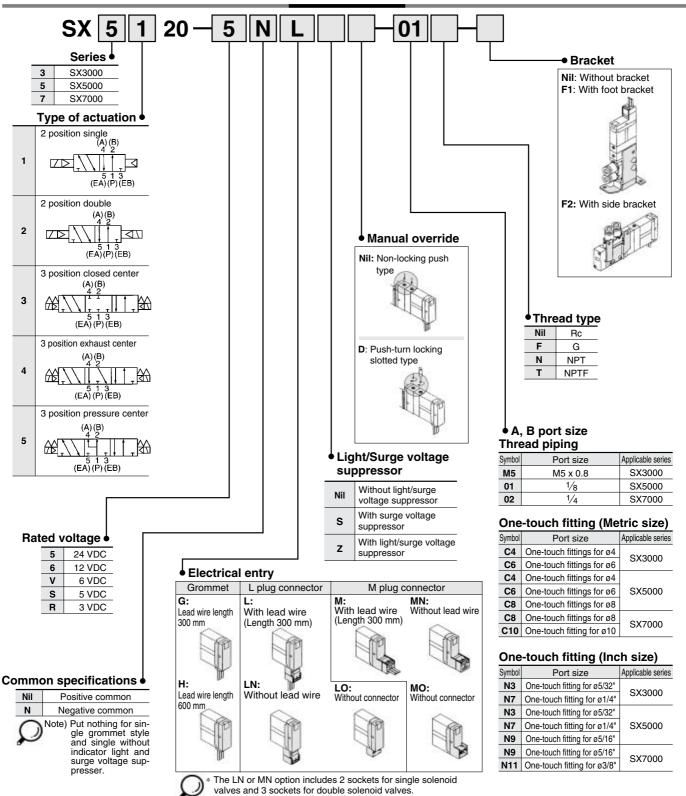


How to Order





Specifications

Se	ries	SX3000	SX5000	SX7000	
Fluid		Air			
Internal pilot	2 position single	0.15 to 0.7			
Operating pressure range	2 position double	0.1 to 0.7			
(MPa)	3 position		0.2 to 0.7		
Ambient and fluid temp	Ambient and fluid temperature (°C)		Max. 50		
Max. operating	2 position single, double	10	5	5	
frequency (Hz)	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 resist	ance (m/s²)Note)	150/30			
Enclosure		Dusttight			
143 0203					

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)

SYJ

SV

SZ



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 Indicator light		Diode	
		LED	

Response Time



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

SX3000

	Response time (ms) (at the pressure of 0.5 MPa)			
Type of actuation		With light/surge voltage suppressor		
	voltage suppressor	S, Z type		
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

	Response time (ms) (at the pressure of 0.5 MPa)			
Type of actuation		With light/surge voltage suppressor		
	voltage suppressor	S, Z type		
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

	Response time (ms) (at the pressure of 0.5 MPa)			
Type of actuation		With light/surge voltage suppressor		
	voltage suppressor	S, Z type		
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

Model/Series SX7000

			David	-!		Flow characteristics					Maight (g)									
Valve model	Type of actuation		Port size		$1 \rightarrow 4/2 \ (P \rightarrow A/B)$		$4/2 \rightarrow 5/3 \text{ (A/B} \rightarrow \text{EA/EB)}$		Weight (g)											
valve model			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	Grommet	L plug connector M plug connector								
	2 position	Single			4.1	0.23	0.93	3.3	0.33	0.81	108	109								
	2 poortion	Double									116	117								
		Closed center			2.9	0.31	0.70	2.4	0.38	0.63										
SX7□20-□-02	3 position	Exhaust center		Rc 1/ ₄	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										
	0	Single	ouble sed center chaust (EA, EB) Port Rc 1/8	C8 2.6 One-touch	3.2 0.26	0.26	0.77	3.2	0.37	0.82	114	116								
	2 position	Double						0.07		122	124									
		Closed center			2.6	0.24	0.63	2.4	0.31	0.62	131									
SX7□20-□-C8	3 position	Exhaust center			2.4	0.25	0.57	2.6 [1.9]	0.42 [0.46]	0.70 [0.56]		132								
		Pressure center						Port Rc 1/8						3.3 [2.4]	0.28 [0.22]	0.78 [0.57]	2.2	0.34	0.60	
	2 position	Single			3.8	0.26	0.86	3.2	0.34	0.82	110	111								
	'	Double	010							118	119									
		Closed center		C10 (One-touch)	2.8	0.27	0.67	2.4	0.21	0.59										
SX7□20- □-C10		Exhaust			2.5	0.25	0.59	2.7 [2.0]	0.38 [0.38]	0.70 [0.56]										
	3 position _			(fitting for Ø10)				=:: [=:0]	, []	211 2 [0.00]	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.

