

# 4/5 Port Solenoid Valve

## Series SYJ3000/5000/7000

Power Consumption  
**0.1 W**  
 With Power Saving Circuit



SV  
 SZ  
 SY  
 SYJ  
 SX



Cover (stainless steel)

### Improved pilot valve

Pilot valve cover is stronger using stainless steel.  
 Mounting thread is also reinforced from size M1.7 to M2.


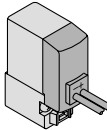

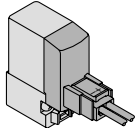

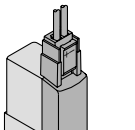

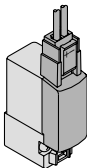

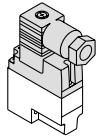

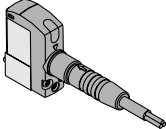
### Flow Characteristics


Series	Flow characteristics		
	C [(dm <sup>3</sup> /s·bar)]	b	Cv
SYJ3000	0.46	0.36	0.12
SYJ5000	0.83	0.32	0.21
SYJ7000	2.9	0.35	0.74

# 4/5 Port Solenoid Valve Rubber Seal

# Series SYJ3000/5000/7000

## Variations

	Series	Sonic conductance C [dm <sup>3</sup> /(s·bar)]	Type of actuation	Voltage	Electrical entry	Option	Manual override						
						With light/surge voltage suppressor							
<b>Body Ported</b>	<b>SYJ3000</b>  P. 1-5-4	Effective area 0.9 mm <sup>2</sup> { 4/2 → 5/3 } { (A/B → EA/EB) }		<b>For DC</b> ■ 24 VDC 12 VDC 6 VDC 5 VDC 3 VDC	Grommet 	<b>For DC</b> ■ With surge voltage suppressor							
	<b>SYJ5000</b>  P. 1-5-26	0.47 { 4/2 → 5/3 } { (A/B → EA/EB) }						L plug connector 	■ With light/surge voltage suppressor				
	<b>SYJ7000</b>  P. 1-5-50	2.4 { 4/2 → 5/3 } { (A/B → EA/EB) }						M plug connector 					
<b>Base Mounted</b>	<b>SYJ3000</b>  P. 1-5-4	0.46 { 4/2 → 5/3 } { (A/B → EA/EB) }						3 position ● Closed center ● Exhaust center ● Pressure center	<b>For AC</b> ■ 100 VAC <sup>50/60</sup> Hz 110 VAC <sup>50/60</sup> Hz 200 VAC <sup>50/60</sup> Hz 220 VAC <sup>50/60</sup> Hz		<b>For AC</b> ■ With light/surge voltage suppressor	■ Non-locking push type  ■ Push-turn locking slotted type  ■ Push-turn locking lever type	
	<b>SYJ5000</b>  P. 1-5-26	0.83 { 4/2 → 5/3 } { (A/B → EA/EB) }											DIN terminal  (SYJ5000, 7000 only)
	<b>SYJ7000</b>  P. 1-5-50	2.9 { 4/2 → 5/3 } { (A/B → EA/EB) }											M8 connector 

 Note) All AC voltage models have built-in surge voltage suppressor.

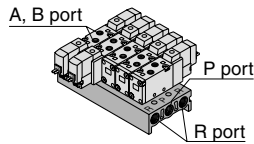
# Series SYJ3000/5000/7000

## Manifold Variations

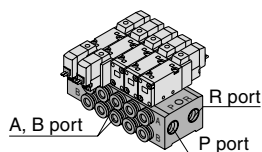
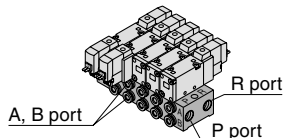
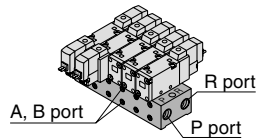
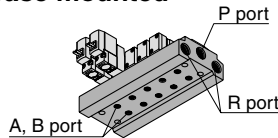
Valve series	A, B port location	A, B port size									Manifold option			Flat ribbon cable manifold	
		M3	M5	1/8	With One-touch fitting						Individual SUP spacer assembly	Individual EXH spacer assembly	Interface regulator		
					Applicable tubing O.D										
						ø4	ø6	ø8	N3	N7	N9				
<b>Body Ported</b>	SYJ3000	Top:	●	—	—	—	—	—	—	—	—	—	—	—	—
			—	●	—	●	●	—	●	●	—	—	●	●	—
			—	—	●	—	●	●	—	●	●	—	—	—	—
<b>Base Mounted</b>	SYJ3000	Side	●	●	—	●	—	—	●	—	—	—	—	—	
		Bottom	—	—	—	—	—	—	—	—	—	—	—	—	
	SYJ5000	Side	—	●	—	●	●	—	●	●	—	—	—	—	
		Bottom	—	●	—	—	—	—	—	—	—	—	—	—	
	SYJ7000	Side	—	—	●	—	●	●	—	●	●	—	—	—	
		Bottom	—	—	●	—	—	—	—	—	—	—	—	—	

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

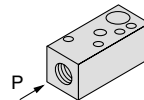
### Body ported



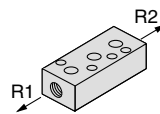
### Base mounted



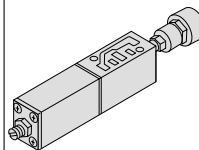
### Individual SUP spacer assembly



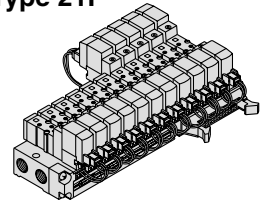
### Individual EXH spacer assembly



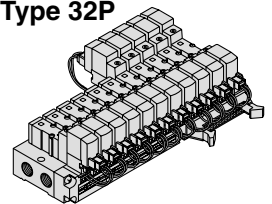
### Interface regulator



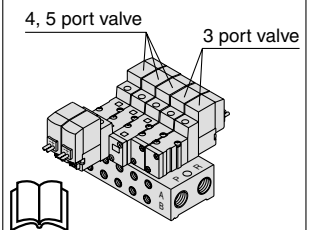
### Type 21P



### Type 32P

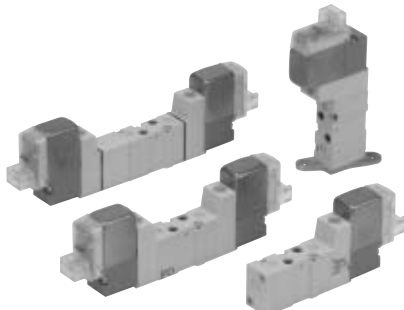


### Mixed mounting of 3 port valves and 4, 5 port valves

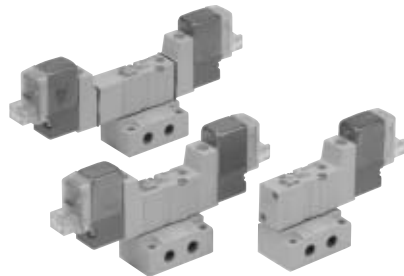


For detailed specifications about SYJ3000, refer to page 1-5-17. For SYJ5000, refer to page 1-5-41, and for SYJ7000, refer to page 1-5-64.

# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000



Body ported



Base mounted

## Specifications

Fluid	Air	
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
Ambient and fluid temperature (°C)	-10 to 50 (No freezing. Refer to page 1-7-4.)	
Response time (ms) (at 0.5 MPa) <sup>Note 1)</sup>	2 position single, double	15 or less
	3 position	30 or less
Max. operating frequency (Hz)	2 position single, double	10
	3 position	3
Manual override (Manual operation)	Non-locking push type, push-turn locking slotted type, push-turn locking lever type	
Pilot exhaust method	Individual exhaust for the pilot valve, common exhaust for the pilot and main valve	
Lubrication	Not required	
Mounting orientation	Unrestricted	
Shock/Vibration resistance (m/s <sup>2</sup> ) <sup>Note 2)</sup>	150/30	
Enclosure	Dustproof (* M8 connector conforms to IP65.)	



\* Based on IEC529

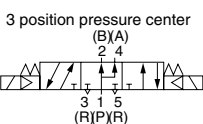
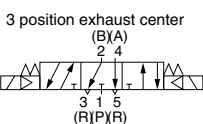
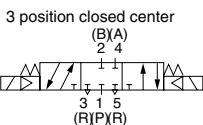
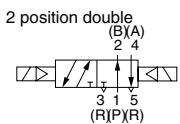
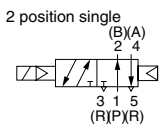
Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage)

Note 2) 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. (Value in the initial state)

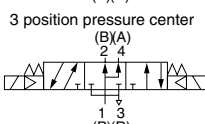
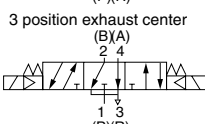
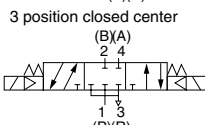
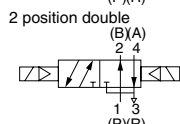
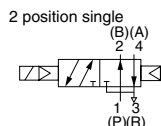
Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve when pilot signal is ON and OFF. (Value in the initial state)

## JIS Symbol

5 port



4 port (manifold)



## Solenoid Specifications

Electrical entry	Grommet (G), (H), L plug connector (L), M plug connector (M), M8 connector (W)	
Coil rated voltage (V)	DC	24, 12, 6, 5, 3
	AC 50/60 Hz	100, 110, 200, 220
Allowable voltage fluctuation	±10% of rated voltage	
Power consumption (W)	DC	Standard 0.35 (With indicator light: 0.4) With power saving circuit 0.1 (With indicator light only)
	AC	100 V 1.4 (With indicator light: 1.5) 110 V [115 V] 1.6 (With indicator light: 1.7) [1.7 (With indicator light: 1.8)] 200 V 2.3 (With indicator light: 2.4) 220 V [230 V] 2.5 (With indicator light: 2.6) [2.7 (With indicator light: 2.8)]
Surge voltage suppressor	Diode (Non-polarity type: valistor)	
Indicator light	LED	

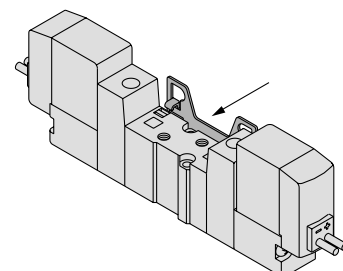
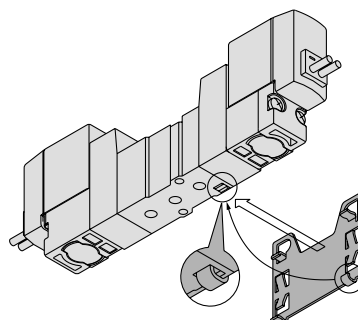


\* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.

\* For 115 VDC and 230 VDC, the allowable voltage is -15% to +5% of rated voltage.

## Bracket Mounting

- ① Insert the lower hook of the mounting bracket into the groove on the bottom of the valve as shown.
- ② Press the valve and mounting bracket together until the upper hook of the bracket snaps into place in the groove on top of the valve.



**Made to Order Specifications**  
(For details, refer to page 1-5-72.)

# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

## Flow Characteristics/Weight

Valve model		Type of actuation	Port size		Weight (g) <sup>Note 3, 4)</sup>			Effective area (mm <sup>2</sup> )	Flow characteristics <sup>Note 2)</sup>							
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	Grommet	L/M plug conector	M8 connector		1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)				
									C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv		
5 port Base mounted (with sub-plate)	SYJ314□	2 position	M5 x 0.8	M5 x 0.8	62 (36)	63 (37)	67 (41)	—	0.46	0.36	0.12	0.46	0.35	0.12		
	SYJ324□														Double	79 (53)
	SYJ334□	3 position			Closed center	82 (56)	84 (58)		92 (66)	—	0.47	0.33	0.12	0.47	0.31	0.12
	SYJ354□				Exhaust center					—	0.36	0.39	0.10	0.59 [0.40]	0.43 [0.33]	0.16 [0.11]
	Pressure center	—	0.58 [0.32]	0.42 [0.33]	0.16 [0.080]			0.46		0.32	0.11					
5 port Body ported	SYJ312□	2 position	M3 x 0.5	M3 x 0.5	36	37	41	0.9	—	—	—	—	—	—		
	SYJ322□														Double	53
	SYJ332□	3 position			Closed center	56	58		66	—	—	—	—	—	—	
	SYJ342□				Exhaust center					—	—	—	—	—	—	
	SYJ352□				Pressure center					—	—	—	—	—	—	
<sup>Note 1)</sup> 4 Port Base Mounted (For manifold base only)	SYJ313□	2 position	1/8	M5 x 0.8	36	37	41	—	—	—	—	—	—	—		
	SYJ323□														Double	53
	SYJ333□	3 position			Closed center	56	58		66	—	—	—	—	—	—	
	SYJ343□				Exhaust center					—	—	—	—	—	—	
	SYJ353□				Pressure center					—	—	—	—	—	—	

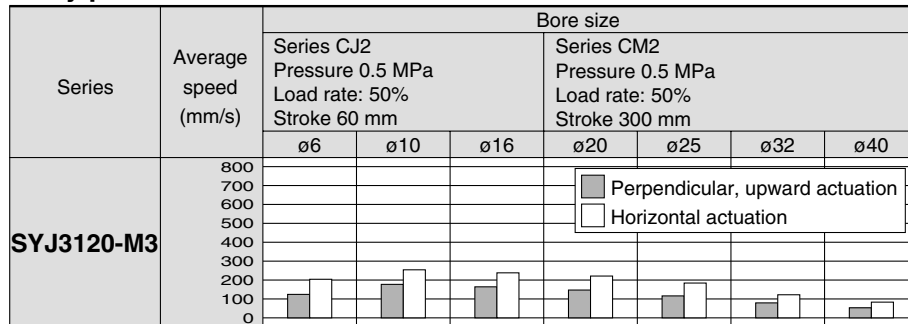
SV  
SZ  
SY  
SYJ  
SX

- Note 1) Dedicated for manifold base. For details, refer to page 1-5-14.
- Note 2) [ ] denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2
- Note 3) ( ): Without sub-plate.
- Note 4) For DC voltages. For AC voltages add 3 g to the weight of the single solenoid and 6 g to the weight of the double solenoid and 3 position types.

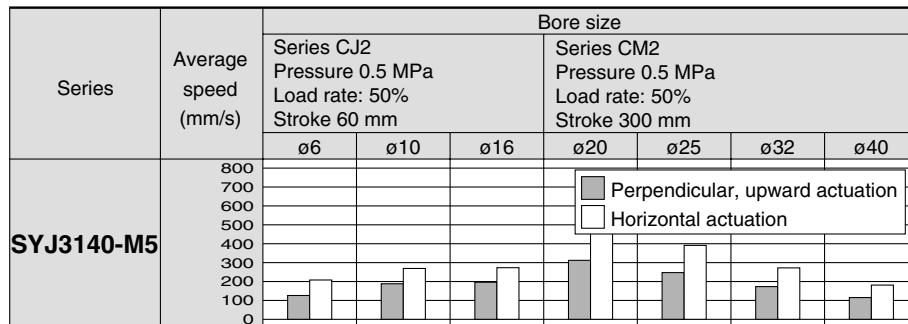
## Cylinder Speed Chart

Use as a guide for selection.  
Please confirm the actual conditions with SMC Sizing Program.

### Body ported



### Base mounted



- \* Cylinder is in extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.
- \* Average speed of cylinder is obtained by dividing the full stroke time by the stroke.
- \* Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

## Conditions

Body ported		Series CJ2	Series CM2
SYJ3120-M3	Tubing bore x Length	ø4 x 1 m	
	Speed controller	AS1301F-04	
	Silencer	AN120-M5	

Base mounted		Series CJ2	Series CM2
SYJ3140-M5	Tubing bore x Length	ø6 x 1 m	
	Speed controller	AS2001F-06	AS2301F-06
	Silencer	AN120-M5	

# Series SYJ3000

## How to Order

### Type of actuation

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

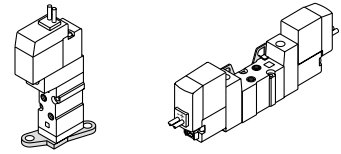
### Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
R	With surge voltage suppressor (Non-polar type)
U	With light/surge voltage suppressor (Non-polar type)

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
 \* For type "R" and "U", DC voltage is only available.  
 \* Power saving circuit is only available in the "Z" type.

### Bracket

Nil: Without bracket  
 F: With bracket



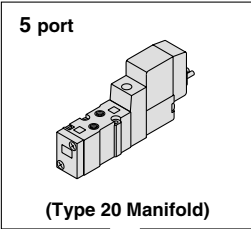
Single Double

Note • The double solenoid mounting bracket is supplied unattached.  
 • To order the double solenoid bracket for use with a single solenoid valve, order the single solenoid valve without a bracket and order the bracket (VJ3000-13-1) separately.  
 (Example) SYJ3120-5M-M3 VJ3000-13-1

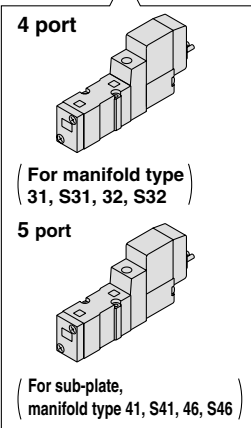
### Rated voltage

DC		AC (50/60 Hz)	
5	24 VDC	1	100 VAC
6	12 VDC	2	200 VAC
V	6 VDC	3	110 VAC [115 VAC]
S	5 VDC	4	220 VAC [230 VAC]
R	3 VDC		

\* For type "W□", DC voltage is only available.



<b>Body ported</b>	SYJ3	1	2	0		5	M			M3	
<b>Base mounted (4 port)</b>	SYJ3	2	3	0		5	M				(Manifold use only)
<b>Base mounted (5 port)</b>	SYJ3	2	4	0		5	M				



### Coil specifications

Nil	Standard
T	With power saving circuit (24, 12 VDC only)

\* Power saving circuit is not available in the case of "W□" type.

### Body option

**0:** Pilot valve individual exhaust for the pilot valve

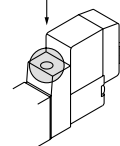
R port P, E port

**3:** Common exhaust type for main and pilot valve

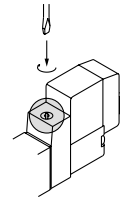
R port P, E port

### Manual override

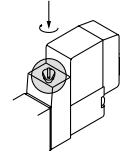
Nil: Non-locking push type



D: Push-turn locking slotted type

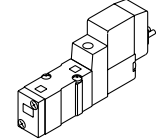


E: Push-turn locking lever type



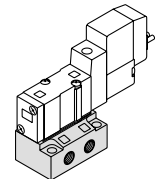
### Port size

Nil: Without sub-plate



(With gasket and screws)

M5: With M5 port sub-plate



### Electrical entry

24, 12, 6, 5, 3 VDC 100, 110, 200, 220 VAC				24, 12, 6, 5, 3 VDC	
Grommet	L plug connector	M plug connector		M8 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>WO:</b> Without connector cable	
<b>H:</b> Lead wire length 600 mm	<b>LN:</b> Without lead wire	<b>LO:</b> Without connector	<b>MO:</b> Without connector		

\* "LN", "MN" type: with 2 sockets.  
 \* For connector cable of M8 connector, refer to page 1-5-78.

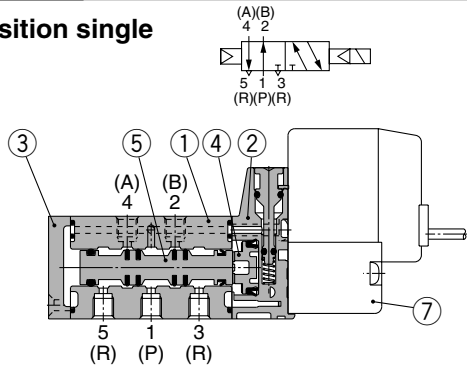
Note) When placing an order for body ported solenoid valve as a single unit, mounting bolt for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 1-5-18 on catalog.)



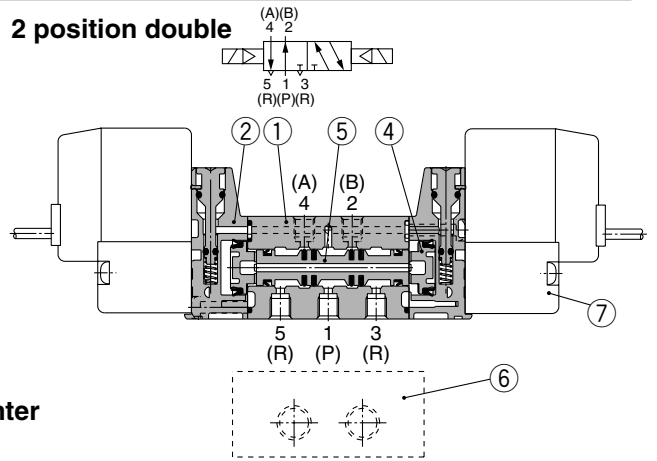
# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

## Construction

### 2 position single

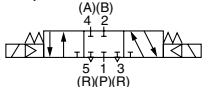


### 2 position double

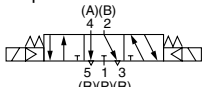


### 3 position closed center/exhaust center/pressure center

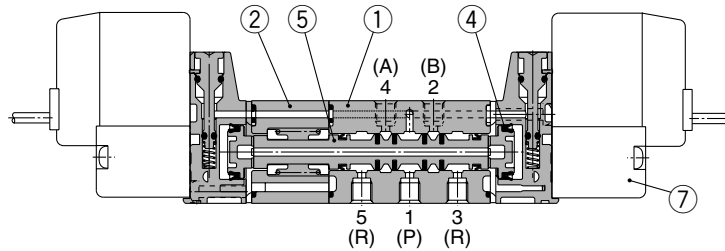
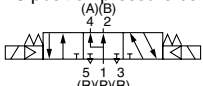
#### 3 position closed center



#### 3 position exhaust center



#### 3 position pressure center



(This figure shows a closed center type.)

- SV
- SZ
- SY
- SYJ
- SX

## Component Parts

No.	Description	Material	Note
①	Body	Zinc die-casted	White
②	Piston plate	Resin	White
③	End cover	Resin	White
④	Piston	Resin	
⑤	Spool valve assembly	Aluminum, HNBR	

## Replacement Parts

No.	Description	Part no.	Note
⑥	Sub-plate	SYJ3000-22-1	Zinc die-casted
⑦	Pilot valve	V111 (T) - □□□	

## How to Order Pilot Valve Assembly

V111 □ — 5 G □

### Coil specifications

Nil	Standard: DC specifications
A	Standard: AC specifications
T	With power saving circuit (24, 12 VDC only)

\* Power saving circuit is not available in the case of "W□" type.

### Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
R	With surge voltage suppressor (Non-polar type)
U	With light/surge voltage suppressor (Non-polar type)

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\* For type "R" and "U", DC voltage is only available.  
\* Power saving circuit is only available in the "Z" type.

### Rated voltage

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC
1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
3	110 VAC 50/60 Hz [115 VAC 50/60 Hz]
4	220 VAC 50/60 Hz [230 VAC 50/60 Hz]

\* For type "W□", DC voltage is only available.

### Electrical entry

G	Grommet, 300 mm lead wire
H	Grommet, 600 mm lead wire
L	L plug connector
LN	With lead wire
LO	Without lead wire
M	M plug connector
MN	With lead wire
MO	Without lead wire
WO	Without connector cable

\* For connector cable of M8 connector, refer to page 1-5-78.

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

- For DC : SY100-30-4A-□
- For 100 VAC : SY100-30-1A-□
- For 200 VAC : SY100-30-2A-□
- For other voltages of AC : SY100-30-3A-□
- Without lead wire : SY100-30-A

(with connector and 2 of sockets only)

### 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

## How to Order M8 Connector Cable

V100-49-1-□

### Cable length

1	300 mm
2	500 mm
3	1000 mm
4	2000 mm
7	5000 mm

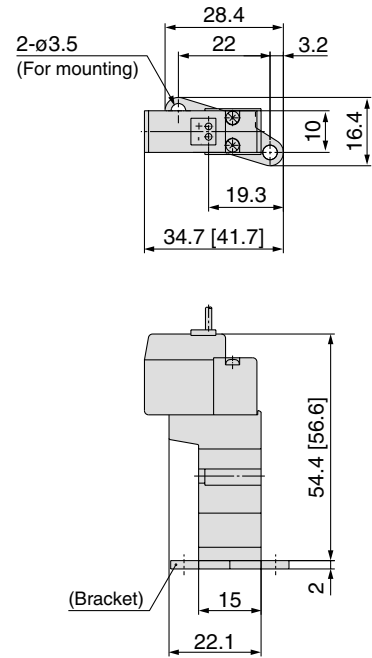
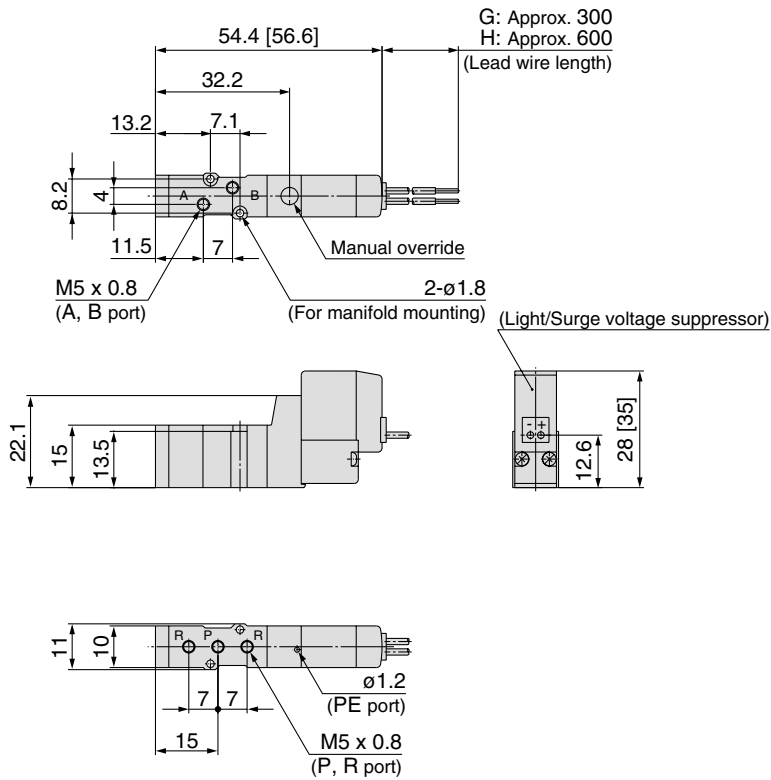
# Series SYJ3000

## 2 Position Single



Grommet (G), (H): SYJ3120-□<sup>G</sup>□□-M3

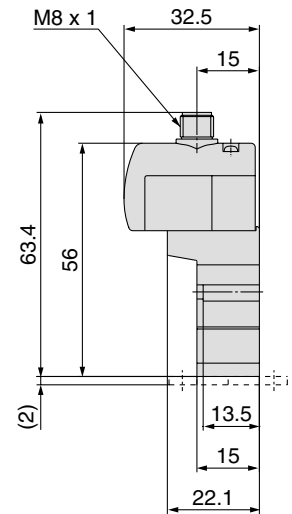
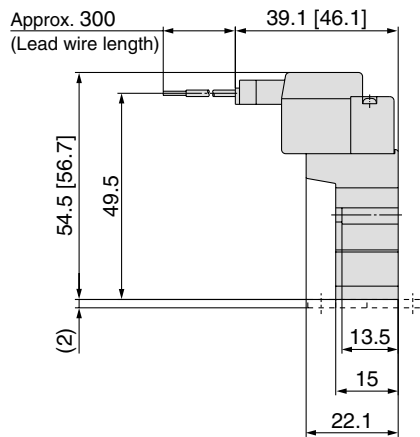
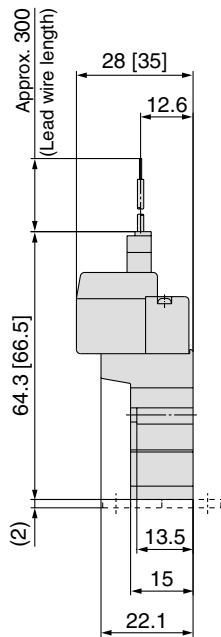
With bracket:  
SYJ3120-□<sup>G</sup>□□-M3-F



L plug connector (L):  
SYJ3120-□L□□-M3 (-F)

M plug connector (M):  
SYJ3120-□M□□-M3 (-F)

M8 connector (WO):  
SYJ3120-□WO□□-M3 (-F)



Refer to page 1-5-79 for dimensions with connector cable.

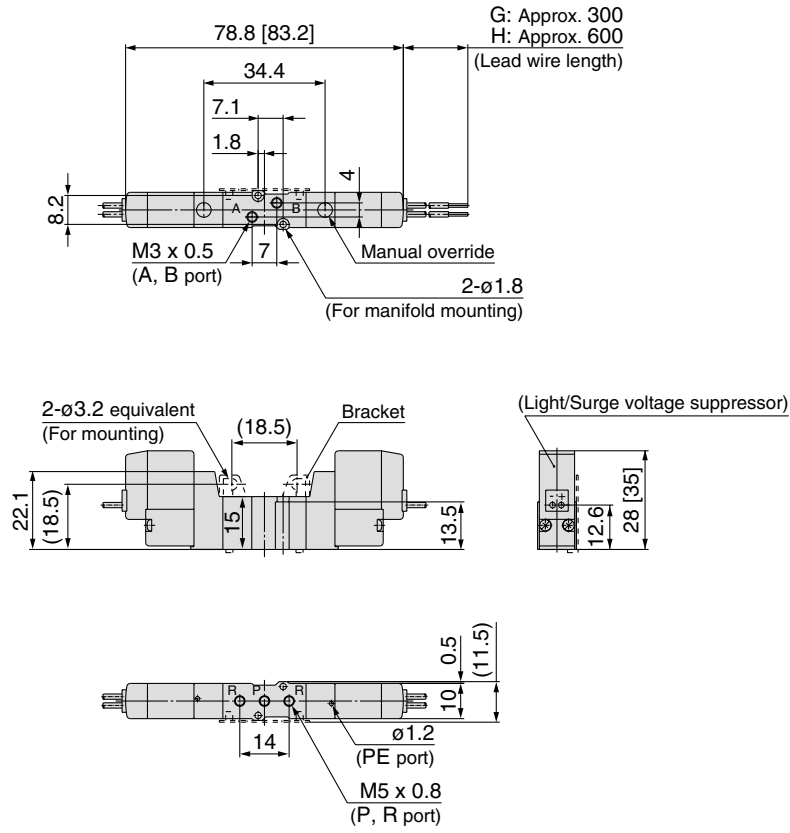


# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

## 2 Position Double



Grommet (G), (H): SYJ3220-□<sup>G</sup>□□□-M3 (-F)

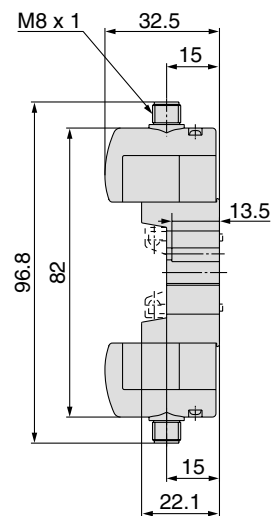
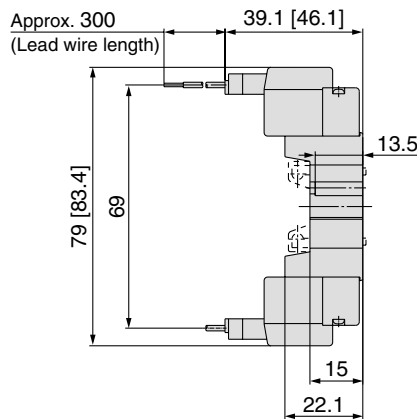
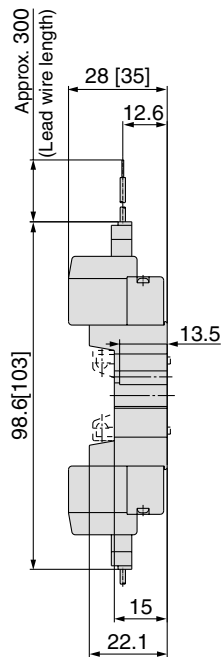


- SV
- SZ
- SY
- SYJ**
- SX

**L plug connector (L):**  
SYJ3220-□L□□-M3 (-F)

**M plug connector (M):**  
SYJ3220-□M□□-M3 (-F)

**M8 connector (WO):**  
SYJ3220-□WO□□-M3 (-F)



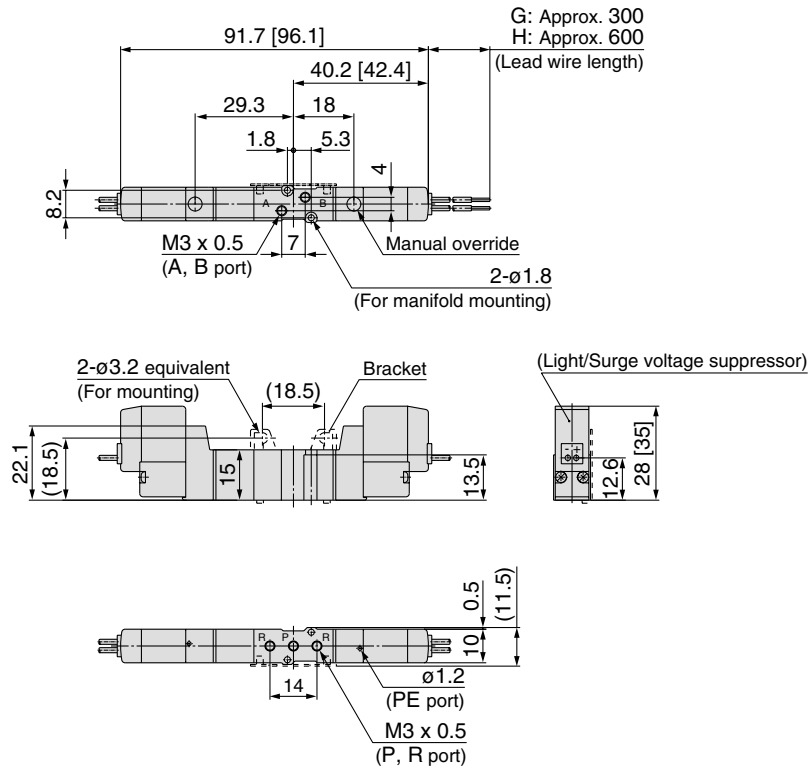
Refer to page 1-5-79 for dimensions with connector cable.

# Series SYJ3000

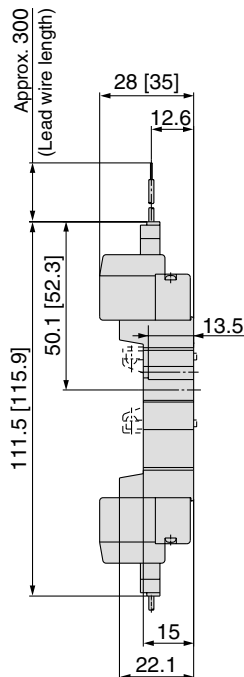
## 3 Position Closed Center/Exhaust Center/Pressure Center



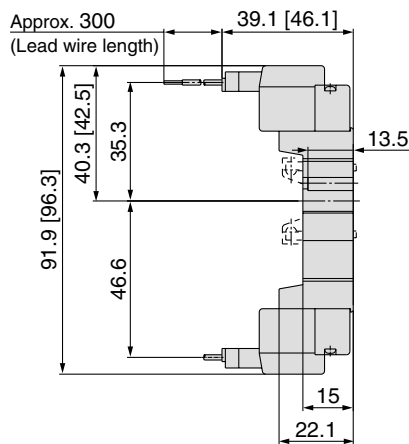
Grommet (G), (H): SYJ3<sub>5</sub><sup>3</sup>20-□<sup>G</sup>□□□-M3 (-F)



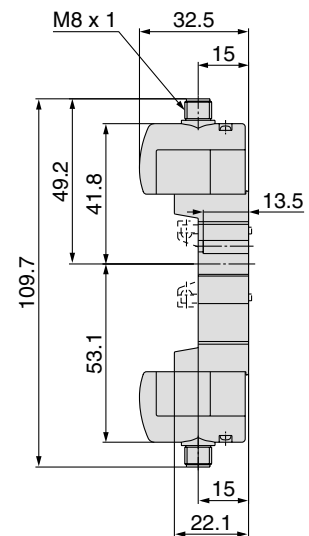
**L plug connector (L):**  
SYJ3<sub>5</sub><sup>3</sup>20-□L□□-M3 (-F)



**M plug connector (M):**  
SYJ3<sub>5</sub><sup>3</sup>20-□M□□-M3 (-F)



**M8 connector (WO):**  
SYJ3<sub>5</sub><sup>3</sup>20-□WO□□-M3 (-F)



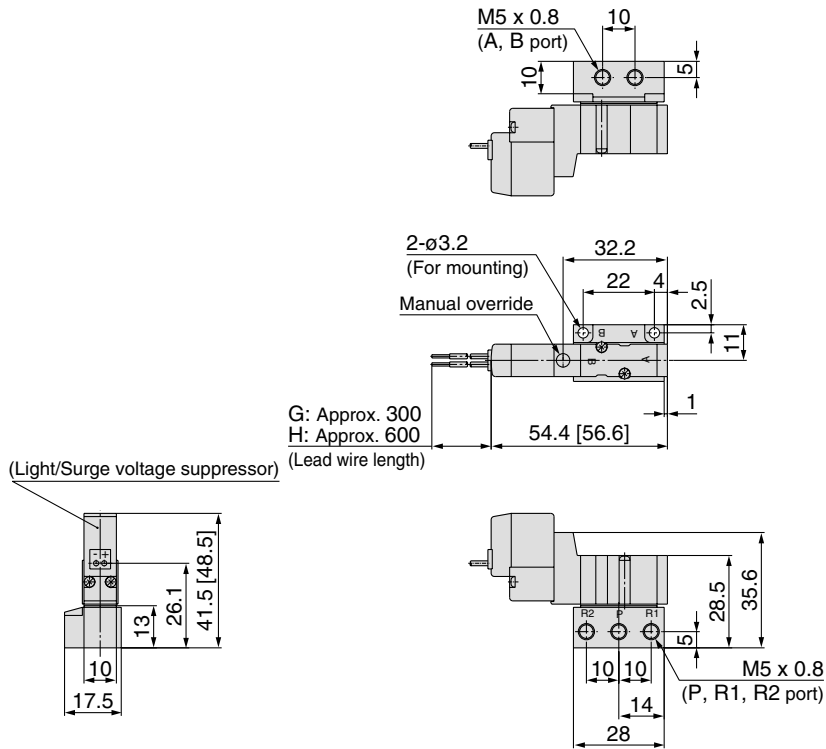
Refer to page 1-5-79 for dimensions with connector cable.

# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

## 2 Position Single



Grommet (G), (H): SYJ3140-□<sup>G</sup><sub>H</sub>□□-M5

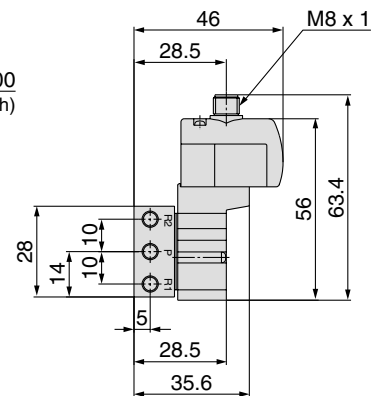
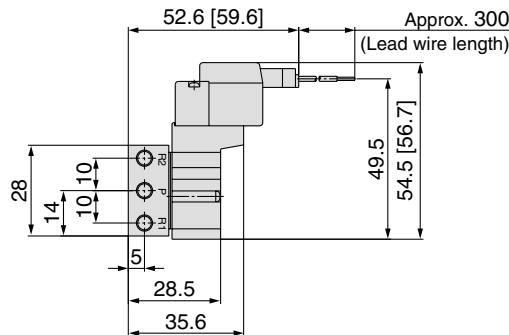
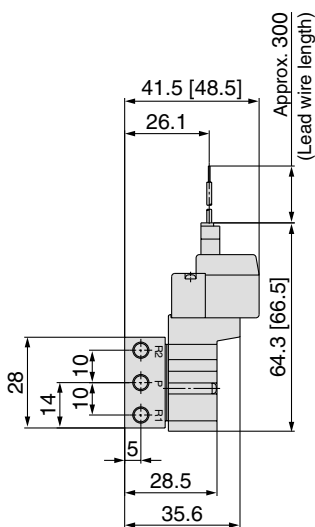


- SV
- SZ
- SY
- SYJ**
- SX

**L plug connector (L):**  
SYJ3140-□L□□-M5

**M plug connector (M):**  
SYJ3140-□M□□-M5

**M8 connector (WO):**  
SYJ3140-□WO□□-M5



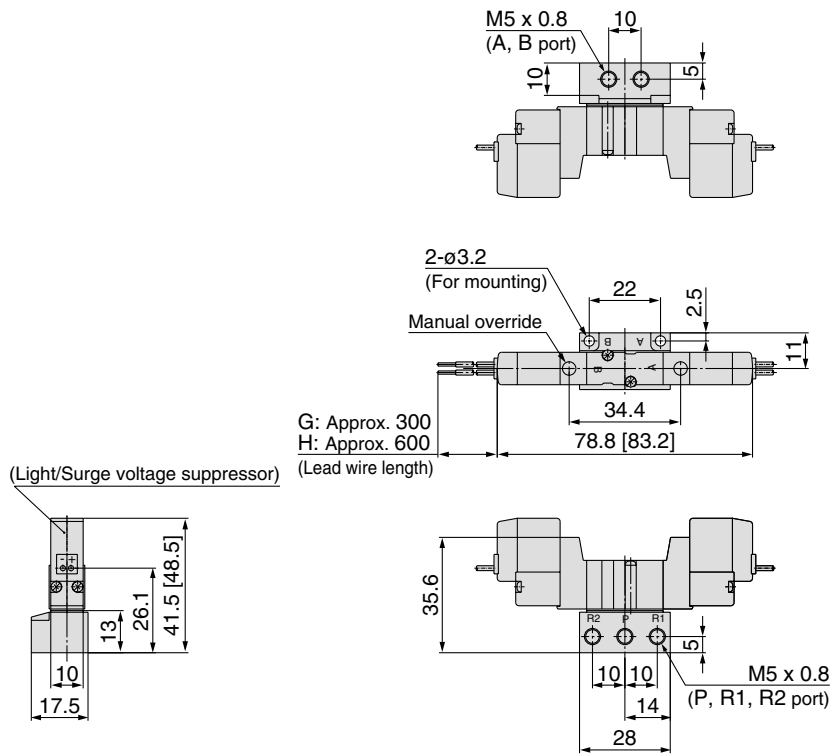
Refer to page 1-5-79 for dimensions with connector cable.

