

# Series SX3000/5000/7000 Body Ported Valve Single Unit

## How to Order

**SX 5 1 20 — 5 N L — — — 01 — —**

**Series**

3	SX3000
5	SX5000
7	SX7000

**Type of actuation**

1	2 position single (A)(B) 4 2 5 1 3 (EA)(P)(EB)
2	2 position double (A)(B) 4 2 5 1 3 (EA)(P)(EB)
3	3 position closed center (A)(B) 4 2 5 1 3 (EA)(P)(EB)
4	3 position exhaust center (A)(B) 4 2 5 1 3 (EA)(P)(EB)
5	3 position pressure center (A)(B) 4 2 5 1 3 (EA)(P)(EB)

**Rated voltage**

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

**Common specifications**

Nil	Positive common
N	Negative common

Note) Put nothing for single grommet style and single without indicator light and surge voltage suppresser.

**Bracket**

Nil: Without bracket  
F1: With foot bracket  
F2: With side bracket

**Manual override**

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

**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
02	1/4	SX7000

**Light/Surge voltage suppressor**

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor

**Electrical entry**

Grommet		L plug connector		M plug connector	
<b>G:</b> Lead wire length 300 mm		<b>L:</b> With lead wire (Length 300 mm)		<b>M:</b> With lead wire (Length 300 mm)	<b>MN:</b> Without lead wire
<b>H:</b> Lead wire length 600 mm		<b>LN:</b> Without lead wire		<b>LO:</b> Without connector	<b>MO:</b> Without connector

\* The LN or MN option includes 2 sockets for single solenoid valves and 3 sockets for double solenoid valves.

**One-touch fitting (Metric size)**

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

**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"	
N3	One-touch fitting for ø5/32"	SX5000
N7	One-touch fitting for ø1/4"	
N9	One-touch fitting for ø5/16"	SX7000
N9	One-touch fitting for ø5/16"	
N11	One-touch fitting for ø3/8"	



**Specifications**

Series		SX3000	SX5000	SX7000
Fluid		Air		
Internal pilot	2 position single	0.15 to 0.7		
Operating pressure range (MPa)	2 position double	0.1 to 0.7		
	3 position	0.2 to 0.7		
Ambient and fluid temperature (°C)		Max. 50		
Max. operating frequency (Hz)	2 position single, double	10	5	5
	3 position	3	3	3
Manual override		Non-locking push type, Push-turn locking slotted type		
Pilot exhaust method		Common exhaust type for main and pilot valve		
Lubrication		Not required		
Mounting orientation		Unrestricted		
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>Note</sup>		150/30		
Enclosure		Dusttight		



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)

SV

SZ

SY

SYJ

SX



**Made to Order Specifications**  
(For details, refer to pages 1-6-124 to 1-6-138.)

**Solenoid Specifications**

Electrical entry	Grommet (G)/(H), L plug connector (L), M plug connector (M)	
Coil rated voltage (V)	DC	24, 12, 6, 5, 3
Allowable voltage fluctuation	±10% of rated voltage	
Power consumption (W)	DC	0.6 (With indicator light: 0.65)
Surge voltage suppressor	Diode	
Indicator light	LED	

**Response Time**



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

**SX3000**

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)	
	Without light/surge voltage suppressor	With light/surge voltage suppressor
2 position single	12 or less	15 or less
2 position double	10 or less	13 or less
3 position	15 or less	20 or less

**SX5000**

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)	
	Without light/surge voltage suppressor	With light/surge voltage suppressor
2 position single	19 or less	26 or less
2 position double	18 or less	22 or less
3 position	32 or less	38 or less

**SX7000**

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)	
	Without light/surge voltage suppressor	With light/surge voltage suppressor
2 position single	31 or less	38 or less
2 position double	27 or less	30 or less
3 position	50 or less	56 or less

Model/Series **SX7000**

Valve model	Type of actuation		Port size		Flow characteristics						Weight (g)			
					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 <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv	Grommet	L plug connector M plug connector
<b>SX7□20-□-02</b>	2 position	Single	1(P) port Rc 1/4	Rc 1/4	4.1	0.23	0.93	3.3	0.33	0.81	108	109		
		Double			2.9	0.31	0.70	2.4	0.38	0.63	116	117		
	3 position	Exhaust center			2.5	0.39	0.65	3.4 [2.1]	0.35 [0.38]	0.82 [0.54]	125	126		
		Pressure center			4.3 [2.4]	0.23 [0.32]	0.97 [0.61]	2.2	0.39	0.58				
<b>SX7□20-□-C8</b>	2 position	Single			5, 3 (EA, EB) Port Rc 1/8	C8 (One-touch fitting for ø8)	3.2	0.26	0.77	3.2	0.37	0.82	114	116
		Double					2.6	0.24	0.63	2.4	0.31	0.62	122	124
	3 position	Exhaust center					2.4	0.25	0.57	2.6 [1.9]	0.42 [0.46]	0.70 [0.56]	131	132
		Pressure center					3.3 [2.4]	0.28 [0.22]	0.78 [0.57]	2.2	0.34	0.60		
<b>SX7□20-□-C10</b>	2 position	Single	C10 (One-touch fitting for ø10)	C10			3.8	0.26	0.86	3.2	0.34	0.82	110	111
		Double					2.8	0.27	0.67	2.4	0.21	0.59	118	119
	3 position	Exhaust center					2.5	0.25	0.59	2.7 [2.0]	0.38 [0.38]	0.70 [0.56]	126	128
		Pressure center					3.8 [2.4]	0.25 [0.31]	0.89 [0.61]	2.3	0.38	0.61		



Note) [ ]: Denotes normal position.

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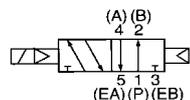
SX

## Construction

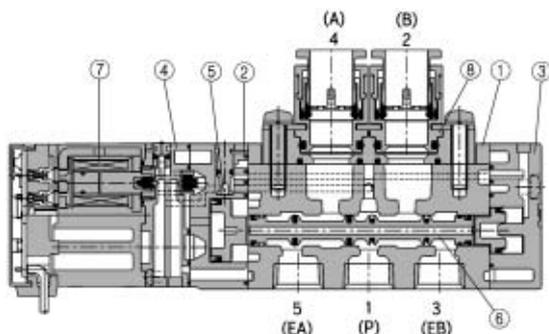
### Series SX

#### JIS Symbol

2 position single

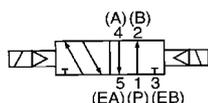


#### 2 position single

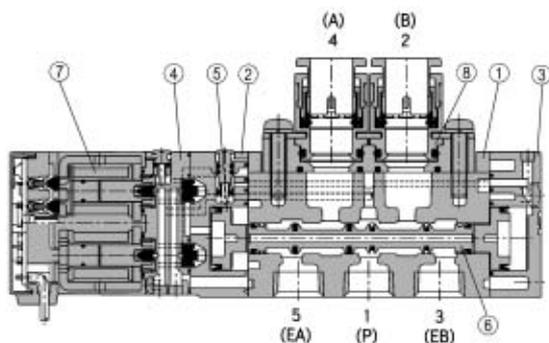


#### JIS Symbol

2 position double



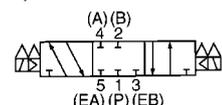
#### 2 position double



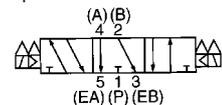
#### 3 position closed center/exhaust center/pressure center

#### JIS Symbol

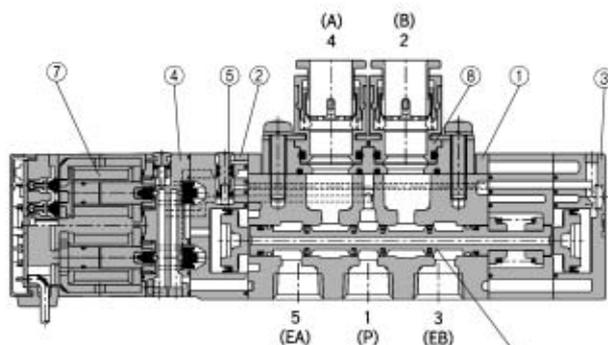
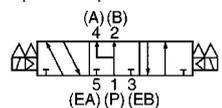
3 position closed center



3 position exhaust center



3 position pressure center



(This figure shows a closed center type.)

## Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted (SX3000: Zinc die-casted)	White
②	Adapter plate	Resin	White
③	End plate	Resin	White
④	Pilot body	Resin	White
⑤	Piston	Resin	—
⑥	Spool valve assembly	Aluminum, HNBR	—
⑦	Molded coil	Resin	Gray

## Replacement Parts

No.	Description	Part no.
⑧	Port block assembly	See "How to Order Port Block Assembly" on page 1-6-7.

## How to Order Connector Assembly for L/M Plug Connector

### Positive common specifications

For single solenoid: **SX100-40-4S** 

For double solenoid,  
3 position: **SX100-40-4D** 

### Negative common specifications

For single solenoid: **SX100-41-4S** 

For double solenoid,  
3 position: **SX100-41-4D** 

### Lead wire length

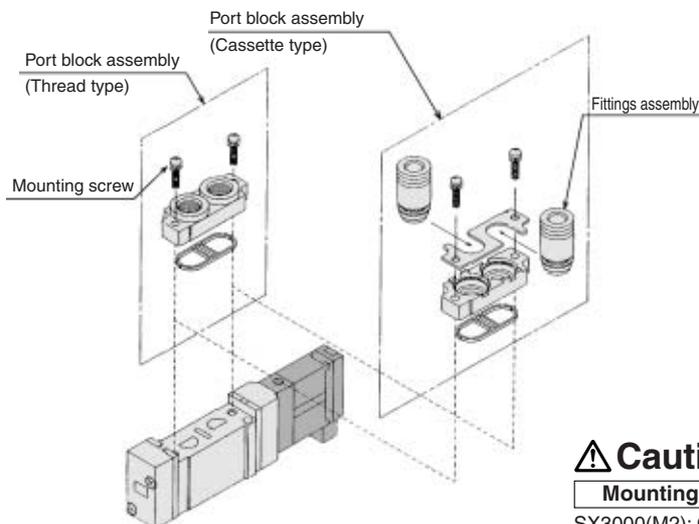
Nil	300 mm
6	600 mm
10	1000 mm
15	1500 mm
20	2000 mm
25	2500 mm
30	3000 mm
50	5000 mm

 For detailed information on connector assembly, refer to page 1-6-8.

**How to Change Port Block Assembly**

The cylinder port block assembly can easily be changed. When changing block assembly, correct screw torque must be achieved. Cut off the air supply to confirm that no air is left in the manifold before starting operation. Remaining air or inappropriate installation may cause an accident.

● **For SX5000**



**Caution**

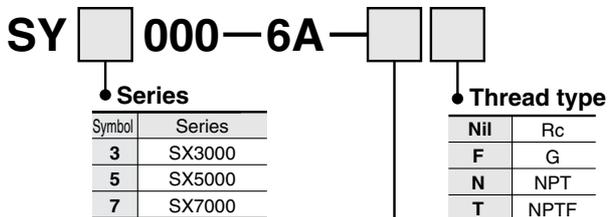
**Mounting screw tightening torques**  
 SX3000(M2): 0.17 N·m SX<sup>5</sup>000(M3): 0.8 N·m



\* Refer to "How to Order Port Block Assembly" below for parts no.

- SV
- SZ
- SY
- SYJ
- SX**

**How to Order Port Block Assembly**



**A, B port size**  
**Thread piping**

Symbol	Port size	Applicable series
M5	M5 x 0.8	SX3000
01	1/8"	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	
C4	One-touch fitting for ø4	SX5000
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	SX7000
C8	One-touch fitting for ø8	
C10	One-touch fitting for ø10	

**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"	
N3	One-touch fitting for ø5/32"	SX5000
N7	One-touch fitting for ø1/4"	
N9	One-touch fitting for ø5/16"	SX7000
N9	One-touch fitting for ø5/16"	
N11	One-touch fitting for ø3/8"	

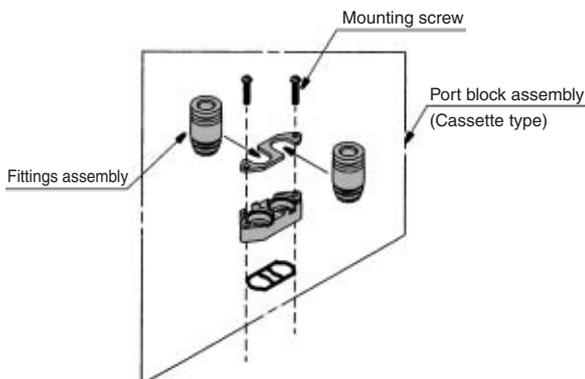
\* Only replacement of the fittings assembly is possible.

