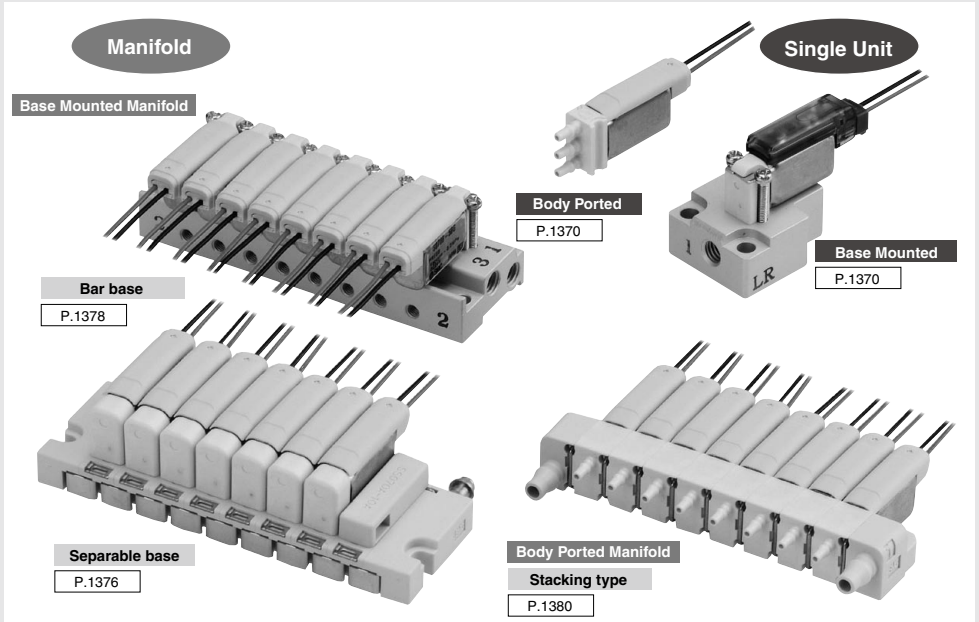


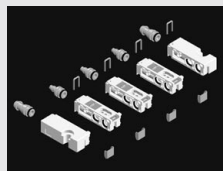
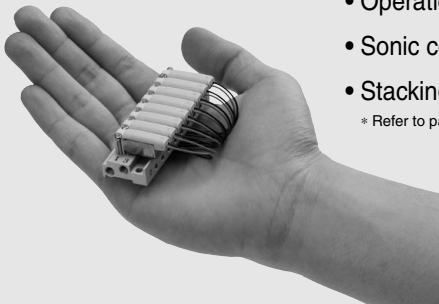
# 3 Port Solenoid Valve

## S070 Series

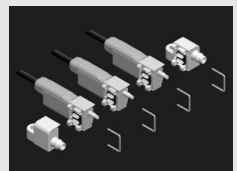
Rubber Seal



- 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** [dm<sup>3</sup>/(s·bar)]
  - Stacking type manifold
- \* Refer to page 1388 for details.



Separable base



Stacking type

VV061

VV100

V100

S070

VQD

VQD-V

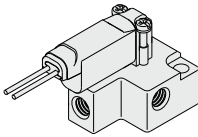
VK

VT

# 3 Port Solenoid Valve Compact Direct Operated **S070 Series**



## How to Order Valve

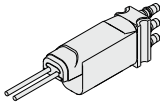


Base mounted

**S070 B - 5 B G -**

Body ported

**S070 C - 5 B G - 32**



### Body type

Symbol	Body type
B	Base mounted with screws

### Port size

Symbol	Sub-plate
Nl	Without sub-plate
M3	With sub-plate
M5	

### Body type

Symbol	Body type
C	Body ported

### Port size

Symbol	Connection	Applicable tubing
32	Barb fitting	ø3.18/ø2

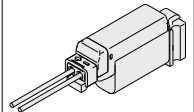
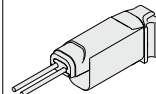
### Coil voltage

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

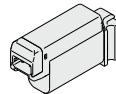
### Electrical entry

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

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 (Note)		0.1	0.011
F (Note)		0.3	0.006

Note) An option only applicable to 24 VDC plug lead type.

