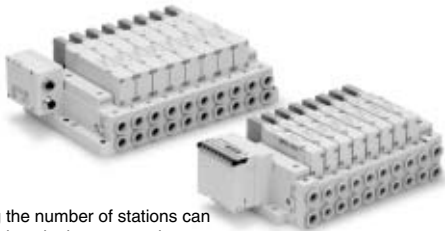


# Valve Manifold Common Specifications Series SV

## Cassette base manifold



- Changing the number of stations can be easily done by lever operation.

## Manifold Specifications

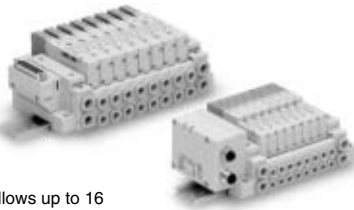
Applicable series		SV1000	SV2000
Manifold type		Stacking type cassette base manifold	
1 (P: SUP)/3, 5 (E: EXH) type		Common SUP, EXH	
Valve stations (maximum)		18 stations	20 stations
Max. number of solenoids		18 points	26 points
Port size	1(P), 3/5(E) port	C8, N9	C10, N11
	4(A), 2(B) port	C3, C4, C6 N1, N3, N7	C4, C6, C8 N3, N7, N9

## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 3/5 (A/B → E)		
			C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
SS5V1-16	C8	C6	0.89	0.22	0.22	0.98	0.21	0.23
SS5V2-16	C10	C8	2.3	0.28	0.50	2.7	0.18	0.56

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

## Tie-rod base manifold



- 34 pins connector allows up to 16 stations with double solenoids.

## Manifold Specifications

Applicable series		SV1000	SV2000	SV3000	SV4000
Manifold type		Tie-rod base manifold			
1 (P: SUP)/3, 5 (E: EXH) type		Common SUP, EXH			
Valve stations (maximum)		20 stations			
Max. number of solenoids		32 points			
Port size	1(P), 3/5(E) port	C8, N9	C10, N11	C12, N11	C12, N11, 03
	4(A), 2(B) port	C3, C4, C6 N1, N3, N7	C4, C6, C8 N3, N7, N9	C6, C8, C10 N7, N9, N11	C8, C10, C12 N9, N11, 02, 03

## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2(P → A/B)			4/2 → 3/5(A/B → E)		
			C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
SS5V1-10	C8	C6	0.98	0.26	0.24	1.1	0.35	0.28
SS5V2-10	C10	C8	2.1	0.20	0.46	2.4	0.18	0.48
SS5V3-10	C12	C10	4.2	0.22	0.91	4.3	0.21	0.93
SS5V4-10	C12	C12	6.2	0.19	1.3	7.0	0.18	1.6

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

## Enclosure of Manifold Variations (Common for cassette base and tie-rod base)

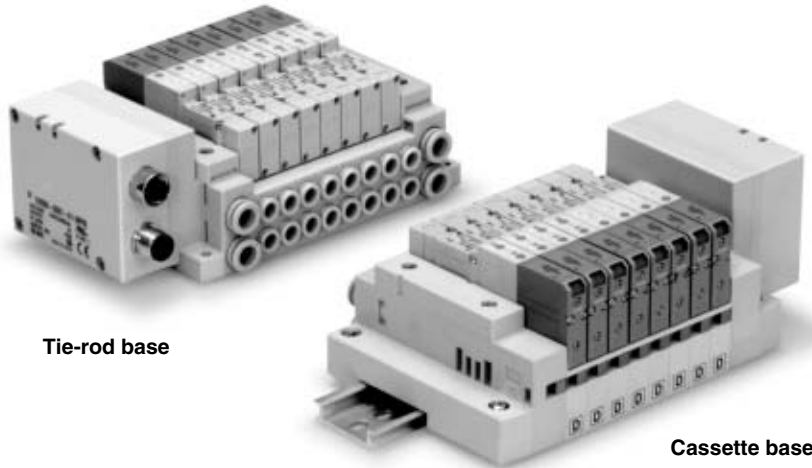
Series	Enclosure (Based on IEC529)
Series EX500 Decentralized serial wiring	IP67 *
Series EX250 Serial wiring with input/output onit	IP67
Series EX120 Dedicated output serial wiring	Dusttight (IP40)
For circular connector	IP67
D-sub connector	Dusttight (IP40)
Flat ribbon cable	Dusttight (IP40)

\* Enclosure of a gateway unit and input manifold is IP65.

# Decentralized Serial Wiring

## Series **EX500**

IP67 compliant



Tie-rod base

Cassette base

Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
	<ul style="list-style-type: none"><li>• Number of output points: 16 points</li><li>• EX500 gateway unit communication specifications Remote I/O, DeviceNet, PROFIBUS-DP</li></ul>

SV

SZ

SY

SYJ

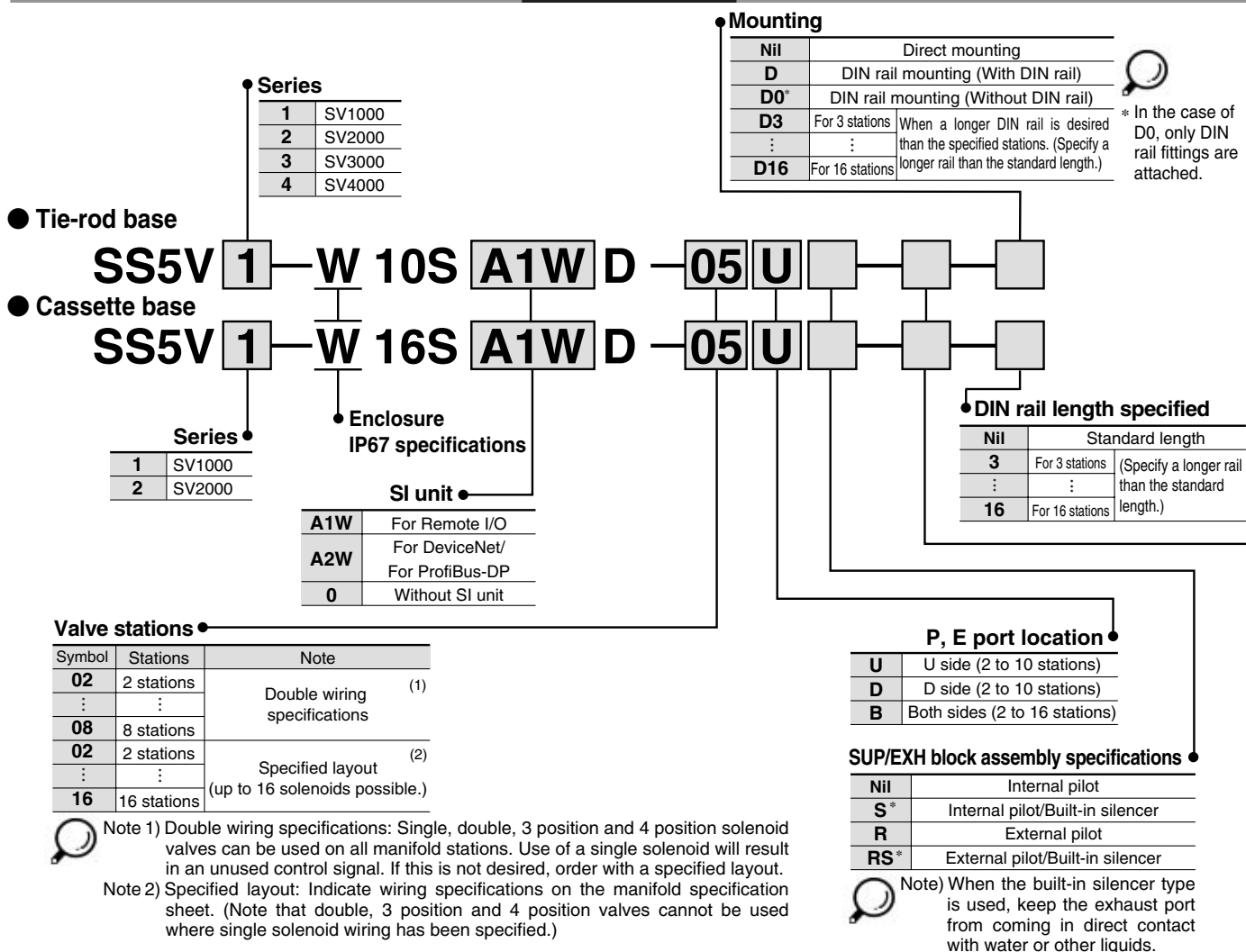
SX

# Series EX500

## Decentralized Serial Wiring

# Series SV

### How to Order



Note 1) Double wiring specifications: Single, double, 3 position and 4 position solenoid valves can be used on all manifold stations. Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

Note) When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

#### A, B port size (metric)

Symbol	A, B port	P, E port	Applicable series
C3	One-touch fitting for ø3.2	One-touch fitting for ø8	SV1000
C4	One-touch fitting for ø4		
C6	One-touch fitting for ø6		
C4	One-touch fitting for ø4	One-touch fitting for ø10	SV2000
C6	One-touch fitting for ø6		
C8	One-touch fitting for ø8		
C6	One-touch fitting for ø6	One-touch fitting ø12	SV3000
C8	One-touch fitting for ø8		
C10	One-touch fitting for ø10		
C8	One-touch fitting for ø8	One-touch fitting ø12	SV4000
C10	One-touch fitting for ø10		
C12	One-touch fitting for ø12		
02	Rc 1/4	Rc 3/8	SV4000
03	Rc3/8		
02F	G 1/4		
03F	G 3/8	G 3/8	SV4000
M	A, B ports mixed		

#### A, B port size (inch)

Symbol	A, B port	P, E port	Applicable series
N1	One-touch fitting for ø1/8"	One-touch fitting for ø5/16"	SV1000
N3	One-touch fitting for ø5/32"		
N7	One-touch fitting for ø1/4"		
N3	One-touch fitting for ø5/32"	One-touch fitting for ø3/8"	SV2000
N7	One-touch fitting for ø1/4"		
N9	One-touch fitting for ø5/16"		
N7	One-touch fitting for ø1/4"	One-touch fitting for ø3/8"	SV3000
N9	One-touch fitting for ø5/16"		
N11	One-touch fitting for ø3/8"		
N9	One-touch fitting for ø5/16"	One-touch fitting for ø3/8"	SV4000
N11	One-touch fitting for ø3/8"		
02N	NPT 1/4		
03N	NPT 3/8	NPT 3/8	SV4000
02T	NPTF 1/4		
03T	NPTF 3/8		
M	A, B ports mixed		

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

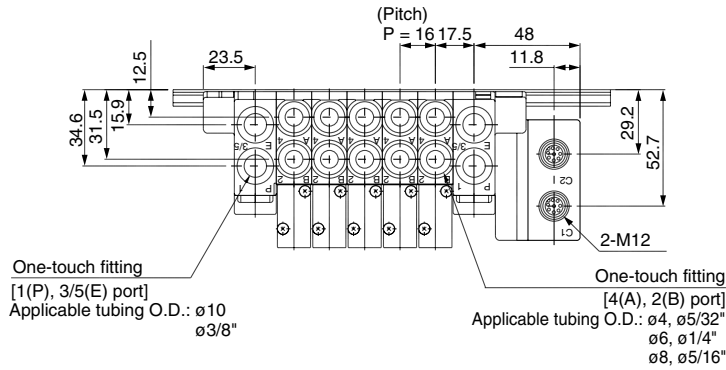
\* Port sizes of X, PE port for external pilot specifications (R, RS) are ø4 (metric), ø5/32" (inch) for SV1000/2000 and ø6 (metric) and ø1/4" (inch) for SV3000/4000.

# Series SV

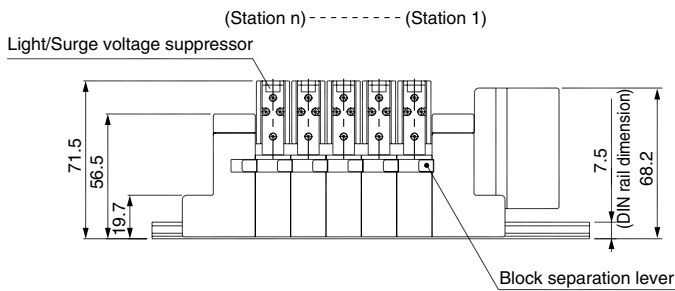
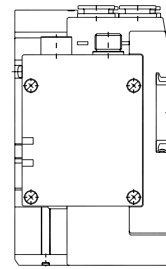
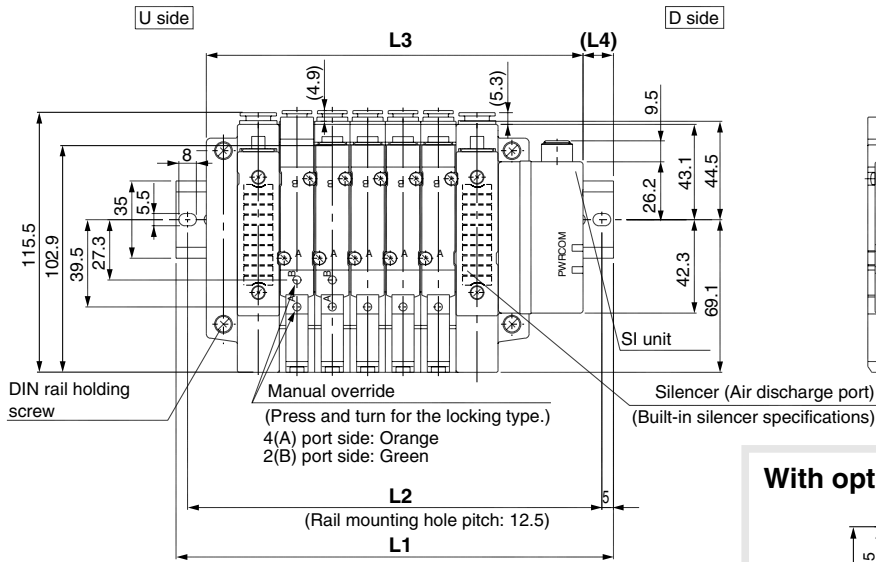
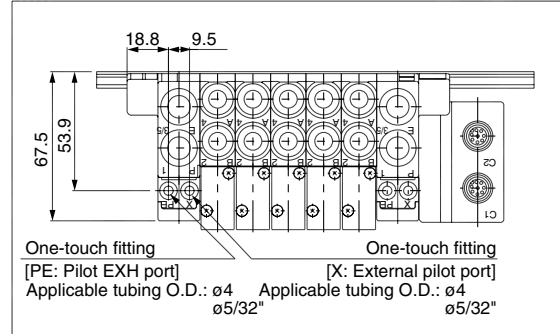
## Dimensions: Series SV2000 for EX500 Decentralized Serial Wiring