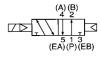


Construction

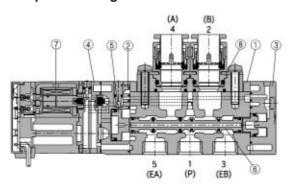
Series SX

JIS Symbol

2 position single

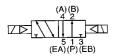


2 position single

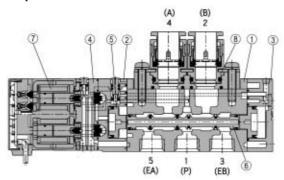


JIS Symbol

2 position double



2 position double



How to Order Connector Assembly for L/M Plug Connector

Positive common specifications

SX100-40-4S For single solenoid: For double solenoid,

3 position:

SX100-40-4D

Negative common specifications SX100-41-4S

For single solenoid: For double solenoid,

SX100-41-4D-

3 position:

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

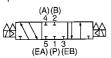


For detailed information on connector assembly, refer to page 1-6-8.

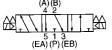
3 position closed center/exhaust center/pressure center

JIS Symbol

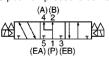
3 position closed center

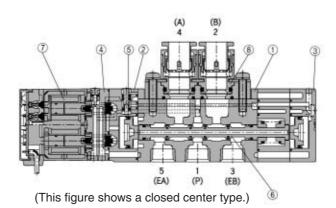


3 position exhaust center (A) (B)



3 position pressure center





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		

Bracket Assembly No.

Description	Part no.	
Bracket (For F1)	SX $\frac{3}{5}$ 000-16-1A (With mounting screw)	
Bracket (For F2)	SX \$\frac{3}{7}\$000-16-2A (With mounting screw)	



SV

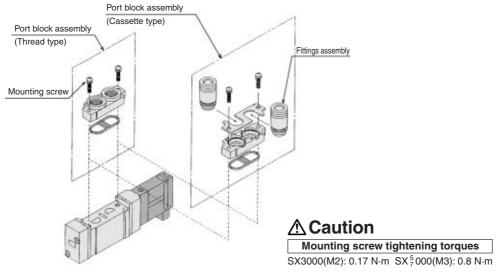
SZ

SYJ

How to Change Port Block Assembly

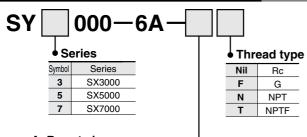
The cylinder port block assembly can easily be changed. When changing block assembly, correct screw torque must be achieved. Cut off the air supply to confirm that no air is left in the manifold before starting operation. Remaining air or inappropriate installation may cause an accident.

