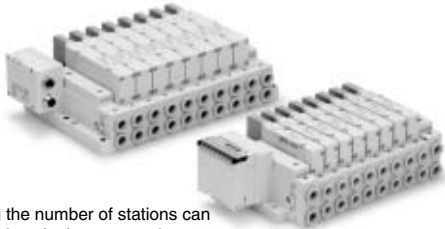


Valve Manifold Common Specifications Series SV

Cassette base manifold



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

Manifold Specifications

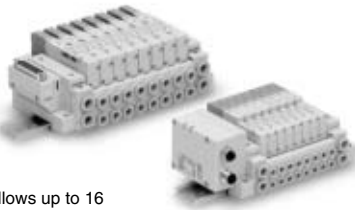
Applicable series		SV1000	SV2000
Manifold type		Stacking type cassette base manifold	
1 (P: SUP)/3, 5 (E: EXH) type		Common SUP, EXH	
Valve stations (maximum)		18 stations	20 stations
Max. number of solenoids		18 points	26 points
Port size	1(P), 3/5(E) port	C8, N9	C10, N11
	4(A), 2(B) port	C3, C4, C6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

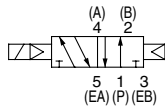
Series SV Solenoid Valve Specifications



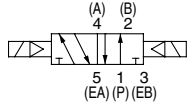
Made to Order Specifications
(For details, refer to page 1-2-108.)

JIS Symbol

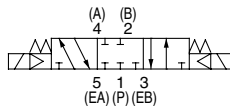
2 position single solenoid



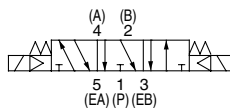
2 position double solenoid



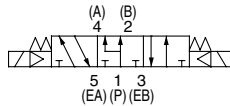
3 position closed center



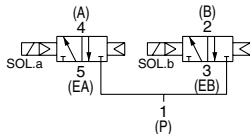
3 position exhaust center



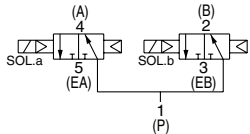
3 position pressure center



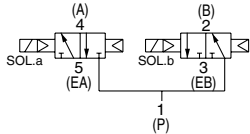
4 position dual 3 port valve: N.C./N.C.



4 position dual 3 port valve: N.O./N.O.



4 position dual 3 port valve: N.C./N.O.



Fluid	Air	
Internal pilot Operating pressure range (MPa)	2 position single	0.15 to 0.7
	4 position dual 3 port valve	
	3 position	
External pilot Operating pressure range (MPa)	Operating pressure range	-100 kPa to 0.7
	2 position single, double	
	3 position	
Ambient and fluid temperature (°C)	-10 to 50 (No freezing. Refer to page 1-7-4.)	
Max. operating frequency (Hz)	2 position single, double	5
	4 position dual 3 port valve	
	3 position	3
Manual override	Non-locking push type	
	Push-turn locking slotted type	
Pilot exhaust method	Internal pilot	Common exhaust type for main and pilot valve
	External pilot	
Lubrication	Not required	
Mounting orientation	Unrestricted	
Impact/Vibration resistance (ms ²)	150/30	
Enclosure	IP67 (Based on IEC529)	
Coil rated voltage	24 VDC, 12 VDC	
Allowable voltage fluctuation	±10% of rated voltage	
Power consumption	0.6 (With indicator light: 0.65)	
Surge voltage suppressor	Zener diode	
Indicator light	LED	

SV

SZ

SY

SYJ

SX



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

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

Response Time

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)			
	SV1000	SV2000	SV3000	SV4000
2 position single	11 or less	25 or less	28 or less	40 or less
2 position double	10 or less	17 or less	26 or less	40 or less
3 position	18 or less	29 or less	32 or less	82 or less
4 position dual 3 port valve	15 or less	33 or less	—	—



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

Weight

Series	Type of actuation	Weight (g)
SV1000	Single solenoid	66
	Double solenoid	71
	3 position	73
	4 position dual 3 port	71
SV2000	Single solenoid	74
	Double solenoid	78
	3 position	83
	4 position dual 3 port	78
SV3000	Single solenoid	99
	Double solenoid	102
	3 position	110
SV4000	Single solenoid	186
	Double solenoid	190
	3 position	211

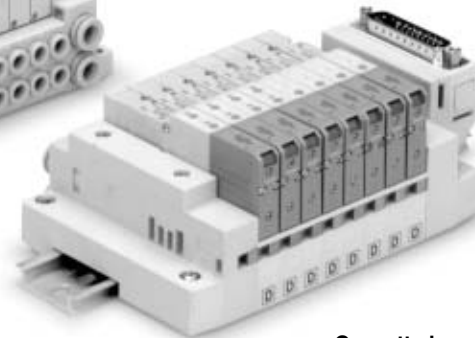


Note) Weight of solenoid valve only.

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">• Number of connectors: 25 pins• MIL-C-24308 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 (1)
⋮	⋮	
11	11 stations	Specified layout (2) (Up to 23 solenoids possible.)
⋮	⋮	
20	20 stations	

Series SV1000

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

Series SV2000

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

Connector entry direction

1	Upward
2	Lateral

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

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		

Tie-rod base

Cassette base

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.

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.)

Series

1	SV1000
2	SV2000

Valve stations

02	2 stations	Double wiring (1)
⋮	⋮	
11	11 stations	Specified layout (2) (Up to 23 solenoids possible.)
⋮	⋮	
20	20 stations	

Series

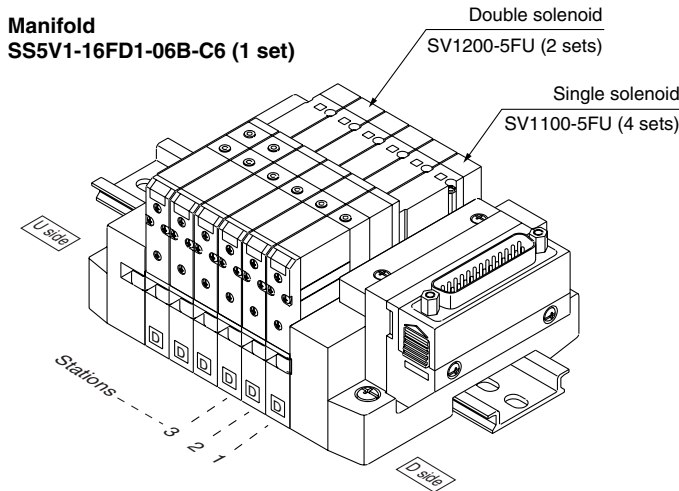
1	SV1000
2	SV2000

Valve stations

02	2 stations	Double wiring (1)
⋮	⋮	
09	9 stations	Specified layout (2) (Up to 18 solenoids possible.)
⋮	⋮	
18	18 stations	

How to Order Valve Manifold Assembly

Ordering example (SV1000)



SS5V1-16FD1-06B-C6.....1 set (manifold part no.)
 *SV1100-5FU.....4 sets (Single solenoid part no.)
 *SV1200-5FU.....2 sets (Double solenoid part no.)

