

Series SX3000/5000/7000 Body Ported Manifold Bar Stock Type Flat Ribbon Cable

Type **20P**
N

How to Order Manifold

SS5X 5 - 20 P - 05

Series

3	SX3000
5	SX5000
7	SX7000

Stations

03	3 stations
⋮	⋮
12	12 stations

Note) For SS5X3:
4 to 12 stations.

P, R ports Thread type

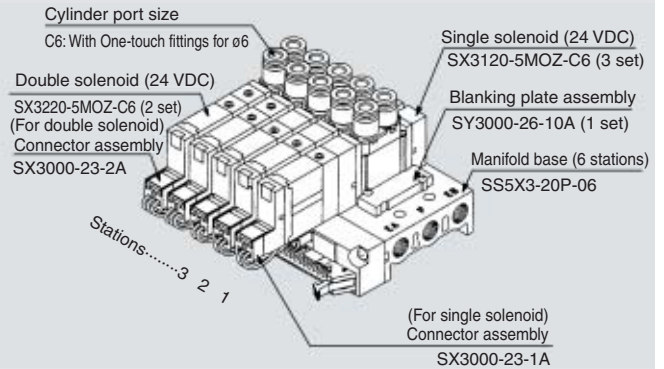
Nil	Rc
00F	G
00N	NPT
00T	NPTF

Common specifications

P	Positive common
N	Negative common

How to Order Valve Manifold Assembly

Ordering example



SS5X3-20P-06..... 1 set (Type 20P, 6-station manifold no.)
 *SY3000-26-10A.....1 set (Blanking plate assembly part no.)
 *SX3120-5MOZ-C6... 3 sets (Single solenoid part no.)
 *SX3220-5MOZ-C6... 2 sets (Double solenoid part no.)
 *SX3000-23-1A..... 3 sets (Connector assembly no.)
 *SX3000-23-2A..... 2 sets (Connector assembly no.)

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

Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.

How to Order Valves

SX 5 1 20 - 5 N MOZ

Series

3	SX3000
5	SX5000
7	SX7000

Rated voltage

5	24 VDC
6	12 VDC

Type of actuation

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center

Common specifications

Nil	Positive common
N	Negative common

* Common specifications for the valve must correspond with common specifications for the manifold.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A/B port size

Symbol	Port size	Applicable series
M5	M5 x 0.8	SX3000
01	1/8	SX5000
02	1/4	SX7000

Thread piping

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for $\phi 4$	SX3000
C6	One-touch fitting for $\phi 6$	
C4	One-touch fitting for $\phi 4$	SX5000
C6	One-touch fitting for $\phi 6$	
C8	One-touch fitting for $\phi 8$	SX7000
C10	One-touch fitting for $\phi 10$	

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for $\phi 5/32$ "	SX3000
N7	One-touch fitting for $\phi 1/4$ "	
N3	One-touch fitting for $\phi 5/32$ "	SX5000
N7	One-touch fitting for $\phi 1/4$ "	
N9	One-touch fitting for $\phi 5/16$ "	SX7000
N11	One-touch fitting for $\phi 3/8$ "	

How to Order Connector Assembly

- Positive common specifications
For single solenoid: SX3000-23-1A
For double solenoid, 3 position: SX3000-23-2A
- Negative common specifications
For single solenoid: SX3000-24-1A
For double solenoid, 3 position: SX3000-24-2A

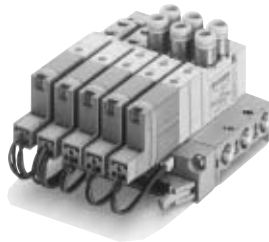
Manual override

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

For detailed information on connector assembly, refer to page 1-6-9.

- Multiple valve wiring is simplified through the use of the flat cable connector.
- Clean appearance

In the case of a flat cable style, each valve is wired on the print board of manifold base to allow the external wiring to be piped all together with 26 pins MIL connector.