# Series SYJ3000

## 2 Position Double



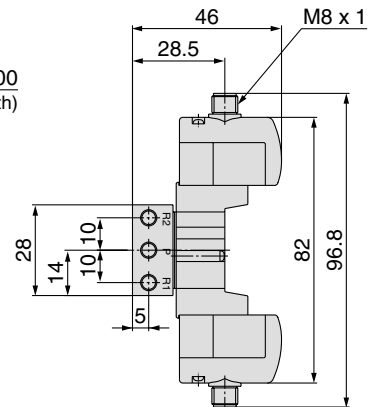
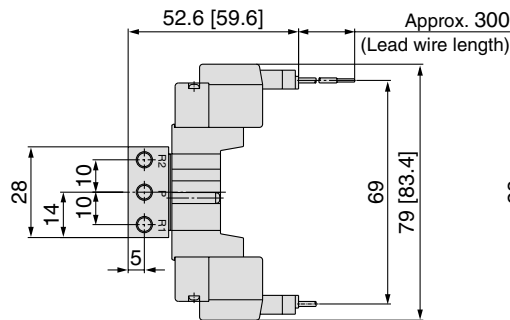
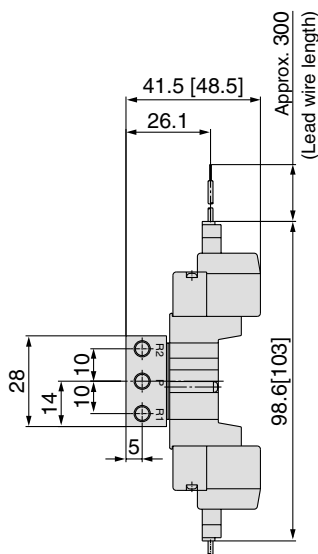
Grommet (G), (H): SYJ3240-□<sup>G</sup>□□-M5



**L plug connector (L):**  
SYJ3240-□L□□-M5

**M plug connector (M):**  
SYJ3240-□M□□-M5

**M8 connector (WO):**  
SYJ3240-□WO□□-M5



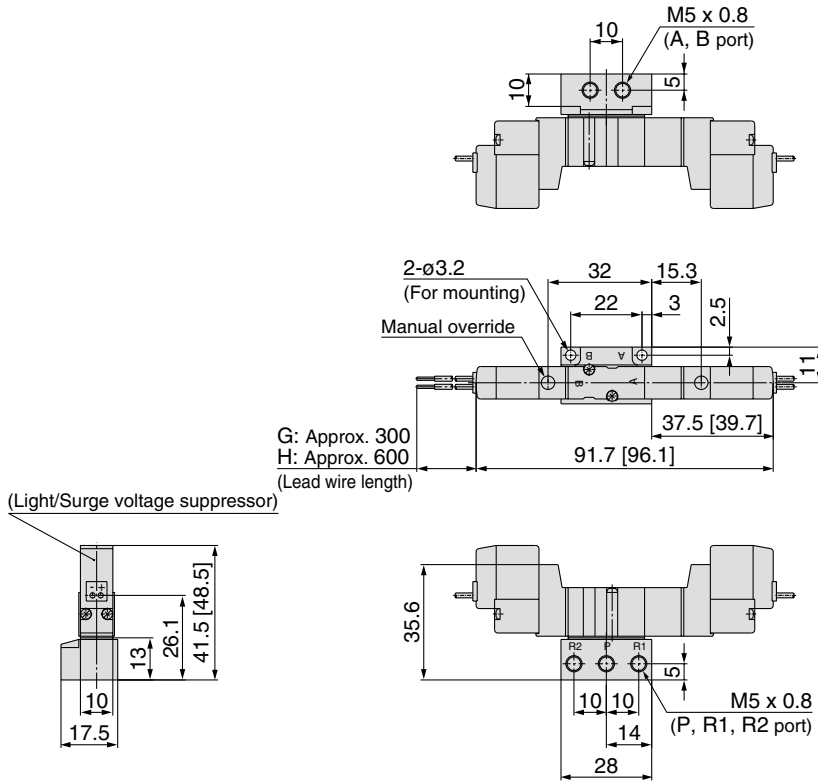
Refer to page 1-5-79 for dimensions with connector cable.

# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

## 3 Position Closed Center/Exhaust Center/Pressure Center

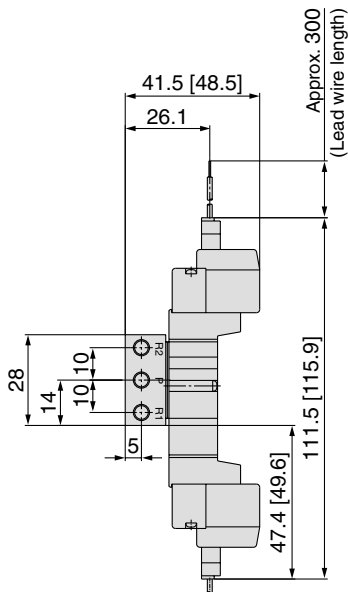


Grommet (G), (H): SYJ3<sup>3</sup>/<sub>5</sub>40-□<sup>G</sup>□□-M5

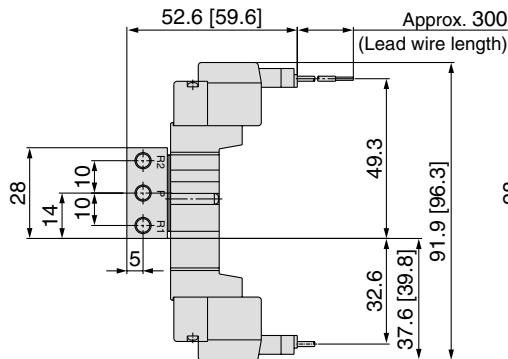


- SV
- SZ
- SY
- SYJ**
- SX

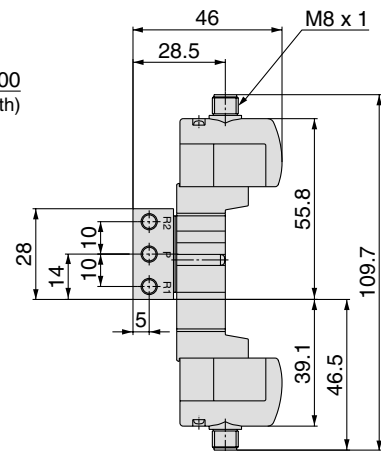
**L plug connector (L):**  
SYJ3<sup>3</sup>/<sub>5</sub>40-□L□□-M5



**M plug connector (M):**  
SYJ3<sup>3</sup>/<sub>5</sub>40-□M□□-M5



**M8 connector (WO):**  
SYJ3<sup>3</sup>/<sub>5</sub>40(R)-□WO□□-M5□

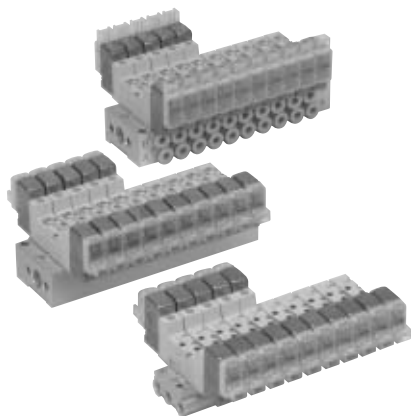


Refer to page 1-5-79 for dimensions with connector cable.

# Series SYJ3000 Manifold Specifications

## Manifold Standard

### Manifold Specifications



Model		Type 20	Type 31, S31	Type 32, S32	Type 41, S41	Type 46, S46
Manifold type		Single base/B mount				
P (SUP), R (EXH)		Common SUP/Common EXH				Common SUP Individual EXH
Valve stations		2 to 20 stations				
A, B port Porting specifications	Location	Valve	Base			
	Direction	Top	Side			
Port size	P, R port	M5 x 0.8		1/8		P: 1/8 R: M5 x 0.8
	A, B port	M3 x 0.5		M5 x 0.8, C4 (One-touch fitting for ø4)		

### Flow Characteristics

Manifold			Port size		Flow characteristics						Effective area (mm <sup>2</sup> )
					1→4/2 (P→A/B)			4/2→5/3 (A/B→R)			
Body ported for internal pilot			1(P), 5/3(R) port	2(B), 4(A) port	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv	
	SS5YJ3-20	SYJ3□2□	M5 x 0.8	M3 x 0.5	—	—	—	—	—	—	0.9
	SS5YJ3- <sup>31</sup> <sub>S31</sub>	SYJ3□3□	M5 x 0.8	M3 x 0.5	—	—	—	—	—	—	0.9
Base mounted for internal pilot	SS5YJ3-32-M5	SYJ3□3□	1/8	M5 x 0.8	0.25	0.19	0.060	0.32	0.25	0.077	—
	SS5YJ3-32-C4			C4	0.25	0.18	0.059	0.30	0.27	0.075	—
	SS5YJ3-S32-M5			M5 x 0.8	0.25	0.26	0.060	0.29	0.15	0.062	—
	SS5YJ3-S32-C4	C4	0.24	0.21	0.057	0.27	0.18	0.062	—		
	SS5YJ3-41-M5	SYJ3□4□	1/8	M5 x 0.8	0.32	0.25	0.081	0.33	0.19	0.079	—
	SS5YJ3-41-C4			C4	0.32	0.28	0.079	0.35	0.24	0.084	—
	SS5YJ3-S41-M5			M5 x 0.8	0.33	0.29	0.082	0.34	0.17	0.081	—
	SS5YJ3-S41-C4	C4	0.32	0.27	0.079	0.34	0.24	0.084	—		
	SS5YJ3-46-M5	SYJ3□4□	1/8	M5 x 0.8	0.20	0.25	0.048	0.10	0.12	0.024	—
	SS5YJ3-46-C4			C4	0.21	0.27	0.050	0.21	0.13	0.047	—
	SS5YJ3-S46-M5			M5 x 0.8	0.20	0.25	0.048	0.19	0.16	0.024	—
	SS5YJ3-S46-C4	C4	0.22	0.34	0.057	0.10	0.090	0.024	—		



Note) Value at manifold base mounted, 2 position single operating

### How to Order Manifold (Example)

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

Example:

- SS5YJ3-20-03 ..... 1 set (Manifold base)
- SS5YJ3-S41-03-C4 ... 1 set (Manifold base)
- \* SYJ3120-5G-M3 ... 2 sets (Valve)
- \* SYJ3140-5LZ ..... 2 sets (Valve)
- \* SYJ3000-21-1A .... 1 set (Blanking plate assembly)
- \* SYJ3000-21-2A ..... 1 set (Blanking plate assembly)

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

\* Use manifold specification sheet.

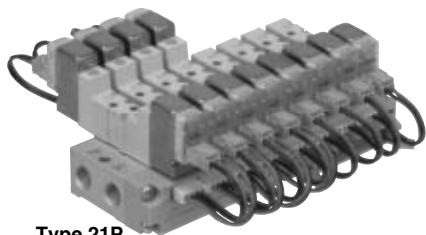


# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

## Flat Ribbon Cable Manifold

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

In the case of a flat ribbon cable type, 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.



Type 21P

## Flat Ribbon Cable Manifold Specifications

Model		Type 21P	Type 32P
Manifold type		Single base/B mount	
P (SUP), R (EXH)		Common SUP, Common EXH	
Valve stations		4 to 12 stations	
A, B port Porting specifications	Location	Valve	Base
	Direction	Top	Side
Port size	P, R port	1/8	
	A, B port	M3 x 0.5	M5 x 0.8, C4 (One-touch fitting for Ø4)
Applicable flat ribbon cable connector		Socket: 26 pins MIL type with strain relief (MIL-C-83503)	
Internal wiring		In common between +COM and -COM (Z type: +COM only)	
Rated voltage		24, 12 VDC/100, 110 VAC	



Note) The withstand voltage specification for the wiring unit section conforms to JIS C 0704, Grade 1 or its equivalent.

## Flow Characteristics

Manifold			Port size		Flow characteristics						Effective area (mm <sup>2</sup> )
					1→4/2 (P→A/B)			4/2→5/3 (A/B→R)			
Body ported for internal pilot	SS5YJ3-21P	SYJ3□23	1(P), 5/3(R) port	2(B), 4(A) port	C [dm <sup>3</sup> /(s-bar)]	b	Cv	C [dm <sup>3</sup> /(s-bar)]	b	Cv	
			1/8	M3 x 0.5	-	-	-	-	-	-	0.9
Base mounted for internal pilot	SS5YJ3-32P-M5	SYJ3□33	1/8	M5 x 0.8 C4	0.25	0.19	0.060	0.32	0.25	0.077	-
	SS5YJ3-32P-C4				0.25	0.18	0.059	0.3	0.27	0.075	-



Note) Value at manifold base mounted, 2 position single operating

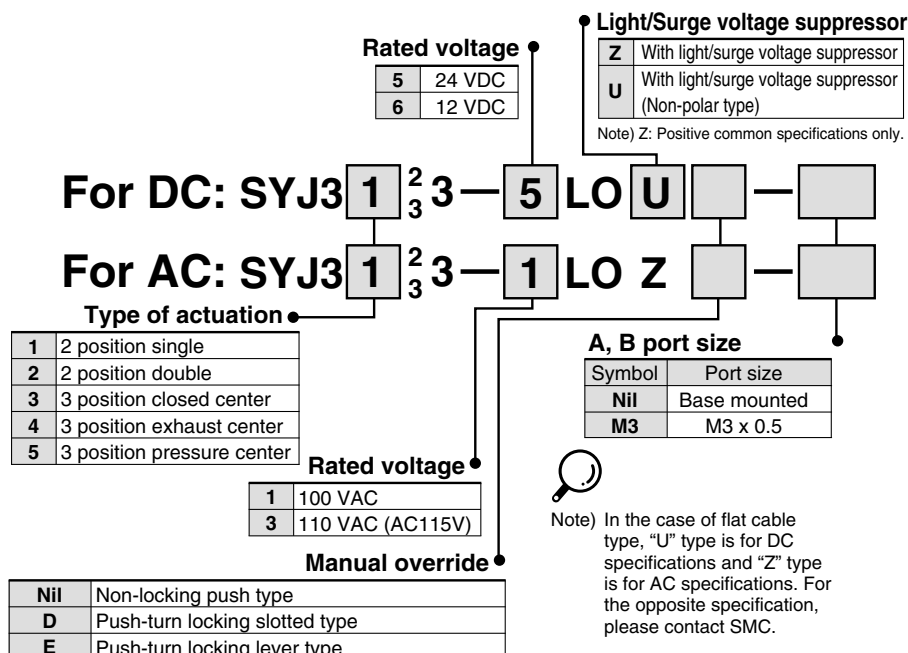
## How to Order Manifold

- SS5YJ3-32P-07-C4 ..... 1 pc. (Manifold base)
- SYJ3133-5LOU ..... 3 pcs. (Valve)
- SYJ3233-5LOU ..... 3 pcs. (Valve)
- SYJ3000-21-4A ..... 1 pc. (Blanking plate assembly)
- SY3000-37-28A ..... 3 pcs. (Connector assembly)
- SY3000-37-29A ..... 3 pcs. (Connector assembly)

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

\* Use manifold specification sheet.

## How to Order Valves



## How to Order Connector Assembly

### 12, 24 VDC

Single solenoid	SY3000-37-28A
Double solenoid, 3 position type	SY3000-37-29A

### 100 VAC

Single solenoid	SY3000-37-46A
Double solenoid, 3 position type	SY3000-37-47A

### 110 VAC (115 VAC)

Single solenoid	SY3000-37-54A
Double solenoid, 3 position type	SY3000-37-55A

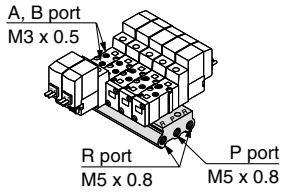
# Series SYJ3000

## Common SUP/Common EXH



Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.

### Type 20 (5 Port/Body ported)



How to Order

SS5YJ3-20-05

Number of stations

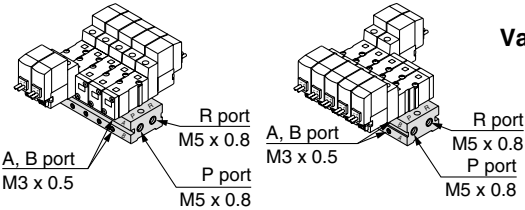
02	2 stations
:	:
20	20 stations

Applicable solenoid valve  
SYJ3□20-□□□□-M3  
SYJ3□23-□□□□-M3

Applicable blanking plate assembly  
SYJ3000-21-1A

### Type 31 (4 Port/Base mounted)

Type 31 Type S31 (Single solenoid coil is on same side as the A, B port.)



How to Order

SS5YJ3-31-05-M3

Valve mounting direction

Nil	Single solenoid coil is on opposite side as the A, B port.
S	Single solenoid coil is on same side as the A, B port.

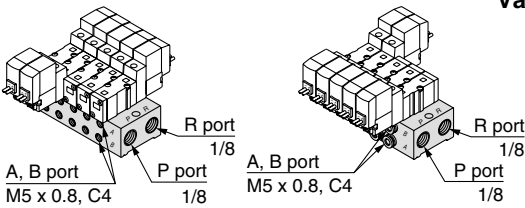
Stations

02	2 stations
:	:
20	20 stations

Applicable solenoid valve  
SYJ3□30-□□□□  
SYJ3□33-□□□□

### Type 32 (4 Port/Base mounted)

Type 32 Type S32 (Single solenoid coil is on same side as the A, B port.)



How to Order

SS5YJ3-32-05-M5

Valve mounting direction

Nil	Single solenoid coil is on opposite side as the A, B port.
S	Single solenoid coil is on same side as the A, B port.

Stations

02	2 stations
:	:
20	20 stations

Applicable blanking plate assembly  
SYJ3000-21-2A

P, R port thread type

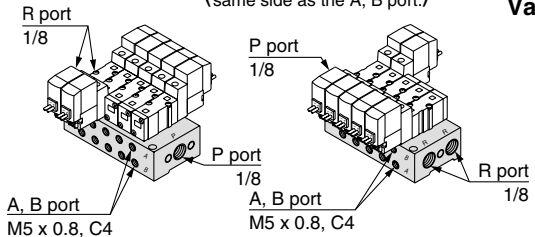
Nil	Rc
F	G
N	NPT
T	NPTF

A, B port size

M5	M5 x 0.8
C4	One-touch fitting for ø4
N3	One-touch fitting for ø5/32"

### Type 41 (5 Port/Base mounted)

Type 41 Type S41 (Single solenoid coil is on same side as the A, B port.)



How to Order

SS5YJ3-41-05-C4

Valve mounting direction

Nil	Single solenoid coil is on opposite side as the A, B port.
S	Single solenoid coil is on same side as the A, B port.

Stations

02	2 stations
:	:
20	20 stations

Applicable solenoid valve  
SYJ3□40-□□□□  
SYJ3□43-□□□□

Applicable blanking plate assembly  
SYJ3000-21-2A

P, R port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A, B port size

M5	M5 x 0.8
C4	One-touch fitting for ø4
N3	One-touch fitting for ø5/32"

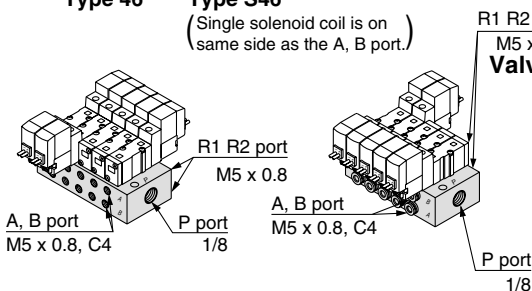
## Common SUP/Individual EXH type



Note) For more than 10 stations, supply air to both sides of P port.

### Type 46 (5 Port/Base mounted)

Type 46 Type S46 (Single solenoid coil is on same side as the A, B port.)



How to Order

SS5YJ3-46-05-M5

Valve mounting direction

Nil	Single solenoid coil is on opposite side as the A, B port.
S	Single solenoid coil is on same side as the A, B port.

Stations

02	2 stations
:	:
20	20 stations

Applicable solenoid valve  
SYJ3□40-□□□□  
SYJ3□43-□□□□

Applicable blanking plate assembly  
SYJ3000-21-2A

P port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A, B port size

M5	M5 x 0.8
C4	One-touch fitting for ø4
N3	One-touch fitting for ø5/32"

# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

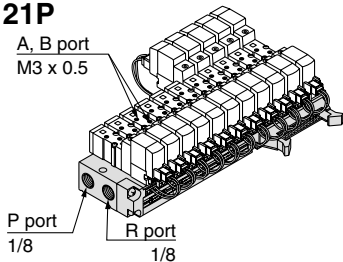
## Flat Ribbon Cable Manifold

### Common SUP/Common EXH



Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.

#### Type 21P



#### How to Order

**SS5YJ3-21P-07** [ ] [ ]

Stations	
04	4 stations
:	:
12	12 stations

P, R port  
thread type

Nil	Rc
00F	G
00N	NPT
00T	NPTF

Applicable solenoid valve  
Refer to page 1-5-15.

Applicable connector  
assembly  
Refer to page 1-5-15.

Applicable blanking  
plate assembly  
SYJ3000-21-3A  
(With dust cap)

SV

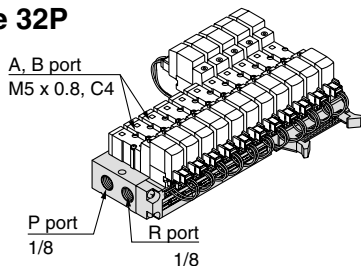
SZ

SY

SYJ

SX

#### Type 32P



#### How to Order

**SS5YJ3-32P-07-C4** [ ] [ ]

Stations		A, B port size	
04	4 stations	M5	M5 x 0.8
:	:	C4	One-touch fitting for ø4
12	12 stations	N3	One-touch fitting for ø5/32"

P, R port  
thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Applicable solenoid valve  
Refer to page 1-5-15.

Applicable connector  
assembly  
Refer to page 1-5-15.

Applicable blanking  
plate assembly  
SYJ3000-21-3A  
(With dust cap)

## Mixed Installation of the SYJ300 and the SYJ3000 Valves on the Same Manifold

Series SYJ300 valves can be mounted on the manifolds for Series SYJ3000.

#### ① SS5YJ3-20, SS5YJ3-21P

The 3 port valve can be used by simply sealing off the unused "R" port with rubber plug VJ3000-33-1.

Applicable solenoid valves:  
Series SYJ312, SYJ312M, SYJ322, SYJ322M

#### ② SS5YJ3-31/-S31, SS5YJ3-32/-S32, SS5YJ3-46/-S46, SS5YJ3-32P

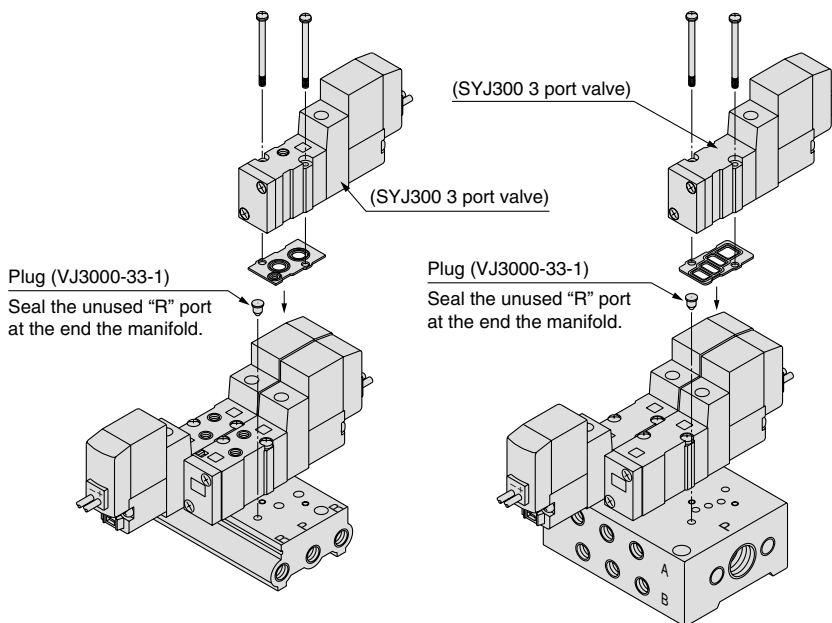
The 3 port valve can be used without modification. The A port of the valve will flow out of the B port of the manifold.

Applicable solenoid valves:  
Series SYJ314, SYJ314M, SYJ324, SYJ324M

#### ③ SS5YJ3-41/-S41

The 3 port valve can be used on the 4 port manifold by simply sealing off the unused "R" port with rubber plug VJ3000-33-1. The A port of the valve will flow out of the B port of the manifold.

Applicable solenoid valves:  
Series SYJ314, SYJ314M, SYJ324, SYJ324M



Type SS5YJ3-20

Type SS5YJ3-41

A port of the 3 port valve flows out of the manifold B port.

### ⚠ Caution

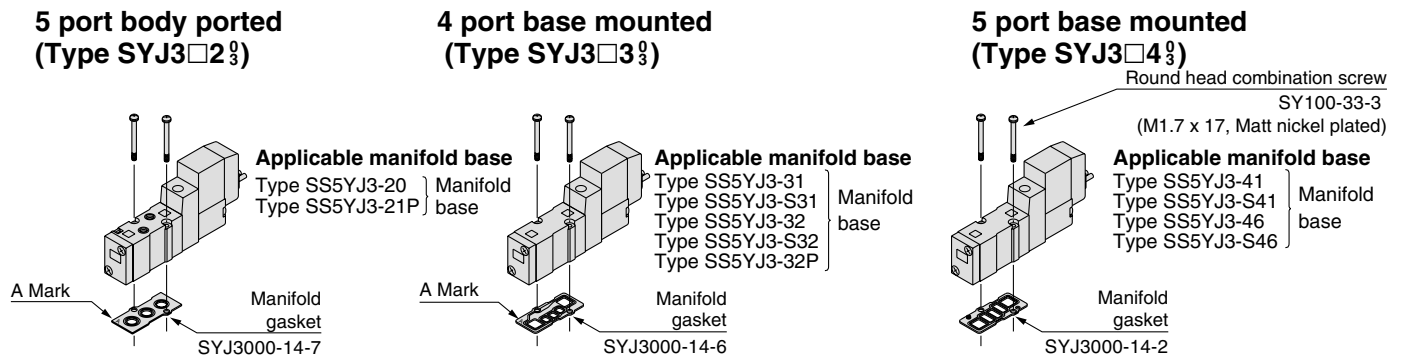
Mounting screw tightening torques

M1.7: 0.12 N·m

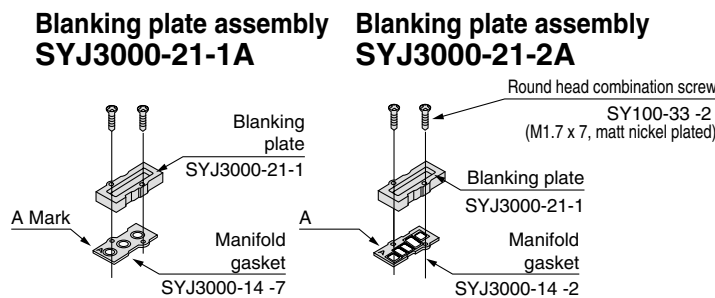
Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.

# Series SYJ3000

## Combinations of Solenoid Valve, Manifold Gasket and Manifold Base



## Combination of Blanking Plate Assembly and Manifold Base



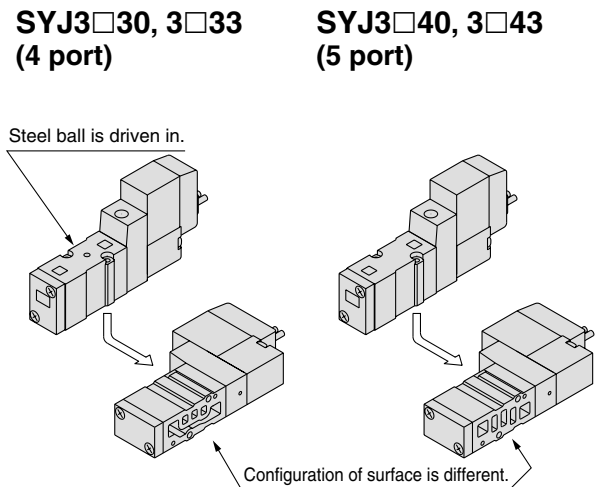
Applicable manifold base  
 Type SS5YJ3-20 Manifold base

Applicable manifold base  
 Sub-plate  
 Type SS5YJ3-41  
 Type SS5YJ3-S41  
 Type SS5YJ3-46  
 Type SS5YJ3-S46 } Manifold base  
 Type SS5YJ3-31  
 Type SS5YJ3-S31  
 Type SS5YJ3-32  
 Type SS5YJ3-S32

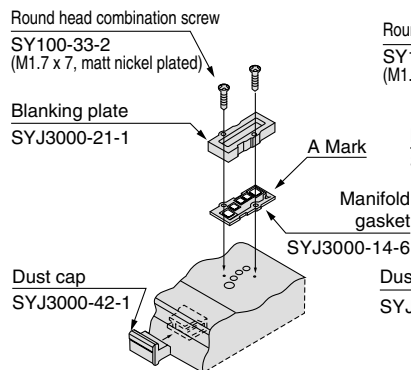
Note) Manifold gasket "SYJ3000-14-2" can be used with the following manifold bases.

Manifold base of {  
 Type SS5YJ3-31  
 Type -S31  
 Type -32  
 Type -S32

## Difference between SYJ3□3<sub>3</sub><sup>0</sup> and SYJ3□4<sub>3</sub><sup>0</sup>

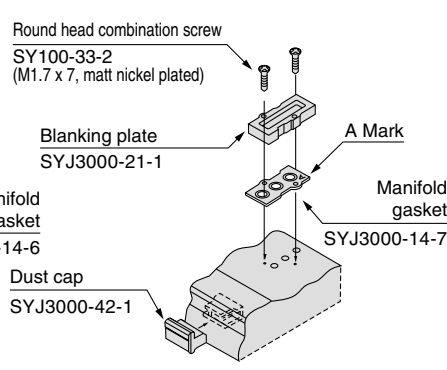


## Blanking plate assembly SYJ3000-21-4A



Applicable manifold base  
 Type SS5YJ3-32P  
 Manifold base

## Blanking plate assembly SYJ3000-21-3A



Applicable manifold base  
 Type SS5YJ3-21P  
 Manifold base

### Caution

Mounting screw tightening torques

M1.7: 0.12 N·m

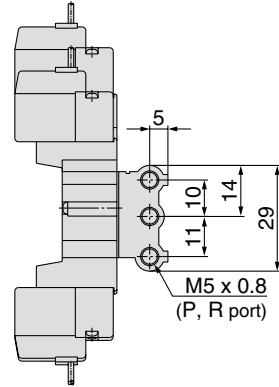
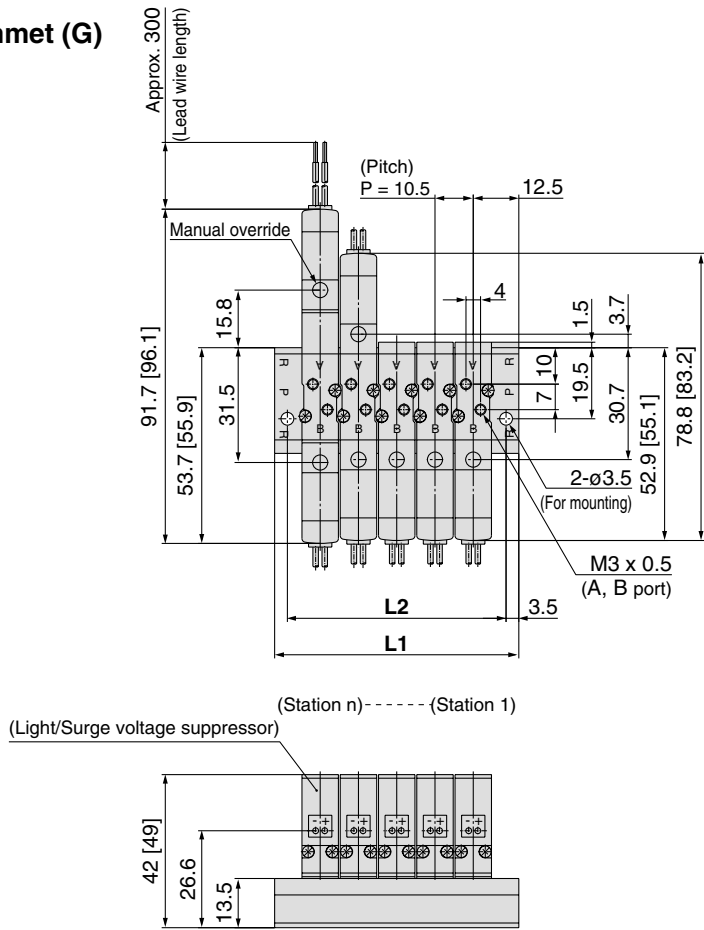
Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.

# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

## Type 20 Manifold: Top Ported/SS5YJ3-20- Stations

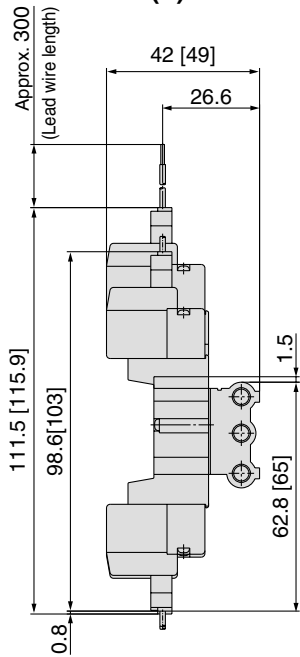


### Grommet (G)

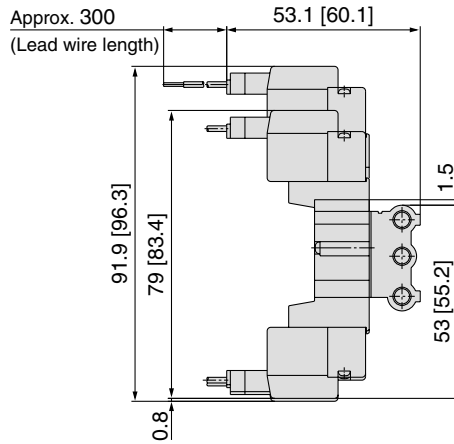


- SV
- SZ
- SY
- SYJ**
- SX

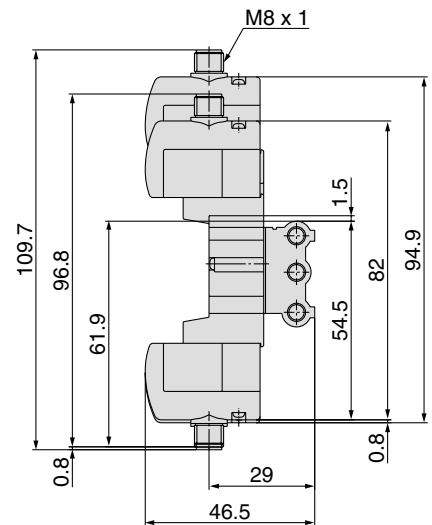
### L plug connector (L)



### M plug connector (M)



### M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

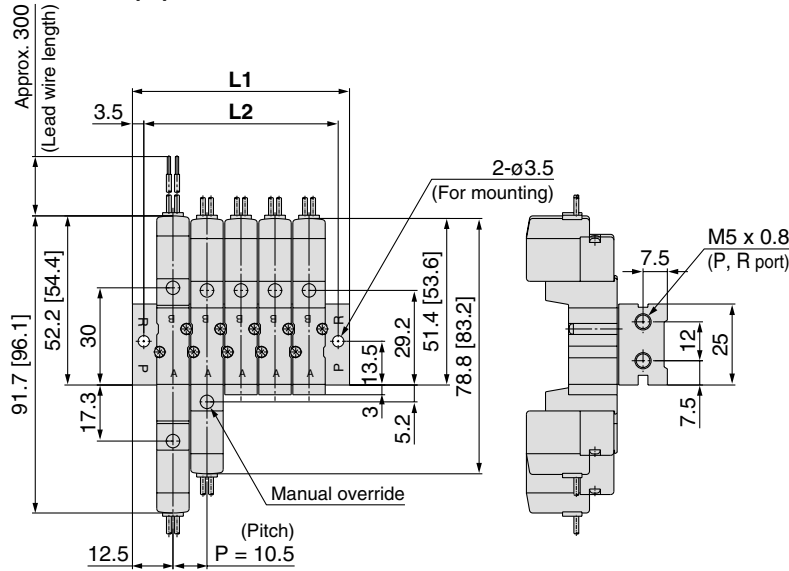
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
<b>L1</b>	35.5	46	56.5	67	77.5	88	98.5	109	119.5	130	140.5	151	161.5	172	182.5	193	203.5	214	224.5
<b>L2</b>	28.5	39	49.5	60	70.5	81	91.5	102	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5

# Series SYJ3000

## Type 31 Manifold: Side Ported/SS5YJ3-31- Stations -M3

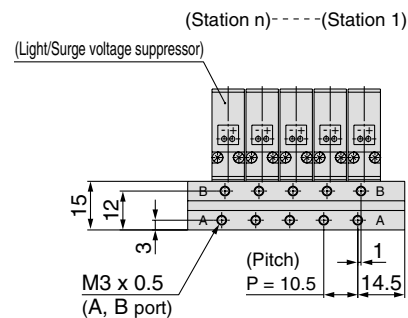
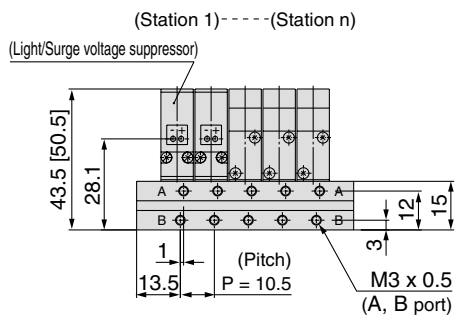
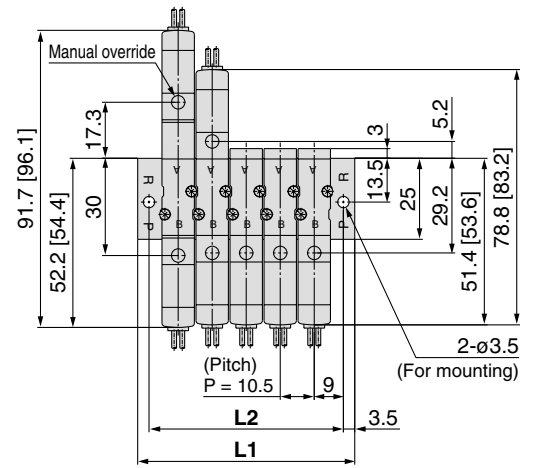


### Grommet (G)

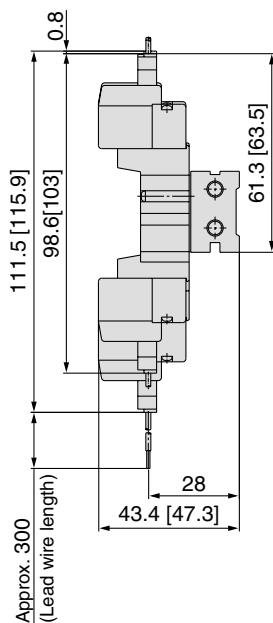


### Type S31 Manifold: Side Ported SS5YJ3-S31- Stations -M3

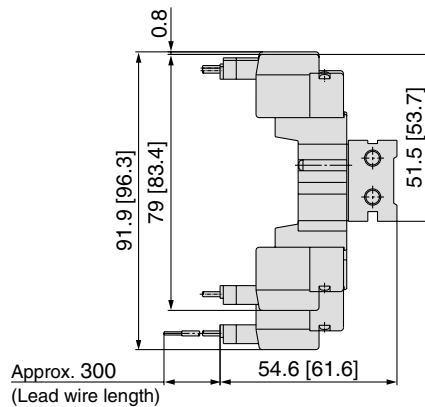
(Single solenoid coil is on same side as the A,B port.)