- SV
- SZ
- SY
- SYJ
- SX

How to Order Solenoid Valves

SV 1 1 0 0 — 5 F

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

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.

* 4 position dual 3 port valves are applicable to Series SV1000 and SV2000 only.

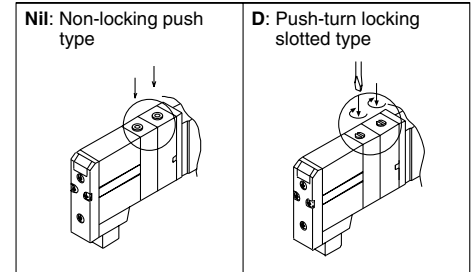
Pilot type

Nil	Internal pilot
R	External pilot

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

Note) Available with manifold block for station additions. Refer to pages 1-2-89 and 1-2-93.

Manual override



Light/Surge voltage suppressor

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

Rated voltage

5	24 VDC
6	12 VDC

Back pressure check valve

Nil	None
K	Built-in

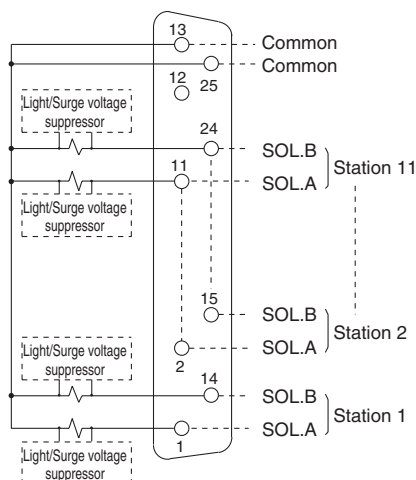
* Built-in back pressure check valve type is applicable to series SV1000 only.
 * Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

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

Series SV

Manifold Electrical Wiring

10F/16F D-sub Connector Type (25 pins)



- This circuit has double wiring specifications for up to 11 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below.
In the case of single solenoids, connect to SOL.A. Furthermore, when wiring is specified on the manifold specification sheet, connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1 → 14 → 2 → 15, etc.
- Stations are counted from D side (connector side) as the 1st.
- Since solenoid valves do not have polarity, either the +COM or -COM can be used.

Usable No. of Solenoids

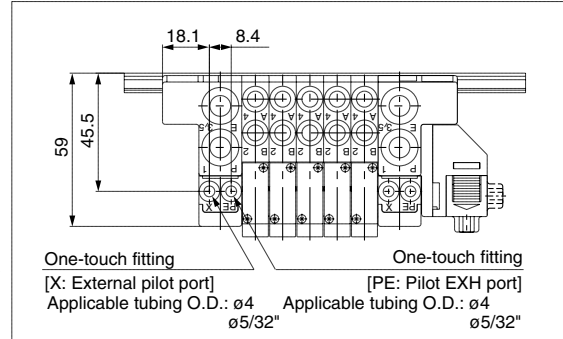
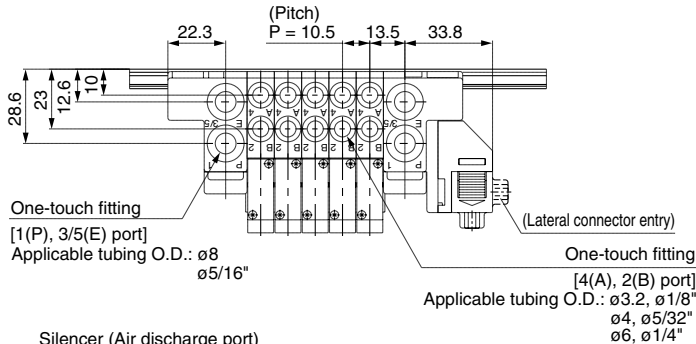
Model		Max. no. of solenoids
Tie-rod base type 10	SV1000 to SV4000	23
	SV1000	18
Cassette base type 16	SV1000	18
	SV2000	23

Dimensions: Series SV1000 for D-sub Connector

● Cassette base manifold: SS5V1-16FD₂¹ - Stations $\frac{U}{D}$ (S, R, RS) - C3, N1 C4, N3 C6, N7

- 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



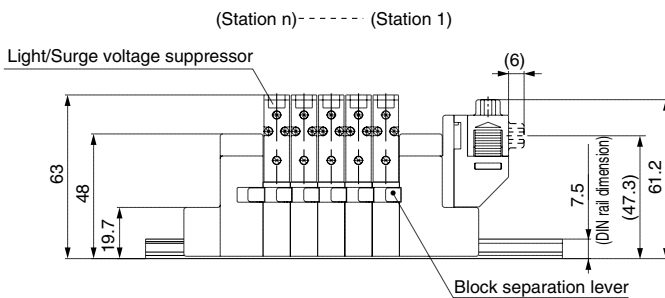
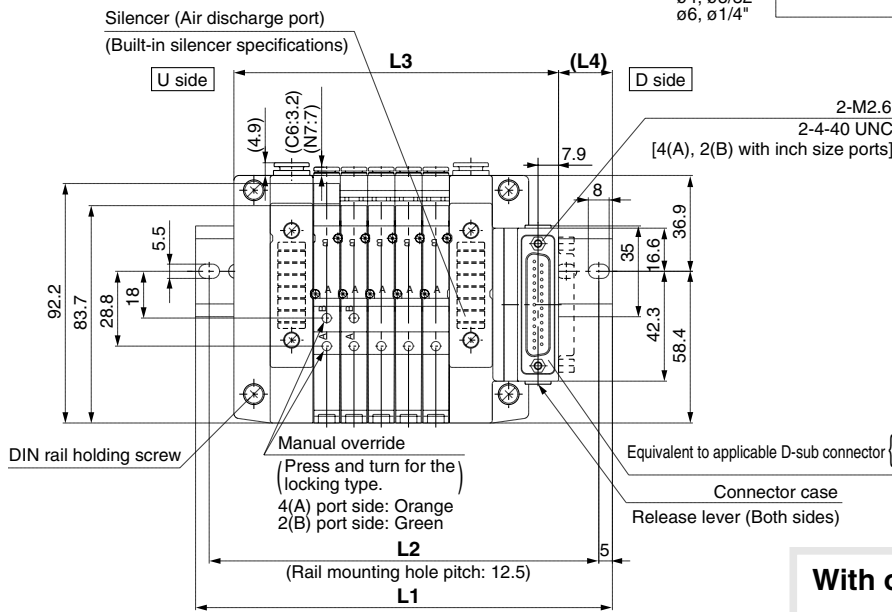
SV