● **Cassette base manifold: SS5V2-W16SA□WD- Stations**  $\begin{matrix} U \\ D \\ B \end{matrix}$  (S, R, RS) -  $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$

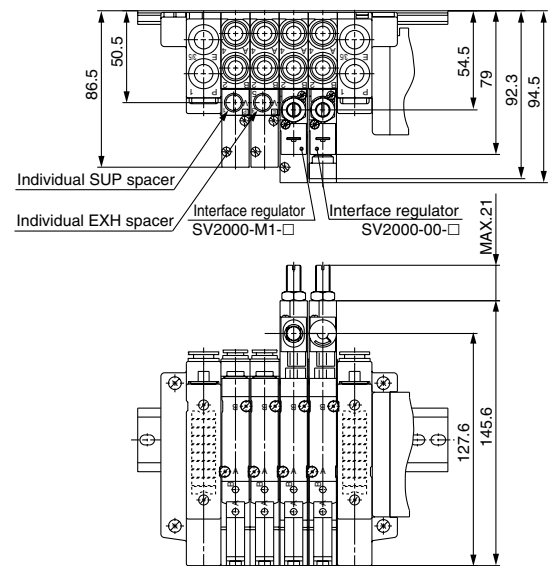
- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.



### With External Pilot Specifications



### With option



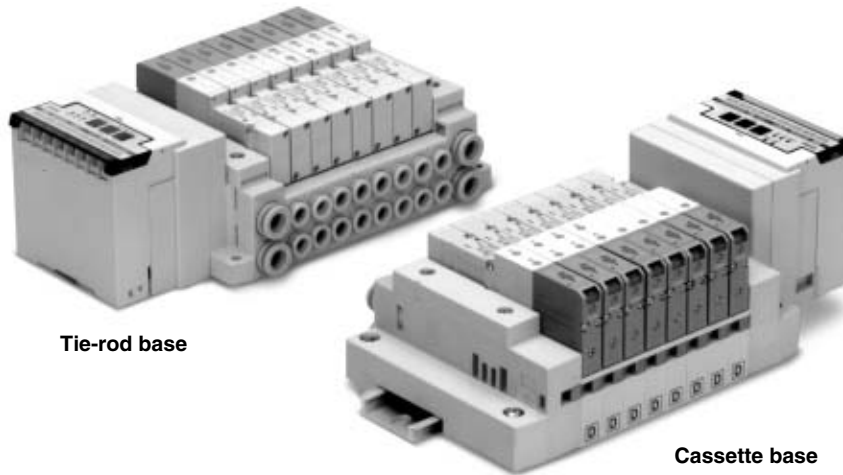
### L Dimension

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5	298	310.5	323	348	360.5	373
L2	137.5	162.5	175	187.5	200	225	237.5	250	275	287.5	300	312.5	337.5	350	362.5
L3	122.5	138.5	154.5	170.5	186.5	202.5	218.5	234.5	250.5	266.5	282.5	298.5	314.5	330.5	346.5
L4	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5

# Dedicated Output Serial Wiring

## Series *EX120*



Tie-rod base

Cassette base

Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
• Number of outputs points: 16 points	

SV

SZ

SY

SYJ

SX



# Series EX120 Dedicated Output Serial Wiring Series SV

## How to Order

**Series**

1	SV1000
2	SV2000
3	SV3000
4	SV4000

**Tie-rod base**

**Cassette base**

**Series**

1	SV1000
2	SV2000

**SI unit**

Symbol	Specifications
0	Without SI unit
A*	With general type SI unit (Series EX300)
B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System
C	OMRON Corp.: SYSBUS Wire System
D	SHARP Corp.: Satellite I/O Link System
E	Matsushita Electric Works: MEWNET-F System
F1	NKE Corp.: Uni-wire System (16 output points)
G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System
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)
K	Fuji Electric Co.: T-LINK Mini System
Q	DeviceNet, CompoBus/D (OMRON Corp.)
R1	OMRON Corp.: CompoBus/S System (16 output points)
R2	OMRON Corp.: CompoBus/S System (8 output points)
U	JEMANET (JPCN-1)
V	Mitsubishi Electric Corp.: CC-LINK System

\* For the general purpose type, a transmission unit is require on the CPU side.

**Mounting**

Nil	Direct mounting
D	DIN rail mounting (With DIN rail)
D0*	DIN rail mounting (Without DIN rail)
D3	For 3 stations   When a longer DIN rail is desired than the specified stations. (Specify a longer rail than the standard length.)
:	:
D16	For 16 stations

\* In the case of D0, only DIN rail fittings are attached.

**DIN rail length specified**

Nil	Standard length
3	For 3 stations   (Specify a longer rail than the standard length.)
:	:
16	For 16 stations

**Valve stations**

Symbol	Stations	Note
02	2 stations	(1) Double wiring specifications
:	:	
08	8 stations	
02	2 stations	(2) Specified layout (up to 16 solenoids possible.)
:	:	
16	16 stations	

• Since J2 and R2 type SI units have 8 outputs note that up to 8 solenoids can be accommodated.  
• This also includes the number of blanking plate assemblies.

Note 1) Double wiring specifications: Single, double, 3 position and 4 position solenoid valves can be used on all manifold stations. Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.  
Note 2) Specified layout: Indicate wiring specifications on the manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

**P, E port location**

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

**SUP/EXH block assembly specifications**

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

### SI Unit Part No.

Symbol	Specifications	For SS5V□□□S3
A*	With general type SI unit (Series EX300)	EX320-S001
B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	EX120-SMB1
C	OMRON Corp.: SYSBUS Wire System	EX120-STA1
D	SHARP Corp.: Satellite I/O Link System	EX120-SSH1
E	Matsushita Electric Works: MEWNET-F System	EX120-SPA1
F1	NKE Corp.: Uni-wire System (16 output points)	EX120-SUW1
G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System	EX120-SAB1

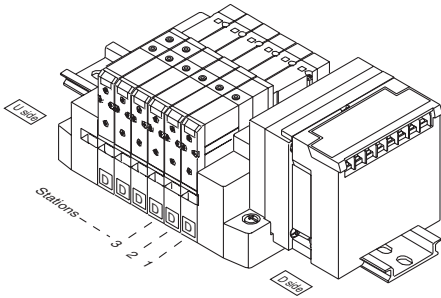
Symbol	Specifications	For SS5V□-□□S3
H	NKE Corp.: Uni-wire H System	EX120-SUH1
J1	SUNX Corp.: S-LINK System (16 output points)	EX120-SSL1
J2	SUNX Corp.: S-LINK System (8 output points)	EX120-SSL2
K	Fuji Electric Co.: T-LINK Mini System	EX120-SFU1
Q	DeviceNet, CompoBus/D (OMRON Corp.)	EX120-SDN1
R1	OMRON Corp.: CompoBus/S System (16 output points)	EX120-SCS1
R2	OMRON Corp.: CompoBus/S System (8 output points)	EX120-SCS2
U	JEMANET (JPCN-1)	EX120-SJN1
V	Mitsubishi Electric Corp.: CC-LINK System	EX120-SMJ1

\* For terminal LED descriptions for each SI unit and cable wiring, etc., refer to pages 1-2-46 to 1-2-48.



# Series SV

- The serial transmission system reduces wiring work, while minimizing wiring and saving space.
- Maximum 16 stations (Specify a model with more than 9 stations by means of the manifold specification sheet.)

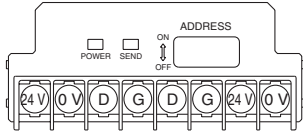
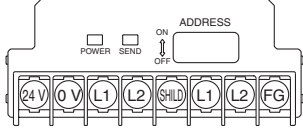
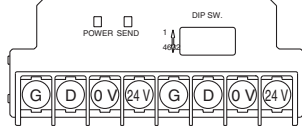
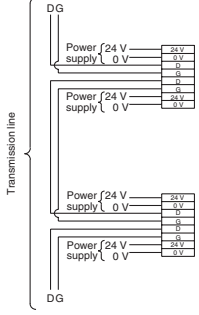
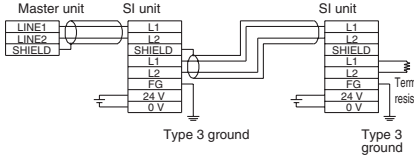
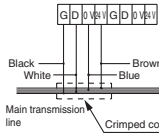
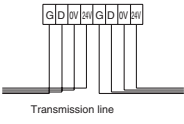


- Stations are counted from D side as the 1st.
- A maximum of 16 solenoids is possible (16 stations with single solenoids).

Item	Specifications
External power supply	24 VDC + 10%/- 5%
Current consumption (Internal unit)	0.1 A A, B, D, E, F1, G, J1, J2, K, R1, R2, H, U, V
	0.3 A C, Q

	Type A Series EX300	Type B Mitsubishi Electric Corporation MELSECNET/mini-S3 Data Link System																		
Name of terminal block, LED	<table border="1"> <thead> <tr> <th>LED</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>TRD</td> <td>ON during data reception</td> </tr> <tr> <td>RUN/ERR</td> <td>Blinks for normal data reception, ON for abnormal</td> </tr> </tbody> </table>	LED	Description	TRD	ON during data reception	RUN/ERR	Blinks for normal data reception, ON for abnormal	<table border="1"> <thead> <tr> <th>LED</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>POWER</td> <td>ON for power supply input</td> </tr> <tr> <td>RUN</td> <td>ON for normal data traffic with master unit</td> </tr> <tr> <td>RD</td> <td>ON during data reception</td> </tr> <tr> <td>SD</td> <td>ON during data transmission</td> </tr> <tr> <td>ERR</td> <td>ON for data reception error, OFF when normal</td> </tr> </tbody> </table>	LED	Description	POWER	ON for power supply input	RUN	ON for normal data traffic with master unit	RD	ON during data reception	SD	ON during data transmission	ERR	ON for data reception error, OFF when normal
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Note	<ul style="list-style-type: none"> <li>• Connection to T unit PLC manufacturer's I/O card enables serial transmission. EX300-TMB1..... for Mitsubishi Electric Corporation EX300-TTA1..... for OMRON Corporation EX300-TFU1..... for Fuji Electric Co., Ltd. EX300-T001..... General purpose</li> <li>* Each T unit has 32 control points.</li> <li>• No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• MELSECNET/mini-S3 Data Link System Master unit : AJ71PT32-S3 AJ71T32-S3 A1SJ71PT32-S3</li> <li>• No. of output points, 16 points, No. of stations occupied, 2 stations</li> </ul>																		
Cable wiring	<p>* Ground either the reception side or the transmission side of the shielding wire shield.</p>	<p>SI manifold solenoid valve</p> <p>* Ground either the reception side or the transmission side of the shielding wire shield.</p>																		

	Type C OMRON Corporation SYSBUS Wire System	Type D SHARP Corporation Satellite I/O Link System	Type E Matsushita Electric Works, Ltd. MEWNET-F System																								
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Note	<ul style="list-style-type: none"> <li>• SYSBUS Wire System Master unit : Type C500-RM201 Type C200H-RM201</li> <li>• No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• Satellite I/O Link System JW-23LM, JW-23LMH Master unit : ZW-31LM JW-31LM, JW-31LMH</li> <li>• No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• MEWNET-F System Master unit : AFP3740, AFP3742 AFP5740, AFP5742</li> <li>• No. of output points, 16 points</li> </ul>																								
Cable wiring		<p>a) 2-wire type Wiring does not include signal ground line (SG).</p> <p>b) 3-wire type Wiring does not include signal ground line (SG).</p>																									

	Type F1 NKE Corporation Uni-wire System	Type G Rockwell Automation, Inc. Allen Bradley Remote I/O (RIO) System	Type J1, J2 SUNX Corporation S-LINK System																				
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POWER	ON when power supply is ON																						
COM	ON when communication is normal Blinks when communication is initialized OFF for abnormal communication																						
ERROR	ON for abnormal communication																						
LED	Description																						
POWER	ON for power supply input																						
SEND	Transmission indication: Blinks when normal, Blinks slowly when abnormal																						
Note	<ul style="list-style-type: none"> <li>• Uni-wire System Send unit : SD-120</li> <li>• No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• Remote I/O (RIO) System</li> <li>• No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• S-LINK System S-LINK controller: SL-CU1A</li> <li>• No. of output points, 16 points (Type J1) No. of output points, 8 points (Type J2)</li> </ul>																				
Cable wiring			<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>a) Type T branching multi-drop wiring (S-LINK System)</p>  </div> <div style="width: 45%;"> <p>b) Crossover wiring (Sensor Link System)</p>  </div> </div> <p>The above is the example of using dedicated S-LINK flat ribbon cable SL-RCMI00.</p>																				