Manifold Specifications

Model	SS5X3-20P _N	SS5X5-20P _N	SS5X7-20P _N	
Applicable valve	SX3□20	SX5□20	SX7□20	
Manifold type	Single base/B mount			
P (SUP), R (EXH)	Common SUP/Common EXH			
Valve stations Note (1)	4 to 12 stations	3 to 12 stations		
A, B port location	Valve			
Port size	P, EA, EB port	1/8	1/4	1/4
	A, B port	M5 x 0.8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)
Manifold base weight W (g) n: Stations	W = 19n + 45	W = 43n + 77	W = 51n + 81	
Applicable flat ribbon cable connector	Socket: 26 pins MIL with strain relief (Conforming to MIL-C-83503)			
Internal wiring (2)	+COM (Type 20P), -COM (Type 20N)			
Rated voltage	12, 24 VDC			

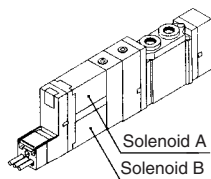
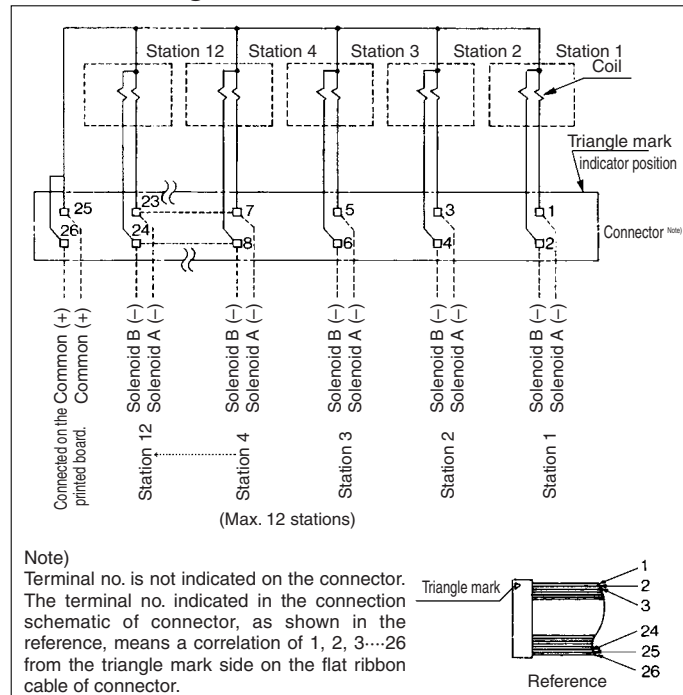
- Note 1) For more than 10 stations (more than 5 stations in case of SS5X7), supply pressure to P port on both sides and exhaust from EA and EB port on both sides.
 Note 2) The withstand voltage specification for the wiring unit section is JIS C 0704, Grade 1 or its equivalent.

Flow Characteristics

Model	Port size		Flow characteristics					
			1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm ³ / (s·bar)]	b	Cv	C [dm ³ / (s·bar)]	b	Cv
SS5X3-20P _N	Rc 1/8	C6	0.72	0.29	0.18	0.80	0.36	0.21
SS5X5-20P _N	Rc 1/4	C8	1.9	0.28	0.48	2.2	0.20	0.53
SS5X7-20P _N	Rc 1/4	C10	3.6	0.31	0.93	3.6	0.27	0.88

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

Internal Wiring of Manifold



- For more than 9 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations is 12. If more than 12 stations are required, please consult with SMC.
- -COM and +COM specifications are available. (Diagram above is for +COM specifications.)

SV

SZ

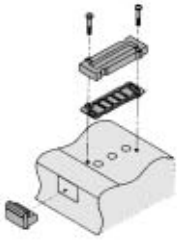
SY

SYJ

SX

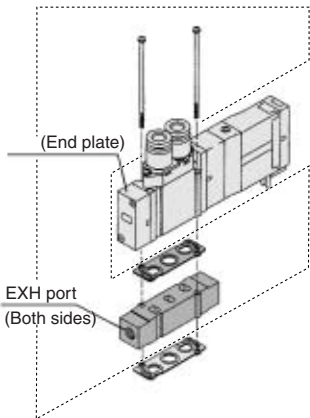
Manifold Option

■ Blanking plate assembly



Series	Assembly part no.
SX3000	SY3000-26-10A
SX5000	SY5000-26-21A
SX7000	SY7000-26-23A

■ Individual EXH spacer assembly



Series	Assembly part no.	Port size
SX3000	SX3000-39-20A	M5 x 0.8
SX5000	SX5000-39-1□A	1/8
SX7000	SX7000-39-1□A	1/4

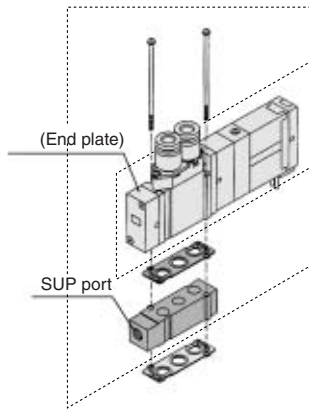
Note) For protection of the wiring unit section from drain, it should be piped at the EA port so that it will not be directly exposed to exhaust from the valve.