For SX5000



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

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	CV2000				
C6	One-touch fitting for ø6	SX3000				
C4	One-touch fitting for ø4					
C6	One-touch fitting for ø6	SX5000				
C8	One-touch fitting for ø8					
C8	One-touch fitting for ø8	0.77000				
C10	One-touch fitting for ø10	SX7000				

One-touch fitting (Inch size)

	,
Port size	Applicable series
One-touch fitting for ø5/32"	CV2000
One-touch fitting for ø1/4"	SX3000
One-touch fitting for ø5/32"	
One-touch fitting for ø1/4"	SX5000
One-touch fitting for ø5/16"	
One-touch fitting for ø5/16"	SX7000
One-touch fitting for ø3/8"	5A/000
	Port size One-touch fitting for ø5/32" One-touch fitting for ø1/4" One-touch fitting for ø5/32" One-touch fitting for ø1/4" One-touch fitting for ø5/16" One-touch fitting for ø5/16"

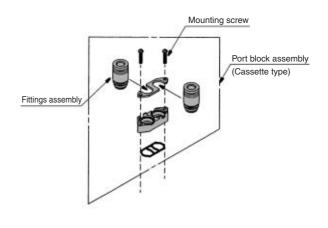
* Only replacement of the fittings assembly is possible.

Metric size

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

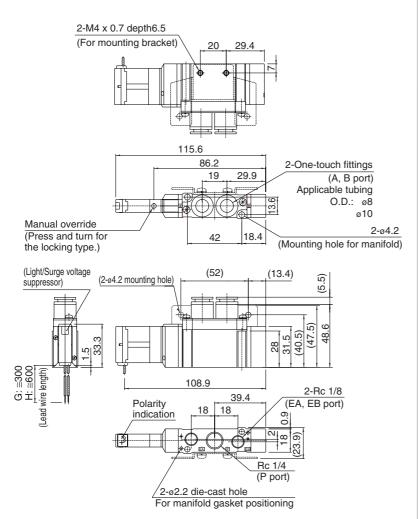
Inch size

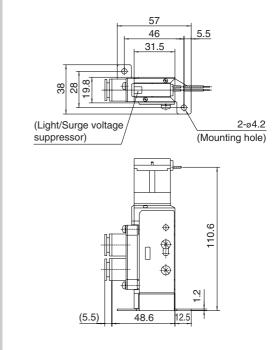
SX3000	One-touch fitting for ø5/32"	VVQ1000-50A-N3
SX3000	One-touch fitting for ø1/4"	VVQ1000-50A-N7
	One-touch fitting for ø5/32"	VVQ1000-51A-N3
SX5000	One-touch fitting for ø1/4"	VVQ1000-50A-N7
	One-touch fitting for ø5/16"	VVQ1000-50A-N9
SX7000	One-touch fitting for ø5/16"	VVQ2000-51A-N9
5A/000	One-touch fitting for ø3/8"	VVQ2000-51A-N11

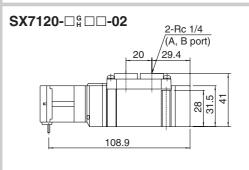


Dimensions: Series SX7000

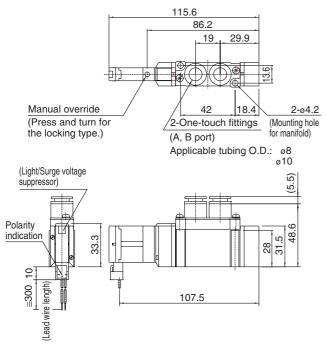
2 position single Grommet (G), (H): SX7120-□ Grownet (G), (H): Gr



