td>151</td>
</tr>
<tr>
<td>$L2$</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>29.4</td>
<td>36.8</td>
<td>43.8</td>
<td>51</td>
<td>58.2</td>
<td>65.4</td>
<td>72.6</td>
<td>79.8</td>
<td>87</td>
<td>94.2</td>
<td>101.4</td>
<td>108.6</td>
<td>115.8</td>
<td>123</td>
<td>130.2</td>
<td>137.4</td>
<td>144.6</td>
<td>151.8</td>
<td>159</td>
</tr>
</tbody>
</table>
**S070 Series**

**Made to Order**

Please contact SMC for detailed dimensions, specifications and lead times.

1. **Grommet Type: Special Lead Wire Length**

   - **S070 B**
   - **G**
   - **X26**
   - **Lead wire length (L)**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Length (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>300 mm</td>
</tr>
<tr>
<td>6</td>
<td>600 mm</td>
</tr>
<tr>
<td>10</td>
<td>1000 mm</td>
</tr>
</tbody>
</table>

   * Refer to pages 1370, 1376, 1378 and 1380 for body type, coil voltage, power consumption-pressure specifications, and port size.

2. **Universal Specifications**

   - **S070 B**
   - **G**
   - **X50**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Power consumption</th>
<th>Operating pressure range</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.35 WDC</td>
<td>0 to 0.1 MPa</td>
<td>0.042 cv 0.27 b 0.011</td>
</tr>
<tr>
<td>B</td>
<td>0.3 WDC</td>
<td>0 to 0.3 MPa</td>
<td>0.021 cv 0.27 b 0.006</td>
</tr>
<tr>
<td>C</td>
<td>0.5 WDC</td>
<td>0 to 0.3 MPa</td>
<td>0.042 cv 0.27 b 0.011</td>
</tr>
<tr>
<td>D</td>
<td>0.5 WDC</td>
<td>0 to 0.5 MPa</td>
<td>0.021 cv 0.27 b 0.006</td>
</tr>
</tbody>
</table>

   * Refer to pages 1370, 1376, 1378 and 1380 for body type, coil voltage, electrical entry, and port size.

3. **Normally Open Specifications**

   - **S070 B**
   - **G**
   - **X62**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Power consumption</th>
<th>Max operating pressure (3 port pressure)</th>
<th>Flow rate characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.35 WDC</td>
<td>0 to 0.1 MPa</td>
<td>0.042 cv 0.27 b 0.011</td>
</tr>
<tr>
<td>B</td>
<td>0.3 WDC</td>
<td>0 to 0.3 MPa</td>
<td>0.021 cv 0.27 b 0.006</td>
</tr>
<tr>
<td>C</td>
<td>0.5 WDC</td>
<td>0 to 0.3 MPa</td>
<td>0.042 cv 0.27 b 0.011</td>
</tr>
<tr>
<td>D</td>
<td>0.5 WDC</td>
<td>0 to 0.5 MPa</td>
<td>0.021 cv 0.27 b 0.006</td>
</tr>
</tbody>
</table>

   * Refer to pages 1370, 1376, 1378 and 1380 for body type, coil voltage, electrical entry, and port size.

Note) When used in the vacuum release, use with 1-port vacuum, and 3-port vacuum release pressure.
**Manifold Options**

**Blanking plate assembly (for SS073A)**

**SS070A-10A (for separable base)**

This assembly is mounted on a manifold block where the valve is removed for maintenance or a replacement valve is going to be mounted.

**Blanking plate assembly (for SS073B)**

**SS070B-10A (for bar base)**

This assembly is mounted on a manifold block where the valve is removed for maintenance or a replacement valve is going to be mounted.

**Intermediate block assembly (for SS073A)**

**SS070A-B (for separable base)**

This assembly is used to secure the manifold when a large number of stations are manifolded. (Accommodated as one station.)

* In the manifold specification sheet, specify the position where the block assembly is mounted.

**Intermediate block assembly (for SS073M)**

**SS070M-B (for stacking type)**

This assembly is used to secure the manifold when 20 or more stations are manifolded. (Accommodated as one station.)

* In the manifold specification sheet, specify the position where the block assembly is mounted.
< U End Plate Assembly >
① U end plate assembly no.

SS070M01–2A

< D End Plate Assembly >
② D end plate assembly no.