SZ

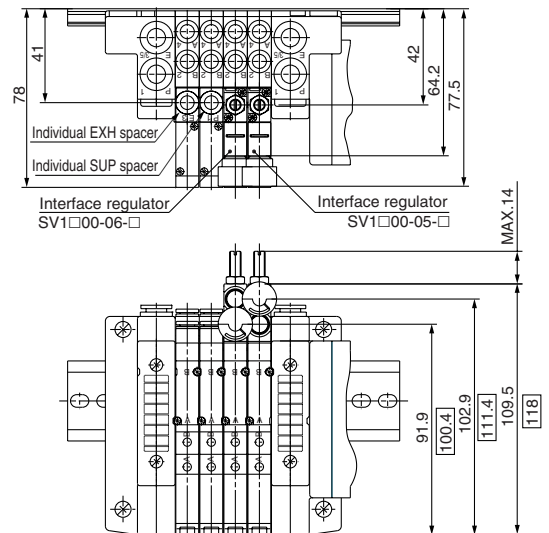
SY

SYJ

SX



With option



Dimensions are the ones for SV1300-□□-□.

L Dimension

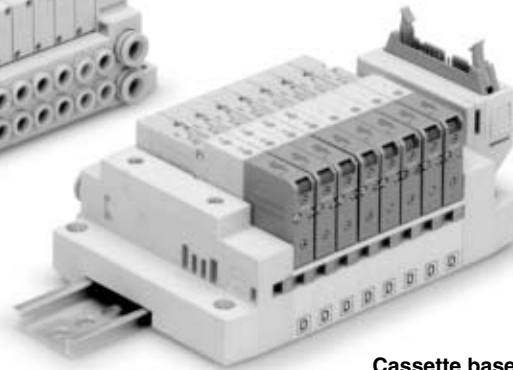
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	123	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298
L2	112.5	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5
L3	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5	230	240.5	251	261.5
L4	18	19	20	21	22	23	24	18.5	19.5	20.5	21.5	22.5	23.5	18.5	19.5	20.5	21.5

n: Stations

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">• Number of connectors: 26, 20, 10 pins• With strain relief Conforming to MIL-C-83503	

SV

SZ

SY

SYJ

SX

Flat Ribbon Cable Connector Series SV

How to Order

Connector type

P	Flat ribbon cable connector: 26 pins
PG	Flat ribbon cable connector: 20 pins
PH	Flat ribbon cable connector: 10 pins

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Valve stations

P: Flat ribbon cable 26 pins		PH: Flat ribbon cable 10 pins	
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

Mounting

Nil	Direct mounting
D	DIN rail mounting (With DIN rail)
D0*	DIN rail mounting (Without DIN rail)
D3	For 3 stations
⋮	⋮
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
⋮	⋮
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.

Tie-rod base
SS5V 1-10 P D 1-05 U

Cassette base
SS5V 1-16 P D 1-05 U

Connector entry direction

1	Upward
2	Lateral

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

Valve stations
Series SV1000

P: Flat ribbon cable 26 pins		PH: Flat ribbon cable 10 pins	
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

P: Flat ribbon cable 26 pins		PH: Flat ribbon cable 10 pins	
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

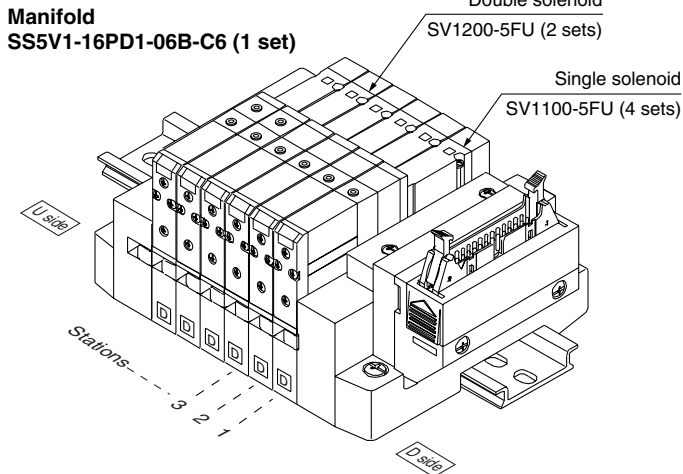
02	2 stations
⋮	⋮
09	9 stations
02	2 stations
⋮	⋮
18	18 stations

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.

How to Order Valve Manifold Assembly

Ordering example (SV1000)



SS5V1-16PD1-06B-C6.....1 set (manifold part no.)
 *SV1100-5FU.....4 sets (Single solenoid part no.)
 *SV1200-5FU.....2 sets (Double solenoid part no.)

SV
SZ
SY
SYJ
SX

How to Order Solenoid Valves

SV 1 1 0 0 — 5 F

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

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.

* 4 position dual 3 port valves are applicable to Series SV1000 and SV2000 only.

Pilot type

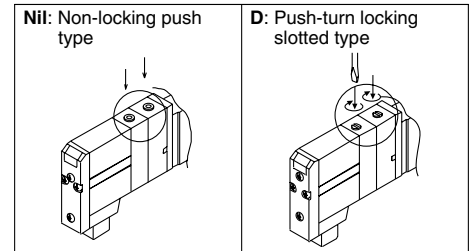
Nil	Internal pilot
R	External pilot

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



Note) Available with manifold block for station additions. Refer to pages 1-2-89 and 1-2-93.