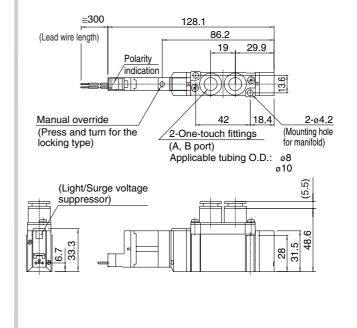




L plug connector (L): SX7120-□L□□-cs c10



M plug connector (M): SX7120-□M□□-c8 c10



SV

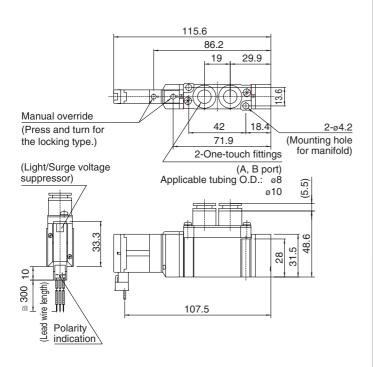
SZ

SY

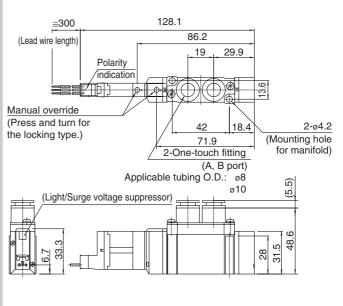
SYJ

2 position double Grommet (G), (H): SX7220- $\square_H^G \square \square$ - C8 (-F2) **Foot bracket** SX7220- - G - C8 - F1 57 115.6 46 5.5 86.2 2-One-touch fittings 31.5 29.9 (A, B port) Applicable tubing O.D.: ø8 ø10 Manual override (Light/Surge 2-ø4.2 2-ø4.2 (Press and turn for the locking type.) voltage suppressor) 18.4 (Mounting hole) (Mounting hole for manifold) 71.9 (5.5)(Light/Surge voltage suppressor) 110.6 \$ (\$) 48. 31.5 28 (5.5)48.6 $\begin{array}{l} G\colon \equiv 300\\ H\colon \equiv 600 \end{array}$ (Lead wire length) 108.9 SX7220-□ G □ □ -02 39.4 2-Rc 1/8 Polarity indication (EA, EB port) 2-Rc 1/4 18 18 0.9 (A, B port) 29.4 8 Rc 1/4 (P port) 2-ø2.2 die-cast hole (Press and turn for the locking type.)

L plug connector (L): SX7220-□L□□- cs c10

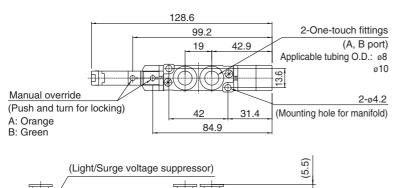


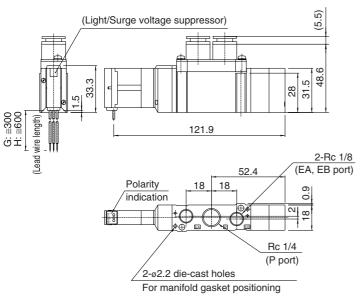
M plug connector (M): SX7220-□M□□-C8010

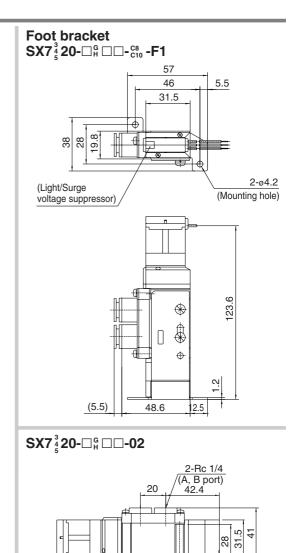


Dimensions: Series SX7000

3 position closed center/exhaust center/pressure center Grommet (G), (H): SX7³/₄ 20-□^G_H □□-^{CS}_{C10} (-F2)

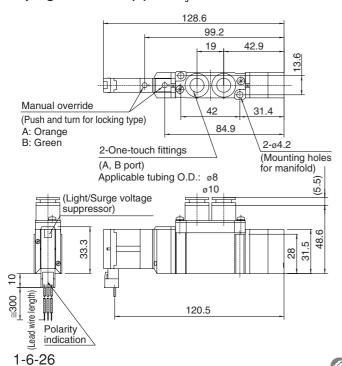




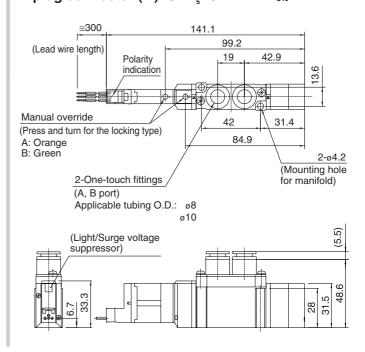


121.9

L plug connector (L): SX7 \(\frac{3}{5} 20 - \subseteq L \subseteq \subseteq \frac{ca}{cto} \)



