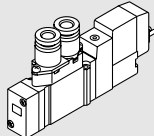
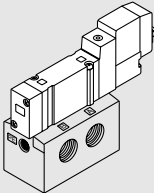


# Series 10-SY3000/5000/7000/9000

5 Port Solenoid Valve

## Series Variations

Series			Sonic conductance  C[dm³/(s·bar)]  { 4/2 — 5/3 (A/B — EA/EB) }	Type of actuation					Voltage		Electrical entry					Light/Surge voltage suppressor <small>(Note 1)</small>
				2 position		3 position			DC 24V 12V 6V 5V 3V	AC 100V 50/60Hz 110V 50/60Hz 200V 50/60Hz 220V 50/60Hz	Grommet	L plug connector	M plug connector <small>(Note 3)</small>	DIN terminal	M8 connector	
				Single	Double	Closed center	Exhaust center	Pressure center								
Body ported	P.362 	10-SY3□20	0.65	●	●	●	●	●	●	●	●	●	●	●	●	
		10-SY5□20	2.4	●	●	●	●	●	●	●	●	●	●	●	●	
		10-SY7□20	3.3	●	●	●	●	●	●	●	●	●	●	●	●	
		10-SY9□20	8.6	●	●	●	●	●	●	●	●	●	●	●	●	
Base mounted	P.378 	10-SY3□40	1.1	●	●	●	●	●	●	●	●	●	●	●	●	
		10-SY5□40	2.8	●	●	●	●	●	●	●	●	●	●	●	●	
		10-SY7□40	4.5	●	●	●	●	●	●	●	●	●	●	●	●	
		10-SY9□40	10	●	●	●	●	●	●	●	●	●	●	●	●	

Series		Manual override			Bracket	P, EA, EB port size					A, B port size											Valve option							
		Non-locking push type	Push-turn locking slotted type	Push-turn locking lever type		M5	1/8	1/4	3/8	1/2	M5	1/8	1/4	3/8	1/2	One-touch fitting								Exhaust throttle	Oil resistant, other than designated turbine oil	Vacuum specifications	Low pressure specifications	External pilot	Enclosure IP 65 Note 2)
																C4	C6	C8	C10	C12	N3	N7	N9						
Body ported	10-SY3□20	●	●	●	●	●	—	—	—	—	●	—	—	—	—	●	●	—	—	—	●	●	—	—	—	—	—	—	
	10-SY5□20	●	●	●	●	—	●	—	—	—	●	—	—	—	—	●	●	●	—	—	●	●	●	—	—	—	—		
	10-SY7□20	●	●	●	●	—	● (EA, EB)	● (P)	—	—	—	●	—	—	—	—	—	●	●	—	—	—	●	●	—	—	DIN terminal M8 connector		
	10-SY9□20	●	●	●	—	—	—	●	—	—	—	●	●	—	—	—	—	●	●	●	—	—	●	●	—	—	—		
Base mounted	10-SY3□40	●	●	●	—	—	●	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	10-SY5□40	●	●	●	—	—	—	●	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	10-SY7□40	●	●	●	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	10-SY9□40	●	●	●	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	DIN terminal M8 connector		

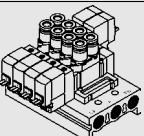
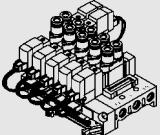
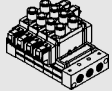
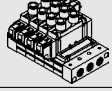
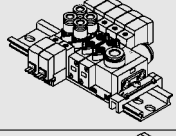


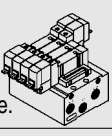
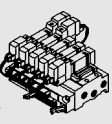
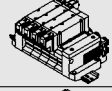
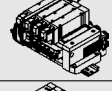
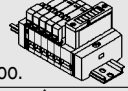
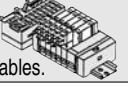


Note 1) All AC voltage models have built-in surge voltage suppressor.

Note 2) Only available for DIN terminal and M8 connector.

Note 3) DIN terminal is not available for 10-SY3000. (Refer to page 488.)

# Manifold Variations

Manifold variations			Valve series	Wiring					
				Connection				Common specifications	
				Individual wiring	Flat ribbon cable (26 pins)	Flat ribbon cable (20 pins) connector box	PC wiring system	Positive common	Negative common
			5 port						
Body ported	<b>Bar stock type</b> Individual wiring ■ Direct piping to the main unit of a valve. Combination of different fittings is possible.	 <b>Type 20</b> P.394	10-SY3□20						
			10-SY5□20	●	—	—	—	—	—
			10-SY7□20						
	<b>Bar stock type</b> Flat ribbon cable ■ A 26 pins MIL connector permits One-touch wiring of external cables in a bundle.	 <b>Type 20P</b> P.404	10-SY3□20					● In common	
			10-SY5□20	—	●	—	—		
			10-SY7□20						
	<b>Stacking type</b> Individual wiring ■ Manifold stations can be increased.	 <b>Type 23</b> P.400	10-SY9□20	●	—	—	—	—	—
	<b>Stacking type</b> Flat ribbon cable ■ Manifold stations can be increased.	 <b>Type 23P</b> P.410	10-SY9□20	—	●	—	—	● In common	
	<b>Cassette type</b> Individual wiring Size and weight reduced by eliminating the manifold base	 <b>Type 60</b> P.415	10-SY3□60	●	—	—	—	—	—
			10-SY5□60	●	—	—	—	—	—
			10-SY7□60	●	—	—	—	—	—
Base mounted	<b>Compact bar stock type</b> Individual wiring ■ The base mounting facilitates maintenance after valves are changed.	 <b>Type 41</b> P.428	10-SY3□40	●	—	—	—	—	—
			10-SY5□40						
	<b>Compact bar stock type</b> Flat ribbon cable ■ A 26 pins MIL connector permits One-touch wiring of external cables in a bundle.	 <b>Type 41P</b> P.444	10-SY3□40	—	●	—	—	● In common	
			10-SY5□40						
	<b>Bar stock type/Common external EXH</b> Individual wiring ■ The base mounting facilitates maintenance after valves are changed. Vacuum/low pressure combination system is possible.	 <b>Type 42</b> P.428	10-SY3□40						
			10-SY5□40	●	—	—	—	—	—
			10-SY7□40						
	<b>Bar stock type/Common external EXH</b> Flat ribbon cable ■ A 26 pins MIL connector permits One-touch wiring of external cables in a bundle. ■ Vacuum/low pressure combination system is possible.	 <b>Type 42P</b> P.444	10-SY3□40					● In common	
			10-SY5□40	—	●	—	—		
			10-SY7□40						
	<b>Stacking type</b> Individual wiring ■ Manifold stations can be increased.	 <b>Type 43</b> P.438	10-SY9□40	●	—	—	—	—	—
	<b>Stacking type</b> Flat ribbon cable ■ Manifold stations can be increased.	 <b>Type 43P</b> P.452	10-SY9□40	—	●	—	—	● In common	
	<b>Stacking type/DIN rail mounted</b> Individual wiring ■ Stations can be increased on the DIN rail. Integral mounting of other electric parts is possible, too.	 <b>Type 45</b> P.460	10-SY3□40	●	—	—	—	—	—
			10-SY5□40						
	<b>Stacking type/DIN rail mounted</b> Connector box ■ Stations can be increased on the DIN rail. The provided connector box permits one-touch connection of electric cables.	 <b>Type 45-A NA</b> P.468	10-SY3□40	—	—	●	●	●	●
			10-SY5□40						

●Standard ●Option ▲Made-to-order (Refer to page "Made-to-Order".)

# Manifold Variations

Manifold option						A, B port size											Valve option																	
Blanking plate	SUP Individual spacer	EXH Individual spacer	SUP Block disk	EXH Block disk	Label for block disk	M5	1/8	1/4	3/8	One-touch fitting								Mixed mounting SY3000 SY5000	Oil resistant (Other than designated turbine oil)	Vacuum specifications	Low pressure specifications	Different pressure	External pilot	Exhaust throttle	Bundle wiring	Mixed fitting sizes	IP65 enclosure							
										C4	C6	C8	C10	C12	N3	N7	N9											N11						
●	●	●	—	—	—	●	—	—	—	●	●	—	—	—	●	●	—	—	—	▲	—	—	●	—	●	—	—	●	Note)					
—	—	—	—	—	—	—	●	—	—	●	●	●	—	—	●	●	●	—	—	—	—	—	—	—	—	—	—	—	●	Note)				
—	—	—	—	—	—	—	—	●	—	—	—	●	●	—	—	—	—	—	—	—	—	—	Individual SUP interface	—	—	Individual EXH interface	—	—	—	●	Note)			
●	●	●	—	—	—	●	—	—	—	●	●	—	—	—	●	●	—	—	—	—	▲	—	—	●	—	●	●	—	—	—				
—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	Individual SUP interface	—	—	Individual EXH interface	●	—	—	—				
●	●	●	●	●	●	—	—	●	●	—	—	●	●	●	—	—	●	●	—	—	▲	●	●	●	Individual SUP block disk	●	●	—	—	—	Note)			
●	●	●	●	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	▲	●	●	●	Individual SUP block disk	●	●	●	—	—	—			
●	—	—	●	●	●	●	—	—	—	●	●	—	—	—	●	●	—	—	—	—	▲	●	●	●	Individual SUP block disk	●	●	—	—	—	●	Note)		
●	—	—	●	●	●	—	●	—	—	●	●	●	—	—	●	●	●	—	—	—	▲	●	●	●	Individual SUP block disk	●	●	—	—	—	—	●	Note)	
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●	●	●	—	—	—	—	●	—	—	●	●	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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Note) When using DIN terminal or M8 connector.  
There is no DIN terminal available for 10-SY3000.

Air cylinder

Rotary actuator

Air gripper

## Directional control valve

Flow control equipment

Pressure equipment

Tubing

on  
Fitti

Air pre  
equi

Pressure s

Clean gas filt

# Series 10-SY3000/5000/7000/9000

Body Ported  
Valve Single Unit

## How to Order

10—SY 5 1 20 5 L 01

• Clean series

Series

3	10-SY3000
5	10-SY5000
7	10-SY7000
9	10-SY9000

Type of actuation

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

Coil specifications

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



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

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

Rated voltage

AC (50/60 Hz) 50/60	
1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	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.

Electrical entry

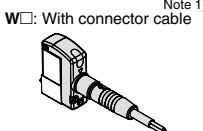
24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC				24, 12 VDC / 100, 110, 200, 220 VAC
Grommet	L plug connector	M plug connector	DIN terminal	
G: Lead wire length 300 mm	L: With lead wire (Length 300 mm)	M: With lead wire (Length 300 mm)	MN: Without lead wire	D: With connector
H: Lead wire length 600 mm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

24, 12, 6, 5, 3 VDC  
M8 connector

WO: Without connector cable



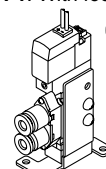
Note 1)



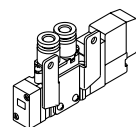
\* "LN", "MN" type: with 2 sockets  
\* For DIN terminal of Series 10-SY3000, refer to back matter page 10.  
\* DIN terminal type "Y" conforming to EN-175301-803C (Former DIN43650C) is available, too. For details, refer to page 482.  
\* For connector cable of M8 connector, refer to page 490.  
Make sure to specify cable length for the □ by referring to page 491.

• Bracket

Nil: Without bracket  
F1: With foot bracket (2 position single only)



F2: With side bracket



\* 10-SY9000 has no bracket.

• A, B port size  
Thread piping

Symbol	Port size	Applicable series
M5	M5 x 0.8	10-SY3000
01	1/8	10-SY5000
02	1/4	10-SY7000
03	3/8	10-SY9000

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	10-SY5000
C8	One-touch fitting for ø8	10-SY7000
C10	One-touch fitting for ø10	10-SY9000
C12	One-touch fitting for ø12	10-SY9000

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø 5/32"	10-SY3000
N7	One-touch fitting for ø 1/4"	10-SY5000
N9	One-touch fitting for ø 5/16"	10-SY7000
N11	One-touch fitting for ø 3/8"	10-SY9000

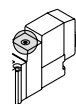
• Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

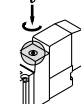
\* Except M5.

• Manual override

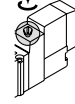
Nil: Non-locking push type



D: Push-turn locking slotted type



E: Push-turn locking lever type



• 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 "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
Z	With light/surge voltage suppressor

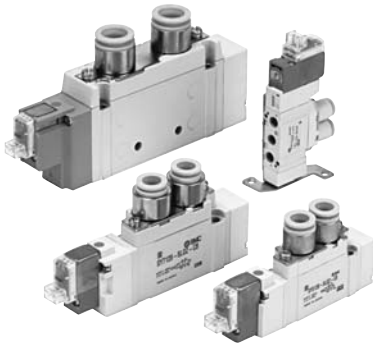


\* "DOZ" is not available.  
\* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.



Note) When placing an order for body ported solenoid valve as a single unit, mounting bolts for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to catalog on page 413.)

## Specifications



Series		10-SY3000	10-SY5000	10-SY7000	10-SY9000
Fluid		Air			
Internal pilot	2 position single	0.15 to 0.7			
Operating pressure range (MPa)	2 position double	0.1 to 0.7			
	3 position	0.2 to 0.7			
Ambient and fluid temperature (°C)		-10 to 50 (No freezing. Refer to page 714.)			
Max. operating frequency (Hz)	2 position single, double	10	5	5	5
	3 position	3	3	3	3
Manual override (Manual operation)		Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type			
Pilot exhaust method		Common exhaust type for main and pilot valve			
Lubrication		Not required			
Mounting orientation		Unrestricted			
Impact/Vibration resistance (m/s <sup>2</sup> ) (Note)		150/30			
Enclosure		Dustproof (* DIN terminal, M8 connector conforms to IP65)			



\* Based on IEC60529.

(Note) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)  
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)



Made to Order Specifications  
(For details, refer to pages 477 to 483.)

## Solenoid Specifications

Electrical entry		Grommet (G), (H) L plug connector (L) M plug connector (M)	DIN terminal (D) M8 connector (W)
		G, H, L, M, W	D
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	24, 12
	AC <sup>50/60</sup> Hz	100, 110, 200, 220	
Allowable voltage fluctuation (%)		±10% of rated voltage *	
Power consumption (W)	DC	Standard	0.35 (With indicator 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	0.78 (With indicator light: 0.81) 0.78(With indicator light: 0.87)
		110V [115V]	0.86(With indicator light: 0.89) 0.86(With indicator light: 0.97) [0.94(With indicator light: 0.97)] [0.94(With indicator light: 1.07)]
		200V	1.18(With indicator light: 1.22) 1.15(With indicator light: 1.30)
		220V [230V]	1.30(With indicator light: 1.34) 1.27(With indicator light: 1.46) [1.42(With indicator light: 1.46)] [1.39(With indicator light: 1.60)]
Surge voltage suppressor		Diode (DIN terminal, non-polar type: Varistor)	
Indicator light		LED (AC of DIN terminal is neon light.)	



\* 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.

\* For types S, Z and T (with power saving circuit), there is a pressure drop due to the internal circuit. Therefore, the allowable voltage fluctuation range should be as follows.

Types S, Z: 24 VDC: -7% to +10%  
12 VDC: -4% to +10%  
Type T: 24 VDC: -8% to +10%  
12 VDC: -6% to +10%

## Response Time



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

### 10-SY3000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type S, Z	Type R, U
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

### 10-SY5000

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

### 10-SY7000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type S, Z	Type R, U
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

### 10-SY9000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type S, Z	Type R, U
2 position single	35 or less	41 or less	35 or less
2 position double	35 or less	41 or less	35 or less
3 position	62 or less	64 or less	62 or less

## Flow Characteristics / Weight

### Series 10-SY3000

Valve model	Type of actuation	Port size		Flow characteristics						Weight (g)			
		1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1—4/2(P—A/B)	4/2—5/3(A/B—EA/EB)	Grom- met	L, M plug connector	DIN terminal	W M8 connector				
10-SY3□20 -□-M5	2 position	M5 x 0.8	Single	0.61	0.44	0.16	0.64	0.45	0.18	51	53	57	
	Double									68	74	82	
	3 position		Closed center	0.48	0.46	0.13	0.47	0.43	0.13	71	76	84	
	Exhaust center			0.47	0.42	0.13	0.47	0.41	0.13				
10-SY3□20 -□-C4	3 position		Pressure center	0.5	0.48	0.15	0.47	0.43	0.13				
	Double			0.72	0.29	0.18	0.64	0.34	0.17	60	63	67	
	Closed center			0.59	0.28	0.15	0.59	0.30	0.15	81	86	94	
	Exhaust center			0.63	0.35	0.16	0.42	0.34	0.11				
10-SY3□20 -□-C6	3 position		Pressure center	0.76	0.42	0.21	0.59	0.29	0.15				
	Double			0.76	0.30	0.19	0.65	0.39	0.17	56	59	63	
	Closed center			0.76	0.55	0.24	0.60	0.33	0.16	77	82	90	
	Exhaust center			0.65	0.32	0.16	0.64	0.31	0.17				
10-SY3□20 -□-C8	3 position		Pressure center	0.77	0.34	0.21	0.61	0.34	0.16				
	Double			0.77	0.49	0.21	0.61	0.34	0.16				

Note) [ ]: Denotes normal position.

### Series 10-SY7000

Valve model	Type of actuation	Port size		Flow characteristics						Weight (g)			
		1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1—4/2(P—A/B)	4/2—5/3(A/B—EA/EB)	Grom- met	L, M plug connector	DIN terminal	W M8 connector				
10-SY7□20 -□-02	2 position	1/4	Single	4.1	0.23	0.93	3.3	0.33	0.81	101	104	125	108
	Double									120	125	167	133
	3 position		Closed center	2.9	0.31	0.70	2.4	0.38	0.63	128	133	175	141
	Exhaust center			2.5	0.39	0.65	3.4	0.35	0.82				
10-SY7□20 -□-C8	3 position		Pressure center	4.3	0.23	0.97	2.2	0.39	0.58				
	Double			3.2	0.26	0.77	3.2	0.37	0.82	107	110	131	114
	Closed center			2.6	0.24	0.63	2.4	0.31	0.62	134	140	182	148
	Exhaust center			2.4	0.25	0.57	2.6	0.42	0.7				
10-SY7□20 -□-C10	3 position		Pressure center	3.3	0.28	0.78	2.2	0.34	0.60				
	Double			3.8	0.26	0.86	3.2	0.34	0.82	103	105	126	109
	Closed center			2.8	0.27	0.67	2.4	0.21	0.59	130	135	177	143
	Exhaust center			2.5	0.25	0.59	2.7	0.38	0.7				
10-SY7□20 -□-C12	3 position		Pressure center	3.8	0.25	0.89	2.3	0.38	0.61				
	Double			3.8	0.31	0.61	2.3	0.38	0.61				

Note) [ ]: Denotes normal position.

### Series 10-SY5000

Valve model	Type of actuation	Port size		Flow characteristics						Weight (g)			
		1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1—4/2(P—A/B)	4/2—5/3(A/B—EA/EB)	Grom- met	L, M plug connector	DIN terminal	W M8 connector				
10-SY5□20 -□-01	2 position	1/8	Single	1.9	0.35	0.49	2.4	0.39	0.61	70	72	93	76
	Double									88	93	135	101
	3 position		Closed center	1.7	0.43	0.45	1.8	0.35	0.46	93	98	140	106
	Exhaust center			1.5	0.44	0.41	2.5	0.32	0.59				
10-SY5□20 -□-C4	3 position		Pressure center	2.2	0.46	0.61	1.8	0.38	0.46				
	Double			0.75	0.43	0.20	0.85	0.64	0.30	94	96	117	100
	Closed center			0.74	0.40	0.19	0.84	0.57	0.28	117	122	164	130
	Exhaust center			0.75	0.36	0.19	0.84	0.64	0.3				
10-SY5□20 -□-C6	3 position		Pressure center	0.78	0.44	0.21	0.84	0.57	0.27				
	Double			1.5	0.33	0.33	2.0	0.37	0.52	88	91	112	95
	Closed center			1.3	0.31	0.33	1.6	0.32	0.39	111	116	158	124
	Exhaust center			1.3	0.33	0.33	1.8	0.35	0.44				
10-SY5□20 -□-C8	3 position		Pressure center	1.7	0.31	0.42	1.7	0.33	0.44				
	Double			1.9	0.21	0.45	2.3	0.29	0.57	80	82	103	86
	Closed center			1.6	0.29	0.39	1.7	0.38	0.46	103	108	150	116
	Exhaust center			1.4	0.38	0.39	2	0.37	0.52				
10-SY5□20 -□-C10	3 position		Pressure center	2.2	0.32	0.56	1.8	0.41	0.50				
	Double			2.2	0.44	0.44	1.8	0.41	0.50				

Note) [ ]: Denotes normal position.

### Series 10-SY9000

Valve model	Type of actuation	Port size		Flow characteristics						Weight (g)			
		1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1—4/2(P—A/B)	4/2—5/3(A/B—EA/EB)	Grom- met	L, M plug connector	DIN terminal	W M8 connector				
10-SY9□20 -□-02	2 position	1/4	Single	7.0	0.33	1.7	7.6	0.35	2.0	241	244	265	248
	Double									260	266	308	274
	3 position		Closed center	6.7	0.37	1.7	6.4	0.34	1.6	284	290	332	298
	Exhaust center			6.4	0.36	1.6	8.3	0.41	2.2				
10-SY9□20 -□-03	3 position		Pressure center	8	0.27	1.8	6.5	0.22	1.4				
	Double			8.0	0.29	1.9	8.0	0.33	2.0	236	239	260	243
	Closed center			7.9	0.33	1.9	6.6	0.27	1.6	255	261	303	269
	Exhaust center			8.0	0.33	1.9	8.7	0.34	2.2	279	285	327	293
10-SY9□20 -□-C8	3 position		Pressure center	8.9	0.34	2.2	6.5	0.25	1.5				
	Double			4.3	0.28	0.96	7.1	0.32	1.7	293	296	317	300
	Closed center			4.3	0.31	0.99	6.1	0.28	1.4	312	318	360	326
	Exhaust center			4.3	0.3	0.99	7.4	0.36	1.9	336	342	384	350
10-SY9□20 -□-C10	3 position		Pressure center	4.4	0.35	1	2.1	0.41	0.53				
	Double			6.1	0.28	1.4	7.9	0.33	1.9	279	282	303	286
	Closed center			5.9	0.30	1.4	6.5	0.26	1.5	298	304	346	312
	Exhaust center			5.8	0.25	1.3	8.4	0.33	2	322	328	370	336
10-SY9□20 -□-C12	3 position		Pressure center	6.3	0.29	1.5	6.4	0.25	1.5				
	Double			7.0	0.25	1.6	8.6	0.41	2.2	265	268	289	272
	Closed center			6.9	0.24	1.6	7.0	0.33	1.7	284	290	332	298
	Exhaust center			6.6	0.23	1.4	9.4	0.48	2.6	308	314	356	322
10-SY9□20 -□-C12	3 position		Pressure center	7.4	0.25	1.7	6.6	0.23	1.5				
	Double			7.4	0.34	0.74	6.6	0.23	1.5				
	Closed center			7.4	0.34	0.74	6.6	0.23	1.5				
	Exhaust center			7.4	0.34	0.74	6.6	0.23	1.5				

Note) [ ]: Denotes normal position.

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

## How to Order Pilot Valve Assembly

10—V111—5—G—

### Coil specifications

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

\* Power saving circuit is not available in the case of "D", "DO" or "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 "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
LN	With lead wire
LO	Without lead wire
M	M plug connector
MN	With lead wire
MO	Without lead wire
WO	Without connector cable
Wm	With connector cable <sup>Note 1)</sup>

\* For connector cable of M8 connector, refer to page 490.  
Note 1) Make sure to specify cable length for the □ by referring to page 491.

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

## How to Order M8 Connector Cable

### Straight type

V100-49-1—

### Cable length

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

### DIN terminal type

10—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 types "D" and "DO" is only available with 12 and 24 VDC.