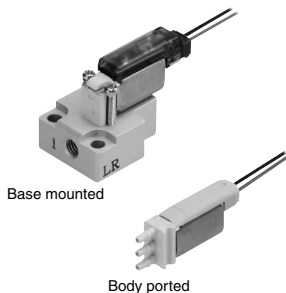


**Made to Order**

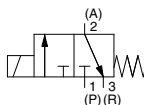
(Refer to page 1382 for details.)

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

# 3 Port Solenoid Valve **S070 Series**



## Symbol



## Specifications

<b>Valve construction</b>	Poppet
<b>Fluid</b>	Air/Low vacuum ( $1.33 \times 10^2$ Pa)
<b>Maximum operating pressure</b>	0.3 MPa (0.35 W, 0.1 W), 0.5 MPa (0.5 W)
<b>Proof pressure</b>	1 MPa
<b>Ambient and fluid temperature</b> <sup>Note 1)</sup>	-10 to 50°C
<b>Lubrication</b>	Not required
<b>Impact/Vibration resistance</b> <sup>Note 2)</sup>	30/150 m/s <sup>2</sup>
<b>Enclosure</b>	IP40
<b>Weight</b>	5 g (Single unit valve)
<b>Mounting orientation</b>	Free

Note 1) Use dry air and prevent condensation at low temperatures.

Note 2) Vibration resistance: No malfunction resulted in 45 to 2000 Hz, 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.

Impact resistance: No malfunction resulted in an impact test using a drop impact tester. The test was performed one time each 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  $1.33 \times 10^2$  Pa to the maximum operating pressure.

## Solenoid Specifications

<b>Power consumption</b> <sup>Note 1)</sup>	0.35 W (Standard), 0.5 W (High voltage), 0.1 W (Holding)
<b>Rated coil voltage</b>	3, 5, 6, 12, 24 VDC
<b>Allowable voltage fluctuation</b>	±10% of the rated voltage
<b>Coil insulation type</b>	Equivalent to class B

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

Power consumption	Maximum operating pressure	Flow rate characteristics			Response time ms <sup>Note 2, 3)</sup>	
		C[dm <sup>3</sup> /(s.bar)]	b	Cv	ON	OFF
0.5 W DC	0.5 MPa	0.042	0.27	0.011	3 or less	3 or less
	0.3 MPa	0.060	0.28	0.016	5 or less	3 or less
0.35 W DC	0.3 MPa	0.042	0.27	0.011	3 or less	3 or less
	0.1 MPa	0.060	0.28	0.016	5 or less	3 or less
0.1 W DC (at holding) with power saving circuit <sup>Note 1)</sup>	0.3 MPa	0.021	0.27	0.006	3 or less	6 or less
	0.1 MPa	0.042	0.28	0.011	5 or less	6 or less

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 significantly 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)

VV061

VV100

V100

**S070**

VQD

VQD-V

VK

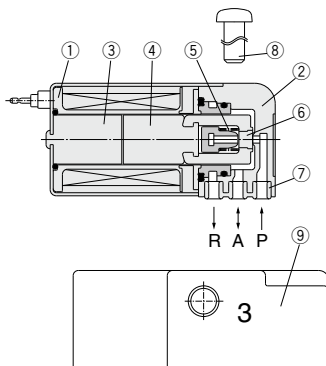
VT

# S070 Series

## Construction

### Component Parts

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



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

## 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

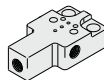


### ⑨ Sub-plate

S070-S-M3

● Port size

M3	M3 female thread
M5	M5 female thread



### ⑦ Interface gasket (10 pcs.)

Valve model	Gasket no.
S070A	S070A-80A-1
S070B	S070B-80A-1
S070M	S070M-80A-1



### ⑧ Mounting screw (20 pcs.)

Valve model	Mounting screw no.
S070B	AXT632-106A-1
S070C	AXT632-106A-2

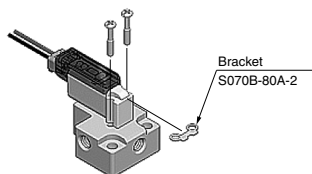


### Bracket/S070B (10 pcs.)

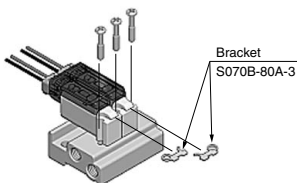
Valve model	Bracket no.	Note
S070B, SS073B	S070B-80A-2	For sub-plates and manifolds (more than 3 stations)
SS073B	S070B-80A-3	For manifolds (2 stations only)



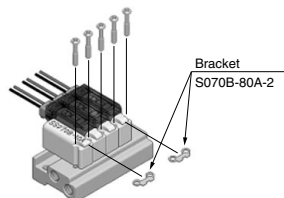
\* This is used when mounting a valve on the sub-plate and manifold.