Manual override



Light/Surge voltage suppressor

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

Rated voltage

5	24 VDC
6	12 VDC

Back pressure check valve

Nil	None
K	Built-in

* Built-in back pressure check valve type is applicable to series SV1000 only.
 * Back pressure check valve is not available for 3 position closed center and 3 position pressure center.



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

A, B port size (Metric)

Symbol	A, B port	P, E port	Applicable series
C3	One-touch fitting for $\phi 3.2$	One-touch fitting for $\phi 8$	SV1000
C4	One-touch fitting for $\phi 4$		
C6	One-touch fitting for $\phi 6$		
C4	One-touch fitting for $\phi 4$	One-touch fitting for $\phi 10$	SV2000
C6	One-touch fitting for $\phi 6$		
C8	One-touch fitting for $\phi 8$		
C6	One-touch fitting for $\phi 6$	One-touch fitting for $\phi 12$	SV3000
C8	One-touch fitting for $\phi 8$		
C10	One-touch fitting for $\phi 10$		
C8	One-touch fitting for $\phi 8$	One-touch fitting for $\phi 12$	SV4000
C10	One-touch fitting for $\phi 10$		
C12	One-touch fitting for $\phi 12$		
02	Rc 1/4	Rc 3/8	SV4000
03	Rc 3/8		
02F	G 1/4	G 3/8	SV4000
03F	G 3/8		
M	A, B ports mixed		

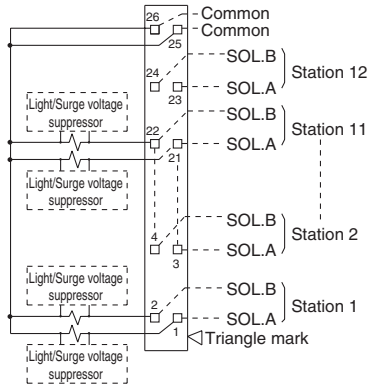
A, B port size (Inch)

Symbol	A, B port	P, E port	Applicable series
N1	One-touch fitting for $\phi 1/8$ "	One-touch fitting for $\phi 5/16$ "	SV1000
N3	One-touch fitting for $\phi 5/32$ "		
N7	One-touch fitting for $\phi 1/4$ "		
N3	One-touch fitting for $\phi 5/32$ "	One-touch fitting for $\phi 3/8$ "	SV2000
N7	One-touch fitting for $\phi 1/4$ "		
N9	One-touch fitting for $\phi 5/16$ "		
N7	One-touch fitting for $\phi 1/4$ "	One-touch fitting for $\phi 3/8$ "	SV3000
N9	One-touch fitting for $\phi 5/16$ "		
N11	One-touch fitting for $\phi 3/8$ "		
N9	One-touch fitting for $\phi 5/16$ "	One-touch fitting for $\phi 3/8$ "	SV4000
N11	One-touch fitting for $\phi 3/8$ "		
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 specification (R, RS) are $\phi 4$ (metric), $\phi 5/32$ " (inch) for SV1000/2000 and $\phi 6$ (metric) and $\phi 1/4$ " (inch) for SV3000/4000.

Manifold Electrical Wiring

10P/16P Flat Ribbon Cable Type (26 pins)

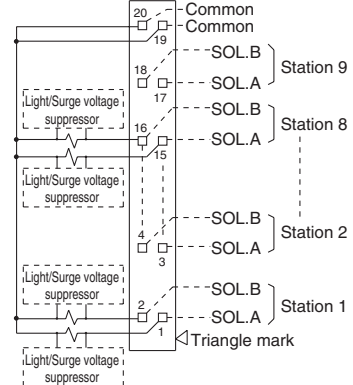


- This circuit has double wiring specifications for up to 12 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below. In the case of single solenoids, connect to SOL. A. Furthermore, when wiring is specified on a manifold specification sheet, connections are made without skipping any connectors, and connections are made without skipping any connectors, and connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1 → 2 → 3 → 4, etc.
- Stations are counted from D side (connector side) as the 1st one.
- Since terminal numbers are not indicated on the flat cable, use the triangle mark as a reference for wiring.
- Since solenoid valves do not have polarity, either the +COM or –COM can be used.

Usable No. of Solenoids

Model		Max. no. of solenoids
Tie-rod base type 10	SV1000 to SV4000	24
	SV1000 to SV2000	18
Cassette base type 16		24

10PG/16PG Flat Ribbon Cable Type (20 pins)

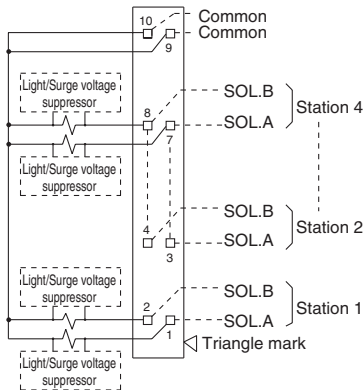


- This circuit has double wiring specifications for up to 9 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below. In the case of single solenoids, connect to SOL. A. Furthermore, when wiring is specified on a manifold specification sheet, connections are made without skipping any connectors, and connections are made without skipping any connectors, and connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1 → 2 → 3 → 4, etc.
- Stations are counted from D side (connector side) as the 1st one.
- Since terminal numbers are not indicated on the flat cable, use the triangle mark as a reference for wiring.
- Since solenoid valves do not have polarity, either the +COM or –COM can be used.

Usable No. of Solenoids

Model		Max. no. of solenoids
Tie-rod base type 10	SV1000 to SV4000	18
	SV1000 to SV2000	18
Cassette base type 16		18

10PH/16PH Flat Ribbon Cable Type (10 pins)



- This circuit has double wiring specifications for up to 4 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below. In the case of single solenoids, connect to SOL. A. Furthermore, when wiring is specified on a manifold specification sheet, connections are made without skipping any connectors, and connections are made without skipping any connectors, and connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1 → 2 → 3 → 4, etc.
- Stations are counted from D side (connector side) as the 1st one.
- Since terminal numbers are not indicated on the flat cable, use the triangle mark as a reference for wiring.
- Since solenoid valves do not have polarity, either the +COM or –COM can be used.