⚠ Caution

Mounting screw tightening torques

M2: 0.17 N·m
M3: 0.8 N·m
M4: 1.4 N·m

■ Individual SUP spacer assembly



Series	Assembly part no.	Port size
SX3000	SX3000-38-20A	M5 x 0.8
SX5000	SX5000-38-1□A	1/8
SX7000	SX7000-38-1□A	1/4

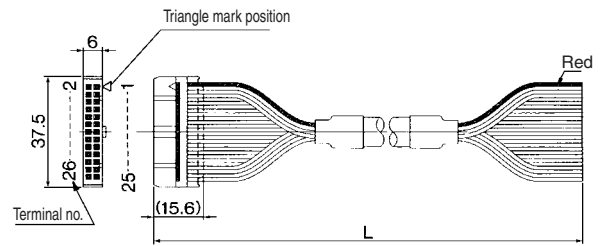
Note) The SUP port may be either on the lead wire side or on the end plate side (Factory assembled spacer will be shipped with the orientation shown in the figure.)

* Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

■ Cable assembly

AXT100-FC26-¹/₃



Connector Assembly for Flat Ribbon Cable

Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-FC26-1	Cable 26 cores x 28AWG
3 m	AXT100-FC26-2	
5 m	AXT100-FC26-3	

* For other commercial connectors, use a 26 pins type with strain relief conforming to MIL-C-83503.

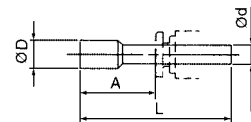
Connector manufacturers' example

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

■ Plug

These are inserted in cylinder ports or SUP/EXH ports which are not being used.

Purchasing order is available in units of 10 pieces.



Dimensions

Applicable fittings fitting ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KQ2P-09	20.5	39	10
3/8"	KQ2P-11	22	43	11.5

⚠ Warning

When mounting a valve or spacer on the manifold base or sub-plate, etc., those mounting directions are determined. If mounted in the wrong direction, the equipment to be connected may cause malfunction. Refer to external dimensions in pages 1-6-51 to 1-6-53, and then mount it.

Type **41^P**
N
 Type **42^P**
N

Series SX3000/5000/7000 Base Mounted Manifold Bar Stock Type Flat Ribbon Cable

How to Order Manifold

Type 41^P_N (Compact type)

SS5X 5 — 41 P — 05 — C8

Series

3	SX3000
5	SX5000

Common specifications

P	Positive common
N	Negative common

Stations

03	3 stations
⋮	⋮
12	12 stations

Note) For SS5X3: 4 to 12 stations.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A/B port size Thread piping

Symbol	Port size	Applicable series
M5	M5 x 0.8	SX3000
01	1/8	SX5000

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SX3000
C6	One-touch fitting for ø6	
C6	One-touch fitting for ø6	SX5000
C8	One-touch fitting for ø8	

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø5/32"	SX3000
N7	One-touch fitting for ø1/4"	
N7	One-touch fitting for ø1/4"	SX5000
N9	One-touch fitting for ø5/16"	

Type 42^P_N (Common external pilot type)

SS5X 5 — 42 P — 05 — C8

Series

3	SX3000
5	SX5000
7	SX7000

Common specifications

P	Positive common
N	Negative common

Stations

03	3 stations
⋮	⋮
12	12 stations

Note) For SS5X3: 4 to 12 stations.

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A/B port size Thread piping

Symbol	Port size	Applicable series
01	1/8	SX3000
02	1/4	SX5000
02	1/4	SX7000

One-touch fitting (Metric size)

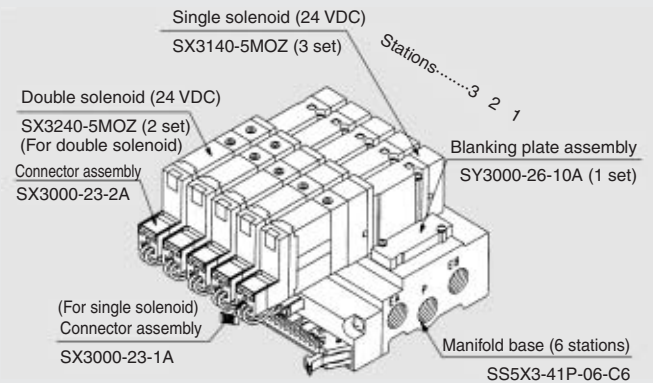
Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SX3000
C6	One-touch fitting for ø6	
C6	One-touch fitting for ø6	SX5000
C8	One-touch fitting for ø8	
C10	One-touch fitting for ø10	SX7000