Single unit (base mounted)



Manifold with 2 stations



Manifold with more than 3 stations

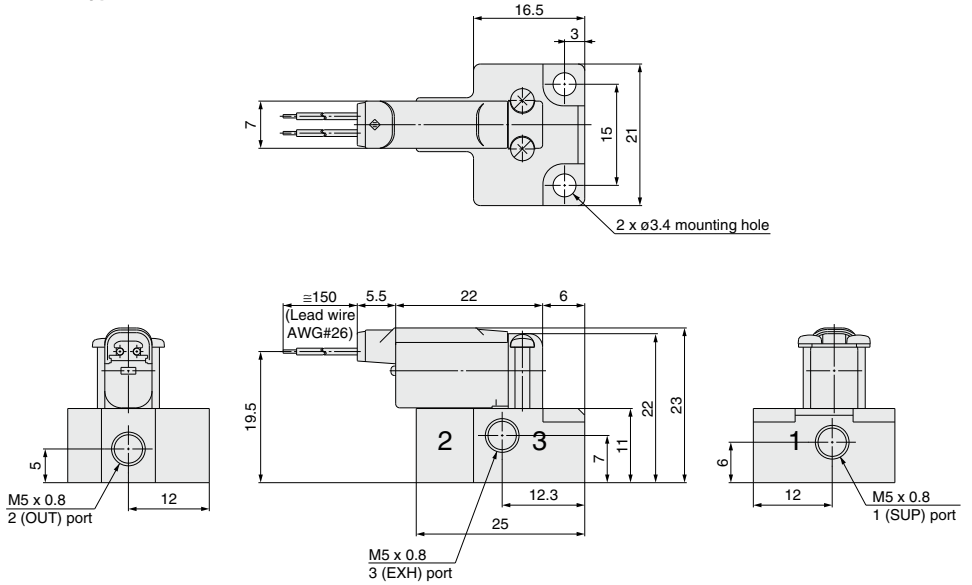


# S070 Series

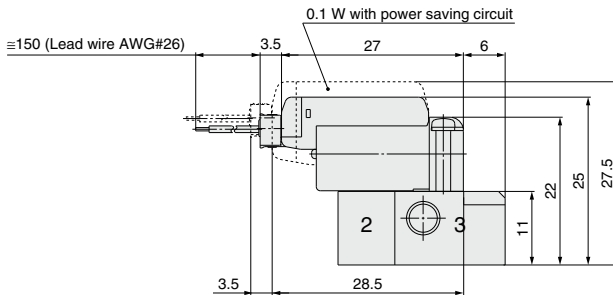
## Dimensions

Base mounted with screws

S070B-□□G-M5  
Grommet type



S070B-□□C-M5  
Plug lead type

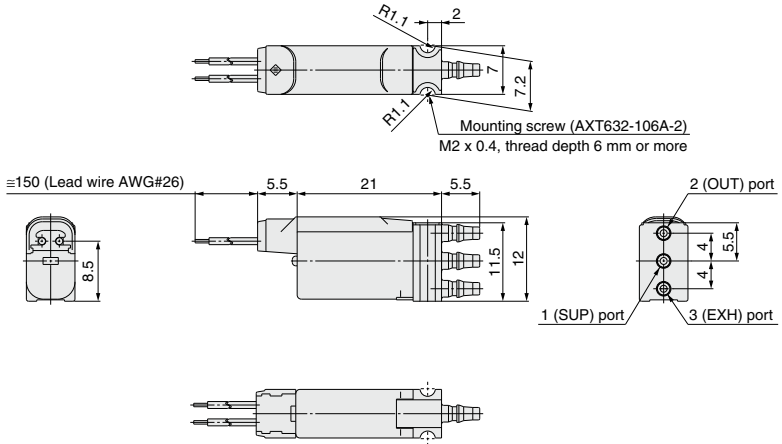


# 3 Port Solenoid Valve Compact Direct Operated **S070 Series**

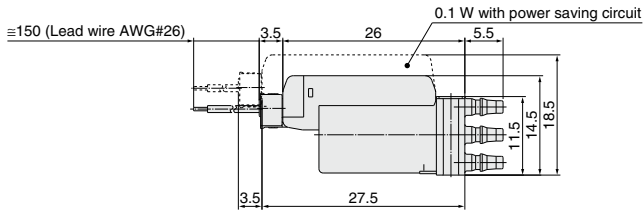
## Dimensions

### Body ported

#### S070C-□□G-32 Grommet type



#### S070C-□□C-32 Plug lead type



VV061

VV100

V100

**S070**

VQD

VQD-V

VK

VT

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

## How to Order Manifold

Base mounted manifold  
separable base

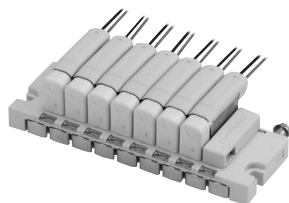
**SS07 3 A01 - 08 C**

Ports  
3 3 port

Port size

Symbol	SUP/EXH port (Applicable tubing)	OUT port	
		Applicable tubing	