**Metric size**

Series	One-touch fitting for ø4	One-touch fitting for ø6	One-touch fitting for ø8	One-touch fitting for ø10
SX3000	VVQ1000-50A-C4	VVQ1000-50A-C6		
SX5000	VVQ1000-51A-C4	VVQ1000-51A-C6	VVQ1000-51A-C8	
			VVQ2000-51A-C8	
SX7000	VVQ2000-51A-C8	VVQ2000-51A-C10		
			VVQ2000-51A-C10	

**Inch size**

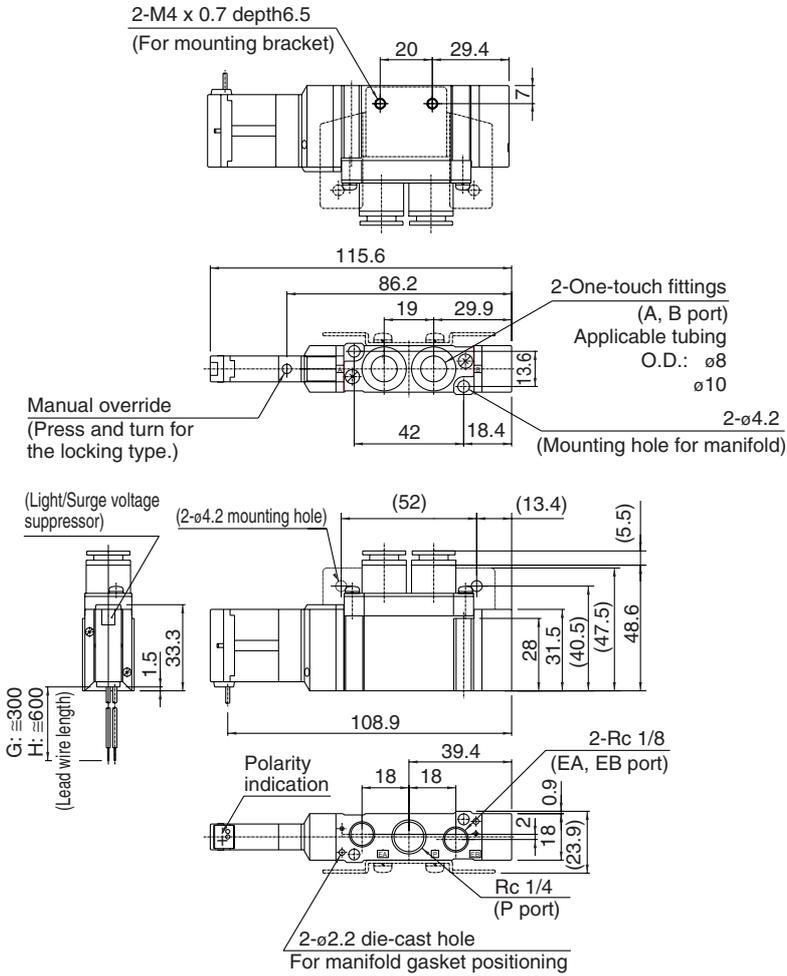
Series	One-touch fitting for ø5/32"	One-touch fitting for ø1/4"	One-touch fitting for ø5/16"	One-touch fitting for ø3/8"
SX3000	VVQ1000-50A-N3	VVQ1000-50A-N7		
			VVQ1000-51A-N3	
SX5000	VVQ1000-50A-N3	VVQ1000-50A-N7	VVQ1000-50A-N9	
			VVQ2000-51A-N9	
SX7000	VVQ2000-51A-N9	VVQ2000-51A-N11		
			VVQ2000-51A-N11	



**Dimensions: Series SX7000**

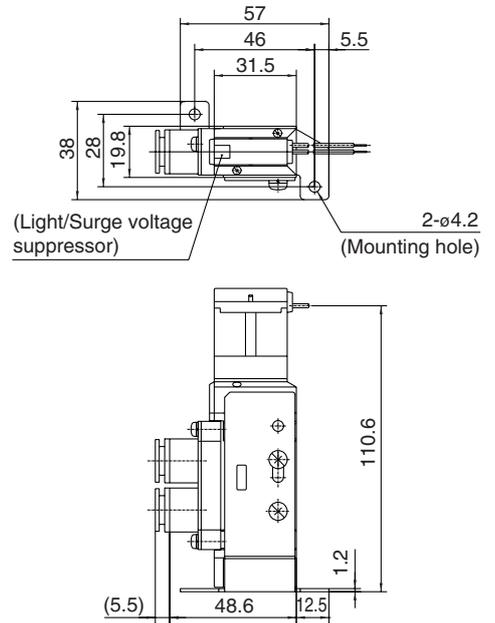
**2 position single**

**Grommet (G), (H): SX7120-□<sup>G</sup>□□□-C<sup>8</sup><sub>C10</sub> (-F2)**

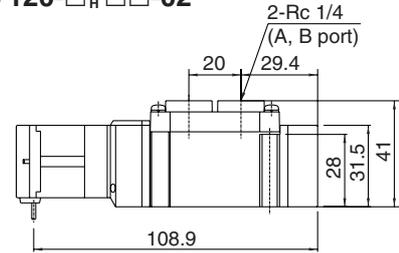


**Foot bracket**

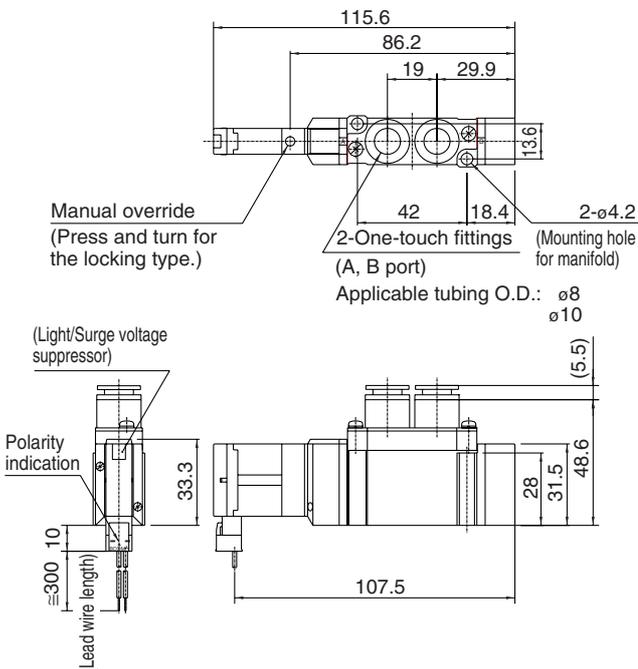
**SX7120-□<sup>G</sup>□□□-C<sup>8</sup><sub>C10</sub> -F1**



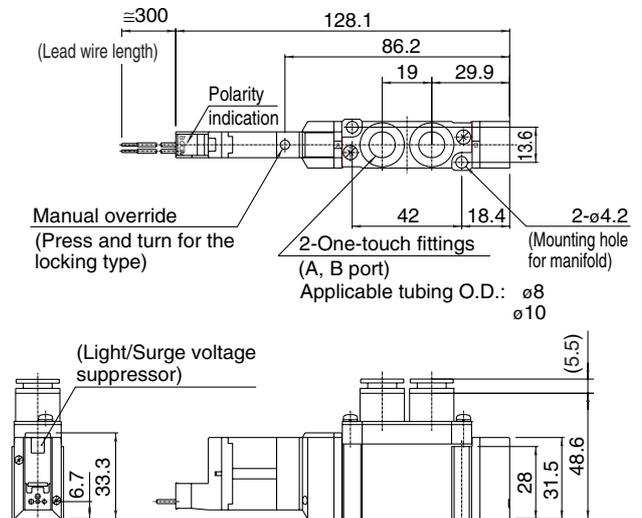
**SX7120-□<sup>G</sup>□□□-02**



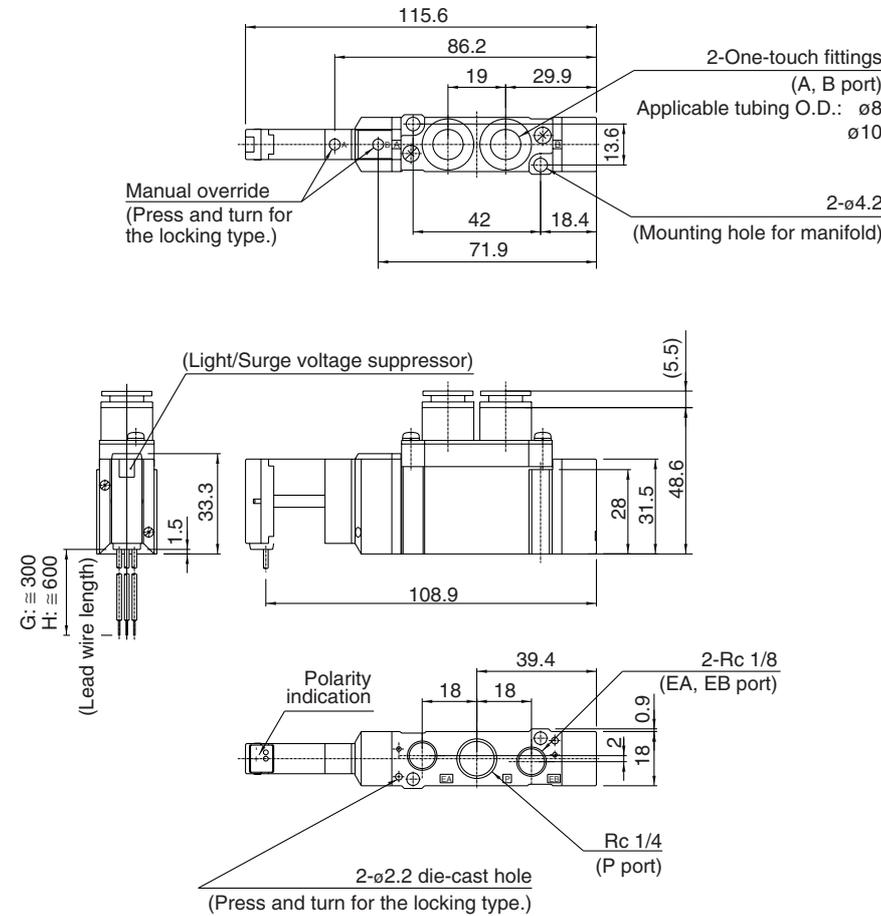
**L plug connector (L): SX7120-□L□□□-C<sup>8</sup><sub>C10</sub>**



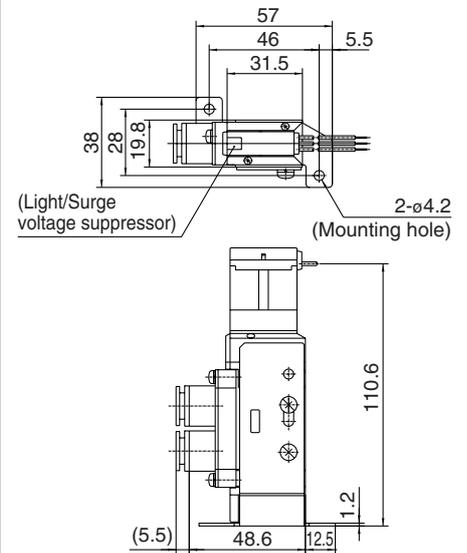
**M plug connector (M): SX7120-□M□□□-C<sup>8</sup><sub>C10</sub>**