### 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
DO	Without connector

\* Do not replace 10-V111 (G, H, L, M) to 10-V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Fittings &amp; Tubing

Air preparation equipment

Pressure switch

Clean gas filter

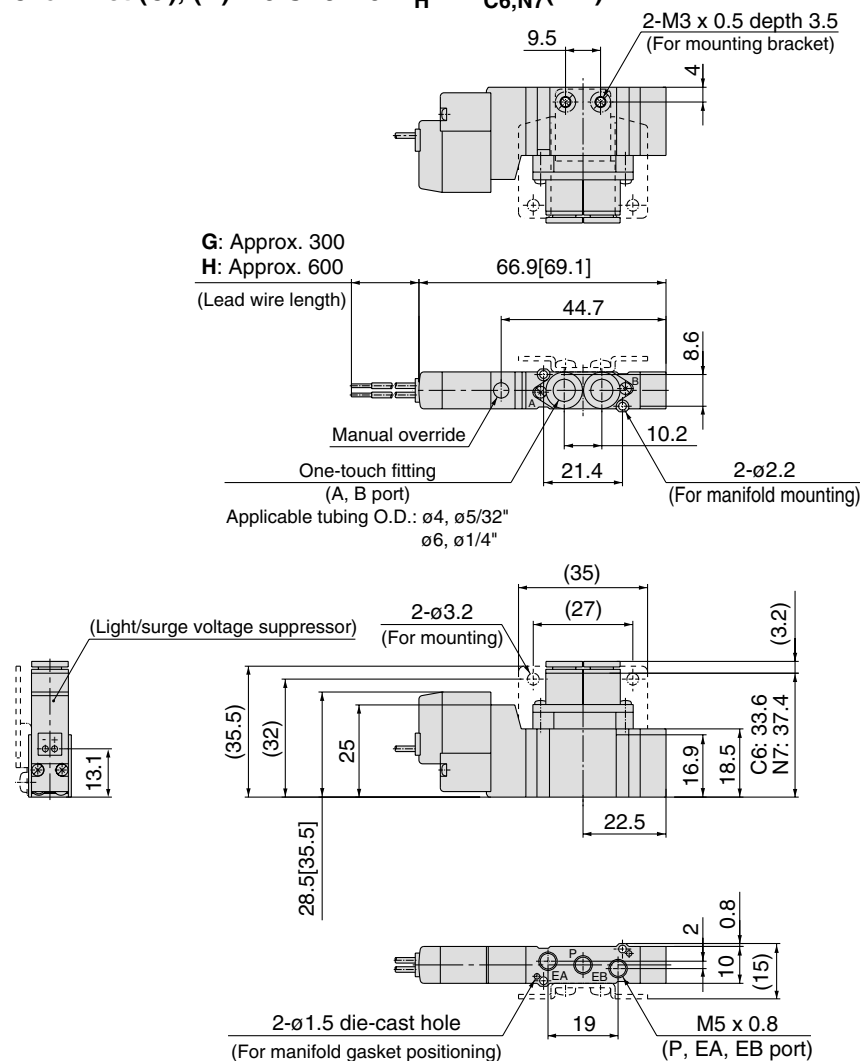
**Dimensions: Series 10-SY3000**



Note) [ ]: AC

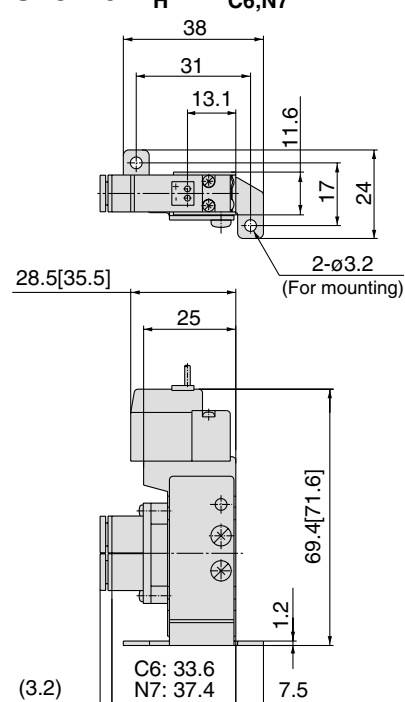
**2 position single**

Grommet (G), (H): 10-SY3120-□<sub>G</sub>□<sub>H</sub>-C4,N3-C6,N7(-F2)

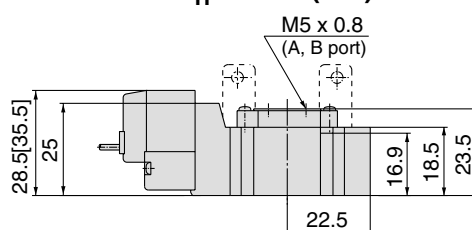


**Foot bracket**

10-SY3120-□<sub>G</sub>□<sub>H</sub>-C4,N3-C6,N7-F1

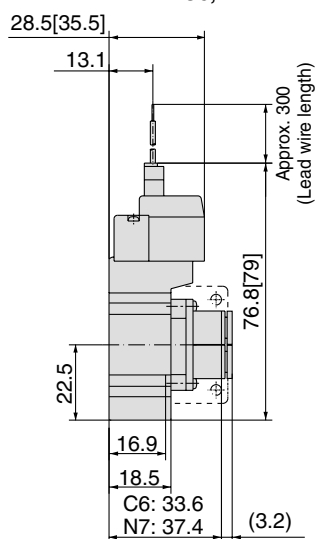


10-SY3120-□<sub>G</sub>□<sub>H</sub>-M5(-F2)



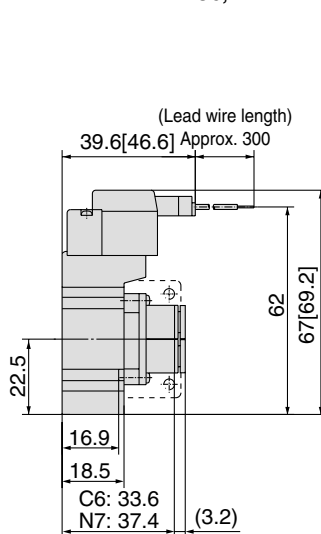
**L plug connector (L):**

10-SY3120-□<sub>L</sub>□<sub>L</sub>-C4,N3-C6,N7(-F2)



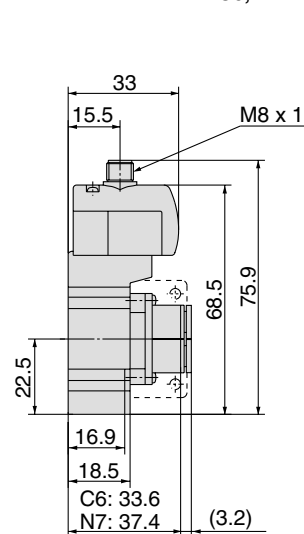
**M plug connector (M):**

10-SY3120-□<sub>M</sub>□<sub>M</sub>-C4,N3-C6,N7(-F2)



**M8 connector (WO):**

10-SY3120-□<sub>WO</sub>□<sub>WO</sub>-C4,N3-C6,N7(-F2)



Note) Refer to page 490 for dimensions of connector types.

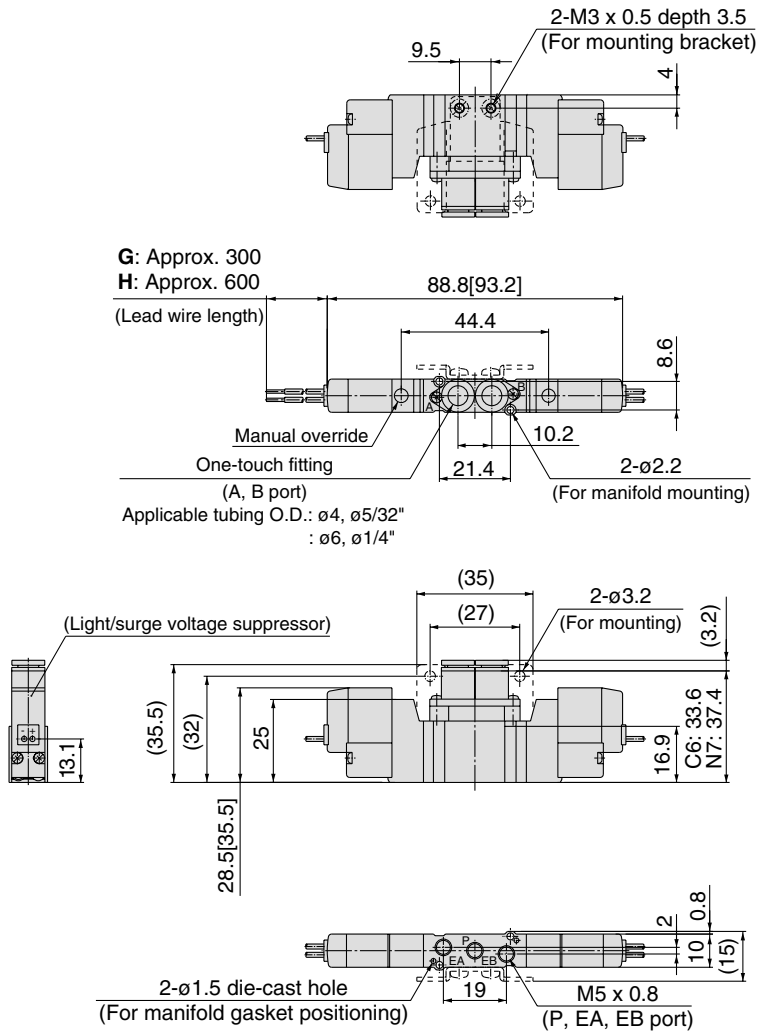


## Dimensions: Series 10-SY3000



(Note) [ ]: AC

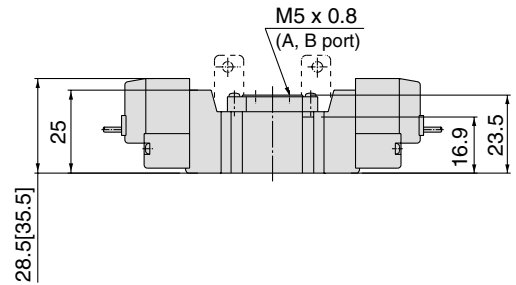
## 2 position double

Grommet (G), (H): 10-SY3220-□G□□-C4,N3  
C6,N7(-F2)G: Approx. 300  
H: Approx. 600

(Lead wire length)

Applicable tubing O.D.: ø4, ø5/32"  
: ø6, ø1/4"

10-SY3220-□G□□-M5(-F2)



Air cylinder

Rotary actuator

Air gripper

Directional control  
valveFlow control  
equipmentFilter, Pressure  
control equipment

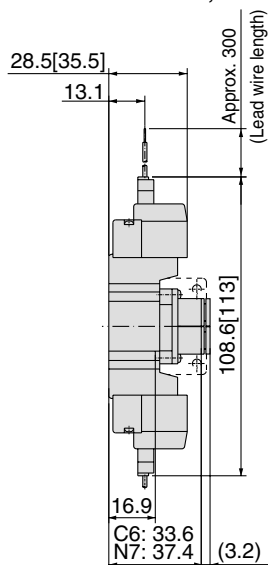
Fittings &amp; Tubing

Air preparation  
equipment

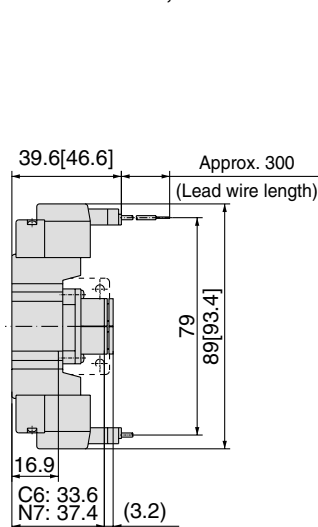
Pressure switch

Clean gas filter

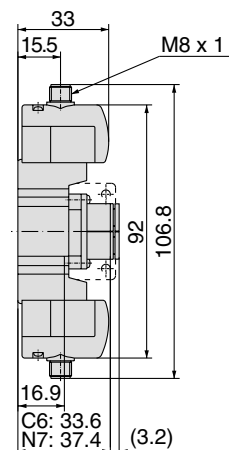
## L plug connector (L):

10-SY3220-□L□□-C4,N3  
C6,N7(-F2)

## M plug connector (M):

10-SY3220-□M□□-C4,N3  
C6,N7(-F2)

## M8 connector (WO):

10-SY3220-WO□□-C4,N3  
C6,N7(-F2)Note) Refer to page 490 for dimensions  
of connector types.

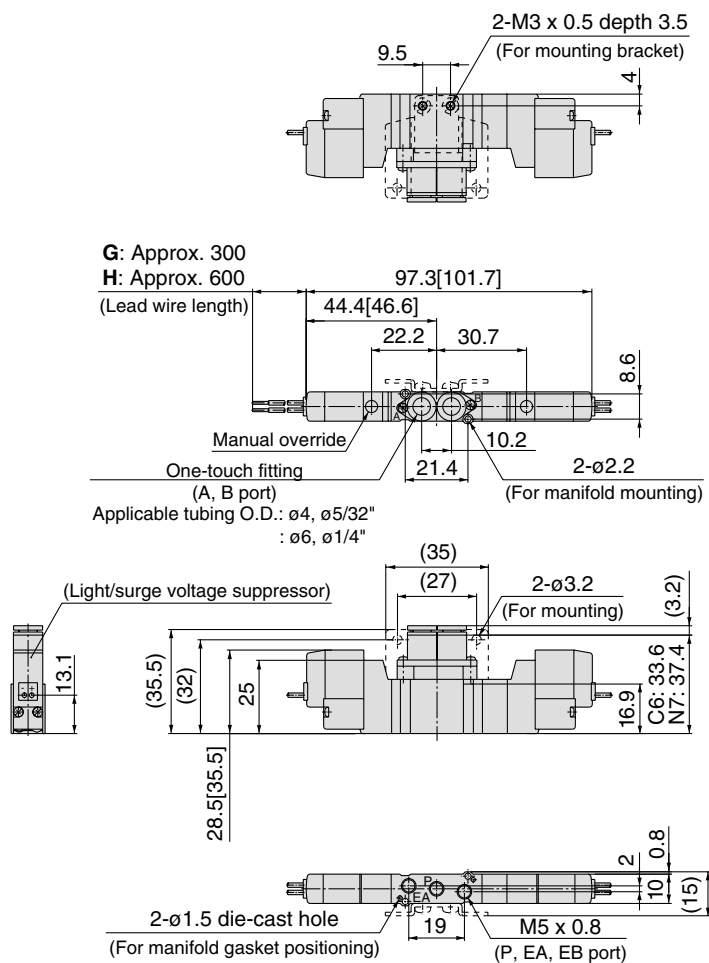
**Dimensions: Series 10-SY3000**



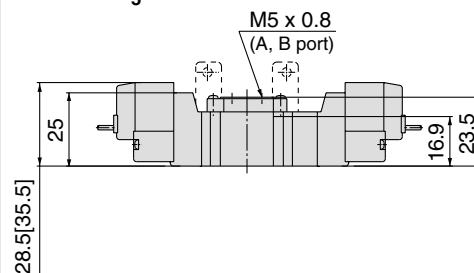
Note) [ ]: AC

**3 position closed center/exhaust center/pressure center**

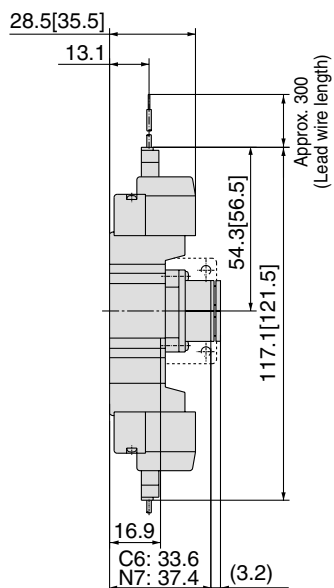
**Grommet (G), (H): 10-SY3<sup>3</sup><sub>5</sub>20-□G□□-C<sub>4</sub>N<sub>3</sub><sub>6</sub>N<sub>7</sub>(-F2)**



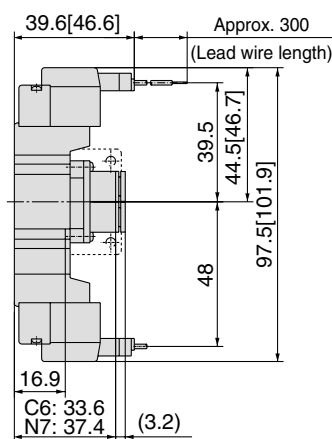
**10-SY3<sup>3</sup><sub>5</sub>20-□G□□-M5(-F2)**



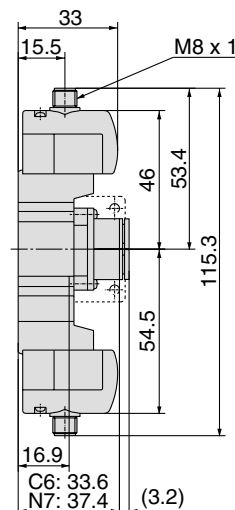
**L plug connector (L):**  
**10-SY3<sup>3</sup><sub>5</sub>20-□L□□-C<sub>4</sub>N<sub>3</sub><sub>6</sub>N<sub>7</sub>(-F2)**



**M plug connector (M):**  
**10-SY3<sup>3</sup><sub>5</sub>20-□M□□-C<sub>4</sub>N<sub>3</sub><sub>6</sub>N<sub>7</sub>(-F2)**



**M8 connector (WO):**  
**10-SY3<sup>3</sup><sub>5</sub>20-□WO□□-C<sub>4</sub>N<sub>3</sub><sub>6</sub>N<sub>7</sub>(-F2)**



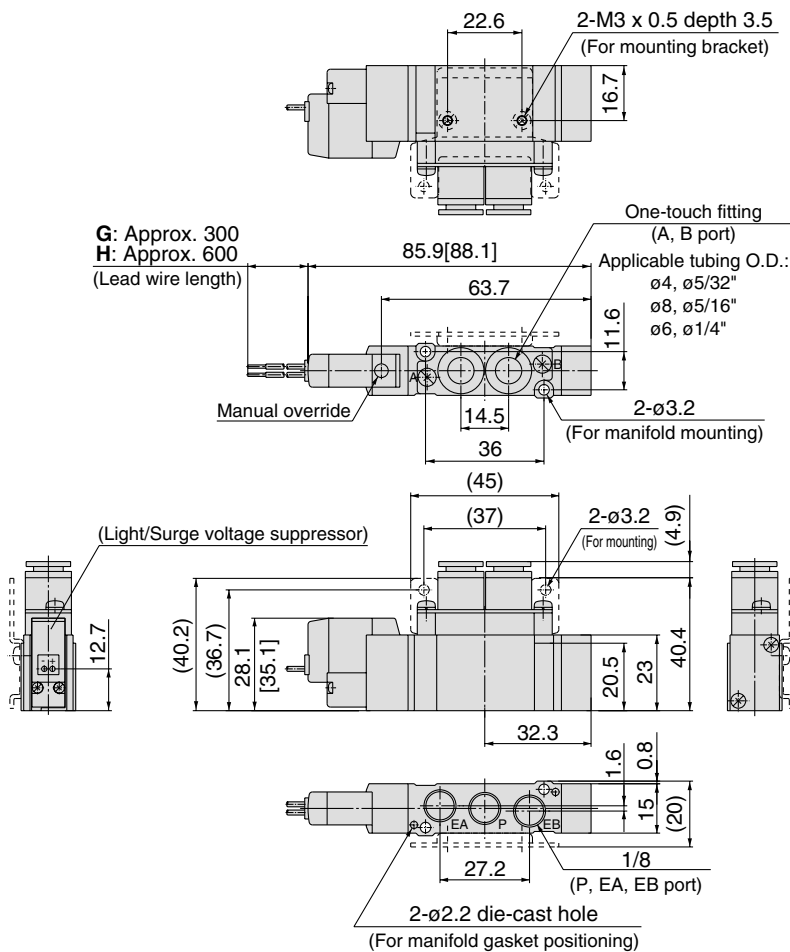
Note) Refer to page 490 for dimensions of connector types.

## Dimensions: Series 10-SY5000



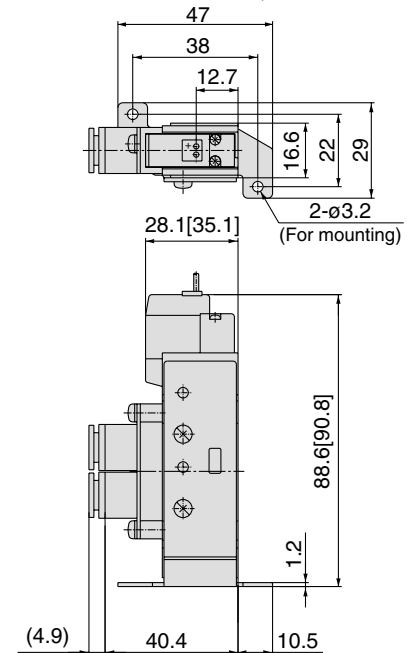
## 2 position single

**Grommet (G), (H):** 10-SY5120- $\begin{matrix} \text{G} \\ \text{H} \end{matrix}$ - $\begin{matrix} \text{C4,N3} \\ \text{C6,N7} \\ \text{C8,N9} \end{matrix}$ (-F2)

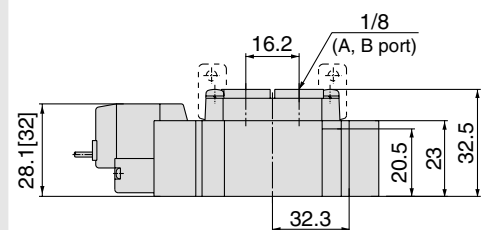


### Foot bracket

10-SY5120- $\square_{\text{H}}^{\text{G}}$  $\square\square$ - $\begin{matrix} \text{C4,N3} \\ \text{C6,N7} \\ \text{C8,N9} \end{matrix} \square$ -F1

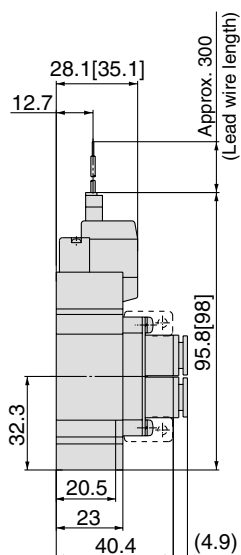


10-SY5120- $\square_{\text{H}}^{\text{G}}\square\square$ -01 $\square(-\text{F}_2^1)$



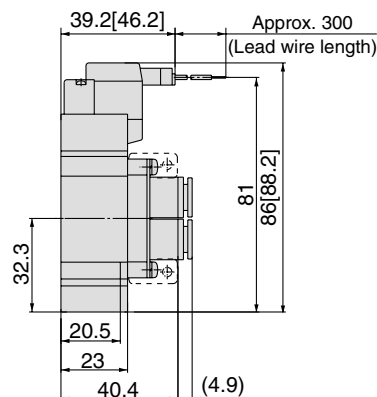
**L plug connector (L):**

10-SY5120-□L□□-C4,N3  
C6,N7□(-F<sub>2</sub>)  
C8,N9



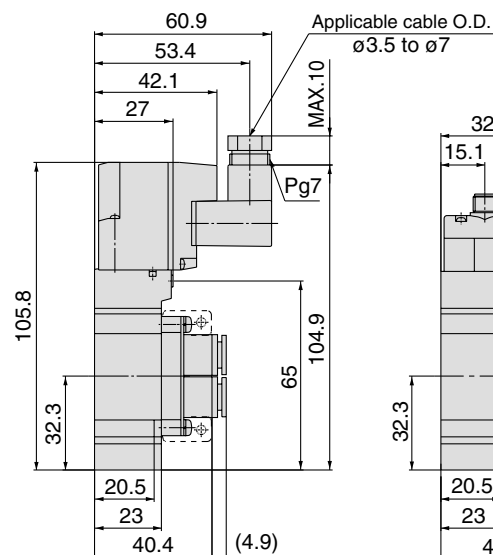
**M plug connector (M):**

10-SY5120-□M□□-C4,N3  
C6,N7□(-F<sub>2</sub>)  
C8,N9



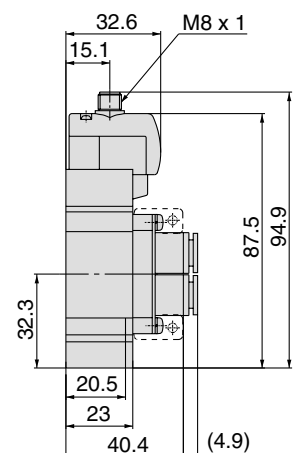
**DIN terminal (D):**

10-SY5120-□D□□-<sup>C4,N3</sup><sub>C6,N7</sub>□(-F<sub>2</sub><sup>1</sup>)<sub>C8,N9</sub>



**M8 connector (WO):**

10-SY5120-□WO□□-<sup>C4,N3</sup><sub>C6,N7</sub>□(-F<sub>2</sub>)<sup>C8,N9</sup>



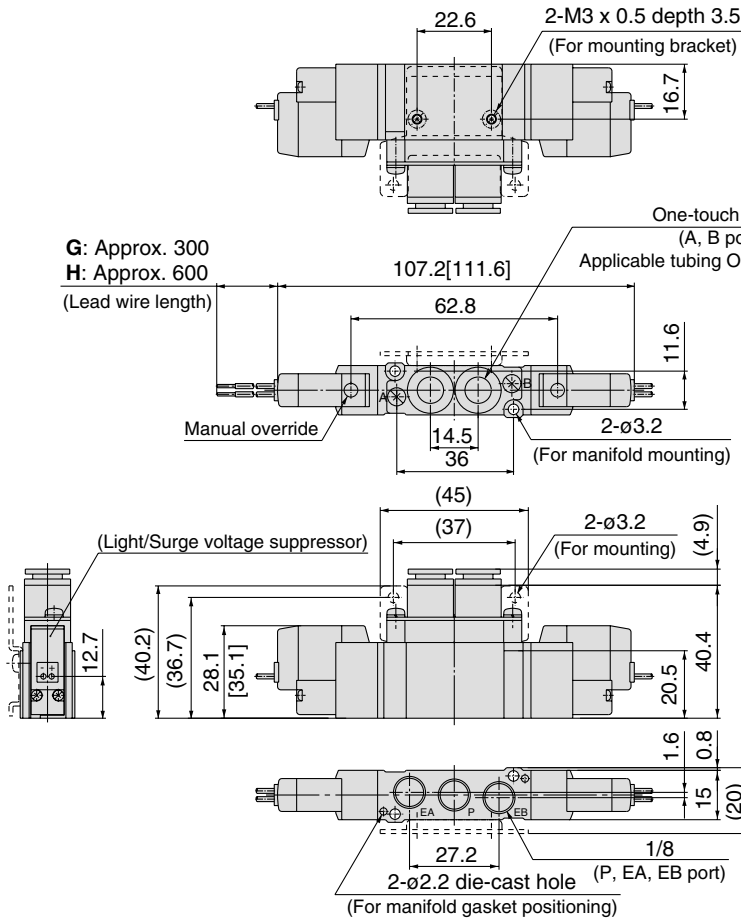
Note) Refer to page 490 for dimensions of connector types.

**Dimensions: Series 10-SY5000**

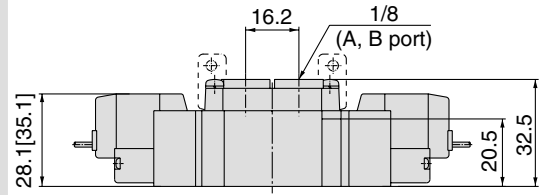
Note) [ ]: AC

**2 position double**

Grommet (G), (H): 10-SY5220-☐G☐H☐C4,N3  
C6,N7(-F2)  
C8,N9

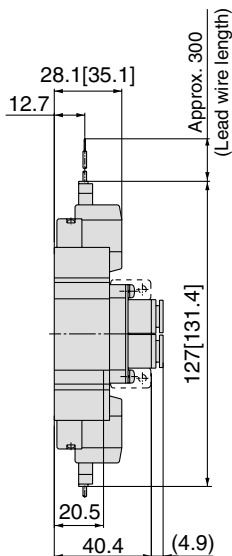


10-SY5220-☐G☐H☐01☐(-F2)



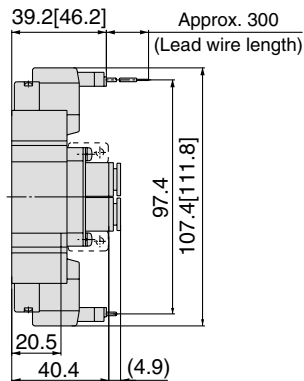
**L plug connector (L):**

10-SY5220-☐L☐C4,N3  
C6,N7(-F2)  
C8,N9



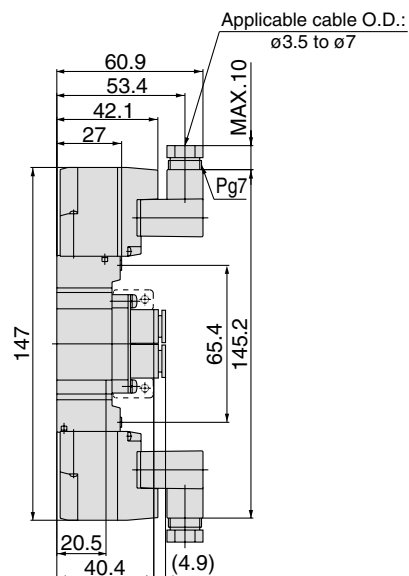
**M plug connector (M):**

10-SY5220-☐M☐C4,N3  
C6,N7(-F2)  
C8,N9



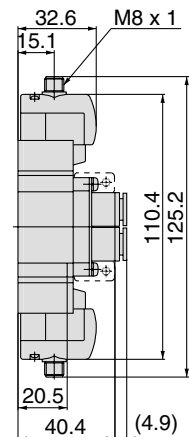
**DIN terminal (D):**

10-SY5220-☐D☐C4,N3  
C6,N7(-F2)  
C8,N9



**M8 connector (WO):**

10-SY5220-☐WO☐C4,N3  
C6,N7(-F2)  
C8,N9



Note) Refer to page 490 for dimensions of connector types.