SS070M01–3A

Replacement Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Part no.</th>
<th>Description</th>
<th>Material</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>S070M-80A-1</td>
<td>Gasket</td>
<td>FKM</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>SS070M-80A-2</td>
<td>Clip</td>
<td>Stainless steel</td>
<td>10</td>
</tr>
</tbody>
</table>
S070 Series
Exploded View of Separable Base

Base mounted/SS073A□□C Exploded View of Separable Base

<table>
<thead>
<tr>
<th>U side end plate assembly</th>
<th>Manifold block assembly</th>
<th>D side end plate assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

< Manifold Block Assembly >
1. Manifold block assembly no.
   SS070A 01 –1A
   - Port size
     01 With ø3.18/ø2 barb fitting
     02 With ø4/ø2.5 barb fitting
     03 With ø2/ø1.2 barb fitting

< U Side End Plate Assembly >
2. U side end plate assembly no.
   SS070A01–2A

< D Side End Plate Assembly >
3. D side end plate assembly no.
   SS070A01–3A

< Replacement Parts for Manifold Block >

<table>
<thead>
<tr>
<th>No.</th>
<th>Part no.</th>
<th>Description</th>
<th>Material</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>SS070A-80A-1</td>
<td>O-ring</td>
<td>FKM</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>SS070A-80A-2</td>
<td>Clip</td>
<td>Stainless steel</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>SS070A-80A-3</td>
<td>Metal joint</td>
<td>Stainless steel</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>SS070A-80A-4</td>
<td>Leaf spring</td>
<td>Stainless steel</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>SS070A-80A-5</td>
<td>Mounting bracket</td>
<td>Stainless steel</td>
<td>10</td>
</tr>
</tbody>
</table>

<Replacement Parts for U/D End Plate>

<table>
<thead>
<tr>
<th>No.</th>
<th>Part no.</th>
<th>Description</th>
<th>Material</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>SS070A-80A-6</td>
<td>Stopper plate</td>
<td>Stainless steel</td>
<td>10</td>
</tr>
</tbody>
</table>

< Barb Fitting Assembly >
10. Barb fitting assembly (for cylinder port)
   SS070–50A–32
   - Port size
     20 Applicable tube ø2/ø1.2
     32 Applicable tube ø3.18/ø2
     40 Applicable tube ø4/ø2.5

Note) Order is accepted in 10 units.

11. Barb fitting assembly (for 1(P), 3(R) ports)
   SS070–51A–60
   - Applicable tubing ø6/ø4

Note) Order is accepted in 10 units.
**Caution**

**Valve Mounting/Removal**

1) Base mounted with screws

With the base mounted type fixed with screws, confirm the installation of the gasket mounted on the body interface and fasten the dedicated mounting screws (AXT632-106-1) at an appropriate torque (0.10 to 0.14 Nm). (Fasten equally so that the valve will not tilt.)

2) Base mounted with clips

1. Hook a flat head watchmakers' screwdriver into the hole of the metal bracket and pull it approximately 1 mm in the direction indicated by the arrow.

2. Insert the solenoid valve from above. After confirming that the bottom surface of the solenoid valve contacts the top surface of the manifold, detach the flat head screwdriver from the mounting bracket while holding the solenoid valve body. (Before mounting, confirm the installation of the interface gasket on the solenoid valve body.)

The built-in leaf spring returns the mounting bracket to its original position. (Then confirm that the end of the mounting bracket is aligned with the side of the manifold block. Refer to the figure below.)

Similarly, to remove the valve, pull the mounting bracket and pull up the solenoid valve vertically. Use caution so that no excessive force is applied to the lead wire in mounting and removal.

**Caution**

**Screwing in M5/M3 Thread**

After tightening by hand, tighten an additional 1/4 rotation for M3 and 1/6 rotation for M5. Overtightening may cause bending of the thread or air leakage due to deformation of the gasket. Insufficient screwing may cause loosening of the thread or air leakage.

**Applicable Tubing Size**

**Stacking manifold**

<table>
<thead>
<tr>
<th>Port</th>
<th>Applicable tubing</th>
<th>Recommended tubing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (SUP), 3 (EXH)</td>
<td>ø6/ø4</td>
<td>TS0604/TU0604</td>
</tr>
<tr>
<td>2 (OUT)</td>
<td>ø4/ø2.5</td>
<td>TS0425/TU0425</td>
</tr>
<tr>
<td></td>
<td>ø3.18/ø2</td>
<td>TIUB01</td>
</tr>
</tbody>
</table>

Note) In case of a body ported single unit valve, the applicable tubing size is ø3.18/ø2 for all 1 (SUP), 2 (OUT), and 3 (EXH) ports.

If fittings of a brand other than SMC are used, follow the specifications of the fittings to be mounted.