**2 position double Grommet (G), (H): SX7220-□<sub>H</sub>□□-C<sub>8</sub><sub>C10</sub> (-F2)**

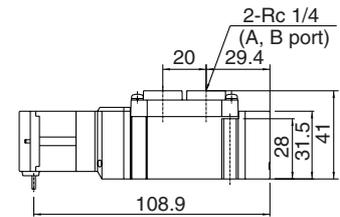


**Foot bracket SX7220-□<sub>H</sub>□□-C<sub>8</sub><sub>C10</sub> -F1**

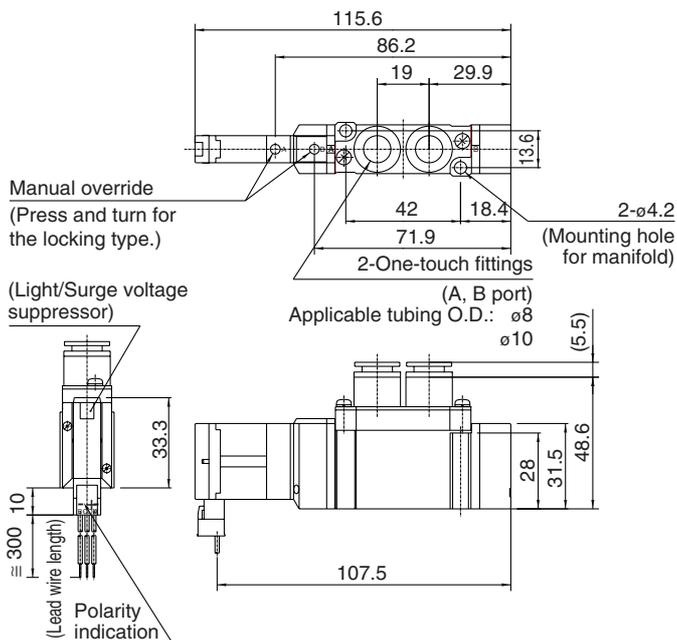


- SV
- SZ
- SY
- SYJ
- SX**

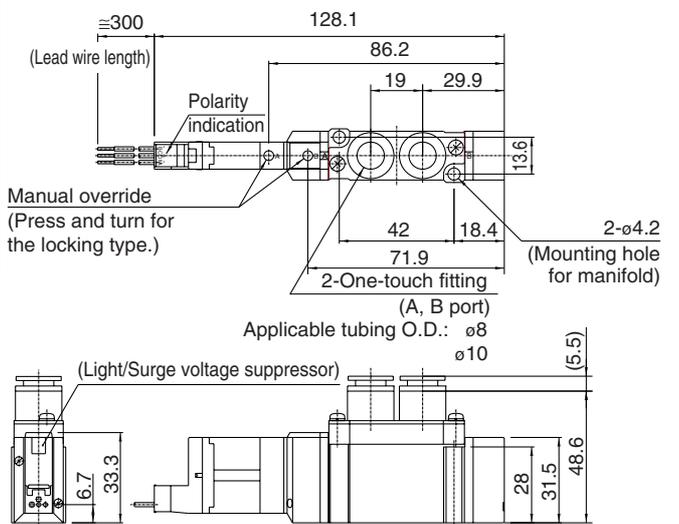
**SX7220-□<sub>H</sub>□□-02**



**L plug connector (L): SX7220-□L□□-C<sub>8</sub><sub>C10</sub>**

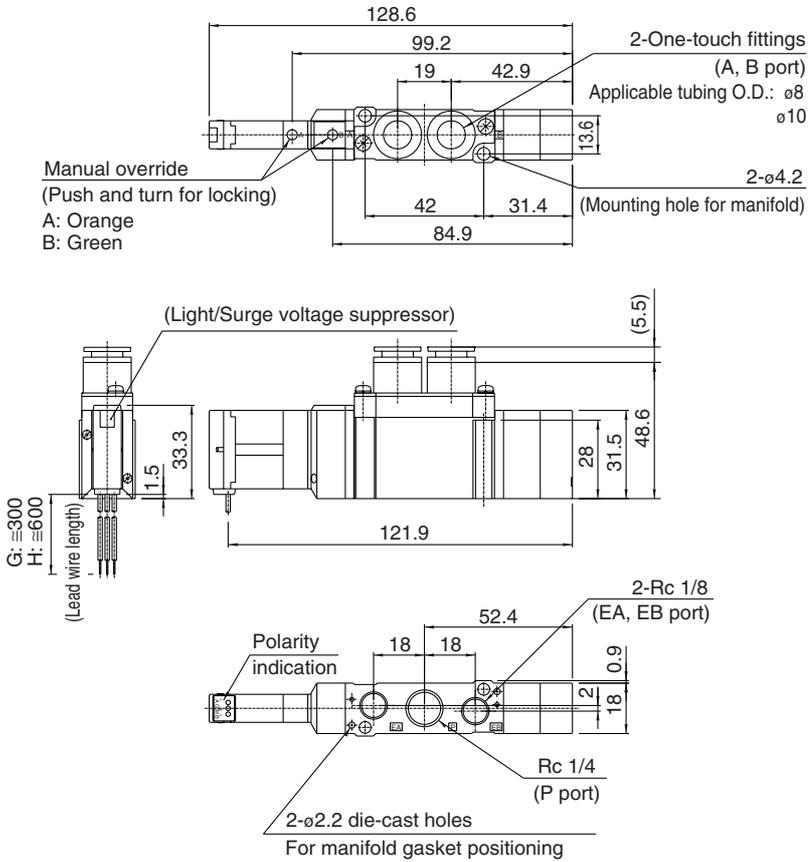


**M plug connector (M): SX7220-□M□□-C<sub>8</sub><sub>C10</sub>**

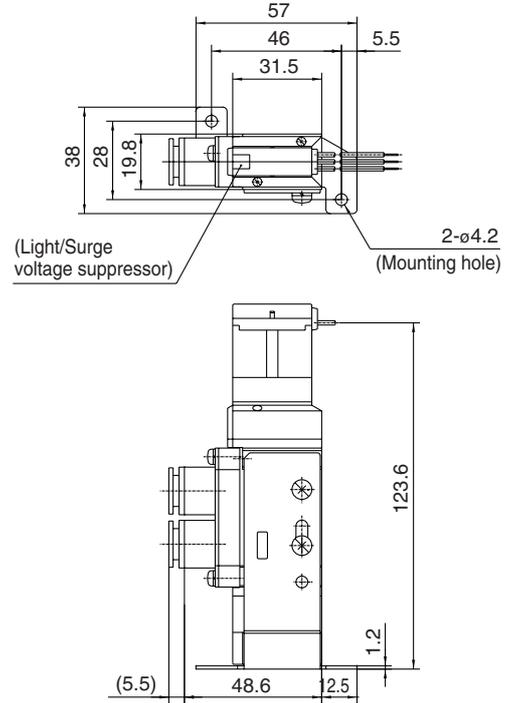


**Dimensions: Series SX7000**

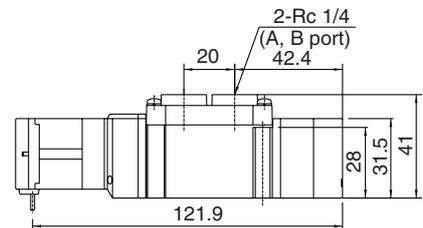
**3 position closed center/exhaust center/pressure center  
Grommet (G), (H): SX7<sup>3</sup>/<sub>4</sub>20-□<sup>G</sup>□□-C<sup>8</sup><sub>C10</sub> (-F2)**



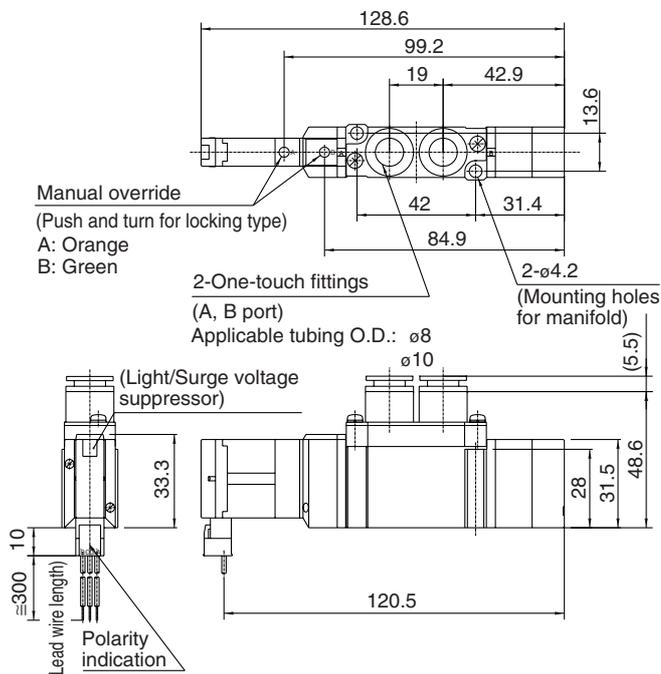
**Foot bracket  
SX7<sup>3</sup>/<sub>4</sub>20-□<sup>G</sup>□□-C<sup>8</sup><sub>C10</sub> -F1**



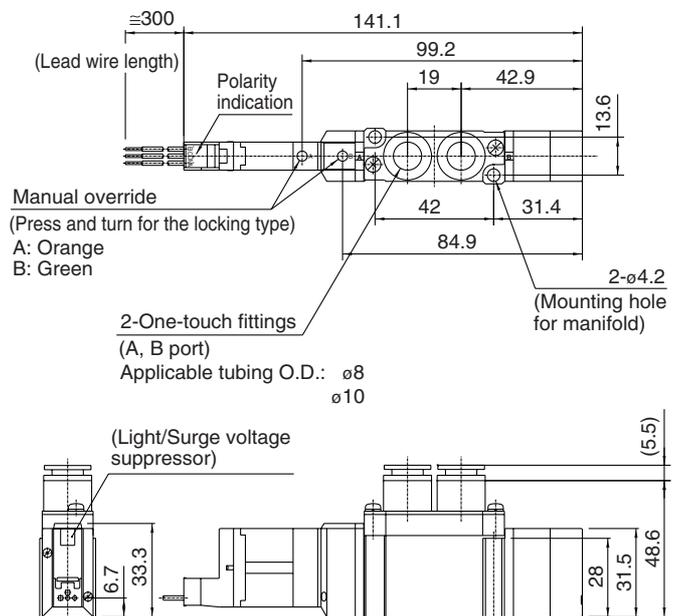
**SX7<sup>3</sup>/<sub>4</sub>20-□<sup>G</sup>□□-02**



**L plug connector (L): SX7<sup>3</sup>/<sub>4</sub>20-□L□□-C<sup>8</sup><sub>C10</sub>**



**M plug connector (M): SX7<sup>3</sup>/<sub>4</sub>20-□M□□-C<sup>8</sup><sub>C10</sub>**



# Series SX3000/5000/7000 Base Mounted Valve Single Unit

## How to Order

**SX 5 2 40** **5 N L**

**Series**

3	SX3000
5	SX5000
7	SX7000

**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 

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**Port size**

Symbol	Port size	Applicable series
Nil	Without sub-plate	
01	1/8 With sub-plate	SX3000
02	1/4 With sub-plate	SX5000 SX7000
03	3/8 With sub-plate	SX7000

**Manual override**

**Nil:** Non-locking push type

**D:** Push-turn locking slotted type

**Light/Surge voltage suppressor**

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor

**Electrical entry**

Grommet		L plug connector		M plug connector	
<b>G:</b> Lead wire length 300 mm 	<b>L:</b> With lead wire (Length 300 mm) 	<b>M:</b> With lead wire (Length 300 mm) 	<b>MN:</b> Without lead wire 	<b>LO:</b> Without connector 	<b>MO:</b> Without connector 
<b>H:</b> Lead wire length 600 mm 	<b>LN:</b> Without lead wire 				

**Pilot type**

Nil	Internal pilot
R	External pilot

**Rated voltage**

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

**Common specifications**

Nil	Positive common
N	Negative common

Note) Put nothing for single grommet style and single without indicator light and surge voltage suppressor.

\* The LN or MN option includes 2 sockets for single solenoid valves and 3 sockets for double solenoid valves.

## Specifications



**Made to Order Specifications**  
(For details, refer to pages  
1-6-124 to 1-6-138.)

Series		SX3000	SX5000	SX7000
Fluid		Air		
Internal pilot Operating pressure range (MPa)	2 position single	0.15 to 0.7		
	2 position double	0.1 to 0.7		
	3 position	0.2 to 0.7		
External pilot Operating pressure range (MPa)	Operating pressure range		-100 kPa to 0.7	
	Pilot pressure range	2 position single	0.25 to 0.7	
		2 position double	0.25 to 0.7	
		3 position	0.25 to 0.7	
Ambient and fluid temperature (°C)		Max. 50		
Max. operating frequency (Hz)	2 position single, double	10	5	5
	3 position	3	3	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	Pilot valve individual exhaust		
Lubrication		Not required		
Mounting orientation		Unrestricted		
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>Note)</sup>		150/30		
Enclosure		Dusttight		



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)

## Solenoid Specifications

Electrical entry	Grommet (G)/(H), L plug connector (L), M plug connector (M)		
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	
Allowable voltage fluctuation	±10% of rated voltage		
Power consumption (W)	DC	0.6 (With indicator light: 0.65)	
Surge voltage suppressor	Diode		
Indicator light	LED		

## Response Time



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

## SX3000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)	
	Without light/surge voltage suppressor	With light/surge voltage suppressor
2 position single	12 or less	15 or less
2 position double	10 or less	13 or less
3 position	15 or less	20 or less

## SX5000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)	
	Without light/surge voltage suppressor	With light/surge voltage suppressor
2 position single	19 or less	26 or less
2 position double	18 or less	22 or less
3 position	32 or less	38 or less

## SX7000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)	
	Without light/surge voltage suppressor	With light/surge voltage suppressor
2 position single	31 or less	38 or less
2 position double	27 or less	30 or less
3 position	50 or less	56 or less

SV

SZ

SY

SYJ

SX

Series **SX3000/5000/7000**

## Flow Characteristics/Weight

## Model/Series SX3000

Valve model	Type of actuation		Port size	Flow characteristics <sup>(1)</sup>						Weight (g) <sup>(2)</sup>	
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	L plug connector M plug connector
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv		
SX3□40-□-01	2 position	Single	Rc 1/8	1.0	0.30	0.24	1.1	0.30	0.26	100 (66)	101 (67)
		Double		0.77	0.28	0.18	0.85	0.30	0.19	108 (74)	110 (75)
	3 position	Closed center		0.73	0.31	0.18	1.1 [0.55]	0.26 [0.52]	0.24 [0.16]	111 (76)	112 (78)
		Exhaust center		1.2 [0.51]	0.24 [0.45]	0.29 [0.14]	0.89	0.47	0.24		
		Pressure center									



Note 1) [ ]: Denotes the normal position.  
 Note 2) ( ): Without sub-plate.

## Model/Series SX5000

Valve model	Type of actuation		Port size	Flow characteristics <sup>(1)</sup>						Weight (g) <sup>(2)</sup>	
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	L plug connector M plug connector
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv		
SX5□40-□-02	2 position	Single	Rc 1/4	2.4	0.41	0.64	2.8	0.29	0.66	136 (74)	137 (75)
		Double		1.8	0.47	0.50	1.8	0.40	0.47	144 (82)	145 (83)
	3 position	Closed center		1.4	0.55	0.44	3.0 [1.2]	0.33 [0.48]	0.72 [0.37]	149 (87)	151 (89)
		Exhaust center		3.3 [0.84]	0.36 [0.60]	0.85 [0.28]	1.8	0.40	0.48		
		Pressure center									



Note 1) [ ]: Denotes the normal position.  
 Note 2) ( ): Without sub-plate.

## Model/Series SX7000

Valve model	Type of actuation		Port size	Flow characteristics <sup>(1)</sup>						Weight (g) <sup>(2)</sup>	
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	L plug connector M plug connector
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv		
SX7□40-□-02	2 position	Single	Rc 1/4	4.1	0.41	1.1	4.1	0.29	1.0	222 (100)	223 (101)
		Double		3.0	0.43	0.80	2.6	0.41	0.72	229 (107)	231 (109)
	3 position	Closed center		2.6	0.42	0.71	4.7 [1.7]	0.35 [0.48]	1.1 [0.49]	238 (116)	240 (118)
		Exhaust center		5.3 [2.3]	0.39 [0.49]	1.3 [0.65]	2.2	0.49	0.63		
		Pressure center									
SX7□40-□-03	2 position	Single	Rc 3/8	4.9	0.29	1.2	4.5	0.27	1.1	222 (100)	223 (101)
		Double		3.0	0.40	0.80	2.6	0.45	0.73	229 (107)	231 (109)
	3 position	Closed center		2.6	0.42	0.71	4.8 [1.7]	0.35 [0.48]	1.1 [0.49]	238 (116)	240 (118)
		Exhaust center		5.3 [2.3]	0.31 [0.51]	1.3 [0.64]	2.3	0.45	0.66		
		Pressure center									



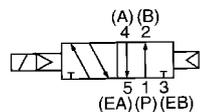
Note 1) [ ]: Denotes the normal position.  
 Note 2) ( ): Without sub-plate.

## Construction

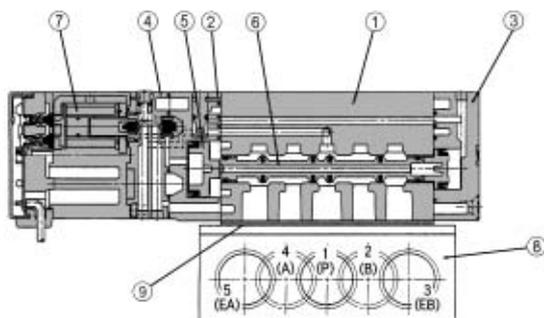
### Series SX

#### JIS Symbol

2 position single

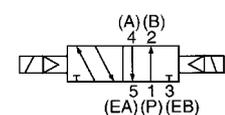


#### 2 position single

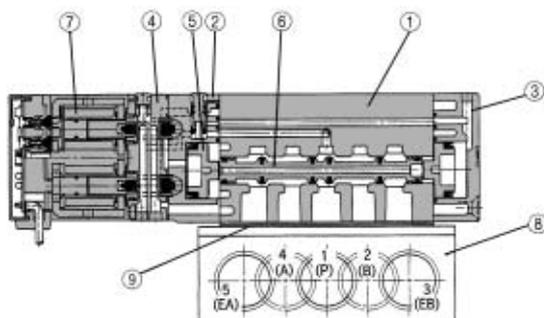


#### JIS Symbol

2 position double

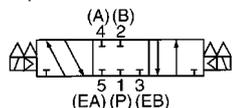


#### 2 position double

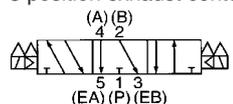


#### JIS Symbol

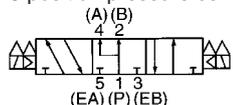
3 position closed center



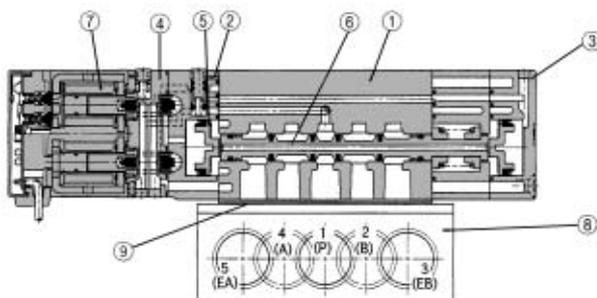
3 position exhaust center



3 position pressure center



#### 3 position closed center/exhaust center/pressure center



(This figure shows a closed center type.)

### Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted (SX3000: Zinc die-casted)	White
②	Adapter plate	Resin	White
③	End plate	Resin	White
④	Pilot body	Resin	White
⑤	Piston	Resin	—
⑥	Spool valve assembly	Aluminum, HNBR	—
⑦	Molded coil	Resin	Gray

### Replacement Parts

No.	Description	Part no.			Note
		SX3□40	SX5□40	SX7□40	
⑧	Sub-plate	SY3000-27-1	SY5000-27-1	1/4 Rc: SY7000-27-1 3/8 Rc: SY7000-27-2	Aluminum die-casted
⑨	Gasket	SY3000-11-25	SY5000-11-15	SY7000-11-11	HNBR
—	Round head combination screw	SX3000-22-2 (M2 x 24)	M3 x 30	M4 x 35	For valve mounting (Matt nickel plated)

## How to Order Connector Assembly for L/M Plug Connector

### Positive common specifications

For single solenoid: **SX100-40-4S**

For double solenoid, **SX100-40-4D**

3 position: **SX100-41-4S**

For single solenoid: **SX100-41-4S**

For double solenoid, **SX100-41-4D**

3 position: **SX100-41-4D**

### Lead wire length

Lead wire length	Part no.
Nil	300 mm
6	600 mm
10	1000 mm
15	1500 mm
20	2000 mm
25	2500 mm
30	3000 mm
50	5000 mm



For detailed information on connector assembly, refer to page 1-6-8.

SV

SZ

SY

SYJ

SX

## ⚠ Caution

### Mounting Screw Tightening Torques

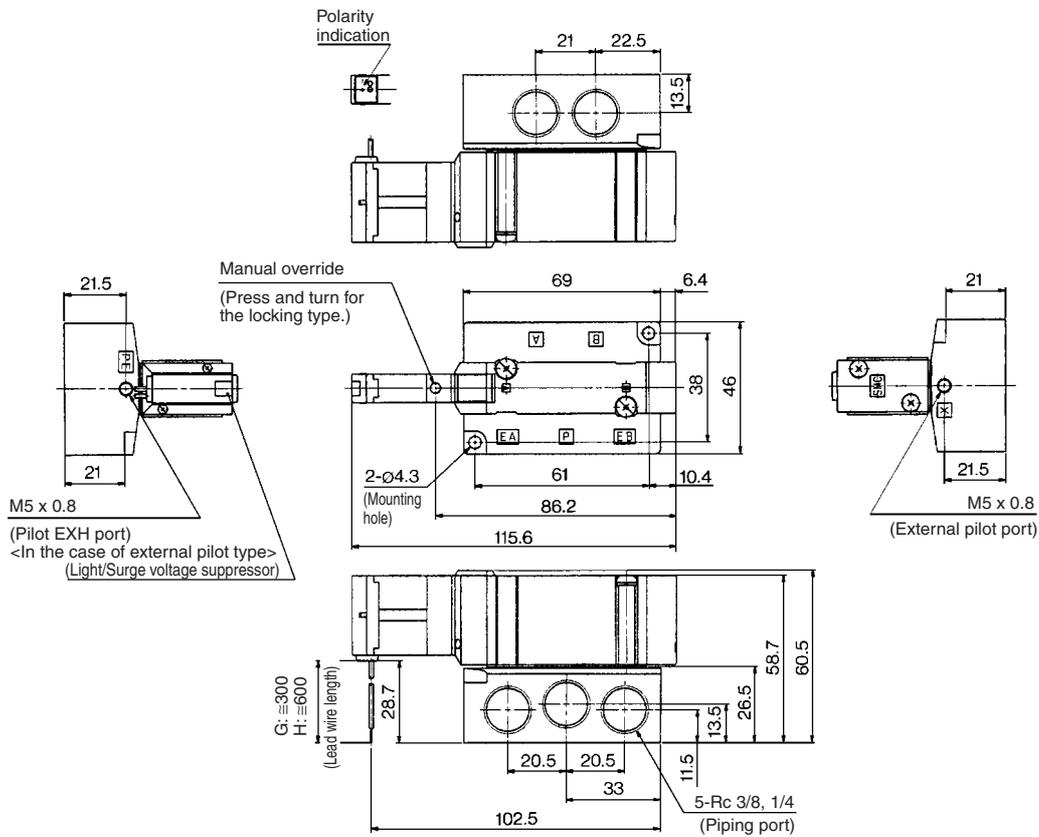
M2: 0.17 N·m  
M3: 0.8 N·m  
M4: 1.4 N·m

Series **SX3000/5000/7000**

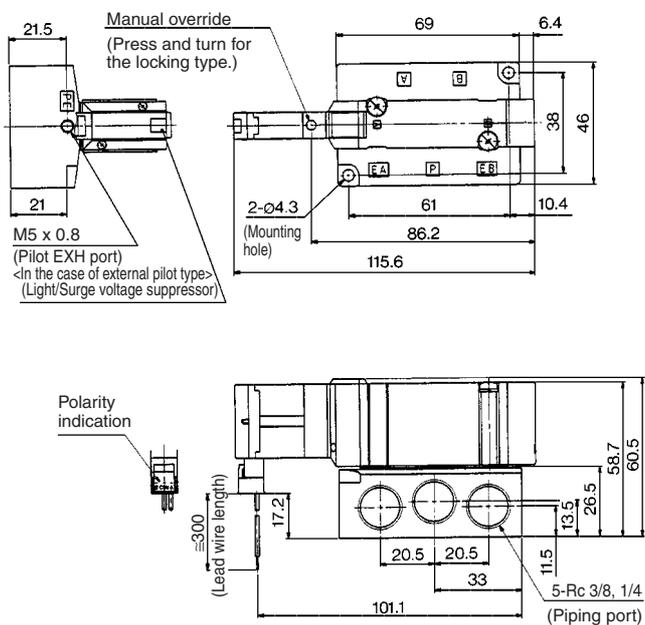
Dimensions: Series **SX7000**

2 position single

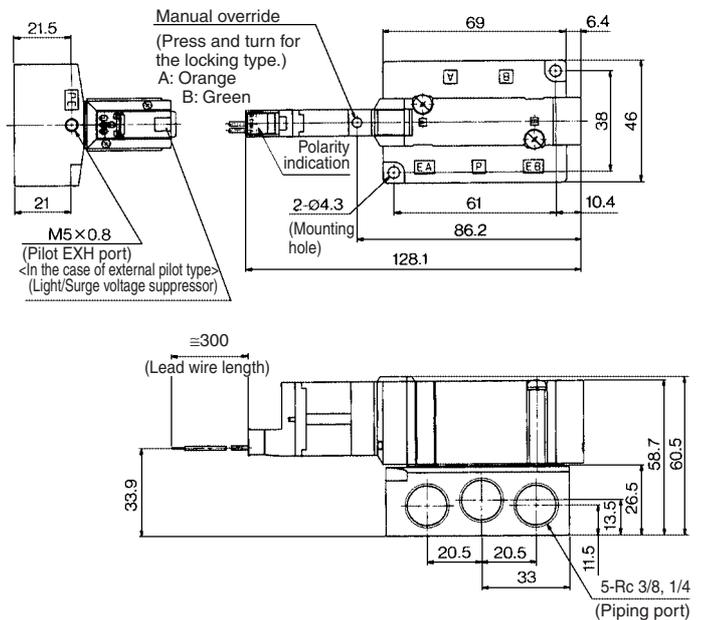
Grommet (G), (H): **SX7140(R)-□<sup>G</sup>□□-<sup>02</sup><sub>03</sub>**