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø5/32"	SX3000
N7	One-touch fitting for ø1/4"	
N7	One-touch fitting for ø1/4"	SX5000
N9	One-touch fitting for ø5/16"	
N11	One-touch fitting for ø3/8"	SX7000

How to Order Valve Manifold Assembly

Ordering example

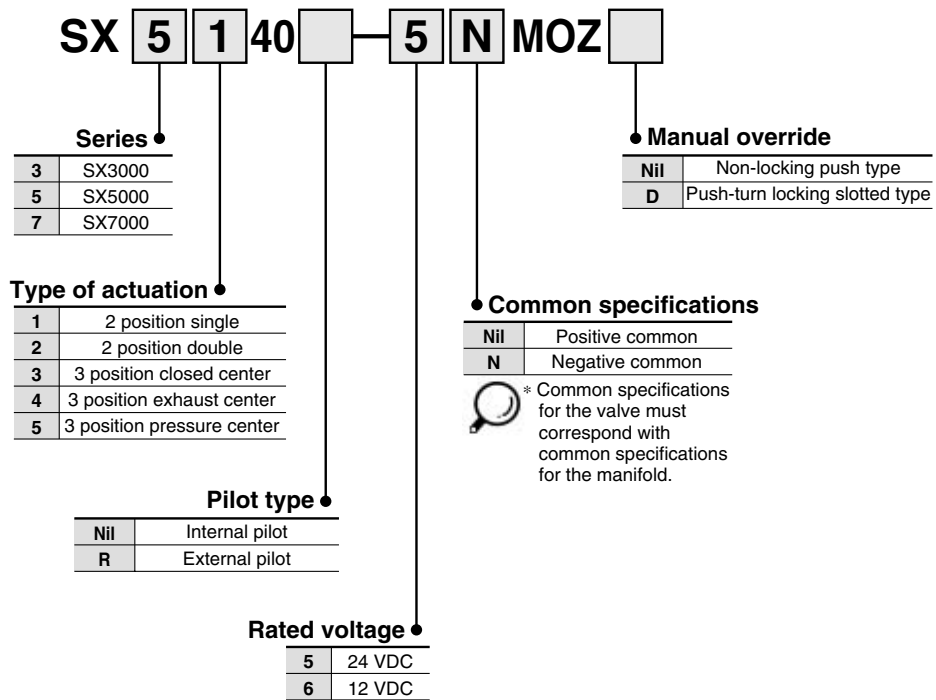


SS5X3-41P-06-C6 1 set (Type 41P, 6-station manifold base part no.)
 *SY3000-26-10A 1 set (Blanking plate assembly part no.)
 *SX3140-5MOZ 3 sets (Single solenoid part no.)
 *SX3240-5MOZ 2 sets (Double solenoid part no.)
 *SX3000-23-1A 3 sets (Connector assembly no.)
 *SX3000-23-2A 2 sets (Connector assembly no.)

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

Add the valve and option part number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.

How to Order Valves



SV

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SY

SYJ

SX

How to Order Connector Assembly

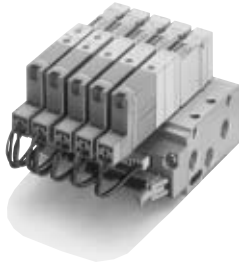
- Positive common specifications
For single solenoid: SX3000-23-1A
For double solenoid, 3 position: SX3000-23-2A
- Negative common specifications
For single solenoid: SX3000-24-1A
For double solenoid, 3 position: SX3000-24-2A



For detailed information on connector assembly, refer to page 1-6-9.

- Multiple valve wiring is simplified through the use of the flat cable connector.
- Clean appearance

In case of a flat cable style, each valve is wired on the print board of manifold base to allow the external wiring to be piped all together with 26 pins MIL connector.