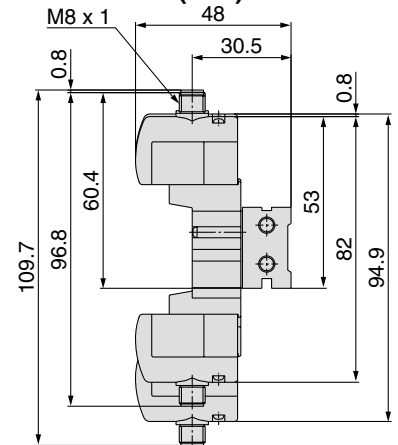
### L plug connector (L)



### M plug connector (M)



### M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	35.5	46	56.5	67	77.5	88	98.5	109	119.5	130	140.5	151	161.5	172	182.5	193	203.5	214	224.5
L2	28.5	39	49.5	60	70.5	81	91.5	102	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5

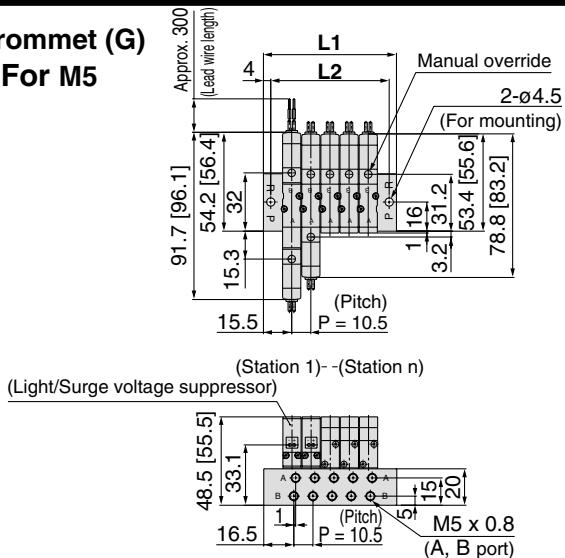


# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

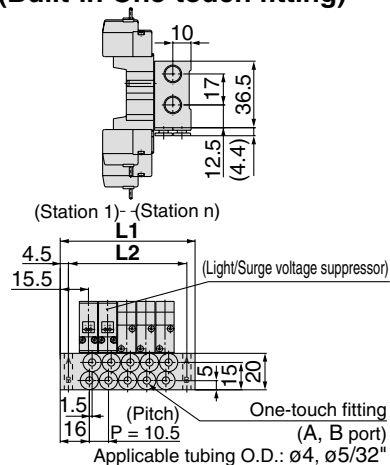
## Type 32 Manifold: Side Ported/SS5YJ3-32- Stations -M5, C4 N3



### Grommet (G) For M5

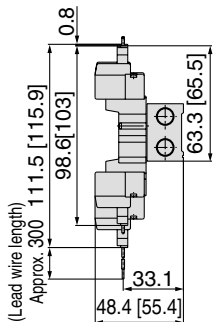


### For C4 N3 (Built-in One-touch fitting)

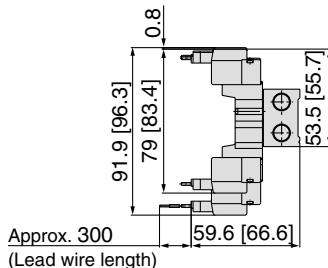


- SV
- SZ
- SY
- SYJ
- SX

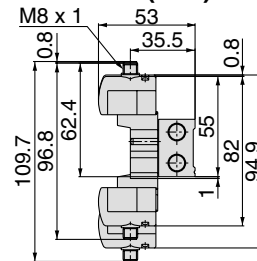
### L plug connector (L)



### M plug connector (M)



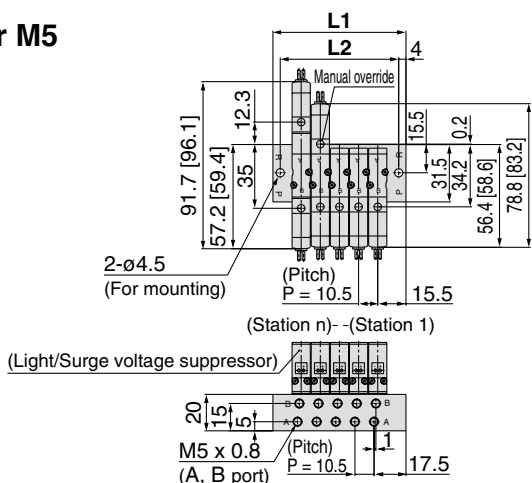
### M8 connector (WO)



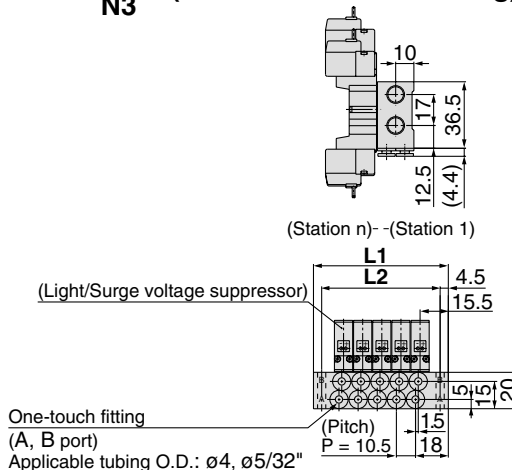
Refer to page 1-5-79 for dimensions with connector cable.

## Type S32 Manifold: Side Ported (Single solenoid coil is on same side as the A, B port.) /SS5YJ3-S32- Stations -M5, C4 N3

### For M5



### For C4 N3 (Built-in One-touch fitting)



### SS5YJ3-32, S32- Stations -M5

Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	41.5	52	62.5	73	83.5	94	104.5	115	125.5	136	146.5	157	167.5	178	188.5	199	209.5	220	230.5
L2	33.5	44	54.5	65	75.5	86	96.5	107	117.5	128	138.5	149	159.5	170	180.5	191	201.5	212	222.5

### SS5YJ3-32, S32- Stations -C4

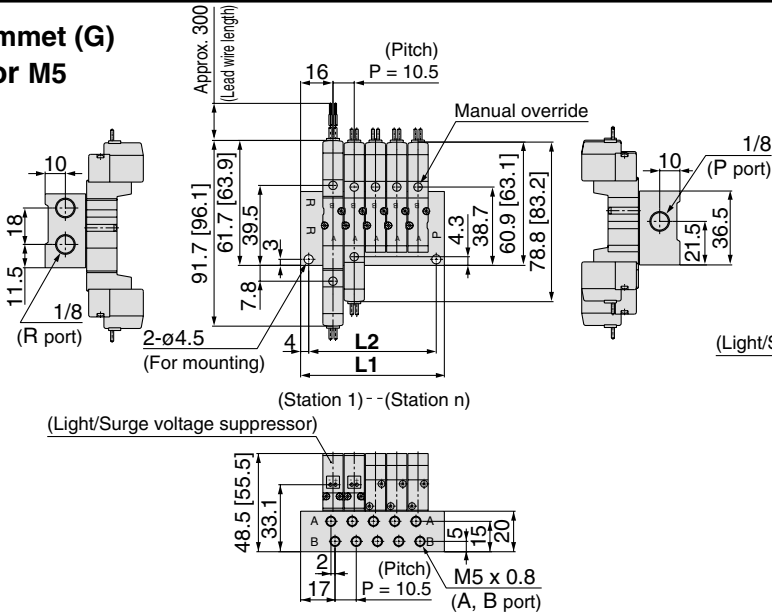
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	42.5	53	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5	179	189.5	200	210.5	221	231.5
L2	33.5	44	54.5	65	75.5	86	96.5	107	117.5	128	138.5	149	159.5	170	180.5	191	201.5	212	222.5

# Series SYJ3000

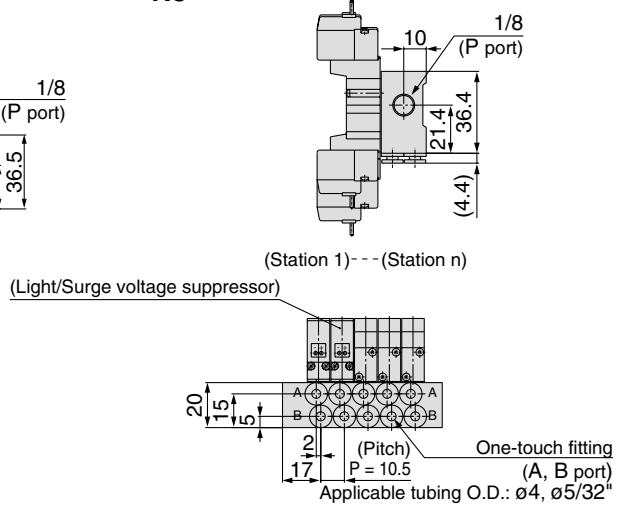
## Type 41 Manifold: Side Ported/SS5YJ3-41- Stations -M5, C4 N3



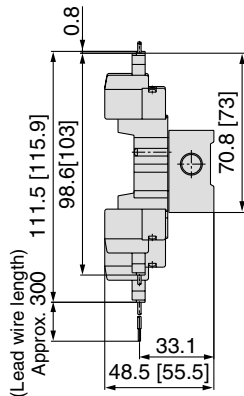
### Grommet (G) For M5



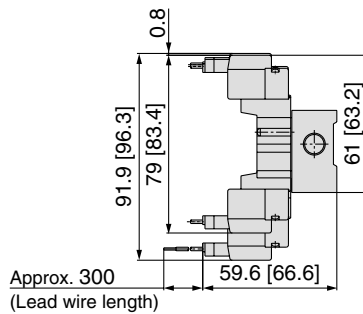
### For C4 N3 (Built-in One-touch fitting)



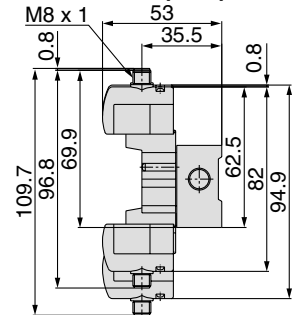
### L plug connector (L)



### M plug connector (M)



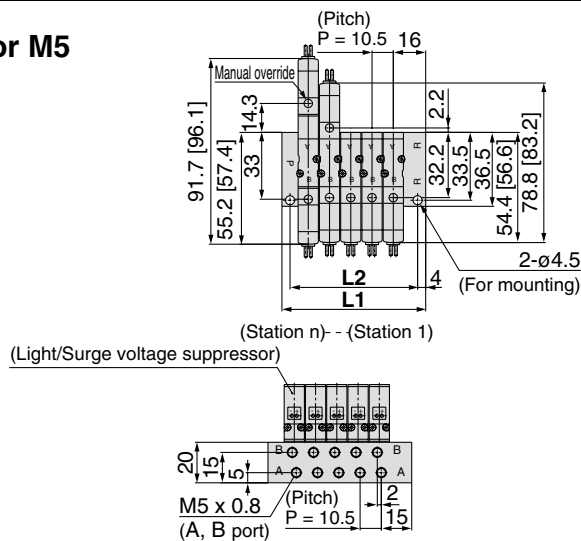
### M8 connector (WO)



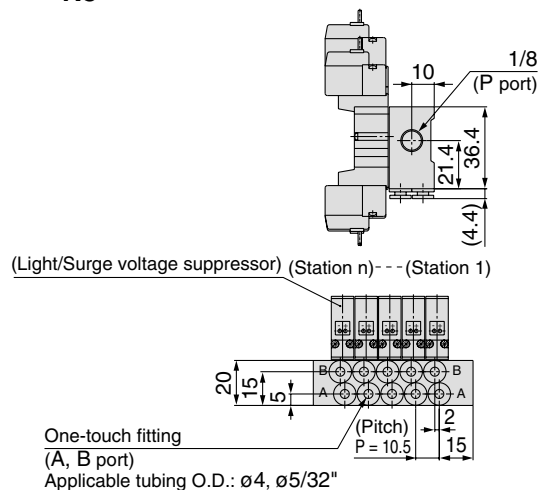
Refer to page 1-5-79 for dimensions with connector cable.

## Type S41 Manifold: Side Ported (Single solenoid coil is on same side as the A,B port) /SS5YJ3-S41- Stations -M5, C4 N3

### For M5



### For C4 N3 (Built-in One-touch fitting)



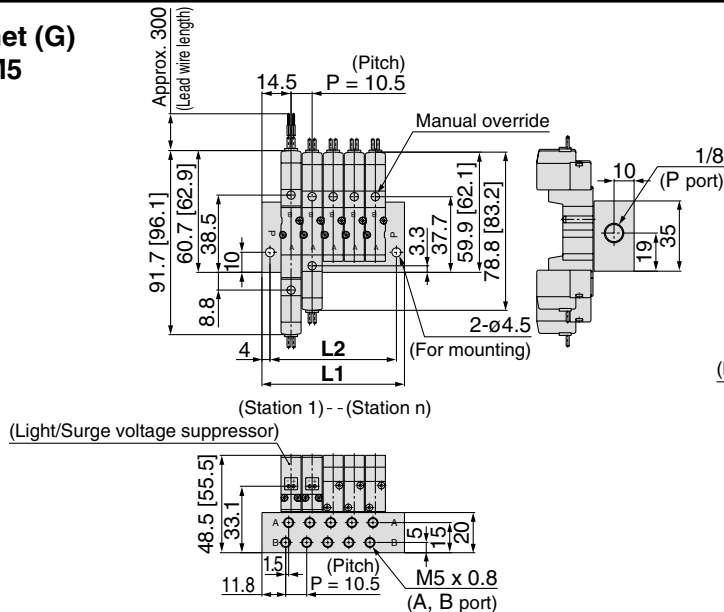
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	39.5	50	60.5	71	81.5	92	102.5	113	123.5	134	144.5	155	165.5	176	186.5	197	207.5	218	228.5
L2	31.5	42	52.5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5

# 4/5 Port Solenoid Valve Rubber Seal Series SYJ3000

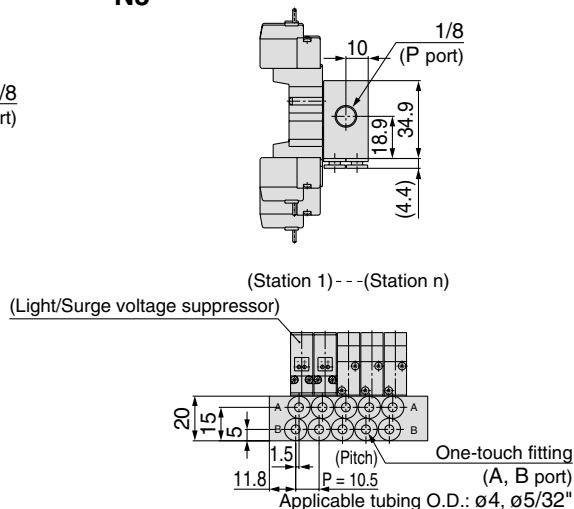
## Type 46 Manifold: Side Ported/SS5YJ3-46- Stations -M5, C4 N3



### Grommet (G) For M5

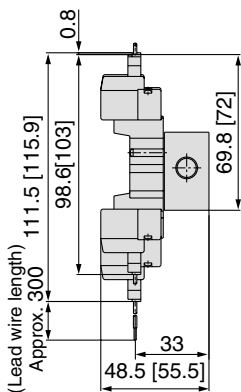


### For C4 N3 (Built-in One-touch fitting)

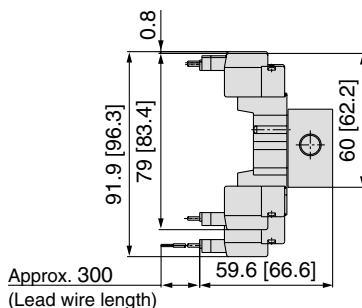


- SV
- SZ
- SY
- SYJ**
- SX

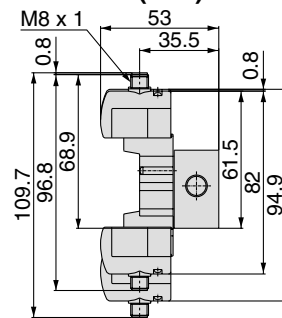
### L plug connector (L)



### M plug connector (M)



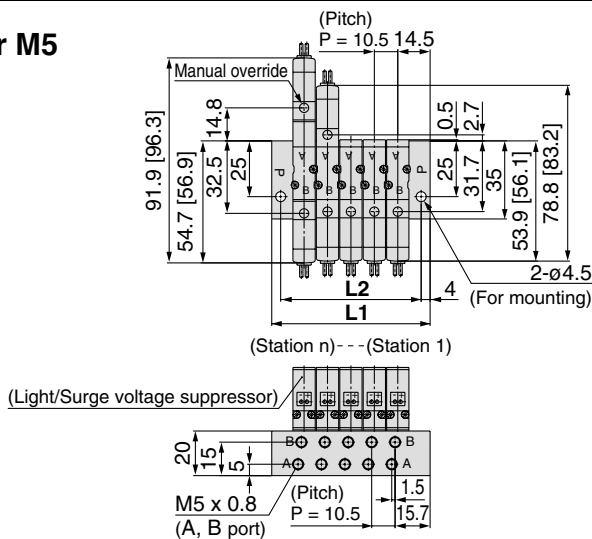
### M8 connector (WO)



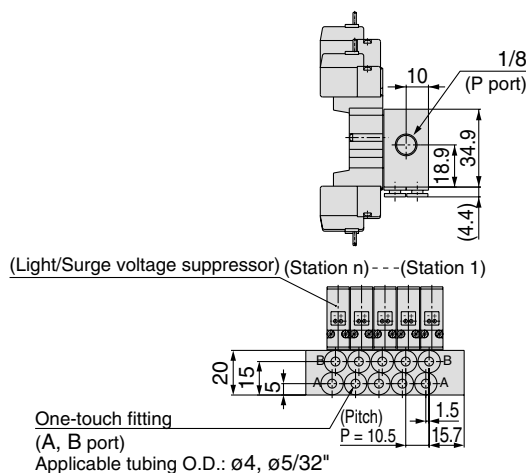
Refer to page 1-5-79 for dimensions with connector cable.

## Type S46 Manifold: Side Ported (Single solenoid coil is on same side as the A, B port.) /SS5YJ3-S46- Stations -M5, C4 N3

### For M5



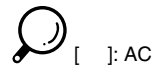
### For C4 N3 (Built-in One-touch fitting)



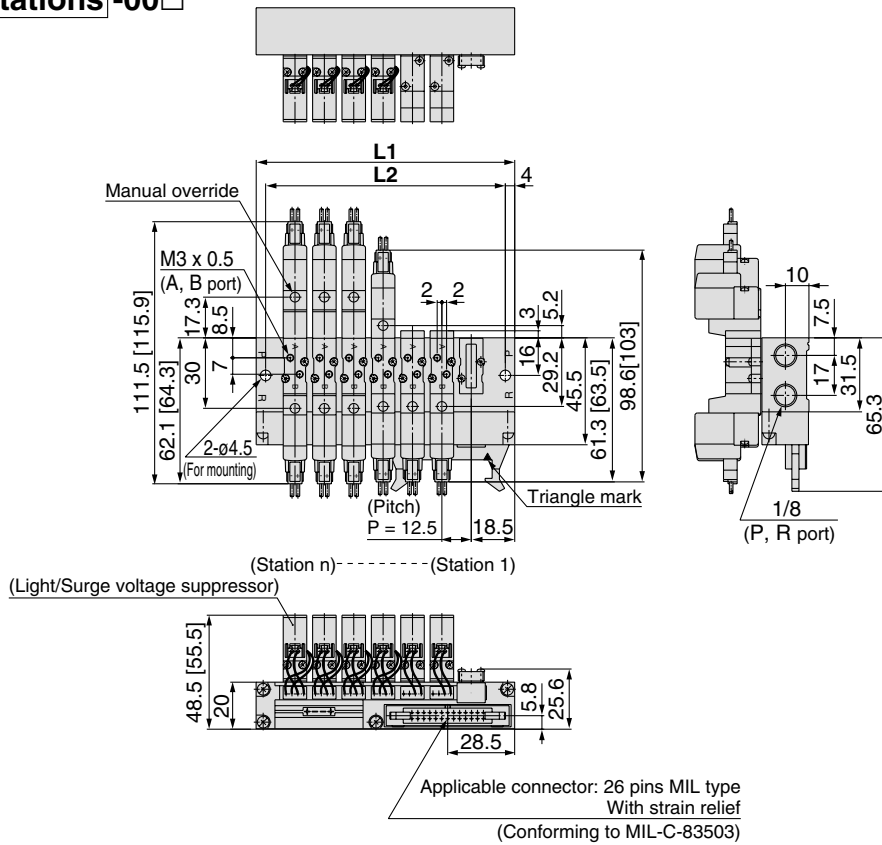
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	39.5	50	60.5	71	81.5	92	102.5	113	123.5	134	144.5	155	165.5	176	186.5	197	207.5	218	228.5
L2	31.5	42	52.5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5

# Series SYJ3000

## Flat Ribbon Cable Manifold



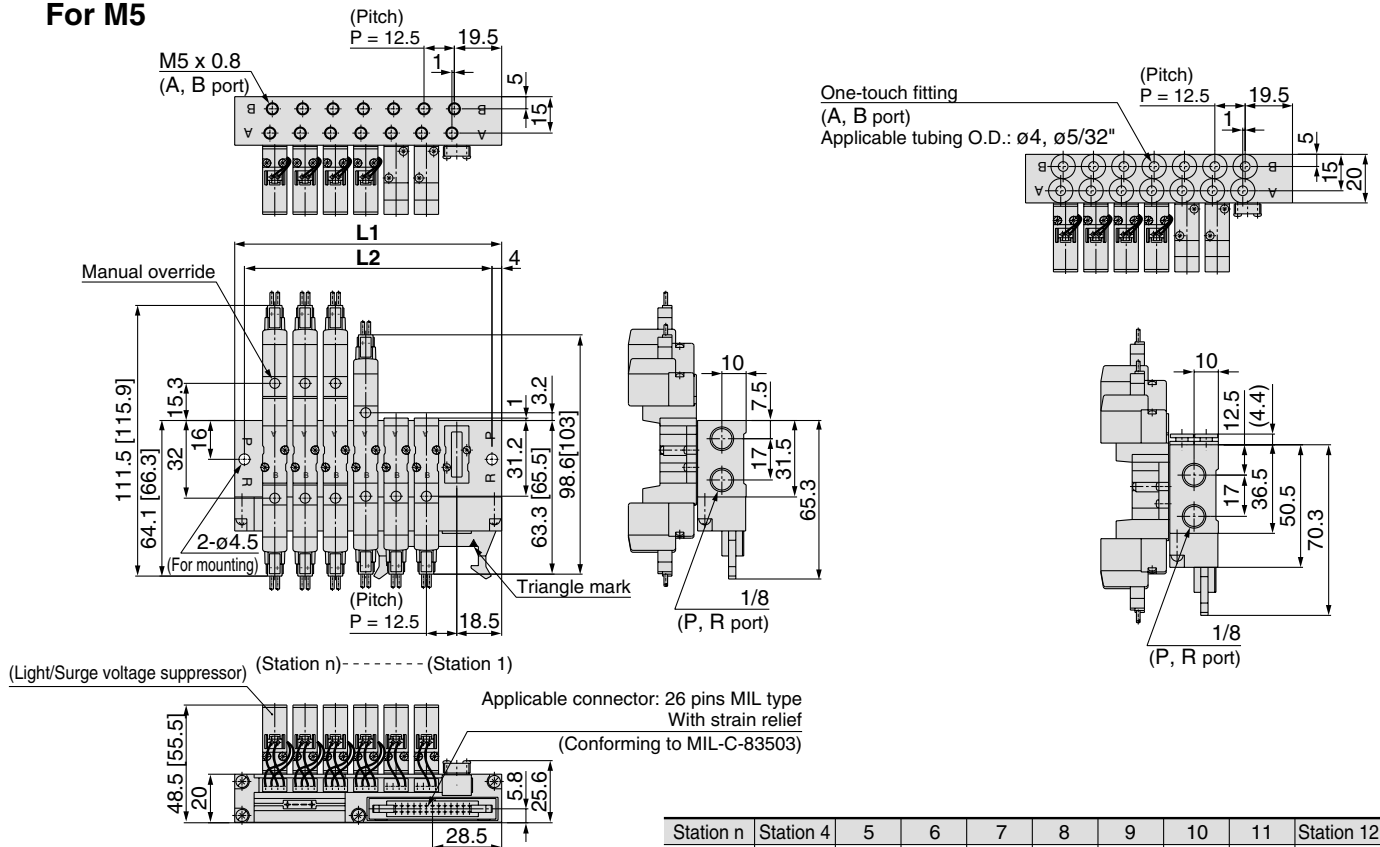
### SS5YJ3-21P- Stations -00



### SS5YJ3-32P- Stations -M5, C4

For M5

For C4 (Built-in One-touch fitting)



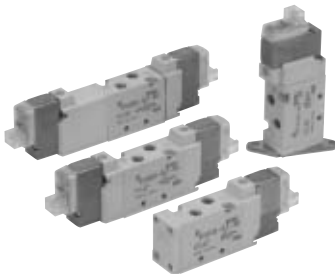
Station n	Station 4	5	6	7	8	9	10	11	Station 12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5



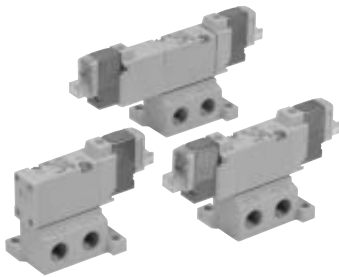
# 5 Port Solenoid Valve Rubber Seal

# Series SYJ5000

## Specifications



Body ported



Base mounted

Fluid	Air	
Operating pressure range MPa	2 position single	0.15 to 0.7
	2 position double	0.1 to 0.7
	3 position	0.15 to 0.7
Ambient and fluid temperature (°C)	-10 to 50 (No freezing. Refer to page 1-7-4.)	
Response time (ms) (at 0.5 MPa)	2 position single, double	25 or less
	3 position	40 or less
Max. operating frequency (Hz)	2 position single, double	5
	3 position	3
Manual override (Manual operation)	Non-locking push type, push-turn locking slotted type, push-turn locking lever type	
Pilot exhaust method	Individual exhaust for the pilot valve, common exhaust for the pilot and main valve	
Lubrication	Not required	
Mounting orientation	Unrestricted	
Shock/Vibration resistance (m/s <sup>2</sup> )	150/30	
Enclosure	Dustproof (* DIN terminal, M8 connector conforms to IP65.)	



\* Based on IEC529

Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)

Note 2) 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. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)

## Solenoid Specifications

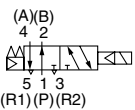
Electrical entry	Grommet (G), (H), L plug connector (L) M plug connector: (M), DIN terminal (D) M8 connector (W)	
Coil rated voltage (V)	DC	24, 12, 6, 5, 3
	AC 50/60 Hz	100, 110, 200, 220
Allowable voltage fluctuation	±10% of rated voltage	
Power consumption (W)	DC	Standard 0.35 (With light: 0.4 (DIN terminal with indicator light: 0.45))
	AC	With power saving circuit 100V: 1.4 (With indicator light: 1.5) 110V: 1.6 (With indicator light: 1.7) [115V]: 1.7 (With indicator light: 1.8) 200V: 2.3 (With indicator light: 2.4) 220V: 2.5 (With indicator light: 2.6) [230V]: 2.7 (With indicator light: 2.8)
Surge voltage suppressor	Diode (DIN terminal, varistor when non-polar types)	
Indicator light	LED (Neon light when AC with DIN terminal)	



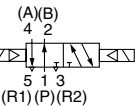
\* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.  
\* For 115 VAC and 230 VAC, the allowable voltage is -15% to +5% of rated voltage.

### JIS Symbol

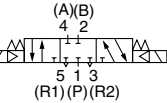
Body ported  
2 position single



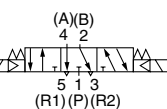
2 position double



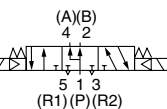
3 position closed center



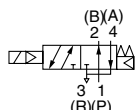
3 position exhaust center



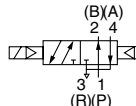
3 position pressure center



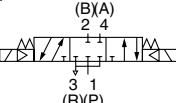
Base mounted (with sub-plate)  
2 position single



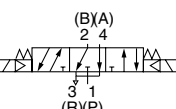
2 position double



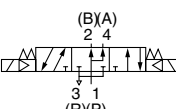
3 position closed center



3 position exhaust center



3 position pressure center

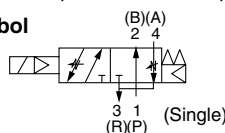


## Built-in Speed Controller

### SYJ5□5□

- Built-in exhaust flow controls enable simple cylinder speed adjustments.
- When mounted on the manifold, the common exhaust discharges the pilot and main valve exhaust through a common EXH port to enable simple exhausting.

### JIS Symbol

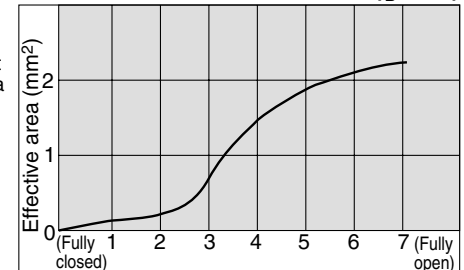


## How to order valve with built-in speed controller

### SYJ5□5□□□□□□□□□□

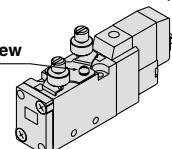
- Type of actuation
- Body option
- Rated voltage
- Lead wire
- Port size
- Manual override
- Light/Surge voltage suppressor

## Throttle Valve Characteristics (A<sub>B</sub> → R)



- When using SYJ5□53 model the speed controller must be opened more than 1 complete rotation from fully closed in order to function properly.
- Adjust the speed controller with a torque of 0.3 N·m or less.

Plate fixing screw



Note) Do not loosen plate fixing screw.



Made to Order Specifications  
(For details, refer to pages 1-5-72 to 73.)



# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

## Flow Characteristics/Weight

Valve model	Type of actuation	Port size		Flow characteristics <sup>Note 1)</sup>						Weight (g) <sup>Note 2, 3)</sup>																			
				1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grommet	L/M plug connector	DIN terminal	M8 connector																
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv																				
Body ported	SYJ5□20-□-M5	2 position	Single	M5 x 0.8	M5 x 0.8	0.47	0.41	0.13	0.47	0.41	0.13	46	47	68	51														
			Double													64	66	108	74										
		3 position	Closed center																	0.49	0.44	0.13	0.44	0.40	0.12	75	77	119	85
			Exhaust center																										
			Pressure center																										
	SYJ5□20-□-C4	2 position	Single	M5 x 0.8	C4 (One-touch fitting for ø4)	0.69	0.39	0.18	0.44	0.39	0.12	53	54	75	58														
			Double													71	73	115	81										
		3 position	Closed center																	0.69	0.40	0.19	0.43	0.40	0.12	82	84	126	72
			Exhaust center																										
			Pressure center																										
SYJ5□20-□-C6	2 position	Single	M5 x 0.8	C6 (One-touch fitting for ø6)	0.70	0.36	0.19	0.47	0.40	0.12	53	54	75	58															
		Double													71	73	115	81											
	3 position	Closed center																	0.72	0.37	0.19	0.44	0.34	0.12	82	84	126	92	
		Exhaust center																											
		Pressure center																											
Base mounted	SYJ5□40-□-01	2 position	Single	1/8	1/8	0.79	0.21	0.19	0.83	0.32	0.21	80 (49)	81 (47)	102 (68)					51										
			Double												98 (64)	100 (66)	142 (108)	74											
		3 position	Closed center																	0.80	0.28	0.18	0.86	0.34	0.20	109 (75)	111 (77)	153 (119)	85
			Exhaust center																										
			Pressure center																										



Note 1) [ ]: Denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2

Note 2) ( ): Without sub-plate.

Note 3) For DC voltages. For AC voltages add 3 g to the weight of the single solenoid and 6 g to the weight of the double solenoid and 3 position types.

SV

SZ

SY

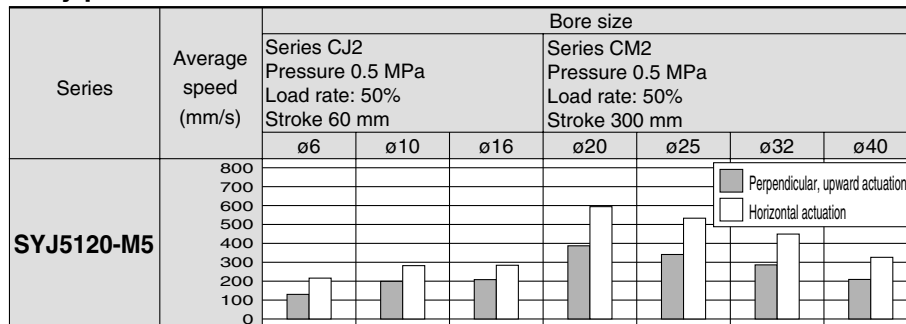
SYJ

SX

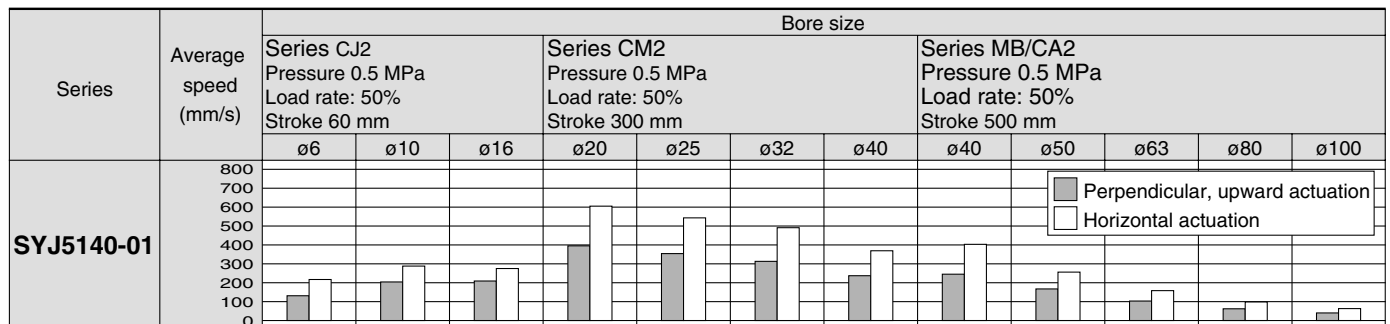
## Cylinder Speed Chart

Use as a guide for selection.  
Please confirm the actual conditions with SMC Sizing Program.

### Body ported



### Base mounted



\* Cylinder is in extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.

\* Average speed of cylinder is obtained by dividing the full stroke time by the stroke.

\* Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

## Conditions

	Body ported	Series CJ2	Series CM2	Series MB/CA2
SYJ5120-M5	Tubing bore x Length	ø4 x 1 m	ø6 x 1 m	ø8 x 1 m
	Speed controller	AS1301F-04	AS3301F-06	AS3301F-08
	Silencer	AN120-M5	AN110-01	

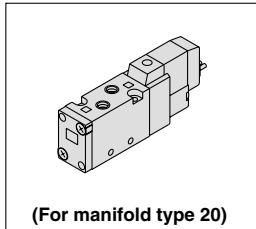
	Base mounted	Series CJ2	Series CM2	Series MB/CA2
SYJ5140-01	Tubing bore x Length	ø4 x 1 m	ø6 x 1 m	
	Speed controller	AS2301F-04	AS3001F-06	
	Silencer	AN101-01	AN101-01	

# Series SYJ5000

## How to Order

### Type of actuation

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



### Light/Surge voltage suppressor Electrical entry for G, H, L, M, W

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
R	With surge voltage suppressor (Non-polar type)
U	With light/surge voltage suppressor (Non-polar type)

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
 \* For type "R" and "U", DC voltage is only available.  
 \* Power saving circuit is only available in the "Z" type.

### Electrical entry for D

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor (Non-polar type)
Z	With light/surge voltage suppressor (Non-polar type)

\* "DOZ" is not available.  
 \* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

### Rated voltage

DC		AC (50/60 Hz)	
5	24 VDC	1	100 VAC
6	12 VDC	2	200 VAC
V	6 VDC	3	110 VAC [115 VAC]
S	5 VDC	4	220 VAC [230 VAC]
R	3 VDC		

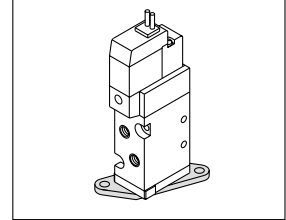
\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
 \* For type "W□", DC voltage is only available.

### A, B port size

M5	M5 x 0.8
C4	One-touch fitting for Ø4
C6	One-touch fitting for Ø6
N3	One-touch fitting for Ø5/32"
N7	One-touch fitting for Ø1/4"

### Bracket

Nil: Without bracket  
 F: With bracket



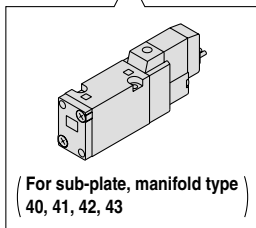
Note) The mounting bracket is supplied unattached.

### Body ported

SYJ5 1 2 0 □ 5 L □ □ M5 □

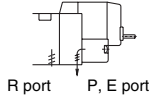
### Base mounted

SYJ5 2 4 0 □ 5 L □ □ □ □

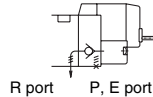


### Body option

0: Pilot valve individual exhaust for the pilot valve



3: Common exhaust type for main and pilot valve



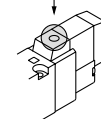
### Coil specifications

Nil	Standard
T	With power saving circuit <24 V, 12 VDC only>

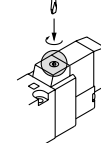
\* Power saving circuit is not available in the case of "D", "DO" or "W□" type.

### Manual override

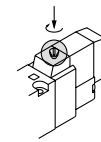
Nil: Non-locking push type



D: Push-turn locking slotted type



E: Push-turn locking lever type

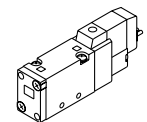


### Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

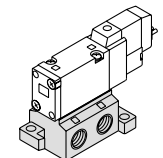
### Port size

Nil: Without sub-plate



(With gasket and screws)

O1: 1/8 With sub-plate



### Electrical entry

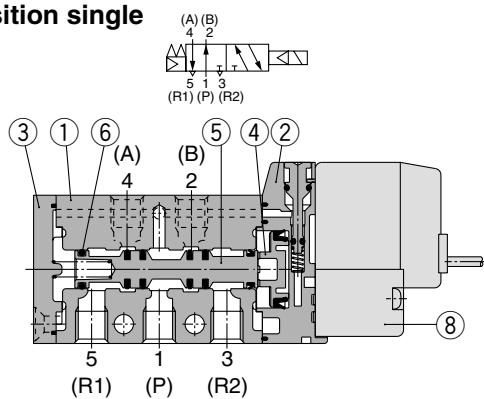
24, 12, 6, 5, 3 VDC 100,110, 200, 220 VAC				24,12 VDC 100,110, 200, 220 VAC		24, 12, 6, 5, 3 VDC	
Grommet	L plug connector	M plug connector		DIN terminal	M8 connector		
G: Lead wire length 300 mm	L: With lead wire (Length 300 mm)	M: With lead wire (Length 300 mm)	MN: Without lead wire	D: With connector	WO: Without connector cable		
H: Lead wire length 600 mm	LN: Without lead wire	LO: Without connector	MO: Without connector	DO: Without connector			

\* LN, MN type: with 2 sockets.  
 \* DIN terminal "Type Y" conforming to DIN43650C standard is also available. (For details, refer to catalog in page 1-5-73.)  
 \* For connector cable of M8 connector, refer to page 1-5-78.

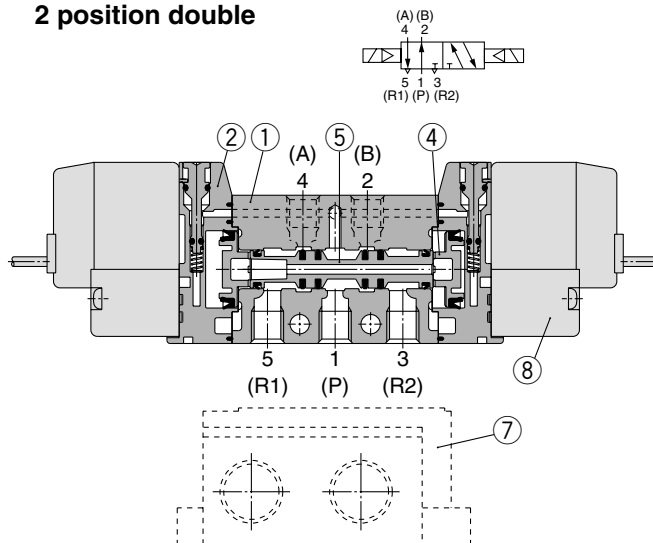
# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

## Construction

### 2 position single



### 2 position double



SV

SZ

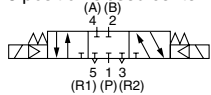
SY

SYJ

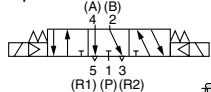
SX

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

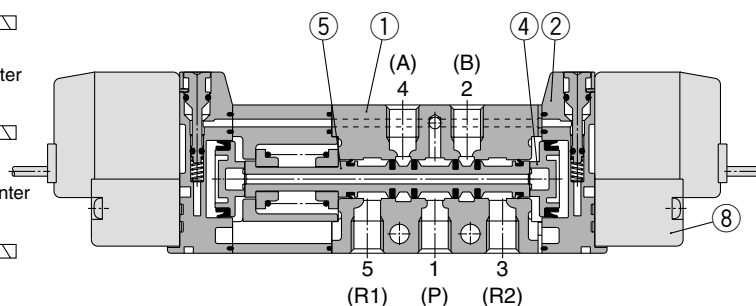
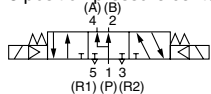
#### 3 position closed center



#### 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	White
②	Piston plate	Resin	White
③	End cover	Resin	White
④	Piston	Resin	—
⑤	Spool valve assembly	Aluminum, H-NBR	—
⑥	Spool spring	Stainless steel	—

## Replacement Parts

No.	Description	Part no.	Note
⑦	Sub-plate	SYJ5000-22-1	Aluminum die-casted
⑧	Pilot valve	V111(T)-□□□	

# Series SYJ5000

## How to Order Pilot Valve Assembly

V111 — 5 G

### Coil specifications

Nil	Standard: DC specifications
A	Standard: AC specifications
T	With power saving circuit (24, 12 VDC only)

\* Power saving circuit is not available in the case of "W□" type.

### Rated voltage

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC
1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
3	110 VAC 50/60 Hz [115 VAC 50/60 Hz]
4	220 VAC 50/60 Hz [230 VAC 50/60 Hz]

\* For type "W□", DC voltage is only available.

### Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
R	With surge voltage suppressor (Non-polar type)
U	With light/surge voltage suppressor (Non-polar type)

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\* For type "R" and "U", DC voltage is only available.  
\* Power saving circuit is only available in the "Z" type.

### Electrical entry

G	Grommet, 300 mm lead wire	
H	Grommet, 600 mm lead wire	
L	L plug connector	With lead wire
LN		Without lead wire
LO		Without connector
M	M plug connector	With lead wire
MN		Without lead wire
MO		Without connector
WO	M8 connector Without connector cable	

\* For connector cable of M8 connector, refer to page 1-5-78.

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

For DC : SY100-30-4A-  
For 100 VAC : SY100-30-1A-  
For 200 VAC : SY100-30-2A-  
For other voltages of AC : SY100-30-3A-

Without lead wire: SY100-30-A  
(with connector and 2 of sockets only)

### 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

V115 — 5 D

### Rated voltage

5	24 VDC
6	12 VDC
1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
3	110 VAC 50/60 Hz [115 VAC 50/60 Hz]
4	220 VAC 50/60 Hz [230 VAC 50/60 Hz]

\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
\* Power saving circuit is not available in the case of "D" or "DO" type.

### Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor (Non-polar type)
Z	With light/surge voltage suppressor (Non-polar type)

\* "DOZ" is not available.  
\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

### Electrical entry

D	DIN terminal	With connector
DO	terminal	Without connector

Note) Do not replace SV111 (G, H, L, M, W) to SV115 (DIN terminal) and vice versa when replacing pilot valve assembly only.