L plug connector (L): **SX7140(R)-□L□□-<sup>02</sup><sub>03</sub>**

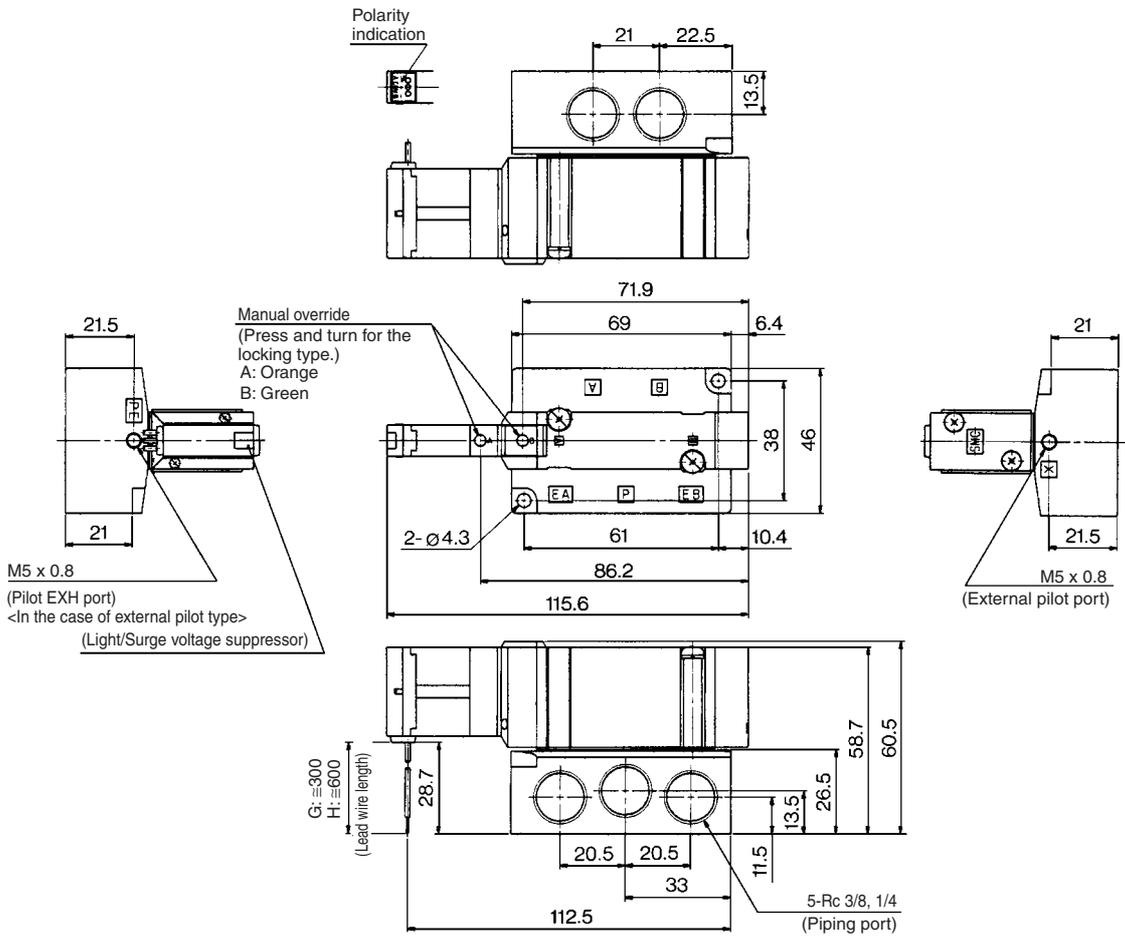


M plug connector (M): **SX7140(R)-□M□□-<sup>02</sup><sub>03</sub>**



2 position double

Grommet (G), (H): **SX7240(R)-□<sup>G</sup>□□-02**



SV

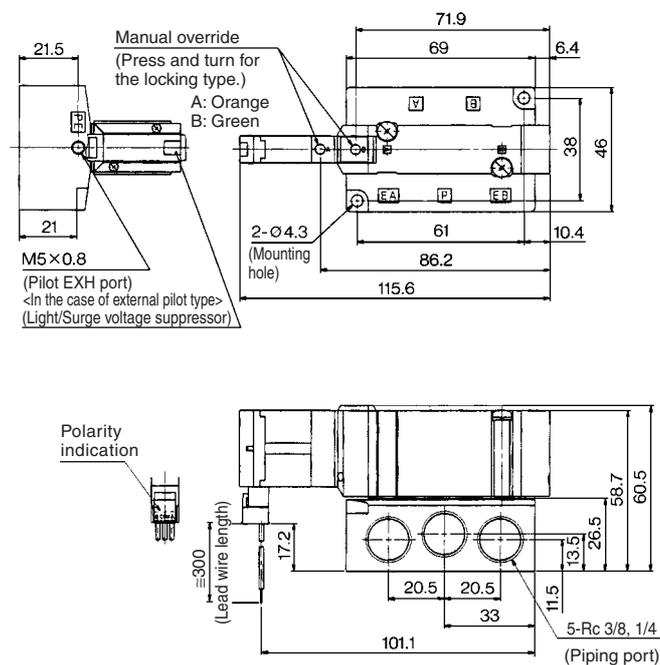
SZ

SY

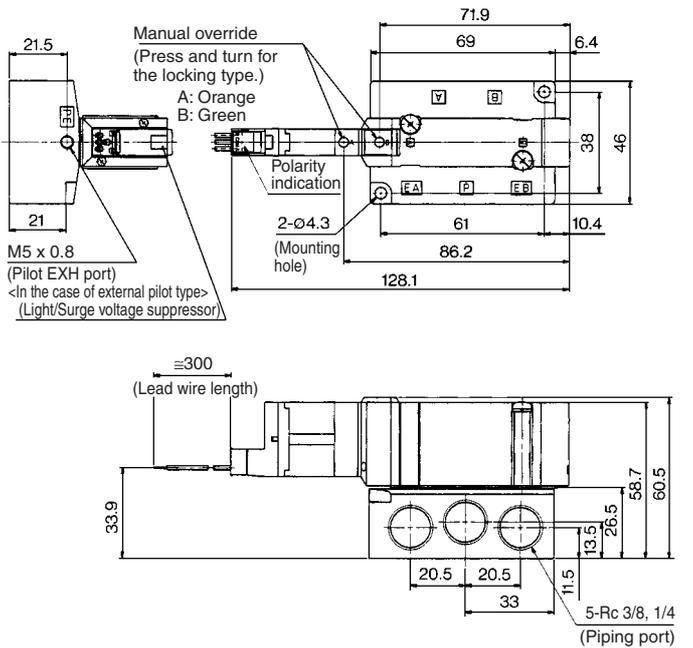
SYJ

SX

L plug connector (L): **SX7240(R)-□L□□-02**



M plug connector (M): **SX7240(R)-□M□□-02**

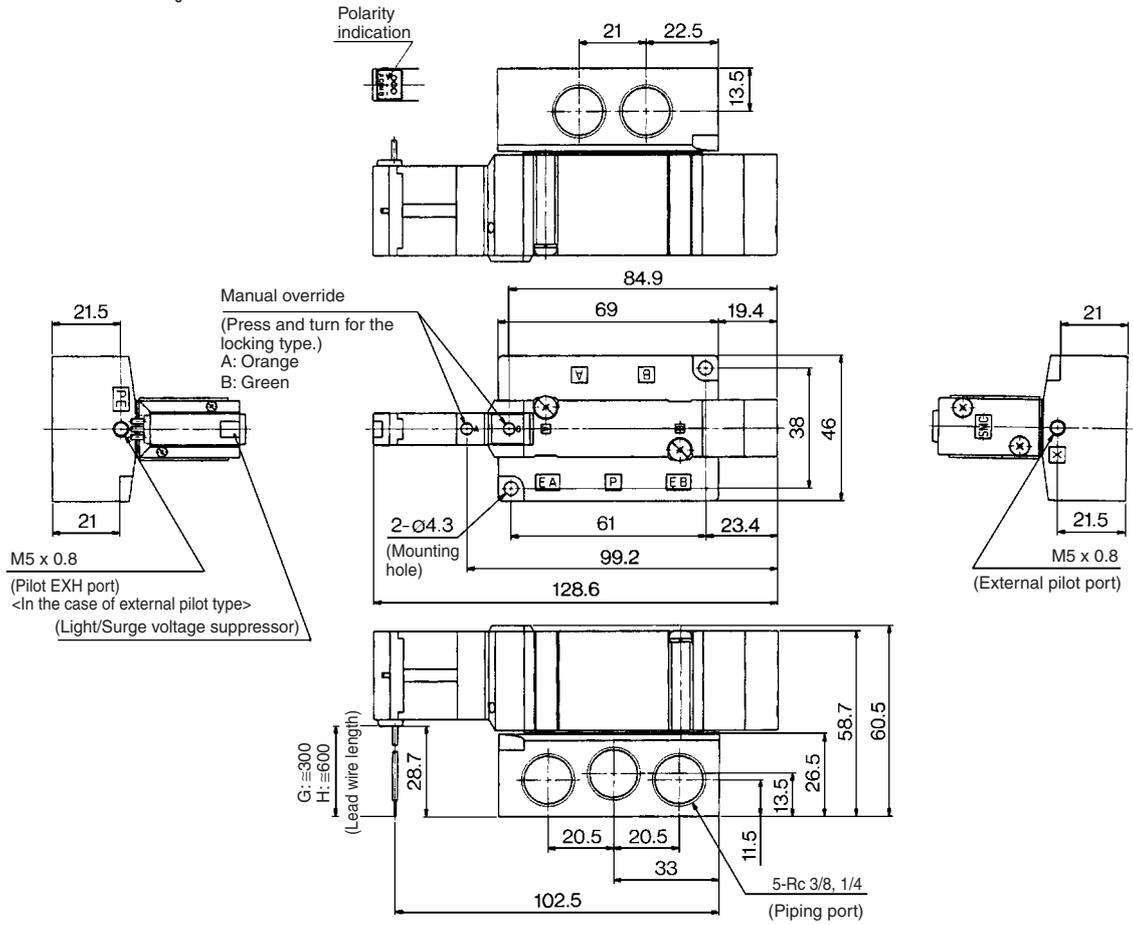


Series **SX3000/5000/7000**

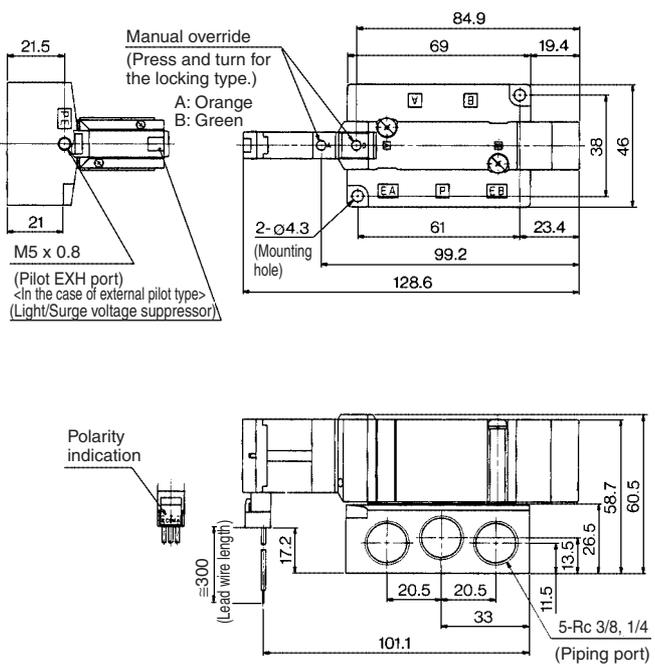
Dimensions: Series **SX7000**

3 position closed center/exhaust center/pressure center

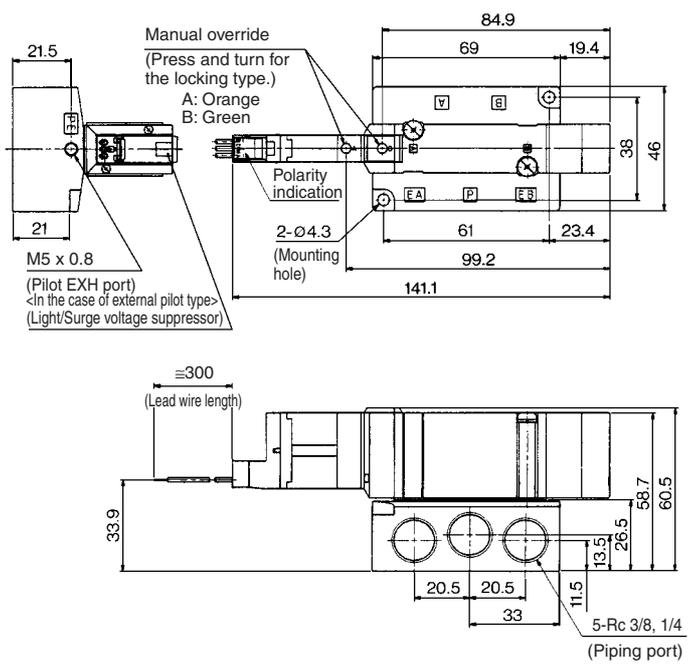
Grommet (G), (H): **SX<sup>3</sup><sub>4</sub>40(R)-□<sup>G</sup>□□-<sup>02</sup><sub>03</sub>**



L plug connector (L): **SX<sup>3</sup><sub>4</sub>40(R)-□L□□-<sup>02</sup><sub>03</sub>**



M plug connector (M): **SX<sup>3</sup><sub>4</sub>40(R)-□M□□-<sup>02</sup><sub>03</sub>**



# Series SX3000/5000/7000 Body Ported Manifold Bar Stock Type Individual Wiring

Type **20**

## How to Order Manifold

SS5X **5** - 20 - **05**   

Series	
3	SX3000
5	SX5000
7	SX7000

Stations	
02	2 stations
⋮	⋮
20	20 stations

P, R ports Thread type	
Nil	Rc
00F	G
00N	NPT
00T	NPTF



- Connector assembly for L and M types..... Refer to page 1-6-8.
- Common connector assembly for manifold..... Refer to page 1-6-9.

## How to Order Valve Manifold Assembly

### Ordering example

Cylinder port size

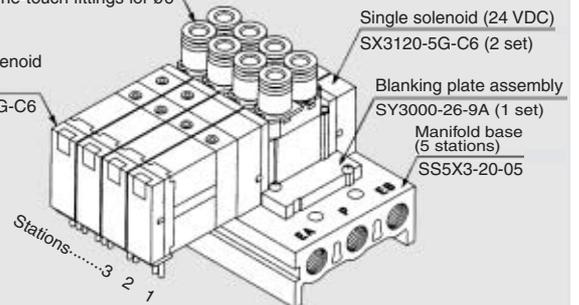
C6: With One-touch fittings for ø6

Double solenoid  
(24 VDC)  
SX3220-5G-C6  
(2 set)

Single solenoid (24 VDC)  
SX3120-5G-C6 (2 set)

Blanking plate assembly  
SY3000-26-9A (1 set)

Manifold base  
(5 stations)  
SS5X3-20-05



SS5X3-20-05..... 1 set (Type 20, 5-station manifold base part no.)  
 \*SY3000-26-9A..... 1 set (Blanking plate assembly part no.)  
 \*SX3120-5G-C6..... 2 sets (Single solenoid part no.)  
 \*SX3220-5G-C6..... 2 sets (Double solenoid part 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** **L**       - **01**   

Series	
3	SX3000
5	SX5000
7	SX7000

### 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

### Rated voltage

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

### Common specifications

Nil	Positive common
N	Negative common

### Electrical entry

	Grommet	L plug connector	M plug connector
G:	Lead wire length 300 mm	L: With lead wire (Length 300 mm)	M: With lead wire (Length 300 mm)
H:	Lead wire length 600 mm	LN: Without lead wire	MN: Without lead wire
		LO: Without connector	MO: Without connector



Note) Put nothing for single grommet style and single without indicator light and surge voltage suppresser.



\* The LN or MN option includes 2 sockets for single solenoid valves and 3 sockets for double solenoid valves.

### A, B port size

Symbol	Port size	Applicable series
M5	M5 x 0.8	SX3000
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	
01	1/8	SX5000
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	SX7000
02	1/4	
C8	One-touch fitting for ø8	
C10	One-touch fitting for ø10	

### Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

### Manual override

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

### Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor

**Manifold Specifications**

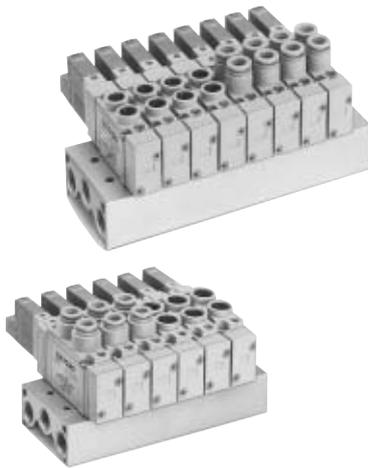
Model	SS5X3-20	SS5X5-20	SS5X7-20	
Applicable valve	SX3□20	SX5□20	SX7□20	
Manifold type	Single base/B mount			
P (SUP)/R (EXH)	Common SUP/Common EXH			
Valve stations <small>Note</small>	2 to 20 stations			
A, B port location	Valve			
Port size	P, EA, EB port	Rc 1/8	Rc 1/4	Rc 1/4
	A, B port	M5 x 0.8 C4 (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) C8 (One-touch fitting for ø8)	Rc 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	

Note) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA and EB port on both sides.

**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 <sup>3</sup> / (s-bar)]	b	Cv	C [dm <sup>3</sup> / (s-bar)]	b	Cv
SS5X3-20	Rc 1/8	C6	0.72	0.29	0.18	0.80	0.36	0.21
SS5X5-20	Rc 1/4	C8	1.9	0.28	0.48	2.2	0.20	0.53
SS5X7-20	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.



SV

SZ

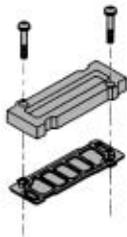
SY

SYJ

SX

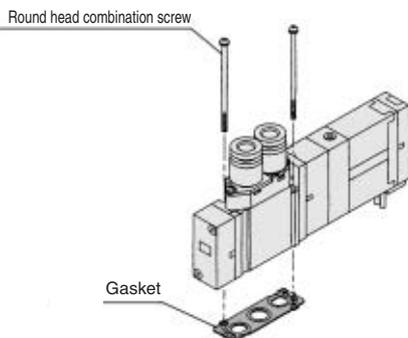
**Manifold Option**

■ Blanking plate assembly



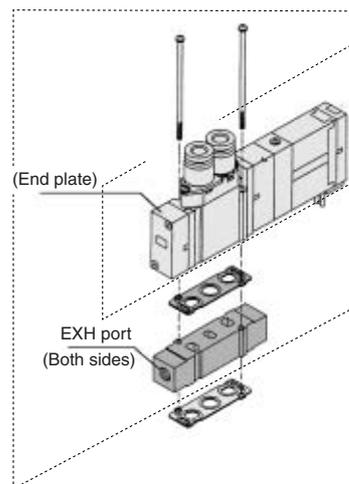
Series	Assembly part no.
SX3000	SY3000-26-9A
SX5000	SY5000-26-20A
SX7000	SY7000-26-22A

■ Bolt and gasket part no.



Series	Round head combination screw	Gasket
SX3000	SX3000-22-2 (M2 x 24)	SY3000-11-24
SX5000	M3 x 30 (Matt nickel plated)	SY5000-11-10
SX7000	M4 x 35 (Matt nickel plated)	SY7000-11-9

■ Individual EXH spacer assembly



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

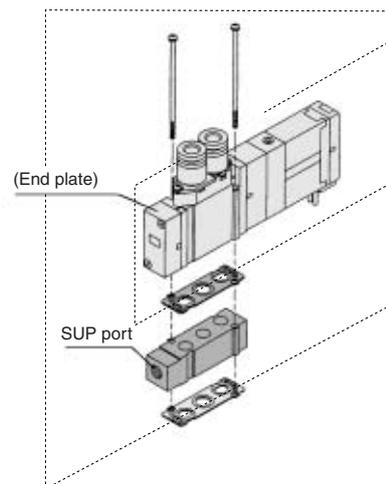
■ Plug

Inserted into an unused cylinder port and SUP/EXH ports. Purchasing order is available in units of 10 pieces.