Flat Ribbon Cable Manifold Specifications

Model	SS5X3-41 ^P _N	SS5X3-42 ^P _N	SS5X5-41 ^P _N	SS5X5-42 ^P _N	SS5X7-42 ^P _N
Applicable valve	SX3□40	SX3□40(R)	SX5□40	SX5□40(R)	SX7□40(R)
Manifold type	Single base/B mount				
P (SUP)/R (EXH)	Common SUP/Common EXH				
Valve stations ⁽¹⁾	4 to 12 stations		3 to 12 stations		
A, B port specifications	Location	Base			
	Direction	Side			
Port size	P, EA, EB port	Rc 1/8		Rc 1/4	
	A, B port	M5 x 0.8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	Rc 1/8 C4 (One-touch fitting ø4) C6 (One-touch fitting for ø6)	Rc 1/8 C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	Rc 1/4 C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)
Manifold base weight W (g) n: Stations	W = 39n + 83	W = 48n + 99	W = 67n + 118	W = 88n + 151	W = 109n + 174
Applicable flat ribbon cable connector	Socket: 26 pins MIL with strain relief (Conforming to MIL-C-83503)				
Internal wiring ⁽²⁾	+COM (Type 41P, 42P), -COM (Type 41N, 42N)				
Rated voltage	12, 24 VDC				

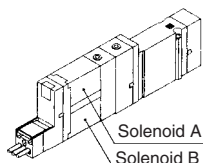
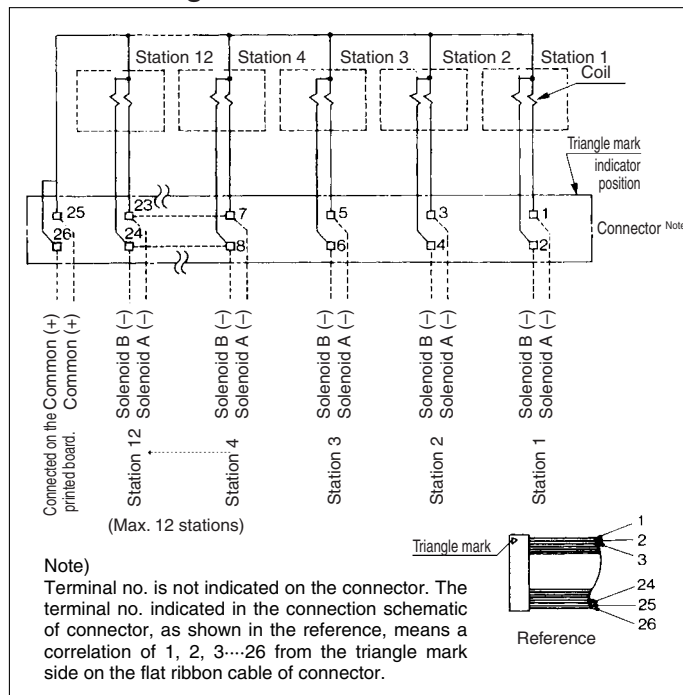
- Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA and EB port on both sides.
 Note 2) The withstand voltage specification for the wiring unit section is JIS C 0704, Grade 1 or its equivalent.

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 → 5/3 (A/B → EA/EB)		
			C [dm ³ / (s-bar)]	b	Cv	C [dm ³ / (s-bar)]	b	Cv
SS5X3-41 ^P _N	Rc 1/8	C6	0.75	0.19	0.18	0.81	0.23	0.20
SS5X3-42 ^P _N	Rc 1/8	C6	0.75	0.20	0.18	0.82	0.20	0.20
SS5X5-41 ^P _N	Rc 1/4	C8	1.8	0.23	0.44	1.9	0.16	0.45
SS5X5-42 ^P _N	Rc 1/4	C8	1.9	0.20	0.46	1.9	0.12	0.43
SS5X7-42 ^P _N	Rc 1/4	C10	3.0	0.25	0.75	3.0	0.12	0.66

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

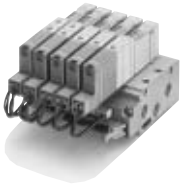
Internal Wiring of Manifold



- For more than 9 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations is 12. If more than 12 stations are required, please consult with SMC.
- -COM and +COM specifications are available. (Diagram above is for +COM specifications.)

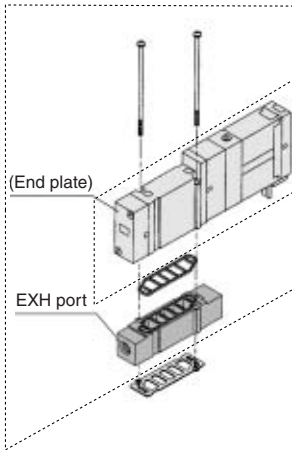
Manifold Option

■ Blanking plate assembly



Series	Assembly part no.
SX3000	SY3000-26-10A
SX5000	SY5000-26-21A
SX7000	SY7000-26-23A

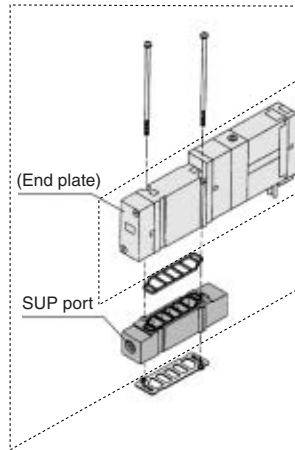
■ Individual EXH spacer assembly



Series	Assembly part no.	Port size
SX3000	SX3000-39-2A	M5 x 0.8
SX5000	SX5000-39-16□A	1/8
SX7000	SX7000-39-16□A	1/4

Note) For protection of the wiring unit section, the EXH port is on the end plate side.