A01	Barb fittings (ø6/ø4)	Barb fittings	ø3.18/ø2
A02			ø4/ø2.5
A03			ø2/ø1.2

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



Stations  
02 2 stations  
03 3 stations  
...  
20 20 stations  
Note) Maximum of 20 stations

Electrical entry

C Grommet/Plug lead

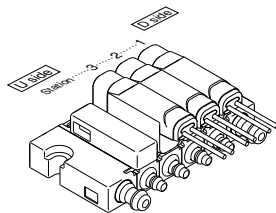
## How to Order Manifold Assembly

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

<Example>  
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.



## How to Order Valves

**S070 A - 5 B G**

Body type

Symbol	Body type
A	Base mounted with clips

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

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

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 Note)		0.1	0.011
F Note)		0.3	0.006

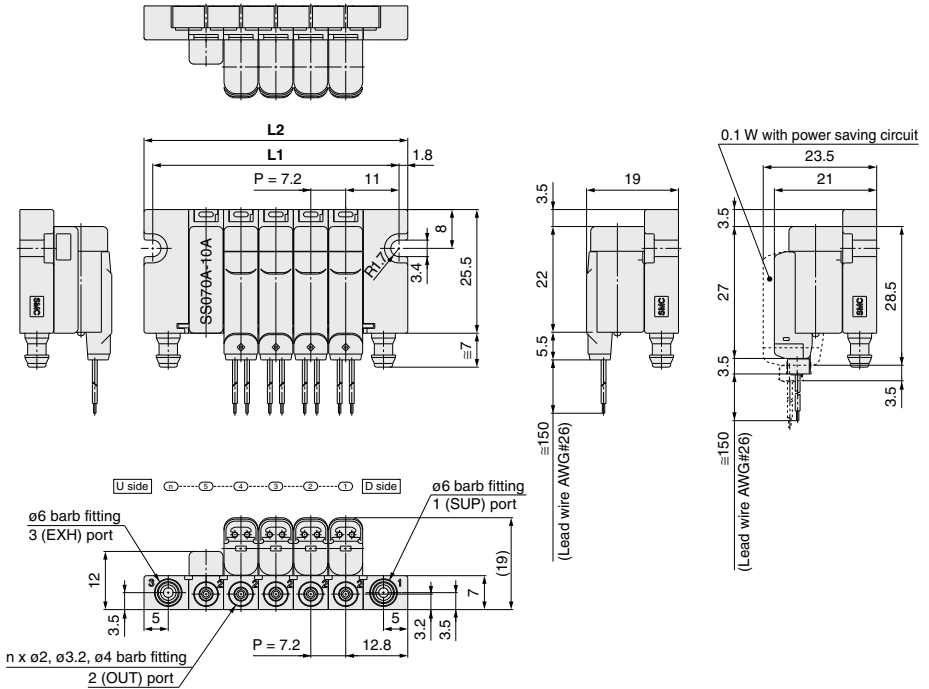
Note) Semi-standard, only applicable to 24 VDC plug lead type.