**Dimensions: Series 10-SY5000**

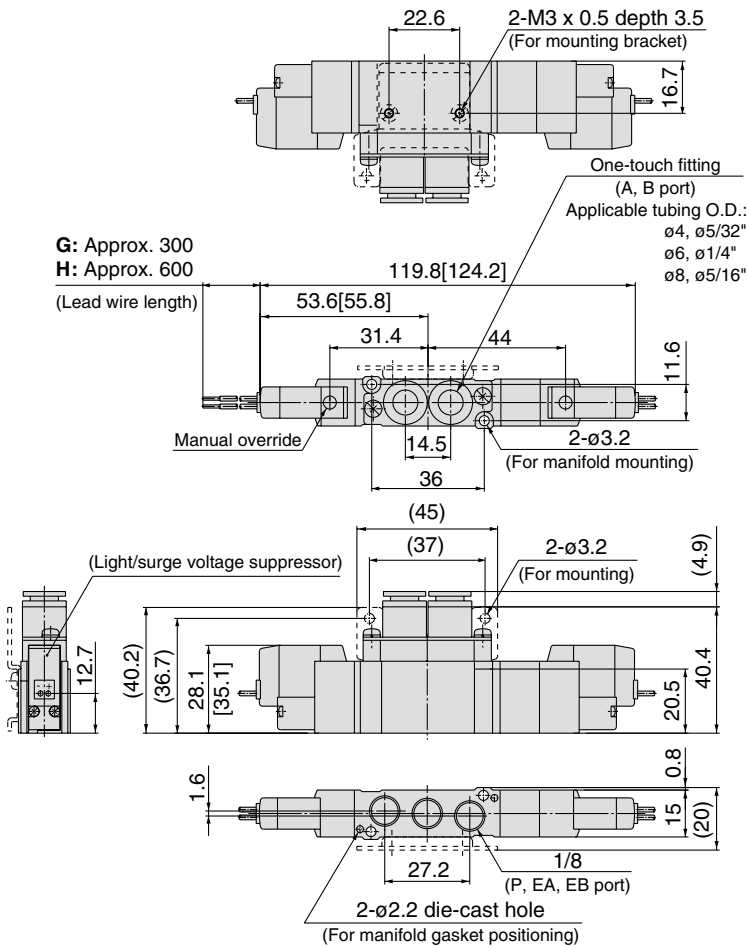


Note) [ ]: AC

**3 position closed center / exhaust center / pressure center**

**Grommet (G), (H): 10-SY5420-<sup>3</sup><sub>5</sub>□<sup>4</sup><sub>5</sub>□□<sup>3</sup><sub>5</sub>-C4,N3-C6,N7□(-F2)  
C8,N9**

**10-SY5420-<sup>3</sup><sub>5</sub>□<sup>4</sup><sub>5</sub>□□<sup>3</sup><sub>5</sub>-01□(-F2)**



**L plug connector (L):**

**10-SY5420-<sup>3</sup><sub>5</sub>□□□<sup>4</sup><sub>5</sub>□□<sup>3</sup><sub>5</sub>-C4,N3-C6,N7□(-F2)  
C8,N9**

**M plug connector (M):**

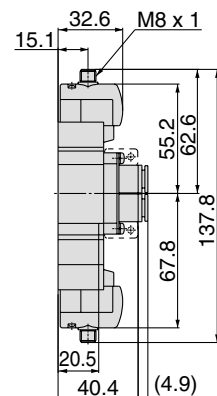
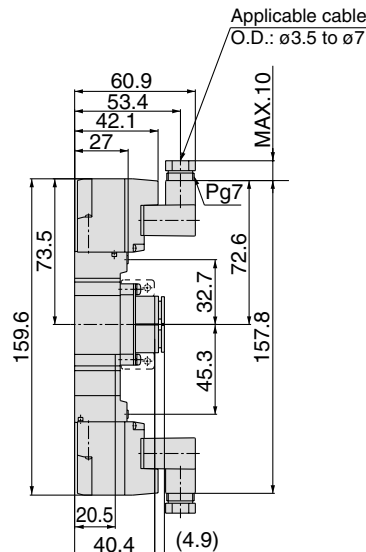
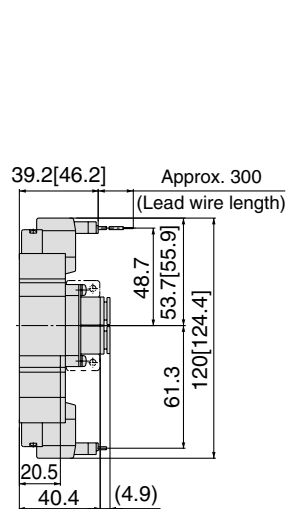
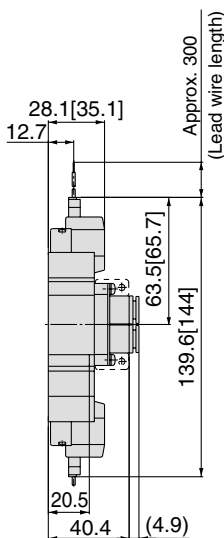
**10-SY5420-<sup>3</sup><sub>5</sub>□□□<sup>4</sup><sub>5</sub>□□<sup>3</sup><sub>5</sub>-C4,N3-C6,N7□(-F2)  
C8,N9**

**DIN terminal (D):**

**10-SY5420-<sup>3</sup><sub>5</sub>□□□<sup>4</sup><sub>5</sub>□□<sup>3</sup><sub>5</sub>-C4,N3-C6,N7□(-F2)  
C8,N9**

**M8 connector (WO):**

**10-SY5420-<sup>3</sup><sub>5</sub>□□□<sup>4</sup><sub>5</sub>□□<sup>3</sup><sub>5</sub>-WO□□<sup>3</sup><sub>5</sub>-C4,N3-C6,N7□(-F2)  
C8,N9**



Note) Refer to page 490 for dimensions of connector types.



## 2 position single

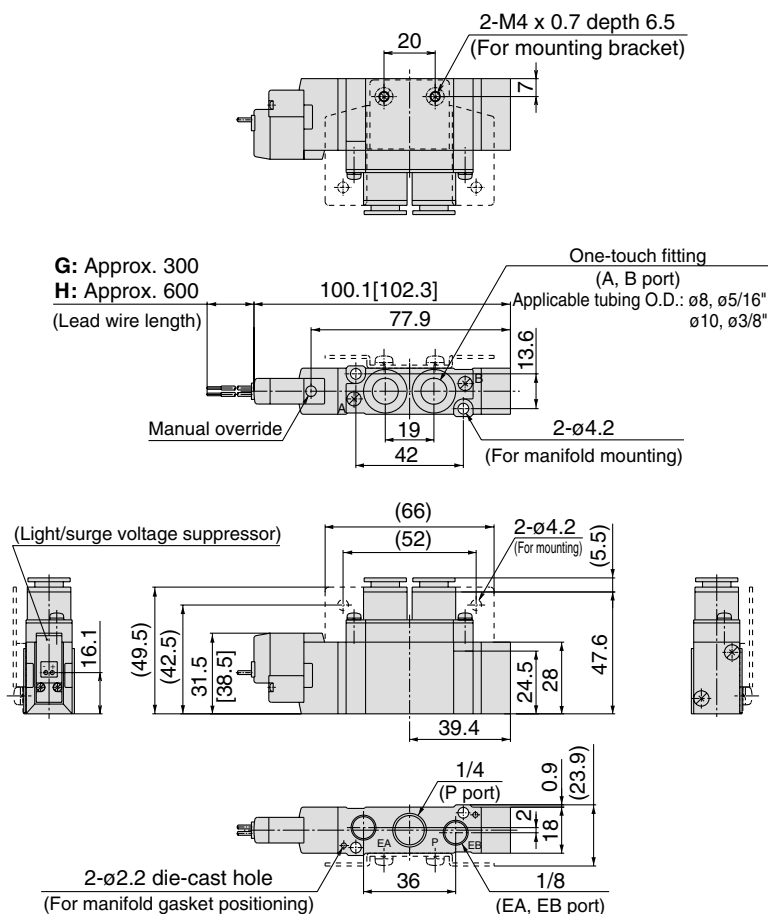
**Grommet (G), (H):** 10-SY7120-

G		
H		

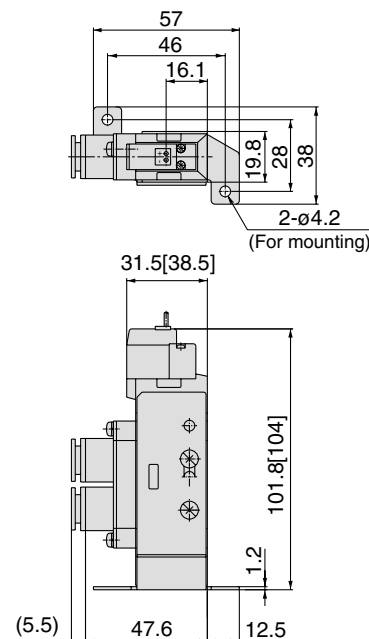
-

C8	N9
C10	N11

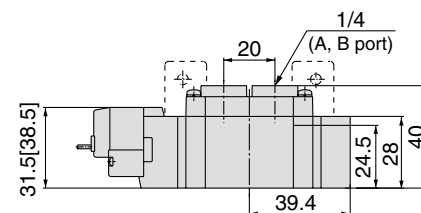
(-F2)



**10-SY7120-G-C8,N9-F1**  
**H-C10,N11**



10-SY7120- $\square_{\text{H}}^{\text{G}}\square\square$ -02 $\square$ (-F2)



**L plug connector (L):**

10-SY7120-□L□□- $\begin{smallmatrix} C8, N9 \\ C10, N11 \end{smallmatrix}$ □(-F<sub>2</sub><sup>1</sup>)

**M plug connector (M):**

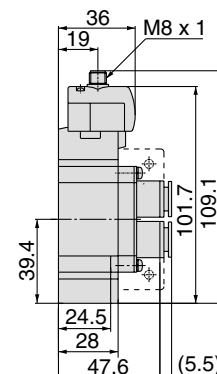
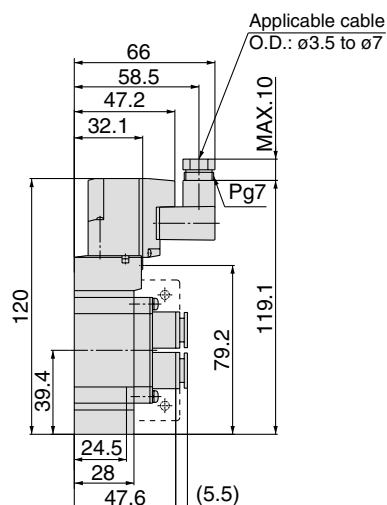
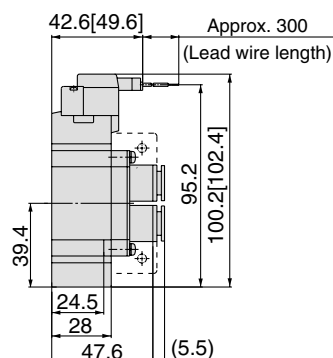
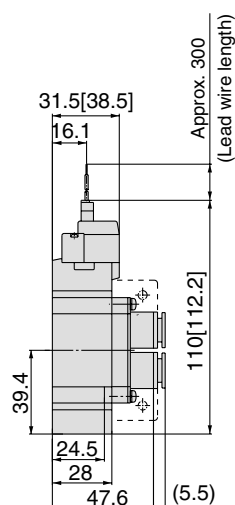
10-SY7120-☐M☐☐-<sup>C8,N9</sup><sub>C10,N11</sub>☐(-F<sub>2</sub><sup>1</sup>)

**DIN terminal (D):**

10-SY7120-□D□□- $\begin{matrix} C^8, N^9 \\ C^{10}, N^{11} \end{matrix}$ □(-F<sub>2</sub><sup>1</sup>)

**M8 connector (WO):**

10-SY7120-□WO□□-C<sup>8,N9</sup><sub>C10,N11</sub>□(-F<sup>1</sup><sub>2</sub>)



Note) Refer to page 490 for dimensions of connector types.



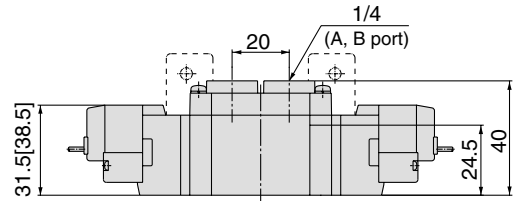
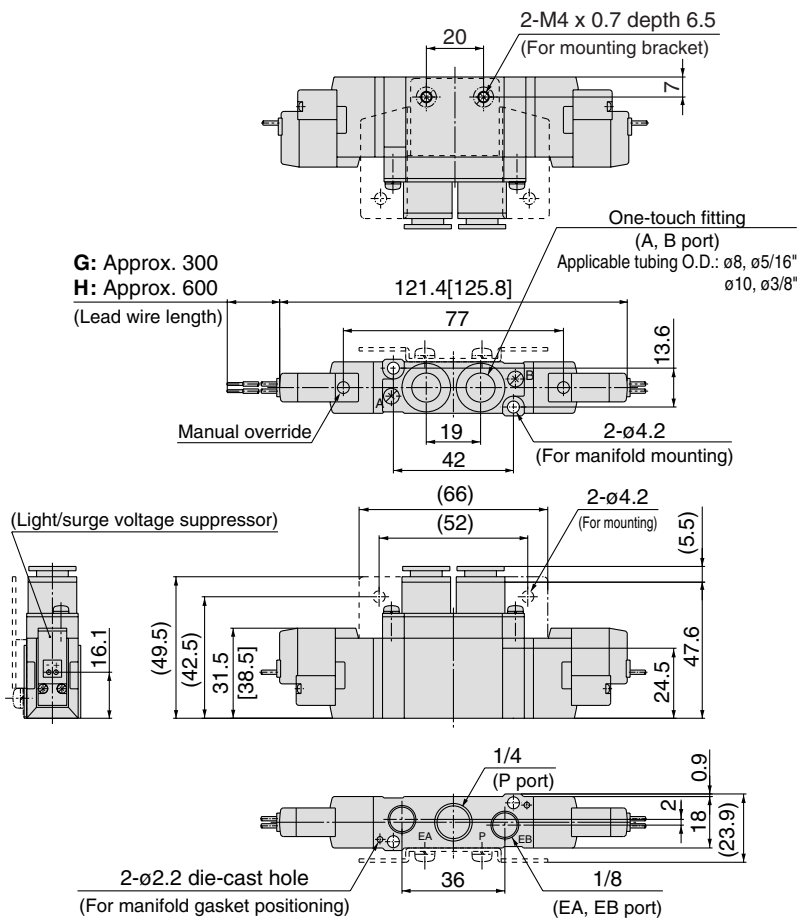
Note) [ ]: AC

## Dimensions: Series 10-SY7000

### 2 position double

Grommet (G), (H): 10-SY7220-□<sup>G</sup>□<sup>H</sup>-C8,N9  
C10,N11□(-F2)

10-SY7220-□<sup>G</sup>□<sup>H</sup>-02□(-F2)



### L plug connector (L):

10-SY7220-□<sup>L</sup>□<sup>C8,N9</sup>  
C10,N11□(-F2)

### M plug connector (M):

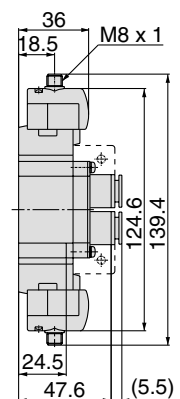
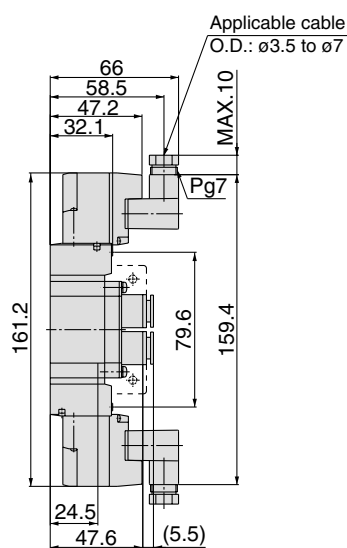
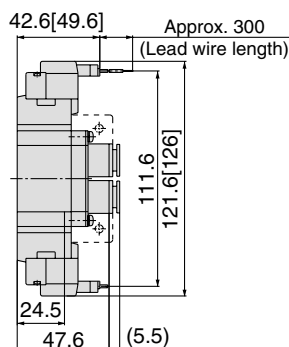
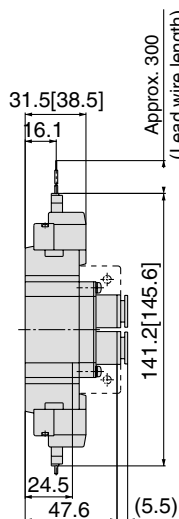
10-SY7220-□<sup>M</sup>□<sup>C8,N9</sup>  
C10,N11□(-F2)

### DIN terminal (D):

10-SY7220-□<sup>D</sup>□<sup>C8,N9</sup>  
C10,N11□(-F2)

### M8 connector (WO):

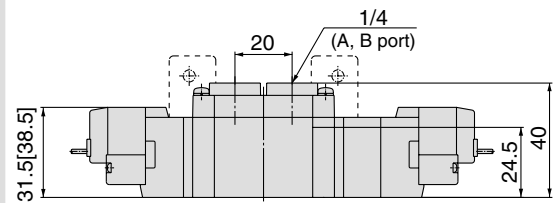
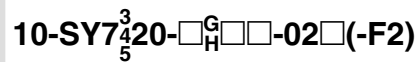
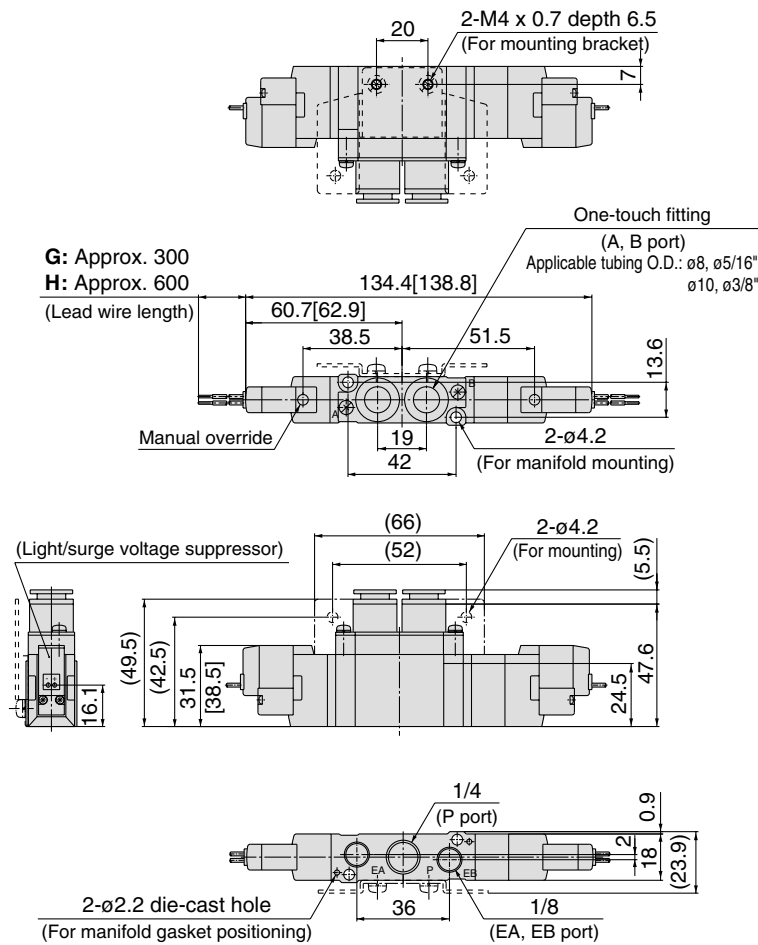
10-SY7220-□<sup>WO</sup>□<sup>C8,N9</sup>  
C10,N11□(-F2)



Note) Refer to page 490 for dimensions of connector types.

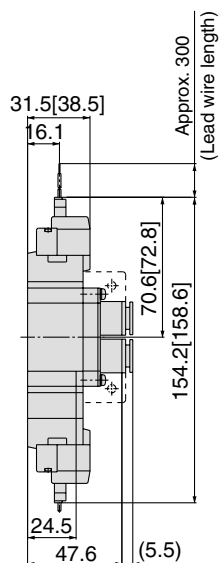
**3 position closed center / exhaust center / pressure center**

**Grommet (G), (H):** 10-SY7<sup>3</sup><sub>5</sub>420-□<sub>H</sub>□□-C<sup>8</sup><sub>10</sub>,N<sup>9</sup><sub>11</sub>□(-F2)



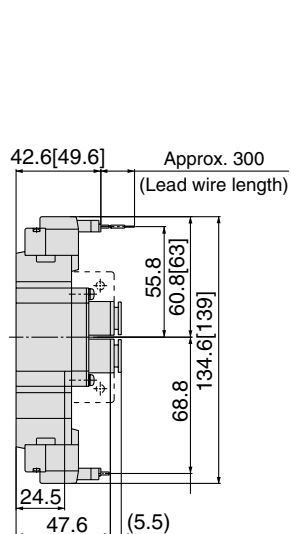
**L plug connector (L):**

10-SY7<sup>3</sup><sub>4</sub>20-L-C8,N9  
C10,N11(-F2)



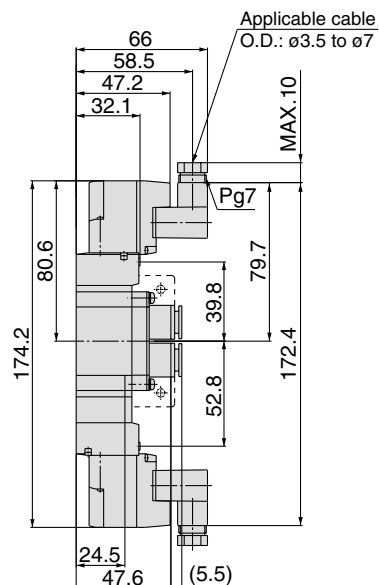
**M plug connector (M):**

10-SY7<sup>3</sup><sub>4</sub>20-□M□□-C<sup>8,N9</sup><sub>C10,N11</sub>□(-F2)



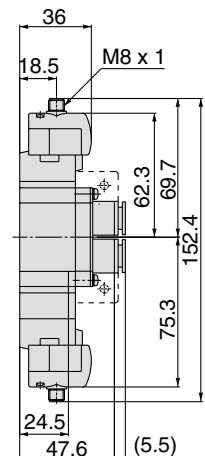
**DIN terminal (D):**

10-SY7<sup>3</sup><sub>4</sub>20-□D□□-C<sup>8,N9</sup><sub>10,N11</sub>□(-F2)



**M8 connector (WO):**

10-SY7<sup>3</sup><sub>4</sub>20-□WO□□-<sup>C8,N9</sup><sub>C10,N11</sub>□(-F2)



Note) Refer to page 490 for dimensions of connector types.



Dimensions: Series 10-SY9000

Note) [ ]: AC

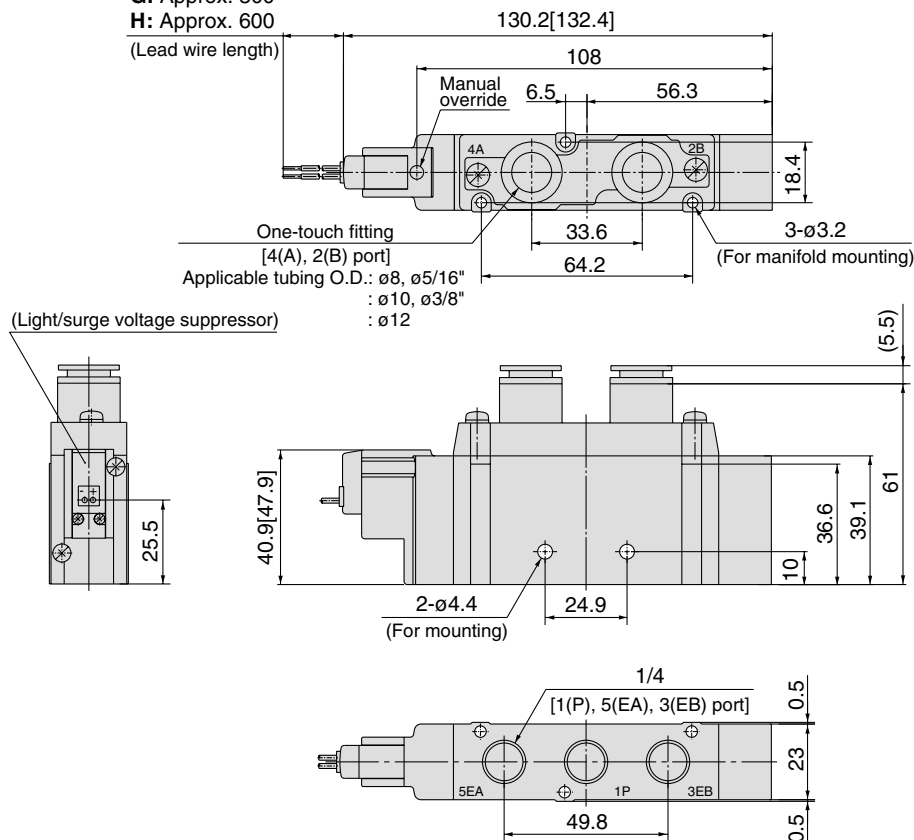
2 position single

Grommet (G), (H): 10-SY9120-☐G☐H☐C8,N9  
C10,N11  
C12

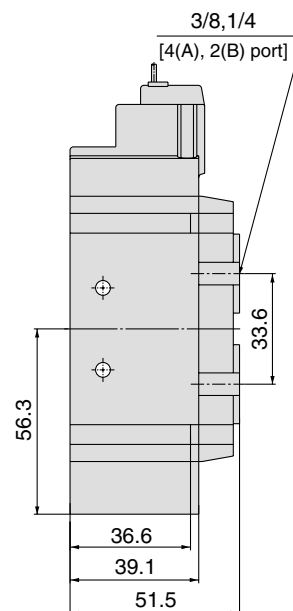
G: Approx. 300

H: Approx. 600

(Lead wire length)



10-SY9120-☐G☐H☐02  
03



L plug connector (L):

10-SY9120-☐L☐C8,N9  
C10,N11  
C12

M plug connector (M):

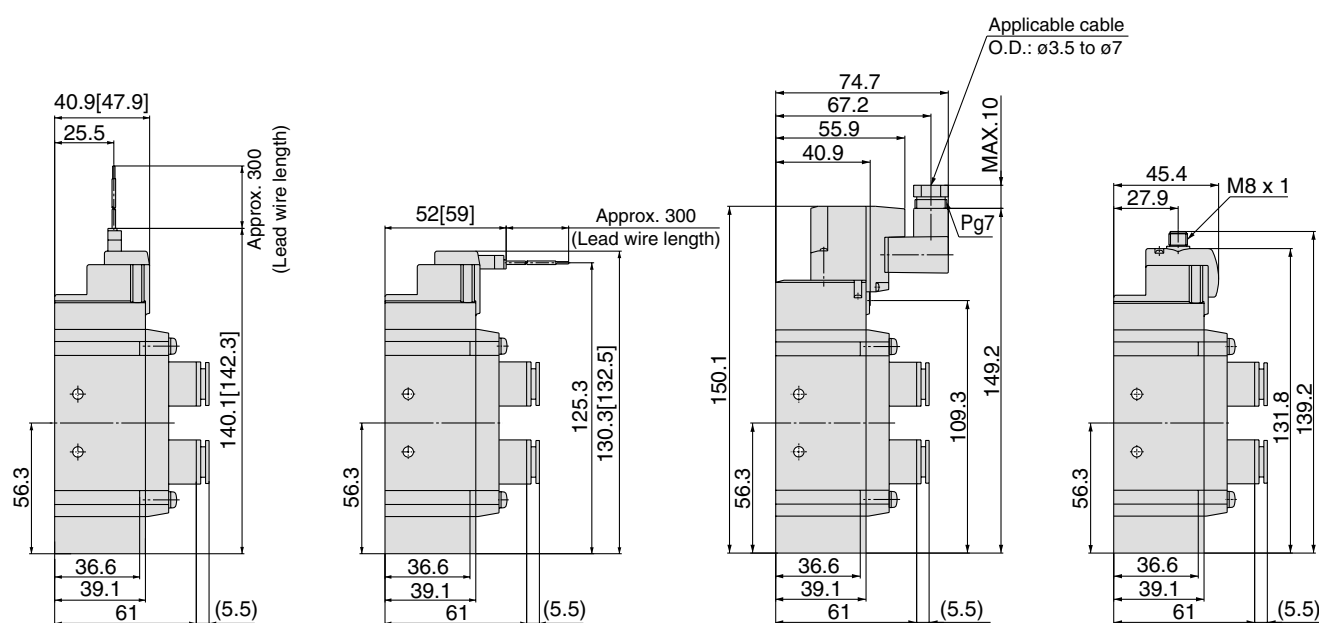
10-SY9120-☐M☐C8,N9  
C10,N11  
C12

DIN terminal (D):

10-SY9120-☐D☐C8,N9  
C10,N11  
C12

M8 connector (WO):

10-SY9120-☐WO☐C8,N9  
C10,N11  
C12



Note) Refer to page 490 for dimensions of connector types.