■ Individual SUP spacer assembly



Series	Assembly part no.	Port size
SX3000	SX3000-38-2A	M5 x 0.8
SX5000	SX5000-38-16□A	1/8
SX7000	SX7000-38-16□A	1/4

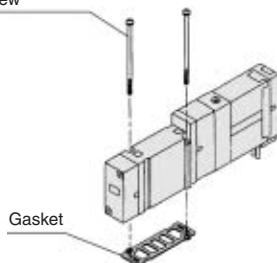
Note) The SUP port may be either on the lead wire side or on the end plate side. (An assembly is shipped under the condition shown in the figure.)

* Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

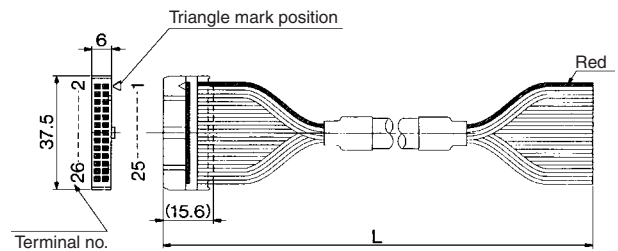
■ Bolt and gasket part no.

Round head combination screw



Series	Round head combination screw	Gasket
SX3000	SX3000-22-2 (M2 x 24)	SY3000-11-25
SX5000	M3 x 30 (Matt nickel plated)	SY5000-11-15
SX7000	M4 x 35 (Matt nickel plated)	SY7000-11-11

■ Cable assembly AXT100-FC26-¹/₃



Connector Assembly for Flat Ribbon Cable

Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-FC26-1	Cable 26 cores x 28AWG
3 m	AXT100-FC26-2	
5 m	AXT100-FC26-3	

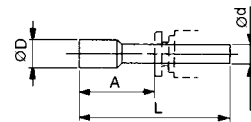
* For other commercial connectors, use a 26 pins type with strain relief conforming to MIL-C-83503.

Connector manufacturers' example

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

■ Plug

These are inserted in cylinder ports or SUP/EXH ports which are not being used.



Dimensions

Applicable fittings size ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KQ2P-09	20.5	39	10
3/8"	KQ2P-11	22	43	11.5

⚠ Caution

Mounting screw tightening torques

- M2: 0.17 N·m
- M3: 0.8 N·m
- M4: 1.4 N·m

⚠ Warning

When mounting a valve or spacer on the manifold base or sub-plate, etc., those mounting directions are determined. If mounted in the wrong direction, the equipment to be connected may cause malfunction. Refer to external dimensions in pages 1-6-68 to 1-6-72, and then mount it.