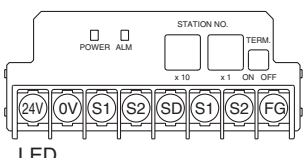
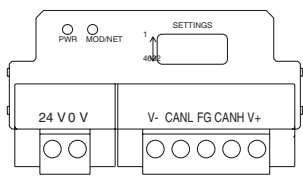
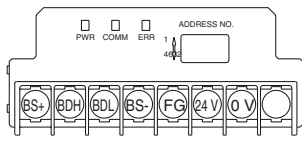
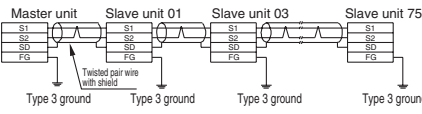
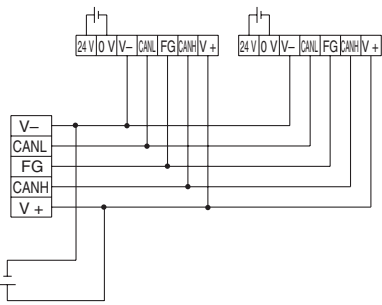
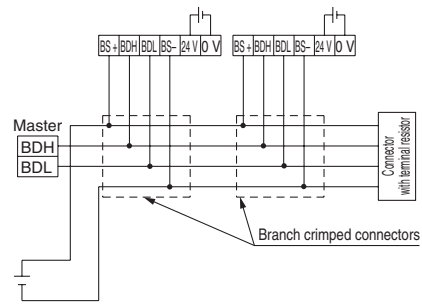
**SV**

**SZ**

**SY**

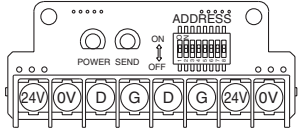
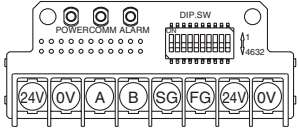
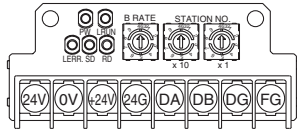
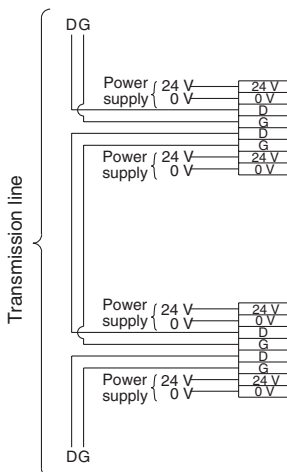
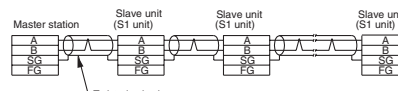
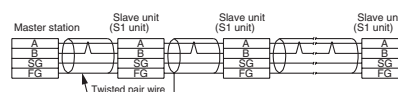
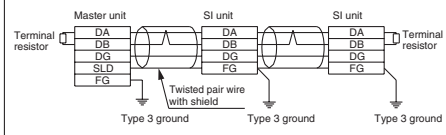
**SYJ**

**SX**

	Type K Fuji Electric Co., Ltd. T-LINK Mini System	Type Q DeviceNet	Type R1, R2 OMRON Corporation CompoBus/S																							
Name of terminal block, LED	 <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>LED</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>POWER</td> <td>ON for power supply input</td> </tr> <tr> <td>ALM</td> <td>ON for abnormal transmission or processor side power supply cut</td> </tr> </tbody> </table>	LED	Description	POWER	ON for power supply input	ALM	ON for abnormal transmission or processor side power supply cut	 <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>LED</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>PWR</td> <td>Green light ON for DeviceNet circuit power input OFF When this unit is off line or circuit power is OFF</td> </tr> <tr> <td rowspan="4">MOD/NET</td> <td>Green blinks When waiting for connection (On line)</td> </tr> <tr> <td>Green ON When connection is established (On line)</td> </tr> <tr> <td>Red blinks When connection time out occurs (recoverable communication abnormality)</td> </tr> <tr> <td>Red ON For MAC ID duplication error, or BUSOFF error (major communication abnormality)</td> </tr> </tbody> </table>	LED	Description	PWR	Green light ON for DeviceNet circuit power input OFF When this unit is off line or circuit power is OFF	MOD/NET	Green blinks When waiting for connection (On line)	Green ON When connection is established (On line)	Red blinks When connection time out occurs (recoverable communication abnormality)	Red ON For MAC ID duplication error, or BUSOFF error (major communication abnormality)	 <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>LED</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>PWR</td> <td>ON when communication power is supplied, OFF when power is OFF</td> </tr> <tr> <td>COMM</td> <td>ON for normal communication, OFF for abnormal communication or waiting</td> </tr> <tr> <td>ERR</td> <td>ON for abnormal communication, OFF for normal communication or waiting</td> </tr> </tbody> </table>	LED	Description	PWR	ON when communication power is supplied, OFF when power is OFF	COMM	ON for normal communication, OFF for abnormal communication or waiting	ERR	ON for abnormal communication, OFF for normal communication or waiting
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COMM	ON for normal communication, OFF for abnormal communication or waiting																									
ERR	ON for abnormal communication, OFF for normal communication or waiting																									
Note	<ul style="list-style-type: none"> <li>• T-LINK Mini System Master unit : FTM100B Converter : FRC100A-G02 Repeater : FRC200A-C10</li> <li>• No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• DeviceNet</li> <li>• OMRON Corporation: CompoBus/D System Master unit : Type C200HW-DRM21-V1 Master unit : Type CS1W-DRM21</li> <li>• No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• CompoBus/S System Master unit : Type C200HW-SRM21-V1 Master unit : Type CQM1-SRM21-V1 No. of output points, 16 points (Type SR1) • No. of output points, 8 points (Type SR2)</li> </ul>																							
Cable wiring	 <p>Connect the shielding wire to the SD terminal. If the shielding wire is not connected to the SD terminal, normal transmission will be impossible even for short distances. Furthermore, do not ground the shielding wire (SD).</p>																									



# Series SV

	Type H NKE Corporation Uni-wire H System	Type U JEMANET (JPCN-1)	Type V Mitsubishi Electric Corporation CC-LINK System																										
Name of terminal block, LED	 <table border="1"> <thead> <tr> <th>LED</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>POWER</td> <td>ON for power supply input (ON when normal, flickers when voltage drops)</td> </tr> <tr> <td>SEND</td> <td>Transmission indication: Blinks when normal, OFF or ON when abnormal</td> </tr> </tbody> </table>	LED	Description	POWER	ON for power supply input (ON when normal, flickers when voltage drops)	SEND	Transmission indication: Blinks when normal, OFF or ON when abnormal	 <table border="1"> <thead> <tr> <th>LED</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>POWER</td> <td>ON for SI unit power supply input</td> </tr> <tr> <td>COMM</td> <td>On for normal communication</td> </tr> <tr> <td>ALARM</td> <td>ON for abnormal communication</td> </tr> </tbody> </table>	LED	Description	POWER	ON for SI unit power supply input	COMM	On for normal communication	ALARM	ON for abnormal communication	 <table border="1"> <thead> <tr> <th>LED</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>PW</td> <td>ON when communication power is supplied, OFF when power is OFF</td> </tr> <tr> <td>L RUN</td> <td>ON when normal data is being received</td> </tr> <tr> <td>SD</td> <td>ON when data is transmitted</td> </tr> <tr> <td>RD</td> <td>ON when data is received</td> </tr> <tr> <td>L ERR.</td> <td>ON for transmission error/wrong setting, Blinks when station or transmission speed setting changes during operation</td> </tr> </tbody> </table>	LED	Description	PW	ON when communication power is supplied, OFF when power is OFF	L RUN	ON when normal data is being received	SD	ON when data is transmitted	RD	ON when data is received	L ERR.	ON for transmission error/wrong setting, Blinks when station or transmission speed setting changes during operation
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L ERR.	ON for transmission error/wrong setting, Blinks when station or transmission speed setting changes during operation																												
Note	<ul style="list-style-type: none"> <li>• Uni-wire H System Send unit: SD-H2</li> <li>• No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• JEMANET (JPCN-1) (Reference) AJ71J92-S3 (Mitsubishi Electric Corporation) A1SJ71J92-S3 (Mitsubishi Electric Corporation) Type C200HW-JRM21 (OMRON Corporation) NJ-JPCN-1 (Fuji Electric Co., Ltd.) NP1L-JP1 (Fuji Electric Co., Ltd.) No. of output points, 16 points</li> </ul>	<ul style="list-style-type: none"> <li>• CC-Link System Master unit : AJ61BT11 Master unit : A1SJ61BT11 Master unit : AJ61QBT11 Master unit : A1SJ61QBT11</li> <li>• No. of output points, 16 points</li> </ul>																										
Cable wiring		<p>a) 2-wire type</p>  <p>b) 3-wire type</p> 																											

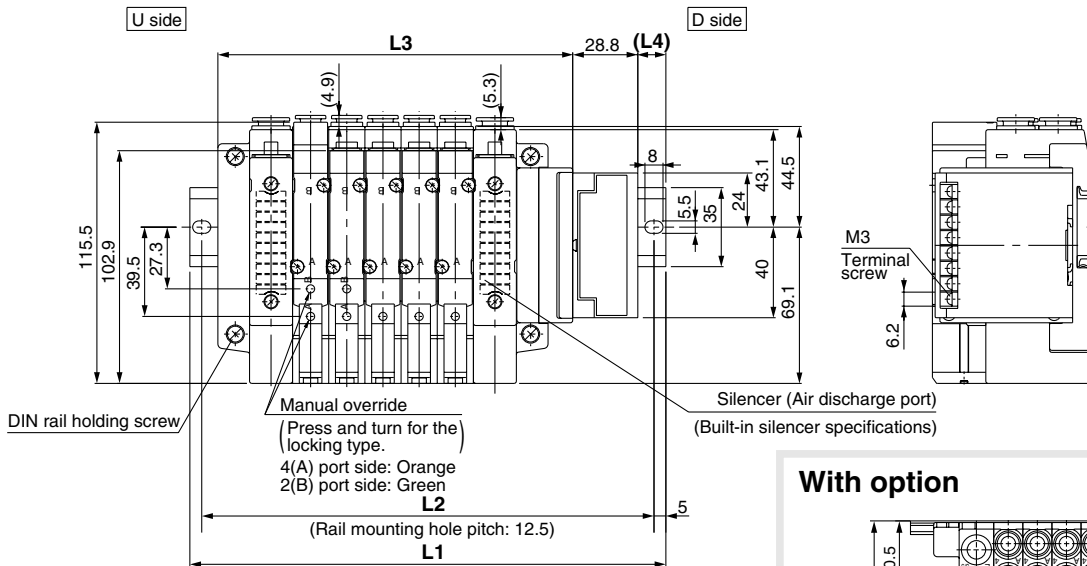
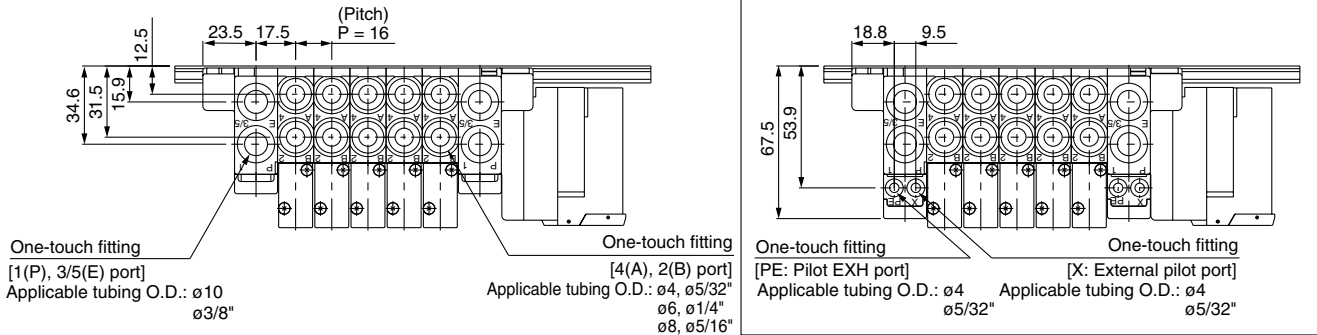
# Series SV

## Dimensions: Series SV2000 for EX120 Dedicated Output Serial Wiring

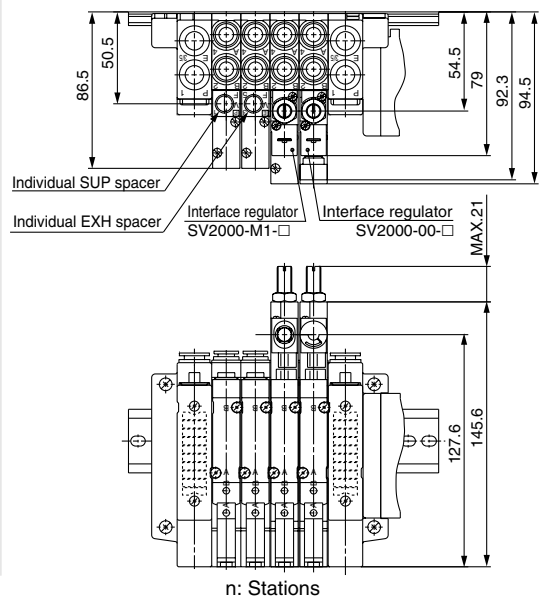
● **Cassette base manifold: SS5V2-16S3□D- Stations**  $\begin{matrix} U \\ D \end{matrix}$  (S, R, RS)  $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$

- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

### With External Pilot Specifications



### With option



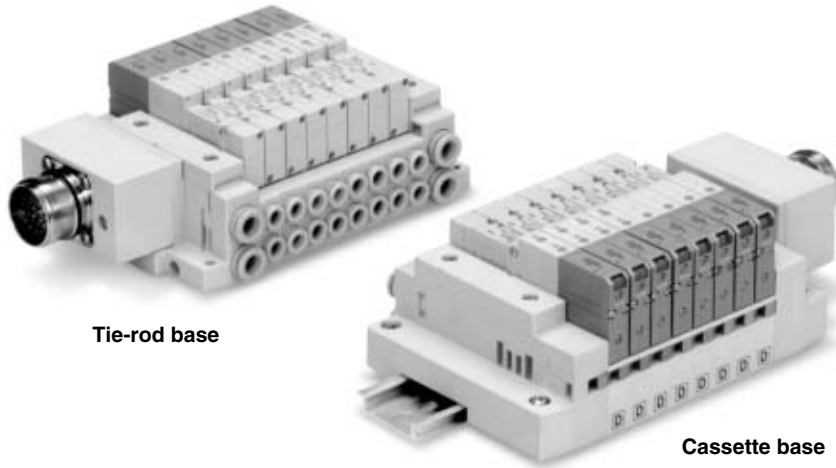
### L Dimension

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	173	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373	385.5
L2	162.5	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5	375
L3	108.9	124.9	140.9	156.9	172.9	188.9	204.9	220.9	236.9	252.9	268.9	284.9	300.9	316.9	332.9
L4	17.5	16	14	12.5	17	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5	12

● Note) The width of type E (Matsushita Electric Works, Ltd.) and type G (Rockwell Automation, Inc.) SI units are 24.3 mm greater.  
For details, please contact SMC.