## Dimensions

Base mounted manifold/Separable base

SS073A<sup>01</sup><sub>02</sub> - Stations C



## Dimensions

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

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	29.2	36.4	43.6	50.8	58	65.2	72.4	79.6	86.8	94	101.2	108.4	115.6	122.8	130	137.2	144.4	151.6	158.8
L2	32.8	40	47.2	54.4	61.6	68.8	76	83.2	90.4	97.6	104.8	112	119.2	126.4	133.6	140.8	148	155.2	162.4

VV061

VV100

V100

**S070**

VQD

VQD-V

VK

VT

# 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

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

Port size

Stations	
<b>02</b>	2 stations
<b>03</b>	3 stations
⋮	⋮
<b>20</b>	20 stations

(Note) Maximum of 20 stations

Electrical entry

**C** Grommet/Plug lead



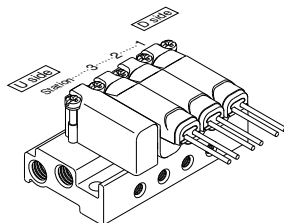
## How to Order Manifold Assembly

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-5BG** ... 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>B</b>	Base mounted with screws

Electrical entry

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

Coil voltage

<b>5</b>	24 VDC
<b>6</b>	12 VDC
<b>V</b>	6 VDC
<b>S</b>	5 VDC
<b>R</b>	3 VDC

Power consumption - Pressure specification - Flow rate

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

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



# 3 Port Solenoid Valve S070 Series/Base Mounted Manifold Stacking Type Specifications

## How to Order Manifold

### Body ported manifold stacking type

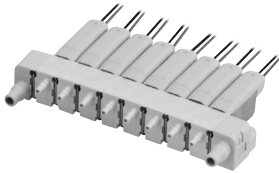
**SS07 3 M01 - 08 C**

Ports  
3 3 port

#### Port size

Symbol	SUP/EXH port (Applicable tubing)	OUT port Applicable tubing	
	M01	Barb fittings (ø6/ø4)	Barb fittings
M02			ø4/ø2.5

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



#### Stations

02	2 stations
03	3 stations
⋮	⋮
20	20 stations

Note) Maximum of 20 stations

#### Electrical entry

C	Grommet/Plug lead
---	-------------------

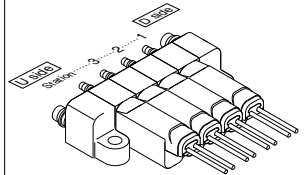
## How to Order Manifold Assembly

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

<Example>  
SS073M01-04C \_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.



## How to Order Valves

**S070 M - 5 B G - 32**

#### Body type

Symbol	Body type
M	Body ported stacking manifold type

#### Port size

Symbol	Connection	Applicable tubing
32	Barb fitting	ø3.18/ø2
40		ø4/ø2.5

#### 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

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

#### Power consumption - Pressure specification - Flow rate

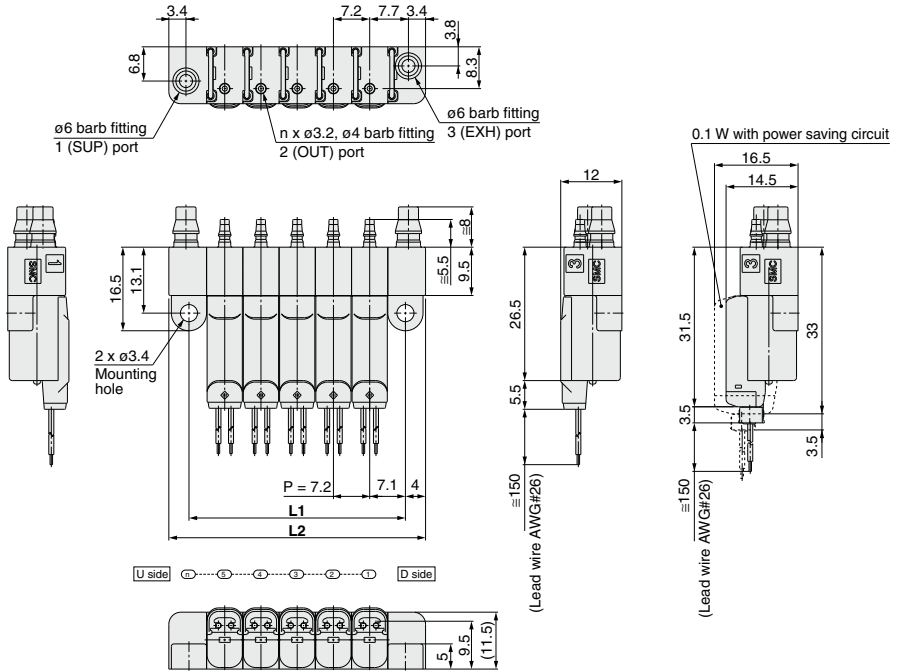
Symbol	Power consumption (W)	Maximum operating pressure (MPa)	Cv factor
A	0.35	0.1	0.016
B		0.3	0.011
C		0.3	0.016
D	0.5	0.5	0.011
E (Note)		0.1	0.011
F (Note)	(With power saving circuit)	0.3	0.006