**Dimensions: Series 10-SY9000**

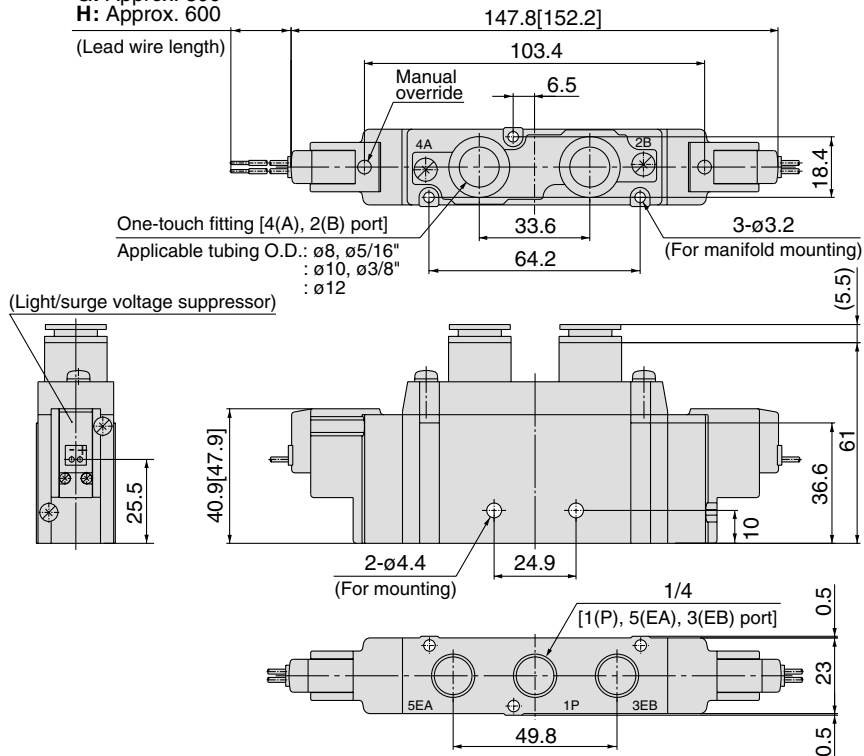


Note) [ ]: AC

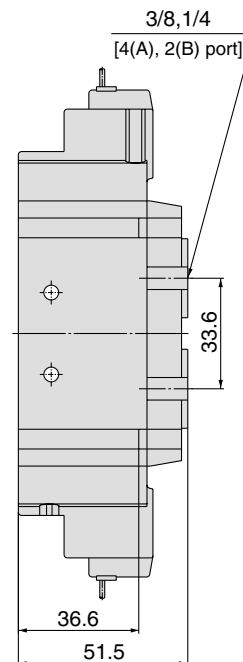
**2 position double**

**Grommet (G), (H): 10-SY9220-□<sub>G</sub>□<sub>H</sub>□<sub>C8,N9</sub>□<sub>C10,N11</sub>□<sub>C12</sub>**

G: Approx. 300  
H: Approx. 600



**10-SY9220-□<sub>G</sub>□<sub>H</sub>□<sub>02</sub>□<sub>03</sub>**



**L plug connector (L):**

**10-SY9220-□<sub>L</sub>□<sub>C8,N9</sub>□<sub>C10,N11</sub>□<sub>C12</sub>**

**M plug connector (M):**

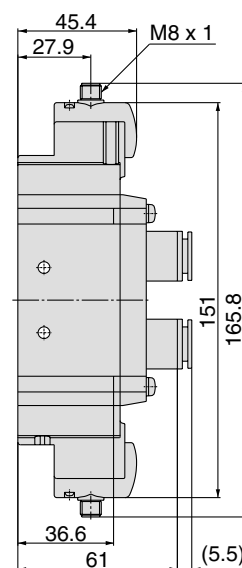
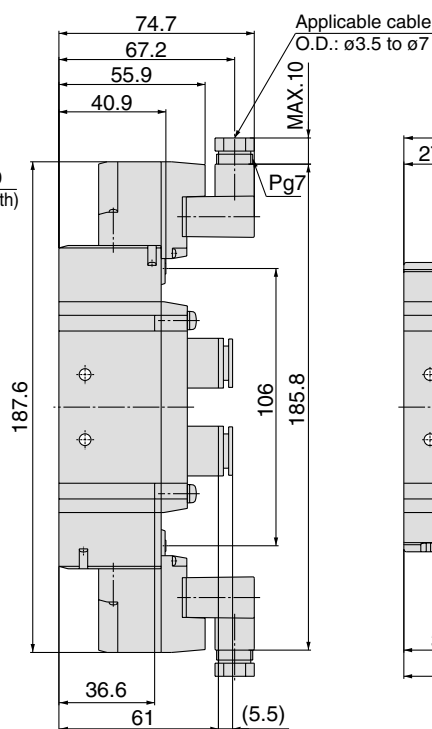
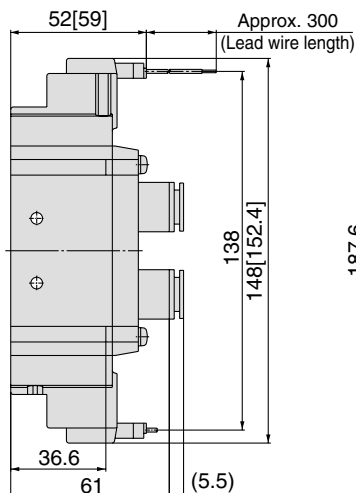
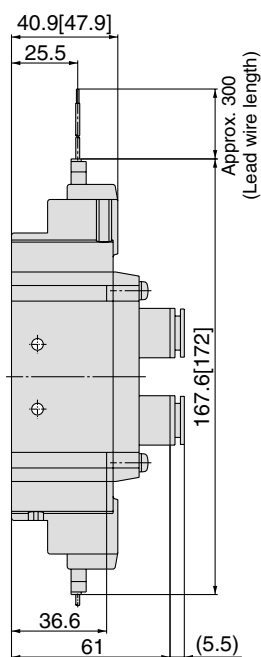
**10-SY9220-□<sub>M</sub>□<sub>C8,N9</sub>□<sub>C10,N11</sub>□<sub>C12</sub>**

**DIN terminal (D):**

**10-SY9220-□<sub>D</sub>□<sub>C8,N9</sub>□<sub>C10,N11</sub>□<sub>C12</sub>**

**M8 connector (WO):**

**10-SY9220-□<sub>WO</sub>□<sub>C8,N9</sub>□<sub>C10,N11</sub>□<sub>C12</sub>**



Note) Refer to page 490 for dimensions of connector types.

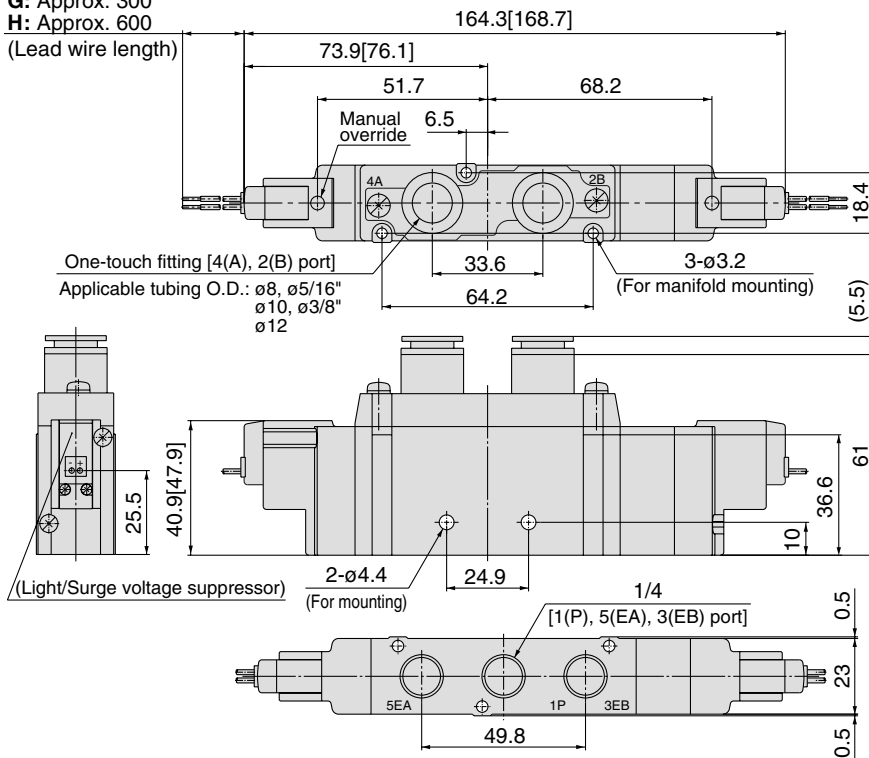
Dimensions: Series 10-SY9000

Note) [ ]: AC

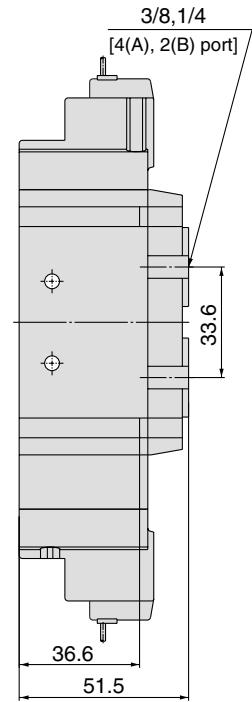
3 position closed center / exhaust center / pressure center

Grommet (G), (H): 10-SY9<sup>3</sup><sub>420</sub>-□<sup>C8,N9</sup><sub>G</sub>□□<sup>C10,N11</sup><sub>H</sub>□□<sup>C12</sup>

G: Approx. 300  
H: Approx. 600

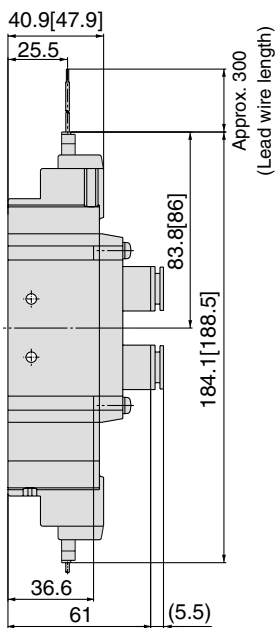


10-SY9<sup>3</sup><sub>420</sub>-□<sup>C8,N9</sup><sub>G</sub>□□<sup>C10,N11</sup><sub>H</sub>□□<sup>C12</sup>



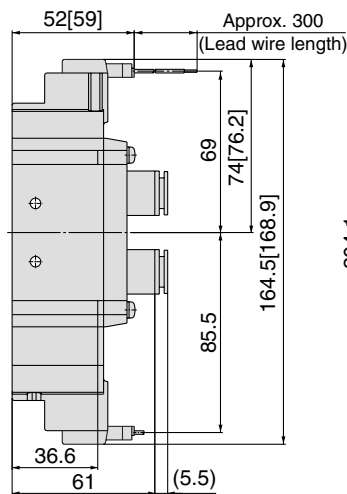
L plug connector (L):

10-SY9<sup>3</sup><sub>420</sub>-□<sup>C8,N9</sup><sub>L</sub>□□<sup>C10,N11</sup><sub>C12</sub>



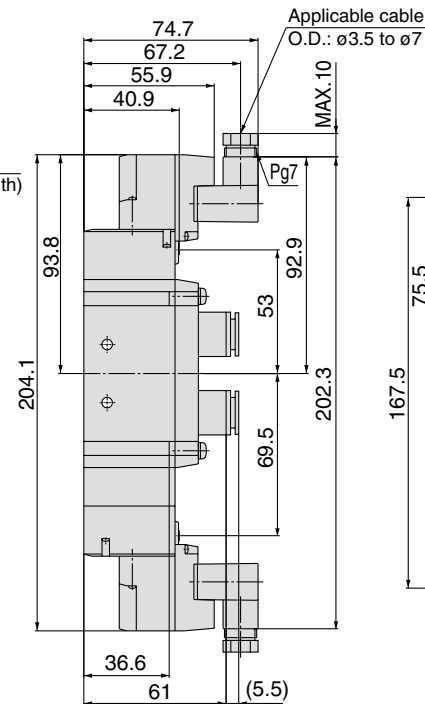
M plug connector (M):

10-SY9<sup>3</sup><sub>420</sub>-□<sup>C8,N9</sup><sub>M</sub>□□<sup>C10,N11</sup><sub>C12</sub>



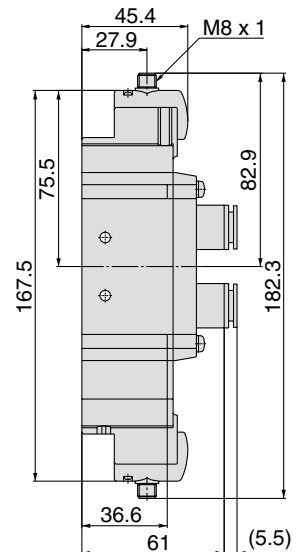
DIN terminal (D):

10-SY9<sup>3</sup><sub>420</sub>-□<sup>C8,N9</sup><sub>D</sub>□□<sup>C10,N11</sup><sub>C12</sub>



M8 connector (WO):

10-SY9<sup>3</sup><sub>420</sub>-□<sup>C8,N9</sup><sub>WO</sub>□□<sup>C10,N11</sup><sub>C12</sub>



Note) Refer to page 490 for dimensions of connector types.

# Series 10-SY3000/5000/7000/9000 Base mounted Single Valve

## How to Order

10—SY 5 2 40 [ ] [ ] — 5 L [ ] [ ] — [ ] [ ]

• Clean series

Series

3	10-SY3000
5	10-SY5000
7	10-SY7000
9	10-SY9000

• Actuation

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

• Pilot system

Nil	Internal pilot
R	External pilot*

\* External pilot specifications of DIN terminal are not available for 10-SY3000.

• Coil specifications

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

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

• Rated voltage

DC specifications

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

AC(50/60 Hz)

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	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.

• Port size

Symbol	Port size	Applicable series
Nil	Without sub-plate	
01	1/8 With sub-plate	10-SY3000
02	1/4 With sub-plate	10-SY5000 10-SY7000
03	3/8 With sub-plate	10-SY7000 10-SY9000
04	1/2 With sub-plate	10-SY9000

• Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

• Manual override

<b>Nil: Non-locking Push type</b> 	<b>D: Push-turn locking Slotted type</b> 	<b>E: Push-turn locking Lever type</b> 
---------------------------------------	--	--

• 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 "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.

• 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	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>DO:</b> Without connector 	<b>WO:</b> Without connector 
<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 	<b>WO:</b> With connector cable (Note 1) 

\* "LN", "MN" type: with 2 sockets.  
\* For DIN terminal of 10-SY3000 series, refer to Page 488.

\* DIN terminal type "Y" conforming to EN-175301-803C (previously DIN43650C) is available, too. For details, refer to page 482.

\* Refer to page 490 for connector cable of M8 connector.  
Note 1) A symbol for cable length should be described in □. Please refer to page 491.

## Specifications

Series			10-SY3000	10-SY5000	10-SY7000	10-SY9000
Fluid			Air			
Internal pilot operating pressure range (MPa)	2 position single		0.15 to 0.7			
	2 position double		0.1 to 0.7			
	3 position		0.2 to 0.7			
External pilot operating pressure range (MPa)	Operating pressure range		−100 kPa to 0.7			
	Pilot pressure range	2 position single	0.25 to 0.7			
		2 position double	0.25 to 0.7			
		3 position	0.25 to 0.7			
Ambient and fluid temperature (°C)			−10 to 50 (No freezing. Refer to page 714.)			
Maximum operating frequency (Hz)	2 position single, double		10	5	5	5
	3 position		3	3	3	3
Manual override (Manual operation)			Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type			
Pilot exhaust method	Internal pilot		Common exhaust type for main and pilot valve			
	External pilot		Individual pilot exhaust			
Lubrication			Not required			
Mounting orientation			Unrestricted			
Shock/Vibration resistance m/s <sup>2</sup> (Note)			150/30			
Enclosure			Dustproof (* DIN terminal, M8 connector conforms to IP65)			



Made to Order Specifications  
(For details, refer to pages 477 to 483)



\* Based on IEC60529

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

Vibration resistance: No malfunction when tested with one sweep of 45 to 2000Hz in the axial direction and at a right angle to the main valve and armature, in both energized and de-energized states. (Values in the initial stage)

## Response time



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

### 10-SY3000

Type of actuation	Response Time ms (at the pressure of 0.5 MPa)			
	Without light/surge voltage suppressor	With light/surge voltage suppressor		
		Type S, Z	Type R, U	
2 position single	12 or less	15 or less	12 or less	
2 position double	10 or less	13 or less	10 or less	
3 position	15 or less	20 or less	16 or less	

### 10-SY5000

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

### 10-SY7000

Type of actuation	Response Time ms (at 0.5 MPa)			
	Without light/surge voltage suppressor	With light/surge voltage suppressor		
		Type S, Z	Type R, U	
2 position single	31 or less	38 or less	33 or less	
2 position double	27 or less	30 or less	28 or less	
3 position	50 or less	56 or less	50 or less	

### 10-SY9000

Type of actuation	Response Time ms (at 0.5 MPa)			
	Without light/surge voltage suppressor	With light/surge voltage suppressor		
		Type S, Z	Type R, U	
2 position single	35 or less	41 or less	35 or less	
2 position double	35 or less	41 or less	35 or less	
3 position	62 or less	64 or less	62 or less	

## Solenoid specifications

Electrical entry		Grommet (G), (H) L plug connector (L) M plug connector (M) DIN terminal (D) M8 Connector (W)	
		G, H, L, M, W	D
Coil rated voltage (V)	DC	24, 12, 6, 5, 3	24, 12
	AC <sup>50/60</sup> Hz	100, 110, 200, 220	
Allowable voltage fluctuation		±10% of rated voltage *	
Power consumption (W)	DC	Standard	0.35 (With indicator 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	0.78 (With indicator light: 0.81) 0.78 (With indicator light: 0.87)
		110V	0.86 (With indicator light: 0.89) 0.86 (With indicator light: 0.97)
		[115V]	[0.94 (With indicator light: 0.97)] [0.94 (With indicator light: 1.07)]
		200V	1.18 (With indicator light: 1.22) 1.15 (With indicator light: 1.30)
		220V	1.30 (With indicator light: 1.34) 1.27 (With indicator light: 1.46)
		[230V]	[1.42 (With indicator light: 1.46)] [1.39 (With indicator light: 1.60)]
Surge voltage suppressor		Diode (Varistor for DIN terminal and non-polar type.)	
Indicator light		LED (Neon bulb for AC type 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.

\* Voltage drop may be caused by internal circuit for S, Z and T type (With power-saving circuit).  
Use the valves within allowable voltage fluctuation range as below.

Type S, Z 24 VDC: -7% to +10%

12 VDC: -4% to +10%


Type T 24 VDC: -8% to +10%

12 VDC: -6% to +10%

## Flow Characteristics / Weight


### Model/Series 10-SY3000

Valve model	Type of actuation		Port size	Flow Characteristics <small>Note 1)</small>						Weight (g) <small>Note 2)</small>		
				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	Grommet	L, M plug connector	W M8 connector
SY3□40-□-01	2 position	Single	1/8	1.0	0.30	0.24	1.1	0.30	0.26	84(50)	85(53)	89(57)
		Double								102(68)	107(73)	115(81)
	3 position	Closed center		0.77	0.28	0.18	0.85	0.30	0.19	104(69)	109(74)	117(82)
		Exhaust center		0.73	0.31	0.18	1.1 [0.55]	0.26 [0.52]	0.24 [0.16]			
		Pressure center		1.2 [0.51]	0.24 [0.45]	0.29 [0.14]	0.89	0.47	0.24			

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


### Model: Series 10-SY5000

Valve model	Type of actuation		Port size	Flow Characteristics <small>Note 1)</small>						Weight (g) <small>Note 2)</small>			
				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	Grommet	L, M plug connector	DIN terminal	W M8 connector
SY5□40-□-02	2 position	Single	1/4	2.4	0.41	0.64	2.8	0.29	0.66	121(58)	123(61)	154(92)	127(65)
		Double								139(76)	144(81)	186(123)	152(89)
	3 position	Closed center		1.8	0.47	0.50	1.8	0.40	0.47	144(82)	150(87)	192(129)	158(95)
		Exhaust center		1.4	0.55	0.44	3.0 [1.2]	0.33 [0.48]	0.72 [0.37]				
		Pressure center		3.3 [0.84]	0.36 [0.60]	0.85 [0.28]	1.8	0.40	0.48				

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


### Model: Series 10-SY7000

Valve model	Type of actuation		Port size	Flow Characteristics <small>Note 1)</small>						Weight (g) <small>Note 2)</small>			
				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	Grommet	L, M plug connector	DIN terminal	W M8 connector
SY7□40-□-02	2 position	Single	1/4	4.1	0.41	1.1	4.1	0.29	1.0	218(89)	221(92)	242(113)	225(96)
		Double								237(108)	242(113)	284(155)	250(121)
	3 position	Closed center		3.0	0.43	0.80	2.6	0.41	0.72	239(110)	245(116)	287(158)	253(124)
		Exhaust center		2.6	0.42	0.71	4.7 [1.7]	0.35 [0.48]	1.1 [0.49]				
		Pressure center		5.3 [2.3]	0.39 [0.49]	1.3 [0.65]	2.2	0.49	0.63				
SY7□40-□-03	2 position	Single	3/8	4.9	0.29	1.2	4.5	0.27	1.1	218(89)	221(92)	242(113)	225(96)
		Double								237(108)	242(113)	284(155)	250(121)
	3 position	Closed center		3.0	0.40	0.80	2.6	0.45	0.73	239(110)	245(116)	287(158)	253(124)
		Exhaust center		2.6	0.42	0.71	4.8 [1.7]	0.35 [0.48]	1.1 [0.49]				
		Pressure center		5.3 [2.3]	0.31 [0.51]	1.3 [0.64]	2.3	0.45	0.66				

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

### Model: Series 10-SY9000

Valve model	Type of actuation		Port size	Flow Characteristics <small>Note 1)</small>						Weight (g) <small>Note 2)</small>			
				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	Grommet	L, M plug connector	DIN terminal	W M8 connector
SY9□40-□-03	2 position	Single	3/8	7.9	0.34	2.0	9.6	0.43	2.6	469(172)	472(175)	493(196)	476(179)
		Double								488(191)	494(197)	535(239)	502(205)
	3 position	Closed center		7.5	0.33	1.8	7.3	0.30	1.7	512(215)	518(221)	560(263)	526(229)
		Exhaust center		7.2	0.34	1.7	13 [4.0]	0.23 [0.41]	2.8 [0.95]				
		Pressure center		12 [3.3]	0.26 [0.41]	2.8 [0.84]	6.7	0.40	1.9				
SY9□40-□-04	2 position	Single	1/2	8.0	0.48	2.2	10	0.29	2.5	448(172)	453(175)	472	457(179)
		Double								467(191)	473(197)	515	481(205)
	3 position	Closed center		7.6	0.32	1.8	7.3	0.32	1.8	491(215)	497(221)	539	505(229)
		Exhaust center		7.3	0.42	2.0	13 [4.7]	0.32 [0.54]	3.6 [1.5]				
		Pressure center		12 [3.3]	0.33 [0.51]	3.3 [0.94]	7.4	0.33	1.9				

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

## How to Order Connector assemblies for L/M plug connector

## How to Order Pilot valve assembly

10—V111—5—G—

### Coil specifications

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

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

### Rated voltage

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

\* 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 "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
LN	With lead wire
LO	Without lead wire
M	M plug connector
MN	With lead wire
MO	Without lead wire
WO	Without connector
W	M8 Connector
	Without connector cable (Note 1)

\* For connector cable of M8 connector, refer to page 490.

Note 1) A symbol for cable length is described in □. Please refer to page 491.

For DC: SY100-30-4A—

For 100 V AC: SY100-30-1A—

For 200 V AC: 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	300mm
6	600mm
10	1000mm
15	1500mm
20	2000mm
25	2500mm
30	3000mm
50	5000mm

## ■DIN terminal type

10—V115—5—D—

### Rated voltage

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

\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.

### 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		Without connector

Note) Do not replace 10-V111 (G, H, L, M) to 10-V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.