# Circular Connector

IP67 compliant



Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
• Number of connectors: 26 pins	

SV

SZ

SY

SYJ

SX

# Circular Connector Series SV

## How to Order

**Series**

1	SV1000
2	SV2000
3	SV3000
4	SV4000

**Valve stations**

Symbol	Stations	Note
02	2 stations	(1) Double wiring specifications
⋮	⋮	
12	12 stations	(2) Specified layout (Up to 24 solenoids possible.)
02	2 stations	
⋮	⋮	
20	20 stations	

Note 1) Double wiring specifications: Single, double, 3 position and 4 position solenoid valves can be used at all of the manifold stations. Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

**● Tie-rod base**  
SS5V 1 — W 10CD — 05 U

**● Cassette base**  
SS5V 1 — W 16CD — 05 U

**● Mounting**

Nil	Direct mounting
D	DIN rail mounting (With DIN rail)
D0*	DIN rail mounting (Without DIN rail)
D3	For 3 stations When a longer DIN rail is desired than the specified stations. (Specify a longer rail than the standard length.)
⋮	⋮
D20	For 20 stations

\* In the case of D0, only DIN rail fittings are attached.

**● Enclosure IP67 specifications**

**Series**

1	SV1000
2	SV2000

**● DIN rail length specified**

Nil	Standard length
3	For 3 stations (Specify a longer rail than the standard length.)
⋮	⋮
20 (Note)	For 20 stations

Note) Able to specify the length for 3 stations up to 18 stations for SV1000, which is available with 18 station at the maximum.

**● A, B port size (Metric)**

Symbol	Specifications	P, E port	Applicable series
C3	One-touch fitting for ø3.2	One-touch fitting for ø8	SV1000
C4	One-touch fitting for ø4		
C6	One-touch fitting for ø6		
C4	One-touch fitting for ø4	One-touch fitting for ø10	SV2000
C6	One-touch fitting for ø6		
C8	One-touch fitting for ø8		
C6	One-touch fitting for ø6	One-touch fitting for ø12	SV3000
C8	One-touch fitting for ø8		
C10	One-touch fitting for ø10		
C8	One-touch fitting for ø8	One-touch fitting for ø12	SV4000
C10	One-touch fitting for ø10		
C12	One-touch fitting for ø12		
02	Rc 1/4	Rc 3/8	SV4000
03	Rc 3/8		
02F	G 1/4		
03F	G 3/8	G 3/8	SV4000
M	A, B ports mixed		

**● A, B port size (Inch)**

Symbol	Specifications	P, E port	Applicable series
N1	One-touch fitting for ø1/8"	One-touch fitting for ø5/16"	SV1000
N3	One-touch fitting for ø5/32"		
N7	One-touch fitting for ø1/4"		
N3	One-touch fitting for ø5/32"	One-touch fitting for ø3/8"	SV2000
N7	One-touch fitting for ø1/4"		
N9	One-touch fitting for ø5/16"		
N7	One-touch fitting for ø1/4"	One-touch fitting for ø3/8"	SV3000
N9	One-touch fitting for ø5/16"		
N11	One-touch fitting for ø3/8"		
N9	One-touch fitting for ø5/16"	One-touch fitting for ø3/8"	SV4000
N11	One-touch fitting for ø3/8"		
02N	NPT 1/4		
03N	NPT 3/8	NPT 3/8	SV4000
02T	NPTF 1/4		
03T	NPTF 3/8		
M	A, B ports mixed		

**● P, E port location**

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 20 stations)

**● SUP/EXH block assembly specifications**

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

Note) When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

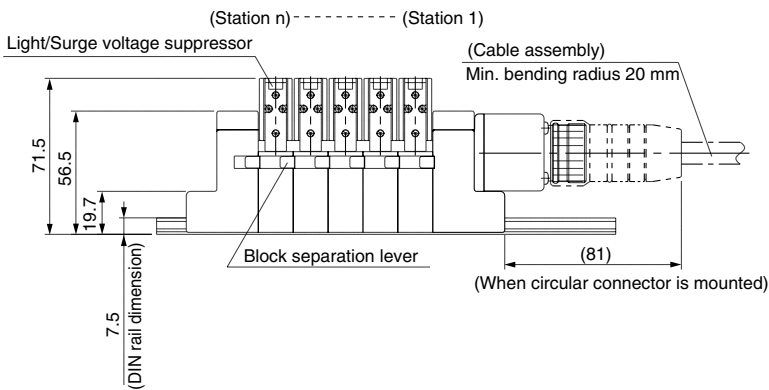
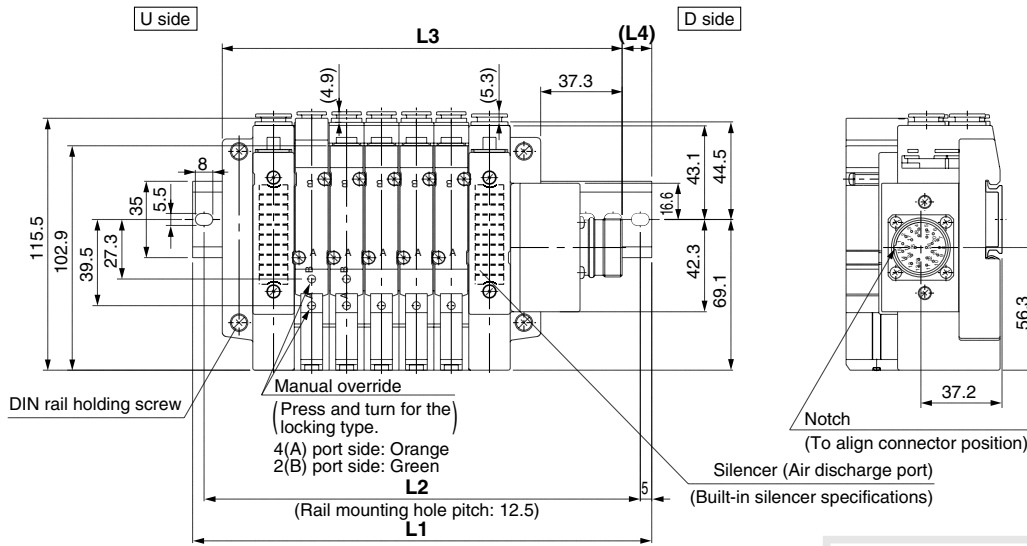
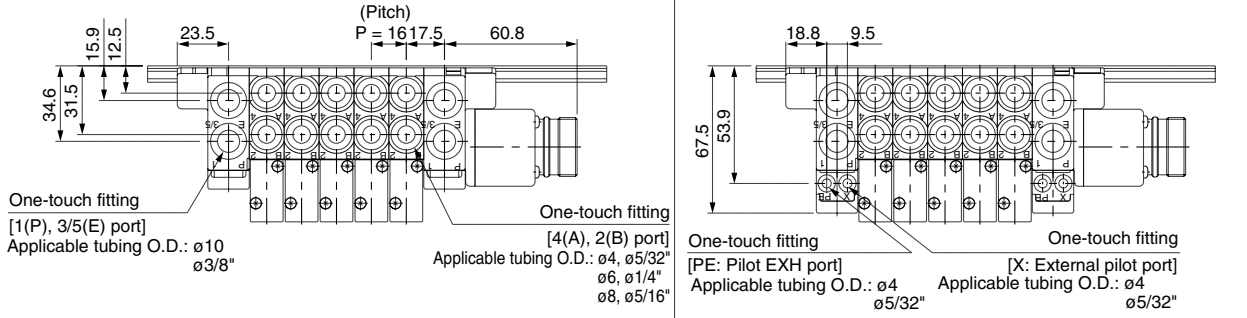
# Series SV

## Dimensions: Series SV2000 for Circular Connector

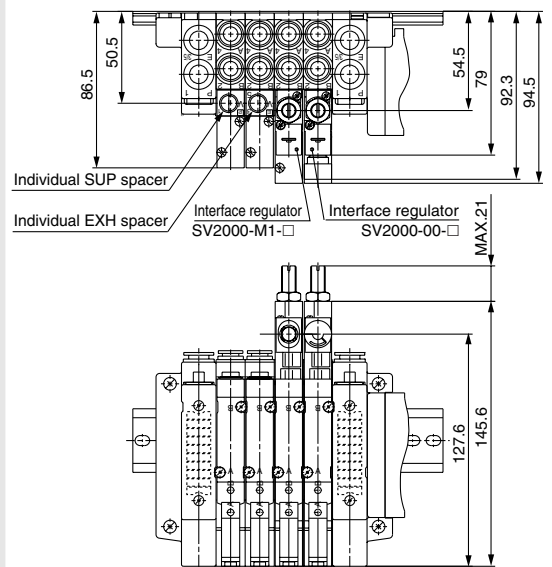
● **Cassette base manifold: SS5V2-W16CD-** Stations  $\begin{matrix} U \\ D \\ B \end{matrix}$  (S, R, RS)-  $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$

- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

### With External Pilot Specifications



### With option



### L Dimension

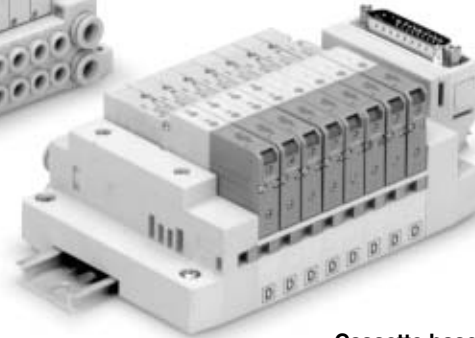
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	160.5	185.5	198	210.5	223	248	260.5	273	298	310.5	323	335.5	360.5	373	385.5	410.5	423	435.5	448
L2	150	175	187.5	200	212.5	237.5	250	262.5	287.5	300	312.5	325	350	362.5	375	400	412.5	425	437.5
L3	135.3	151.3	167.3	183.3	199.3	215.3	231.3	247.3	263.3	279.3	295.3	311.3	327.3	343.3	359.3	375.3	391.3	407.3	423.3
L4	12.5	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5

n: Stations

# D-sub Connector



Tie-rod base



Cassette base

Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
	<ul style="list-style-type: none"><li>• Number of connectors: 25 pins</li><li>• MIL-C-24308</li></ul> Conforming to JIS-X-5101

SV

SZ

SY

SYJ

SX



# D-sub Connector Series SV

## How to Order

**Series**

1	SV1000
2	SV2000
3	SV3000
4	SV4000

**Valve stations**

Symbol	Stations	Note
02	2 stations	Double wiring <sup>(1)</sup> specifications
⋮	⋮	
11	11 stations	Specified layout <sup>(2)</sup> (Up to 23 solenoids possible.)
⋮	⋮	
20	20 stations	

**Note 1)** Double wiring specifications: Single, double, 3 position and 4 position solenoid valves can be used at all of the manifold stations. Use of a single solenoid will result in an unused control signal in an unused control signal. If this is not desired, order with a specified layout.

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

**Tie-rod base**

**Cassette base**

**Series**

1	SV1000
2	SV2000

**Connector entry direction**

1	Upward
2	Lateral

**Valve stations**

**Series SV1000**

Symbol	Stations	Note
02	2 stations	Double wiring <sup>(1)</sup> specifications
⋮	⋮	
09	9 stations	Specified layout <sup>(2)</sup> (Up to 18 solenoids possible.)
⋮	⋮	
18	18 stations	

**Series SV2000**

Symbol	Stations	Note
02	2 stations	Double wiring <sup>(1)</sup> specifications
⋮	⋮	
11	11 stations	Specified layout <sup>(2)</sup> (Up to 23 solenoids possible.)
⋮	⋮	
20	20 stations	

**P, E port location**

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 20 stations)

**Pilot type**

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

**Mounting**

Nil	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0*	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	When a longer DIN rail is desired than the specified stations. (Specify a longer rail than the standard)
⋮	⋮	
D20	For 20 stations	

\* In case of D0, only DIN rail fittings are attached.

**DIN rail length specified**

Nil	Standard length	
3	For 3 stations	(Specify a longer rail than the standard length.)
⋮	⋮	
20 (Note)	For 20 stations	

Note) Able to specify the length for 3 stations up to 18 stations for SV1000, which is available with 18 stations at the maximum.