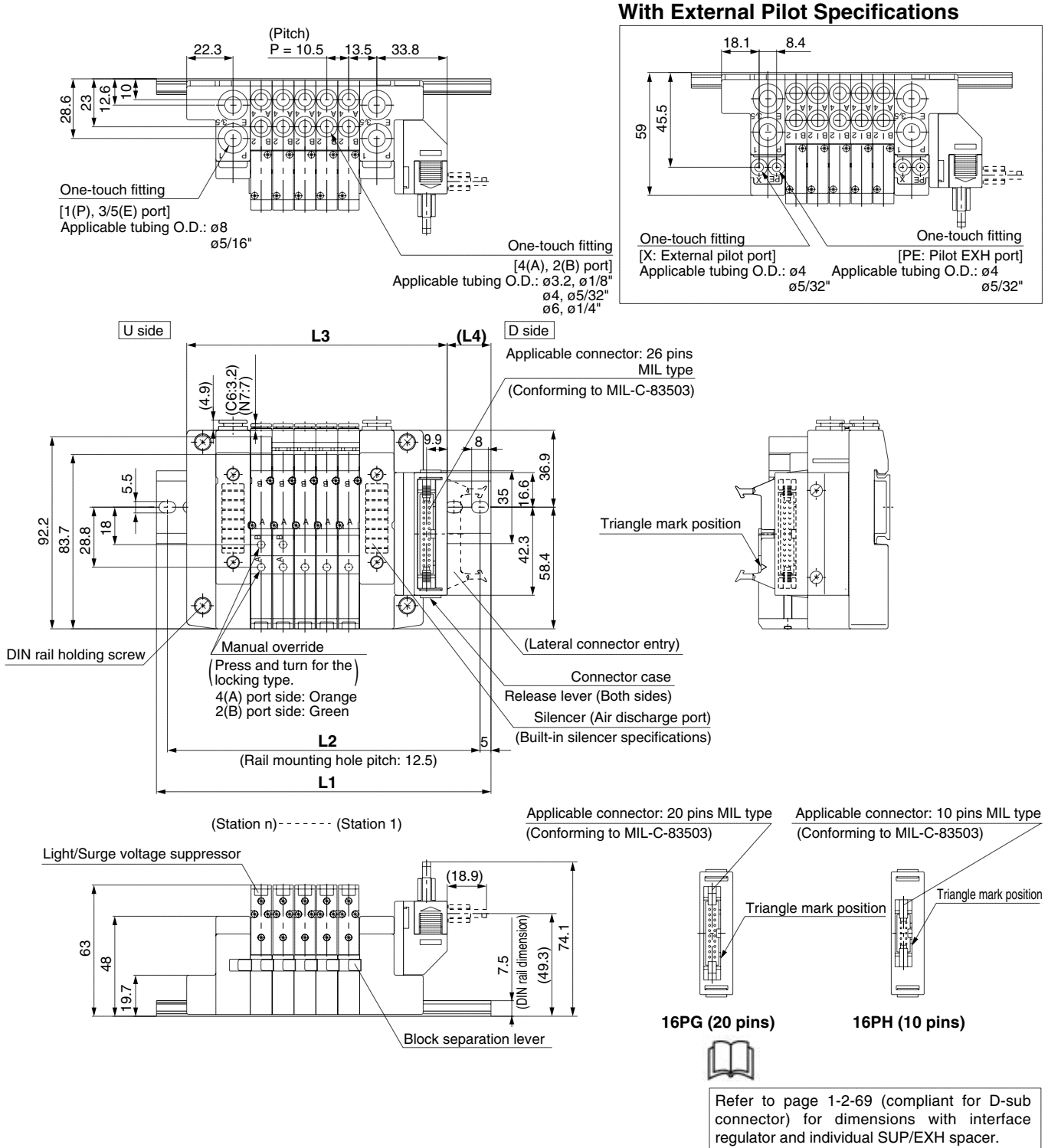
Usable No. of Solenoids

Model		Max. no. of solenoids
Tie-rod base type 10	SV1000 to SV4000	8
	SV1000 to SV2000	8
Cassette base type 16		8

Dimensions: Series SV1000 for Flat Ribbon Cable

● **Cassette base manifold: SS5V1-16** $\frac{P}{PH}$ D_2^1 - **Stations** $\frac{U}{B}$ - (S, R, RS) - C3, N1
C4, N3
C6, N7

- 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.



SV
SZ
SY
SYJ
SX

L Dimension

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	135.5	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298
L2	125	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5
L3	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5	230	240.5	251	261.5
L4	24.5	19	20	21	22	23	24	19	20	21	22	23	24	18.5	19.5	20.5	21.5