## How to Order M8 Connector cable

## ■Straight type

V100-49-1—

### Cable length

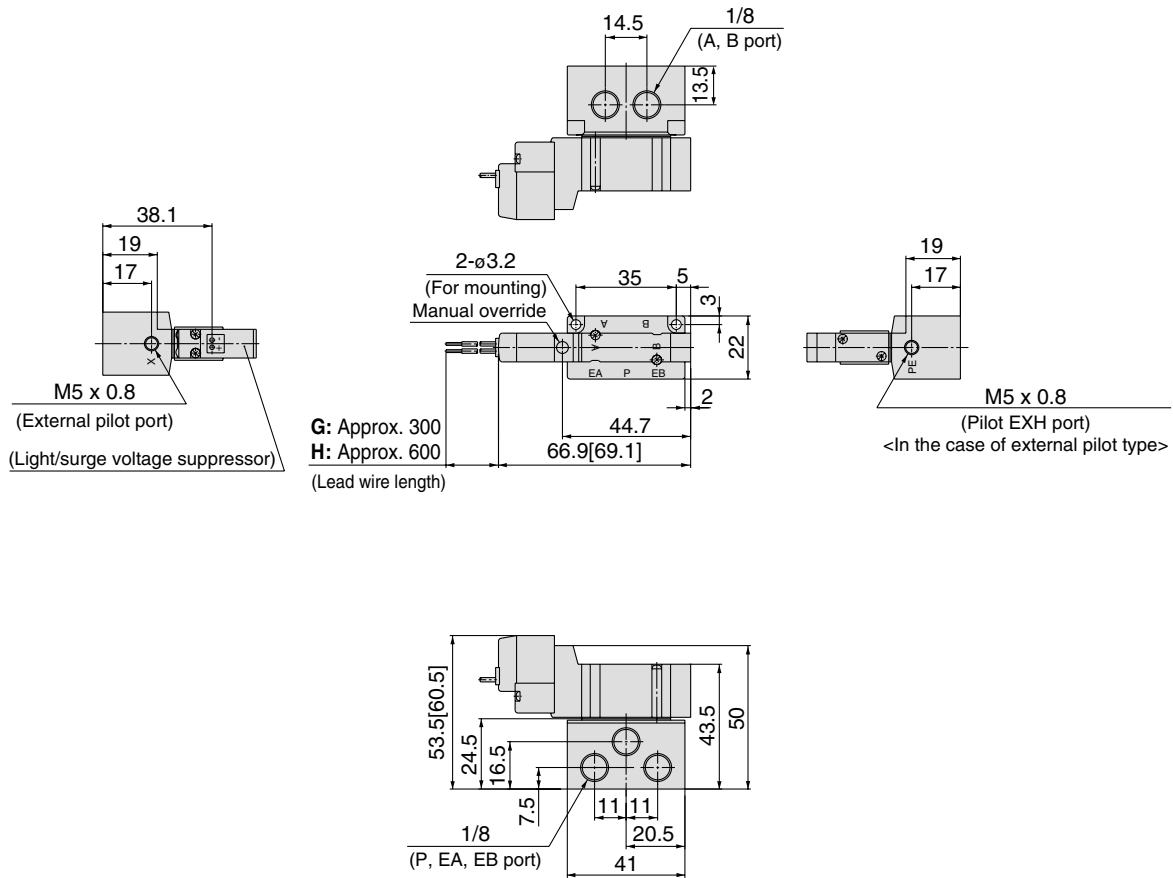
1	300mm
2	500mm
3	1000mm
4	2000mm
7	5000mm



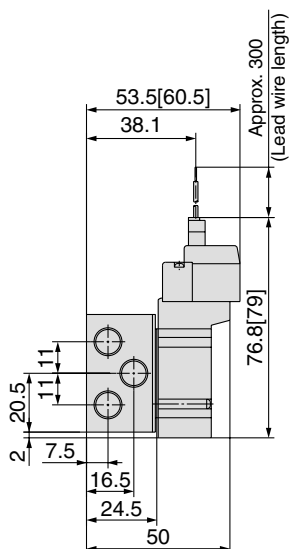
## Dimensions: Series 10-SY3000

### 2 position single

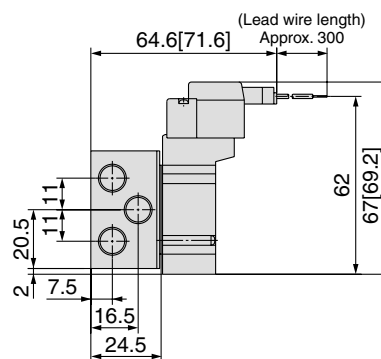
Grommet (G), (H): 10-SY3140(R)-□<sup>G</sup>□□-01□



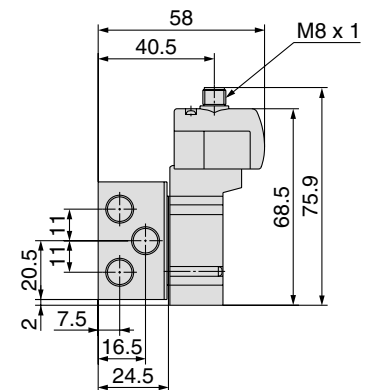
### L plug connector (L): 10-SY3140(R)-□L□□-01□



### M plug connector (M): 10-SY3140(R)-□M□□-01□



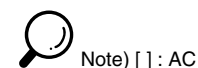
### M8 connector (WO): 10-SY3140(R)-□WO□□-01□



Note) Refer to page 490 for dimensions of model with connector.

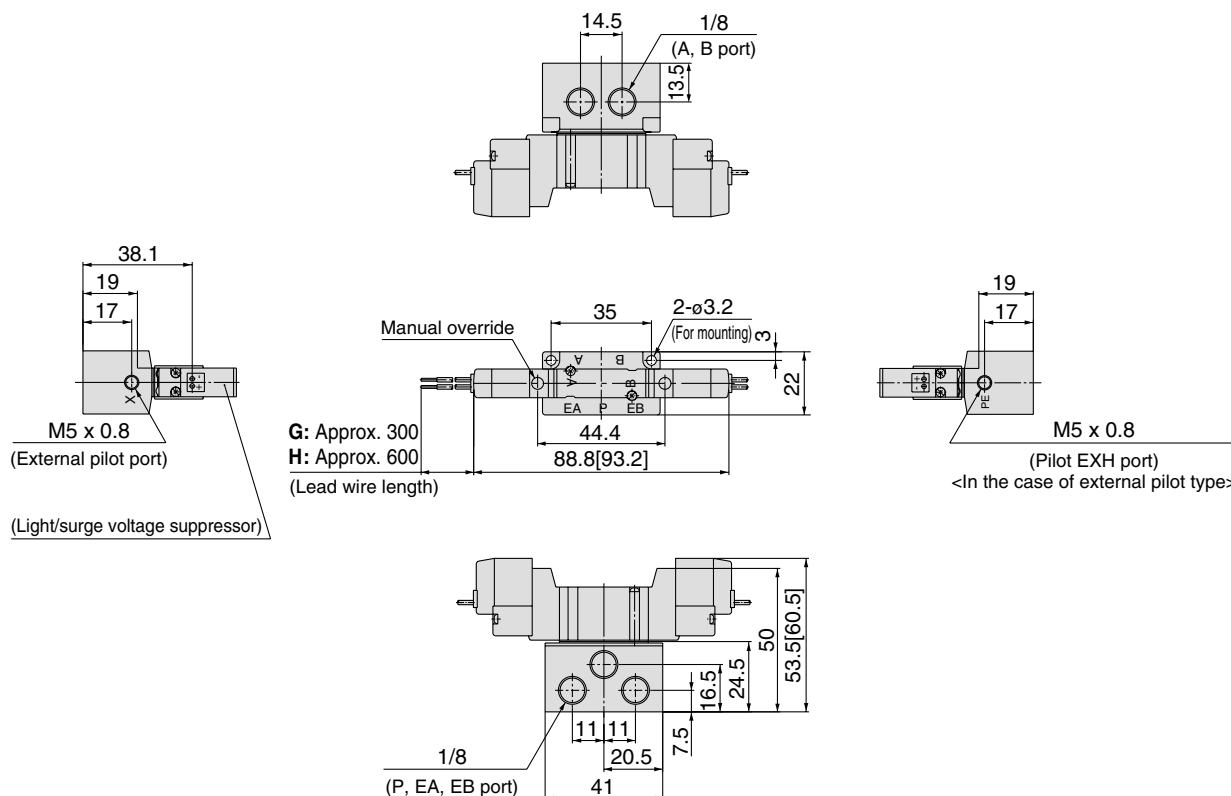


# Dimensions: Series 10-SY3000

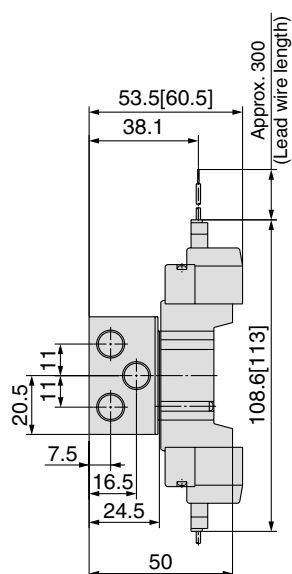


## 2 position double

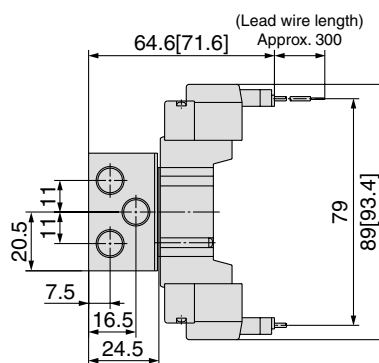
Grommet (G), (H): 10-SY3240(R)-□<sub>G</sub>□□-01□



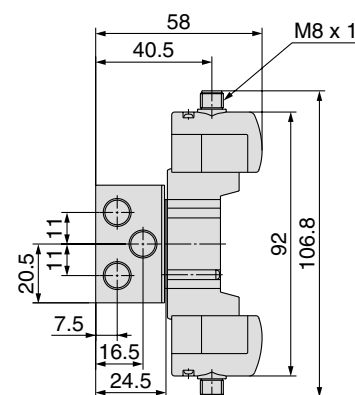
## L plug connector (L): 10-SY3240(R)-□L□□-01□



## M plug connector (M): 10-SY3240(R)-□M□□-01□



## M8 connector (WO) 10-SY3240(R)-□WO□□-01□



Note) Refer to page 490 for dimensions of model with connector.

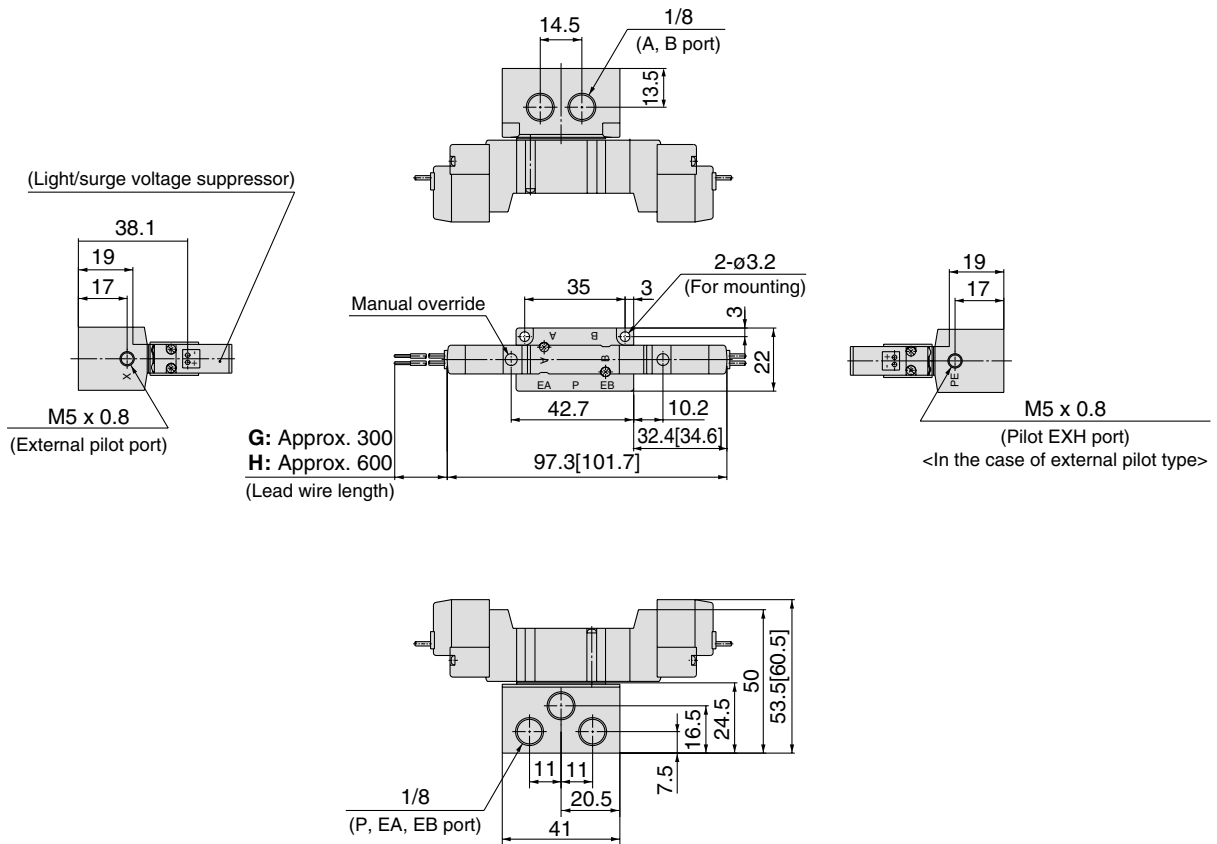
**Dimensions: Series 10-SY3000**



Note) [ ]: In case of AC

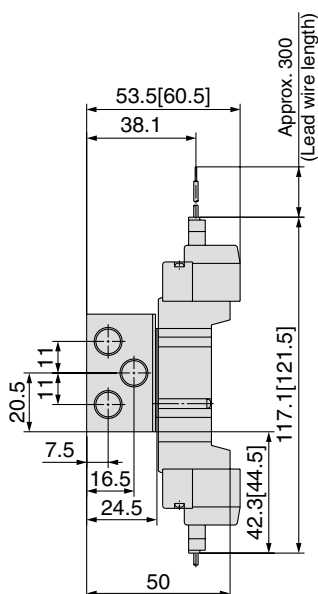
**3 position closed center / exhaust center / pressure center**

**Grommet (G), (H): 10-SY3<sup>3</sup>/<sub>5</sub>40(R)-□G□□-01□**



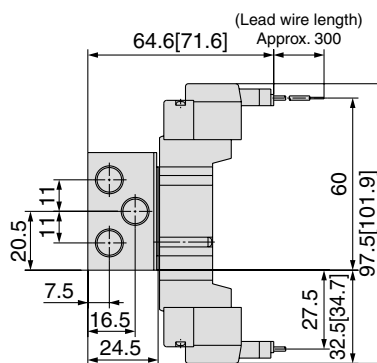
**L plug connector (L):**

**10-SY3<sup>3</sup>/<sub>5</sub>40(R)-□L□□-01□**



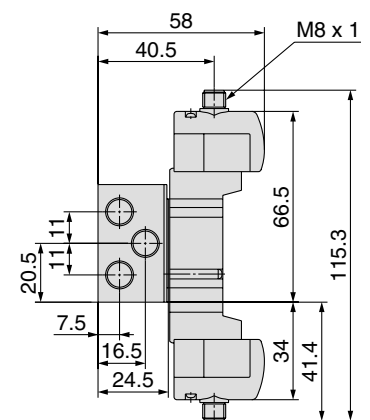
**M plug connector (M):**

**10-SY3<sup>3</sup>/<sub>5</sub>40(R)-□M□□-01□**



**M8 connector (WO):**

**10-SY3<sup>3</sup>/<sub>5</sub>40(R)-□WO□□-01□**



Note) Refer to page 490 for dimensions of model with connector.

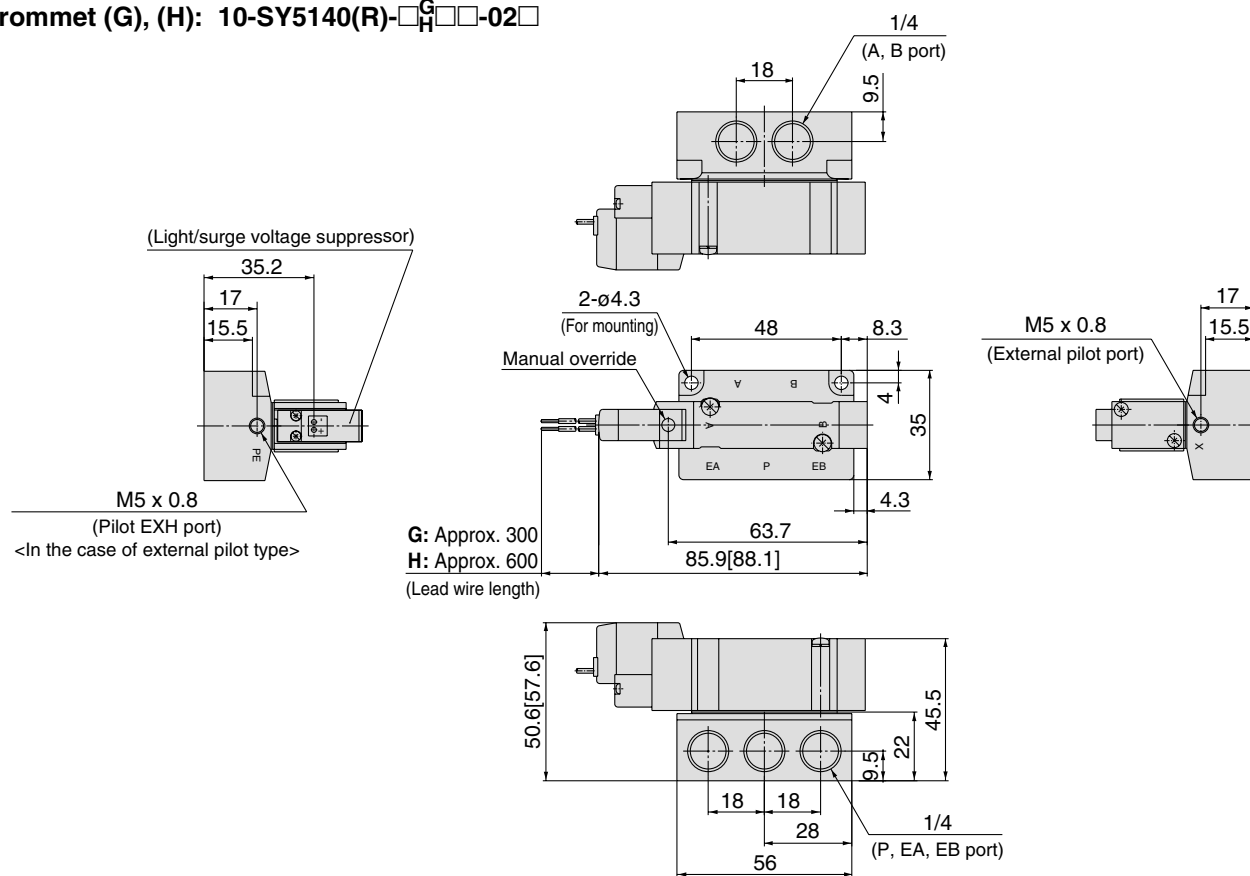
## Dimensions: Series 10-SY5000



Note) [ ]: In case of AC

### 2 position single

Grommet (G), (H): 10-SY5140(R)-□<sup>G</sup><sub>H</sub>□□-02□

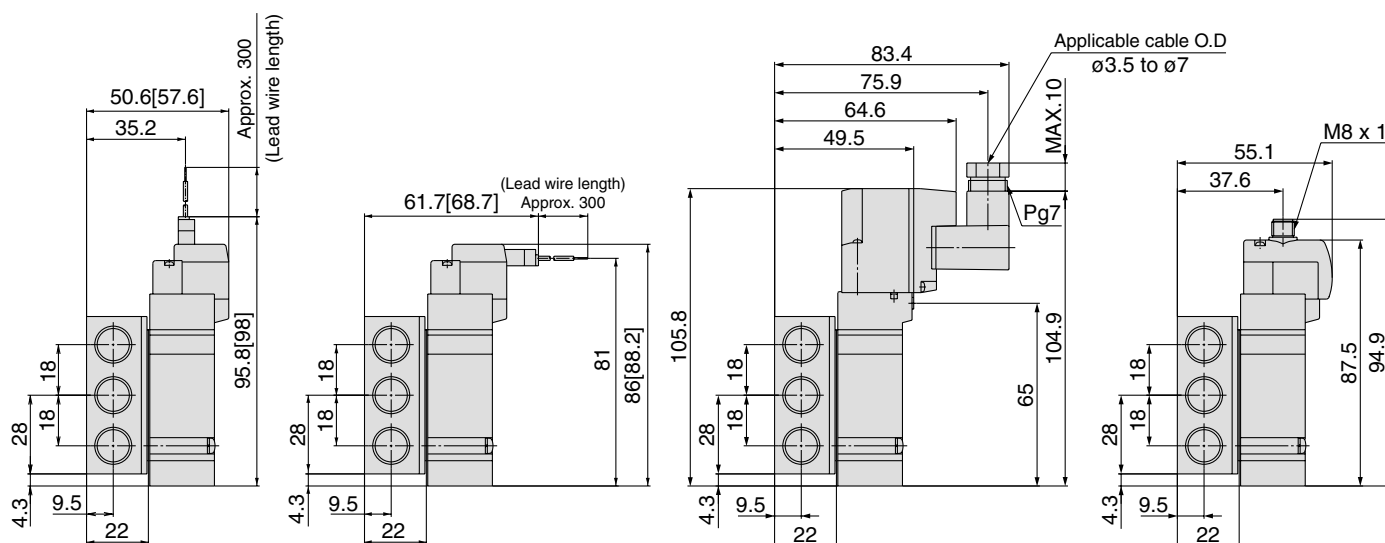


**L plug connector (L):**  
10-SY5140(R)-□L□□-02□

**M plug connector (M):**  
10-SY5140(R)-□M□□-02□

**DIN terminal (D):**  
10-SY5140(R)-□D□□-02□

**M8 connector (WO):**  
10-SY5140(R)-□WO□□-02□



Note) Refer to page 490 for dimensions of model with connector.

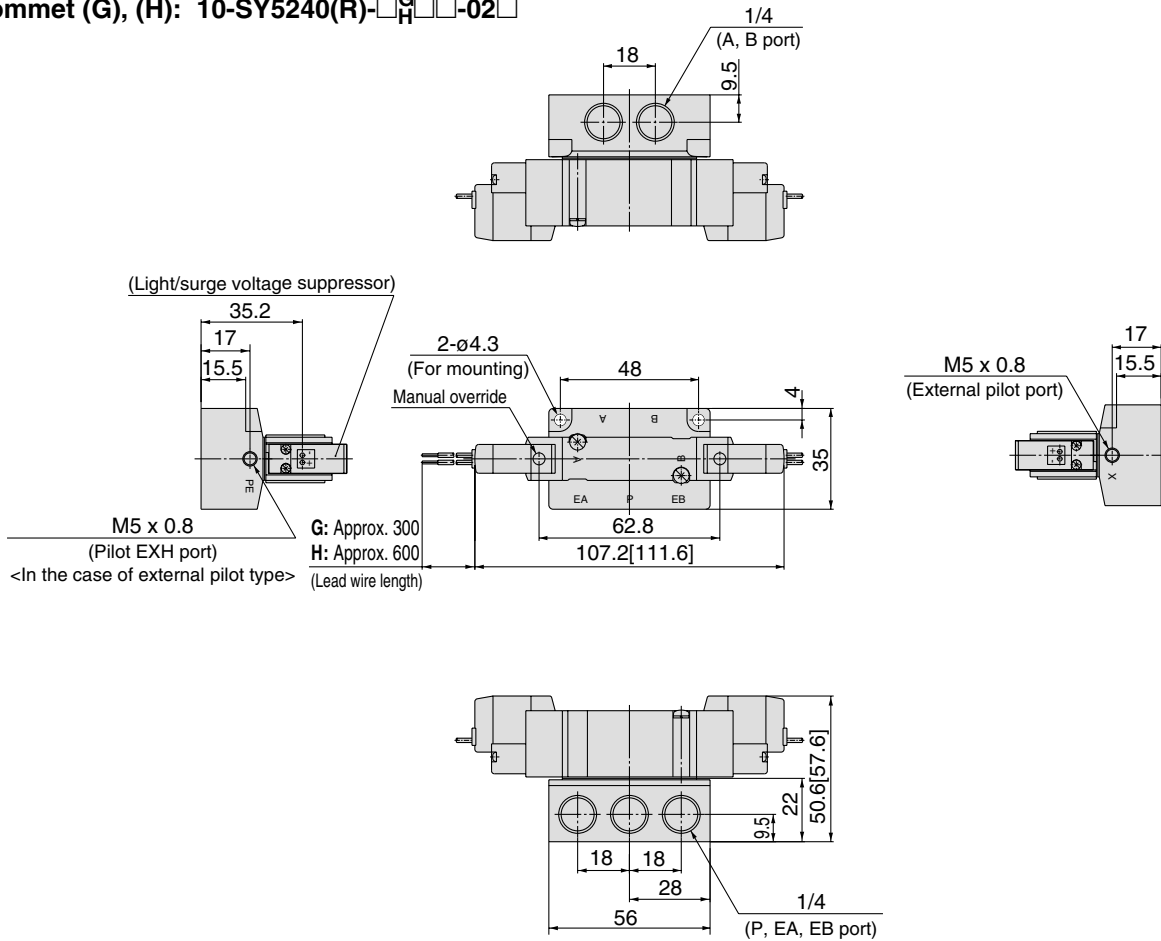
**Dimensions: Series 10-SY5000**



Note) [ ]: In case of AC

**2 position double**

**Grommet (G), (H): 10-SY5240(R)-□G□□-02□**

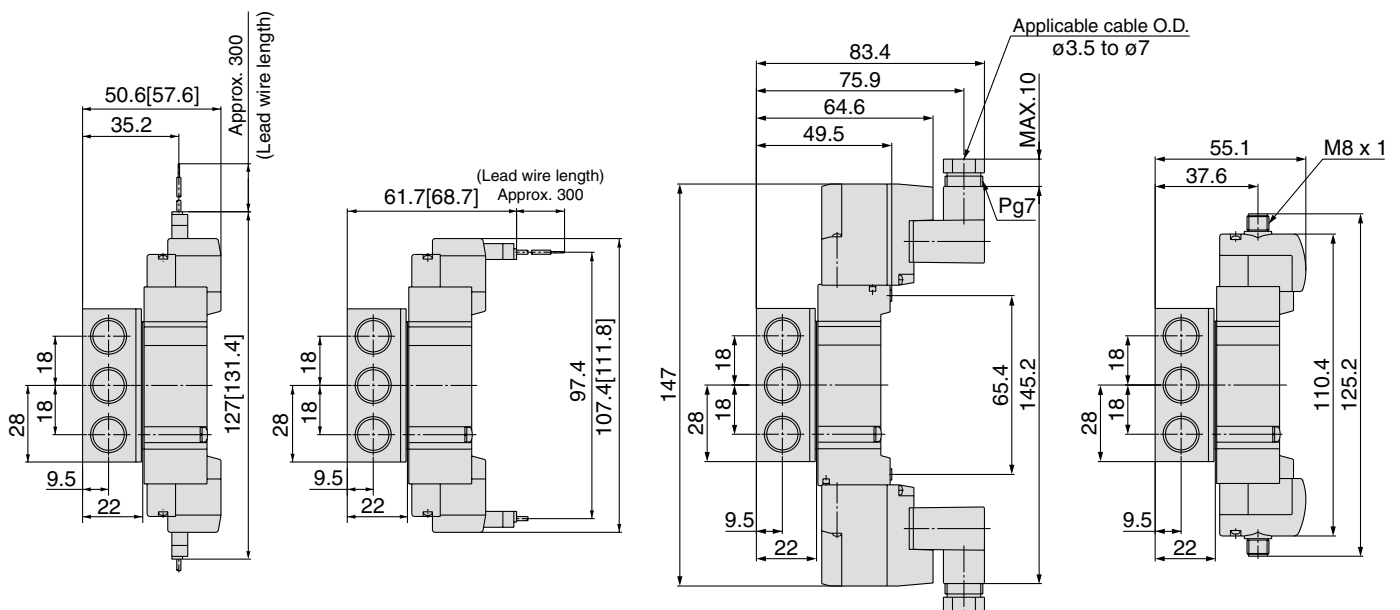


**L plug connector (L):**  
10-SY5240(R)-□L□□-02□

**M plug connector (M):**  
10-SY5240(R)-□M□□-02□

**DIN terminal (D):**  
10-SY5240(R)-□D□□-02□

**M8 connector (WO):**  
10-SY5240(R)-□WO□□-02□



Note) Refer to page 490 for dimensions of connector types.