**Dimensions**

Applicable 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

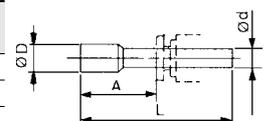
■ Individual SUP spacer assembly



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



**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 1-6-44 to 1-6-46, and then mount it.

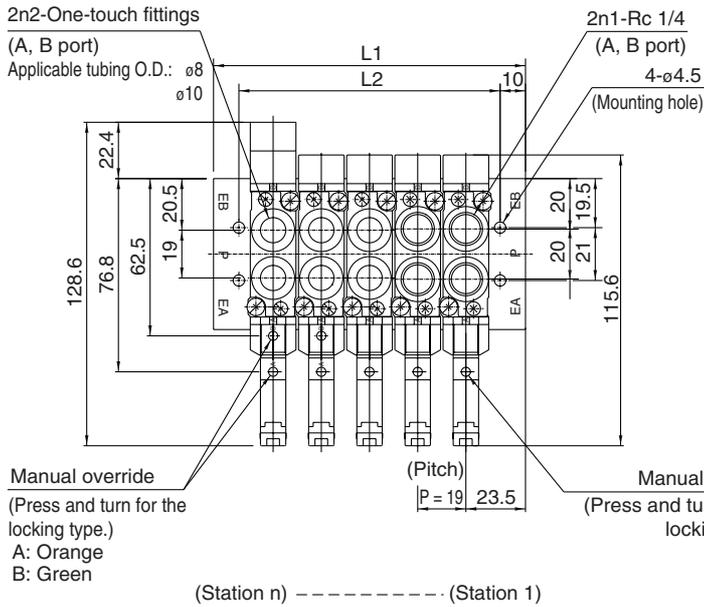
**SX7000: SS5X7-20- Stations**

**Grommet (G)**

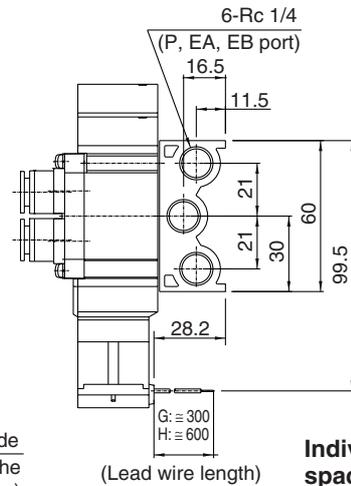
2n2-One-touch fittings

(A, B port)

Applicable tubing O.D.:  $\phi 8$   
 $\phi 10$



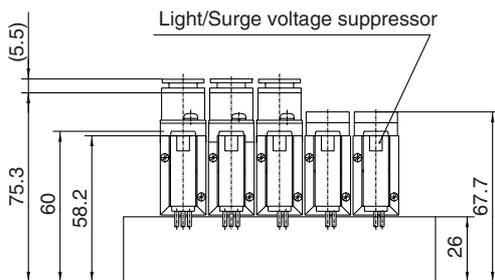
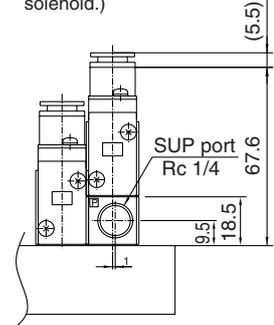
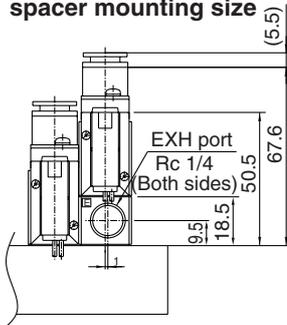
Manual override  
(Press and turn for the locking type.)  
A: Orange  
B: Green



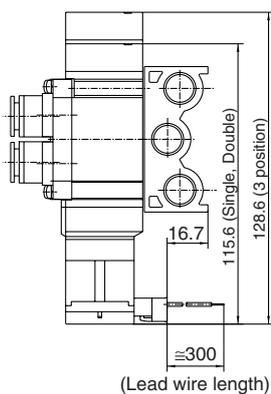
**Individual SUP spacer mounting size**

(SUP port is mounted on the end plate side of single solenoid.)

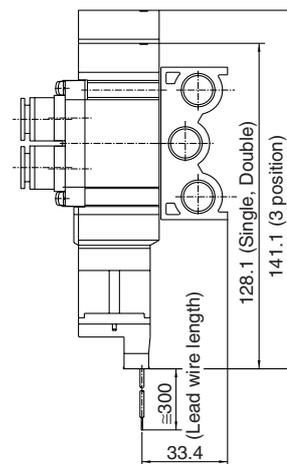
**Individual EXH spacer mounting size**



**L plug connector (L)**



**M plug connector (M)**



n: Stations (n1 + n2)

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
<b>L2</b>	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

# 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**

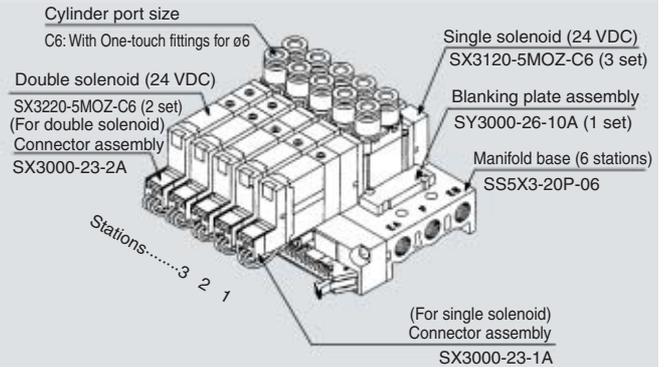
Nil	Rc
00F	G
00N	NPT
00T	NPTF

**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.

**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**

Nil	Rc
F	G
N	NPT
T	NPTF

**One-touch fitting (Metric size)**

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

**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"	
N3	One-touch fitting for ø5/32"	SX5000
N7	One-touch fitting for ø1/4"	
N9	One-touch fitting for ø5/16"	SX7000
N9	One-touch fitting for ø5/16"	
N11	One-touch fitting for ø3/8"	

**Manual override**

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

## How to Order Connector Assembly

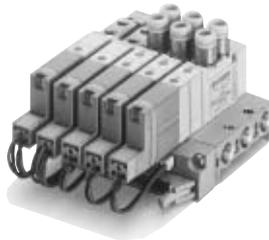
- Positive common specifications  
For single solenoid: SX3000-23-1A  
For double solenoid, 3 position: SX3000-23-2A
- Negative common specifications  
For single solenoid: SX3000-24-1A  
For double solenoid, 3 position: SX3000-24-2A



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 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 <sub>N</sub>	SS5X5-20P <sub>N</sub>	SS5X7-20P <sub>N</sub>	
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			

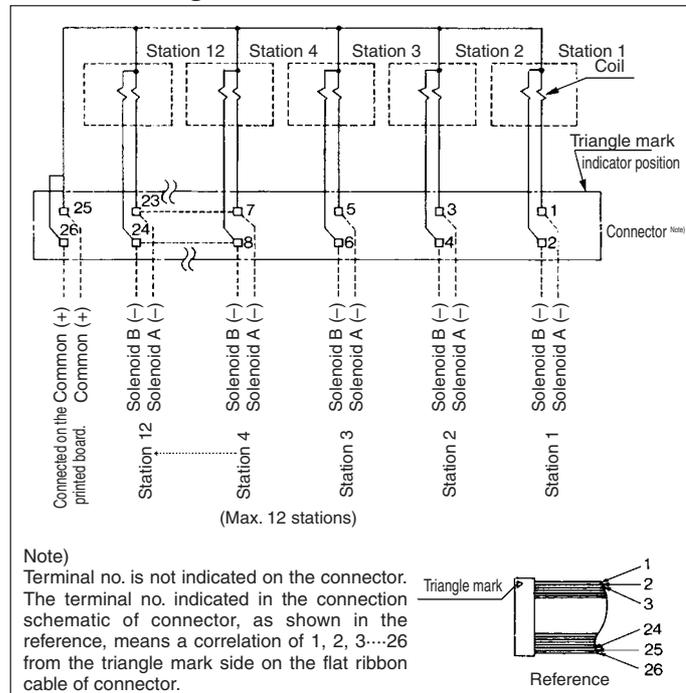
- Note 1) For more than 10 stations (more than 5 stations in case of SS5X7), supply pressure to P port on both sides and exhaust from EA and EB port on both sides.  
 Note 2) The withstand voltage specification for the wiring unit section is JIS C 0704, Grade 1 or its equivalent.

**Flow Characteristics**

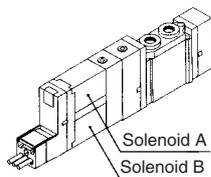
Model	Port size		Flow characteristics					
			1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm <sup>3</sup> / (s-bar)]	b	Cv	C [dm <sup>3</sup> / (s-bar)]	b	Cv
SS5X3-20P <sub>N</sub>	Rc 1/8	C6	0.72	0.29	0.18	0.80	0.36	0.21
SS5X5-20P <sub>N</sub>	Rc 1/4	C8	1.9	0.28	0.48	2.2	0.20	0.53
SS5X7-20P <sub>N</sub>	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

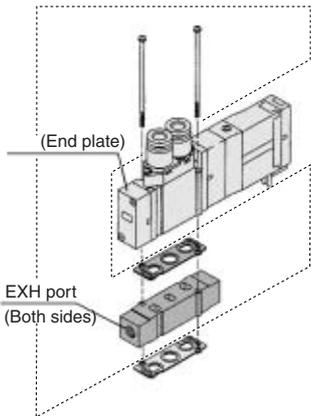
## Manifold Option

### ■ Blanking plate assembly



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

### ■ Individual EXH spacer assembly



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

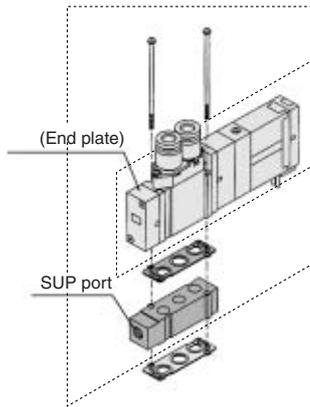
Note) For protection of the wiring unit section from drain, it should be piped at the EA port so that it will not be directly exposed to exhaust from the valve.

### ⚠ 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
<b>SX3000</b>	SX3000-38-20A	M5 x 0.8
<b>SX5000</b>	SX5000-38-1□A	1/8
<b>SX7000</b>	SX7000-38-1□A	1/4

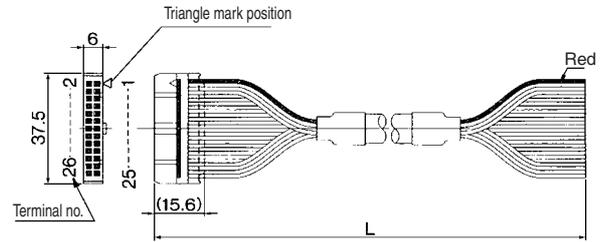
Note) The SUP port may be either on the lead wire side or on the end plate side (Factory assembled spacer will be shipped with the orientation shown in the figure.)

#### \* Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

### ■ Cable assembly

**AXT100-FC26-**<sup>1</sup><sub>to</sub><sup>3</sup>



### 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.

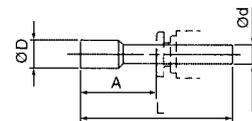
### Connector manufacturers' example

- 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.



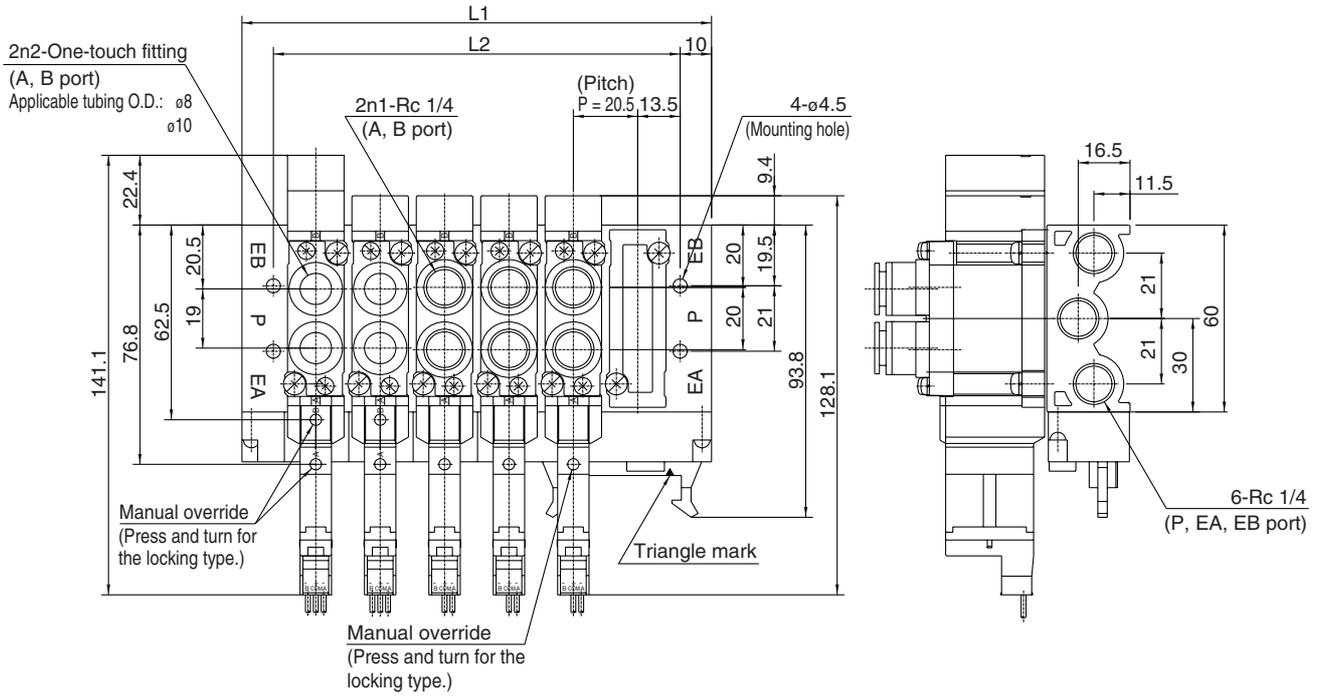
### Dimensions

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

### ⚠ Warning

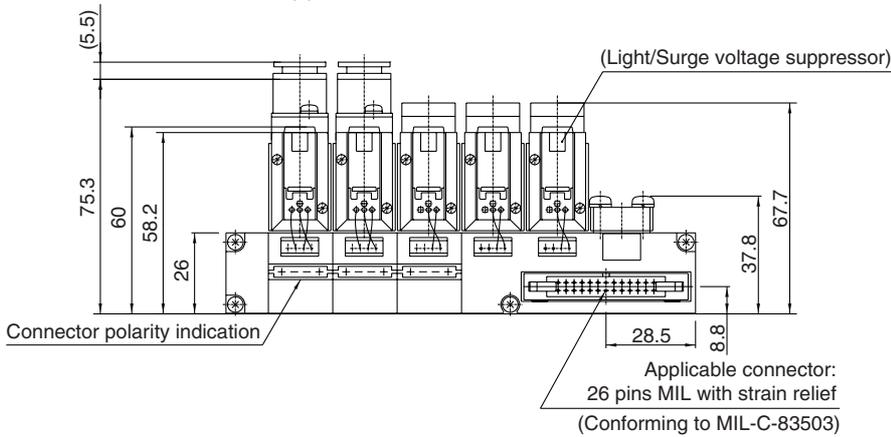
When mounting a valve or spacer on the manifold base or sub-plate, etc., those mounting directions are determined. If mounted in the wrong direction, the equipment to be connected may cause malfunction. Refer to external dimensions in pages 1-6-51 to 1-6-53, and then mount it.