## How to Order M8 Connector Cable

V100-49-1-

### Cable length

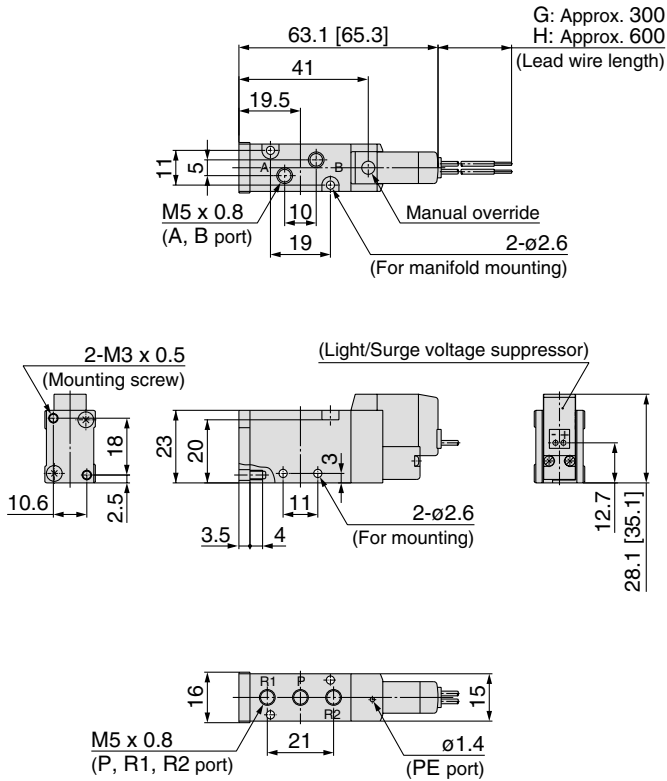
1	300 mm
2	500 mm
3	1000 mm
4	2000 mm
7	5000 mm

# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

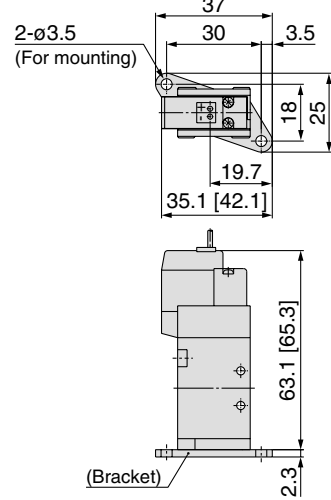
## 2 Position Single



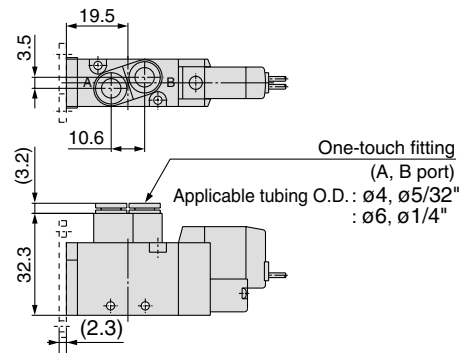
Grommet (G), (H): SYJ5120-□<sup>G</sup><sub>H</sub>□□-M5



With bracket  
SYJ5120-□<sup>G</sup><sub>H</sub>□□-M5-F



Built-in One-touch fitting:  
SYJ5120-□<sup>G</sup><sub>H</sub>□□-C<sub>4</sub>, N<sub>3</sub>-C<sub>6</sub>, N<sub>7</sub> (-F)

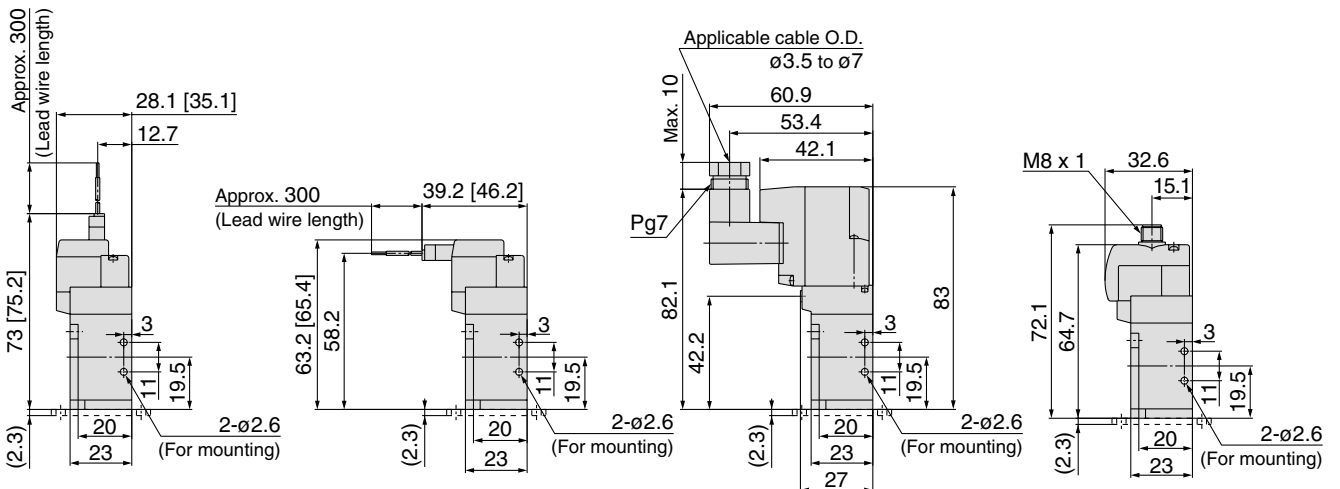


L plug connector (L):  
SYJ5120-□L□□-M5(-F)

M plug connector (M):  
SYJ5120-□M□□-M5(-F)

DIN terminal (D):  
SYJ5120-□D□□-M5(-F)

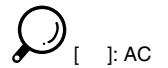
M8 connector (WO):  
SYJ5120-□WO□□-M5(-F)



Refer to page 1-5-79 for dimensions with connector cable.

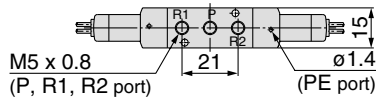
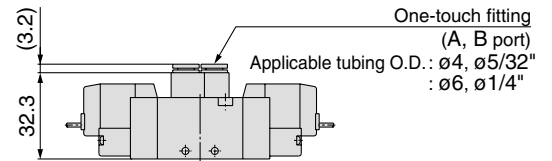
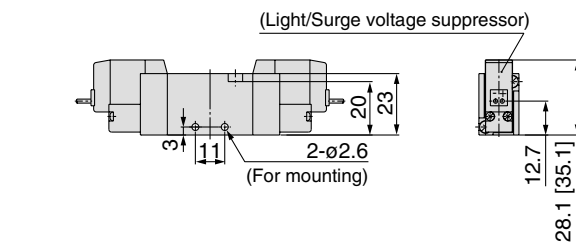
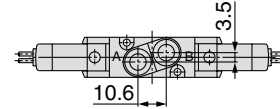
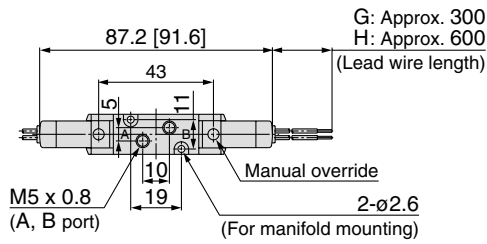
# Series SYJ5000

## 2 Position Double



Grommet (G), (H): SYJ5220-□<sup>G</sup><sub>H</sub>□□-M5

Built-in One-touch fitting:  
SYJ5220-□<sup>G</sup><sub>H</sub>□□-<sup>C4, N3</sup><sub>C6, N7</sub>

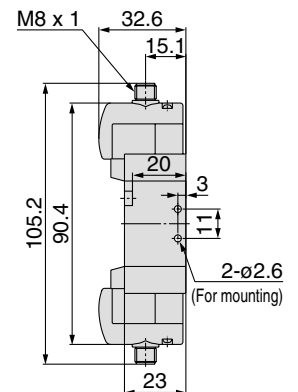
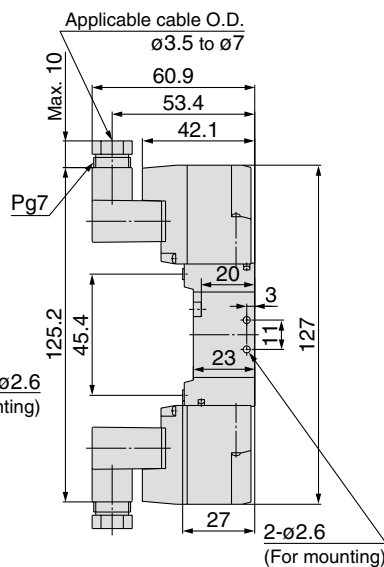
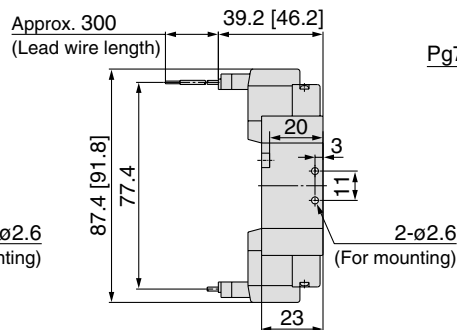
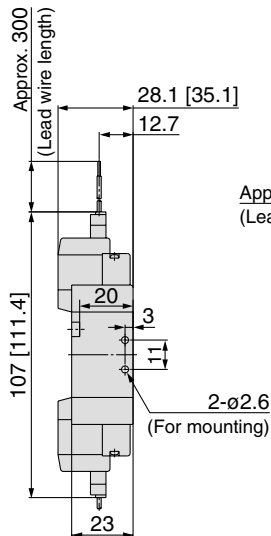


L plug connector (L):  
SYJ5220-□L□□-M5

M plug connector (M):  
SYJ5220-□M□□-M5

DIN terminal (D):  
SYJ5220-□D□□-M5

M8 connector (WO):  
SYJ5220-□WO□□-M5



Refer to page 1-5-79 for dimensions with connector cable.

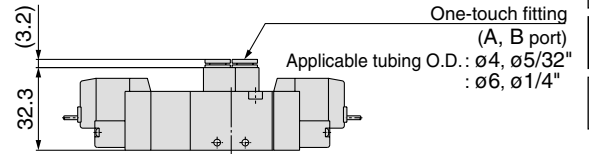
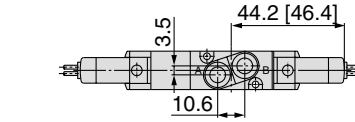
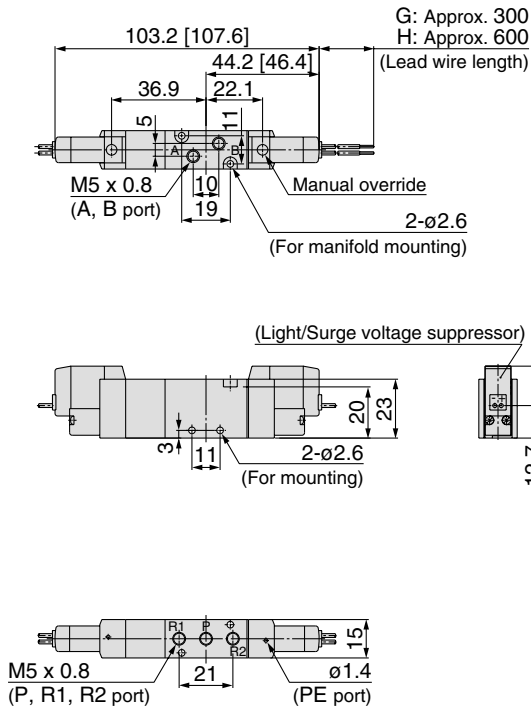
# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

## 3 Position Closed Center/Exhaust Center/Pressure Center



Grommet (G), (H): SYJ5<sup>3</sup>/<sub>4</sub>20-□<sup>G</sup>□□-M5

Built-in One-touch fitting:  
SYJ5<sup>3</sup>/<sub>4</sub>20-□<sup>G</sup>□□-C4, N3  
C6, N7



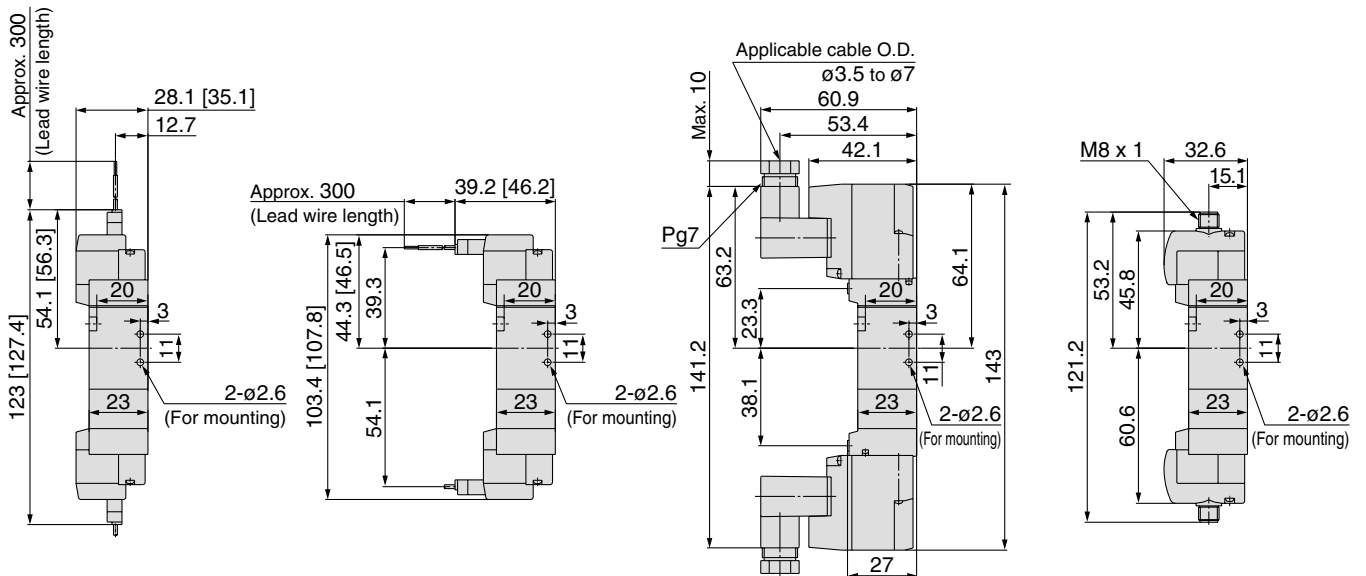
- SV
- SZ
- SY
- SYJ**
- SX

L plug connector (L):  
SYJ5<sup>3</sup>/<sub>4</sub>20-□L□□-M5

M plug connector (M):  
SYJ5<sup>3</sup>/<sub>4</sub>20-□M□□-M5

DIN terminal (D):  
SYJ5<sup>3</sup>/<sub>4</sub>20-□D□□-M5

M8 connector (WO):  
SYJ5<sup>3</sup>/<sub>4</sub>20-□WO□□-M5



Refer to page 1-5-79 for dimensions with connector cable.



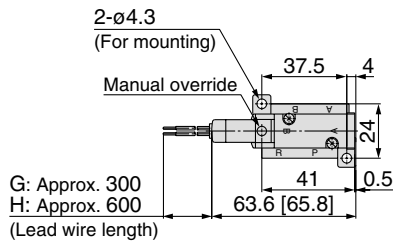
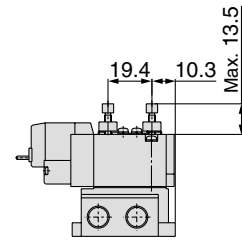
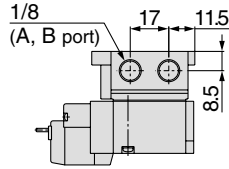
# Series SYJ5000

## 2 Position Single

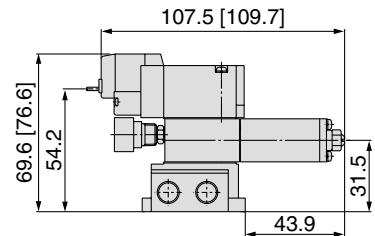


Grommet (G), (H): SYJ5140-□<sub>H</sub>□□-01□

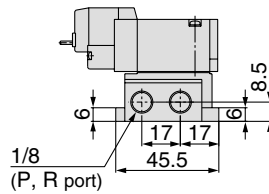
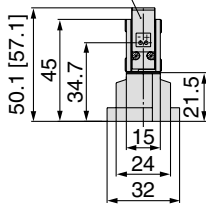
Built-in speed controller:  
SYJ5150-□<sub>H</sub>□□-01□



With interface regulator



(Light/Surge voltage suppressor)

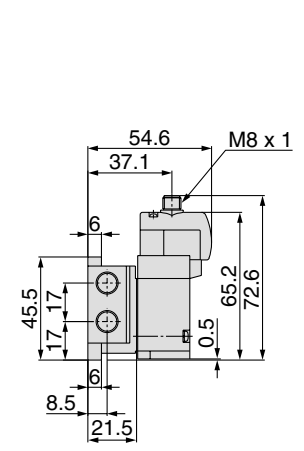
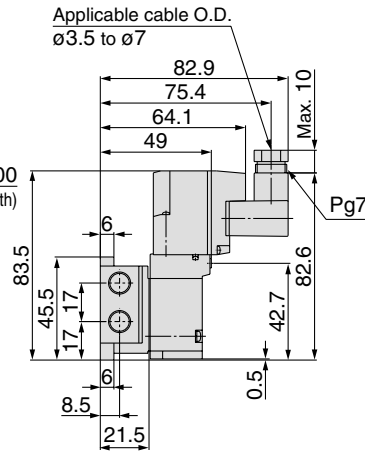
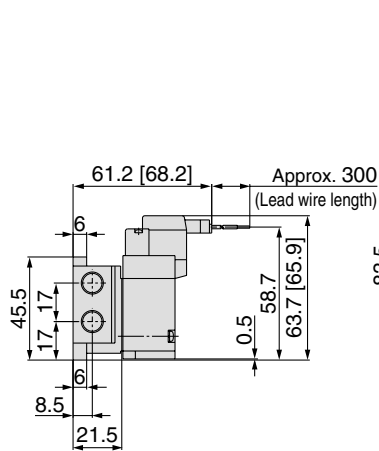
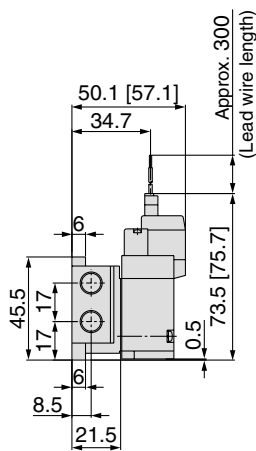


L plug connector (L):  
SYJ5140-□L□□-01□

M plug connector (M):  
SYJ5140-□M□□-01□

DIN terminal (D):  
SYJ5140-□D□□-01□

M8 connector (WO):  
SYJ5140-□WO□□-01□



Refer to page 1-5-79 for dimensions with connector cable.

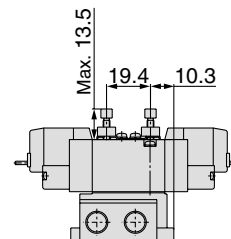
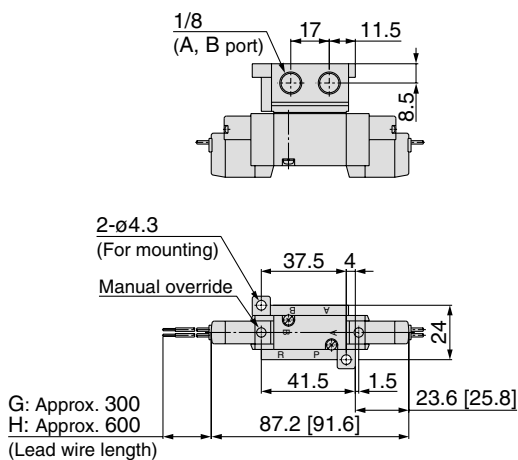
# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

## 2 Position Double

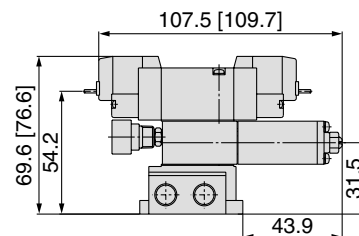


Grommet (G), (H): SYJ5240-□<sup>G</sup><sub>H</sub>□□-01□

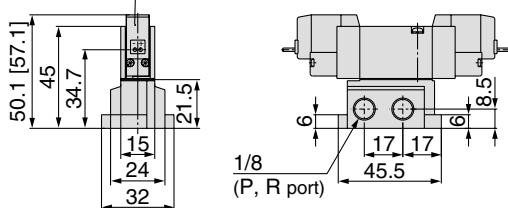
Built-in speed controller:  
SYJ5250-□<sup>G</sup><sub>H</sub>□□-01□



With interface regulator



(Light/Surge voltage suppressor)

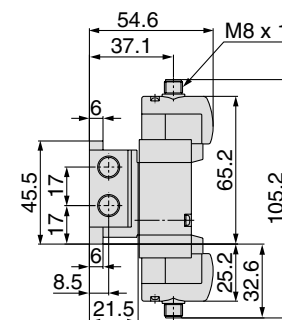
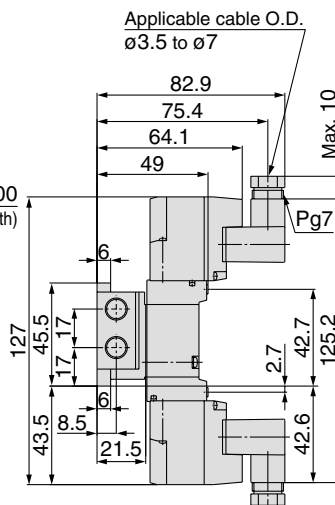
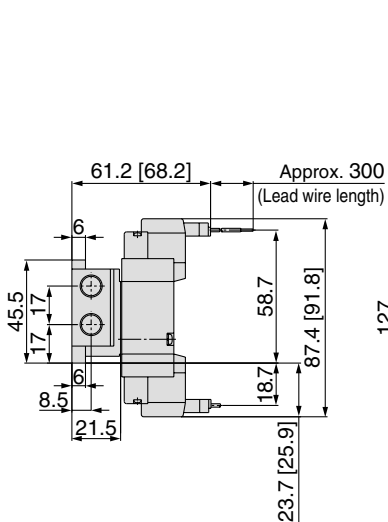
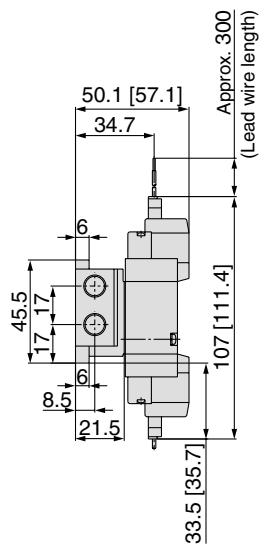


L plug connector (L):  
SYJ5240-□L□□-01□

M plug connector (M):  
SYJ5240-□M□□-01□

DIN terminal (D):  
SYJ5240-□D□□-01□

M8 connector (WO):  
SYJ5240-□WO□□-01□



Refer to page 1-5-79 for dimensions with connector cable.

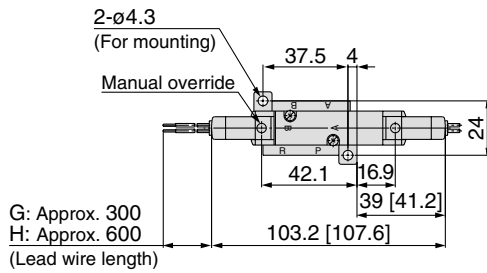
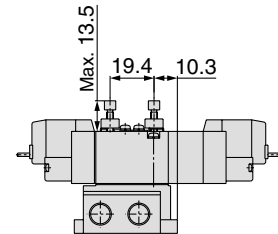
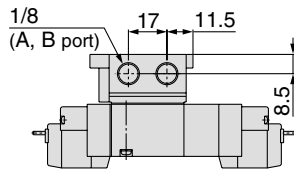
# Series SYJ5000

## 3 Position Closed Center/Exhaust Center/Pressure Center

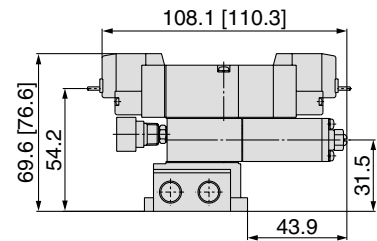


Grommet (G), (H): SYJ5<sup>3</sup>/<sub>4</sub>40-□<sup>G</sup><sub>H</sub>□□-01□

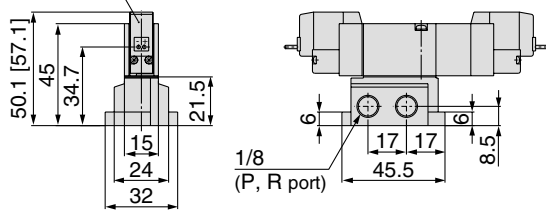
Built-in speed controller:  
SYJ5<sup>3</sup>/<sub>4</sub>50-□<sup>G</sup><sub>H</sub>□□-01□



With interface regulator



(Light/Surge voltage suppressor)

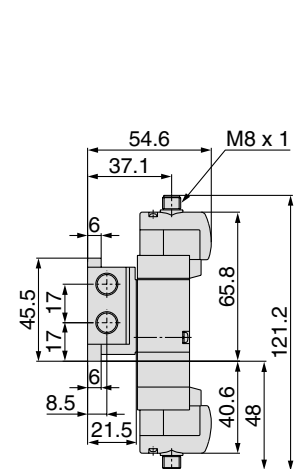
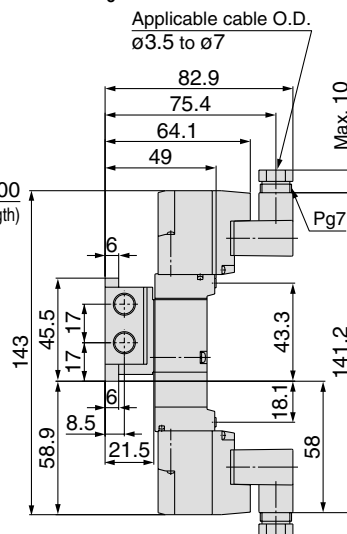
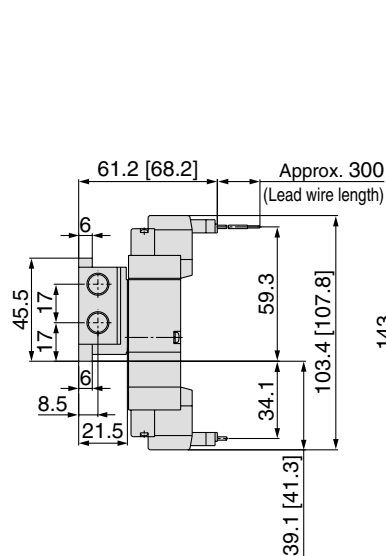
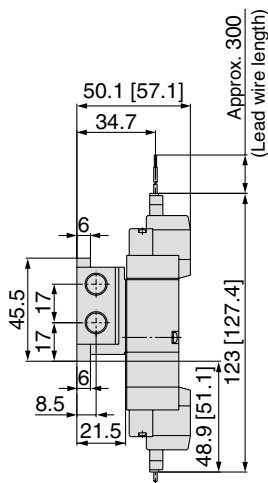


L plug connector (L):  
SYJ5<sup>3</sup>/<sub>4</sub>40-□L□□-01□

M plug connector (M):  
SYJ5<sup>3</sup>/<sub>4</sub>40-□M□□-01□

DIN terminal (D):  
SYJ5<sup>3</sup>/<sub>4</sub>40-□D□□-01□

M8 connector (WO):  
SYJ5<sup>3</sup>/<sub>4</sub>40-□WO□□-01□



Refer to page 1-5-79 for dimensions with connector cable.

# Series SYJ5000 Manifold Specifications

## Manifold Standard



## Manifold Specifications

Model		Type 20	Type 40	Type 41	Type 42	Type 43
Manifold type		Single base/B mount				
P (SUP), R (EXH)		Common SUP, Common EXH				
Valve stations		2 to 20 stations				
A, B port Porting specifications	Location	Valve	Base	Base		
	Direction	Top	Bottom	Side		
Port size	P, R port	1/8			1/4	1/8
	A, B port	M5 x 0.8, C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	M5 x 0.8		1/8, C6 (One-touch fitting for ø6)	C4 (One-touch fitting for ø4)

SV

SZ

SY

SYJ

SX

## Flow Characteristics

Manifold			Port size		Flow characteristics					
					1→4/2 (P→A/B)			4/2→5/3 (A/B→R)		
			1(P), 5/3(R) Port	2(B), 4(A) Port	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
Body ported for internal pilot	SS5YJ5-20	SYJ5□2□	1/8	M5 x 0.8	0.46	0.39	0.12	0.75	0.32	0.19
			1/8	C4	0.62	0.33	0.16	0.83	0.27	0.20
			1/8	C6	0.79	0.36	0.21	0.91	0.36	0.24
Base mounted for internal pilot	SS5YJ5-40	SYJ5□4□	1/8	M5 x 0.8	0.55	0.35	0.15	0.64	0.26	0.16
	SS5YJ5-41		1/8	M5 x 0.8	0.59	0.35	0.16	0.68	0.23	0.17
	SS5YJ5-42-01		1/4	1/8	0.74	0.22	0.18	0.82	0.31	0.21
	SS5YJ5-42-C6		1/4	C6	0.71	0.24	0.17	0.8	0.29	0.20
	SS5YJ5-43		1/8	C4	0.55	0.29	0.14	0.74	0.32	0.19



Note) Value at manifold base mounted, 2 position single operating

## How to Order Manifold (Example)

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

Example: **SS5YJ5-20-03** ..... 1 pc. (Manifold base)

\* **SYJ5120-5G-M5** ..... 2 pcs. (Valve)

\* **SYJ5000-21-1A** ..... 1 pc. (Blanking plate assembly)

**SS5YJ5-43-03-C4** ..... 1 pc. (Manifold base)

\* **SYJ5140-5LZ** ..... 1 pc. (Valve)

\* **SYJ5240-5LZ** ..... 1 pc. (Valve)

\* **SYJ5000-21-1A** ..... 1 pc. (Blanking plate assembly)

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

\* Use manifold specification sheet.

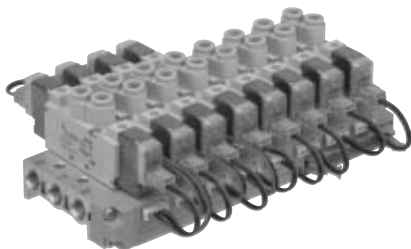
# Series SYJ5000

## Flat Ribbon Cable Manifold

• Multiple valve wiring is simplified through the use of the flat cable connector.

• Clean appearance

In the case of a flat ribbon cable type, 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		Type 20	Type 41P	Type 43P
Manifold type		Single base/B mount		
P (SUP), R (EXH)		Common SUP, Common EXH		
Valve stations		3 to 12 stations		
A, B port Porting specifications	Location	Valve	Base	
	Direction	Top	Side	
Port size	P, R port	1/8		1/8
	A, B port	M5 x 0.8, C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	M5 x 0.8	C4 (One-touch fitting for ø4)
Applicable flat ribbon cable connector		Socket: 26 pins MIL type with strain relief (MIL-C-83503)		
Internal wiring		In common between +COM and -COM (Z type: +COM only)		
Rated voltage		24, 12 VDC/100, 110 VAC		

Note) The withstand voltage specification for the wiring unit section conforms to JIS C 0704, Grade 1 or its equivalent.

## Flow Characteristics

Manifold		Port size		Flow characteristics					
				1→4/2 (P→A/B)			4/2→5/3 (A/B→R)		
		1(P), 5/3(R) Port	2(B), 4(A) Port	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
Body ported for internal pilot	SS5YJ5-20P SYJ5□23	1/8 M5 x 0.8		0.46	0.39	0.12	0.75	0.32	0.19
		1/8 C4		0.62	0.33	0.16	0.83	0.27	0.20
		1/8 C6		0.79	0.36	0.21	0.91	0.36	0.24
Base mounted for internal pilot	SS5YJ5-41P SYJ5□43	1/8 M5 x 0.8		0.59	0.35	0.16	0.68	0.23	0.17
		1/8 C4		0.55	0.29	0.14	0.74	0.32	0.19

Note) Value at manifold base mounted, 2 position single operating

## How to Order Manifold (Example)

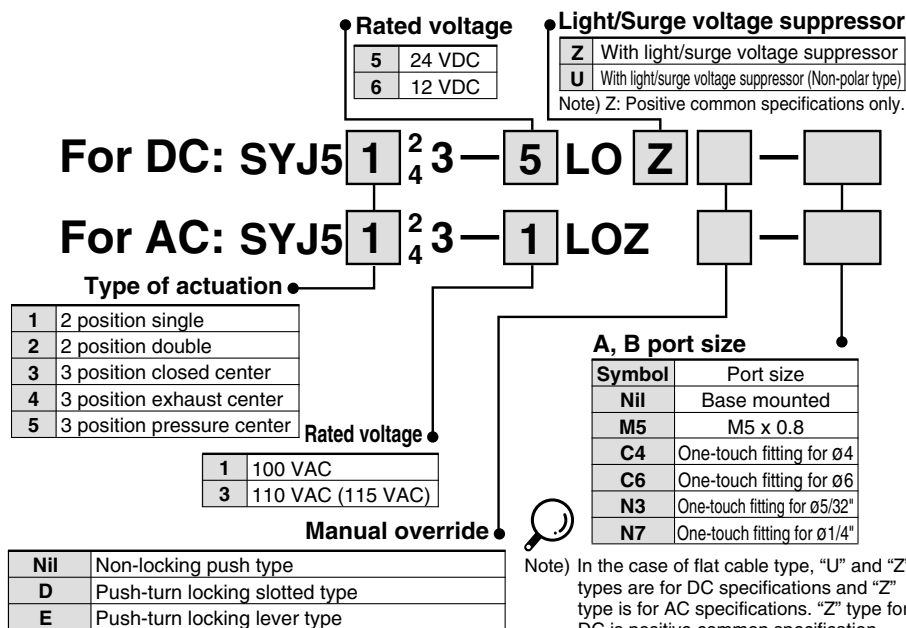
Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

- Example: **SS5YJ5-41P-07-C4** ..... 1 pc. (Manifold base)  
 \* **SYJ5143-5LOU** ..... 3 pcs. (Valve)  
 \* **SYJ5243-5LOU** ..... 3 pcs. (Valve)  
 \* **SYJ5000-21-3A** ..... 1 pc. (Blanking plate assembly)  
 \* **SY3000-37-28A** ..... 3 pcs. (Connector assembly)  
 \* **SY3000-37-29A** ..... 3 pcs. (Connector assembly)

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

\* Use manifold specification sheet.

## How to Order Valves



## How to Order Connector Assembly

12, 24 VDC	
Single solenoid	SY3000-37-28A
Double solenoid, 3 position type	SY3000-37-29A
Single solenoid, individual SUP, EXH spacer	SY3000-37-3A
Double solenoid, 3 position individual SUP/EXH spacer	SY3000-37-4A
Interface regulator for single solenoid	SY3000-37-3A
Double solenoid, 3 position interface regulator	SY3000-37-6A
3 port adaptor plate	SY3000-37-3A
100 VAC	
Single solenoid	SY3000-37-46A
Double solenoid, 3 position type	SY3000-37-47A
Single solenoid, individual SUP, EXH spacer	SY3000-37-32A
Double solenoid, 3 position individual SUP/EXH spacer	SY3000-37-33A
Interface regulator for single solenoid	SY3000-37-15A
Double solenoid, 3 position interface regulator	SY3000-37-34A
3 port adaptor plate	SY3000-37-32A
100 VAC (115 VAC)	
Single solenoid	SY3000-37-54A
Double solenoid, 3 position type	SY3000-37-55A
Single solenoid, individual SUP, EXH spacer	SY3000-37-35A
Double solenoid, 3 position individual SUP/EXH spacer	SY3000-37-36A
Interface regulator for single solenoid	SY3000-37-19A
Double solenoid, 3 position interface regulator	SY3000-37-37A
3 port adaptor plate	SY3000-37-35A

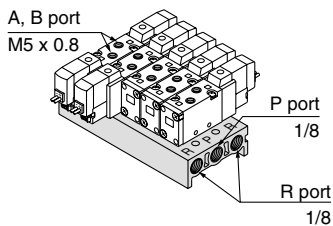
# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

## Common SUP/Common EXH



Note) For more than 8 stations, supply air to both sides of P port and exhaust air from both sides of R port.

### Type 20 (5 Port/Body ported)



#### How to Order

SS5YJ5-20-05-  

Number of stations

02	2 stations
:	:
20	20 stations

P, R port thread type

Nil	Rc
00F	G
00N	NPT
00T	NPTF

#### Applicable solenoid valve

SYJ5□20-□□□□-<sup>M5</sup>  
 SYJ5□23-□□□□-<sup>M5</sup>  
<sup>C4</sup>  
<sup>C6</sup>

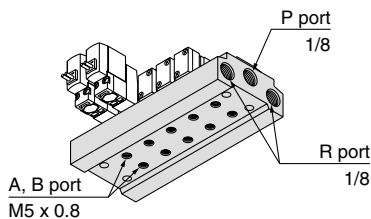
#### Applicable blanking plate assembly

SYJ5000-21-1A

#### Applicable individual EXH spacer assembly

SYJ5000-17-1A

### Type 40 (5 Port/Base mounted)



#### How to Order

SS5YJ5-40-05-M5-  

Stations

02	2 stations
:	:
20	20 stations

P, R port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A, B port size

M5	M5 x 0.8
----	----------

#### Applicable solenoid valve

SYJ5□40-□□□□  
 SYJ5□43-□□□□  
 SYJ5□50-□□□□  
 SYJ5□53-□□□□

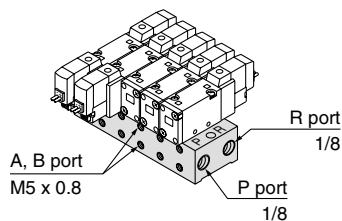
#### Applicable blanking plate assembly

SYJ5000-21-1A

#### Applicable individual EXH spacer assembly

ARBYJ5000-00-P

### Type 41 (5 Port/Base mounted)



#### How to Order

SS5YJ5-41-05-M5-  

Stations

02	2 stations
:	:
20	20 stations

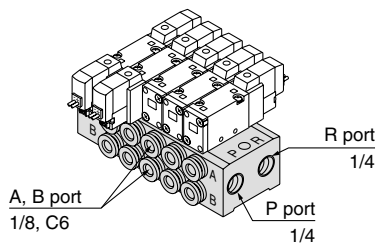
P, R port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A, B port size

M5	M5 x 0.8
----	----------

### Type 42 (5 Port/Base mounted)



#### How to Order

SS5YJ5-42-05-C6-  

Stations

02	2 stations
:	:
20	20 stations

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A, B port size

01	1/8
C6	One-touch fitting for ø6
N7	One-touch fitting for ø1/4"

#### Applicable solenoid valve

SYJ5□40-□□□□  
 SYJ5□43-□□□□  
 SYJ5□50-□□□□  
 SYJ5□53-□□□□

#### Applicable blanking plate assembly

SYJ5000-21-1A

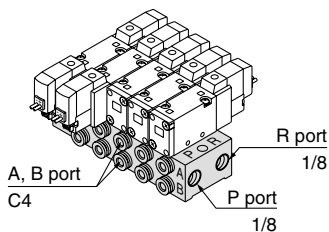
#### Applicable individual EXH spacer assembly

SYJ5000-17-1A

#### Applicable individual SUP spacer assembly

SYJ5000-16-2A

### Type 43 (5 Port/Base mounted)



#### How to Order

SS5YJ5-43-05-C4-  

Stations

02	2 stations
:	:
20	20 stations

P, R port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A, B port size

C4	One-touch fitting for ø4
N3	One-touch fitting for ø5/32"

#### Applicable individual SUP spacer assembly

ARBYJ5000-00-P

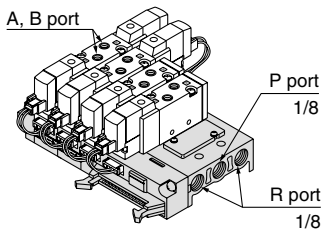
# Series SYJ5000

## Flat Ribbon Cable Manifold

### Common SUP/Common EXH

Note) For more than 8 stations, supply air to both sides of P port and exhaust air from both sides of R port.

#### Type 20 (5 Port/Body ported)



How to Order

**SS5YJ5-20P-05** [ ]

Number of stations

03	3 stations
:	:
12	12 stations

P, R port thread type

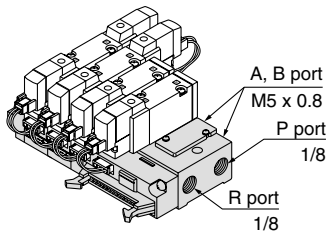
Nil	Rc
00F	G
00N	NPT
00T	NPTF

Applicable solenoid valve  
Refer to page 1-5-38.

Applicable blanking plate assembly  
SYJ5000-21-3A

Applicable connector assembly  
Refer to page 1-5-38.

#### Type 41P (5 Port/Base mounted)



How to Order

**SS5YJ5-41P-05-M5** [ ]

Number of stations

03	3 stations
:	:
12	12 stations

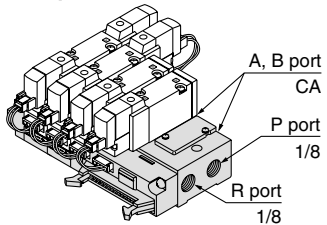
P, R port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Applicable solenoid valve  
Refer to page 1-5-38.

Applicable blanking plate assembly  
SYJ5000-21-3A

#### Type 43P (5 Port/Base mounted)



How to Order

**SS5YJ5-43P-05-C4** [ ]

Number of stations

03	3 stations
:	:
12	12 stations

A, B port size

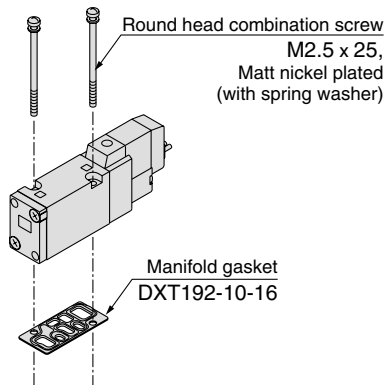
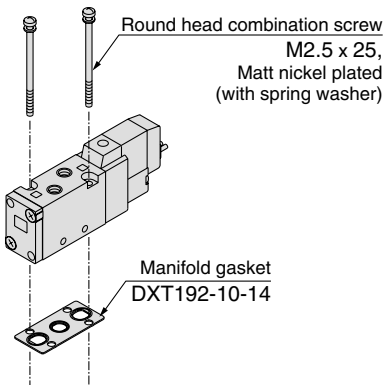
C4	One-touch fitting for ø4
N3	One-touch fitting for ø5/32"

P, R port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

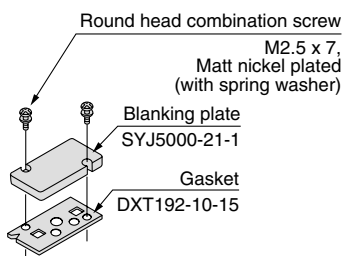
Applicable connector assembly  
Refer to page 1-5-38.