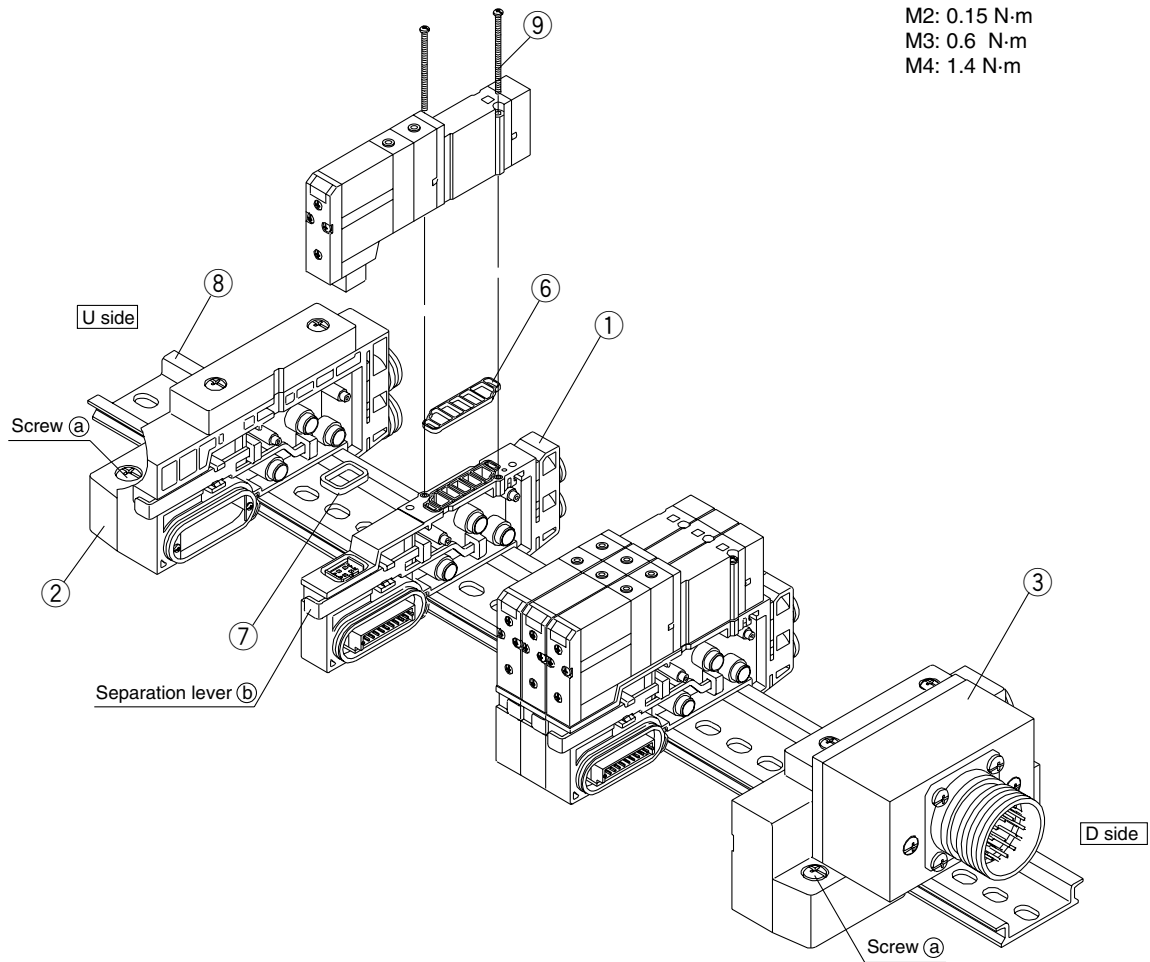
Series SV

Type 16: Cassette Base Manifold Exploded View

Caution

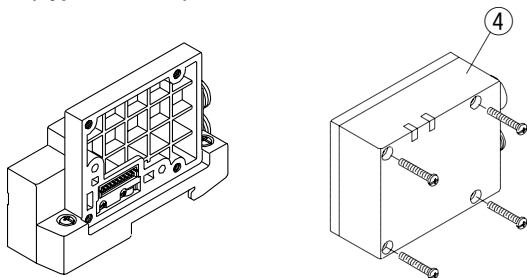
Mounting Screw Tightening Torques

M2: 0.15 N·m
M3: 0.6 N·m
M4: 1.4 N·m

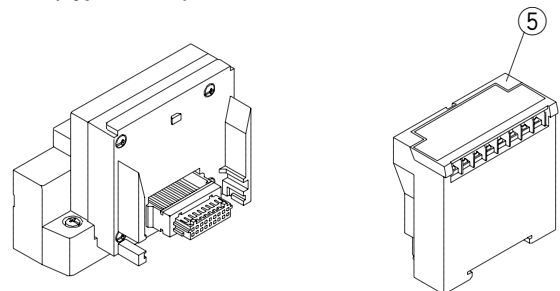


③ SUP/EXH block assembly

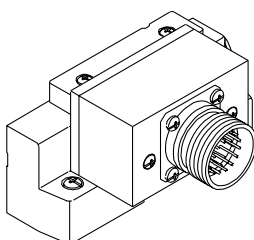
EX500 (Type 16SA□W)



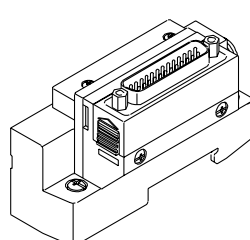
EX120 (Type 16S3□)



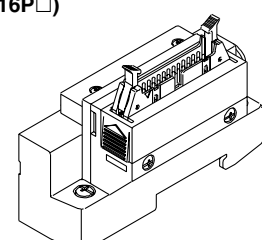
Circular connector (Type 16C)



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 $\phi 5/32$ "
	Double	SV1000-50-4A-□□	C6: With One-touch fitting for $\phi 6$ N7: One-touch fitting for $\phi 1/4$ " (Gaskets ⑥ and ⑦ are included.)
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 $\phi 1/4$ "
	Double	SV2000-50-4A-□□	C8: With One-touch fitting for $\phi 8$ N9: One-touch fitting for $\phi 5/16$ " (Gaskets ⑥ and ⑦ are included.)

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

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.



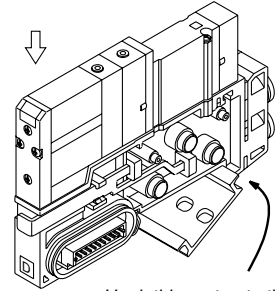
(3) Attach the manifold block assembly to be added to the DIN rail as shown in the figure.



(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

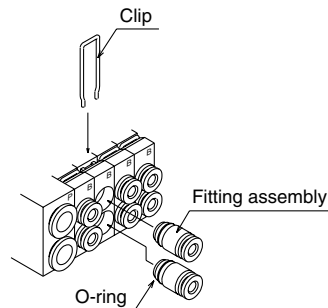
⚠ Caution

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 0 0 - 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

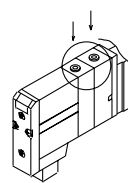
Nil	Double wiring
S	Single wiring

Manifold block type

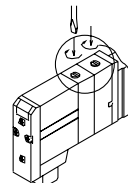
C	Cassette base type 16 with manifold block
---	---

Manual override

Nil: Non-locking push type



D: Push-turn locking slotted type



Light/Surge voltage suppressor

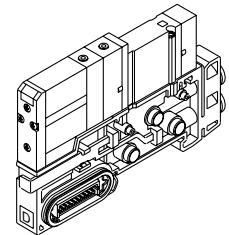
U	With light/surge voltage suppressor
R	With surge voltage suppressor

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

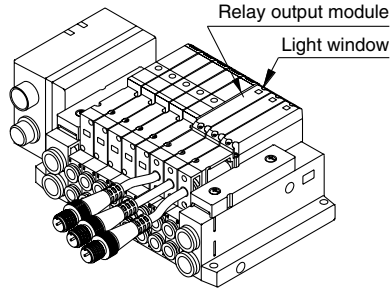
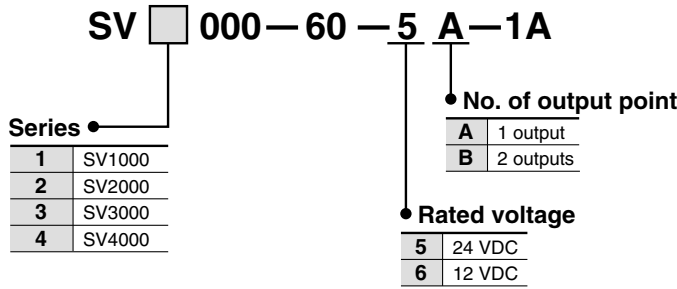
Series SV