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

## Dimensions

Body ported stacking type manifold

SS073M<sup>01</sup><sub>02</sub>-Stations C



## Dimensions

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

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	21.4	28.6	35.8	43	50.2	57.4	64.6	71.8	79	86.2	93.4	100.6	107.8	115	122.2	129.4	136.6	143.8	151
L2	29.4	36.6	43.8	51	58.2	65.4	72.6	79.8	87	94.2	101.4	108.6	115.8	123	130.2	137.4	144.6	151.8	159

VW061

VV100

V100

S070

VQD

VQD-V

VK

VT

# S070 Series

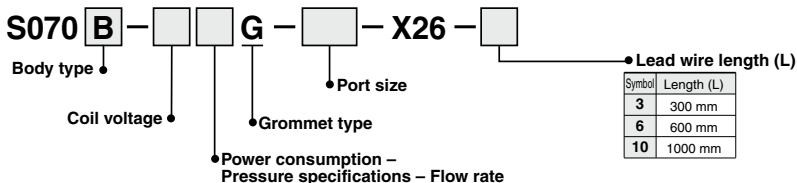
## Made to Order

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



### 1 Grommet Type: Special Lead Wire Length

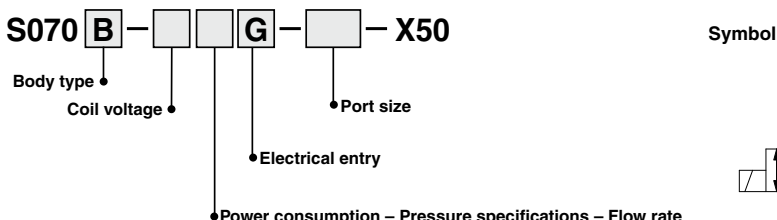
X26



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

### 2 Universal Specifications

X50

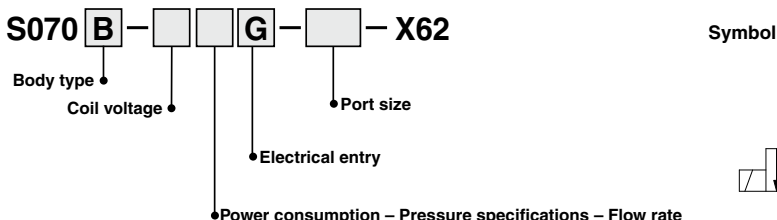


Symbol	Power consumption	Operating pressure range	Flow rate characteristics		
			C (dm <sup>3</sup> /(s·bar))	b	CV
<b>A</b>	0.35 WDC	0 to 0.1 MPa	0.042	0.27	0.011
			0.021	0.27	0.006
<b>B</b>	0.5 WDC	0 to 0.3 MPa	0.042	0.27	0.011
			0.021	0.27	0.006

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

### 3 Normally Open Specifications

X62



Symbol	Power consumption	Max. operating pressure (3 port pressure)	Flow rate characteristics		
			C (dm <sup>3</sup> /(s·bar))	b	CV
<b>A</b>	0.35 WDC	0 to 0.1 MPa	0.042	0.27	0.011
			0.021	0.27	0.006
<b>B</b>	0.5 WDC	0 to 0.3 MPa	0.042	0.27	0.011
			0.021	0.27	0.006

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

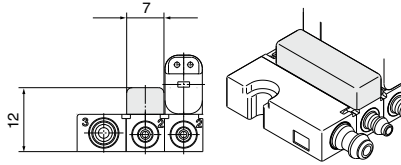
\* Refer to pages 1370, 1376, 1378 and 1380 for body type, coil voltage, electrical entry, and port size.