M plug connector (M): SX7 ³/₄20-□M□□- ^{C8}/_{C10}

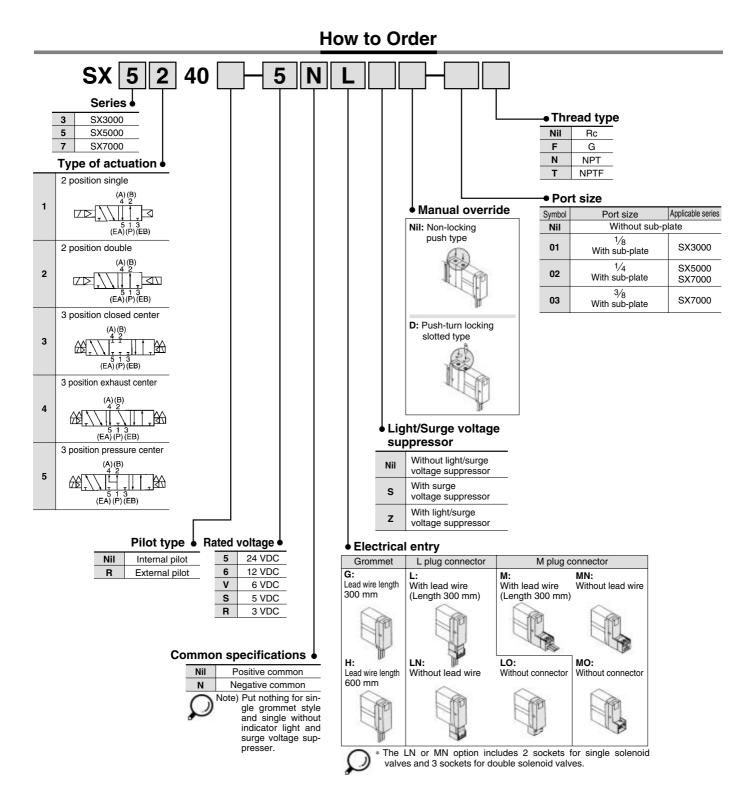






Series SX3000/5000/7000 **Base Mounted**

Valve Single Unit





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

Specifications

Se	ries		SX3000	SX5000	SX7000			
Fluid			Air					
Internal pilot	2 position	single		0.15 to 0.7				
Operating pressure range	2 position	double		0.1 to 0.7				
(MPa)	3 position			0.2 to 0.7				
F	Operating p	ressure range		-100 kPa to 0.7				
External pilot	Pilot	2 position single		0.25 to 0.7				
Operating pressure range (MPa)	pressure	2 position double	0.25 to 0.7					
(IVII a)	range	3 position	0.25 to 0.7					
Ambient and fluid temp	perature (°C	;)	Max. 50					
Max. operating frequency (Hz)	2 position single, double		10	5	5			
wax. operating frequency (frz)	3 position		3	3	3			
Manual override			Non-locking push type, Push-turn locking slotted type					
D'' 1 1 1 1 1	Internal pilot		Common exhaust type for main and pilot valve					
Pilot exhaust method	External pilot		Pilot valve individual exhaust					
Lubrication			Not required					
Mounting orientation			Unrestricted					
Impact/Vibration resist	ance (m/s²)	Note)	150/30					
Enclosure			Dusttight					
5-2-5-7								

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 fluctu	ation	±10% of rated voltage
Power consumption (W)	DC	0.6 (With indicator light: 0.65)
Surge voltage suppress	or	Diode
Indicator light		LED