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

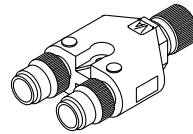
Item	Specifications			
	1 output [connector with lead wire (M12)]		2 outputs [connector with lead wire (M12)]	
No. of output points	1 output [connector with lead wire (M12)]		2 outputs [connector with lead wire (M12)]	
Output type	4 pins connector (M12) plug 1. — 2. Output A 3. — 4. Output A Contact 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

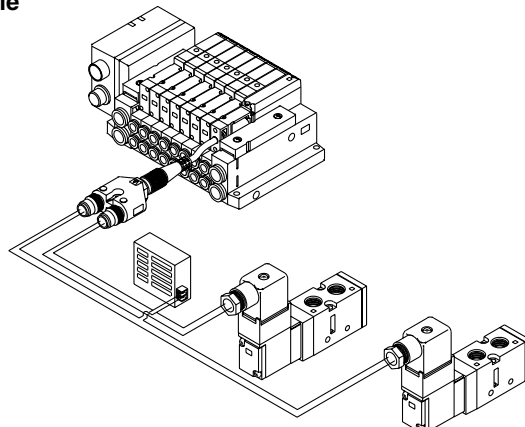
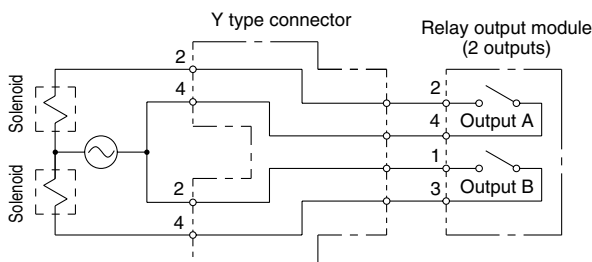
Used to branch a two output relay output module to two separate systems.

How to Order

EX500—ACY00—S



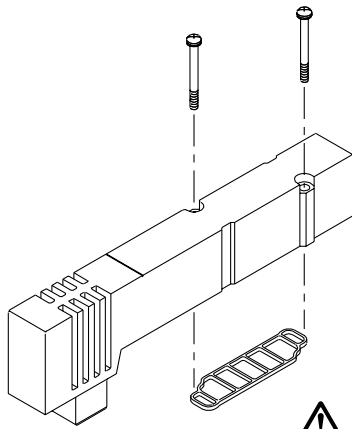
Relay output module and Y type connector wiring example



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

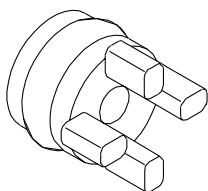
[SUP block disk]

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.

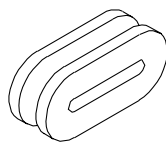
[EXH block disk]

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

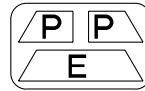
Series	Manifold Model	SUP block disk	EXH block disk
SV1000	10	SV1000-59-1A	SV1000-59-2A
	16	SX3000-77-1A	SX3000-77-1A
SV2000	10	SV2000-59-1A	SV2000-59-2A
	16	SV2000-59-3A	SV2000-59-3A
SV3000	10	SV3000-59-1A	SV3000-59-1A
SV4000	10	SY9000-57-1A	SY9000-57-1A

■ Label for block disk

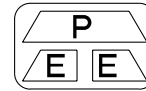
These labels are attached to manifolds in which SUP and EXH block disks have been installed, in order to identify the installed locations. (Three sheets each included.)

SV1000 – 74 – 1A

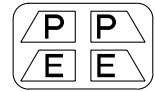
Label for SUP block disk



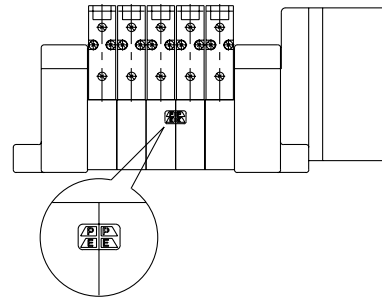
Label for EXH block disk



Label for SUP/EXH block disk

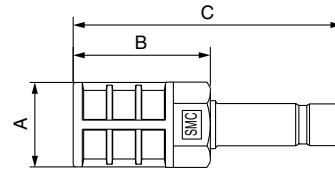


* When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.



■ Silencer with One-touch fitting

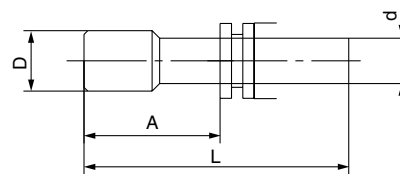
This silencer can be quickly mounted on the manifold's E (exhaust) port.



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

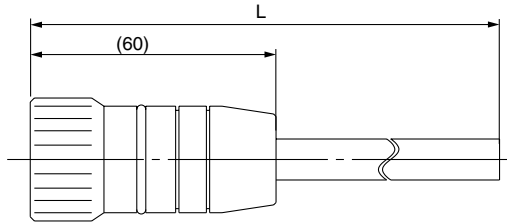
Manifold Option

■ Circular connector/Cable assembly (26 pins)

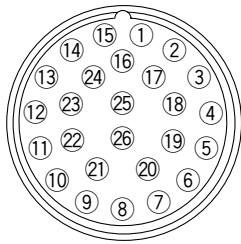
AXT100 – MC26 – □

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.

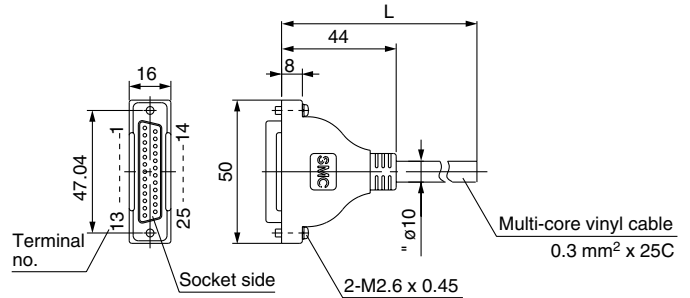
■ D-sub connector/Cable assembly (25 pins)

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.