## Combinations of Solenoid Valve, Manifold Gasket and Manifold Base



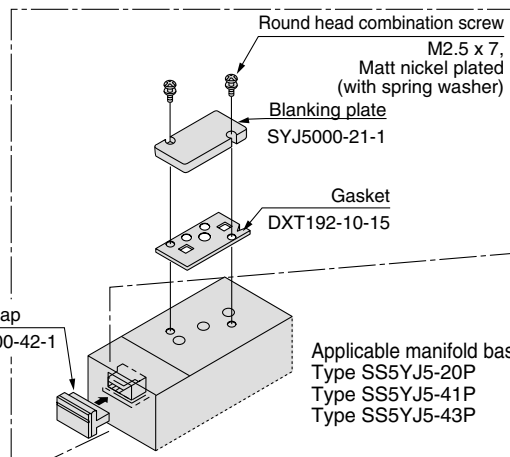
## L Blanking Plate Assembly

### SYJ5000-21-4A



Applicable manifold base  
Type SS5YJ5-20  
Type SS5YJ5-40  
Type SS5YJ5-41  
Type SS5YJ5-42  
Type SS5YJ5-43

### SYJ5000-21-3A



Applicable manifold base  
Type SS5YJ5-20P  
Type SS5YJ5-41P  
Type SS5YJ5-43P

### Caution

Mounting screw tightening torques

M2.5: 0.45 N·m

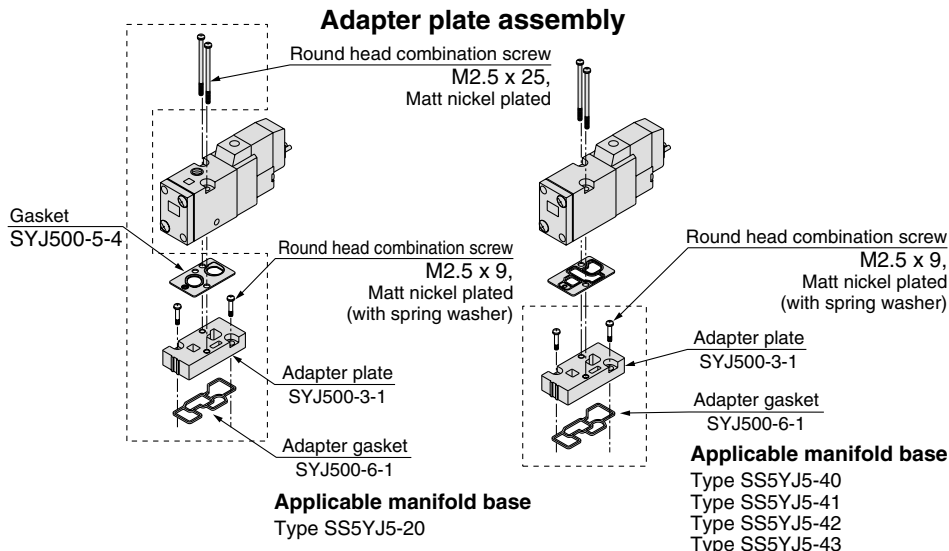
Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.



# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

## Mix Installation of the SYJ500 and the SYJ5000 Valves on the Same Manifold

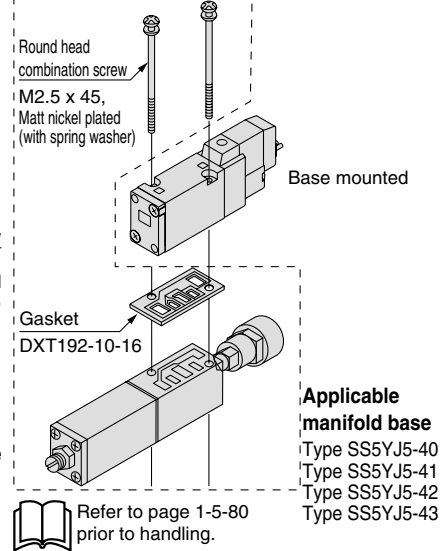
- Use of an adapter plate makes it possible to mount Series SYJ500 on the manifold bases of series SYJ5000.
- When mounting the SYJ500 valve on the SYJ5000 manifold, the SYJ500 solenoid must be positioned on the same side of the manifold as a single solenoid SYJ500. (Refer to the figure below.)
- For base mounted style, the A port of the 3 port valve flows out the B port of manifold base.



## Interface Regulator (P port regulation)

Spacer type regulating valve on manifold block can regulate the pressure to the valve individually.

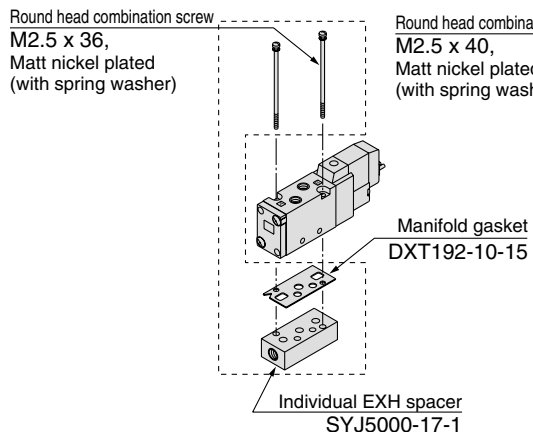
### ARBYJ5000-00-P



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

## Individual EXH Spacer Assembly

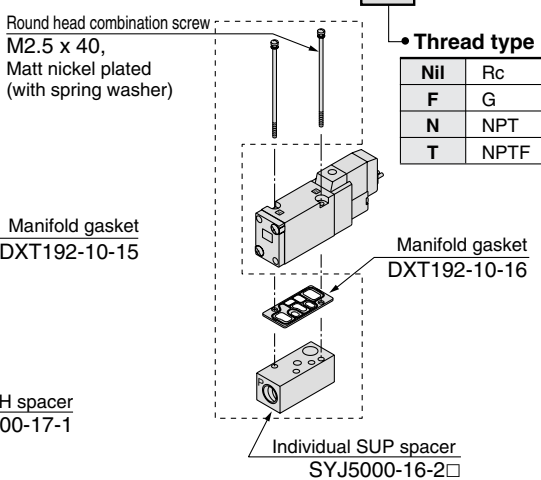
### SYJ5000-17-1A



**Applicable manifold base**  
Type SS5YJ5-20  
Type SS5YJ5-40  
Type SS5YJ5-41  
Type SS5YJ5-42  
Type SS5YJ5-43

## Individual SUP Spacer Assembly

### SYJ5000-16-2



Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

**Applicable manifold base**  
Type SS5YJ5-41  
Type SS5YJ5-42  
Type SS5YJ5-43

## Caution

### Mounting screw tightening torques

M2.5: 0.45 N·m

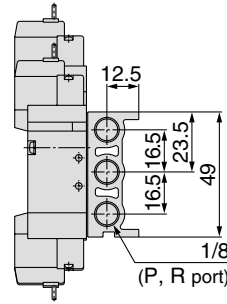
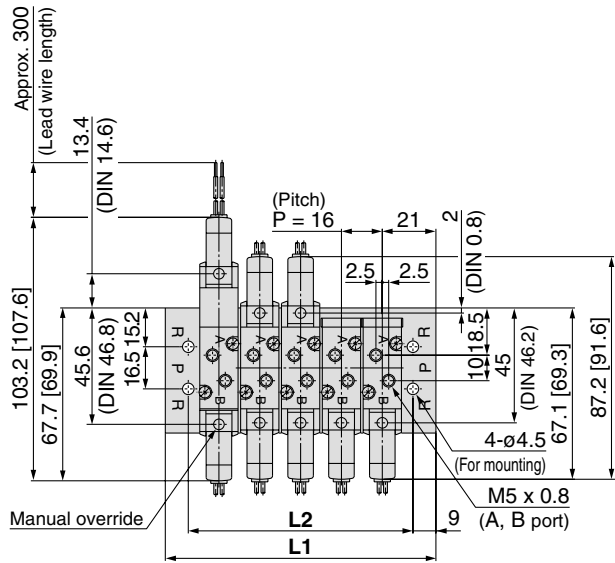
Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.

# Series SYJ5000

## Type 20: Top Ported/SS5YJ5-20- Stations -00□

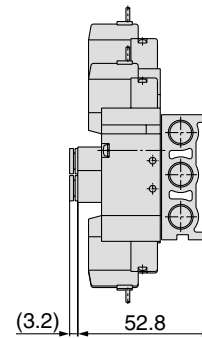
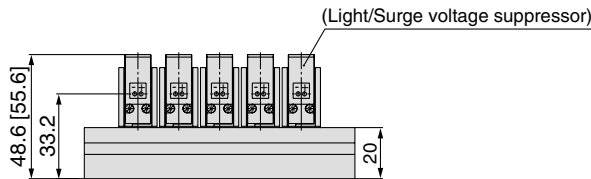


### Grommet (G)



### Built-in One-touch fitting

(Station n)----- (Station 1)

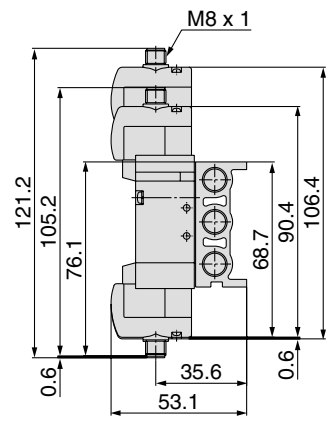
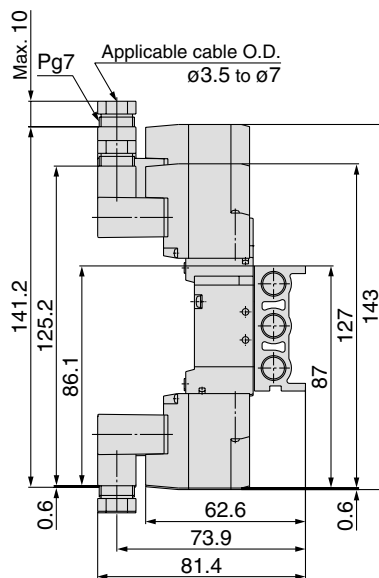
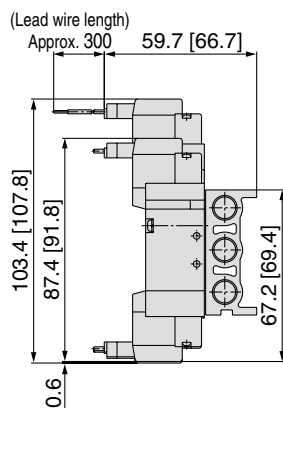
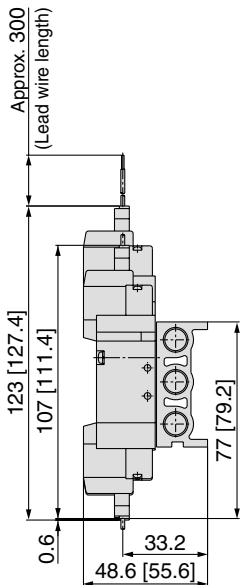


### L plug connector (L)

### M plug connector (M)

### DIN terminal (D)

### M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

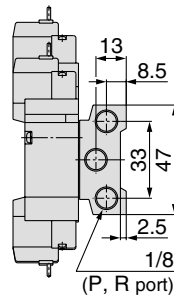
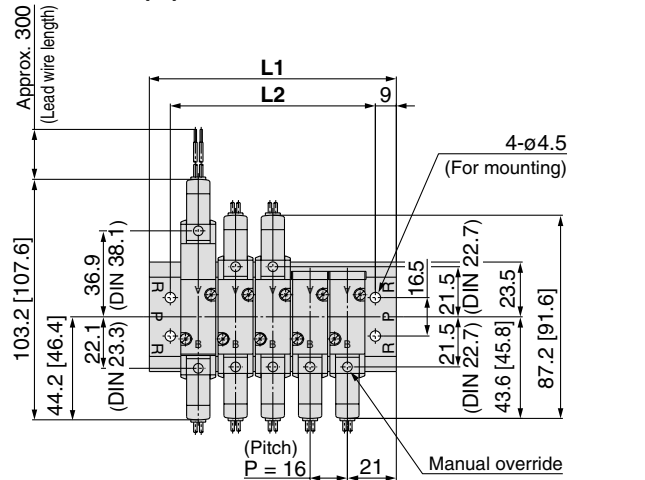
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
<b>L1</b>	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330	346
<b>L2</b>	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

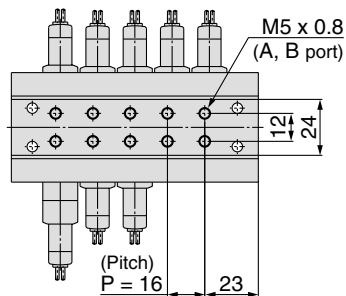
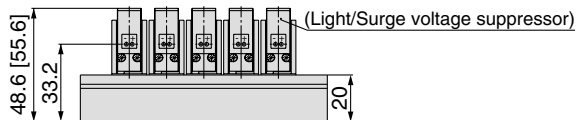
## Type 40: Bottom Ported/SS5YJ5-40- Stations -M5□



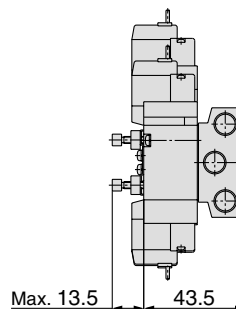
### Grommet (G)



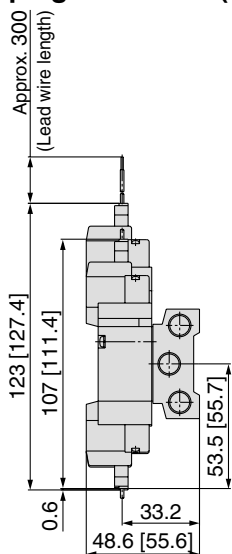
(Station n) ----- (Station 1)



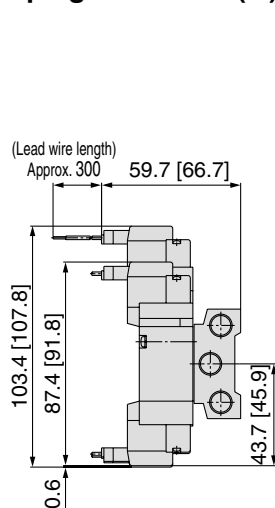
### Built-in speed controller



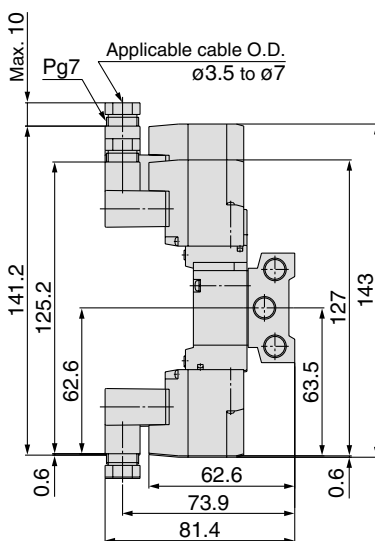
### L plug connector (L)



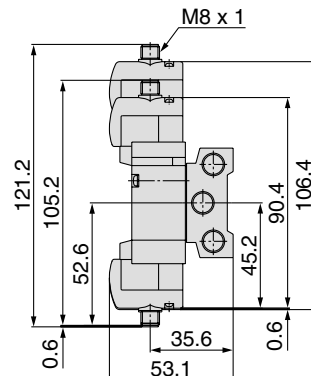
### M plug connector (M)



### DIN terminal (D)



### M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

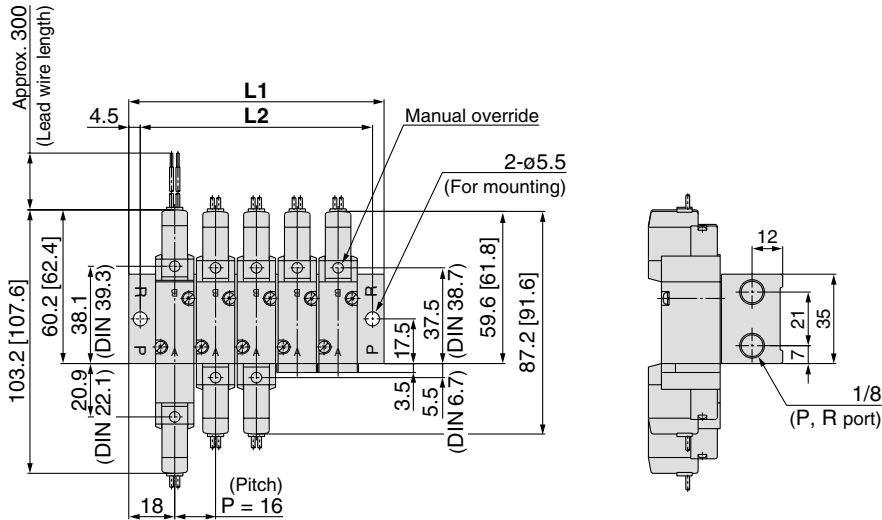
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
<b>L1</b>	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330	346
<b>L2</b>	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

# Series SYJ5000

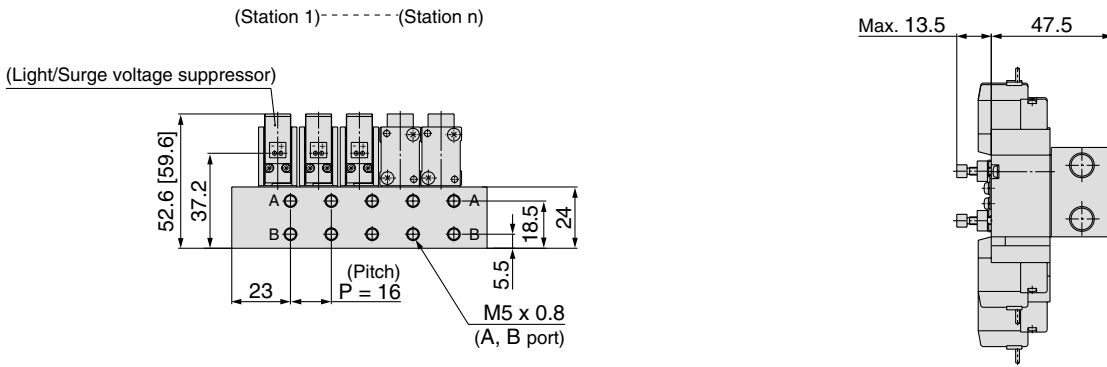
## Type 41: Side Ported/SS5YJ5-41- Stations -M5□



### Grommet (G)



### Built-in speed controller

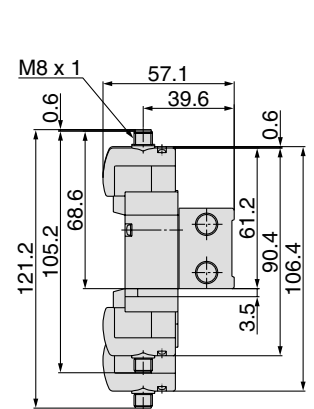
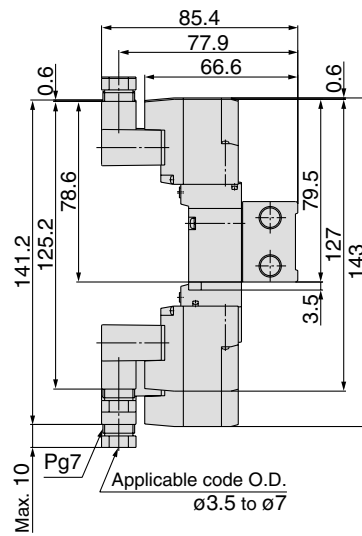
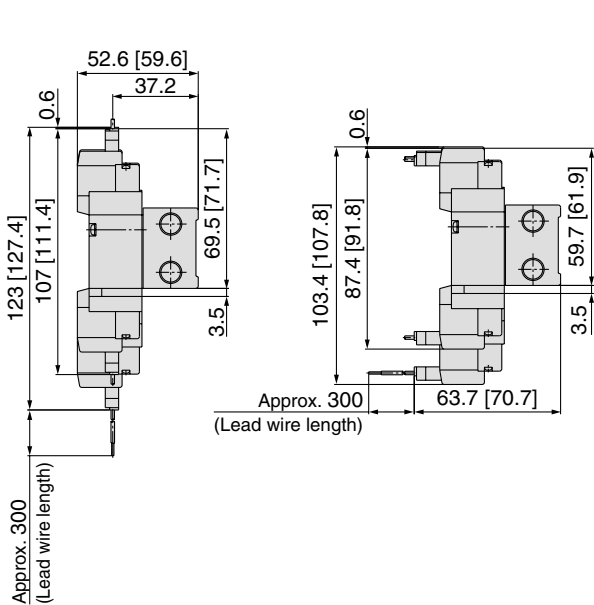


### L plug connector (L)

### M plug connector (M)

### DIN terminal (D)

### M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
<b>L1</b>	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340
<b>L2</b>	43	59	75	91	107	123	139	155	171	187	203	219	235	251	267	283	299	315	331

# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

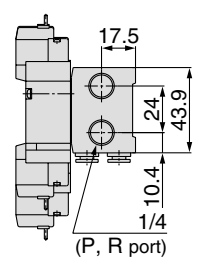
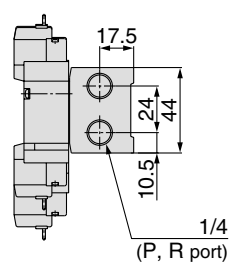
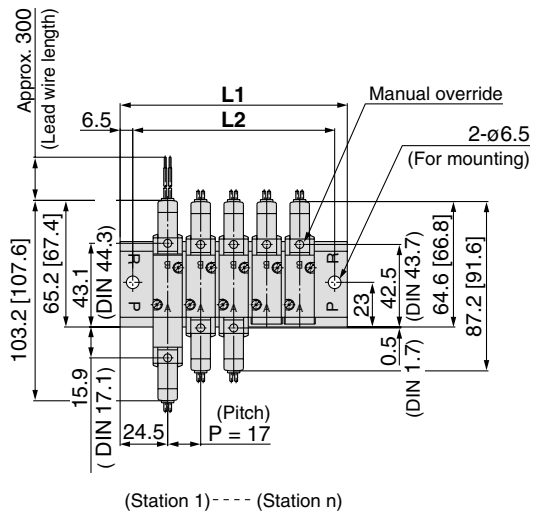
Type 42: Side Ported/SS5YJ5-42- Stations -01, C6 N7



Grommet (G)  
For 01

For C6 N7 (Built-in One-touch fitting)

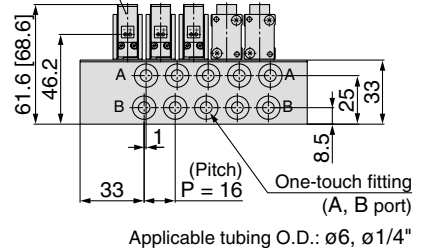
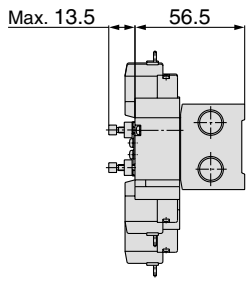
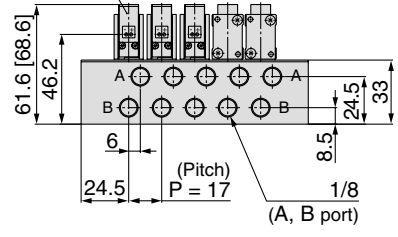
- SV
- SZ
- SY
- SYJ**
- SX



(Light/Surge voltage suppressor)

Built-in speed controller

(Light/Surge voltage suppressor)



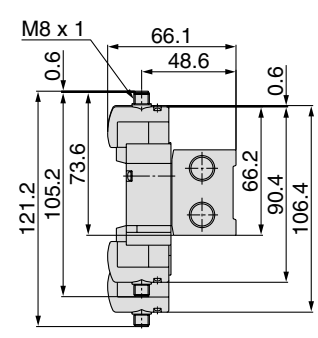
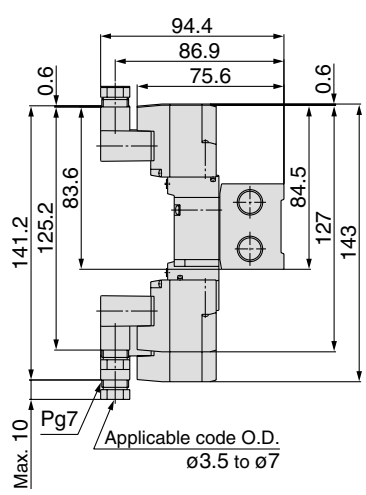
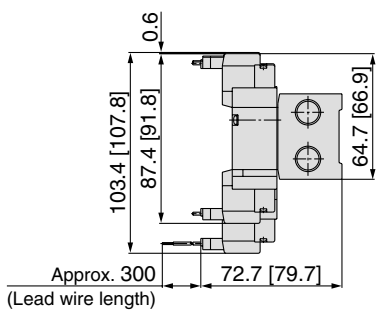
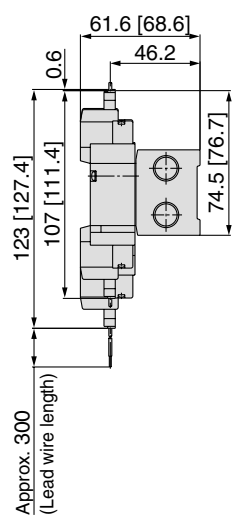
\* Other dimensions are the same as the grommet type.

L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

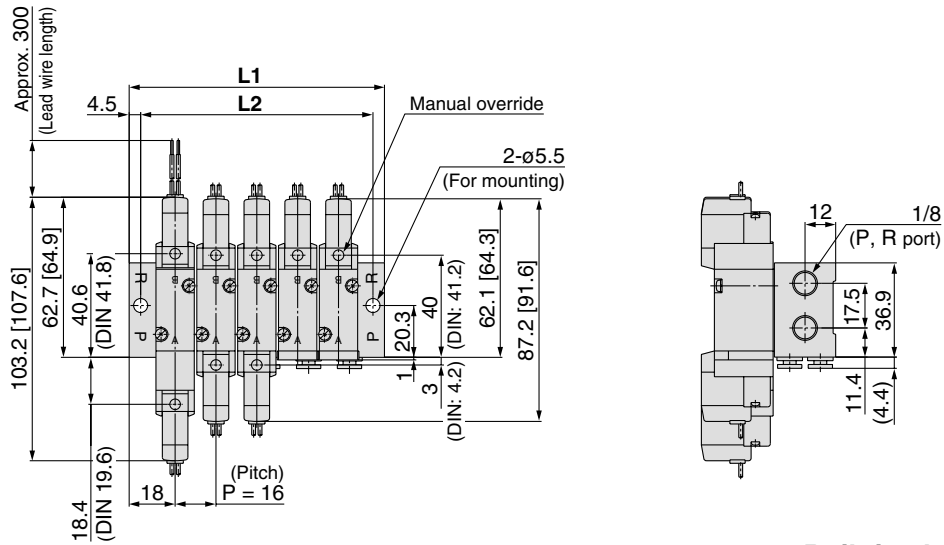
A, B port size	Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
For 1/8	L1	66	83	100	117	134	151	168	185	202	219	236	253	270	287	304	321	338	355	372
	L2	53	70	87	104	121	138	155	172	189	206	223	240	257	274	291	308	325	342	359
For C6/N7	L1	65	81	97	113	129	145	161	177	193	209	225	241	257	273	289	305	321	337	353
	L2	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340

# Series SYJ5000

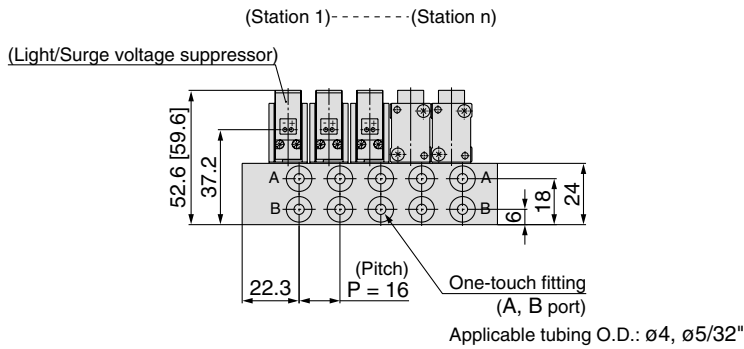
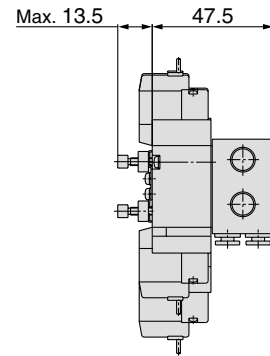
Type 43: Side Ported/SS5YJ3-43- Stations  C4  N3



## Grommet (G)



## Built-in slottle valve

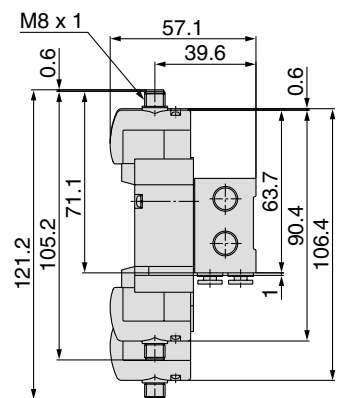
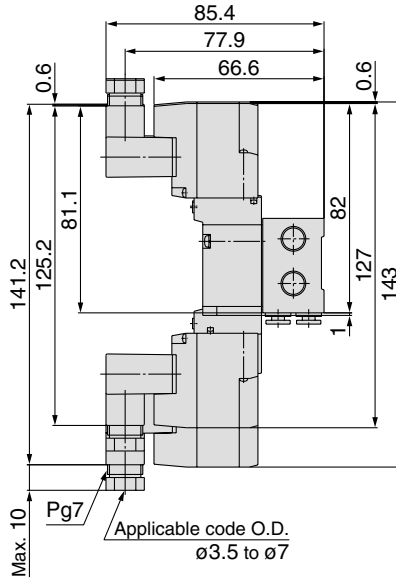
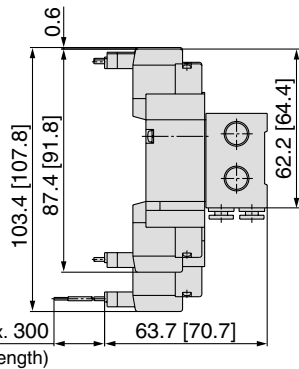
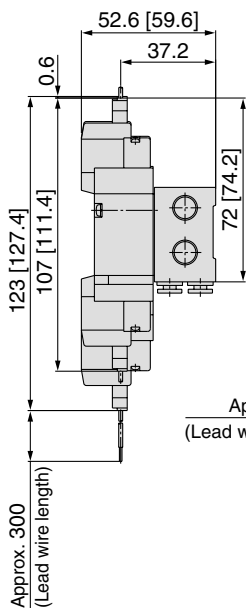


## L plug connector (L)

## M plug connector (M)

## DIN terminal (D)

## M8 connector (WO)

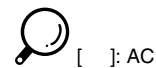


Refer to page 1-5-79 for dimensions with connector cable.

Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340
L2	43	59	75	91	107	123	139	155	171	187	203	219	235	251	267	283	299	315	331

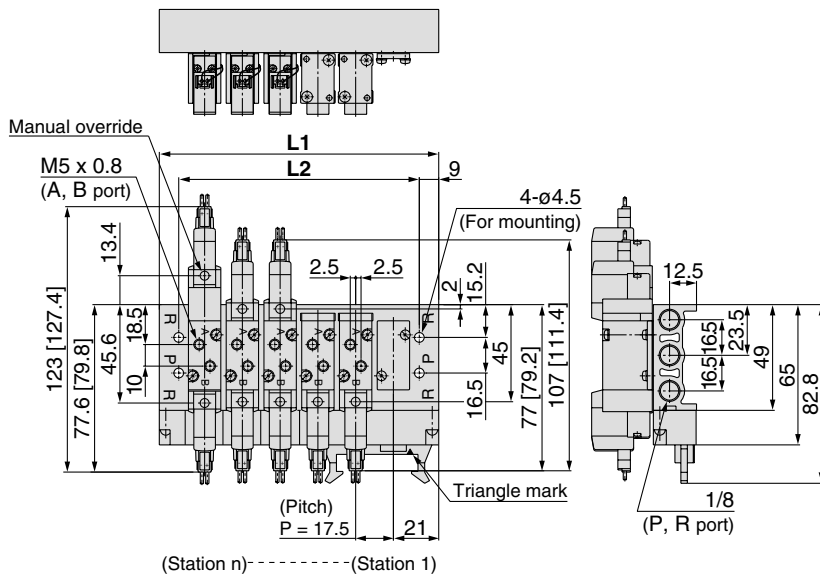
# 5 Port Solenoid Valve Rubber Seal Series SYJ5000

## Flat Ribbon Cable Manifold

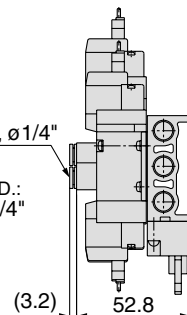


### SS5YJ5-20P- Stations -00

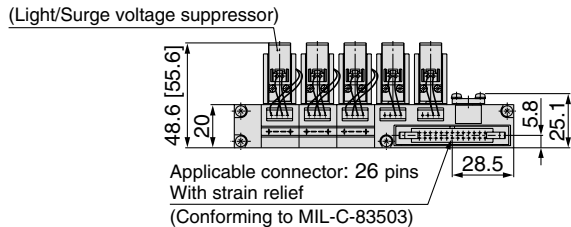
For <sup>C4 N3</sup><sub>C6 N7</sub> (Built-in One-touch fitting)



One-touch fitting ø6, ø1/4" (A, B port)  
Applicable tubing O.D.: ø4, ø5/32", ø6, ø1/4"



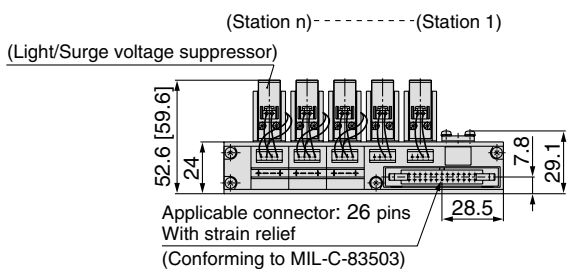
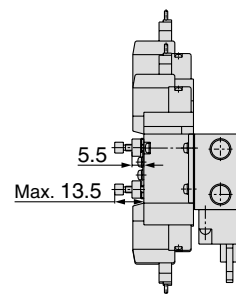
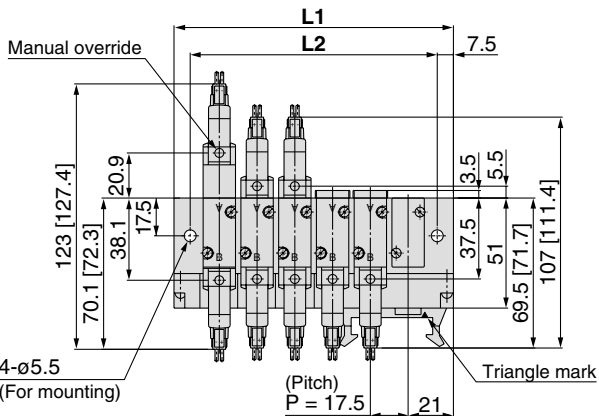
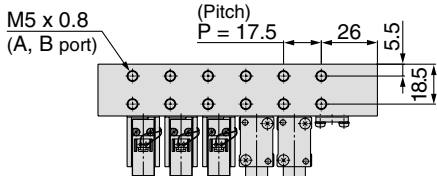
- SV
- SZ
- SY
- SYJ**
- SX



Station n	Station 3	4	5	6	7	8	9	10	11	Station 12
<b>L1</b>	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
<b>L2</b>	59	76.5	94	111.5	129	146.5	164	181.5	199	216.5

### SS5YJ5-41P- Stations -M5

Built-in slottle valve



Station n	Station 3	4	5	6	7	8	9	10	11	Station 12
<b>L1</b>	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
<b>L2</b>	62	79.5	97	114.5	132	149.5	167	184.5	202	219.5

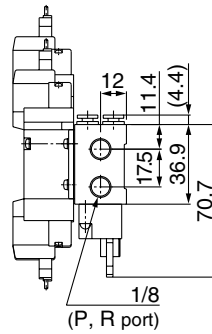
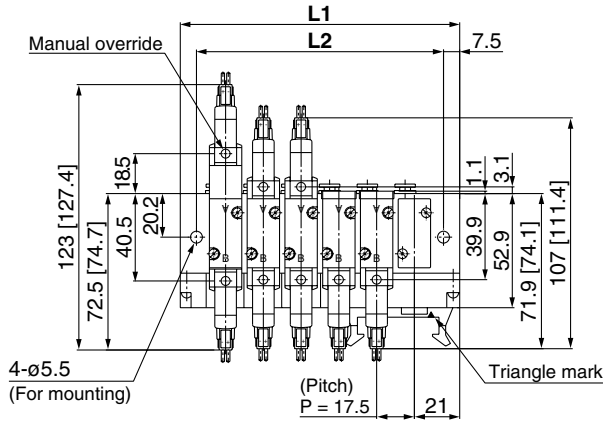
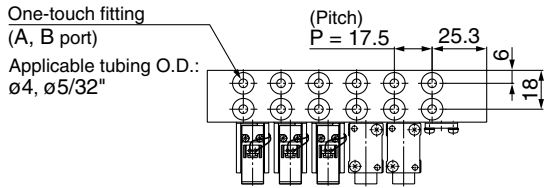


# Series SYJ5000

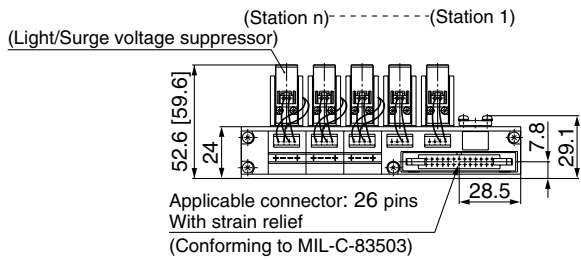
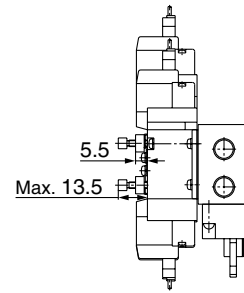
## Flat Ribbon Cable Manifold



SS5YJ5-43P- Stations  C4  
 N3



### Built-in speed controller

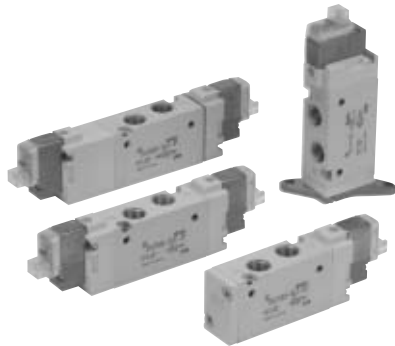


Station n	Station 3	4	5	6	7	8	9	10	11	Station 12
<b>L1</b>	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
<b>L2</b>	62	79.5	97	114.5	132	149.5	167	184.5	202	219.5



# 5 Port Solenoid Valve Rubber Seal

# Series SYJ7000



Body ported



Base mounted

## Specifications

Fluid	Air	
Operating pressure range MPa	2 position single	0.15 to 0.7
	2 position double	0.1 to 0.7
	3 position	0.15 to 0.7
Ambient and fluid temperature (°C)	-10 to 50 (No freezing. Refer to page 1-7-4.)	
Response time (ms) <sup>Note 1</sup> (at 0.5 MPa)	2 position single, double	30 or less
	3 position	60 or less
Max. operating frequency (Hz)	2 position single, double	5
	3 position	3
Manual override (Manual operation)	Non-locking push type, push-turn locking slotted type, push-turn locking lever type	
Pilot exhaust method	Individual exhaust for the pilot valve, common exhaust for the pilot and main valve	
Lubrication	Not required	
Mounting orientation	Unrestricted	
Shock/Vibration resistance (m/s <sup>2</sup> ) <sup>Note 2</sup>	150/30	
Enclosure	Dustproof (* DIN terminal, M8 connector conforms to IP65.)	

\* Based on IEC529  
 Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)  
 Note 2) 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. (Value in the initial state)  
 Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)

## Solenoid Specifications

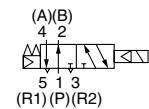
Electrical entry	Grommet (G), (H) L plug connector (L) M plug connector (M) DIN terminal (D) M8 connector (W)		
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	
	AC 50/60 Hz	100, 110, 200, 220	
Allowable voltage fluctuation	±10% of rated voltage		
Power consumption (W)	DC	Standard	0.35 (With light: 0.4 (DIN terminal with indicator light: 0.45))
		With power saving circuit	0.1 (With indicator light only)
Apparent power VA*	AC	100V	1.4 (With indicator light: 1.5)
		110V	1.6 (With indicator light: 1.7)
		[115V]	[1.7 (With indicator light: 1.8)]
		200V	2.3 (With indicator light: 2.4)
		220V [230V]	2.5 (With indicator light: 2.6) [2.7 (With indicator light: 2.8)]
Surge voltage suppressor	Diode (DIN terminal, varistor when non-polar types)		
Indicator light	LED (Neon light when AC with DIN terminal)		

\* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.  
 \* For 115 VAC and 230 VAC, the allowable voltage is -15% to +5% of rated voltage.