Response Time



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

SX3000

	Response time (ms) (at the pressure of 0.5 MPa)						
Type of actuation		With light/surge voltage suppresso					
	voltage suppressor	S, Z type					
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	With light/surge voltage suppressor					
	voltage suppressor	S, Z type					
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	With light/surge voltage suppressor					
	voltage suppressor	S, Z type					
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

Flow Characteristics/Weight

Model/Series SX3000

					Flow characteristics (1)						Maight (g) (2)	
Value model		Type of actuation Port size		1 → 4/2 (P → A/B)			$4/2 \rightarrow 5/3 \text{ (A/B} \rightarrow \text{EA/EB)}$			Weight (g) (2)		
Valve model	Type of actuation F		FOIT SIZE	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	Grommet	L plug connector M plug connector	
	2 position	Single Double		1.0	0.30	0.24	1.1	0.30	0.26	100 (66) 108 (74)	101 (67) 110 (75)	
		Closed center		0.77	0.28	0.18	0.85	0.30	0.19			
SX3□40-□-01	3 position	Exhaust center	Rc 1/8	0.73	0.31	0.18	1.1 [0.55]	0.26 [0.52]	0.24 [0.16]	111 (76)	112 (78)	
0 00000	Pressure center			1.2 [0.51]	0.24 [0.45]	0.29 [0.14]	0.89	0.47	0.24	,		



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

Model/Series SX5000

						Maight (a) (2)					
Valve model	Tuno	f actuation	Port size	1 → 4/2 (P → A/B)			$4/2 \rightarrow 5/3 \text{ (A/B} \rightarrow \text{EA/EB)}$			Weight (g) (2)	
valve model	Type of actuation		Port Size	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	Grommet	L plug connector M plug connector
	2 position	Single		2.4	0.41	0.64	2.8	0.29	0.66	136 (74)	137 (75)
	2 position	Double		2.7	0.41	0.04	2.0	0.29		144 (82)	145 (83)
		Closed center		1.8	0.47	0.50	1.8	0.40	0.47		
SX5□40-□-02	X5□40-□-02 3 position	Exhaust center	Rc 1/4	1.4	0.55	0.44	3.0 [1.2]	0.33 [0.48]	0.72 [0.37]	149 (87)	151 (89)
		Pressure center		3.3 [0.84]	0.36 [0.60]	0.85 [0.28]	1.8	0.40	0.48	(- /	



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

Model/Series SX7000

				Flow characteristics (1)						\\\ainht (n) (2)	
Valve model	Typo	of actuation	Port size	$1 \rightarrow 4/2 \ (P \rightarrow A/B)$			4/2 → 5/3 (A/B → EA/EB)			Weight (g) (2)	
valve model) ype c	n actuation	FUIT SIZE	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	Grommet	L plug connector M plug connector
	2 position	Single Double		4.1	0.41	1.1	4.1	0.29	1.0	222 (100) 229 (107)	223 (101) 231 (109)
		Closed center		3.0	0.43	0.80	2.6	0.41	0.72		
SX7□40-□-02	3 position		Rc ¹ / ₄	2.6	0.42	0.71	4.7 [1.7]	0.35 [0.48]	1.1 [0.49]	238 (116)	240 (118)
		Pressure center		5.3 [2.3]	0.39 [0.49]	1.3 [0.65]	2.2	0.49	0.63		
	2 position	Single Double		4.9	0.29	1.2	4.5	0.27	1.1	222 (100) 229 (107)	223 (101) 231 (109)
0.		Closed center		3.0	0.40	0.80	2.6	0.45	0.73		
SX7□40-□-03	3 position	Exhaust center	Rc 3/8	2.6	0.42	0.71	4.8 [1.7]	0.35 [0.48]	1.1 [0.49]	238 (116)	240 (118)
	Pressure center		5.3 [2.3]	0.31 [0.51]	1.3 [0.64]	2.3	0.45	0.66	200 (110)	, ,	

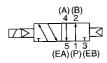


Note 1) []: Denotes the normal position. Note 2) (): Without sub-plate.