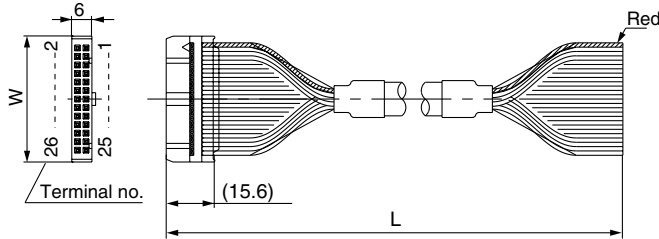
Manifold Option

■ 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.



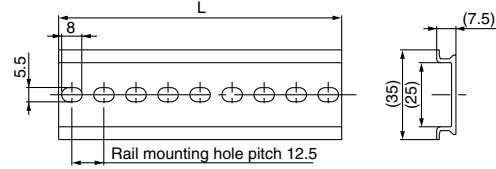
Connector manufacturers' example

- 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.

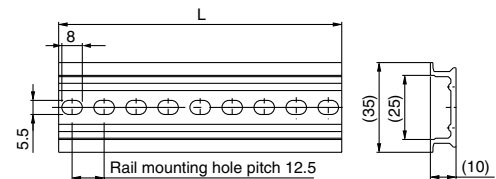


No.	0	1	2	3	4	5	6	7	8	9
L dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	17.6	19.9	22.1	24.4	26.6	28.9	31.1	33.4	35.6	37.9
No.	10	11	12	13	14	15	16	17	18	19
L dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	40.1	42.4	44.6	46.9	49.1	51.4	53.6	55.9	58.1	60.4
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

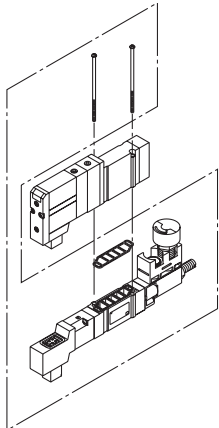
Option

00	With pressure gauge
M1	Without pressure gauge

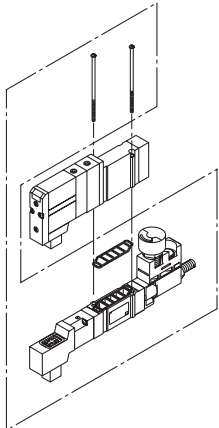
Regulating port

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

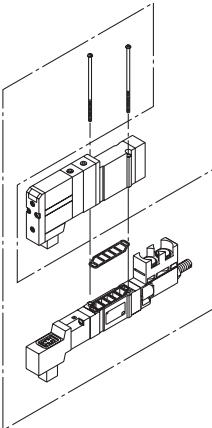
SV1000-□-05
(For mounting odd number stations)



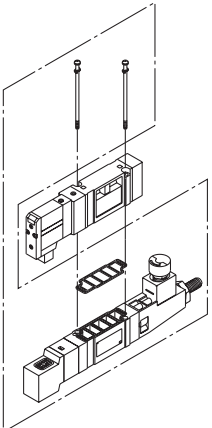
SV1000-□-06
(For mounting even number stations)



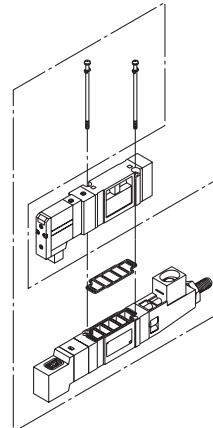
SV1000-□-M1



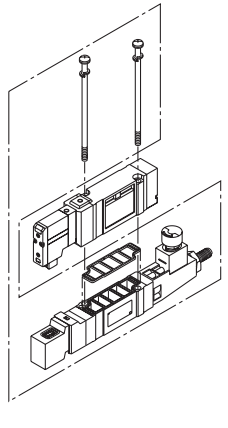
SV2000-□-00



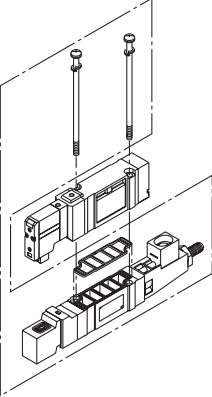
SV2000-□-M1



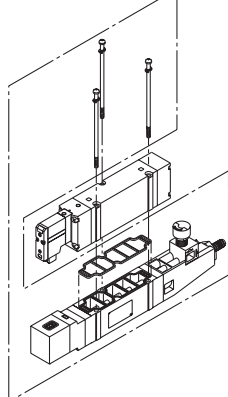
SV3000-□-00



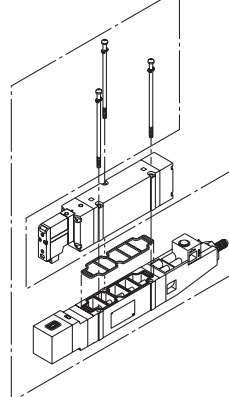
SV3000-□-M1



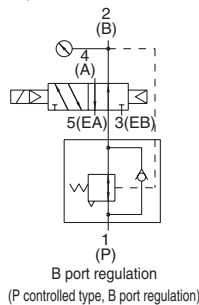
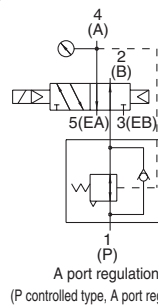
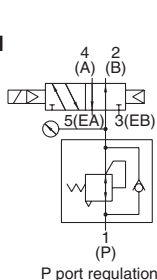
SV4000-□-00



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

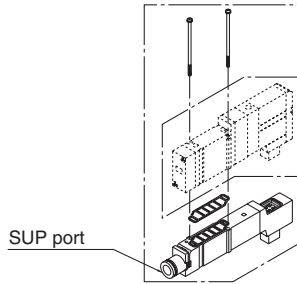
Caution

Mounting Screw Tightening Torques

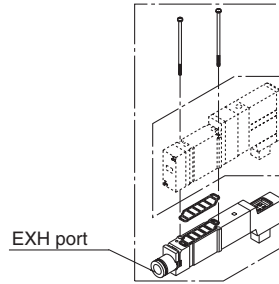
M2: 0.15 N·m
M3: 0.6 N·m
M4: 1.4 N·m

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 ^{Note)}

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