## Manifold Options

### Blanking plate assembly (for SS073A)

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

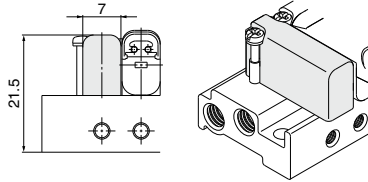
This assembly is mounted on a manifold block where the valve is removed for maintenance or a replacement valve is going to be mounted.



### Blanking plate assembly (for SS073B)

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

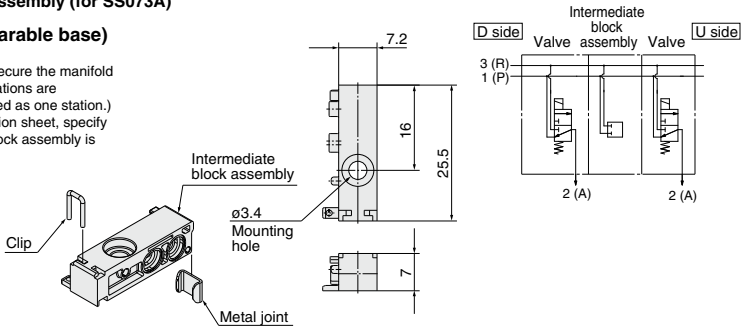
This assembly is mounted on a manifold block where the valve is removed for maintenance or a replacement valve is going to be mounted.



### Intermediate block assembly (for SS073A)

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

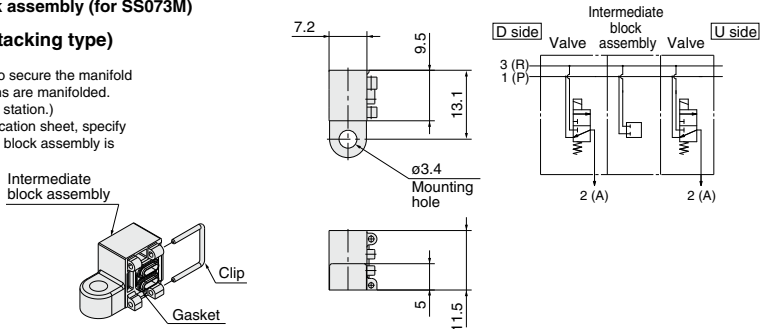
This assembly is used to secure the manifold when a large number of stations are manifolded. (Accommodated as one station.)  
\* In the manifold specification sheet, specify the position where the block assembly is mounted.