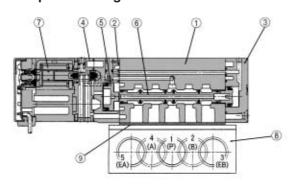
Construction

Series SX

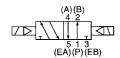
JIS Symbol 2 position single



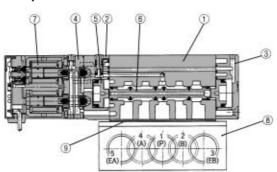
2 position single



JIS Symbol 2 position double



2 position double



How to Order Connector Assembly for L/M Plug Connector

Positive common specifications

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

Negative common specifications

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

SV

SZ

SY

SYJ

SX

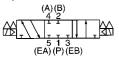
Lead wire length ●						
Leau	wire length •					
Nil	300 mm					
6	600 mm					
10	1000 mm					
15	1500 mm					
20	2000 mm					
25	2500 mm					
30	3000 mm					
50	5000 mm					

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

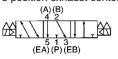
3 position closed center/exhaust center/pressure center

JIS Symbol

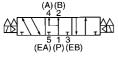
3 position closed center

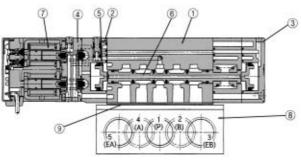


3 position exhaust center



3 position pressure center





(This figure shows a closed center type.)

Component Parts

Component i arts								
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	Note		
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)		

⚠ Caution

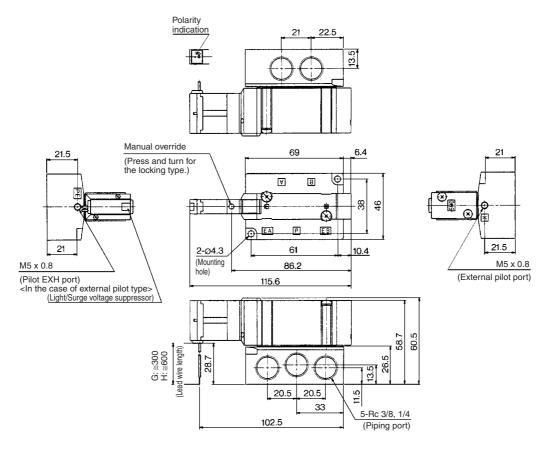
Mounting Screw Tightening Torques M2: 0.17 N·m M3: 0.8 N·m M4: 1.4 N·m