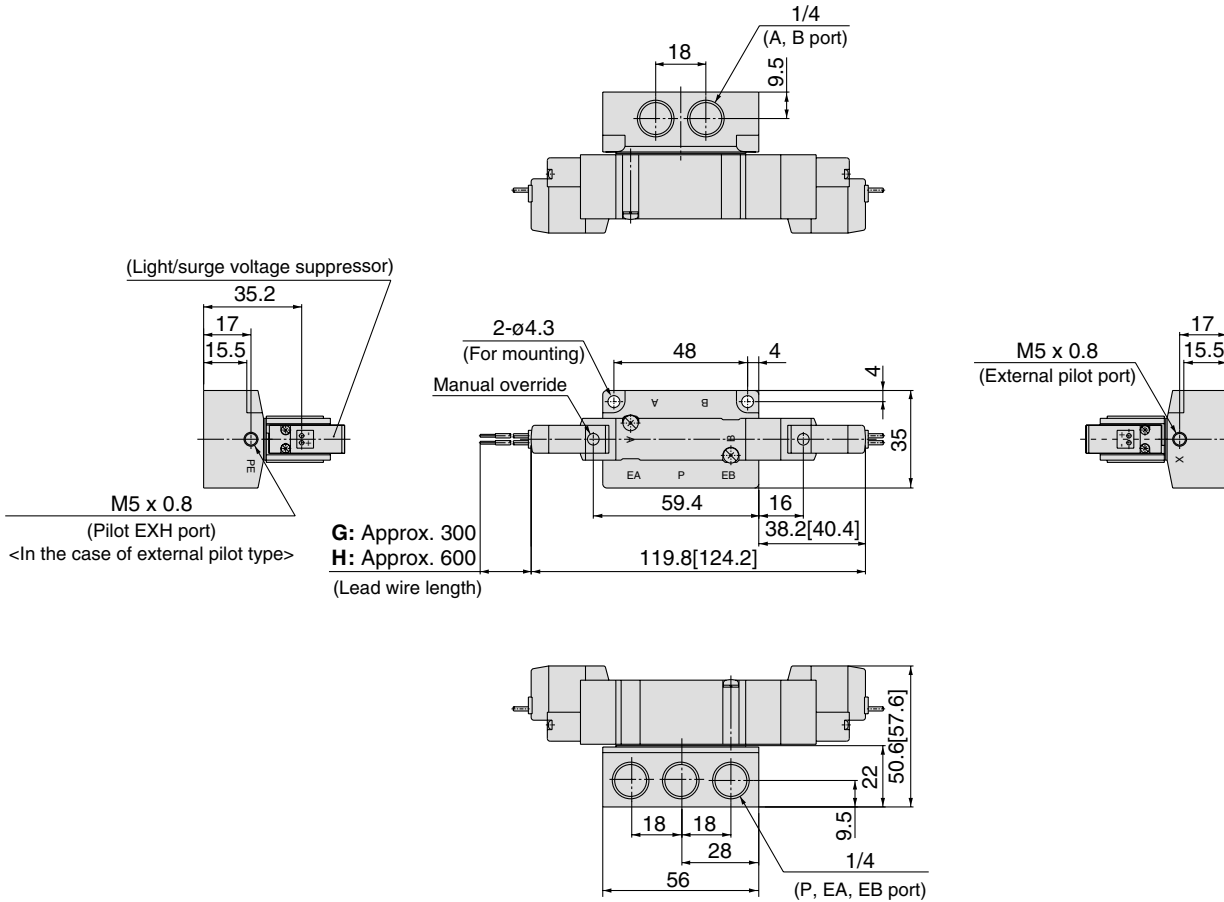
Dimensions: Series 10-SY5000



Note) [ ]: In case of AC

3 position closed center / exhaust center / pressure center

Grommet (G), (H): 10-SY5<sup>3</sup>/<sub>5</sub>40(R)-□G□□-02□



L plug connector (L):

10-SY5<sup>3</sup>/<sub>5</sub>40(R)-□L□□-02□

M plug connector (M):

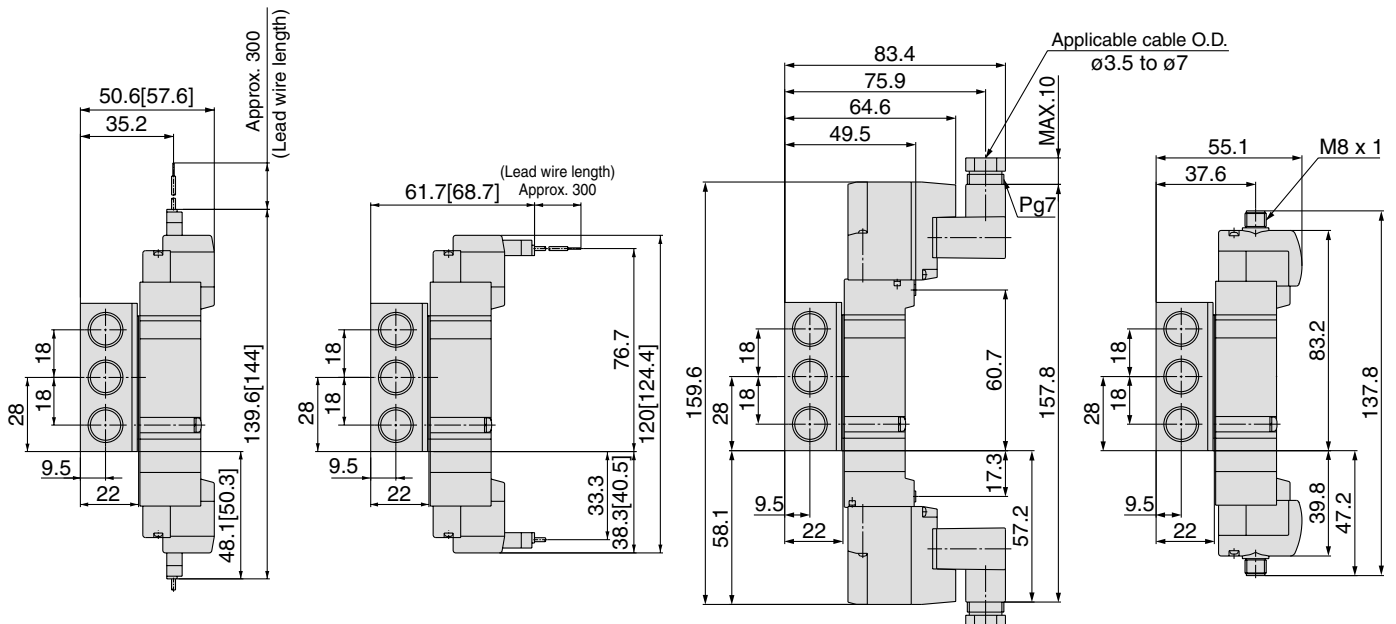
10-SY5<sup>3</sup>/<sub>5</sub>40(R)-□M□□-02□

DIN terminal (D):

10-SY5<sup>3</sup>/<sub>5</sub>40(R)-□D□□-02□


M8 connector (WO)

10-SY5<sup>3</sup>/<sub>5</sub>40(R)-□WO□□-02□



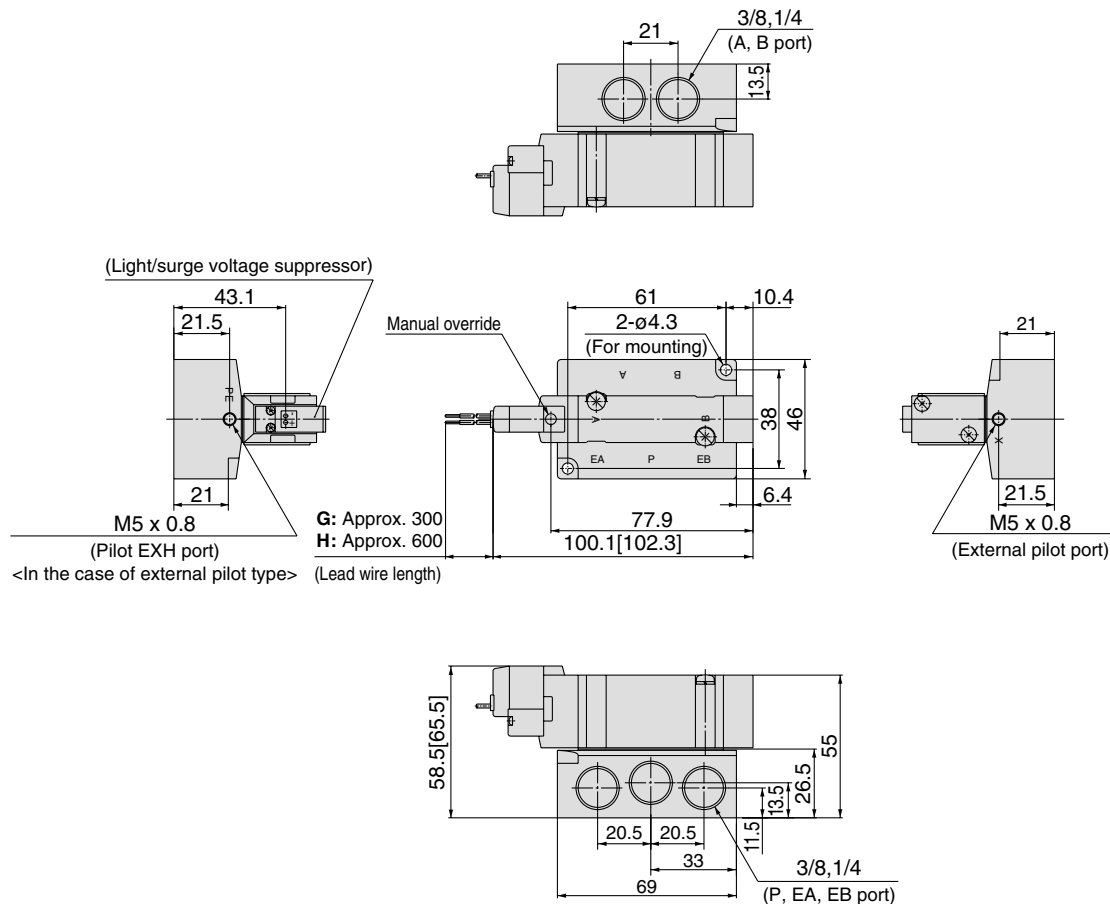
Note) Refer to page 490 for dimensions of model with connector.

**Dimensions: Series 10-SY7000**

 Note) [ ]: In case of AC

**2 position single**

Grommet (G), (H): 10-SY7140(R)-□G□□-02□  
H□□-03□

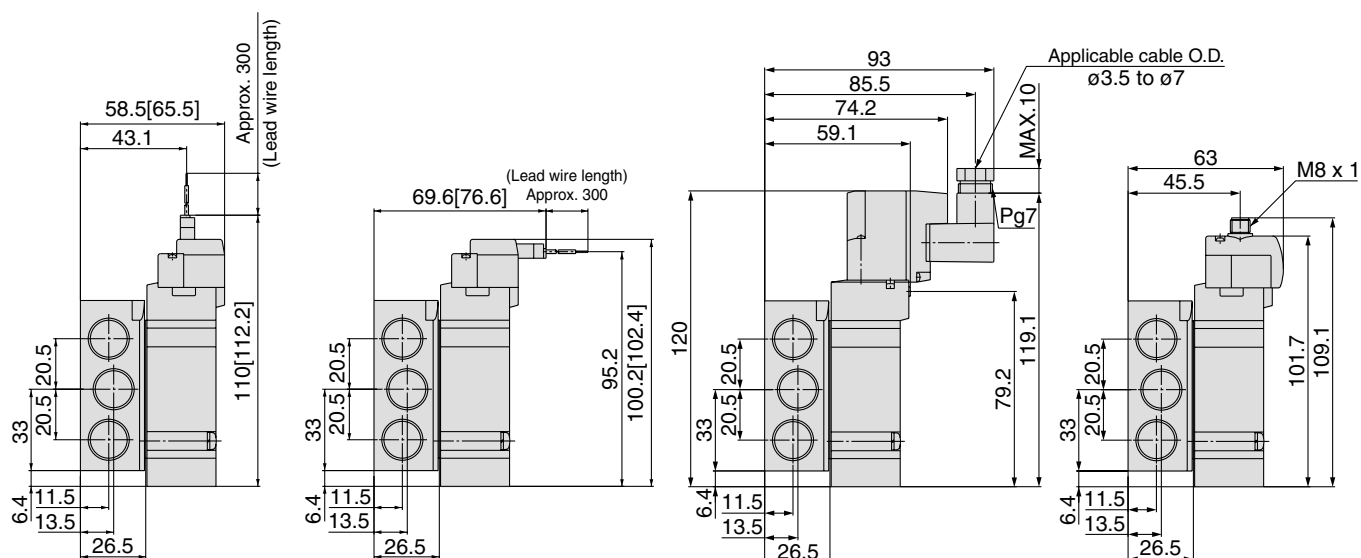


**L plug connector (L):**  
10-SY7140(R)-□L□□-02□  
H□□-03□

**M plug connector (M):**  
10-SY7140(R)-□M□□-02□  
H□□-03□

**DIN terminal (D):**  
10-SY7140(R)-□D□□-02□  
H□□-03□

**M8 connector (WO):**  
10-SY7140(R)-□WO□□-02□  
H□□-03□



Note) Refer to page 490 for dimensions of model with connector.

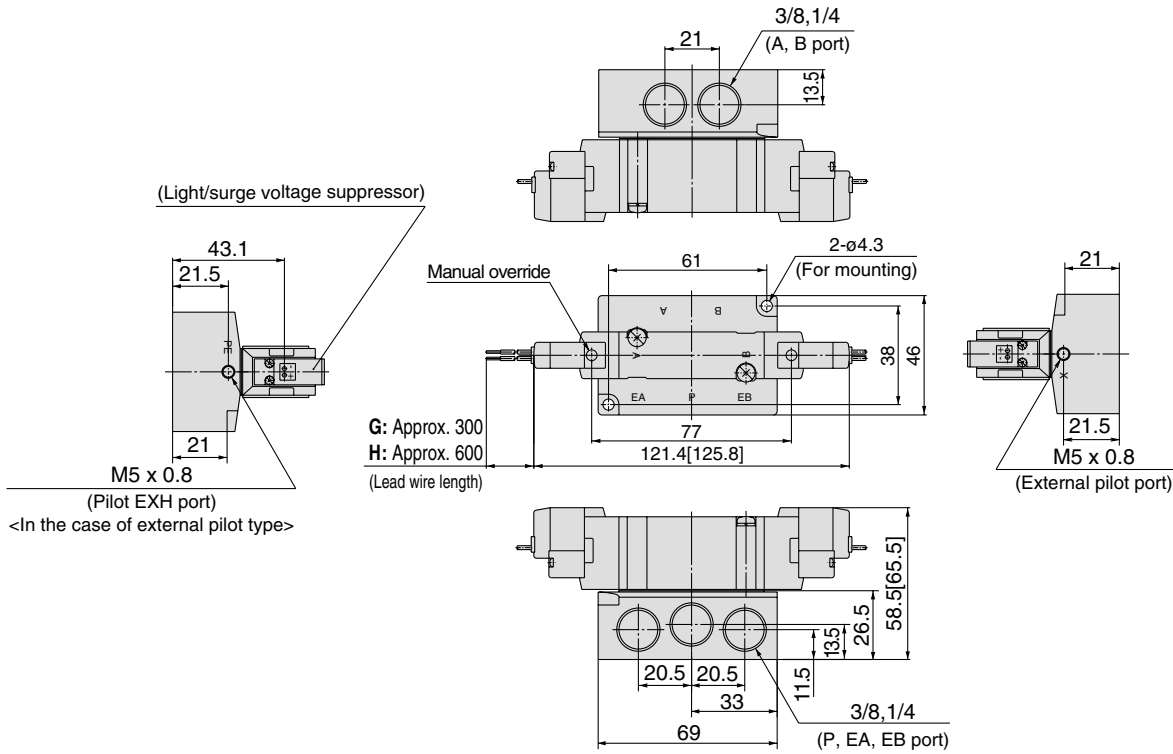
**Dimensions: Series 10-SY7000**



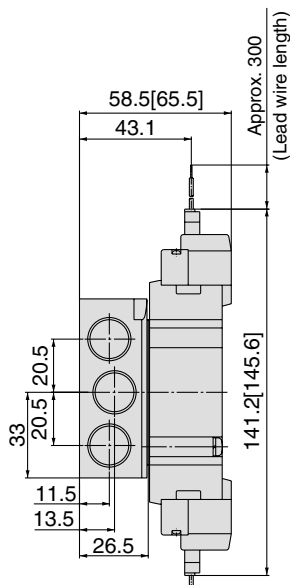
Note) [ ]: In case of AC

**2 position double**

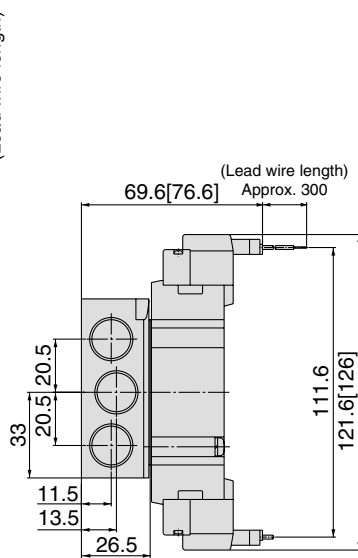
Grommet (G), (H): 10-SY7240(R)-□G□□-02□  
H□□-03□



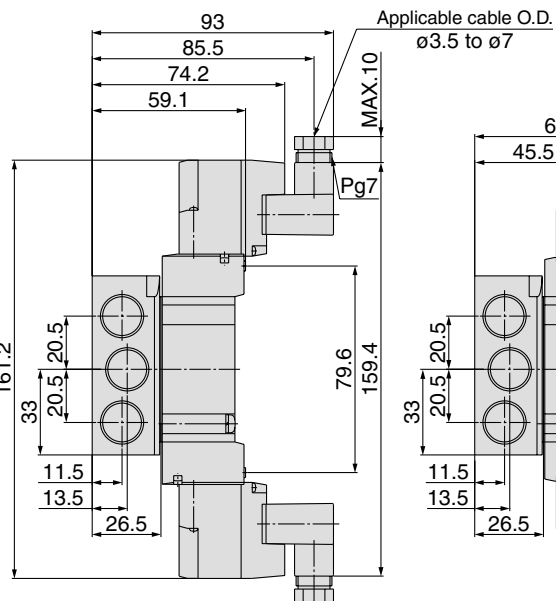
**L plug connector (L):**  
10-SY7240(R)-□L□□-02□  
H□□-03□



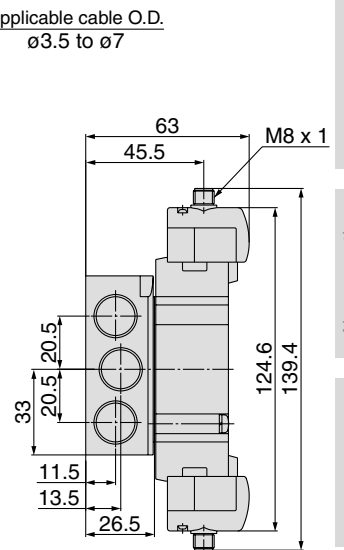
**M plug connector (M):**  
10-SY7240(R)-□M□□-02□  
H□□-03□



**DIN terminal (D):**  
10-SY7240(R)-□D□□-02□  
H□□-03□



**M8 connector (WO):**  
10-SY7240(R)-□WO□□-02□  
H□□-03□



Note) Refer to page 490 for dimensions of model with connector.

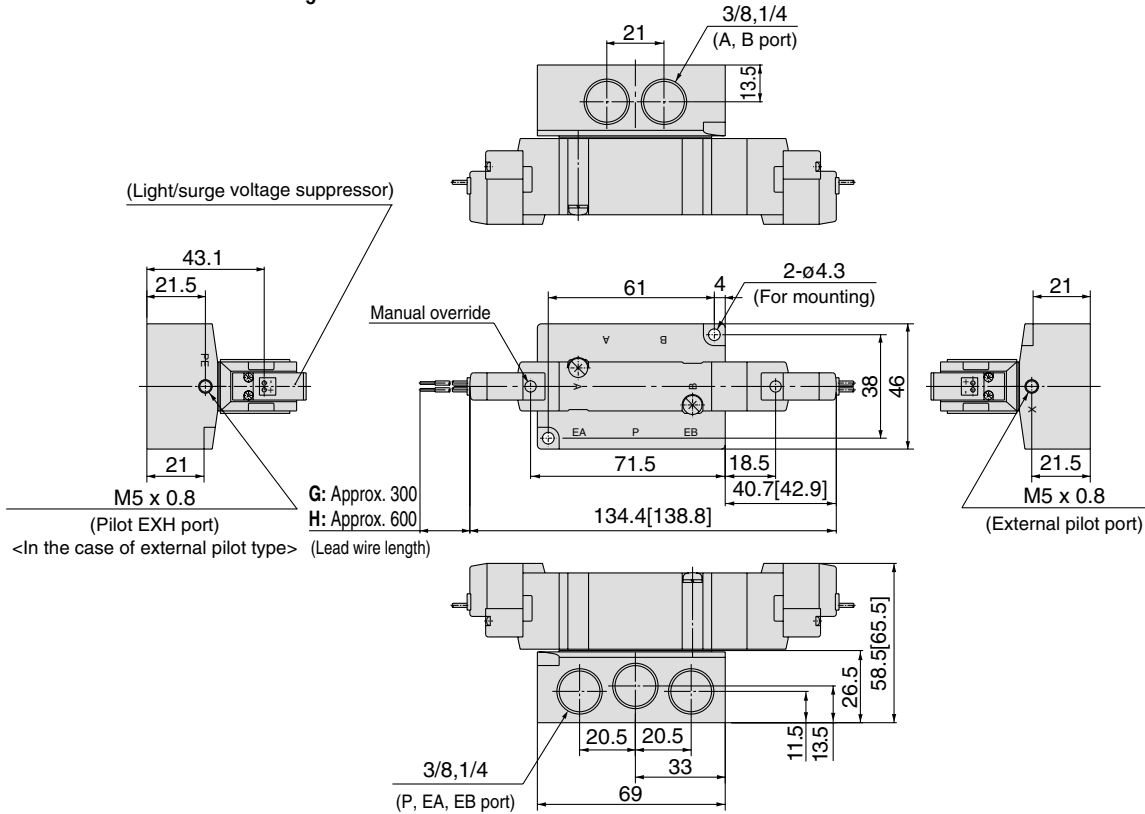
**Dimensions: Series 10-SY7000**



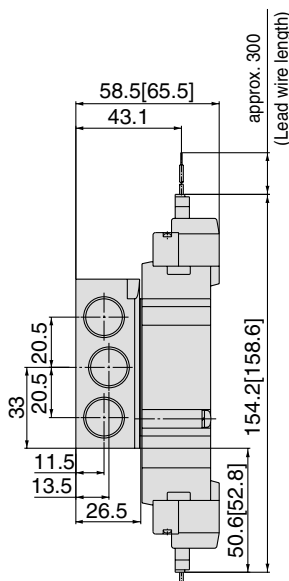
Note) [ ]: In case of AC

3 position closed center / exhaust center / pressure center

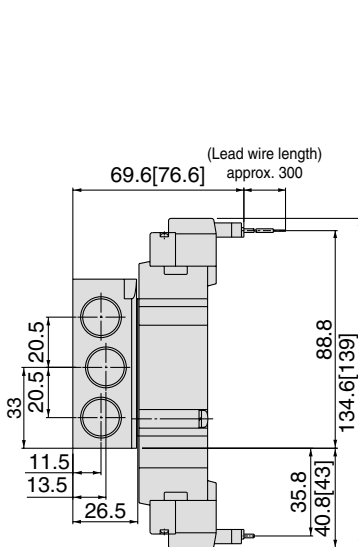
Grommet (G), (H): 10-SY7<sup>3</sup>/<sub>5</sub>40(R)-□G□□-02□  
□H□□-03□



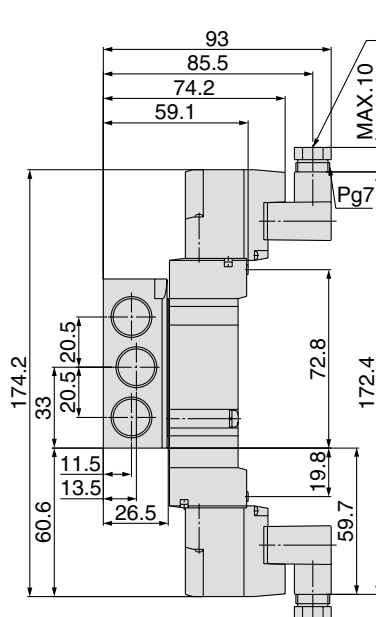
**L plug connector (L):**  
10-SY7<sup>3</sup>/<sub>5</sub>40(R)-□L□□-02□  
□H□□-03□



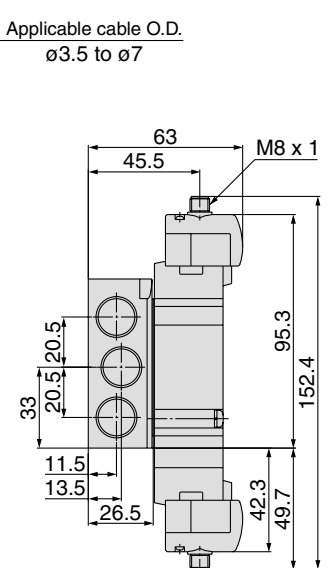
**M plug connector (M):**  
10-SY7<sup>3</sup>/<sub>5</sub>40(R)-□M□□-02□  
□H□□-03□



**DIN terminal (D):**  
10-SY7<sup>3</sup>/<sub>5</sub>40(R)-□D□□-02□  
□H□□-03□



**M8 connector (WO):**  
10-SY7<sup>3</sup>/<sub>5</sub>40(R)-□WO□□-02□  
□H□□-03□



Note) Refer to page 490 for dimensions of connector types.