### JIS Symbol

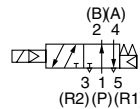
Body ported

2 position single

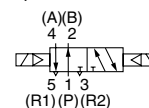


Base mounted

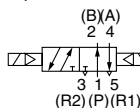
2 position single solenoid



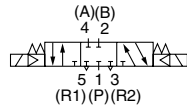
2 position double



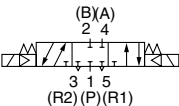
2 position double solenoid



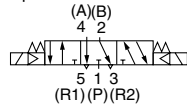
3 position closed center



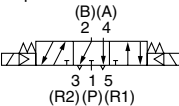
3 position closed center



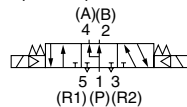
3 position exhaust center



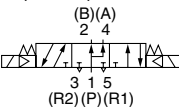
3 position exhaust center



3 position pressure center



3 position pressure center



**Made to Order Specifications**  
 (For details, refer to pages 1-5-72 to 73.)

# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

## Flow Characteristics/Weight

Valve model	Type of actuation		Port size		Flow characteristics <small>Note 1)</small>						Weight (g) <small>Note 2, 3)</small>											
			1,5,3 (P,EA,EB)	4,2 (A,B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grommet	L/M plug connector	DIN terminal	M8 connector								
					C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv												
Body ported	SYJ7□20-□-01	2 position	Single	1/8	1/8	2.2	0.36	0.58	2.4	0.34	0.63	85	98	107	90							
			Double													1.8	0.37	0.45	2.0	0.35	0.49	
		3 position	Exhaust center			1.2	0.50	0.34	3.0 [1.3]	0.35[0.52]	0.73 [0.39]											
			Pressure center													3.0 [0.83]	0.37 [0.50]	0.78 [0.25]	1.8	0.37	0.45	
		SYJ7□20-□-C6	2 position			Single	1/8	C6 (One-touch fitting for ø6)	1.6	0.33	0.4					2.2	0.32	0.53	96	109	97	101
						Double																
	3 position		Exhaust center	1.1	0.37	0.27			2.5 [1.3]	0.32[0.54]	0.61 [0.38]											
			Pressure center									1.8 [0.78]	0.36 [0.40]	0.45 [0.22]	1.6	0.30	0.39					
	SYJ7□20-□-C8		2 position	Single	1/8	C8 (One-touch fitting for ø8)			2.0	0.39	0.52	2.3	0.34	0.61	96	109	97	101				
				Double																		
		3 position	Exhaust center	1.2			0.38	0.33	2.6 [1.3]	0.35[0.49]	0.67 [0.38]											
			Pressure center									1.9 [0.86]	0.57 [0.46]	0.59 [0.25]					1.7	0.39	0.42	
Base mounted		SYJ7□40-□-01	2 position	Single			1/8	1/8	2.3	0.45	0.57	2.8	0.37	0.71					165 (85)	178 (98)	166 (86)	187 (107)
				Double																		
	3 position		Exhaust center	1.2	0.48	0.35			3.4 [1.3]	0.36[0.57]	0.86 [0.41]											
			Pressure center									3.3 [0.85]	0.43 [0.54]	0.78 [0.25]	2.1	0.45	0.56					
	SYJ7□40-□-02		2 position	Single	1/4	1/4			2.3	0.41	0.61	2.9	0.35	0.74	165 (85)	178 (98)	166 (86)	187 (107)				
				Double																		
		3 position	Exhaust center	1.3			0.45	0.35	3.7 [1.4]	0.27[0.56]	0.87 [0.43]											
			Pressure center									3.6 [0.83]	0.23 [0.55]	0.84 [0.25]					2.1	0.47	0.58	

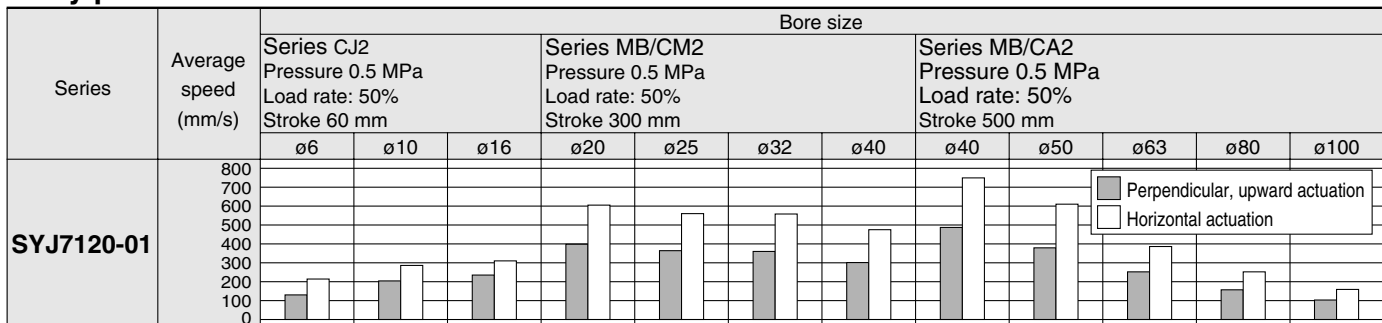


Note 1) [ ]: Denotes normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2  
 Note 2) ( ): Without sub-plate.  
 Note 3) For DC voltages. For AC voltages add 3 g to the weight of the single solenoid and 6 g to the weight of the double solenoid and 3 position types.

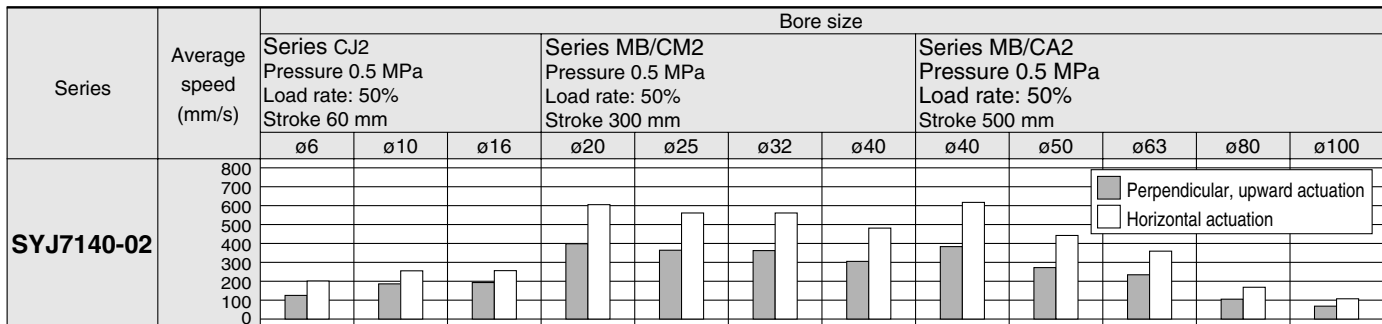
- SV
- SZ
- SY
- SYJ
- SX

## Cylinder Speed Chart

### Body ported



### Base mounted



\* Cylinder is in extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.  
 \* Average speed of cylinder is obtained by dividing the full stroke time by the stroke.  
 \* Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

## Conditions

	Body ported	Series CJ2	Series CM2	Series MB/CA2
SYJ7120-01	Tubing bore x Length	ø6 x 1 m		
	Speed controller	AS2301F-06	AS3301F-06	AS4001F-12
	Silencer	AN110-01	AN200-02	

	Base mounted	Series CJ2	Series CM2	Series MB/CA2
SYJ7140-02	Tubing bore x Length	ø6 x 1 m		
	Speed controller	AS1301F-06	AS3001F-06	
	Silencer	AN110-01	AN200-02	AN3301F-06

# Series SYJ7000

## How to Order

**Type of actuation**

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

**Light/Surge voltage suppressor**

**Electrical entry for G, H, L, M, W**

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
R	With surge voltage suppressor (Non-polar type)
U	With light/surge voltage suppressor (Non-polar type)

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
 \* For type "R" and "U", DC voltage is only available.  
 \* Power saving circuit is only available in the "Z" type.

**Electrical entry for D**

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor (Non-polar type)
Z	With light/surge voltage suppressor (Non-polar type)

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

**Rated voltage**

DC	AC (50/60 Hz)
5	1
6	2
V	3
S	4
R	

24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC  
 100 VAC, 200 VAC, 110 VAC [115 VAC], 220 VAC [230 VAC]

\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
 \* For type "W□", DC voltage is only available.

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**Bracket**

Nil: Without bracket  
 F: With bracket

Note) Do not remove the factory installed bracket from models with the bracket option. Removal of the bracket will cause the valve to leak.

**A, B port size**

01	1/8
C6	One-touch fitting for ø6
C8	One-touch fitting for ø8
N7	One-touch fitting for ø1/4"
N9	One-touch fitting for ø5/16"

**Body option**

0: Pilot valve individual exhaust for the pilot valve

R port P, E port

3: Common exhaust type for main and pilot valve

R port P, E port

**Coil specifications**

Nil	Standard
T	With power saving circuit <24 V, 12 VDC only>

\* Power saving circuit is not available in the case of "D", "DO" or "W□" type.

**Manual override**

Nil: Non-locking push type

D: Push-turn locking slotted type

E: Push-turn locking lever type

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**Port size**

Nil: Without sub-plate

(With gasket and screws)

Note)

01: 1/8 With sub-plate

02: 1/4 With sub-plate

Note) R1, R2 port: 1/4

**Electrical entry**

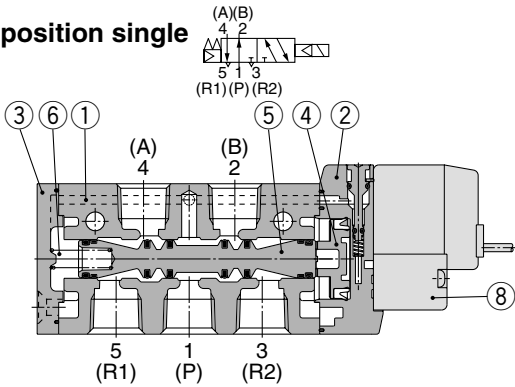
24, 12, 6, 5, 3 VDC 100, 110, 200, 220 VAC		24, 12 VDC 100, 110, 200, 220 VAC		24, 12, 6, 5, 3 VDC	
Grommet	L plug connector	M plug connector		DIN terminal	M8 connector
<b>G:</b> Lead wire length 300 mm	<b>L:</b> With lead wire (Length 300 mm)	<b>M:</b> With lead wire (Length 300 mm)	<b>MN:</b> Without lead wire	<b>D:</b> With connector	<b>WO:</b> Without connector cable
<b>H:</b> Lead wire length 600 mm	<b>LN:</b> Without lead wire	<b>LO:</b> Without connector	<b>MO:</b> Without connector	<b>DO:</b> Without connector	

\* "LN", "MN" type: with 2 sockets.  
 \* DIN terminal "Type Y" conforming to DIN 43650C is also available. For details, refer to page 1-5-73.  
 \* For connector cable of M8 connector, refer to page 1-5-78.

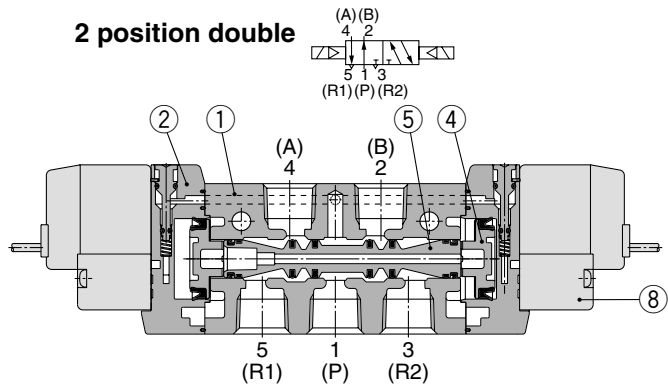
# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

## Construction

2 position single

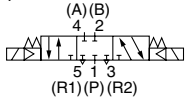


2 position double

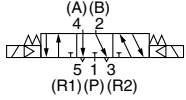


3 position closed center/exhaust center/pressure center

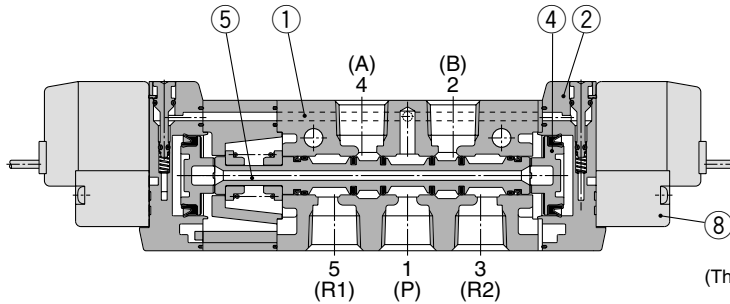
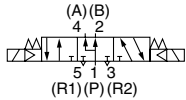
3 position closed center



3 position exhaust center



3 position pressure center



(This figure shows a closed center type.)

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

## Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted	White
②	Piston plate	Resin	White
③	End cover	Aluminum die-casted	White
④	Piston	Resin	—
⑤	Spool valve assembly	Aluminum, HNBR	—
⑥	Spool spring	Stainless steel	—

## Replacement Parts

No.	Description	Part no.	Note
⑦	Sub-plate	SYJ7000-22-1	1/8 Aluminum die-casted
		SYJ7000-22-2	1/4
⑧	Pilot valve	V111(T)-□□□	—

## How to Order Pilot Valve Assembly

V111 — 5 G

### Coil specifications

Nil	Standard: DC specifications
A	Standard: AC specifications
T	With power saving circuit (24, 12 VDC only)

\* Power saving circuit is not available in the case of "W□" type.

### Rated voltage

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC
1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
3	110 VAC 50/60 Hz [115 VAC 50/60 Hz]
4	220 VAC 50/60 Hz [230 VAC 50/60 Hz]

\* For type "W□", DC voltage is only available.

### Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
R	With surge voltage suppressor (Non-polar type)
U	With light/surge voltage suppressor (Non-polar type)

\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.  
\* For type R and U, DC voltage is only available.  
\* Power saving circuit is only available in the "Z" type.

### Electrical entry

G	Grommet (300 mm lead wire)	
H	Grommet (600 mm lead wire)	
L	L plug connector	With lead wire
LN	L plug connector	Without lead wire
LO	L plug connector	Without connector
M	M plug connector	With lead wire
MN	M plug connector	Without lead wire
MO	M plug connector	Without connector
WO	M8 connector	Without connector cable

\* For connector cable of M8 connector, refer to page 1-5-78.

V115 — 5 D

### Rated voltage

5	24 VDC
6	12 VDC
1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
3	110 VAC 50/60 Hz [115 V AC 50/60 Hz]
4	220 VAC 50/60 Hz [230 VAC 50/60 Hz]

### Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor (Non-polar type)
Z	With light/surge voltage suppressor (Non-polar type)

\* "DOZ" is not available.  
\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.


### Electrical entry


D	DIN terminal	With connector
DO	DIN terminal	Without connector


Note) Do not replace V111 (G, H, L, M, W) to V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.


# Series SYJ7000

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

For DC : **SY100-30-4A-** 

For 100 VAC : **SY100-30-1A-** 

For 200 VAC : **SY100-30-2A-** 


For other voltages of AC : **SY100-30-3A-** 

Without lead wire: **SY100-30-A**  
(with connector and 2 of sockets only)

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

## How to Order M8 Connector Cable

V100-49-1- 

● Cable length

1	300 mm
2	500 mm
3	1000 mm
4	2000 mm
7	5000 mm

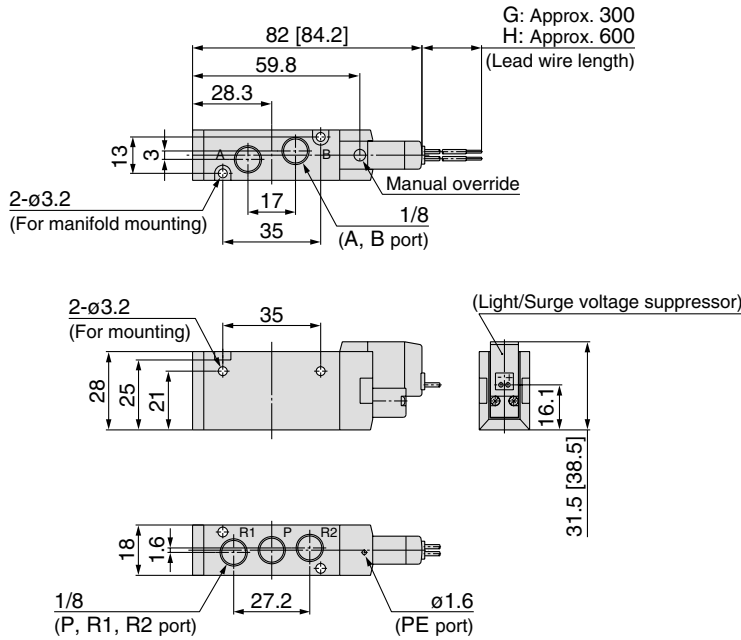


# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

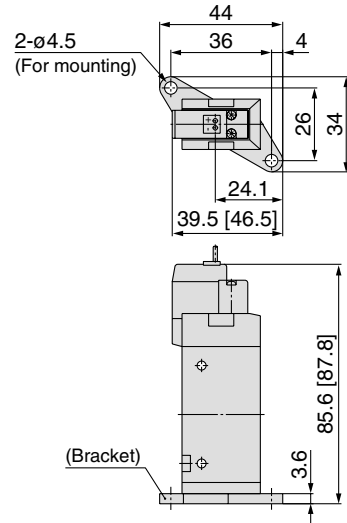


## 2 Position Single

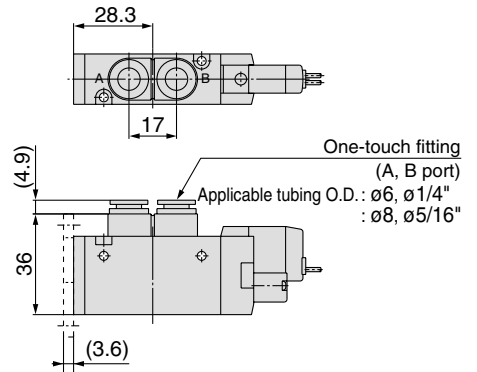
Grommet (G), (H): SYJ7120-□<sup>G</sup>□□□-01□



With bracket:  
SYJ7120-□<sup>G</sup>□□□-01□-F

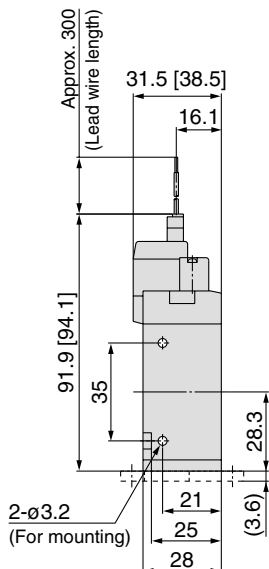


Built-in One-touch fitting:  
SYJ7120-□<sup>G</sup>□□□-C6, N7  
C8, N9 □ (-F)

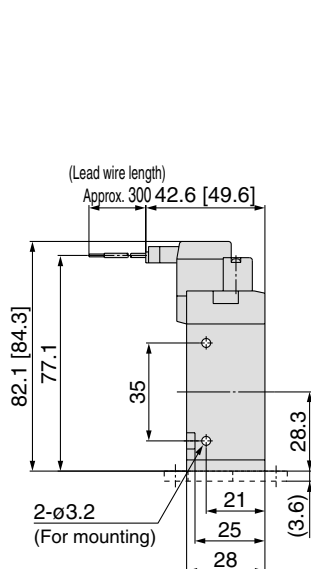


- SV
- SZ
- SY
- SYJ**
- SX

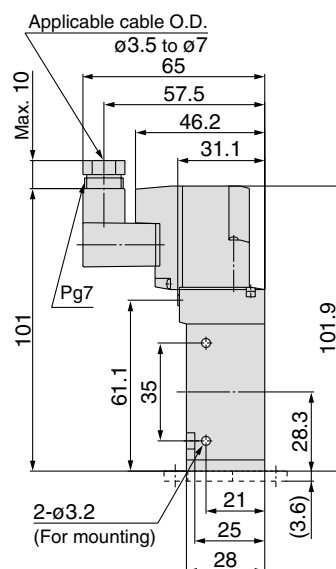
L plug connector (L):  
SYJ7120-□L□□-01□ (-F)



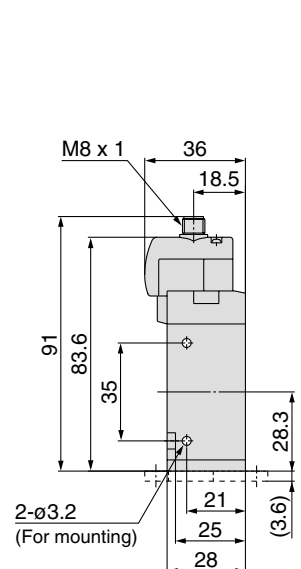
M plug connector (M):  
SYJ7120-□M□□-01□ (-F)



DIN terminal (D):  
SYJ7120-□D□□-01□ (-F)



M8 connector (WO):  
SYJ7120-□WO□□-01□ (-F)



Refer to page 1-5-79 for dimensions with connector cable.

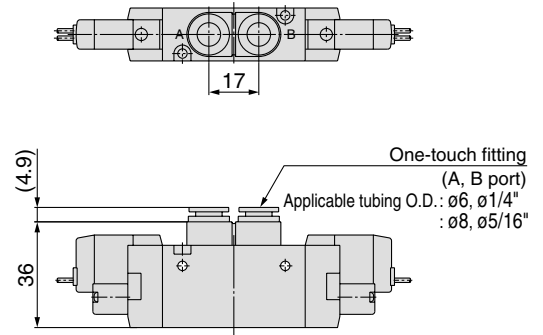
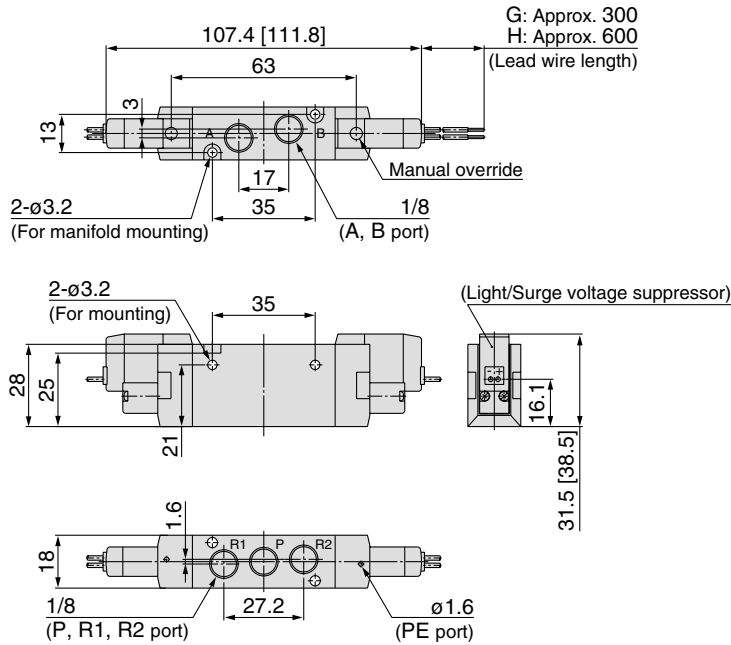
# Series SYJ7000

## 2 Position Double



Grommet (G), (H): SYJ7220-□<sup>G</sup>□□□-01□

Built-in One-touch fitting:  
SYJ7220-□<sup>G</sup>□□□-C<sub>8</sub>, N<sub>7</sub>□

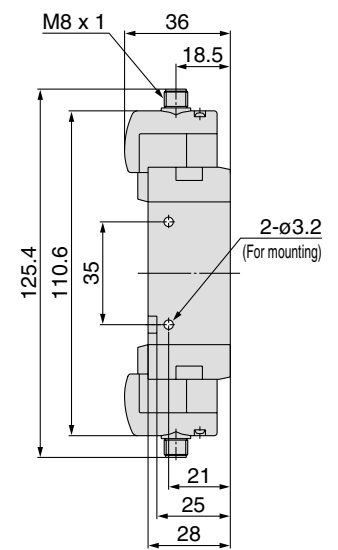
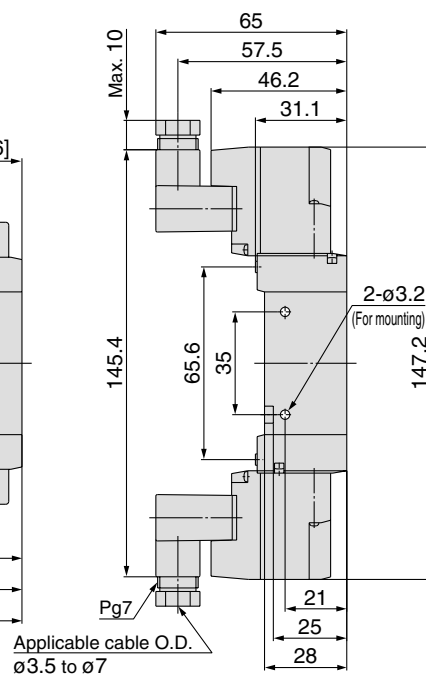
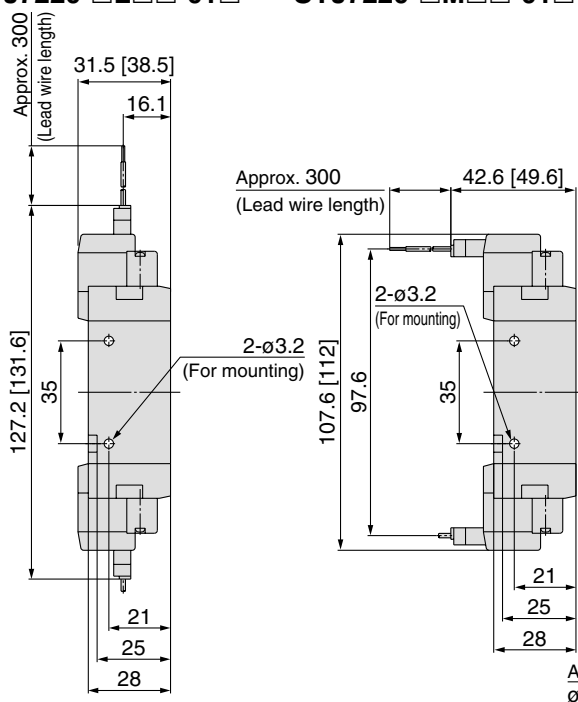


L plug connector (L):  
SYJ7220-□L□□□-01□

M plug connector (M):  
SYJ7220-□M□□□-01□

DIN terminal (D):  
SYJ7220-□D□□□-01□

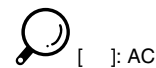
M8 connector (WO):  
SYJ7220-□WO□□□-01□



Refer to page 1-5-79 for dimensions with connector cable.

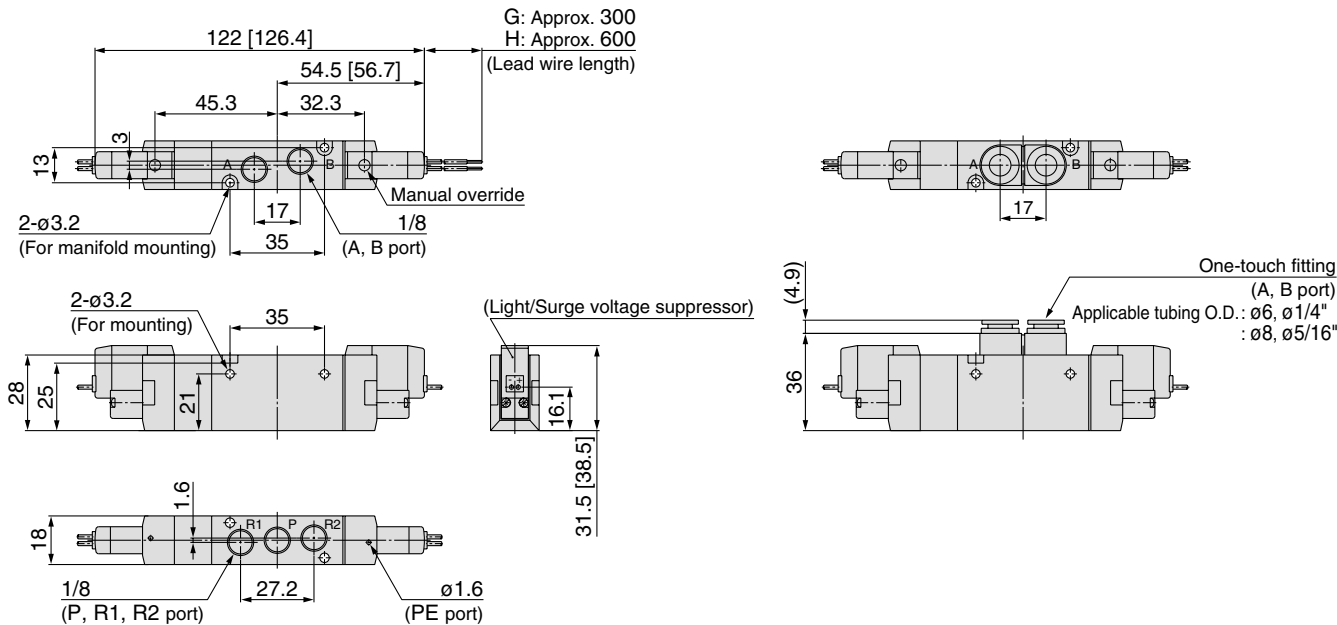
# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

## 3 Position Closed Center/Exhaust Center/Pressure Center



Grommet (G), (H): SYJ7<sup>3</sup>/<sub>5</sub>20-□<sup>G</sup>□□-01□

Built-in One-touch fitting:  
SYJ7<sup>3</sup>/<sub>5</sub>20-□<sup>G</sup>□□-<sup>C6, N7</sup>□<sup>C8, N9</sup>□



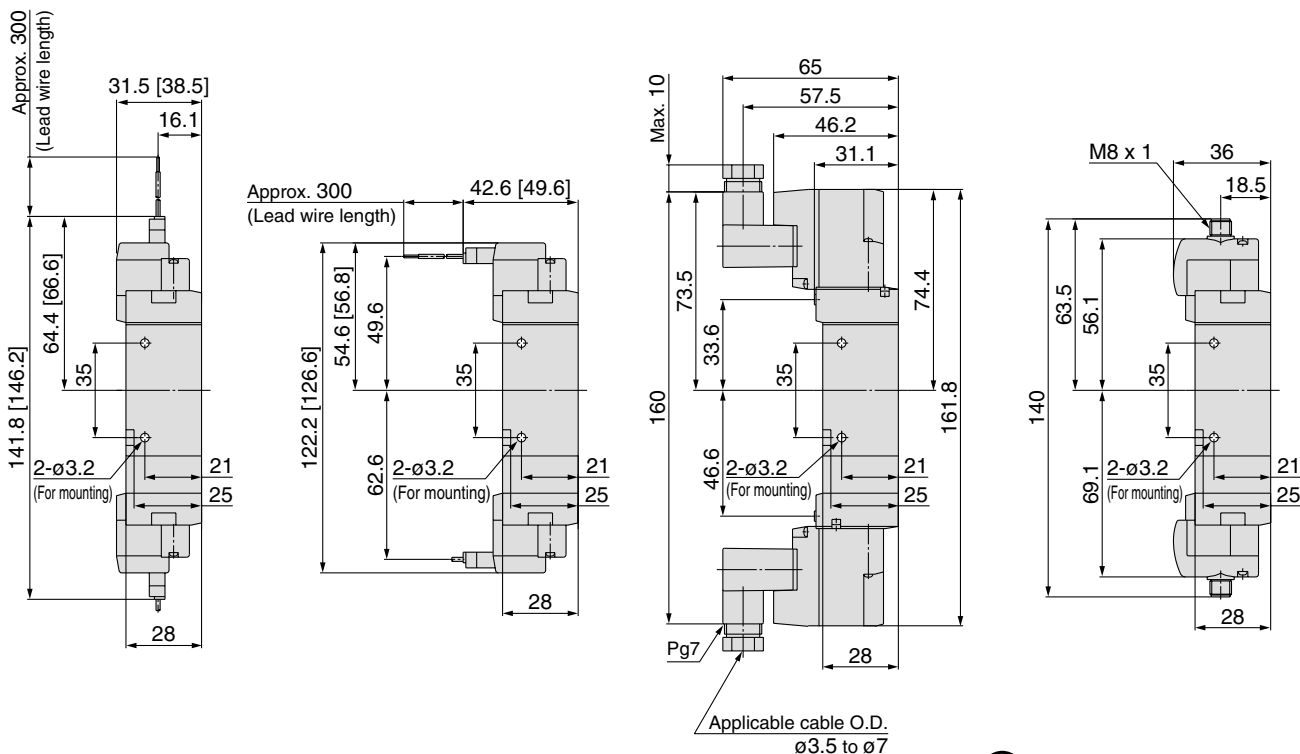
- SV
- SZ
- SY
- SYJ
- SX

L plug connector (L):  
SYJ7<sup>3</sup>/<sub>5</sub>20-□L□□-01□

M plug connector (M):  
SYJ7<sup>3</sup>/<sub>5</sub>20-□M□□-01□

DIN terminal (D):  
SYJ7<sup>3</sup>/<sub>5</sub>20-□D□□-01□

M8 connector (WO):  
SYJ7<sup>3</sup>/<sub>5</sub>20-□WO□□-01□



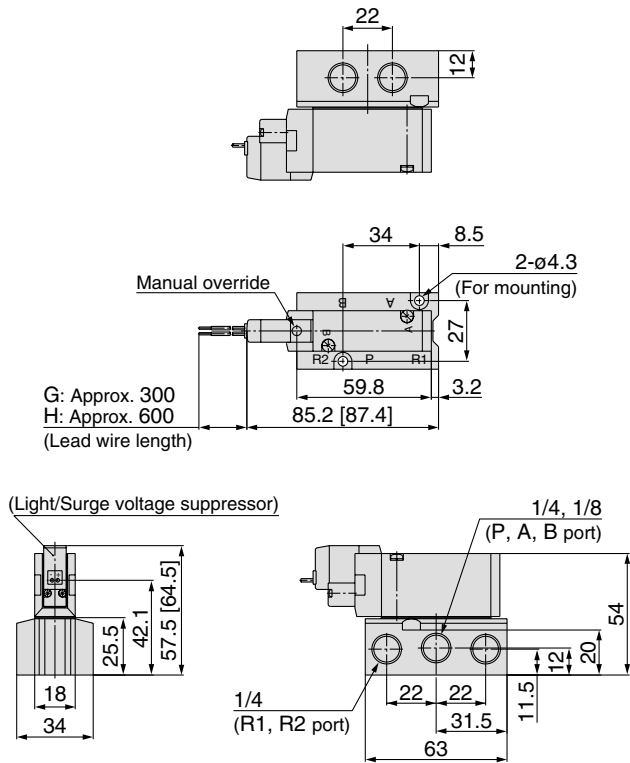
Refer to page 1-5-79 for dimensions with connector cable.

# Series SYJ7000

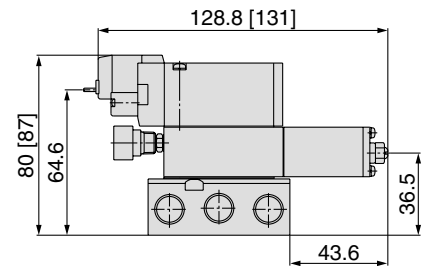
## 2 Position Single



Grommet (G), (H): SYJ7140-□□□□-01□□



### With interface regulator

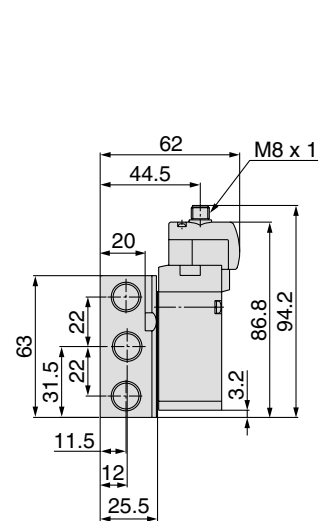
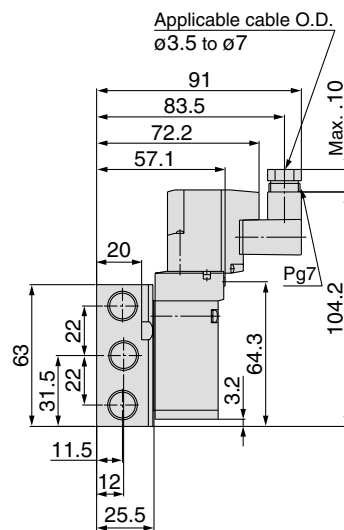
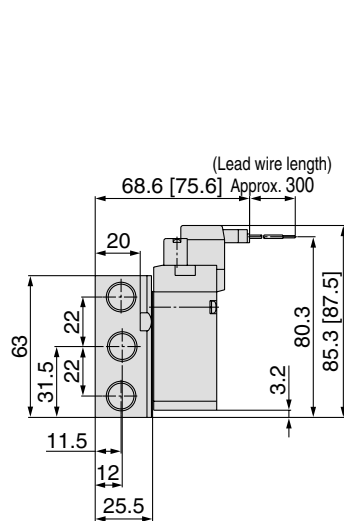
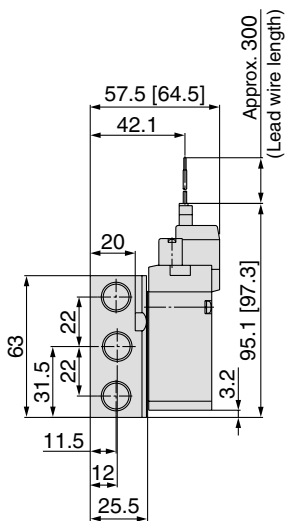


**L plug connector (L):**  
SYJ7140-□□□□-01□□

**M plug connector (M):**  
SYJ7140-□□□□-01□□

**DIN terminal (D):**  
SYJ7140-□□□□-01□□

**M8 connector (WO):**  
SYJ7140-□□□□-01□□



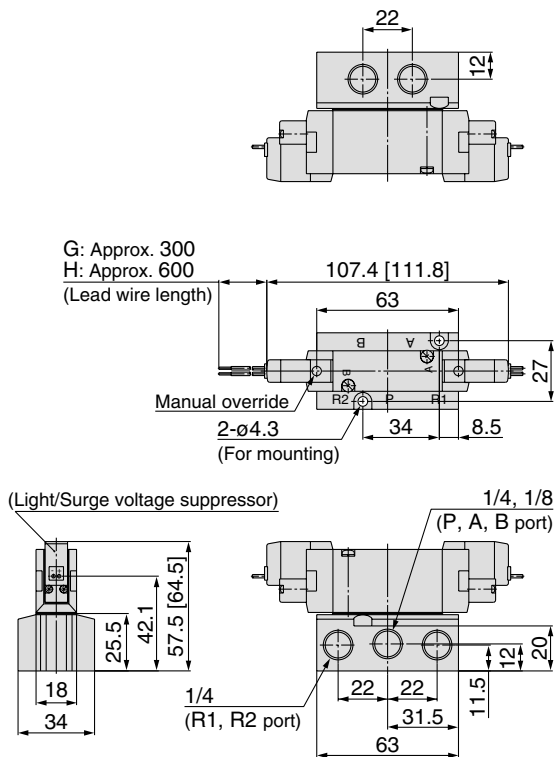
Refer to page 1-5-79 for dimensions with connector cable.

# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

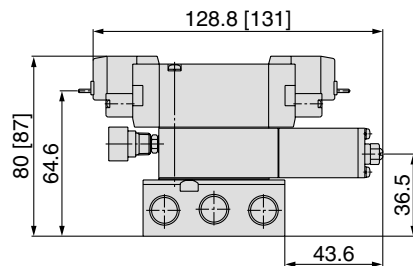
## 2 Position Double



Grommet (G), (H): SYJ7240-□G□□□-01□



With interface regulator

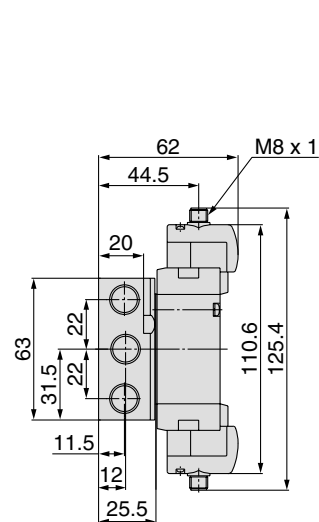
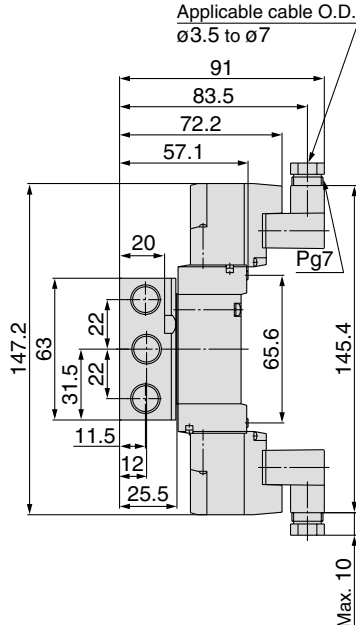
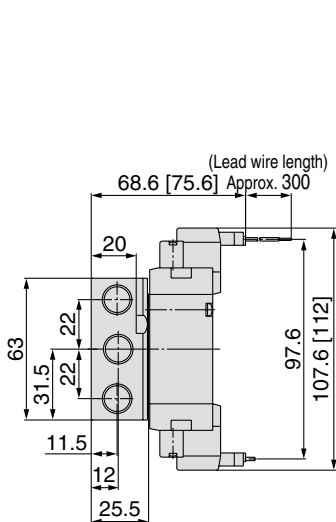
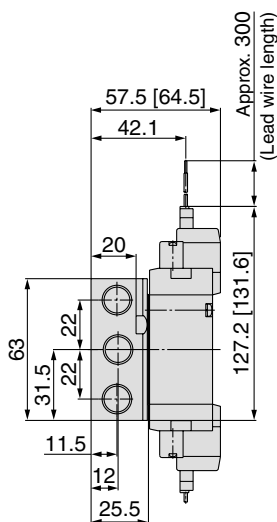


L plug connector (L):  
SYJ7240-□L□□□-01□

M plug connector (M):  
SYJ7240-□M□□□-01□

DIN terminal (D):  
SYJ7240-□D□□□-01□

M8 connector (WO):  
SYJ7240-□WO□□□-01□



Refer to page 1-5-79 for dimensions with connector cable.