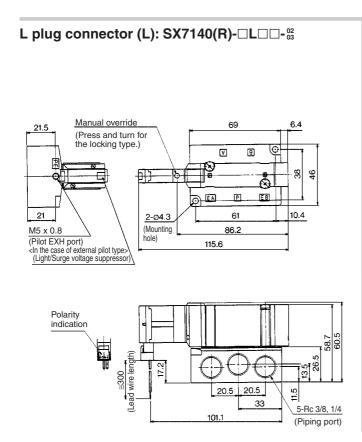


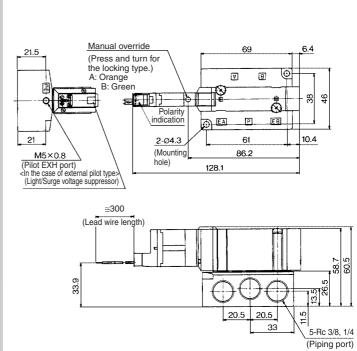
Dimensions: Series SX7000

2 position single

Grommet (G), (H): SX7140(R)-□ 🖁 □ □ - 02







M plug connector (M): SX7140(R)-□M□□-02 03

SV

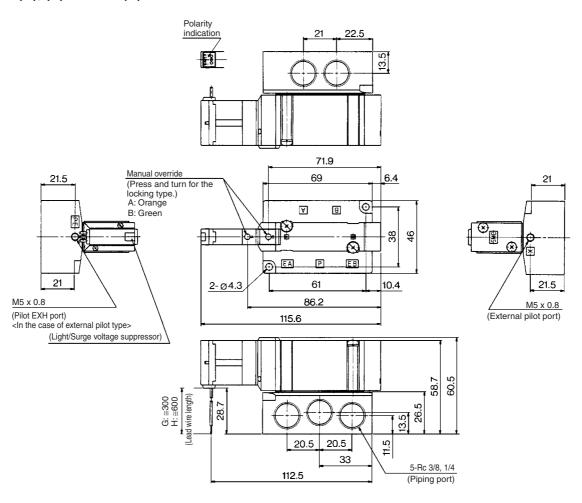
SZ

SY

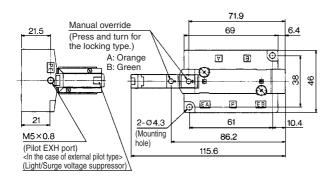
SYJ

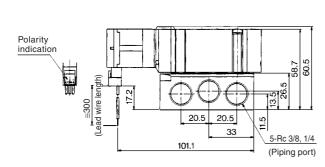
SX

2 position double Grommet (G), (H): SX7240(R)-□^G_H□□-²²₀₃

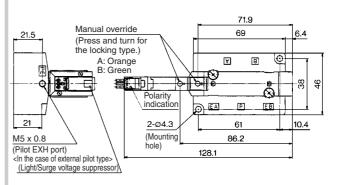


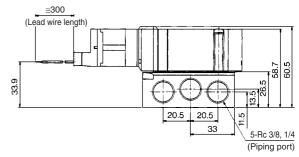
L plug connector (L): SX7240(R)-\(\subseteq\)L\(\subseteq\)-\(\omega\)L\(\omega\)-\(\omega\)





M plug connector (M): SX7240(R)-□M□□-⁰²₀₃

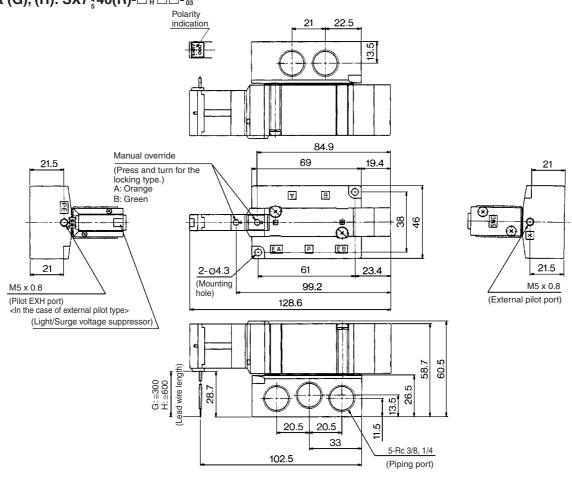




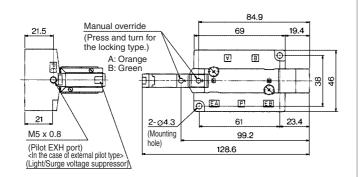


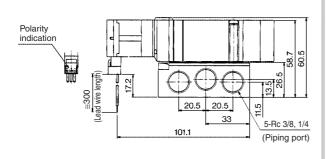
Dimensions: Series SX7000

3 position closed center/exhaust center/pressure center Grommet (G), (H): SX7 $\frac{3}{4}$ 40(R)- \Box $\frac{9}{4}$ 0(R)- \Box



L plug connector (L): SX7³/₄ 40(R)-\(\sigma\)L\(\sigma\)-\(\frac{0}{03}\)





M plug connector (M): $SX7\frac{3}{4}40(R)-\Box M\Box\Box-\frac{02}{03}$