### 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.



VV061

VV100

V100

**S070**

VQD

VQD-V

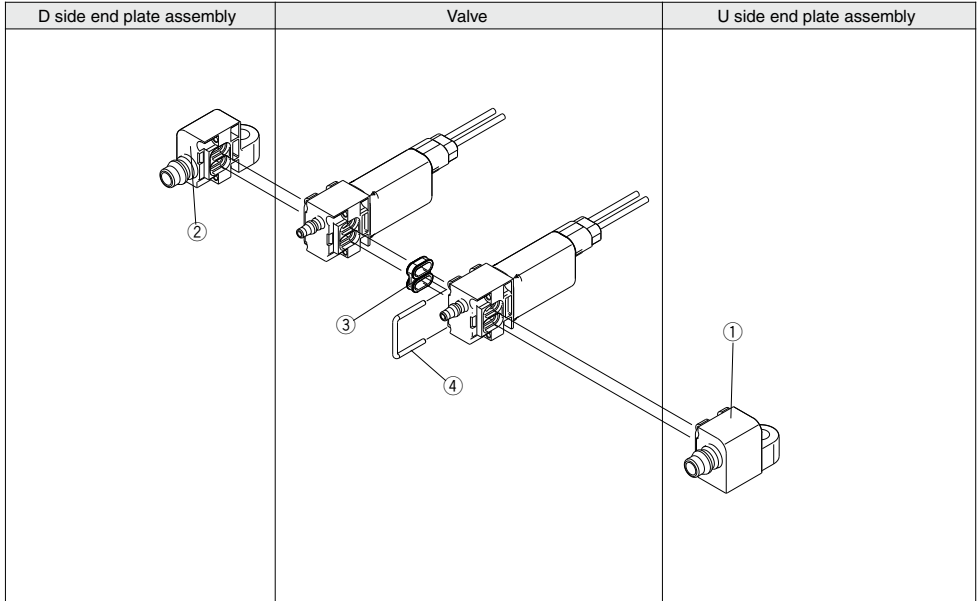
VK

VT

# S070 Series

# Exploded View of Stacking Type

Body Ported Type/SS073M01-□C Exploded View of Stacking Type



### < 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

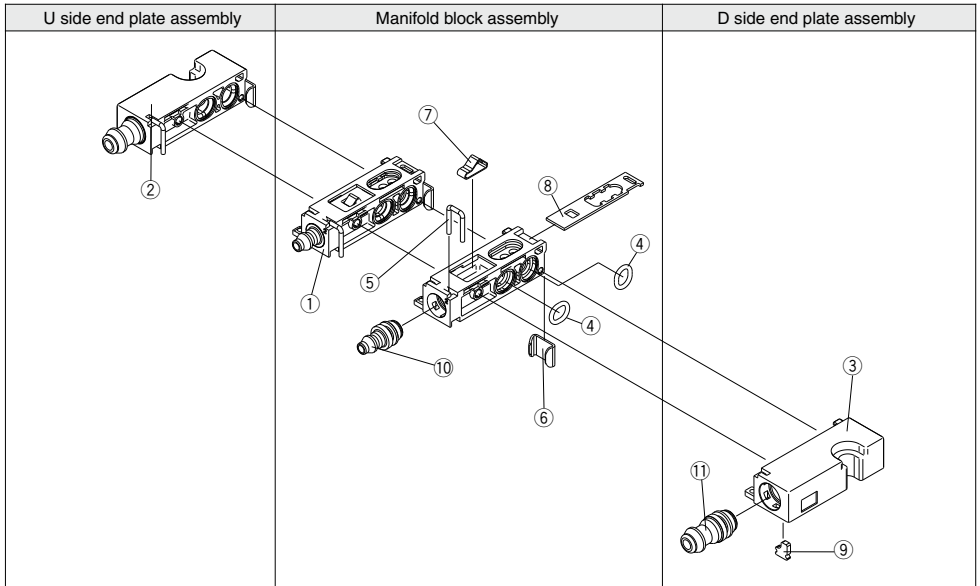
No.	Part no.	Description	Material	Number
③	S070M-80A-1	Gasket	FKM	10
④	SS070M-80A-2	Clip	Stainless steel	10



# S070 Series

# Exploded View of Separable Base

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



### < Manifold Block Assembly >

① Manifold block assembly no.

**SS070A 01 -1A**

● Port size

01	With $\phi 3.18/\phi 2$ barb fitting
02	With $\phi 4/\phi 2.5$ barb fitting
03	With $\phi 2/\phi 1.2$ 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 >

#### Replacement Parts

No.	Part no.	Description	Material	Number
④	SS070A-80A-1	O-ring	FKM	10
⑤	SS070A-80A-2	Clip	Stainless steel	10
⑥	SS070A-80A-3	Metal joint	Stainless steel	10
⑦	SS070A-80A-4	Leaf spring	Stainless steel	10
⑧	SS070A-80A-5	Mounting bracket	Stainless steel	10

### < Replacement Parts for U/D End Plate >

#### Replacement Parts

No.	Part no.	Description	Material	Number
⑨	SS070A-80A-6	Stopper plate	Stainless steel	10

### < Barb Fitting Assembly >

⑩ Barb fitting assembly (for cylinder port)

**SS070-50A-32**

● Port size

20	Applicable tube $\phi 2/\phi 1.2$
32	Applicable tube $\phi 3.18/\phi 2$
40	Applicable tube $\phi 4/\phi 2.5$

Note) Order is accepted in 10 units.

⑪ Barb fitting assembly (for 1(P), 3(R) ports)

**SS070-51A-60**

● Applicable tubing  $\phi 6/\phi 4$

Note) Order is accepted in 10 units.

VV061

VV100

V100

S070

VQD

VQD-V

VK

VT