**Tubing Installation (With barb fitting)**

1) Using tubing cutters TK-1, 2, or 3, cut the tubing perpendicularly to the tubing axis while allowing for sufficient margin to the required length.

2) Insert the tubing and push it all the way to the barb end. If the tubing is not installed securely to the end, problems such as leakage or disconnection of the tubing can occur.

3) When the tubing is inserted into the barb fitting, push it in the direction of the tubing axis to prevent excessive lateral loads being applied to the barb fitting.

4) To remove the tubing from the barb fitting, use caution so that no excessive lateral load will be applied to the barb fitting. When using a cutter to remove the tubing, sufficient care should be taken so as not to make any flaws on the barb fitting.

5) After tubing installation, avoid excessive loads, such as tensile, compressive, or bending strength, being applied to the tubing.
**S070 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.

---

**Caution**

**Mounting**

1) Solenoid valve fixing procedure (body ported single unit)

When mounting a body ported type single unit valve, tighten the dedicated mounting screw (AXT632-106A-2) at an appropriate torque (0.05 to 0.07 N·m) to firmly secure the valve body. (Tighten equally so that the valve will not tilt.) If the coil is fixed, the coil joint may break due to application of an excessive load to the tubing body, for example, when the tubing is inserted. With a base mounted type solenoid valve also, use caution to avoid excessive loads on the coil and lead wire.

---

**Caution**

Adding and Removing Manifold Stations

1) Base mounted stacking type

   1) Remove the clip and metal joint from the position where the new station is to be mounted by pulling them in the directions indicated by the arrows.

   2) Place the additional manifold block assembly and mount the metal joint and clip by reversing the assembly order. Securely insert the clip and the metal joint so that they will not protrude from the top and bottom surfaces respectively.

   The clip is commonly used to secure the manifold block and fittings.

---

**Caution**

**Body ported manifold type**

1) Remove the clip on the position where the station is to be added by pulling it in the direction indicated by the arrow. Insert a flat head screwdriver in the recess indicated in the figure to remove the clip.

2) Place the additional solenoid valve into the separation and insert the clip. Insert the clip until it fits in the groove on the body side.

---

**Caution**

**Vacuum Application**

An N.C. type valve pressurized at 1 (SUP) port can be used within the maximum operating pressure differential specified for the product. If the valve is to be used in the following applications, however, care should be taken about the piping ports, maximum operating pressure differential and allowable leakage.

1) Vacuum release application

   Use 3 (R) port for vacuum pressure and 1 (P) port for vacuum release pressure.

   - Set the pressure so that the pressure difference between the 3(R) and 1(P) ports does not exceed the maximum operating pressure of the valve.

   - When the 3(R) port is used for the vacuum release (atmospheric pressure to positive pressure) and the 1(P) port is used for the vacuum, use the normally open (N.O.) specifications.

   Example: When the vacuum is “-80 kPa” and the vacuum release is “0.1 MPa”:
   
   \[
   0.1 \text{ MPa} - (-80 \text{ kPa}) = 0.18 \text{ MPa}
   \]

   A valve with a maximum operating pressure of 0.1 MPa cannot be used. Select a valve with a maximum operating pressure of 0.3 MPa.

2) Pressure (vacuum) holding application

   This valve permits the air leakage. So, take great care since the valve cannot hold the pressure (vacuum) for an extended period of time.
**Caution**

**Wiring**

1) Internal wiring
   - Grommet
     (This solenoid valve has no polarity.)

   ![Diagram of internal wiring]

   - With light/surge voltage suppressor
     (This solenoid valve has no polarity.)

   ![Diagram of light/surge voltage suppressor]

   - With 0.1 W power saving circuit

   ![Diagram of power saving circuit]

2) Electrical circuit
   1. Adopt an electrical circuit with no chattering generated at the contact.
   2. Keep the voltage within the ±10% range of the rated voltage.
      Care should be taken about the voltage drop when the rated voltage is 6 VDC or less or when the response speed is important.
   3. When using a C-R element (surge voltage suppressor) for protection of the switching element, please keep in mind that leakage voltage will increase due to leakage current flowing through the C-R element.

   ![Diagram of electrical circuit]

   Keep the residual leakage voltage with 2% of the rated voltage.

   4. Be sure to confirm the applied voltage. If a wrong voltage is applied, it can lead to malfunction or coil burning.
   5. In wiring, use caution to avoid application of excessive force to the lead wire. It can cause malfunction or break the coil.

**Caution**

**Power Saving Circuit of 0.1 W DC (At holding)**

1) The power consumption is 0.35 W DC at inrush (100 ms) and 0.1 W DC at holding.