**SX7000: SS5X7-20P- Stations**

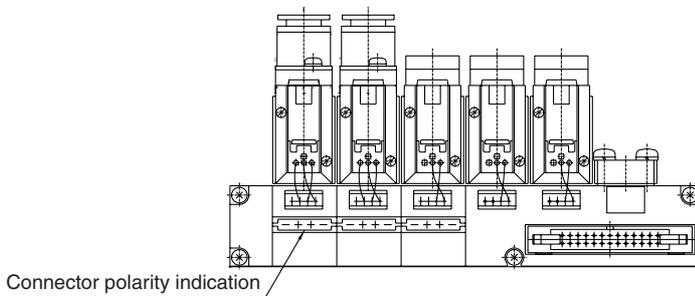


- SV
- SZ
- SY
- SYJ
- SX

(n)------(2) (1) Stations



**SS5X7-20N**



n: Stations (n1 + n2)

Stations n	3	4	5	6	7	8	9	10	11	12
L1	88	108.5	129	149.5	170	190.5	211	231.5	252	272.5
L2	68	88.5	109	129.5	150	170.5	191	211.5	232	252.5

Type **41**  
Type **42**

# Series SX3000/5000/7000 Base Mounted Manifold Bar Stock Type Individual Wiring

## How to Order Manifold

### Type 41 (Compact type)

SS5X **5** — 41 — **05** — **C8** □

**Series**

3	SX3000
5	SX5000

**Stations**

02	2 stations
⋮	⋮
20	20 stations

**A/B port size**  
**Thread piping**

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

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

### 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 (Common external pilot type)

SS5X **5** — 42 — **05** — **C8** □

**Series**

3	SX3000
5	SX5000
7	SX7000

**Stations**

02	2 stations
⋮	⋮
20	20 stations

**A/B port size**  
**Thread piping**

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

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

### One-touch fitting (Metric size)

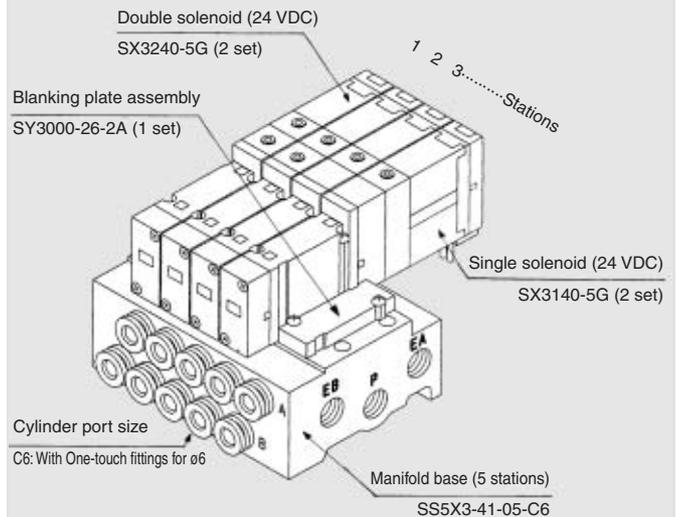
Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SX3000
C6	One-touch fitting for ø6	
C6	One-touch fitting for ø6	SX5000
C8	One-touch fitting for ø8	
C10	One-touch fitting for ø10	SX7000

### 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



SS5X3-41-05-C6..... 1 set (Type 41, 5-station manifold base part no.)  
 \*SX3240-5G ..... 2 sets (Double solenoid part no.)  
 \*SX3140-5G ..... 2 sets (Single solenoid part no.)  
 \*SY3000-26-9A ..... 1 set (Blanking plate assembly part 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.



• Connector assembly for L and M types.....Refer to page 1-6-8.  
 • Common connector ass'y for manifold.....Refer to page 1-6-9.

### How to Order Valves

**SX** **5** **2** **40** **5** **N** **L**

● **Series**

3	SX3000
5	SX5000
7	SX7000

● **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

● **Pilot type**

Nil	Internal pilot
R	External pilot

● **Rated voltage**

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

● **Manual override**

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

● **Light/Surge voltage suppressor**

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor

● **Electrical entry**

Grommet	L plug connector	M plug connector
<b>G:</b> Lead wire length 300 mm	<b>L:</b> With lead wire (Length 300 mm)	<b>M:</b> With lead wire (Length 300 mm)
<b>H:</b> Lead wire length 600 mm	<b>LN:</b> Without lead wire	<b>MN:</b> Without lead wire
	<b>LO:</b> Without connector	<b>MO:</b> Without connector

\* The LN or MN option includes 2 sockets for single solenoid valves and 3 sockets for double solenoid valves.

● **Common specifications**

Nil	Positive common
N	Negative common

Note) Put nothing for single grommet style and single without indicator light and surge voltage suppressor.

SV

SZ

SY

SYJ

SX



### Manifold Specifications

Model	SS5X3-41	SS5X3-42	SS5X5-41	SS5X5-42	SS5X7-42
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 <sup>Note)</sup>	2 to 20 stations				
A, B Porting 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 for 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 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)
Manifold base weight W (g) n: Stations	W = 30n + 50	W = 37n + 63	W = 61n + 101	W = 79n + 127	W = 100n + 151

Note) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA and EB port on both sides.

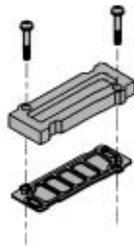
### Flow Characteristics

Model	Port size		Flow characteristics <sup>Note)</sup>					
			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 <sup>3</sup> / (s-bar)]	b	Cv	C [dm <sup>3</sup> / (s-bar)]	b	Cv
SS5X3-41	Rc 1/8	C6	0.75	0.19	0.18	0.81	0.23	0.20
SS5X3-42	Rc 1/8	C6	0.75	0.20	0.18	0.82	0.20	0.20
SS5X5-41	Rc 1/4	C8	1.8	0.23	0.44	1.9	0.16	0.45
SS5X5-42	Rc 1/4	C8	1.9	0.20	0.46	1.9	0.12	0.43
SS5X7-42	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.

### Manifold Option

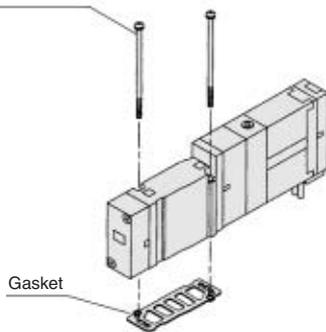
#### ■ Blanking plate assembly



Series	Assembly part no.
SX3000	SY3000-26-9A
SX5000	SY5000-26-20A
SX7000	SY7000-26-22A

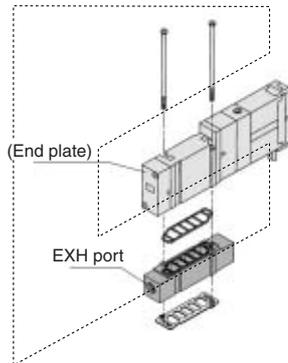
#### ■ Bolt and gasket part no.

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

#### ■ 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

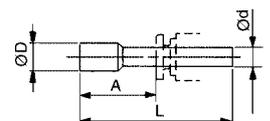
Note) The EXH port may be either on the lead wire side or on the end plate side. (An assembly is shipped under the condition shown in the figure.)

#### ■ Plug

Inserted into an unused cylinder port and SUP/EXH ports. 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



#### ⚠ Caution

Mounting screw tightening torques

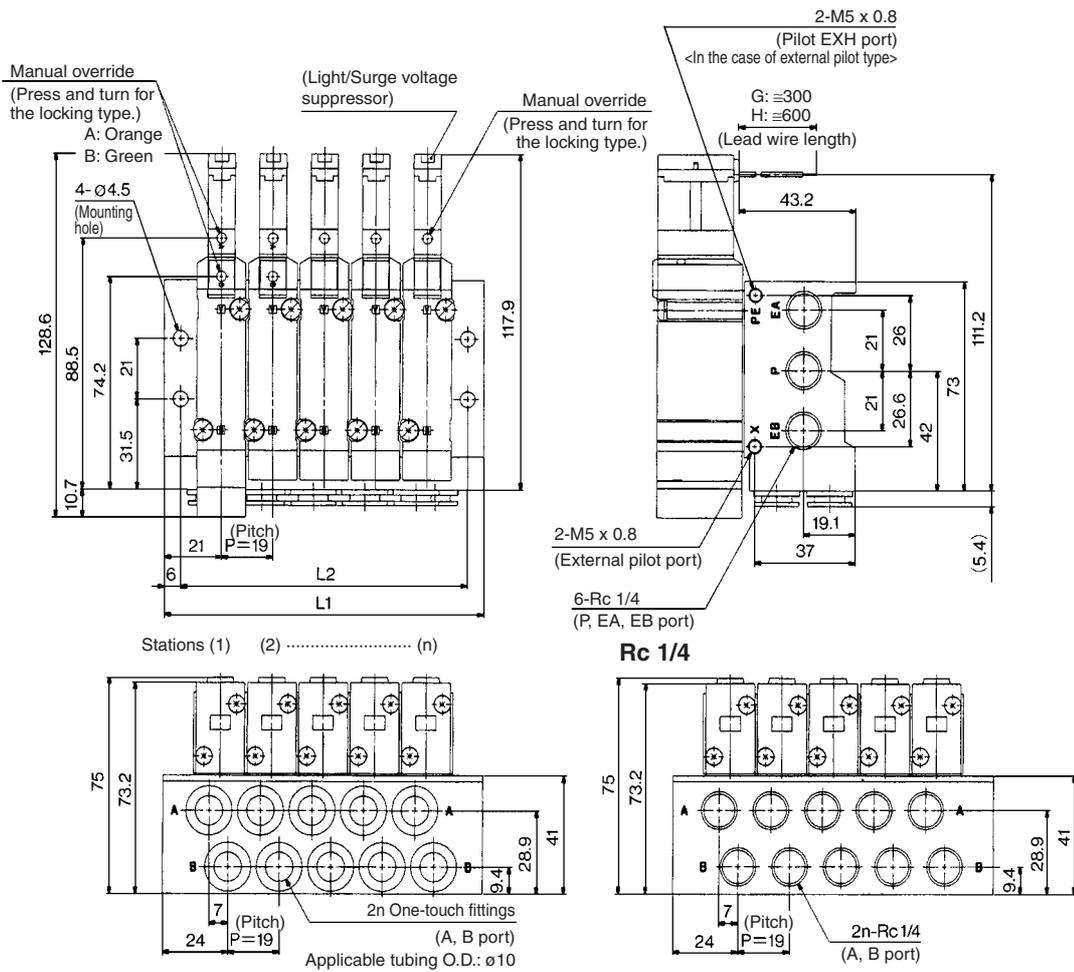
M2: 0.17 N·m  
M3: 0.8 N·m  
M4: 1.4 N·m

#### ⚠ 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 1-6-57 to 1-6-63, and then mount it.

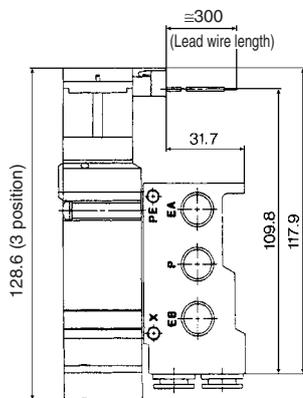
**SX7000: SS5X7-42- Stations -02/C10**

**Grommet (G)**

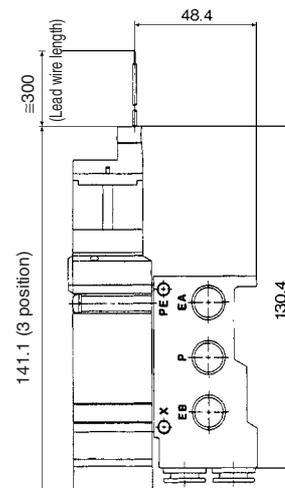


- SV
- SZ
- SY
- SYJ
- SX

**L plug connector (L)**



**M plug connector (M)**



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	61	80	99	118	137	156	175	194	213	232	251	270	289	308	327	346	365	384	403
L2	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391

Type **41<sup>P</sup><sub>N</sub>**

Type **42<sup>P</sup><sub>N</sub>**

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

## How to Order Manifold

### Type 41<sup>P</sup><sub>N</sub> (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<sup>P</sup><sub>N</sub> (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)

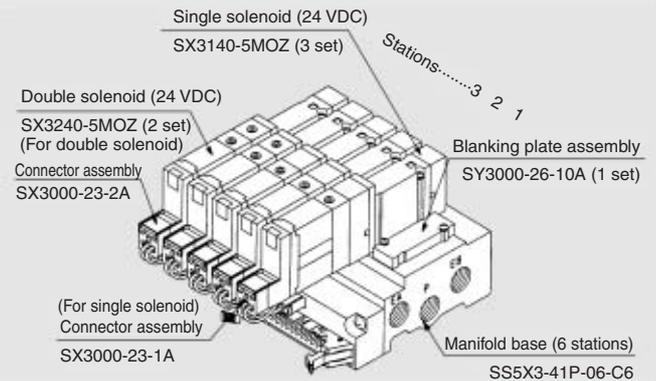
Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SX3000
C6	One-touch fitting for ø6	
C6	One-touch fitting for ø6	SX5000
C8	One-touch fitting for ø8	
C10	One-touch fitting for ø10	SX7000