SV

SZ

SY

SYJ

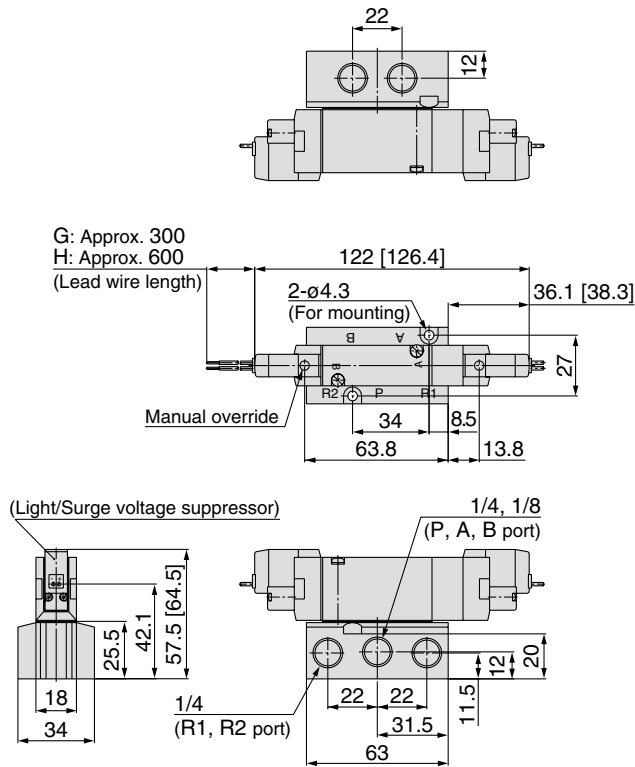
SX

# Series SYJ7000

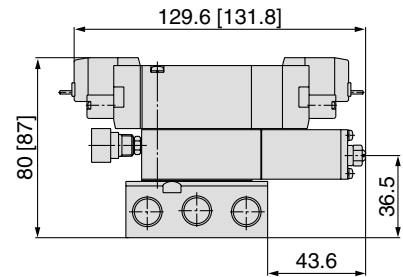
## 3 Position Closed Center/Exhaust Center/Pressure Center



Grommet (G), (H): SYJ7 $\frac{3}{5}$ 40-□G□□-01□



With interface regulator

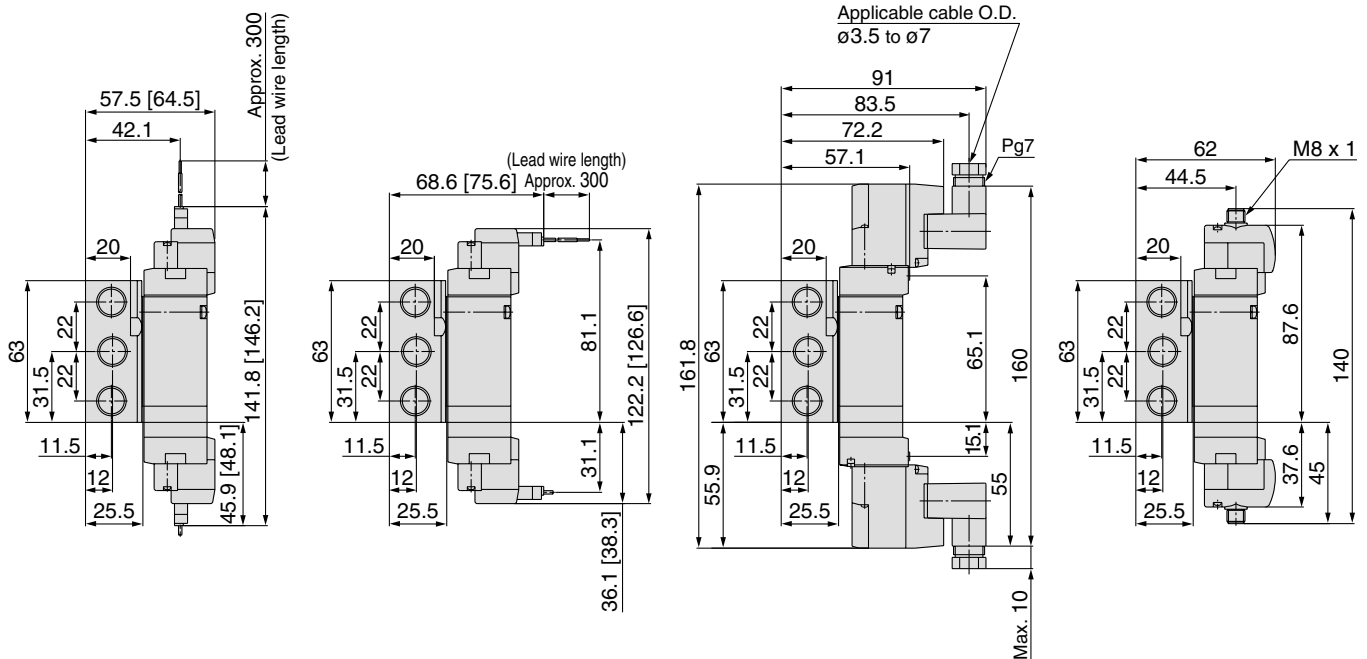


**L plug connector (L):**  
SYJ7 $\frac{3}{5}$ 40-□L□□-01□

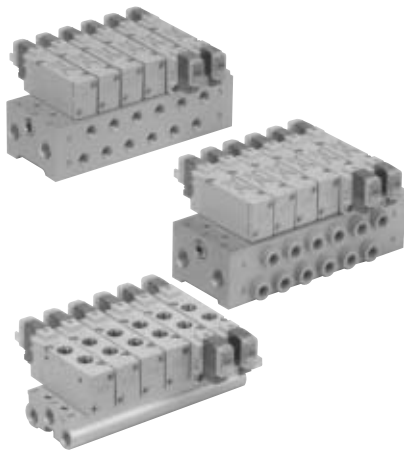
**M plug connector (M):**  
SYJ7 $\frac{3}{5}$ 40-□M□□-01□

**DIN terminal (D):**  
SYJ7 $\frac{3}{5}$ 40-□D□□-01□

**M8 connector (WO):**  
SYJ7 $\frac{3}{5}$ 40-□WO□□-01□



Refer to page 1-5-79 for dimensions with connector cable.

Series **SYJ7000****Manifold Specifications****Manifold Standard****Manifold Specifications**

Model		Type 20	Type 21	Type 40	Type 20	Type 42
Manifold type		Single base/B mount				
P (SUP), R (EXH)		Common SUP, Common EXH				
Valve stations		2 to 15 stations		2 to 20 stations		
A, B port Porting specifications	Location	Valve		Base	Base	
	Direction	Top		Bottom	Side	
Port size	P, R port	1/8		1/4		
	A, B port	1/8 C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)		1/8		C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)

SV

SZ

SY

SYJ

SX

**Flow Characteristics**

Manifold		Port size		Flow characteristics						
				1→4/2 (P→A/B)			4/2→5/3 (A/B→R)			
		1(P), 5/3(R) port	2(B), 4(A) port	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv	
Body ported for internal pilot	SS5YJ7-20	SYJ7□2□	1/8	1/8	2.2	0.35	0.57	2.3	0.26	0.55
			1/8	C6	1.4	0.32	0.37	2.0	0.25	0.49
	SS5YJ7-21	SYJ7□2□	1/8	C8	1.7	0.38	0.45	2.1	0.25	0.51
			1/4	1/8	2.1	0.36	0.55	2.3	0.26	0.54
			1/4	C6	1.4	0.32	0.36	2.1	0.24	0.50
Base mounted for internal pilot	SS5YJ7-40	SYJ7□4□	1/4	1/8	2.1	0.28	0.51	2.5	0.23	0.59
			1/4	1/8	2.0	0.30	0.50	2.2	0.30	0.55
	SS5YJ7-41	SYJ7□4□	1/4	C6	1.5	0.32	0.38	2.2	0.23	0.52
			1/4	C8	1.9	0.24	0.46	2.2	0.26	0.53
			1/4	C6	1.5	0.32	0.38	2.2	0.23	0.52



Note) Value at manifold base mounted, 2 position single operating

**How to Order Manifold (Example)**

Instruct by specifying the valves and blanking plate assembly to be mounted on the manifold along with the manifold base model no.

Example: **SS5YJ7-20-03** ..... 1 pc. (Manifold base)  
 \* **SYJ7120-5G-01** ..... 2 pcs. (Valve)  
 \* **SYJ7000-21-1A** ..... 1 pc. (Blanking plate assembly)

**SS5YJ7-41-03-01** ..... 1 pc. (Manifold base)  
 \* **SYJ7140-5LZ** ..... 1 pc. (Valve)  
 \* **SYJ7240-5LZ** ..... 1 pc. (Valve)  
 \* **SYJ7000-21-1A** ..... 1 pc. (Blanking plate assembly)

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

\* Use manifold specification sheet.

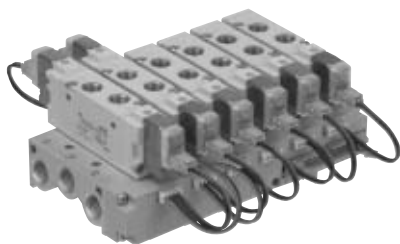


# Series SYJ7000

## Flat Ribbon Cable Manifold

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

In the case of a flat ribbon cable type, 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		Type 21P
Manifold type		Single base/B mount
P (SUP), R (EXH)		Common SUP, Common EXH
Valve stations		3 to 12 stations
A, B port location		Valve
Port size	P, R port	1/4
	A, B port	1/8, C6, C8
Applicable flat ribbon cable connector		Socket: 26 pins MIL type with strain relief (MIL-C-83503)
Internal wiring		In common between +COM and -COM (Z type: +COM only).
Rated voltage		24, 12 VDC



Note 1) The value is for manifold base and individually operated 2 position type.

Note 2) The withstand voltage specification for the wiring unit section is JIS C 0704, Grade 1 or its equivalent.

## Flow Characteristics

Manifold		Port size		Flow characteristics					
				1→4/2 (P→A/B)			4/2→5/3 (A/B→R)		
Body ported for internal pilot	Model	1(P), 5/3(R) Port	2(B), 4(A) Port	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
			SS5YJ7-21P-01	1/4	1/8	2.1	0.36	0.55	2.3
	SS5YJ7-21P-C6 SYJ7□23	1/4	C6	1.4	0.32	0.36	2.1	0.24	0.50
	SS5YJ7-21P-C8	1/4	C8	1.8	0.37	0.50	2.1	0.20	0.50



Note) Value at manifold base mounted, 2 position single operating

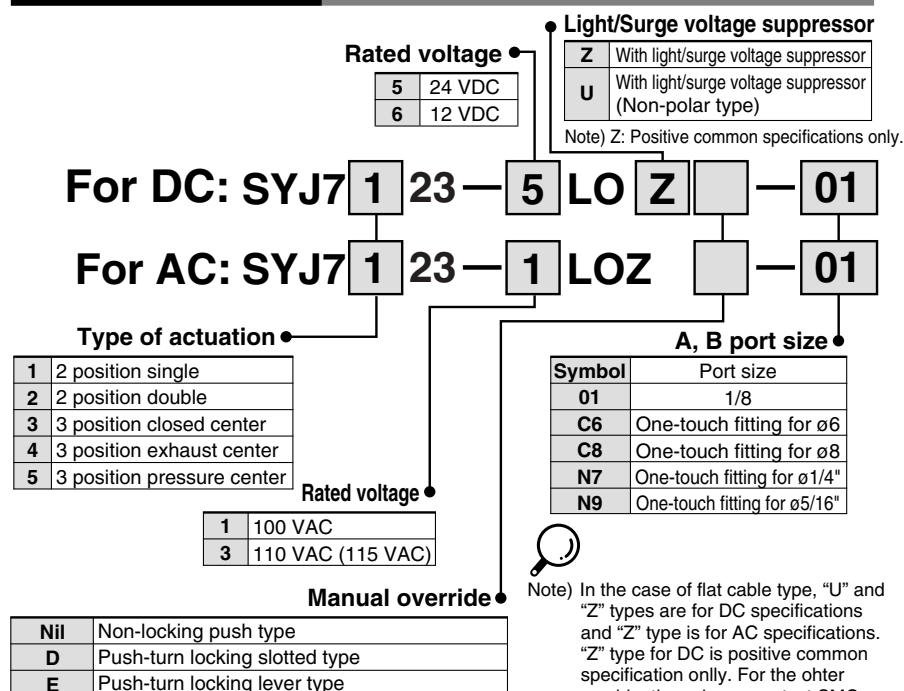
## How to Order Manifold (Example)

Instruct by specifying the valves, blanking plate assembly and connector assembly to be mounted on the manifold along with the manifold base model no.

Example: **SS5YJ7-21P-07** ..... 1 pc. (Manifold base)  
 \* **SYJ7123-5LOU-C8** ..... 3 pcs. (Valve)  
 \* **SYJ7223-5LOU-C8** ..... 3 pcs. (Valve)  
 \* **SYJ7000-21-3A** ..... 1 pc. (Blanking plate assembly)  
 \* **SY3000-37-3A** ..... 3 pcs. (Connector assembly)  
 \* **SY3000-37-4A** ..... 3 pcs. (Connector assembly)  
 ↳ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

\* Use manifold specification sheet.

## How to Order Valves



## How to Order Connector Assembly

### 12, 24 VDC

Single solenoid	SY3000-37-3A
Double solenoid, 3 position type	SY3000-37-4A
Single solenoid, individual SUP, EXH spacer	SY3000-37-3A
Double solenoid, 3 position individual SUP/EXH spacer	SY3000-37-6A
Interface regulator for single solenoid	SY3000-37-3A
Double solenoid, 3 position interface regulator	SY3000-37-6A
3 port adaptor plate	SY3000-37-3A

### 100 VAC

Single solenoid	SY3000-37-32A
Double solenoid, 3 position type	SY3000-37-33A
Single solenoid, individual SUP, EXH spacer	SY3000-37-15A
Double solenoid, 3 position individual SUP/EXH spacer	SY3000-37-34A
Interface regulator for single solenoid	SY3000-37-15A
Double solenoid, 3 position interface regulator	SY3000-37-34A
3 port adaptor plate	SY3000-37-32A

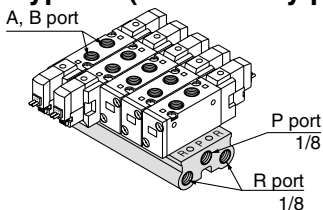
### 100 VAC (115 VAC)

Single solenoid	SY3000-37-35A
Double solenoid, 3 position type	SY3000-37-36A
Single solenoid, individual SUP, EXH spacer	SY3000-37-19A
Double solenoid, 3 position individual SUP/EXH spacer	SY3000-37-37A
Interface regulator for single solenoid	SY3000-37-19A
Double solenoid, 3 position interface regulator	SY3000-37-37A
3 port adaptor plate	SY3000-37-35A

# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

## Manifold Standard/ Common SUP/Common EXH

### Type 20 (5 Port/Body ported)



#### How to Order

SS5YJ7-20-05

Stations	
02	2 stations
:	:
15	15 stations

P, R port  
thread type

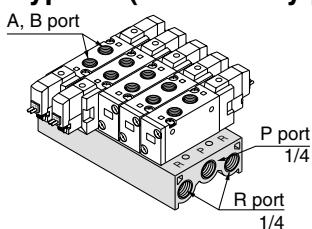
Nil	Rc
00F	G
00N	NPT
00T	NPTF

Applicable solenoid valve

SYJ□20-□□□□-01  
C6  
C8  
SYJ□23-□□□□-01  
C6  
C8

Note) For more than 6 stations, supply air to both sides of P port and exhaust air from both sides of R port.

### Type 21 (5 Port/Body ported)



#### How to Order

SS5YJ7-21-05

Stations	
02	2 stations
:	:
20	20 stations

P, R port  
thread type

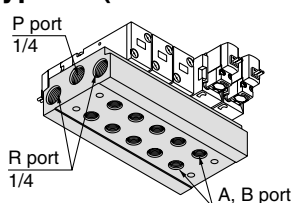
Nil	Rc
00F	G
00N	NPT
00T	NPTF

Applicable blanking  
plate assembly  
SYJ7000-21-1A

Applicable individual  
EXH spacer assembly  
SYJ7000-17-1A

Note) For more than 20 stations, supply air to both sides of P port and exhaust air from both sides of R port.

### Type 40 (5 Port/Base mounted)



#### How to Order

SS5YJ7-40-05-01

Stations	
02	2 stations
:	:
20	20 stations

A, B port size

01 1/8

Thread type

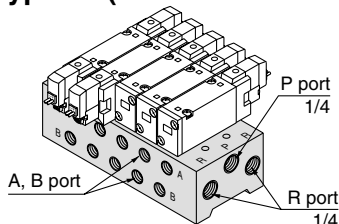
Nil	Rc
F	G
N	NPT
T	NPTF

Applicable solenoid valve

SYJ□40-□□□□  
SYJ□43-□□□□

Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.

### Type 41 (5 Port/Base mounted)



#### How to Order

SS5YJ7-41-05-01

Stations	
02	2 stations
:	:
20	20 stations

A, B port size

01 1/8

Thread type

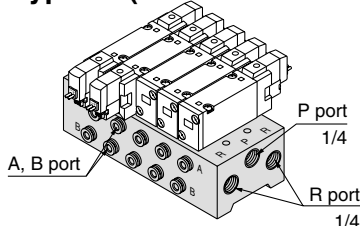
Nil	Rc
F	G
N	NPT
T	NPTF

Applicable blanking  
plate assembly  
SYJ7000-21-1A

Applicable individual  
EXH spacer assembly  
SYJ7000-17-2A

Note) For more than 8 stations, supply air to both sides of P port and exhaust air from both sides of R port.

### Type 42 (5 Port/Base mounted)



#### How to Order

SS5YJ7-42-05-C6

Stations	
02	2 stations
:	:
20	20 stations

A, B port size

C6	One-touch fitting for ø6
C8	One-touch fitting for ø8
N7	One-touch fitting for ø1/4"
N9	One-touch fitting for ø5/16"

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

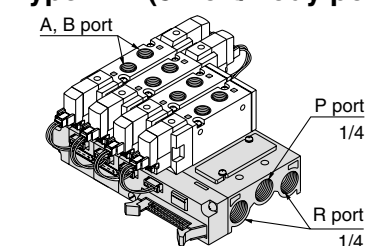
Applicable interface  
regulator

ARBYJ7000-00-P

Note) For more than 20 stations, supply air to both sides of P port and exhaust air from both sides of R port.

## Flat Ribbon Cable Manifold/ Common SUP/Common EXH

### Type 21P (5 Port/Body ported)



#### How to Order

SS5YJ7-21P-05

Stations	
03	3 stations
:	:
12	12 stations

P, R port  
thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Applicable solenoid valve  
Refer to page 1-5-62.

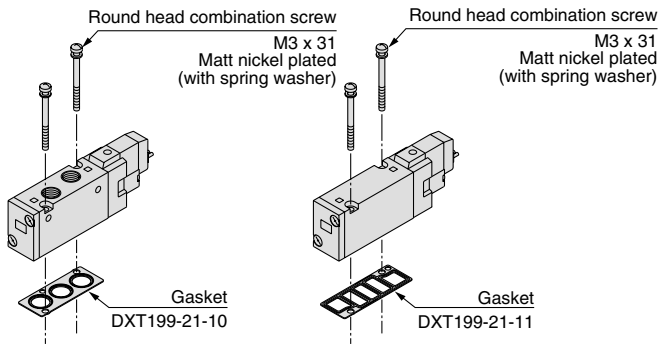
Applicable blanking  
plate assembly  
SYJ7000-21-3A

Applicable connector  
assembly  
Refer to page 1-5-62.

Note) For more than 10 stations, supply air to both sides of P port and exhaust air from both sides of R port.

# Series SYJ7000

## Combinations of Solenoid Valve, Manifold Gasket and Manifold Base



**Applicable manifold base**  
Type SS5YJ7-20  
Type SS5YJ7-21

**Applicable manifold base Sub-plate**  
Type SS5YJ7-40  
Type SS5YJ7-41  
Type SS5YJ7-42

## Mix Installation of SYJ700 and SYJ7000 Valves on the Same Manifold

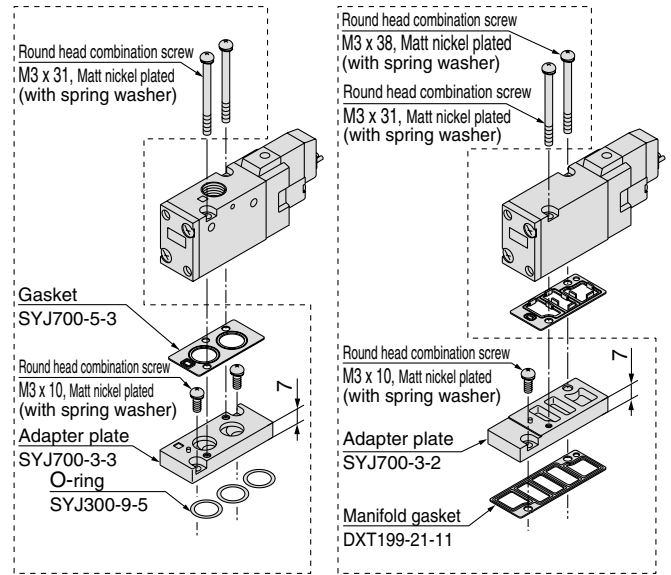
- Use of an adapter plate makes it possible to mount Series SYJ700 on the manifold bases of series SYJ7000.
- When mounting the SYJ700 valve on the SYJ7000 manifold, the SYJ700 solenoid must be positioned on the same side of the manifold as a single solenoid SYJ700. (Refer to the figure below.)
- For base mounted style, the A port of the 3 port valve flows out the B port of manifold base.

### Adapter Plate Assembly SYJ700-3-1A

SYJ700 Series  
Body ported

### Adapter Plate Assembly SYJ700-3-2A

SYJ700 Series  
Base mounted



**Applicable manifold base**  
Type SS5YJ7-20  
Type SS5YJ7-21

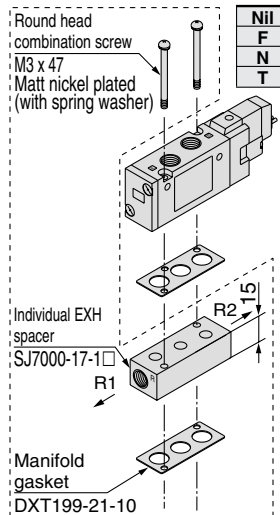
**Applicable manifold base**  
Type SS5YJ7-40  
Type SS5YJ7-41  
Type SS5YJ7-42

## Individual EXH Spacer Assembly

### SYJ7000-17-1 □ A

● Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

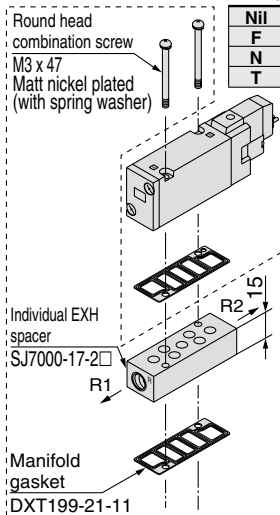


**Applicable manifold base**  
Type SS5YJ7-20  
Type SS5YJ7-21

### SYJ7000-17-2 □ A

● Thread type

Nil	Rc
F	G
N	NPT
T	NPTF



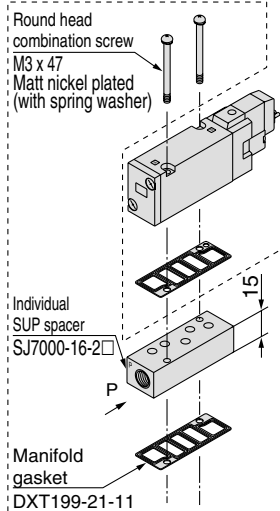
**Applicable manifold base**  
Type SS5YJ7-40  
Type SS5YJ7-41  
Type SS5YJ7-42

## Individual SUP Spacer Assembly

### SYJ7000-16-2 □ A

● Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

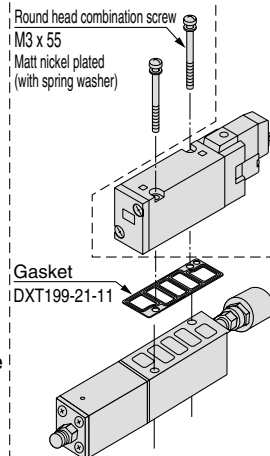


**Applicable manifold base**  
Type SS5YJ7-40  
Type SS5YJ7-41  
Type SS5YJ7-42

## Interface Regulator (P port regulation)

Spacer type regulating valve on manifold block can regulate the pressure to the valve individually.

### ARBYJ7000-00-P

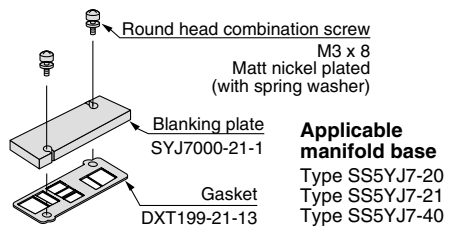


Base mounted

**Applicable manifold base**  
Type SS5YJ7-40  
Type SS5YJ7-41  
Type SS5YJ7-42

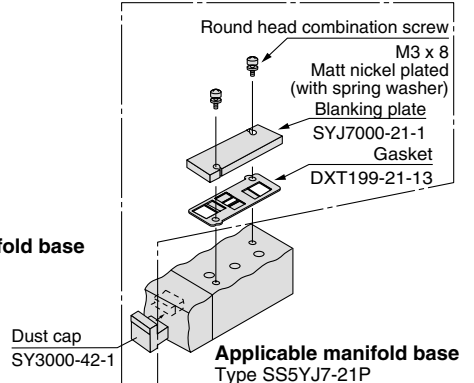
## L Blanking Plate Assembly

### SYJ7000-21-1A



**Applicable manifold base**  
Type SS5YJ7-20  
Type SS5YJ7-21  
Type SS5YJ7-40  
Type SS5YJ7-41  
Type SS5YJ7-42

### SYJ7000-21-3A



**Applicable manifold base**  
Type SS5YJ7-21P

### Caution

Mounting screw tightening torques

M3: 0.8 N·m

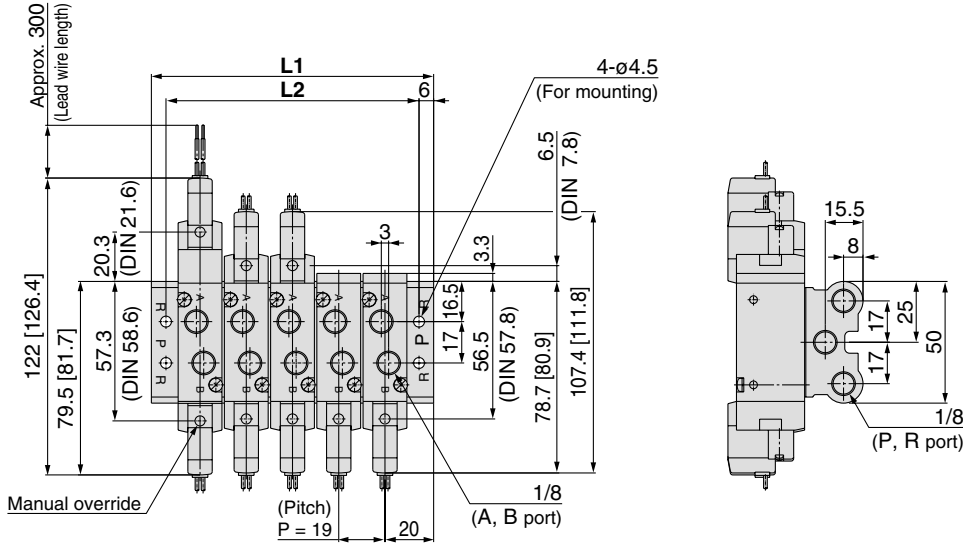
Use caution to the assembly orientation for solenoid valves, gasket, and optional parts.

# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

## Type 20: Top Ported/SS5YJ7-20- Stations -00□

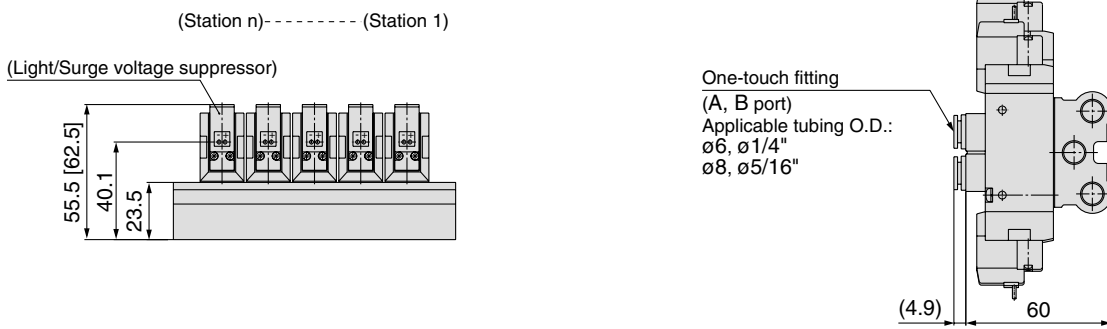


### Grommet (G)

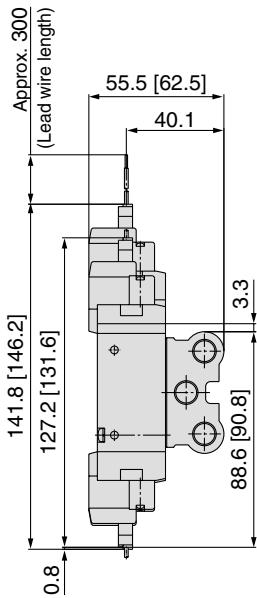


- SV
- SZ
- SY
- SYJ**
- SX

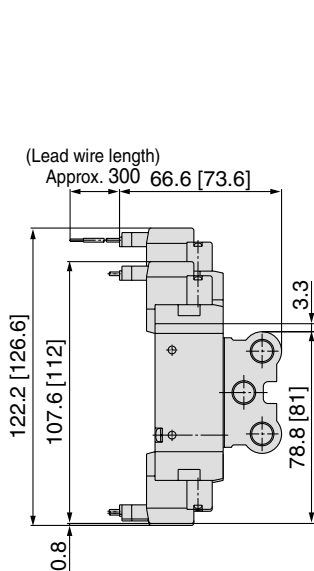
### Built-in One-touch fitting



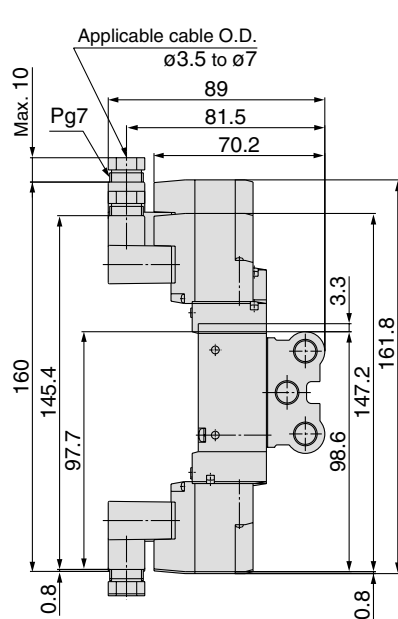
### L plug connector (L)



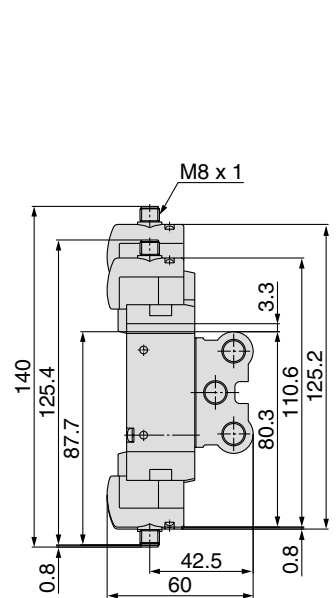
### M plug connector (M)



### DIN terminal (D)



### M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

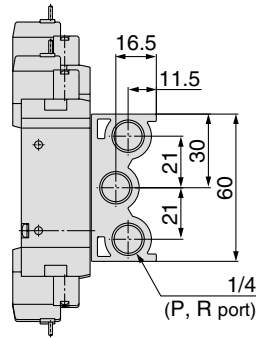
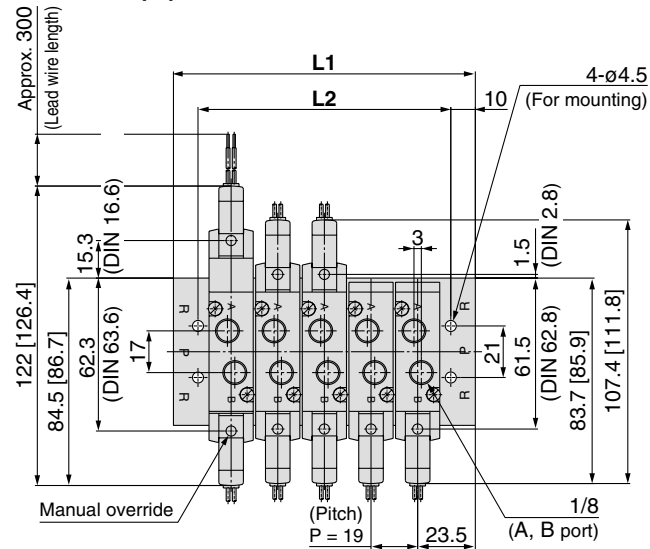
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	Station 15
L1	59	78	97	116	135	154	173	192	211	230	249	268	287	306
L2	47	66	85	104	123	142	161	180	199	218	237	256	275	294

# Series SYJ7000

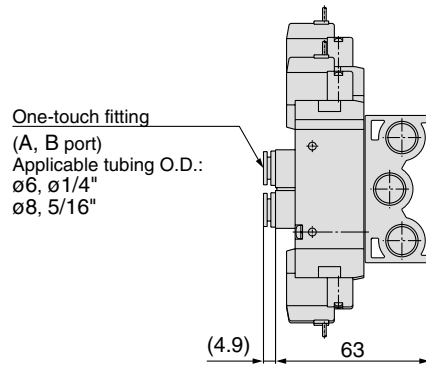
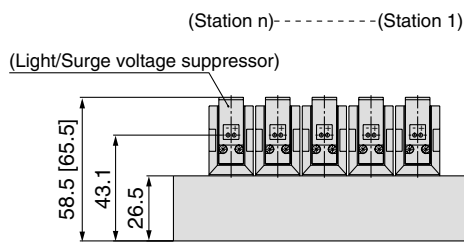
## Type 21: Top Ported/SS5YJ7-21- Stations (-00□)



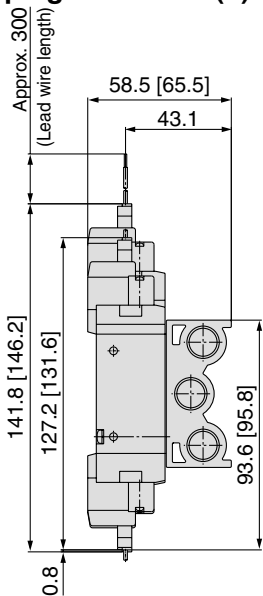
### Grommet (G)



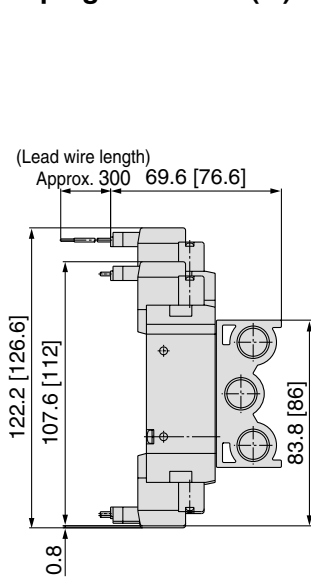
### Built-in One-touch fitting



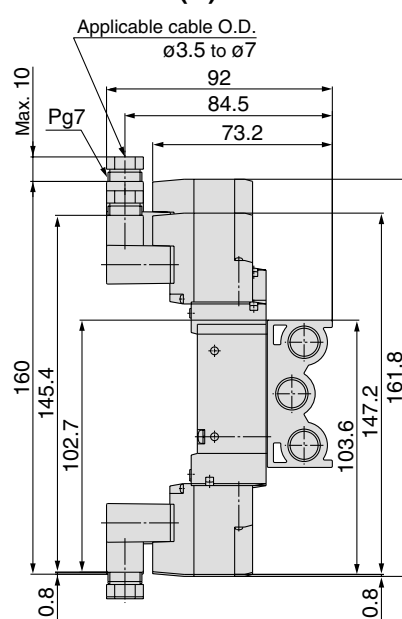
### L plug connector (L)



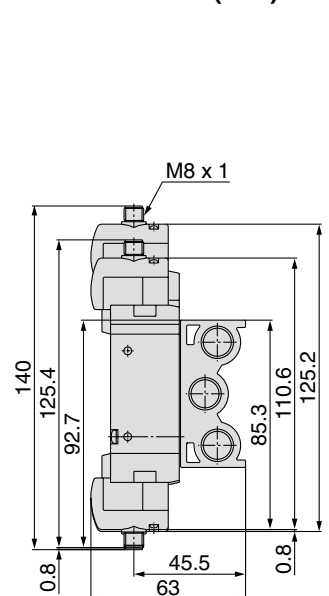
### M plug connector (M)



### DIN terminal (D)



### M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

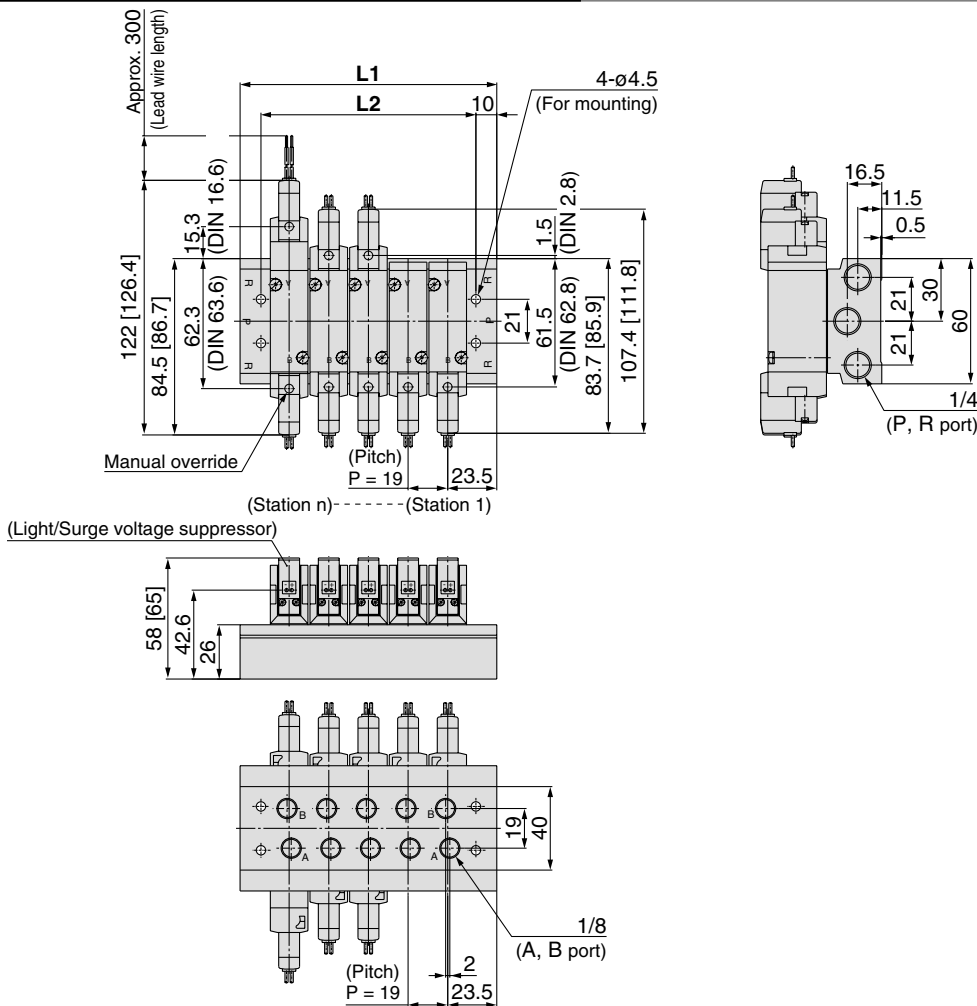
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

## Type 40: Bottom Ported/SS5YJ7-40- Stations -01□



### Grommet (G)



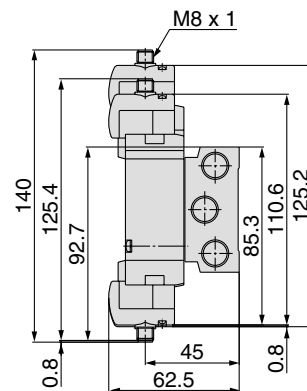
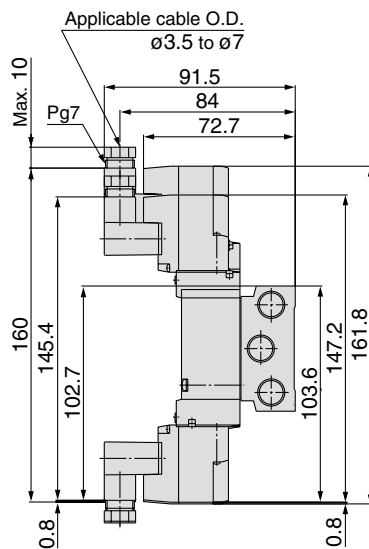
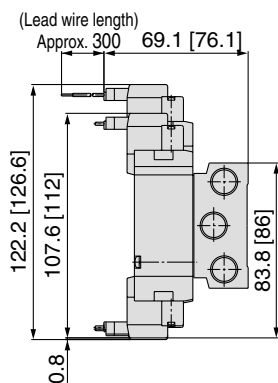
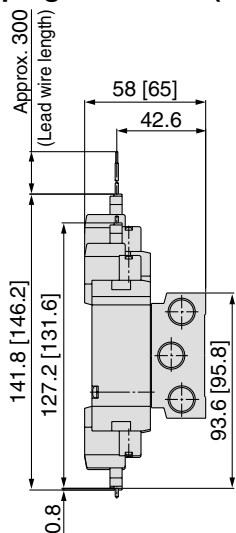
- SV
- SZ
- SY
- SYJ**
- SX

### L plug connector (L)

### M plug connector (M)

### DIN terminal (D)

### M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
<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

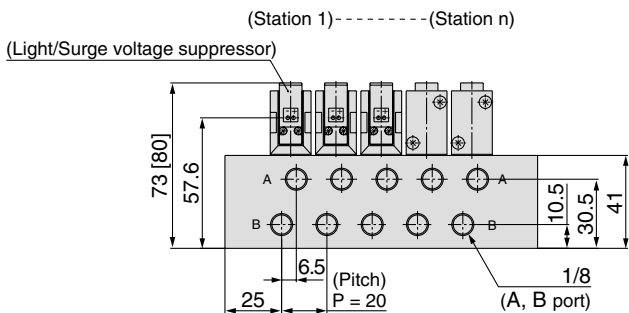
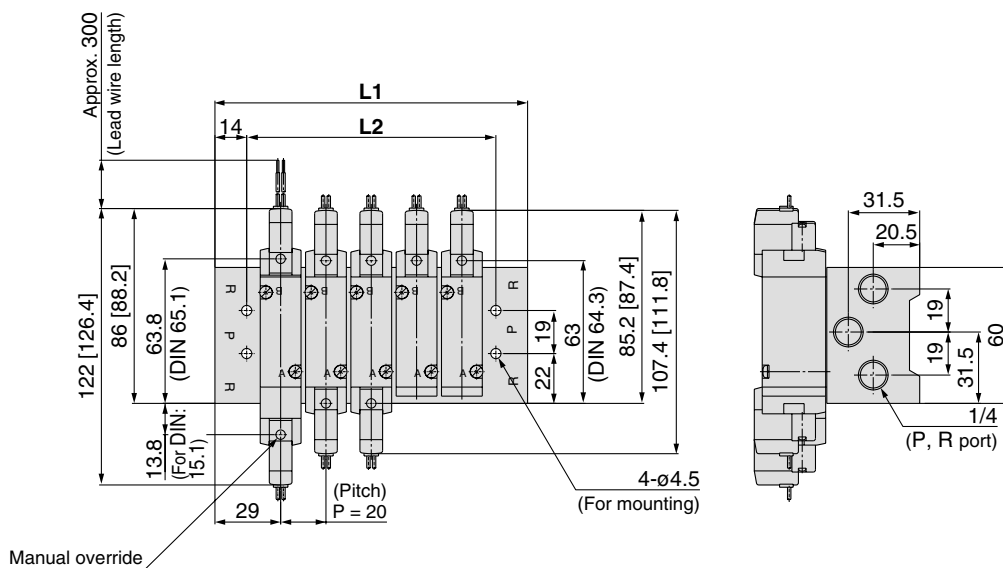


# Series SYJ7000

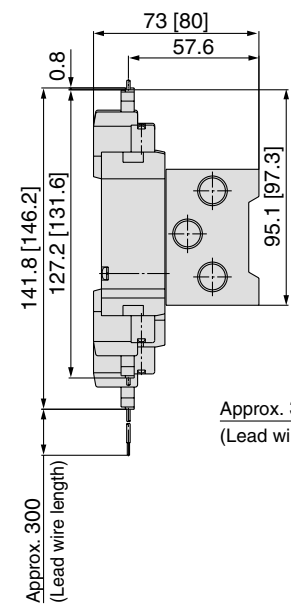
## Type 41: Side Ported/SS5YJ7-41- Stations -01 □



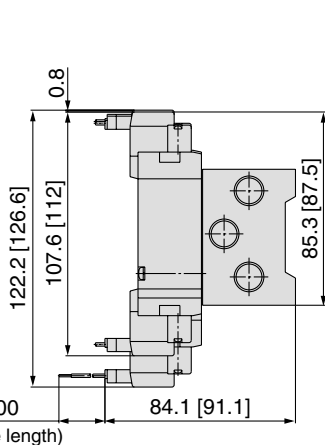
### Grommet (G)



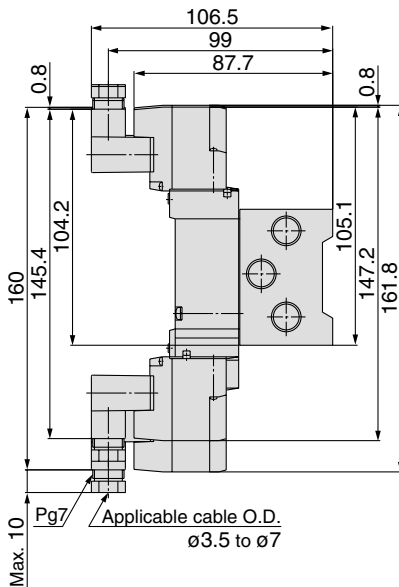
### L plug connector (L)



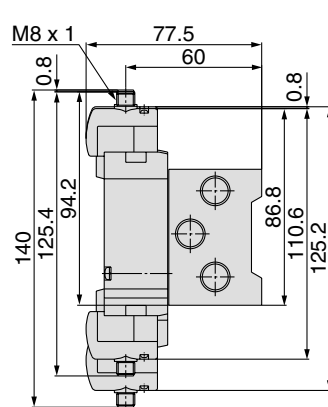
### M plug connector (M)



### DIN terminal (D)



### M8 connector (WO)



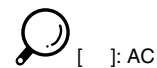
Refer to page 1-5-79 for dimensions with connector cable.

Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
<b>L1</b>	78	98	118	138	158	178	198	218	238	258	278	298	318	338	358	378	398	418	438
<b>L2</b>	50	70	90	110	130	150	170	190	210	230	250	270	290	310	330	350	370	390	410

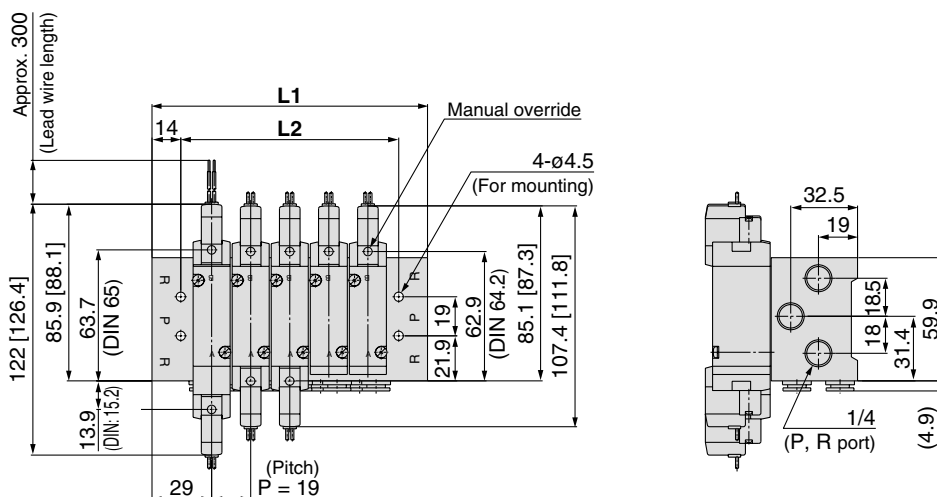


# 5 Port Solenoid Valve Rubber Seal Series SYJ7000

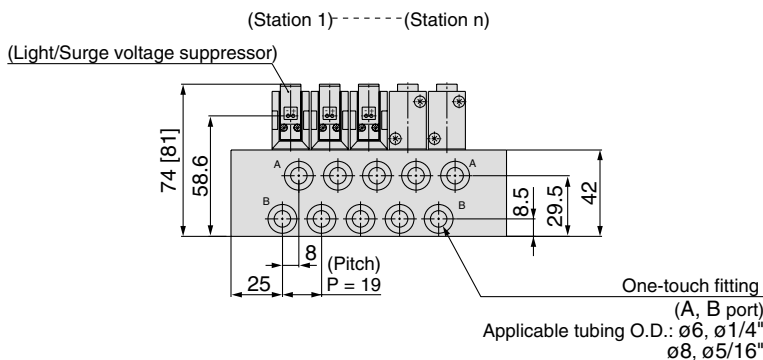
Type 42: Side Ported/SS5YJ7-42- Stations  C6,N7 C8,N9



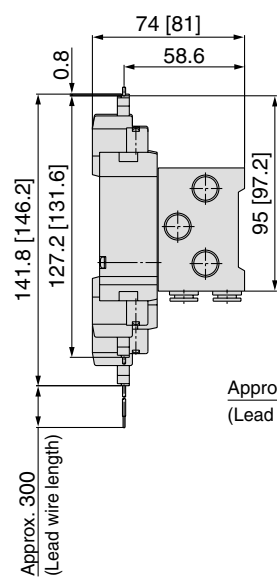
## Grommet (G)



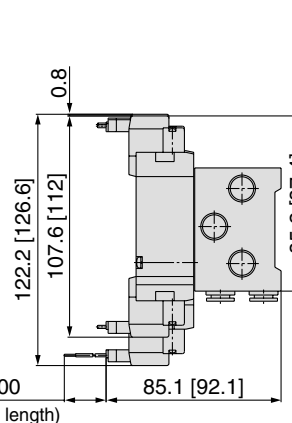
- SV
- SZ
- SY
- SYJ**
- SX



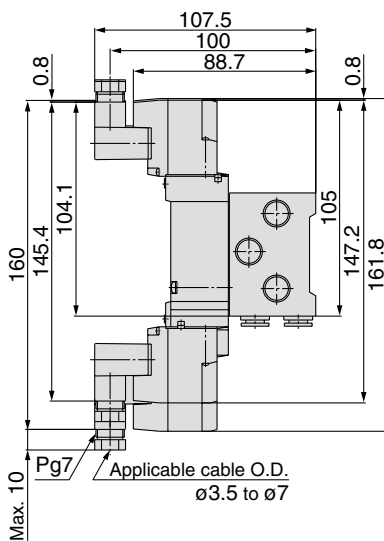
## L plug connector (L)



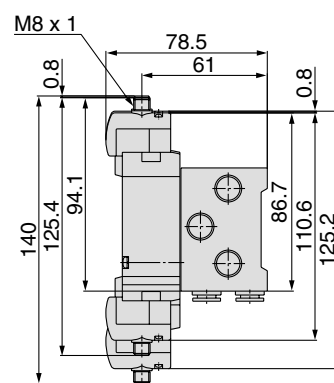
## M plug connector (M)



## DIN terminal (D)



## M8 connector (WO)



Refer to page 1-5-79 for dimensions with connector cable.

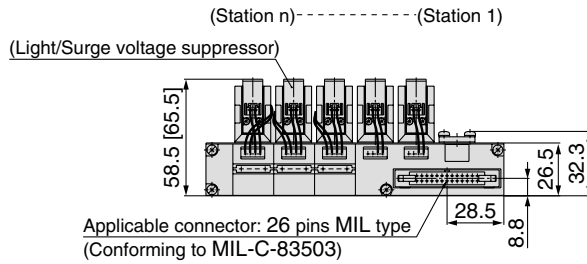
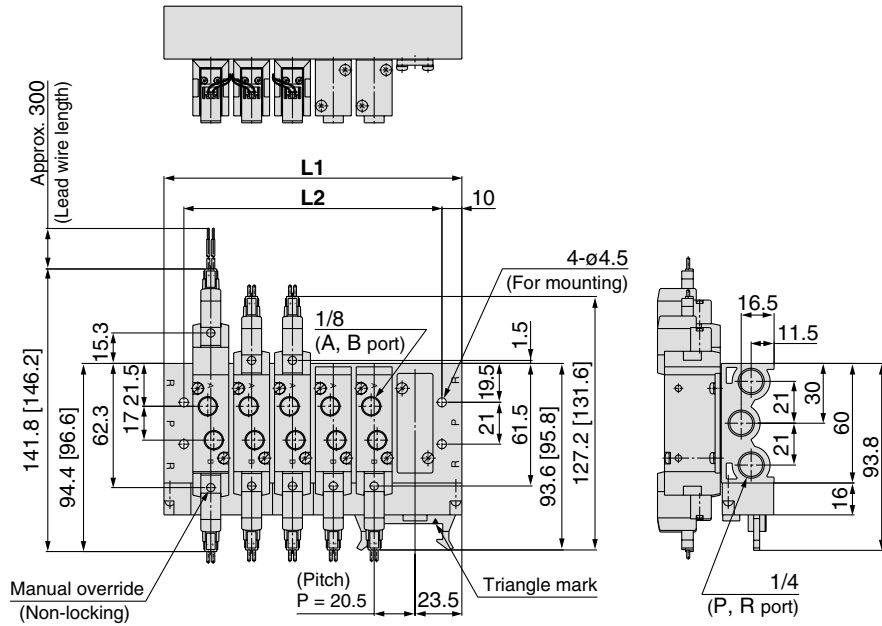
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
<b>L1</b>	77	96	115	134	153	172	191	210	229	248	267	286	305	324	343	362	381	400	419
<b>L2</b>	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391

# Series SYJ7000

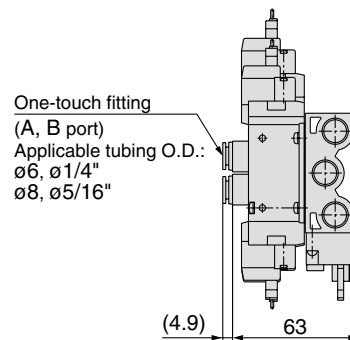
## Flat Ribbon Cable Manifold



### SS5YJ7-21P- Stations (-00□)



### Built-in One-touch fitting



Station n	Station 3	4	5	6	7	8	9	10	11	Station 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





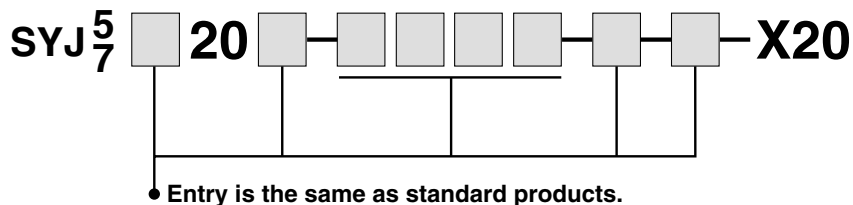
# Series SYJ3000/5000/7000

## Made to Order Specifications:

Please contact SMC for detailed specifications, delivery and pricing.

### Body Ported External Pilot

Applicable solenoid valve series SYJ5□20, SYJ7□20



#### Operating Pressure Range MPa

Operating pressure range	-100 kPa to 0.7
Pilot pressure range	0.15 to 0.7

#### External Pilot Port

Series	Port size
SYJ5000/7000	M5 x 0.8

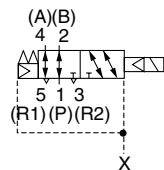
#### Dimensions

SYJ5000: 8 mm } longer in total length.  
SYJ7000: 8 mm }

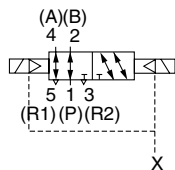
#### JIS Symbol

Body ported

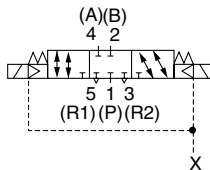
2 position single



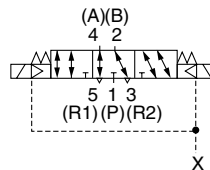
2 position double



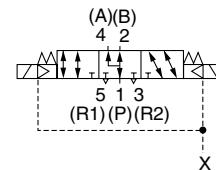
3 position closed center



3 position exhaust center



3 position pressure center



# Series SYJ5000/7000

## Made to Order Specifications: DIN Terminal Conformed to DIN 43650C

DIN terminal type conforming to DIN 43650C (DIN pitch 8mm) standard.

### How to Order Valves

**Type of actuation**

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

**Light/Surge voltage suppressor**

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

\* "YOZ" is not available.  
\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

**Rated voltage**

DC	AC (50/60 Hz)
5	24 VDC
6	12 VDC
1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

**A, B port size**

M5	M5 x 0.8
O1	1/8 (SYJ7000 only)
C4	One-touch fitting for ø4
C6	One-touch fitting for ø6
N3	One-touch fitting for ø5/32"
N7	One-touch fitting for ø1/4"

**Bracket**

Nil	Without bracket
F	With bracket

Note) Do not remove the factory installed bracket from models with the bracket option. Removal of the bracket will cause the valve to leak.

**Body ported** SYJ 5 1 2 0 5 Y [ ] [ ] M5 [ ] [ ]

**Base mounted** SYJ 5 2 4 0 5 Y [ ] [ ] [ ] [ ]

**Body option**

0:	Pilot valve individual exhaust for the pilot valve
3:	Common exhaust type for main and pilot valve

**Electrical entry**

Y: With connector

YO: Without connector

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**Series**

5	SYJ5000
7	SYJ7000

**Port size**

Nil	Without sub-plate
O1	1/8 SYJ5000 SYJ7000
O2	1/4 SYJ7000

**Manual override**

Nil	Non-locking push type,
D	Push-turn locking slotted type
E	Push-turn locking lever type

- SV
- SZ
- SY
- SYJ
- SX

### How to Order Pilot Valve Assembly

V115 — 5 Y [ ]

**Rated voltage**

DC	AC (50/60 Hz)
5	24 VDC
6	12 VDC
1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

**Light/Surge voltage suppressor**

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

\* "YOZ" is not available.  
\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.

**Electrical entry**

Y	DIN	With connector
YO	terminal	Without connector

### DIN Terminal Part No.

Without indicator light	SY100-82-1	
<b>With indicator light</b>		
Rated voltage	Voltage symbol	Part no.
24 VDC	24VN	SY100-82-3-05
12 VDC	12VN	SY100-82-3-06
100 VAC	100VN	SY100-82-3-01
200 VAC	200VN	SY100-82-3-02
110 VAC (115 VAC)	110VN	SY100-82-3-03
220 VAC (230 VAC)	220VN	SY100-82-3-04

### ⚠ Caution

- Use caution in wiring because it won't meet the IP65 (enclosure) standard if you use the other cord than prescribed heavy-duty cord of size (ø3.5 to ø7.5). Also be sure to tighten the ground nut and holding screw with the prescribed torque range. Tighten the ground nut and set screw within the specified range of torque. For how to use DIN terminal (wiring procedures, procedures for changing electrical entries, precautions, applicable cable, circuit diagram), refer to page 1-5-76.
- D type DIN connector with 9.4 mm pitch between terminals is not interchangeable.
- DIN connector except D type has the "N" indication in the end of voltage symbol. In case of DIN connector without light, "N" is not indicated. Please refer to the name plate to distinguish.
- Dimensions are completely the same as D type connector.
- When exchanging the pilot valve assembly only, "V115-□D" is interchangeable with "V115-□Y". Do not replace V114 (G, H, L, M, W) to V115-□D/□Y (DIN terminal), and vice versa.

# Series SYJ3000/5000/7000



## Specific Product Precautions 1

Be sure to read before handling.

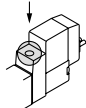
### Manual Override Operation

#### Warning

When the manual override is operated, connected equipment will be actuated. Confirm safety before operating.

#### Non-locking push type [Standard]

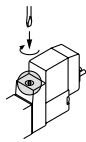
Press in the direction of the arrow



#### Push-turn slotted locking type [Type D]

While pressing, turn in the direction of the arrow.

If it is not turned, it can be operated the same way as the non-locking type.



Locked position



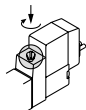
#### Caution

When operating the locking type D with a screw driver, turn it gently using a watchmakers' screwdriver.  
[Torque: Less than 0.1 N·m]

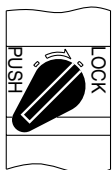
#### Push-turn lever locking type [Type E]

While pressing, turn in the direction of the arrow.

If it is not turned, it can be operated the same way as the non-locking type.



Locked position



#### Caution

When locking the manual override on the push-turn locking types (D, E), be sure to push it down before turning. Turning without first pushing it down can cause damage to the manual override and trouble such as air leakage, etc.

### Solenoid Valve for 200 V, 220 VAC Specifications

#### Warning

Solenoid valves with grommet and L/M type plug connector AC specifications have a built-in rectifier circuit in the pilot section to operate the DC coil.

With 200 V, 220 VAC specification pilot valves, this built-in rectifier generates heat when energized. The surface may become hot depending on the energized condition; therefore, do not touch the solenoid valves.

### Common Exhaust Type for Main and Pilot Valve

#### Caution

Pilot air is exhausted through the main valve body rather than directly to atmosphere.

- Suitable for applications where exhausting the pilot valve to atmosphere would be detrimental to the surrounding working environment.
- For use in extremely dirty environments where there is the possibility that dust could enter the pilot exhaust and damage the valve.

Ensure that the piping of exhaust air is not too restrictive.

### Series SYJ3000/5000/7000 Mixed Installation of 3 Port and 5 Port Valves on Same Manifold.

#### Caution

Series SYJ3000/5000/7000 and Series SYJ300/500/700 can be mounted on the same manifold. How to mount on the same manifold is shown on the following pages.

SYJ3000, SYJ300 .....	P. 1-5-17
SYJ5000, SYJ500 .....	P. 1-5-41
SYJ7000, SYJ700 .....	P. 1-5-64

If 4 or 5 port valve is used as a 3 port valve  
Series SYJ3000, 5000, 7000 may be used as a N.C. or N.O. 3 port valve by plugging one of the A, B ports. Be sure not to plug the exhaust ports (R). Can be used when a double solenoid, 3 port valve is required.

Plug position		B port	A port
Type of actuation		N.C.	N.O.
Number of solenoids	Single		
	Double		

(JIS Symbols above: Series SYJ5000)

# Series SYJ3000/5000/7000



## Specific Product Precautions 2

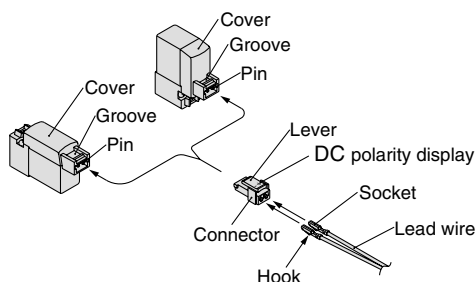
Be sure to read before handling.

### How to Use Plug Connector

#### ⚠ Caution

##### 1. Attaching and detaching connectors

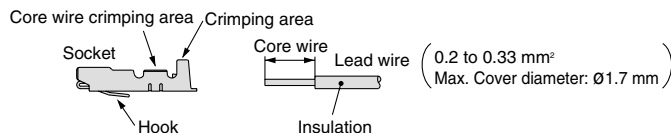
- To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.
- To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.



##### 2. Crimping of lead wires and sockets

Strip 3.2 to 3.7 mm at the end of the lead wires, insert the ends of the core wires evenly into the sockets, and then crimp with a crimping tool. When this is done, take care that the coverings of the lead wires do not enter the core wire crimping area.

Use an exclusive crimping tool for crimping.  
(Please contact SMC for special crimping tools.)



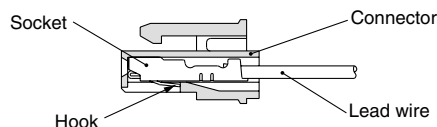
##### 3. Attaching and detaching sockets with lead wires

###### • Attaching

Insert the sockets into the square holes of the connector (+, - indication), and continue to push the sockets all the way in until they lock by hooking into the seats in the connector. (When they are pushed in, their hooks open and they are locked automatically.) Then confirm that they are locked by pulling lightly on the lead wires.

###### • Detaching

To detach a socket from a connector, pull out the lead wire while pressing the socket's hook with a stick having a thin tip (approx. 1 mm). If the socket will be used again, first spread the hook outward.



### Plug Connector Lead Wire Length

#### ⚠ Caution

Standard length is 300 mm, but the following lengths are also available.

#### How to Order Connector Assembly

For DC: **SY100-30-4A**

For 100 VAC: **SY100-30-1A**

For 200 VAC: **SY100-30-2A**

For other voltages of AC: **SY100-30-3A**

Without lead wire: **SY100-30-A**  
(with connector and 2 of sockets only)

• 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

#### How to Order

Include the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.

EX.) In case of 2000 mm of lead wire

For DC                      For AC  
**SYJ3120-5LO-M3**    **SYJ3120-1LO-M3**  
**SY100-30-4A-20**    **SY100-30-1A-20**

SV

SZ

SY

SYJ

SX





# Specific Product Precautions 3

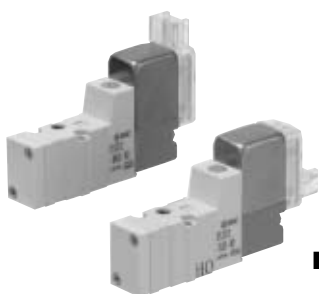
Be sure to read before handling.

## Surge Voltage Suppressor

### Caution

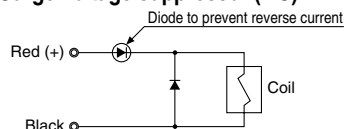
<For DC>

Grommet, L/M Plug Connector Type

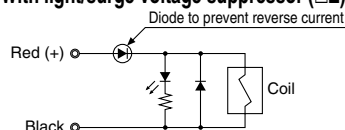


#### Standard type (with polarity)

##### Surge voltage suppressor (□S)

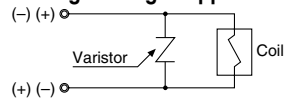


##### With light/surge voltage suppressor (□Z)

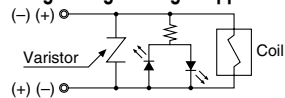


#### Non-polar type

##### With surge voltage suppressor (□R)



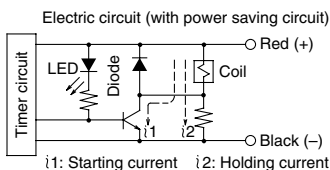
##### With light/surge voltage suppressor (□U)



- Connect the standard type in accordance with the +, - polarity indication. (The non-polar type can be used with the connections made either way.)
- Since voltage specifications other than standard 24 V and 12 VDC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- When wiring is done at the factory, positive (+) is red and negative (-) is black.

#### With power saving circuit

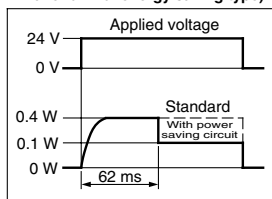
Power consumption is decreased by 1/4 by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 62 ms at 24 VDC.)



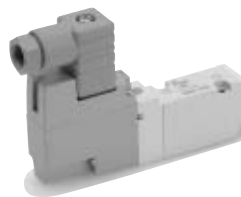
#### Working Principle

With the above circuit, the current consumption when holding is reduced to save energy. Please refer to the electric wave data to the right.

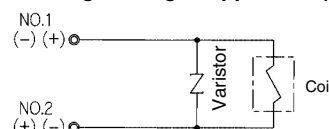
(In the case of SYJ<sup>3</sup>□□T, the electric wave form of energy saving type)



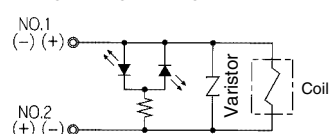
#### DIN Terminal Type



#### With surge voltage suppressor (DS)

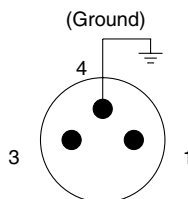


#### With light/surge voltage suppressor (DZ)



DIN terminal has no polarity.

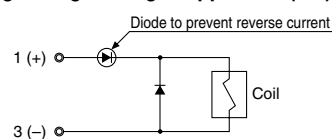
#### M8 Connector Type



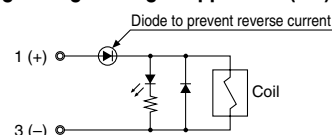
Solenoid valve side pin wiring diagram

#### Standard type (with polarity)

##### With light/surge voltage suppressor (□S)

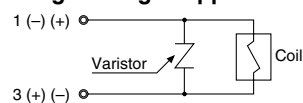


##### With light/surge voltage suppressor (□Z)

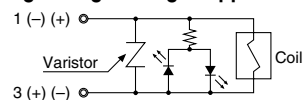


#### Non-polar type

##### With surge voltage suppressor (□R)



##### With light/surge voltage suppressor (□U)



Solenoid valve side pin wiring diagram

- In the case of standard type, connect + to 1 and - to 3 according to the polarity.
- For DC voltages other than 12 V and 24 V, incorrect wiring will cause damage to the surge suppressor circuit.

# Series SYJ3000/5000/7000



## Specific Product Precautions 4

Be sure to read before handling.

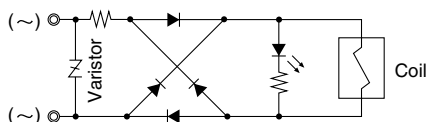
### Surge Voltage Suppressor

#### <For AC>

(There is no "S" type because the generation of surge voltage is prevented by a rectifier.)

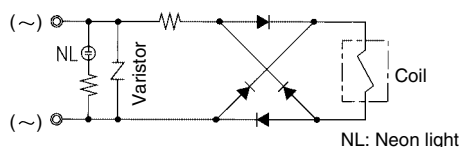
#### Grommet, L/M Plug Connector Type

##### With indicator light (□Z)



#### DIN Terminal Type

##### With indicator light (DZ)



Note) Surge voltage suppressor of varistor has residual voltage corresponding to the protective element and rated voltage; therefore, protect the controller side from the surge. The residual voltage of the diode is approximately 1 V.

### How to Use DIN Terminal

## ⚠ Caution

#### Connection

1. Loosen the holding screw and pull the connector out of the solenoid valve terminal block.
2. After removing the holding screw, insert a flat head screwdriver, etc. into the notch on the bottom of the terminal block and pry it open, separating the terminal block and the housing.
3. Loosen the terminal screws (slotted screws) on the terminal block, insert the cores of the lead wires into the terminals according to the connection method, and fasten them securely with the terminal screws.
4. Secure the cord by fastening the ground nut.

#### ⚠ Caution

When making connections, take note that using other than the supported size ( $\phi 3.5$  to  $\phi 7$ ) heavy duty cord will not satisfy IP65 (enclosure) standards. Also, be sure to tighten the ground nut and holding screw within their specified torque ranges.

## ⚠ Caution

#### Changing the entry direction

After separating the terminal block and housing, the cord entry can be changed by attaching the housing in the desired direction (4 directions at  $90^\circ$  intervals).

\* When equipped with a light, be careful not to damage the light with the cord's lead wires.

#### Precautions

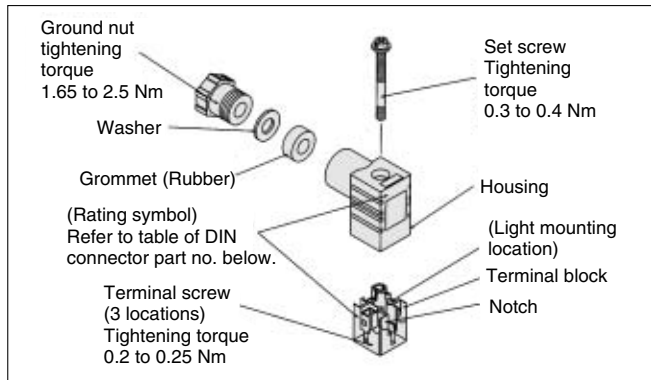
Plug in and pull out the connector vertically without tilting to one side.

#### Compatible cable

Cord O.D.:  $\phi 3.5$  to  $\phi 7$

(Reference)  $0.5 \text{ mm}^2$ , 2 core or 3 core, equivalent to JIS C 3306

### How to Use DIN Terminal



### DIN Terminal Part No.

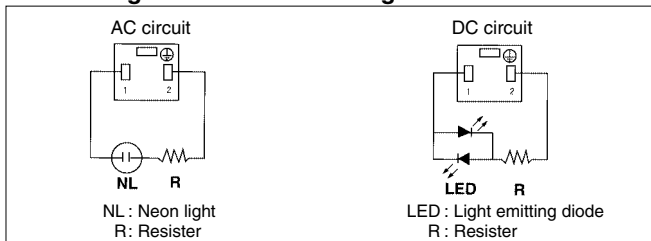
## ⚠ Caution

Without indicator light	SY100-61-1
-------------------------	------------

#### With indicator light

Rated voltage	Voltage symbol	Part no.
24 VDC	24V	SY100-61-3-05
12 VDC	12V	SY100-61-3-06
100 VAC	100V	SY100-61-2-01
200 VAC	200V	SY100-61-2-02
110 VAC	110V	SY100-61-2-03
220 VAC	220V	SY100-61-2-04

#### Circuit Diagram with Indicator Light



Note) Refer to page 1-5-73 for DIN connector (Y) conforming to DIN 43650C.

SV

SZ

SY

SYJ

SX

# Series SYJ3000/5000/7000



## Specific Product Precautions 5

Be sure to read before handling.

### Connector Assembly with Cover

#### Caution

##### Connector assembly with dust proof protective cover.

- Effective to prevention of short circuit failure due to the entry of foreign matter into the connector.
- Chloroprene rubber for electrical use, which provides outstanding weather resistance and electrical insulation, is used for the cover material. However, do not allow contact with cutting oil, etc.
- Simple and unencumbered appearance by adopting round-shaped cord.

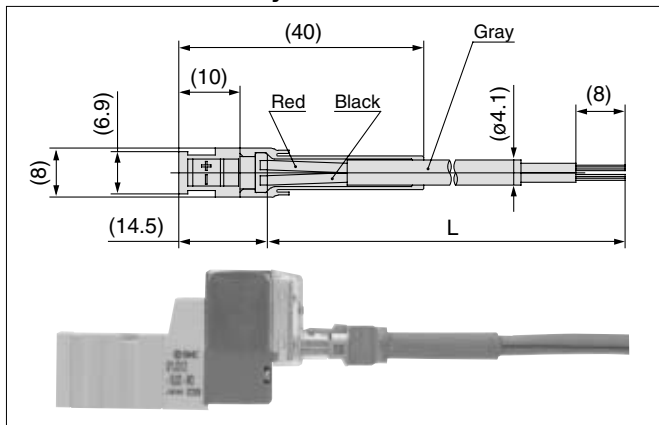
#### How to Order

SY100-68-A-□

##### 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

#### Connector Assembly with Cover: Dimensions



#### How to Order

Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.

Ex. 1) Lead wire length of 2000 mm  
SYJ3120-5LOZ-M3  
SY100-68-A-20

Ex. 2) Lead wire length of 300 mm (standard)  
SYJ3120-5LPZ-M3

Symbol for connector assembly with cover

\* In this case, the part number for the connector assembly with cover is not required.

### M8 Connector

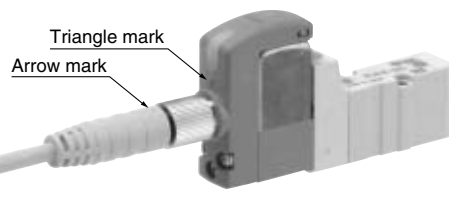
#### Caution

1. M8 connector types have an IP65 (enclosure) rating, offering protection from dust and water. However please note: these products are not intended for use in water.  
Select a SMC connector cable (V100-49-1-□) or a FA sensor type connector, with M8 threaded 3 pin specifications conforming to Nippon Electric Control Equipment Association Standard, NECA4202 (IEC60947-5-2). Make sure the connector O.D. is 10.5 mm or less when used with the Series SYJ3000 manifold. If more than 10.5 mm, it cannot be mounted due to the size.
2. Do not use a tool to mount the connector, as this may cause damage. Only tighten by hand. (0.4 to 0.6 Nm)

#### Caution

Failure to meet IP65 performance may result if using alternative connectors than those shown above, or when insufficiently tightened.

#### Connector cable mounting



Note) Connector cable should be mounted in the correct direction. Make sure that the arrow symbol on the connector is facing the triangle symbol on the valve when using SMC connector cable (V100-49-1-□). Be careful not to squeeze it in the wrong direction, as problems such as pin damage may occur.

#### Connector cable

- M8 connector cable for M8 can be ordered as follows:

#### How to Order

1. To order solenoid valve and connector cable at the same time. (Connector cable will be included in the shipment of the solenoid valve.)

SYJ<sub>5/7</sub><sup>3</sup>□□□-□□□□-□□□

Electrical entry

W1: Cable length 300 mm

W2: Cable length 500 mm

W3: Cable length 1000 mm

W4: Cable length 2000 mm

W7: Cable length 5000 mm

Ex. 1) Cable length: 300 mm

SYJ3120-5W1ZE-M3

Symbol for electrical entry

# Series SYJ3000/5000/7000

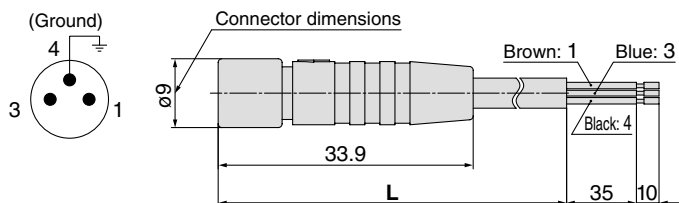


## Specific Product Precautions 6

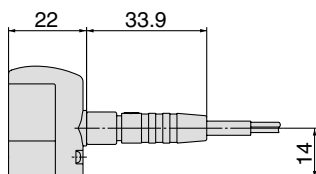
Be sure to read before handling.

### M8 Connector

2. To order connector cable only



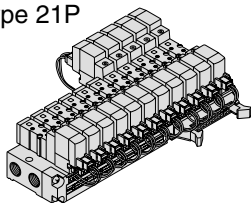
Cable length (L)	Part no.
300 mm	V100-49-1-1
500 mm	V100-49-1-2
1000 mm	V100-49-1-3
2000 mm	V100-49-1-4
5000 mm	V100-49-1-7



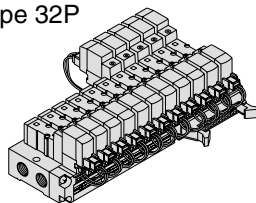
### Flat Ribbon Cable Manifold

#### Caution

Type 21P



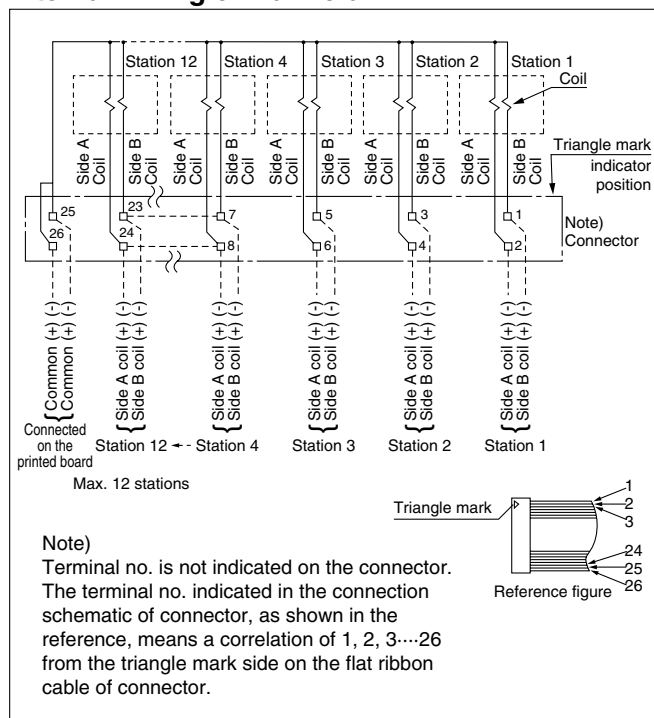
Type 32P



- In the manifold valves, the wiring to the individual valves is provided on a printed circuit board, and the connection to the external wires is consolidated through the use of a flat cable.
- A single MIL flat cable connects the entire manifold to your power source. This greatly reduces installation time.

### Flat Ribbon Cable Manifold

#### Internal Wiring of Manifold



- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid B side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.
- Only non-polar valves are available for the DC flat cable manifold, therefore negative COM or positive COM wiring of the manifold is possible. The valve does not switch with negative COM if a Z type is used. Be sure to use a positive COM.

### Bracket

#### Caution

For bracket attached styles of SYJ3000 (Single) and SYJ7000, do not use it without bracket.

### Replacement of Pilot Valve

#### Caution

Mount it so that there is no slippage or deformation in gaskets, and tighten with the tightening torque as shown below.

Model	Thread size	Tightening torque
SYJ3000	M1.7	0.12 N·m
SYJ5000	M2.5	0.45 N·m
SYJ7000	M3	0.8 N·m

SV

SZ

SY

SYJ

SX

# Series SYJ3000/5000/7000



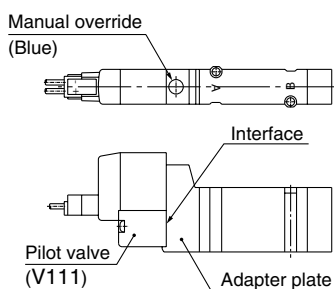
## Specific Product Precautions 7

Be sure to read before handling.

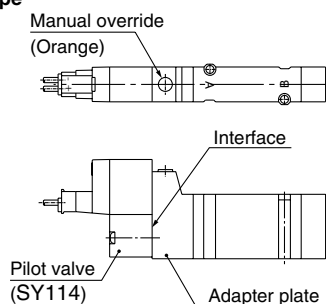
### Caution

Pilot valves in this series are improved to provide excellent energy saving results. However following this improvement, these new valves are no longer compatible with the conventional pilot valve used at the interface. Please consult with SMC when you need to exchange these pilot valves, in the case of manual override (marked in orange) of the adapter plate.

#### New type

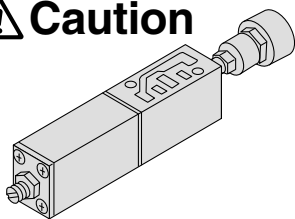


#### Conventional type



### Interface Regulator

### Caution



Spacer type regulating valve on manifold block can regulate the pressure to the valve individually.

### Specifications

Interface regulator	ARBYJ5000	ARBYJ7000	
Applicable solenoid valve model	SYJ5000	SYJ7000	
Regulating port	P	P	
Proof pressure	1.5 MPa		
Maximum operating pressure	1.0 MPa		
Set pressure range	0.05 to 0.7 MPa <sup>Note 1)</sup>		
Ambient and fluid temperature	-5 to 60°C (No freezing) <sup>Note 2)</sup>		
Thread size for connection of pressure gauge	M5 x 0.8		
Weight (kg)	0.06	0.09	
Effective area at exhaust <sup>Note 3)</sup> side (mm <sup>2</sup> ) S at P <sub>1</sub> = 0.7 MPa, P <sub>2</sub> = 0.5 MPa	P→A	1.9	5.1
	P→B	2.1	5.8
Effective area at supply <sup>Note 3)</sup> side (mm <sup>2</sup> ) S at P <sub>1</sub> = 0.7 MPa, P <sub>2</sub> = 0.5 MPa	A→EA	4.5	12.6
	B→EB	4.5	12.6

### Interface Regulator

Note 1) Set the pressure within the operating pressure range of the solenoid valve.

Note 2) The maximum operating temperature for the solenoid valve is 50°C.

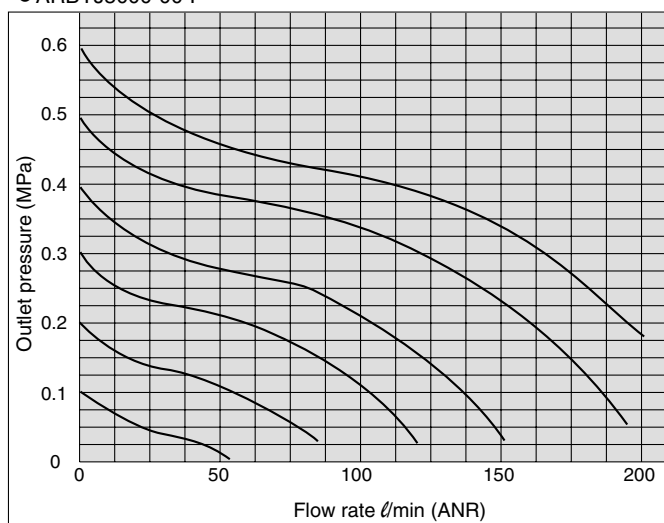
Note 3) The effective area listed is for a single solenoid 2 position valve mounted on a sub-plate.

Note 4) Apply pressure from P port in the base for interface regulator.

### Flow Characteristics

(P → A) Condition: Inlet pressure 0.7 MPa

● ARBYJ5000-00-P



● ARBYJ7000-00-P