SV

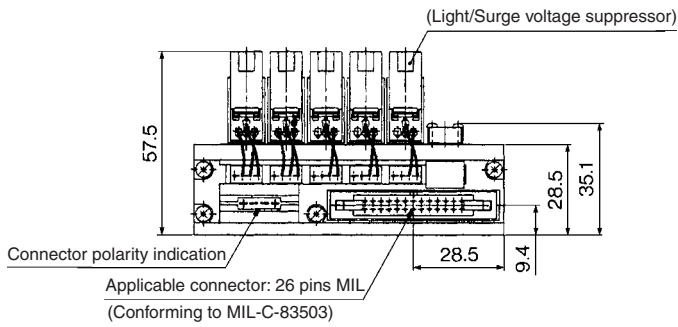
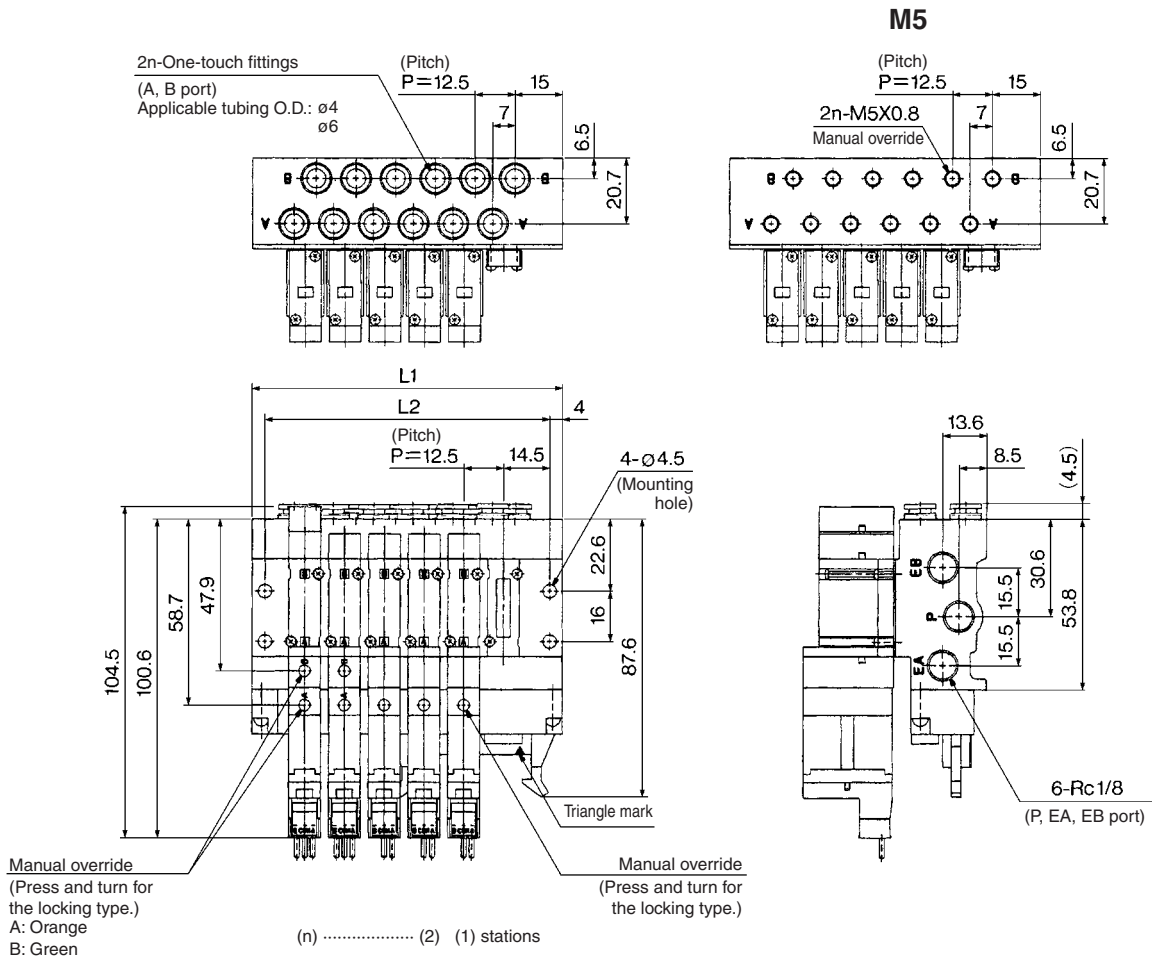
SZ