#### 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

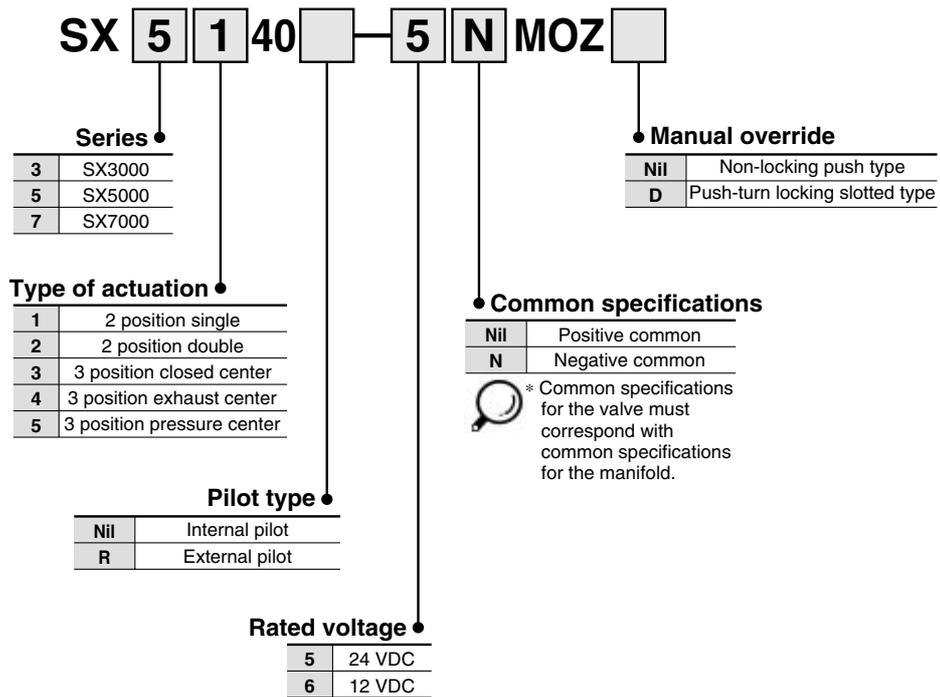


SS5X3-41P-06-C6 ..... 1 set (Type 41P, 6-station manifold base part no.)  
 \*SY3000-26-10A ..... 1 set (Blanking plate assembly part no.)  
 \*SX3140-5MOZ ..... 3 sets (Single solenoid part no.)  
 \*SX3240-5MOZ ..... 2 sets (Double solenoid part no.)  
 \*SX3000-23-1A ..... 3 sets (Connector assembly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

SZ

SY

SYJ

SX

## How to Order Connector Assembly

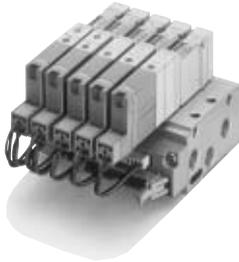
- Positive common specifications  
For single solenoid: SX3000-23-1A  
For double solenoid, 3 position: SX3000-23-2A
- Negative common specifications  
For single solenoid: SX3000-24-1A  
For double solenoid, 3 position: SX3000-24-2A



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 <sup>P</sup> <sub>N</sub>	SS5X3-42 <sup>P</sup> <sub>N</sub>	SS5X5-41 <sup>P</sup> <sub>N</sub>	SS5X5-42 <sup>P</sup> <sub>N</sub>	SS5X7-42 <sup>P</sup> <sub>N</sub>
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 <sup>(1)</sup>	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 <sup>(2)</sup>	+COM (Type 41P, 42P), -COM (Type 41N, 42N)				
Rated voltage	12, 24 VDC				

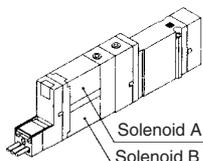
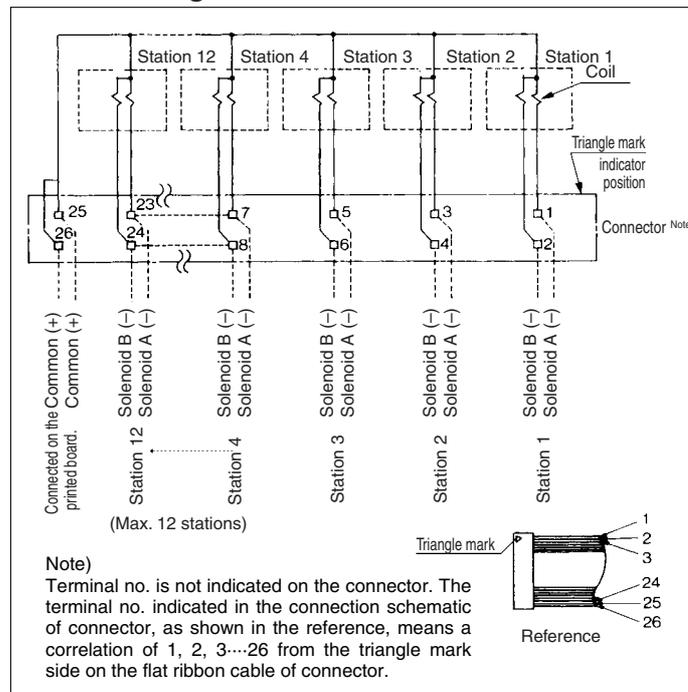
- Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA and EB port on both sides.  
 Note 2) The withstand voltage specification for the wiring unit section is JIS C 0704, Grade 1 or its equivalent.

### Flow Characteristics

Model	Port size		Flow characteristics					
			1 → 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 <sup>3</sup> / (s-bar)]	b	Cv	C [dm <sup>3</sup> / (s-bar)]	b	Cv
SS5X3-41 <sup>P</sup> <sub>N</sub>	Rc 1/8	C6	0.75	0.19	0.18	0.81	0.23	0.20
SS5X3-42 <sup>P</sup> <sub>N</sub>	Rc 1/8	C6	0.75	0.20	0.18	0.82	0.20	0.20
SS5X5-41 <sup>P</sup> <sub>N</sub>	Rc 1/4	C8	1.8	0.23	0.44	1.9	0.16	0.45
SS5X5-42 <sup>P</sup> <sub>N</sub>	Rc 1/4	C8	1.9	0.20	0.46	1.9	0.12	0.43
SS5X7-42 <sup>P</sup> <sub>N</sub>	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.)

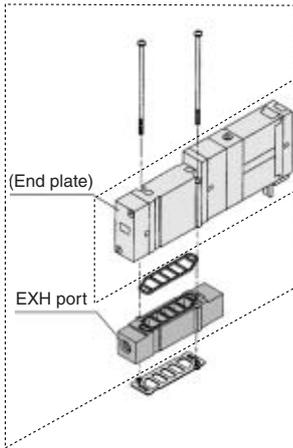
## Manifold Option

### ■ Blanking plate assembly



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

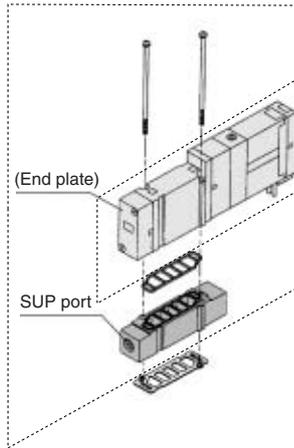
### ■ Individual EXH spacer assembly



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

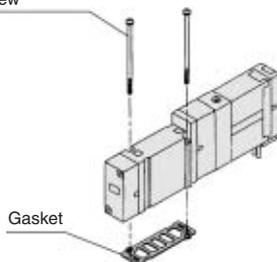
Note) The SUP port may be either on the lead wire side or on the end plate side. (An assembly is shipped under the condition shown in the figure.)

#### \* Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

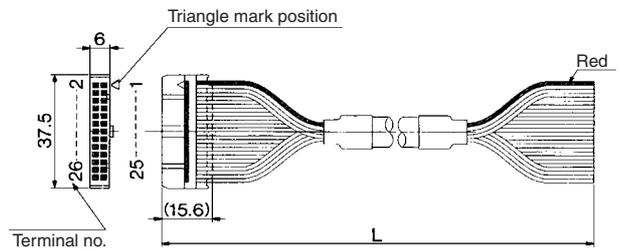
### ■ Bolt and gasket part no.

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-<sup>1</sup>/<sub>3</sub>



### 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	

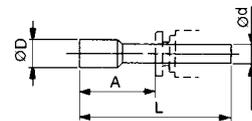
\* For other commercial connectors, use a 26 pins type with strain relief conforming to MIL-C-83503.

### 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

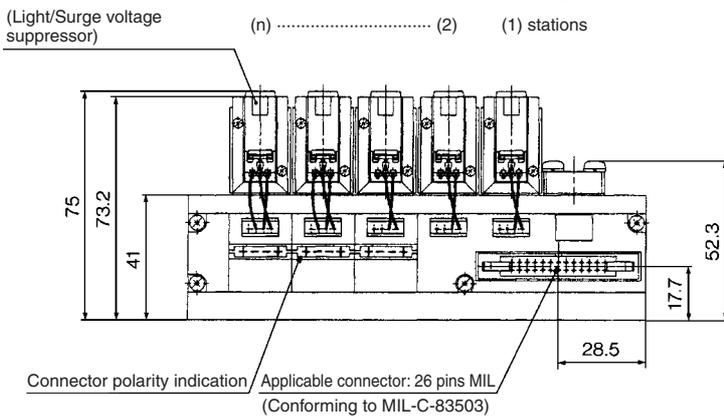
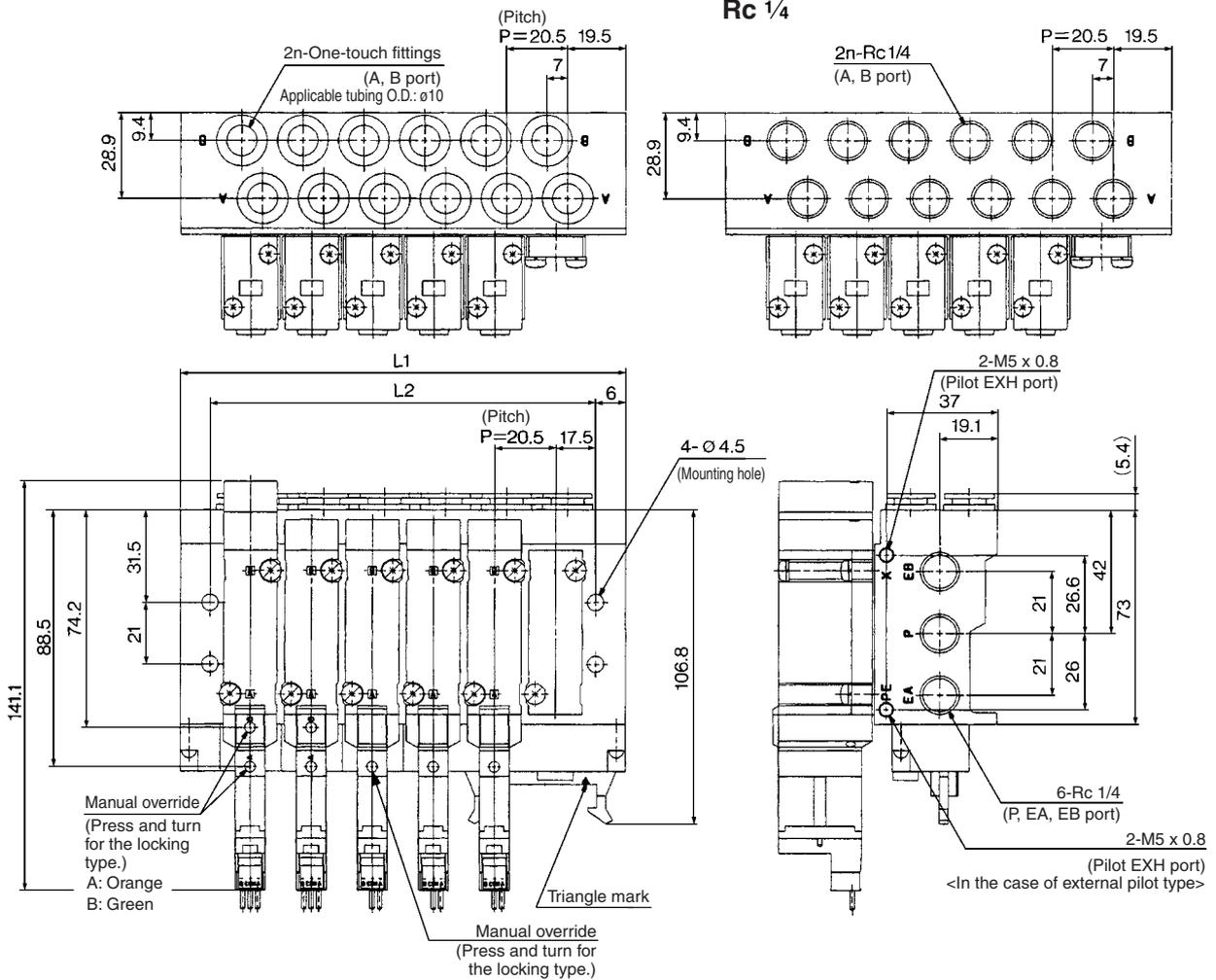
SZ

SY

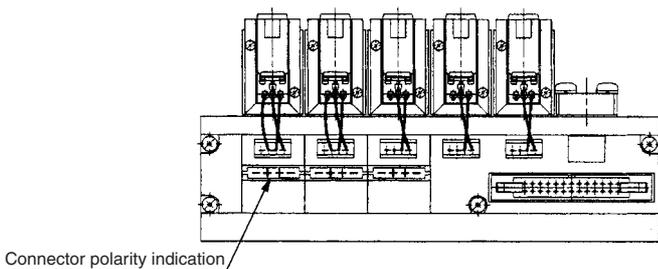
SYJ

SX

**SX7000: SS5X7-42P- Stations -02/C10**



**SS5X7-42N**



(mm)

Stations n	3	4	5	6	7	8	9	10	11	12
L1	88	108.5	129	149.5	170	190.5	211	231.5	252	272.5
L2	76	96.5	117	137.5	158	178.5	199	219.5	240	260.5

# Series SX3000/5000/7000

# Made to Order Specifications:

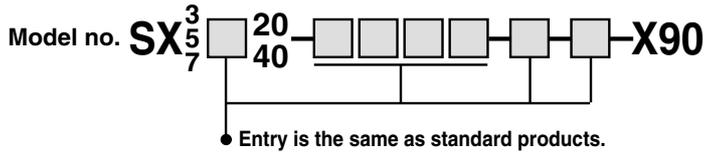
Symbol

## Main Valve Fluoro Rubber Specifications -X90

Fluoro rubber is used for rubber parts of the main valve to allow use in applications such as the following.

1. When using a lubricant other than the recommended turbine oil, and there is a possibility of malfunction due to swelling of the spool valve seals.
2. When ozone enters or is generated in the air supply.

Applicable solenoid valves: Series SX3□<sub>4</sub><sup>2</sup>0, SX5□<sub>4</sub><sup>2</sup>0, SX7□<sub>4</sub><sup>2</sup>0



The specifications and performance are the same as those of standard models.



Note) Because in series -X90 fluoro rubber is used for only main valve, the rubber parts of the application/usage in conditions requiring heat resistance should be avoided.