**A, B port size (metric)**

Symbol	A, B port	P, E port	Applicable series
C3	One-touch fitting for ø3.2	One-touch fitting for ø8	SV1000
C4	One-touch fitting for ø4		
C6	One-touch fitting for ø6		
C4	One-touch fitting for ø4	One-touch fitting for ø10	SV2000
C6	One-touch fitting for ø6		
C8	One-touch fitting for ø8		
C6	One-touch fitting for ø6	One-touch fitting for ø12	SV3000
C8	One-touch fitting for ø8		
C10	One-touch fitting for ø10		
C8	One-touch fitting for ø8	One-touch fitting for ø12	SV4000
C10	One-touch fitting for ø10		
C12	One-touch fitting for ø12		
02	Rc 1/4	Rc 3/8	SV4000
03	Rc 3/8		
02F	G 1/4		
03F	G 3/8		
M	A, B ports mixed		

**A, B port size (inch)**

Symbol	A, B port	P, E port	Applicable series
N1	One-touch fitting for ø1/8"	One-touch fitting for ø5/16"	SV1000
N3	One-touch fitting for ø5/32"		
N7	One-touch fitting for ø1/4"		
N3	One-touch fitting for ø5/32"	One-touch fitting for ø3/8"	SV2000
N7	One-touch fitting for ø1/4"		
N9	One-touch fitting for ø5/16"		
N7	One-touch fitting for ø1/4"	One-touch fitting for ø3/8"	SV3000
N9	One-touch fitting for ø5/16"		
N11	One-touch fitting for ø3/8"		
N9	One-touch fitting for ø5/16"	One-touch fitting for ø3/8"	SV4000
N11	One-touch fitting for ø3/8"		
02N	NPT 1/4		
03N	NPT 3/8	NPTF 3/8	SV4000
02T	NPTF 1/4		
03T	NPTF 3/8		
M	A, B ports mixed		

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

\* Port sizes of X, PE port for external pilot specifications (R, RS) are ø4 (metric), ø5/32" (inch) for SV1000/2000 and ø6 (metric) and ø1/4" (inch) for SV3000/4000.

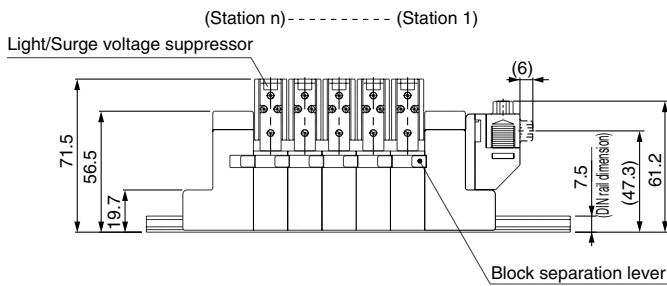
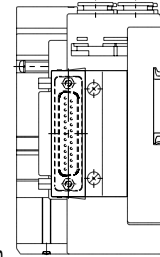
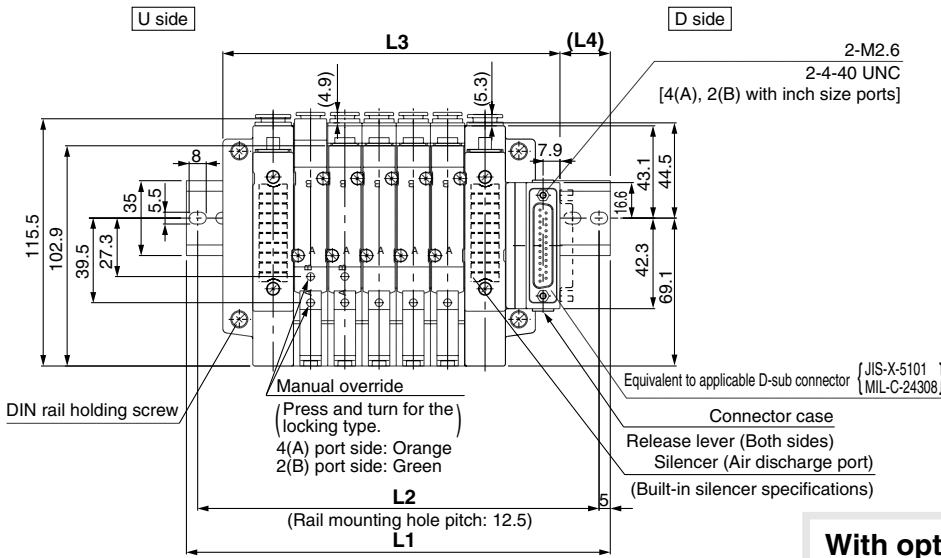
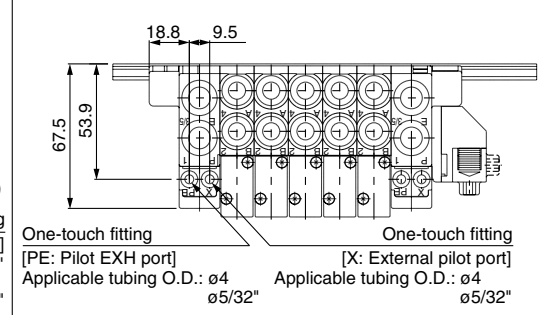
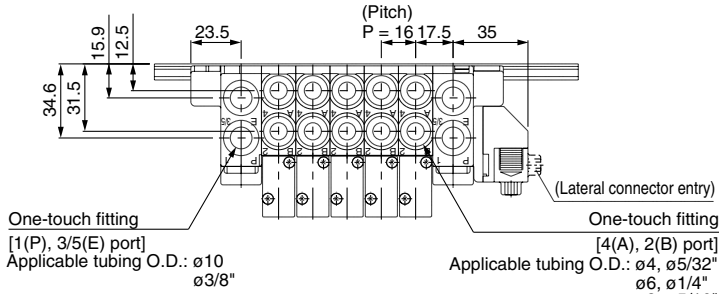
# Series SV

## Dimensions: Series SV2000 for D-sub Connector

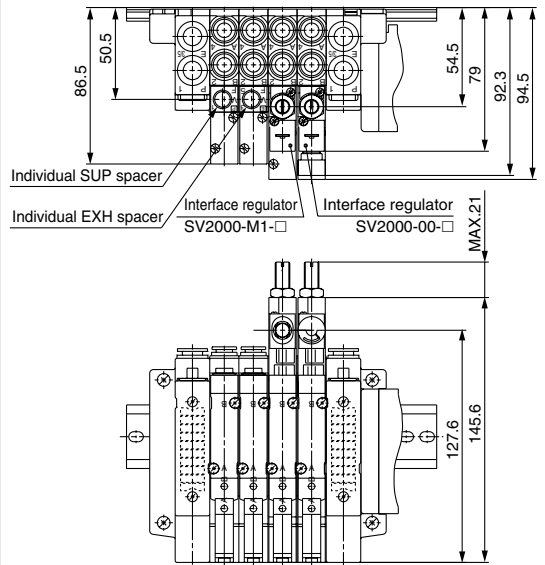
### ● Cassette base manifold: SS5V2-16FD<sub>2</sub> - Stations $\frac{U}{D}$ (S, R, RS) - C4, N3 C6, N7 C8, N9

- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

### With External Pilot Specifications



### With option

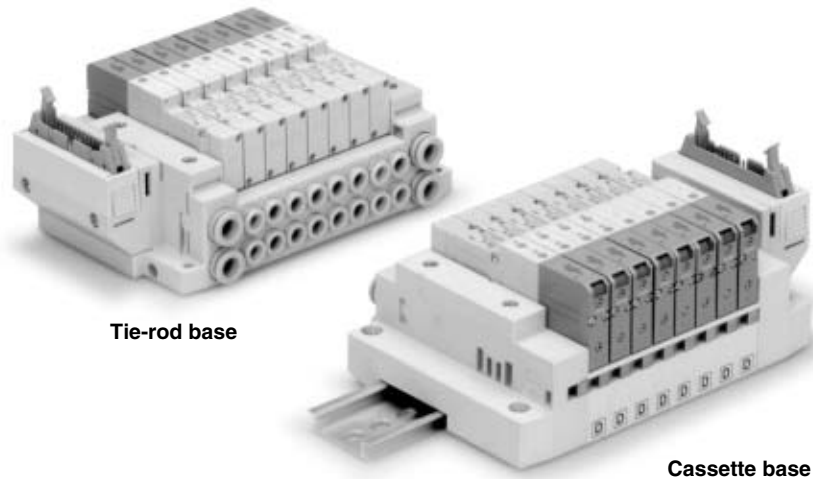


### L Dimension

L	n: Stations																			
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
L1	148	160.5	173	198	210.5	223	235.5	260.5	273	285.5	310.5	323	335.5	348	373	385.5	398	423	435.5	
L2	137.5	150	162.5	187.5	200	212.5	225	250	262.5	275	300	312.5	325	337.5	362.5	375	387.5	412.5	425	
L3	109.5	125.5	141.5	157.5	173.5	189.5	205.5	221.5	237.5	253.5	269.5	285.5	301.5	317.5	333.5	349.5	365.5	381.5	397.5	
L4	22.5	20.5	19	23.5	21.5	20	18	22.5	21	19	23.5	22	20	18.5	23	21	19.5	24	22	



# Flat Ribbon Cable Connector



Tie-rod base

Cassette base

Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
<ul style="list-style-type: none"><li>• Number of connectors: 26, 20, 10 pins</li><li>• With strain relief</li></ul> Conforming to MIL-C-83503	

SV

SZ

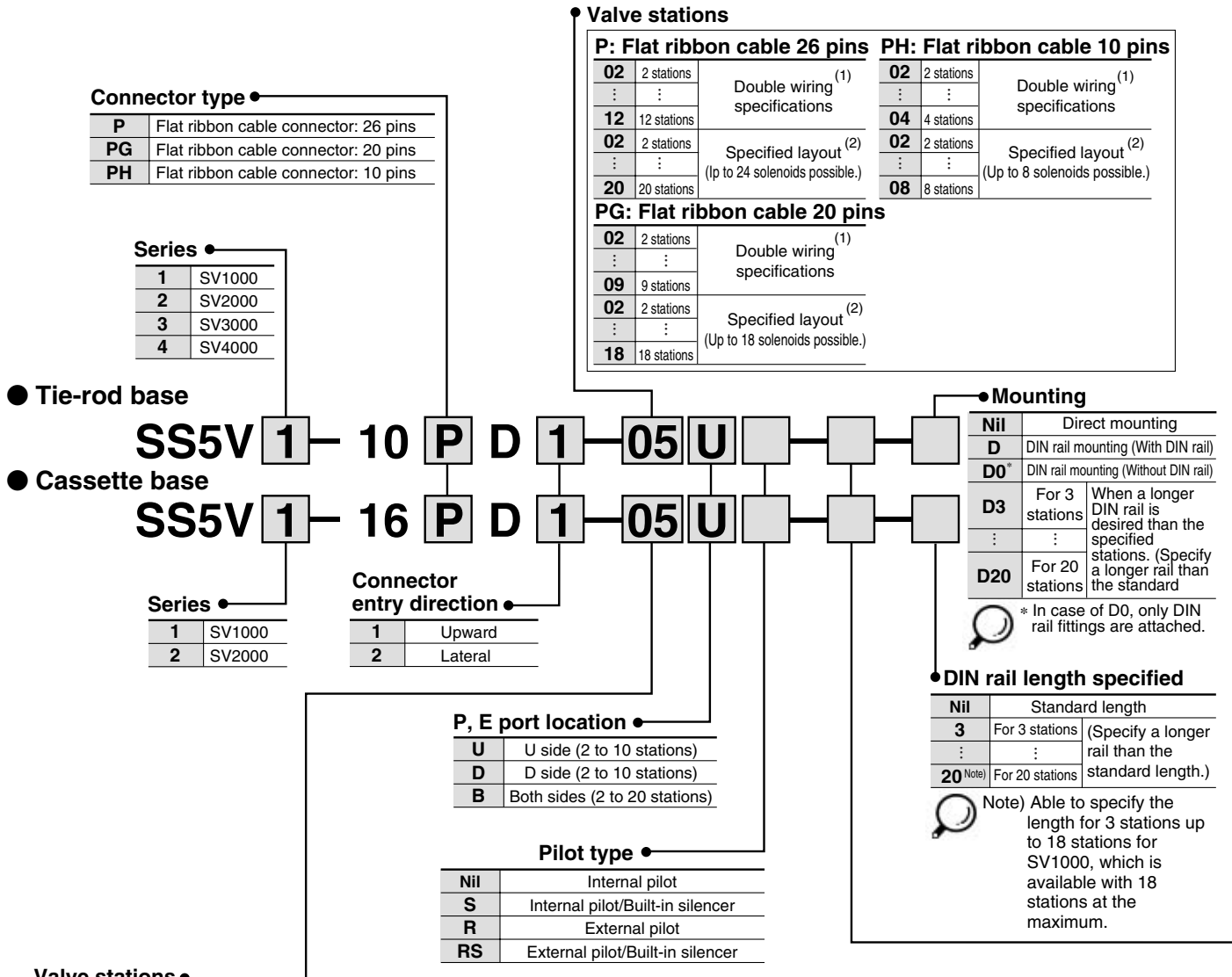
SY

SYJ

SX

# Flat Ribbon Cable Connector Series SV

## How to Order



**Valve stations**  
Series SV1000

<b>P: Flat ribbon cable 26 pins</b>		<b>PH: Flat ribbon cable 10 pins</b>	
02	2 stations	02	2 stations
⋮	⋮	⋮	⋮
09	9 stations	04	4 stations
02	2 stations	02	2 stations
⋮	⋮	⋮	⋮
18	18 stations	08	8 stations

**PG: Flat ribbon cable 20 pins**

02	2 stations
⋮	⋮
09	9 stations
02	2 stations
⋮	⋮
18	18 stations

**Series SV2000**

<b>P: Flat ribbon cable 26 pins</b>		<b>PH: Flat ribbon cable 10 pins</b>	
02	2 stations	02	2 stations
⋮	⋮	⋮	⋮
12	12 stations	04	4 stations
02	2 stations	02	2 stations
⋮	⋮	⋮	⋮
20	20 stations	08	8 stations

**PG: Flat ribbon cable 20 pins**

02	2 stations
⋮	⋮
09	9 stations
02	2 stations
⋮	⋮
18	18 stations

Note 1) Double wiring specifications: Single, double and 3 position solenoid valves can be used on all manifold stations. Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate wiring specifications on a manifold specification sheet.