SY

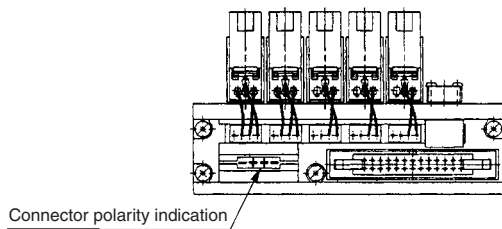
SYJ

SX

SX3000: SS5X3-41P- Stations -M5/C4/C6



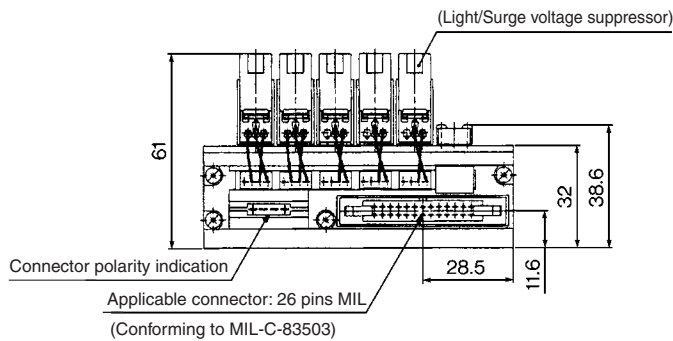
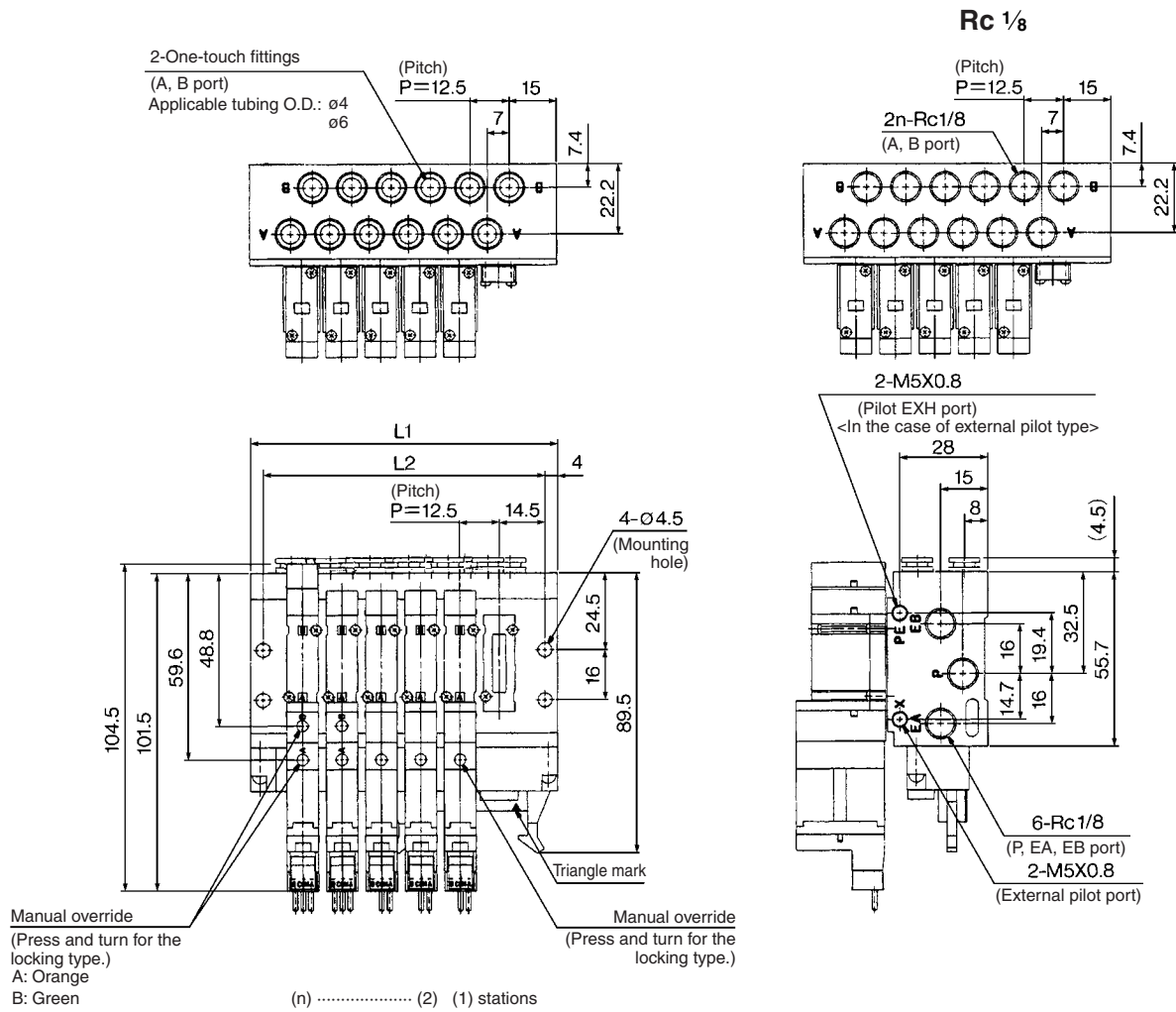
SS5X3-41N



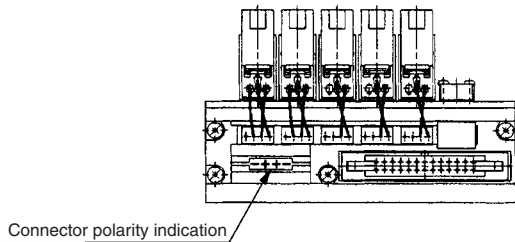
(mm)

Stations n	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

SX3000: SS5X3-42P- Stations -01/C4/C6



SS5X3-42N



(mm)

Stations n	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5