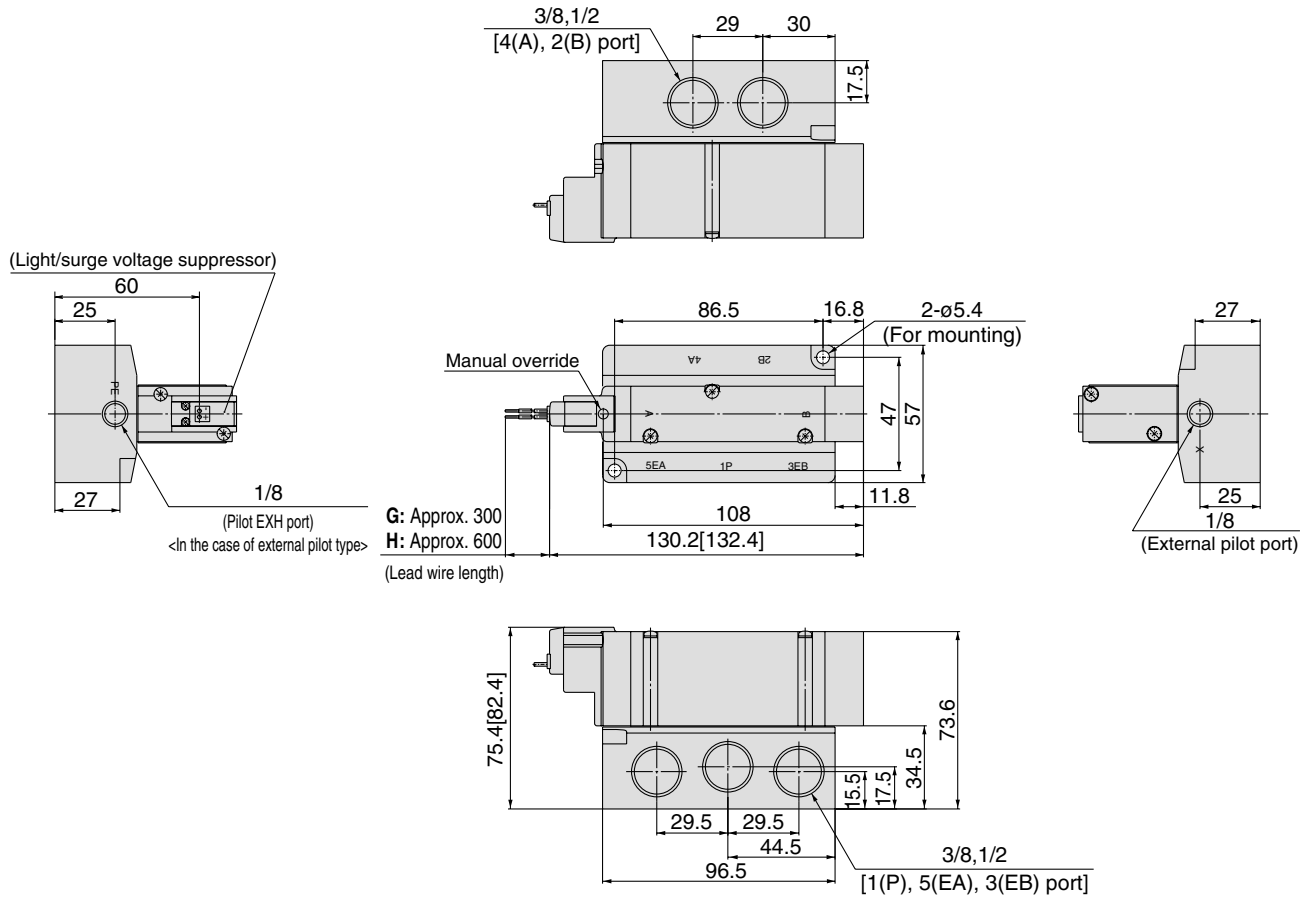
Dimensions: Series 10-SY9000



Note) [ ]: In case of AC

2 position single

Grommet (G), (H): 10-SY9140(R)-□G□□-03□  
□H□□-04□



L plug connector (L):

10-SY9140(R)-□L□□-03□  
□H□□-04□

M plug connector (M):

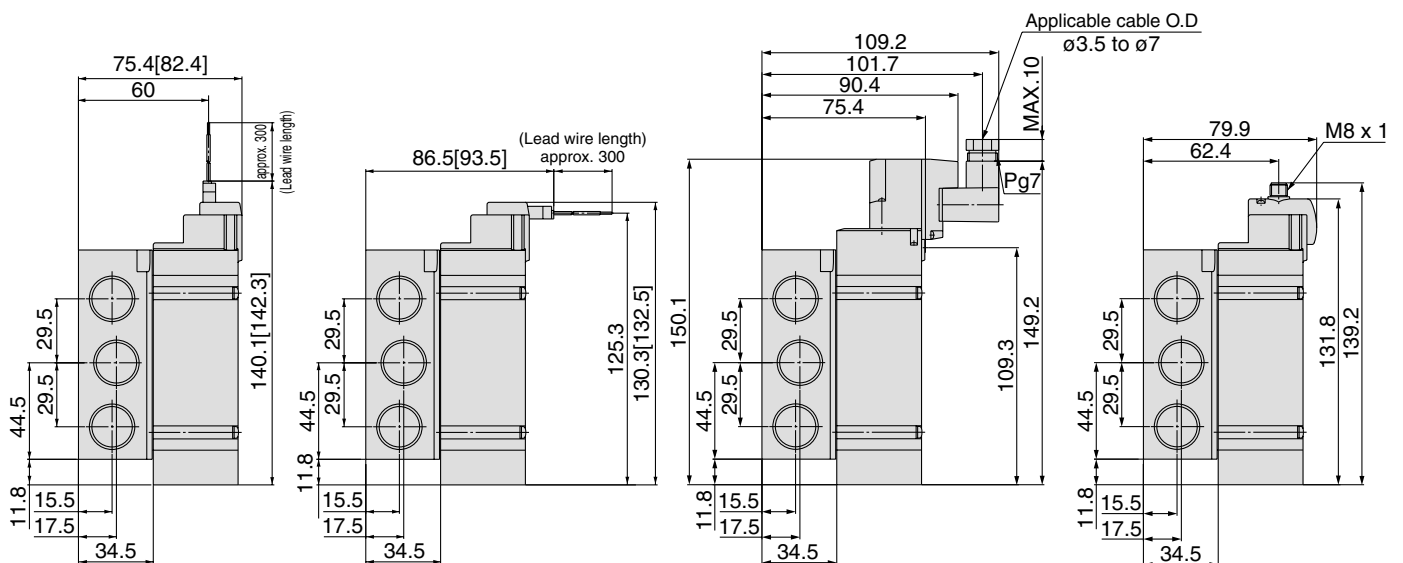
10-SY9140(R)-□M□□-03□  
□H□□-04□

DIN terminal (D):

10-SY9140(R)-□D□□-03□  
□H□□-04□

M8 connector (WO):

10-SY9140(R)-□WO□□-03□  
□H□□-04□



Note) Refer to page 490 for dimensions of connector types.

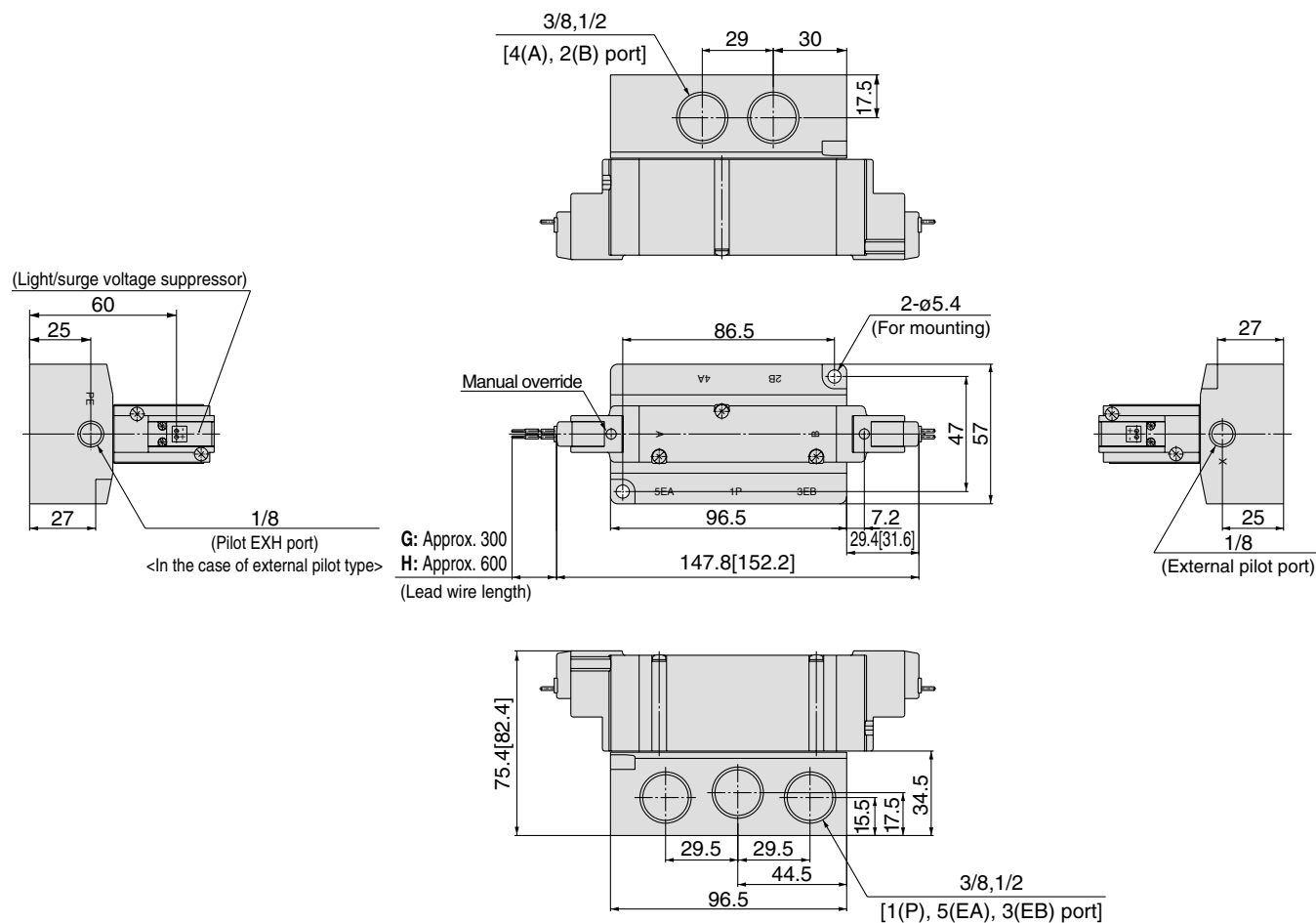
**Dimensions: Series 10-SY9000**



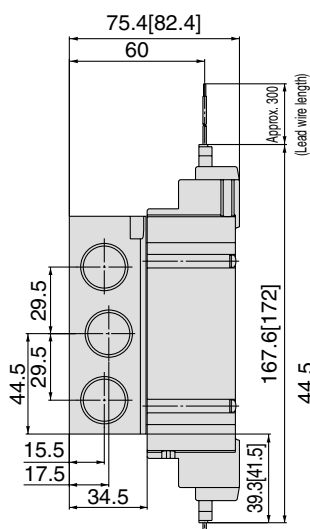
Note) [ ]: In case of AC

**2 position double**

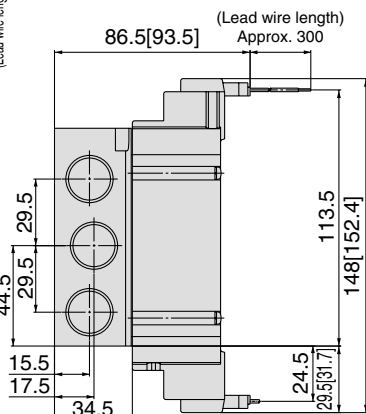
Grommet (G)/(H): 10-SY9240(R)-□<sup>G</sup>□<sup>H</sup>□□-03□<sub>04</sub>



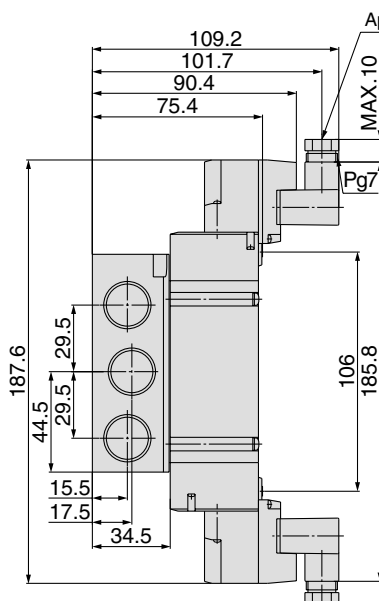
**L plug connector (L):**  
10-SY9240(R)-□L□□-03□<sub>04</sub>



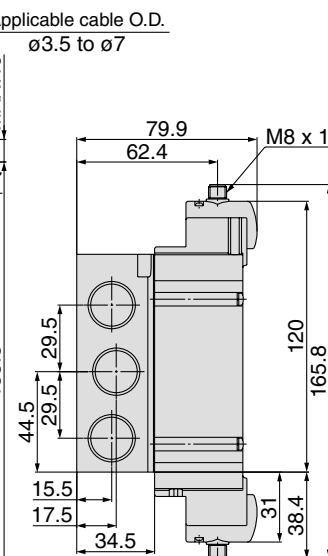
**M plug connector (M):**  
10-SY9240(R)-□M□□-03□<sub>04</sub>



**DIN terminal (D):**  
10-SY9240(R)-□D□□-03□<sub>04</sub>



**M8 connector (WO):**  
10-SY9240(R)-□WO□□-03□<sub>04</sub>

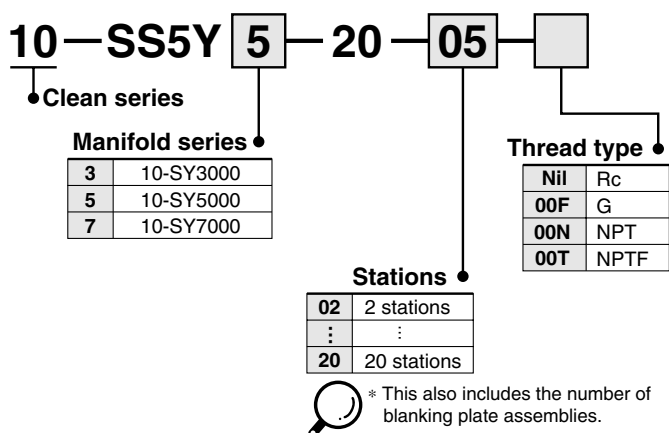


Note) Refer to page 490 for dimensions of connector types.



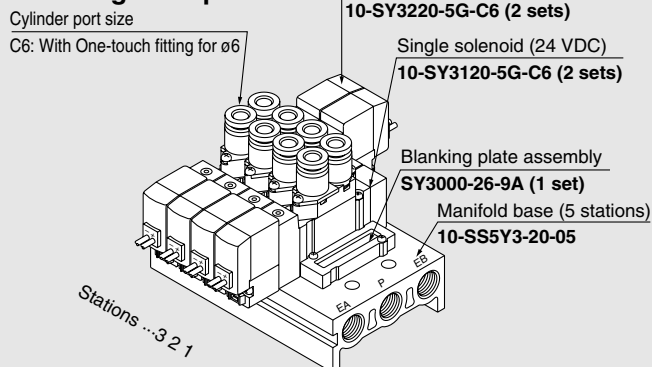
# Series 10-SY3000/5000/7000 Type 20 **Body Ported Type Manifold** Bar Stock / Individual Wiring

## How to Order Manifold



## How to Order for Manifold Assembly

### Ordering example



**10-SS5Y3-20-05...1 set (Type 20, 5 stations manifold base part no.)**  
 \* **SY3000-26-9A...1 set (Blanking plate assembly part no.)**  
 \* **10-SY3120-5G-C6...2 sets (Single solenoid part no.)**  
 \* **10-SY3220-5G-C6...2 sets (Double solenoid part no.)**  
 \* The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc .

Add the valve and option part numbers in order starting from the first station as shown above. When entry of part numbers becomes complicated, indicate on a manifold specification sheet.

## How to Order Valves

**10—SY 5 1 20** **5 L** **01**

• **Clean series**

• **Series**

3	10-SY3000
5	10-SY5000
7	10-SY7000

• **Type of actuation**

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

• **Coil specifications**

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

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

• **Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

\* Not including M5

• **A, B port size Thread piping**

Symbol	Port size	Applicable series
M5	M5 x 0.8	10-SY3000
01	1/8	10-SY5000
02	1/4	10-SY7000

• **Manual override**

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

• **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 "R" and "U", DC voltage is only available.  
 \* Power saving circuit is only available in the "Z" type.

• **Rated voltage**

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

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

• **Electrical entry**

24, 12, 6, 5, 3 VDC 100, 110, 200, 220 VAC			24, 12 VDC 100, 110 VAC, 200, 220 VAC	24, 12 VDC 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal	M8 Connector
G: Lead wire Length 300 mm H: Lead wire Length 600 mm	L: With lead wire (length 300 mm) LN: Without lead wire LO: Without connector	M: With lead wire (length 300 mm) MN: Without lead wire MO: Without connector	D: With connector DO: Without connector	WO: Without connector cable W□: With connector cable <sup>Note 1)</sup>

\* "LN", "MN" type: with 2 sockets.  
 \* For DIN terminal of 10-SY3000 series, refer to page 488.  
 \* DIN terminal type "Y" conforming to EN-175301-803C (previously DIN43650C) is available, too. For details, refer to page 482.  
 \* For connector cable of M8 connector, refer to page 490.  
 Note 1) A symbol for cable length is described in □. Please refer to page 491.  
 (For details, refer to catalog in page 413.)

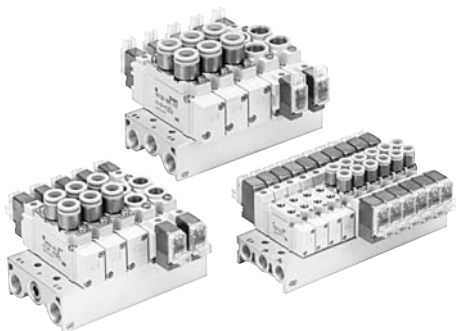
• **One-touch fitting (Metric size)**

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	
C4	One-touch fitting for ø4	10-SY5000
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	10-SY7000
C8	One-touch fitting for ø8	
C10	One-touch fitting for ø10	

• **One-touch fitting (Inch size)**

Symbol	Port size	Applicable series
N3	Applicable One-touch fittings for ø 5/32"	10-SY3000
N7	Applicable One-touch fittings for ø 1/4"	
N3	Applicable One-touch fittings for ø 5/32"	10-SY5000
N7	Applicable One-touch fittings for ø 1/4"	
N9	Applicable One-touch fittings for ø 5/16"	10-SY7000
N9	Applicable One-touch fittings for ø 5/16"	
N11	Applicable One-touch fittings for ø 3/8"	

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 catalog in page 413.)



## Manifold Specifications

Model	<b>10-SS5Y3-20</b>			<b>10-SS5Y5-20</b>	<b>10-SS5Y7-20</b>
Applicable valve	<b>10-SY3□20</b>			<b>10-SY5□20</b>	<b>10-SY7□20</b>
Manifold type	Single base/B mount				
P (SUP) / R (EXH)	Common SUP, Common EXH				
Valve Stations	2 to 20 stations <sup>Note 1)</sup>				
A, B port location	Valve				
Port size	P, EA, EB port	1/8	1/4	1/4	1/4
	A, B port	M5 x 0.8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)
Manifold base weight W (g) n: Stations	W=13n+35		W=36n+64		W=43n+64

- Note 1) For more than 10 stations (more than 5 stations in the case of SS5Y7), supply pressure to P port on both sides and exhaust from EA/EB port on both sides.  
Note 2) Refer to "Manifold Option" on page 413.

## Flow Characteristics

Model	Port size		Flow Characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv
10-SS5Y3-20	1/8	C6	0.72	0.29	0.18	0.80	0.36	0.21
10-SS5Y5-20	1/4	C8	1.9	0.28	0.48	2.2	0.20	0.53
10-SS5Y7-20	1/4	C10	3.6	0.31	0.93	3.6	0.27	0.88

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

**10-SY3000: 10-SS5Y3-20- Stations** - ☐

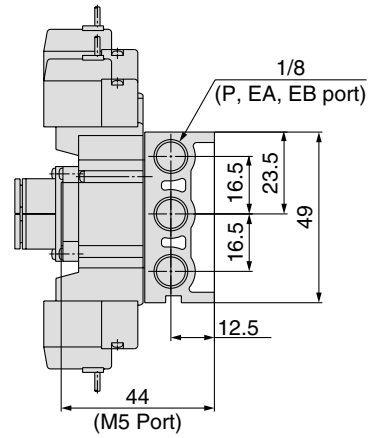
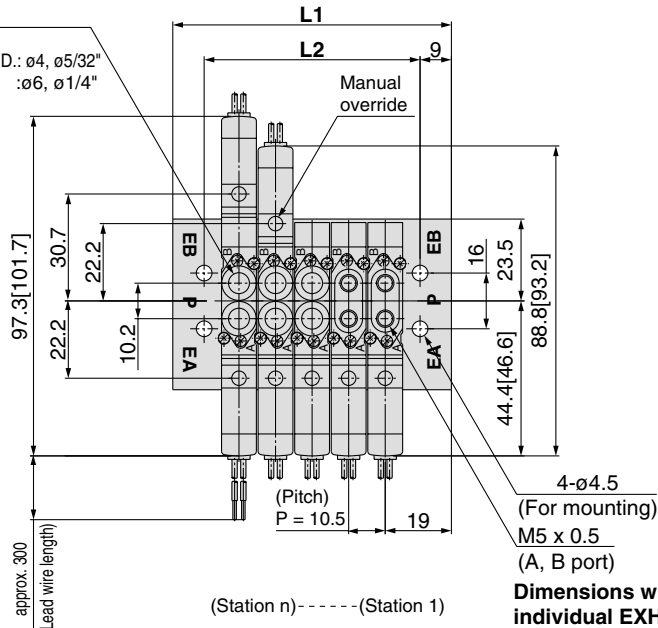
Note) [ ]: In case of AC

**Grommet (G)**

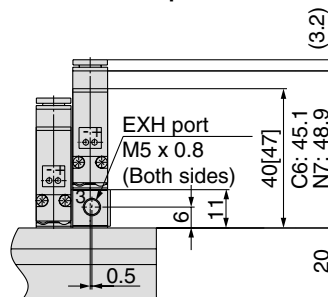
One-touch fitting

(A, B port)

Applicable tubing O.D.:  $\phi 4$ ,  $\phi 5/32$ "  
:  $\phi 6$ ,  $\phi 1/4$ "

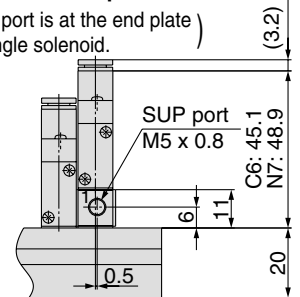


**Dimensions when mounting individual EXH spacer**

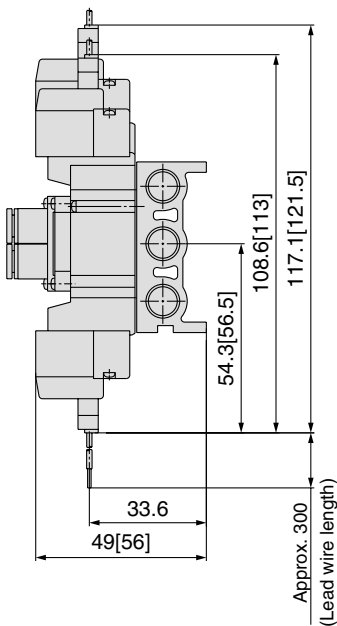


**Dimensions when mounting individual SUP spacer**

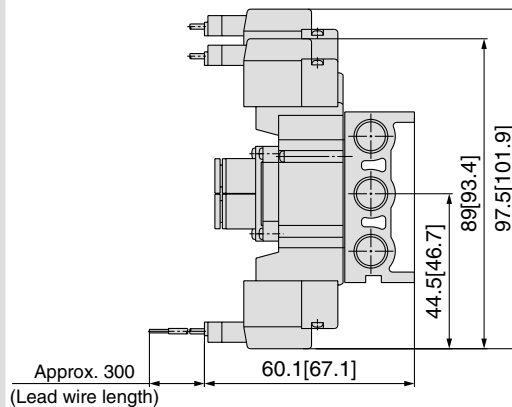
(SUP port is at the end plate of single solenoid.)