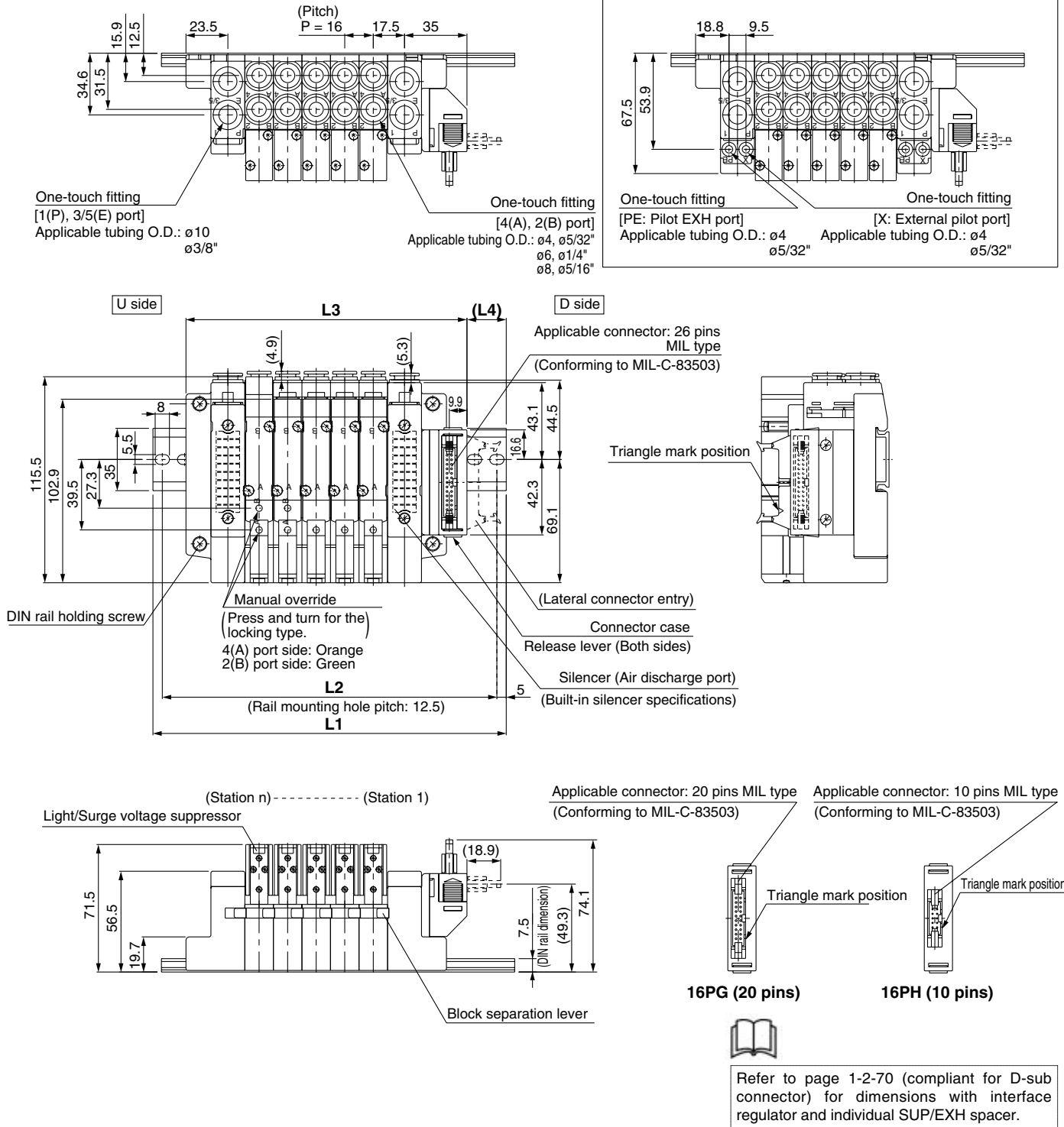
# Series SV

## Dimensions: Series SV2000 for Flat Ribbon Cable

● **Cassette base manifold: SS5V2-16**  $\begin{matrix} P \\ PG \\ PH \end{matrix} D \begin{matrix} 1 \\ 2 \end{matrix}$  - Stations  $\begin{matrix} U \\ D \\ B \end{matrix}$  - (S, R, RS) -  $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$

- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

### With External Pilot Specifications



### L Dimension

L	n: Stations																		
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	148	160.5	173	198	210.5	223	235.5	260.5	273	285.5	310.5	323	335.5	348	373	385.5	398	423	435.5
L2	137.5	150	162.5	187.5	200	212.5	225	250	262.5	275	300	312.5	325	337.5	362.5	375	387.5	412.5	425
L3	109.5	125.5	141.5	157.5	173.5	189.5	205.5	221.5	237.5	253.5	269.5	285.5	301.5	317.5	333.5	349.5	365.5	381.5	397.5
L4	22.5	21	19	23.5	22	20	18.5	23	21	19.5	24	22	20.5	18.5	23	21.5	19.5	24	22.5

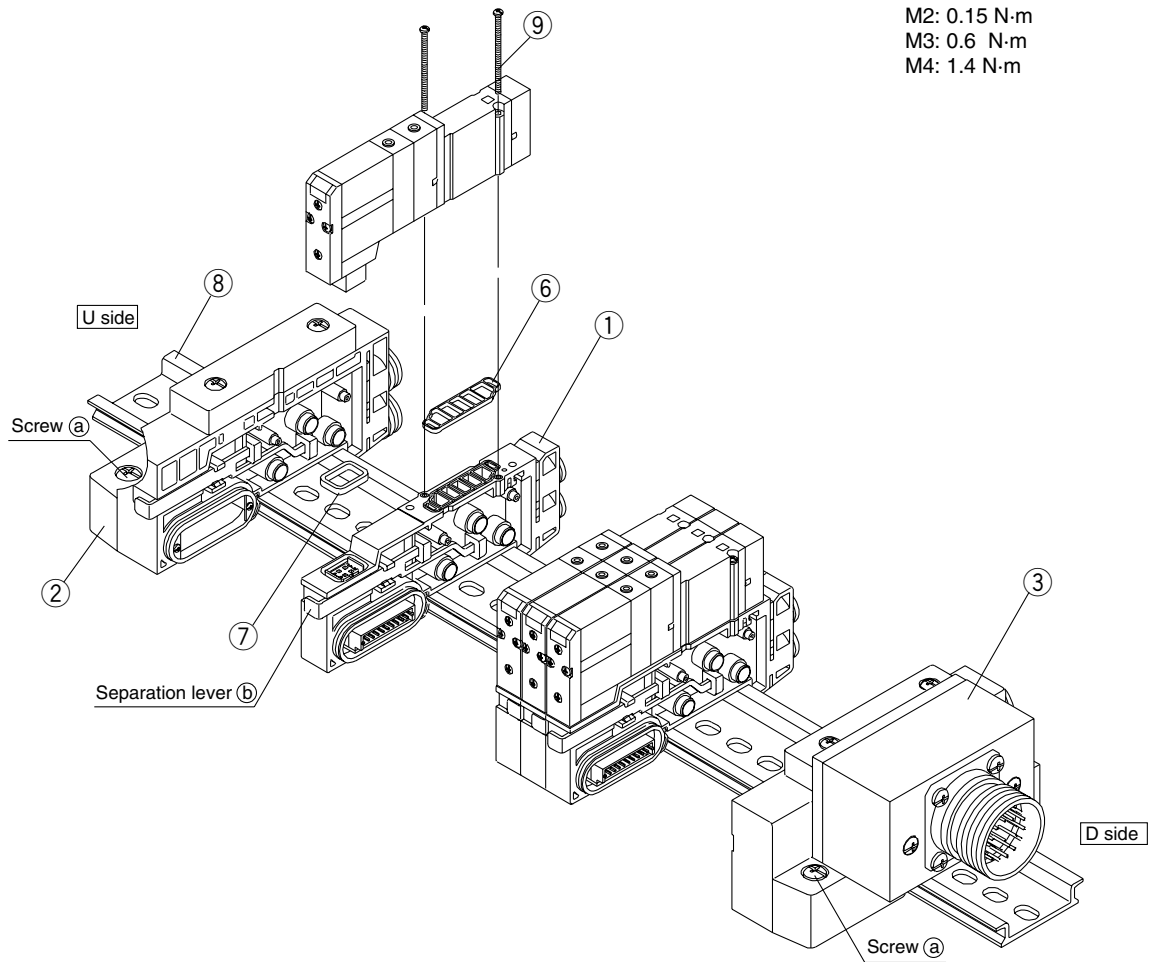
# Series SV

## Type 16: Cassette Base Manifold Exploded View

### Caution

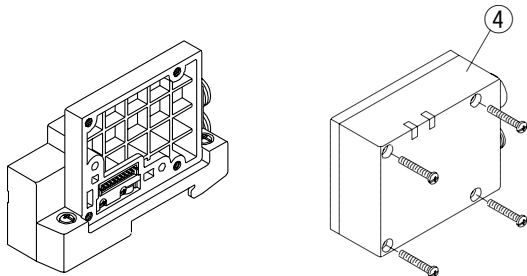
#### Mounting Screw Tightening Torques

M2: 0.15 N·m  
 M3: 0.6 N·m  
 M4: 1.4 N·m

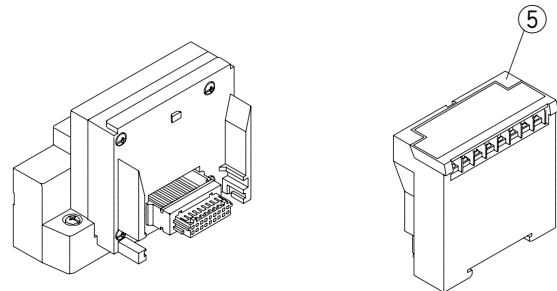


#### ③ SUP/EXH block assembly

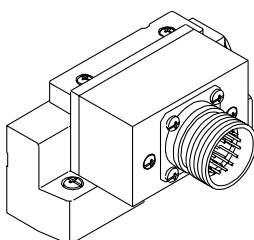
##### EX500 (Type 16SA□W)



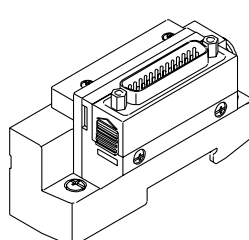
##### EX120 (Type 16S3□)



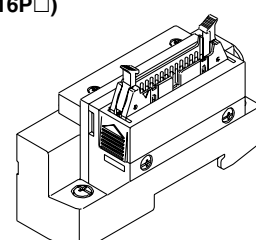
##### Circular connector (Type 16C)



##### D-sub connector (Type 16F□)



##### For Flat ribbon cable connector (Type 16P□)



## ① Manifold Block Assembly Part No.

Series	Wiring specifications	Manifold block assembly part no.	Note
SV1000	Single	SV1000-50-3A-□□	C3: With One-touch fitting for $\phi 3.2$ N1: One-touch fitting for $\phi 1/8$ " C4: With One-touch fitting for $\phi 4$ N3: One-touch fitting for $\phi 5/32$ " C6: With One-touch fitting for $\phi 6$ N7: One-touch fitting for $\phi 1/4$ " (Gaskets ⑥ and ⑦ are included.)
	Double	SV1000-50-4A-□□	
SV2000	Single	SV2000-50-3A-□□	C4: With One-touch fitting for $\phi 4$ N3: One-touch fitting for $\phi 5/32$ " C6: With One-touch fitting for $\phi 6$ N7: One-touch fitting for $\phi 1/4$ " C8: With One-touch fitting for $\phi 8$ N9: One-touch fitting for $\phi 5/16$ " (Gaskets ⑥ and ⑦ are included.)
	Double	SV2000-50-4A-□□	

② Supply/Exhaust end block assembly **SV** □□ 000 – 52U – 2 A □□ – □□

③ SUP/EXH block assembly **SV** □□ 000 – 51D □□ – □□ A □□ – □□

Series	
1	SV1000
2	SV2000

Connector entry direction (D-sub, flat types only)

1	Upward
2	Lateral

SUP/EXH block assembly specifications

30	For EX500 (decentralized serial)
32	For circular connector
33	D-sub connector
34	For flat ribbon cable connector (26 pins)
35	For flat ribbon cable connector (20 pins)
36	For flat ribbon cable connector (10 pins)
38	For fX120 (dedicated output serial)

\* Since EX500 and EX120 type SI units are not included, order them separately.

• P, E port size

C8	One-touch fitting for $\phi 8$	SV1000
N9	One-touch fitting for $\phi 5/16$ "	
C10	One-touch fitting for $\phi 10$	SV2000
N11	One-touch fitting for $\phi 3/8$ "	
00	Plug	All series

\* "00" (Plug) is not available for S, R and RS types.

• Pilot specifications

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

No.	Description	Part no.		Note
		SV1000	SV2000	
④	Series EX500 SI unit	Refer to page 1-2-26.		
⑤	Series EX120 SI unit	Refer to page 1-2-44.		
⑥	Gasket	SX3000-57-4	SX5000-57-6	
⑦	Connector gasket	SX3000-146-2		
⑧	DIN rail	VZ1000-11-1-□		Refer to DIN rail dimension tables on page 1-2-97.
⑨	Round head combination screw	SX3000-22-2 (M2 x 24)	SV2000-21-1 (M3 x 30)	

SV

SZ

SY

SYJ

SX

# Series SV

## Type 16: Cassette Base Manifold

### How to increase manifold bases (Type 16)

(1) Loosen the screws (a) (2 pcs. on one side) that hold the manifold base onto the DIN rail.  
(When removing the manifold base from the DIN rail, loosen the holding screws at four locations.)



(2) Using a flat head screwdriver, etc., pull the lever (b) forward on the manifold block assembly where a station is to be added, and disconnect the manifold block assemblies.



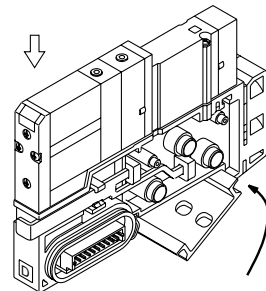
(3) Attach the manifold block assembly to be added to the DIN rail as shown in the figure.



(4) Connect the block assemblies by pressing them together, and push the lever in firmly until it stops.

Then secure them to the DIN rail by tightening the screws (a).

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



Hook this part onto the DIN rail, and press down in the direction of the arrow.

**Figure. Block mounting procedure**

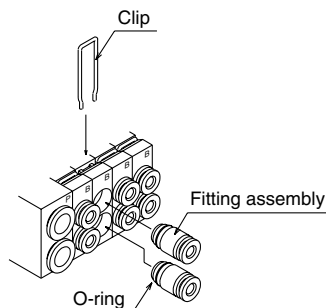
## ⚠ Caution

### Fitting assembly replacement

By replacing manifold fitting assemblies, it is possible to change the size of the A, B ports and P, E ports. To replace them, Remove the clip with a flat head screwdriver, etc., and pull out the fitting assembly. Mount the new fitting assembly by inserting it and then replacing the clip to its fully inserted position.

### Fitting Assembly Part No.

Port size		SV1000	SV2000
A, B Port	One-touch fitting for $\phi 3.2$	VVQ1000-50A-C3	—
	One-touch fitting for $\phi 4$	VVQ1000-50A-C4	VVQ1000-51A-C4
	One-touch fitting for $\phi 6$	VVQ1000-50A-C6	VVQ1000-51A-C6
	One-touch fitting for $\phi 8$	—	VVQ1000-51A-C8
	One-touch fitting for $\phi 1/8"$	VVQ1000-50A-N1	—
	One-touch fitting for $\phi 5/32"$	VVQ1000-50A-N3	VVQ1000-51A-N3
	One-touch fitting for $\phi 1/4"$	VVQ1000-50A-N7	VVQ1000-51A-N7
	One-touch fitting for $\phi 5/16"$	—	VVQ1000-51A-N9
P, E Port	One-touch fitting for $\phi 8$	VVQ1000-51A-C8	—
	One-touch fitting for $\phi 10$	—	VVQ2000-51A-C10
	One-touch fitting for $\phi 5/16"$	VVQ1000-51A-N9	—
	One-touch fitting for $\phi 3/8"$	—	VVQ2000-51A-N11



Note 1) Be careful to avoid damage or contamination of O-rings, as this can cause air leakage.

Note 2) When removing a fitting assembly from a valve, after removing the clip, attach tubing or a plug (KQ2P-□□) to the One-touch fitting, and pull it out while holding the tubing (or plug). If it is pulled out while holding the release button of the fitting assembly (resin part), the release button may be damaged.

Note 3) 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.

## How to order cassette base type 16 solenoid valves with manifold block

[Series SV1000/SV2000]

• Type with manifold block is used when adding stations, etc.

SV **1** **1** 00 **5** F

Series

1	SV1000
2	SV2000

### Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
A	4 position dual 3 port valve: N.C./N.C.
B	4 position dual 3 port valve: N.O./N.O.
C	4 position dual 3 port valve: N.C./N.O.

### Pilot type

Nil	Internal pilot
R	External pilot


\* External pilot specifications is not available for 4 position dual 3 port valves.

### Back pressure check valve


Nil	None
K	Built-in

\* Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

\* Built-in back pressure check valve type is applicable to series SV1000 only.

 Refer to Precautions 2 on page 1-2-9.

### A, B port size

 Refer to A, B ports size tables on pages 1-2-20, 44, 46, and 76.

### Manifold wiring specifications

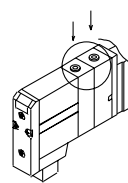
Nil	Double wiring
S	Single wiring

### Manifold block type

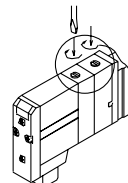
C	Cassette base type 16 with manifold block
---	---

### Manual override

Nil: Non-locking push type



D: Push-turn locking slotted type



### Light/Surge voltage suppressor

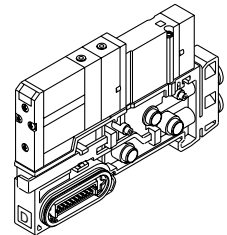
U	With light/surge voltage suppressor
R	With surge voltage suppressor

### Rated voltage

5	24 VDC
6	12 VDC

\* Note that serial wiring manifolds (EX500, EX120) are only available with 24 VDC.

Example (SV1000)  
SV1200-5FU-C-C6



SV

SZ

SY

SYJ

SX

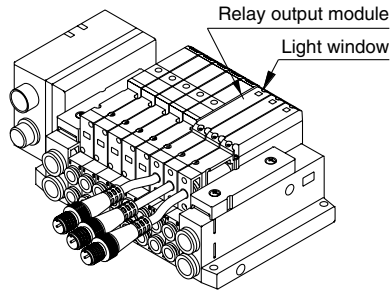
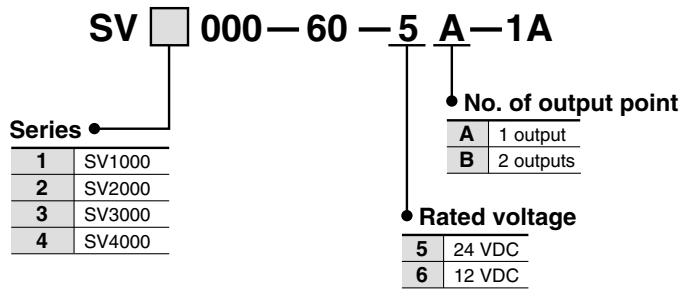
# Series SV

# Manifold Option (Common for Type 16 and 10)

## Relay output module

By adding a relay output module to a series SV manifold, devices up to 110 VAC, 3 A (large type solenoid valves, etc.) can be controlled together with Series SV valves.

### How to Order



\* Note that serial wiring manifolds (EX500, EX250 and EX120) are available with 24 VDC only.

## Relay Output Module Specifications

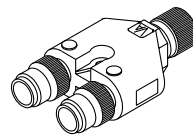
Item	Specifications			
	1 output [connector with lead wire (M12)]		2 outputs [connector with lead wire (M12)]	
No. of output points	1 output [connector with lead wire (M12)]		2 outputs [connector with lead wire (M12)]	
Output type	4 pins connector (M12) plug 1. — 2. Output A 3. — 4. Output A  Contact type ("a" contact)	 Relay output module side pin arrangement	4 pins connector (M12) plug 1. Output B 2. Output A 3. Output B 4. Output A  Contact type ("a" contact)	 Relay output module side pin arrangement
Load voltage	110 VAC	30 VDC	110 VAC	30 VDC
Load current	3 A	3 A	0.3 A	1 A
Indicator light	Orange		A side: Orange B side: Green	
Enclosure	Based on IP67 (IEC529)			
Current consumption	20 mA or less			
Polarity	Non-polar			
weight (g)	48			

## Y type connector

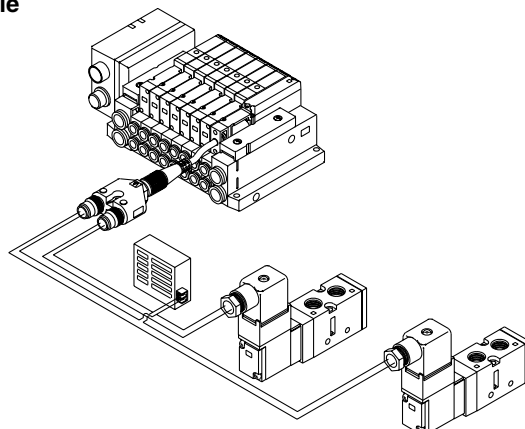
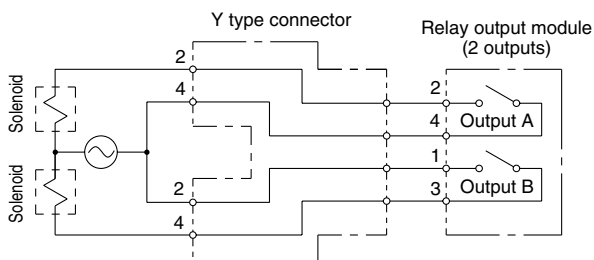
Used to branch a two output relay output module to two separate systems.

### How to Order

EX500—ACY00—S



### Relay output module and Y type connector wiring example

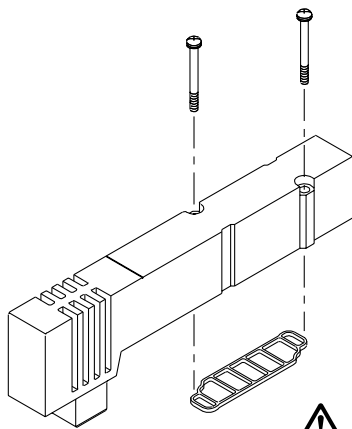




## Manifold Option

### ■ Blanking plate assembly

Used in situations where valves will be added in the future.



Series	Blanking plate assembly part no.
SV1000	SV1000-67-1A
SV2000	SV2000-67-1A
SV3000	SV3000-67-1A
SV4000	SV4000-67-1A

### ⚠ Caution

**Mounting screw tightening torques**

M2: 0.15 N·m  
M3: 0.6 N·m  
M4: 1.4 N·m

### ■ SUP/EXH block disk

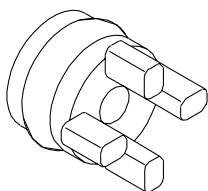
[SUP block disk]

By placing a SUP block disk in a manifold valve's pressure supply passage, two different high and low pressures can be supplied to one manifold.

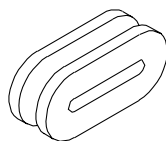
[EXH block disk]

By installing an EXH block disk in a manifold valve's exhaust passage, the valve's exhaust can be separated so that it will not affect other valves. It can also be used on a manifold with mixed positive pressure and vacuum.

(Two pieces are required to block EXH on both sides. However, Series SV1000 and 2000 type 10 manifolds require only one piece.)



Cassette base type 16



Tie-rod base type 10

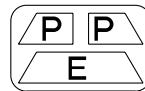
Series	Manifold Model	SUP block disk	EXH block disk
SV1000	10	SV1000-59-1A	SV1000-59-2A
	16	SX3000-77-1A	SX3000-77-1A
SV2000	10	SV2000-59-1A	SV2000-59-2A
	16	SV2000-59-3A	SV2000-59-3A
SV3000	10	SV3000-59-1A	SV3000-59-1A
SV4000	10	SY9000-57-1A	SY9000-57-1A

### ■ Label for block disk

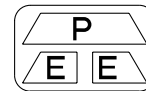
These labels are attached to manifolds in which SUP and EXH block disks have been installed, in order to identify the installed locations. (Three sheets each included.)

#### SV1000 – 74 – 1A

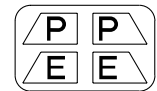
Label for SUP block disk



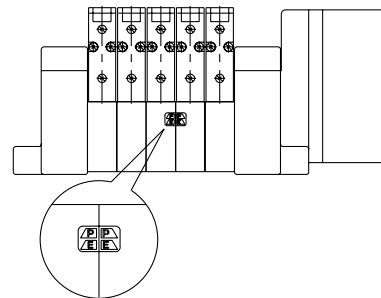
Label for EXH block disk



Label for SUP/EXH block disk

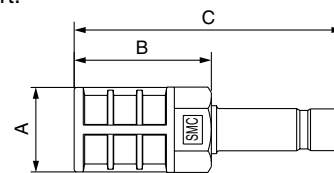


\* When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.



### ■ Silencer with One-touch fitting

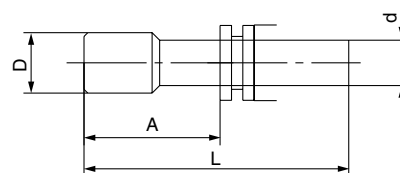
This silencer can be quickly mounted on the manifold's E (exhaust) port.



Series	Model	Effective area	A	B	C
SV1000 (For ø8)	AN203-KM8	14 mm <sup>2</sup>	ø16	26	51
	AN200-KM10	26 mm <sup>2</sup>	ø22	53.8	80.8
SV2000 (For ø10)	AN300-KM10	30 mm <sup>2</sup>	ø25	70	97
	AN300-KM12	41 mm <sup>2</sup>	ø25	70	98

### ■ Plug (White)

These are inserted in unused cylinder ports and P, E ports.



Applicable fitting size d	Model	A	L	D
ø4	KQP-04	16	32	ø6
ø6	KQP-06	18	35	ø8
ø8	KQP-08	20.5	39	ø10
ø10	KQ2P-10	22	43	ø12
ø12	KQ2P-12	24	44.5	ø14
ø1/8"	KQ2P-01	16	31.5	ø5
ø5/32"	KQ2P-03	16	32	ø6
ø1/4"	KQ2P-07	18	35	ø8.5
ø5/16"	KQ2P-09	20.5	39	ø10
ø3/8"	KQ2P-11	22	43	ø11.5

# Series SV

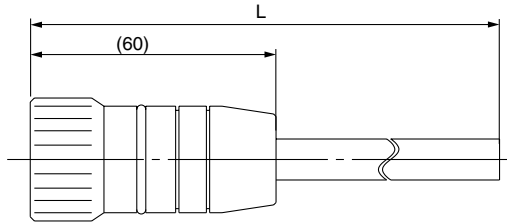
## Manifold Option

### ■ Circular connector/Cable assembly (26 pins)

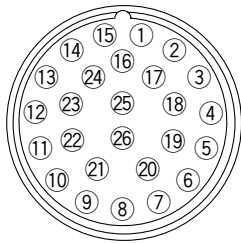
#### AXT100 – MC26 – □

##### Lead Wire Length

Part no.	L dimension
AXT100-MC26-015	1.5 m
AXT100-MC26-030	3 m
AXT100-MC26-050	5 m



Plug terminal no.  
(arrangement as seen from lead wire side)



### Circular Connector Cable Assembly Terminal No.

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

Note) Terminal no. ㉖ is connected to ㉕ inside the connector.

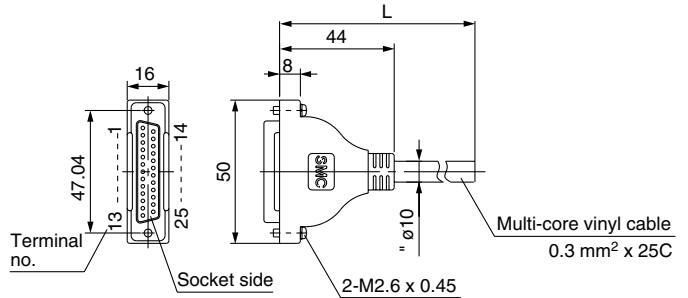
### ■ D-sub connector/Cable assembly (25 pins)

#### AXT100 – DS25 – □

##### Lead Wire Length

Part no.	L dimension
AXT100-DS25-015	1.5 m
AXT100-DS25-030	3 m
AXT100-DS25-050	5 m

When a commercially available connector is required, use a 25 pin female connector conforming to MIL-C24308.



### D-sub Connector Cable Assembly Terminal No.

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

### Circular Connector, D-sub Connector Cable Assembly Electric Characteristics

Item	Characteristics
Conductor resistance W/km, 20°C	65 or less
Withstand voltage VAC, 1 min.	1000
Insulation resistance, M/km, 20°C	5 or less

Note) The minimum inside bending radius for each cable is 20 mm.

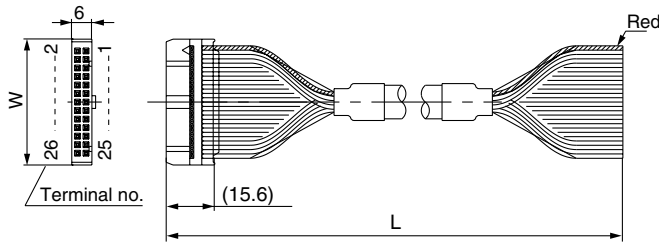
## Manifold Option

### ■ Flat ribbon cable/Cable assembly

#### AXT100 – FC□ – □

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 width (W)	17.2	30	37.5

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



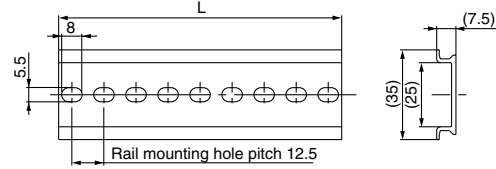
#### Connector manufacturers' example

- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.

### ■ SV1000/2000 and Series EX500 input unit DIN rail dimensions and weights

#### VZ1000 – 11 – 1 – □

\* As for □, enter the number from the DIN rail dimensions table.

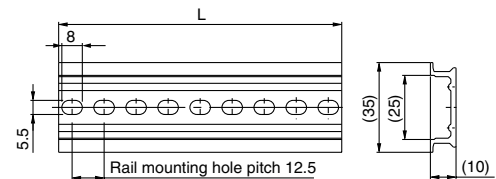


No.	0	1	2	3	4	5	6	7	8	9
L dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	17.6	19.9	22.1	24.4	26.6	28.9	31.1	33.4	35.6	37.9
No.	10	11	12	13	14	15	16	17	18	19
L dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	40.1	42.4	44.6	46.9	49.1	51.4	53.6	55.9	58.1	60.4
No.	20	21	22	23	24	25	26	27	28	29
L dimension	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	62.5	64.9	67.1	69.4	71.6	73.9	76.1	78.4	80.6	82.9
No.	30	31	32	33	34	35	36	37	38	39
L dimension	473	485.5	498	510.5	523	535.5	548	560.5	573	585.5
Weight (g)	85.1	87.4	89.6	91.9	94.1	96.4	98.6	100.9	103.1	105.4
No.	40	41	42	43	44	45	46	47	48	49
L dimension	598	610.5	623	635.5	648	660.5	673	685.5	698	710.5
Weight (g)	107.6	109.9	112.1	114.4	116.6	118.9	121.1	123.4	125.6	127.9
No.	50	51	52	53	54	55	56	57	58	59
L dimension	723	735.5	748	760.5	773	785.5	798	810.5	823	835.5
Weight (g)	130.1	132.4	134.6	136.9	139.1	141.4	143.6	145.9	148.1	150.4
No.	60	61	62	63	64	65	66	67	68	69
L dimension	848	860.5	873	885.5	898	910.5	923	935.5	948	960.5
Weight (g)	152.6	154.9	157.1	159.4	161.6	163.9	166.1	168.4	170.6	172.9
No.	70	71								
L dimension	973	985.5								
Weight (g)	175.1	177.4								

### ■ SV3000 and 4000 DIN rail dimensions and weights

#### VZ1000 – 11 – 4 – □

\* As for □, enter the number from the DIN rail dimensions table.



No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	233.5	248	260.5	273	285.5	298	310.5	323	335.5	348
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9	88
No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
L dimension	360.5	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5	523	535.5	548	560.5	573	585.5	598	610.5
Weight (g)	91.2	94.4	97.5	100.7	103.9	107	110.2	113.3	116.5	119.7	122.8	126	129.2	132.3	135.5	138.6	141.8	145	148.1	151.3	154.5
No.	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
L dimension	623	635.5	648	660.5	673	685.5	698	710.5	723	735.5	748	760.5	773	785.5	798	810.5	823	835.5	848	860.5	873
Weight (g)	157.6	160.8	163.9	167.1	170.3	173.4	176.6	179.8	182.9	186.1	189.2	192.4	195.6	198.7	201.9	205.1	208.2	211.4	214.5	217.7	220.9
No.	63	64	65	66	67	68	69	70	71												
L dimension	885.5	898	910.5	923	935.5	948	960.5	973	985.5												
Weight (g)	224	227.2	230.4	233.5	236.7	239.8	243	246.2	249.3												

# Series SV

## Manifold Option

### Interface regulator

#### How to order interface regulator

Series SV1000

SV1 0 00 — P — 05

#### Applicable valve

0	For single, double
3	For 3 position

#### Option

05	With pressure gauge [For odd number station]
06	With pressure gauge [For even number station]
M1	Without pressure gauge

#### Regulating port

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



Note) In the case of Series SV1000 with a pressure gauge when mounting on the manifold, use caution that the part numbers are different between the odd no. stations and the even no. stations to avoid pressure gauges from interfering from each others.

Note) Use caution that the part numbers will be differed depending on the one for single/double and 3 position due to the different length of solenoid valves. Also, when at least the one for 3 position is included in the same manifold, use all the ones for 3 position.

Series SV2000/SV3000/SV4000

SV 2 000 — P — 00

#### Series

2	SV2000
3	SV3000
4	SV4000

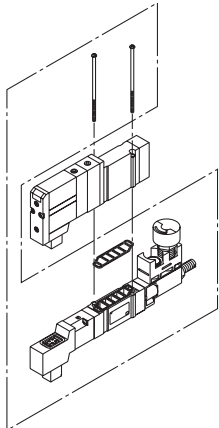
#### Option

00	With pressure gauge
M1	Without pressure gauge

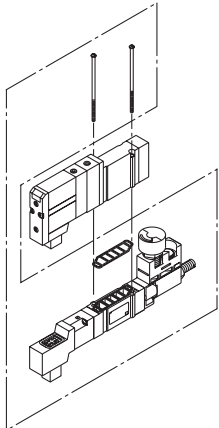
#### Regulating port

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

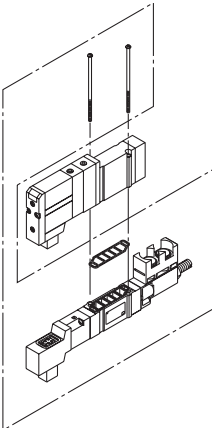
SV1000-□-05  
(For mounting odd number stations)



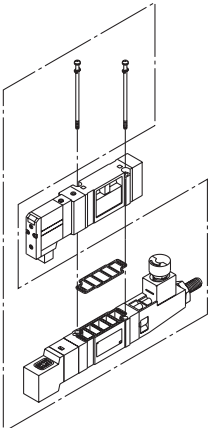
SV1000-□-06  
(For mounting even number stations)



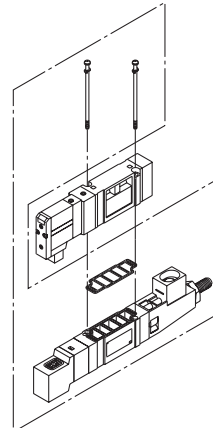
SV1000-□-M1



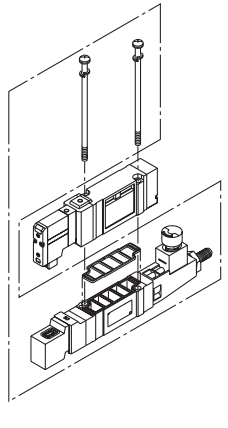
SV2000-□-00



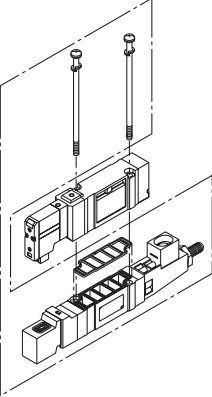
SV2000-□-M1



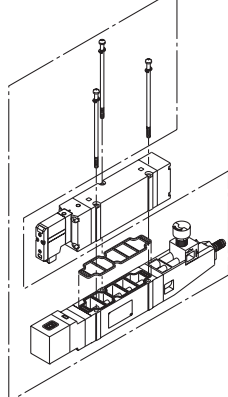
SV3000-□-00



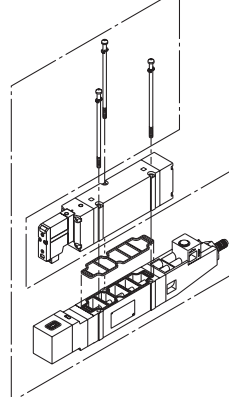
SV3000-□-M1



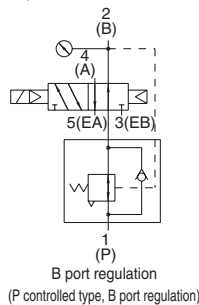
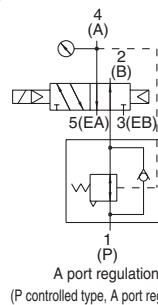
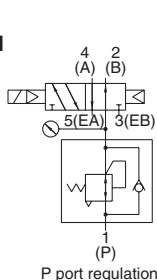
SV4000-□-00



SV4000-□-M1



#### JIS Symbol



#### Accessory

Series	Round head combination screw	Gasket
SV1000	SX3000-22-9 (M2 x 39.5)	SX3000-57-4
SV2000	SV2000-21-7 (M3 x 53)	SX5000-57-6
SV3000	SV3000-21-4 (M4 x 57)	SX7000-57-5
SV4000	SV2000-21-8 (M3 x 69.5)	SY9000-11-2

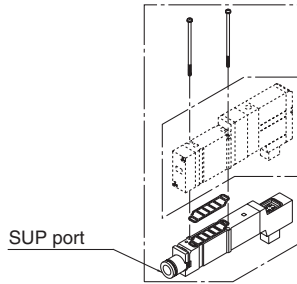
### Caution

#### Mounting Screw Tightening Torques

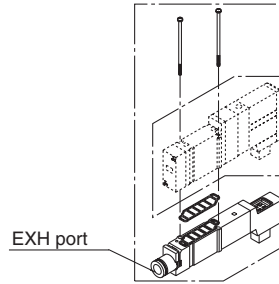
M2: 0.15 N·m  
M3: 0.6 N·m  
M4: 1.4 N·m

## Manifold Option

### ■ Individual SUP spacer assembly



### ■ Individual EXH spacer assembly



### How to order individual SUP/EXH spacer assembly

Series SV1000

SV1000 — 38 — 1A — C6

#### • Port size

C3	One-touch fitting for $\phi 3.2$
C4	One-touch fitting for $\phi 4$
C6	One-touch fitting for $\phi 6$
N1	One-touch fitting for $\phi 1/8''$
N3	One-touch fitting for $\phi 5/32''$
N7	One-touch fitting for $\phi 1/4''$

#### • Spacer type

38	Individual SUP spacer
39	Individual EXH spacer

Series SV2000/SV3000/SV4000

SV 2 000 — 38 — 1 A

#### • Series

2	SV2000
3	SV3000
4	SV4000

#### • Thread type <sup>Note)</sup>

Nil	Rc
F	G
N	NPT
T	NPTF



Note) SV2000/3000/4000 port size

Series	Port size
SV2000	1/8
SV3000	1/4
SV4000	

### Accessory

Series	Round head combination screw	Gasket
SV1000	SX3000-22-9 (M2 x 39.5)	SX3000-57-4
SV2000	SV2000-21-6 (M3 x 46)	SY5000-11-15
SV3000	SV3000-21-3 (M4 x 53)	SY7000-11-11
SV4000	SV2000-21-5 (M3 x 60)	SY9000-11-2

SV

SZ

SY

SYJ

SX