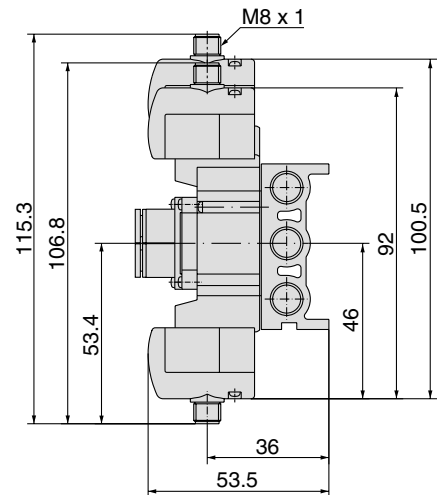
**L plug connector (L)**



**M plug connector (M)**




**M8 Connector (WO)**

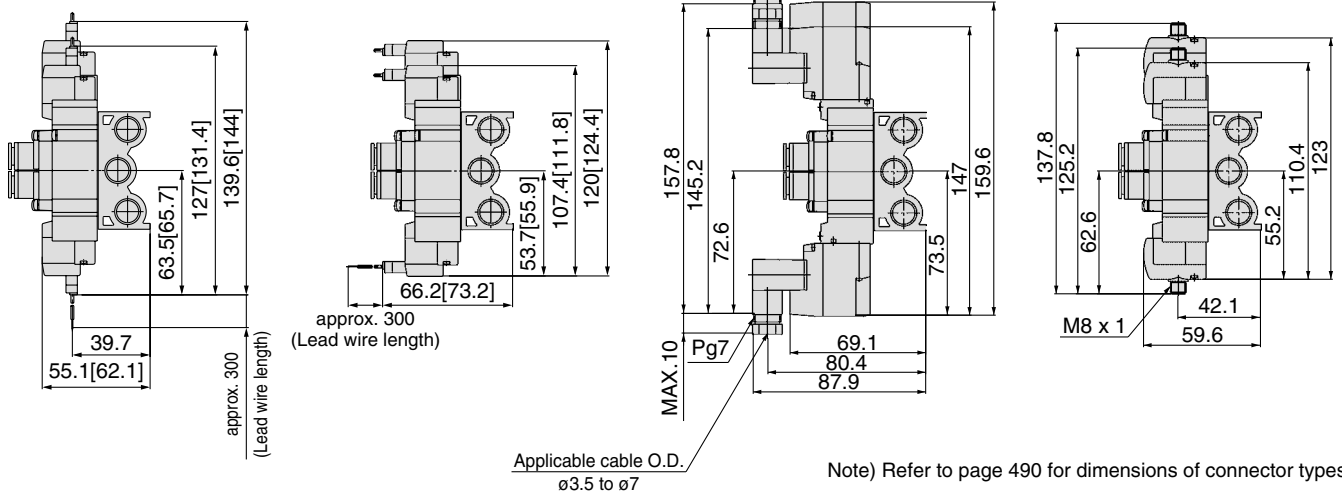
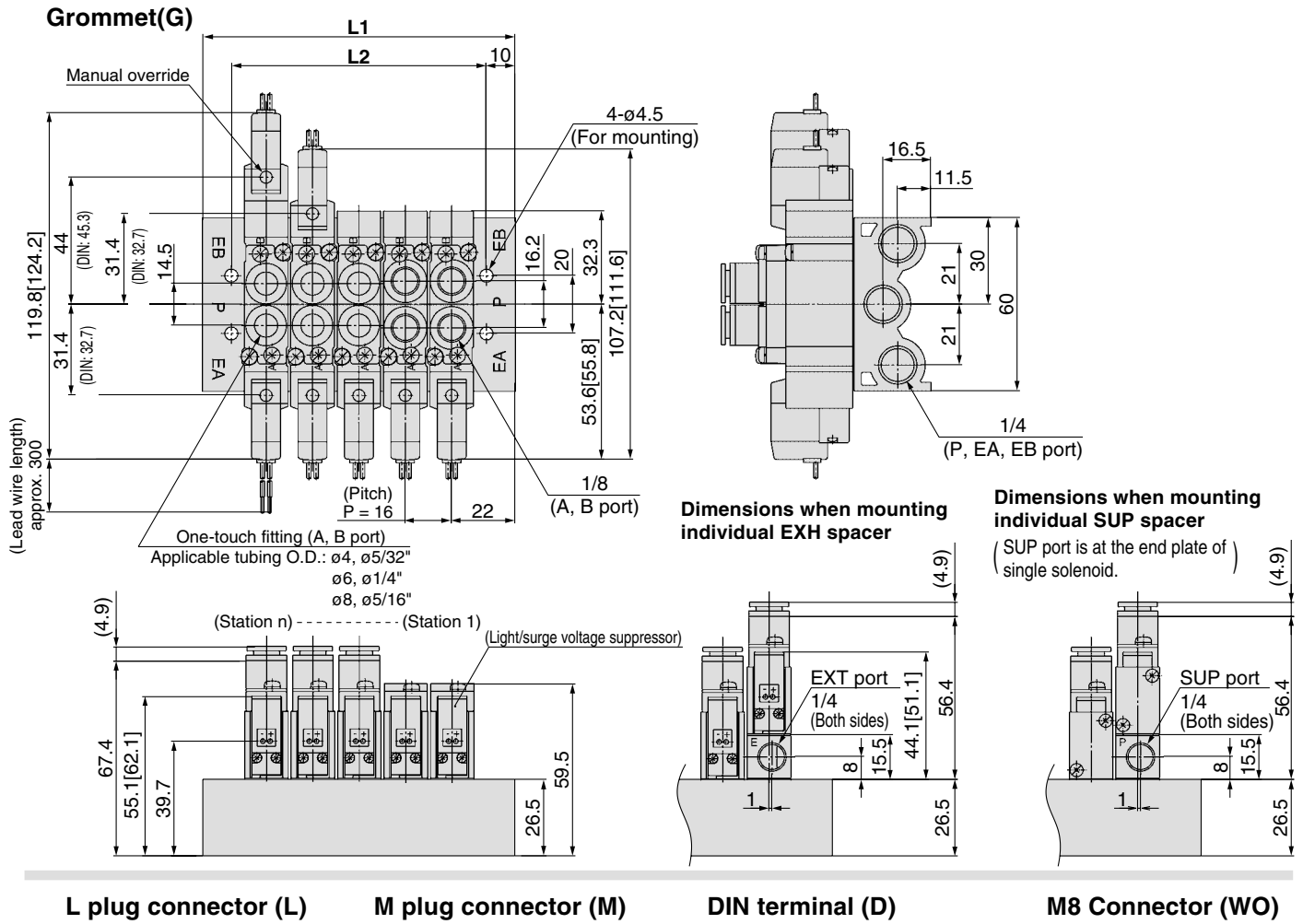


Note) Refer to page 490 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

**10-SY5000: 10-SS5Y5-20** Stations ☐

 Note) [ ] : In case of AC



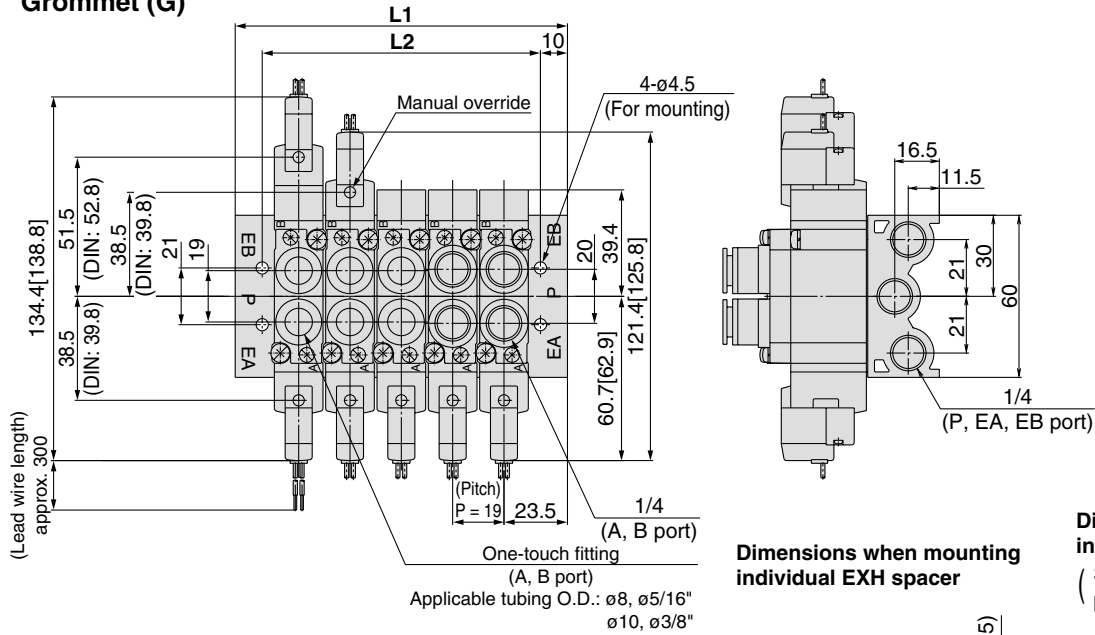
Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	60	76	92	108	124	140	156	172	188	204	220	236	252	268	284	300	316	332	348
<b>L2</b>	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328



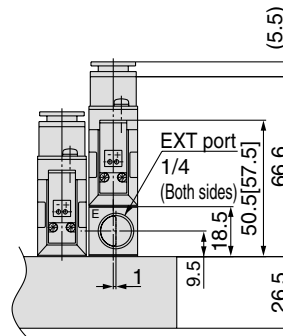
10-SY7000:10-SS5Y7-20- Stations -□

Note) [ ]: In case of AC

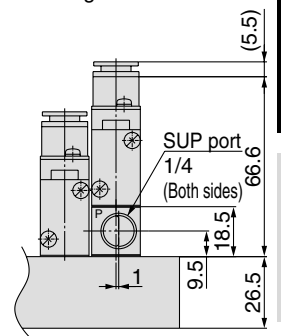
Grommet (G)



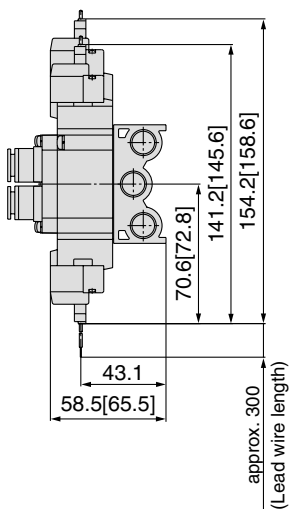
Dimensions when mounting individual EXH spacer



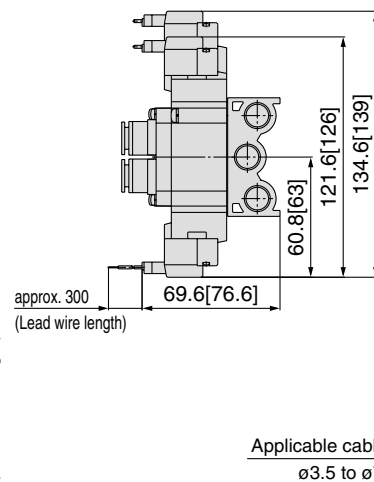
Dimensions when mounting individual SUP spacer (SUP port is at the end plate of single solenoid.)



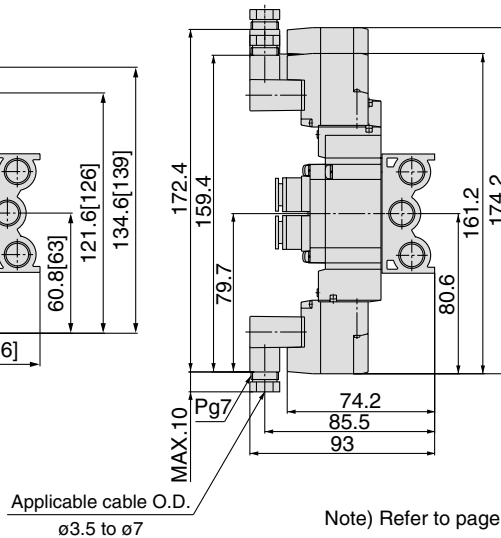
L plug connector (L)



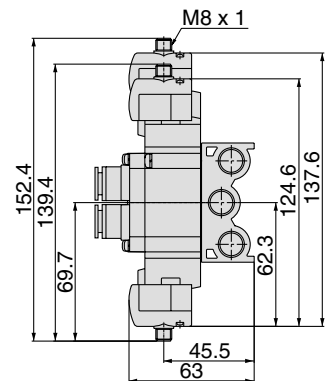
M plug connector (M)



DIN terminal (D)



M8 Connector (WO)



Note) Refer to page 490 for dimensions of connector types.

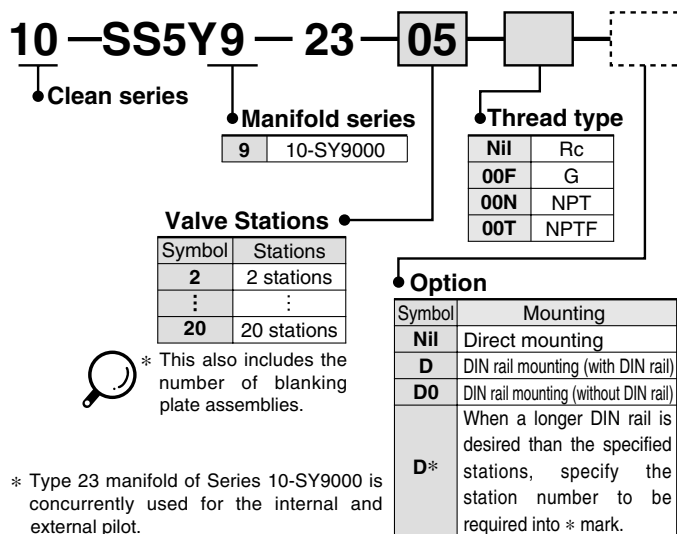
Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

# Series 10-SY9000

Type 23

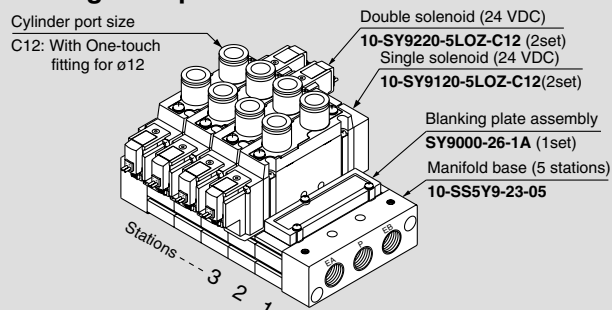
Body Ported Type Manifold  
Stacking type / Individual wiring type

## How to Order Manifold



## How to Order for Manifold Assembly

### Ordering example



10-SS5Y9-23-05.....1 set (Type 23, 5 stations manifold base part no.)  
 \*SY9000-26-1A.....1 set (Blanking plate assembly part no.)  
 \*10-SY9120-5LOZ-C12.....2 sets (Single solenoid part no.)  
 \*10-SY9220-5LOZ-C12.....2 sets (Double solenoid part no.)

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

Add the valve and option part numbers in order starting from the first station as shown above. When entry of part numbers becomes complicated, indicate on a manifold specification sheet.

## How to Order Valves

**10—SY 9 1 20 5 L 02**

• **Clean series**

• **Series**

9	10-SY9000
---	-----------

• **Type of actuation**

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

• **Pilot specifications**

Nil	Internal pilot
R	External pilot

\* In the case of external pilot specifications, it cannot be used as a single unit.

• **Coil specifications**

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

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

• **Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

• **A, B port size Thread piping**

Symbol	Port size
02	1/4
03	3/8

• **Manual override**

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

• **One-touch fitting (Metric size)**

Symbol	Port size
C8	One-touch fitting for ø8
C10	One-touch fitting for ø10
C12	One-touch fitting for ø12

• **One-touch fitting (Inch size)**

Symbol	Port size
N9	One-touch fitting for ø 5/16"
N11	One-touch fitting for ø 3/8"

• **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 "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
Z	With light/surge voltage suppressor

\* "DOZ" is not available.  
 \* For AC voltage, 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
V	6 VDC
S	5 VDC
R	3 VDC
1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

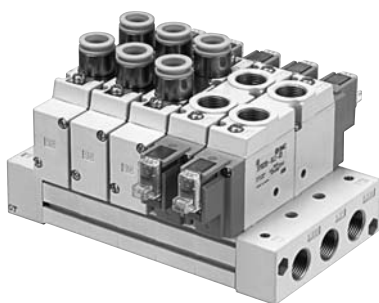
\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
 \* For type "W□", only DC voltage is available.

• **Electrical entry**

24, 12, 6, 5, 3 VDC 100, 110, 200, 220 VAC			24, 12 VDC 100, 110 VAC, 200, 220 VAC	24, 12 VDC 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)	D: With connector	WO: Without connector cable
H: Lead wire Length 600 mm	LN: Without lead wire	MN: Without lead wire	DO: Without connector	W□: With connector cable <sup>Note 1)</sup>
	LO: Without connector	MO: Without connector		

\* "LN", "MN" type: with 2 sockets.  
 \* DIN terminal type "Y" conforming to EN-175301-803C (previously DIN43650C) is available, too. For details, refer to Page 482.  
 \* For connector cable of M8 connector, refer to page 490.  
 Note 1) Be sure to specify cable length in□. Please refer to page 491.

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 catalog in Page 413.)



## Manifold Specifications

Model	<b>10-SS5Y9-23</b>	
Applicable valve	<b>10-SY9□20</b>	
Manifold type	Stacking type	
P (SUP) / R (EXH)	Common SUP, Common EXH	
Valve Stations	2 to 20 stations <small>Note 1)</small>	
A, B port location	Valve	
Port size	P, EA, EB port	$\frac{3}{8}$
	A, B port	$\frac{1}{4}$
		$\frac{3}{8}$
		C8 (One-touch fitting for $\phi 8$ ) C10 (One-touch fitting for $\phi 10$ ) C12 (One-touch fitting for $\phi 12$ )
Manifold base weight W (g) n: Stations	W=66n+246	



Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

Note 2) Refer to "Manifold Option" on Page 413.

## Flow Characteristics

Model	Port size		Flow Characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv
10-SS5Y9-23	$\frac{3}{8}$	C12	6.3	0.20	1.5	8.2	0.28	1.9



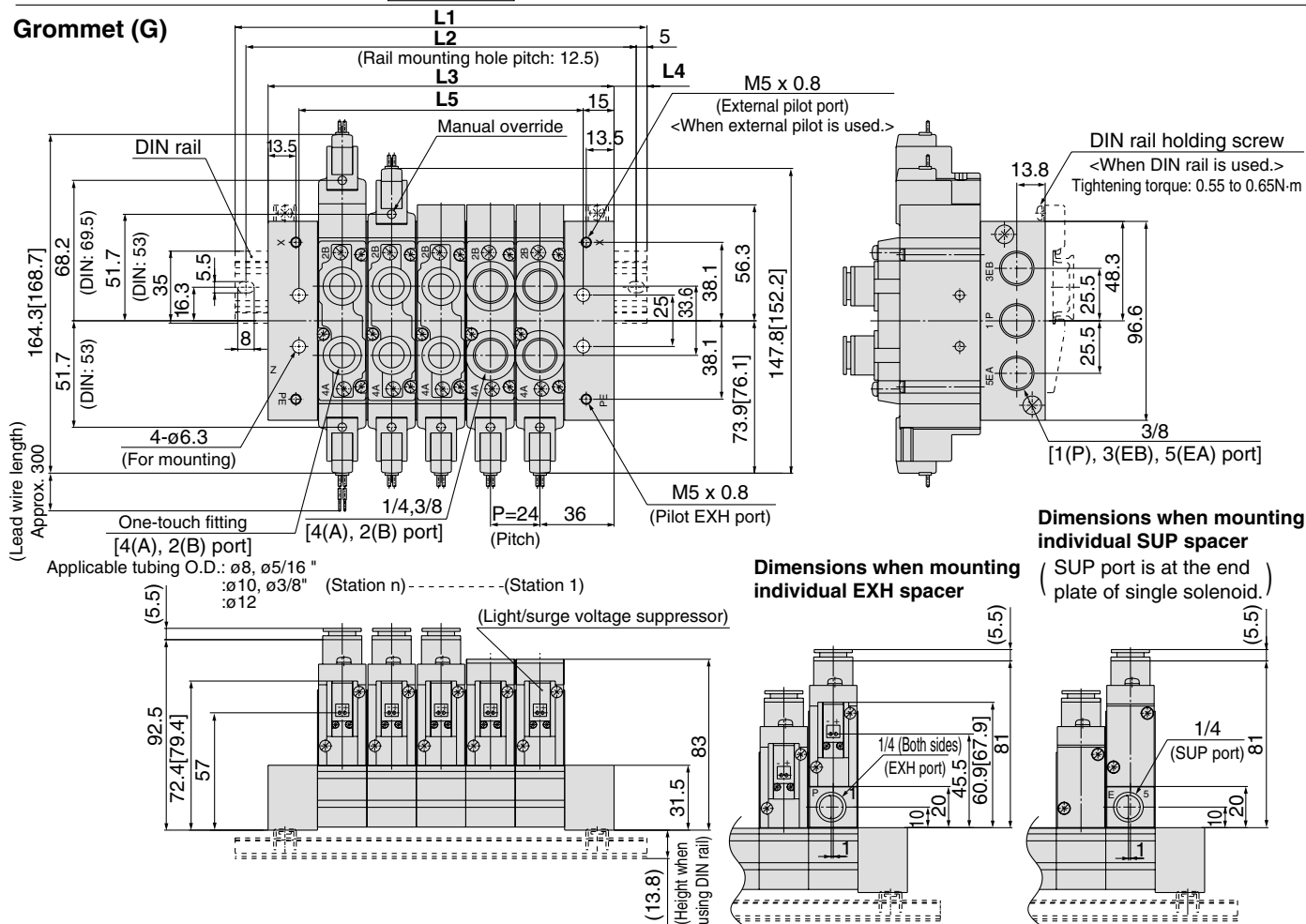
Note) The value is for manifold base with 5 stations and individually operated 2 position type.

**10- SY9000: 10-SS5Y9-23- Stations -(D)**



Note) [ ] : In case of AC

**Grommet (G)**

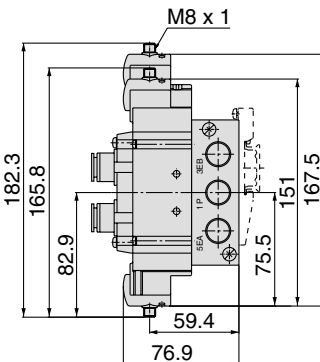
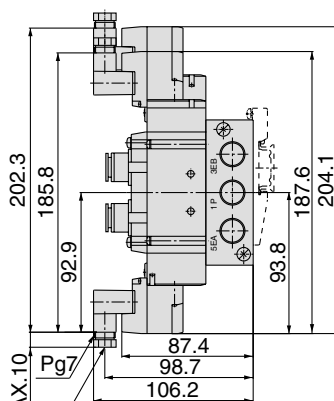
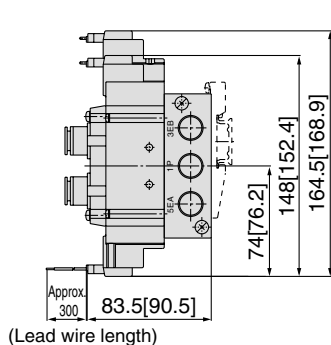
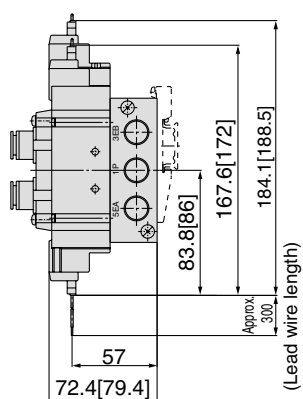


**L plug connector (L)**

**M plug connector (M)**

**DIN terminal (D)**

**M8 Connector (WO)**



Applicable cable O.D.:  $\phi 3.5$  to  $\phi 7$

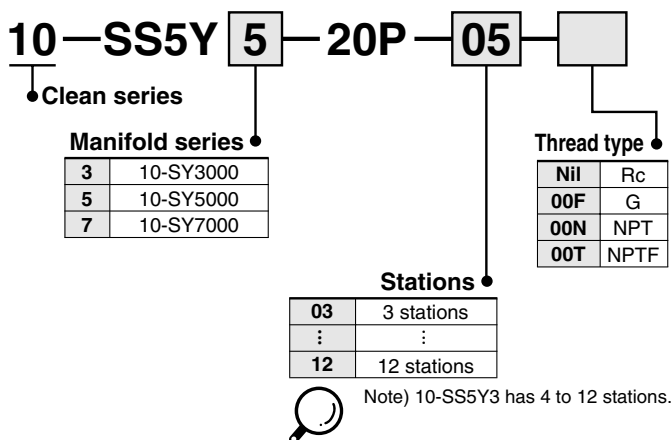
Note) Refer to Page 490 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	123	148	173	198	223	248	273	298	323	335.5	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5
<b>L2</b>	112.5	137.5	162.5	187.5	212.5	237.5	262.5	287.5	312.5	325	350	375	400	425	450	475	500	525	550
<b>L3</b>	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504	528
<b>L4</b>	13.5	14	14.5	15	15.5	16	16.5	17	17.5	12	12.5	13	13.5	14	14.5	15	15.5	16	16.5
<b>L5</b>	66	90	114	138	162	186	210	234	258	282	306	330	354	378	402	426	450	474	498



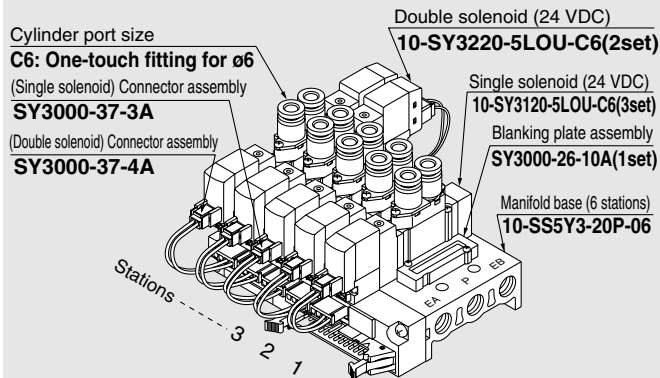
Note) In the case of direct mounting without DIN rail, total width of manifold is L3.

#### How to Order Manifold



#### How to Order for Manifold Assemblies

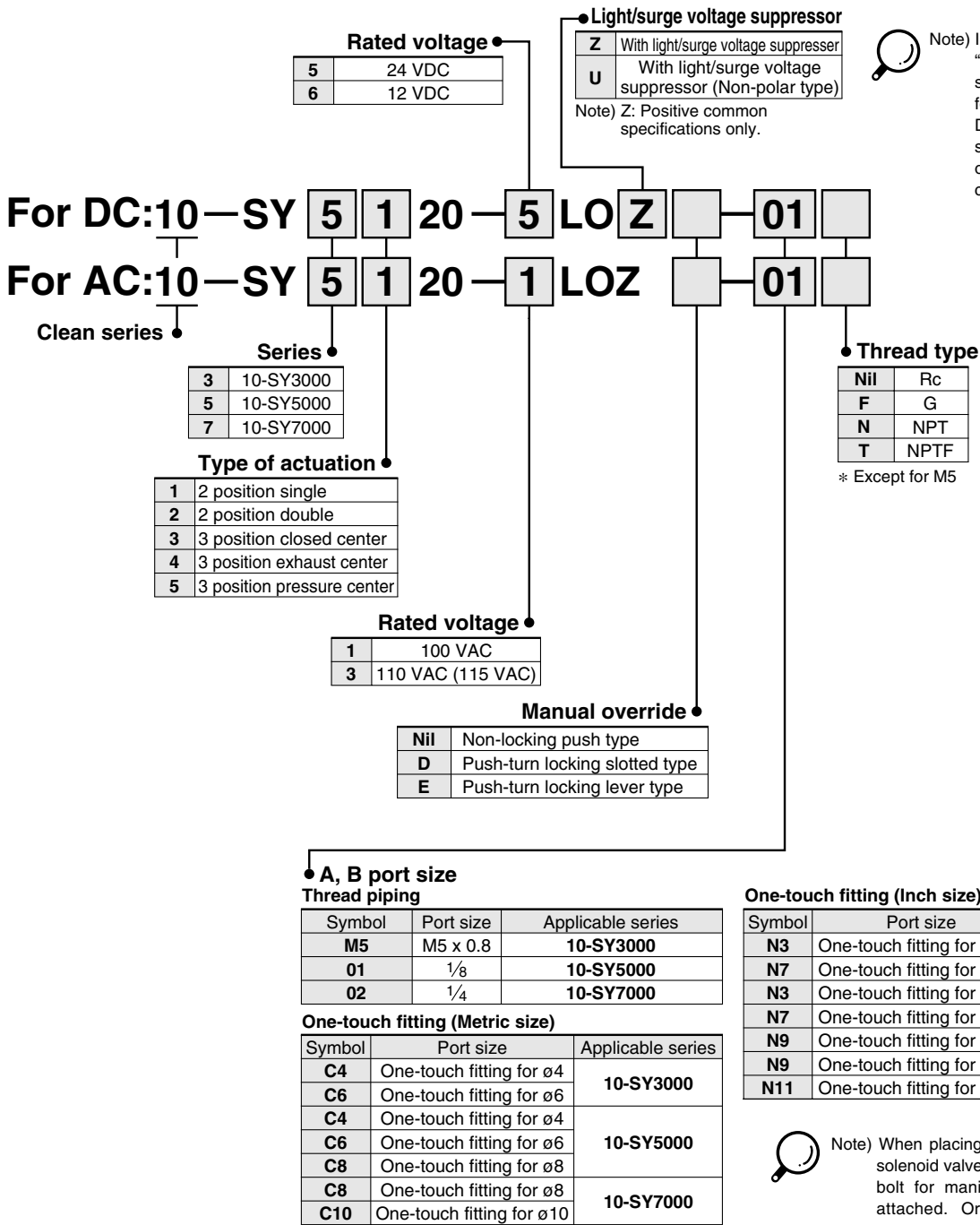
##### Ordering example



10-SS5Y3-20P-06.....1 set (Type 20, 6 stations manifold part no.)  
 \* SY3000-26-10A.....1 set (Blanking plate assembly part no.)  
 \* 10-SY3120-5LOU-C6.....3 sets (Single solenoid part no.)  
 \* 10-SY3220-5LOU-C6.....2 sets (Double solenoid part no.)  
 \* SY3000-37-3A.....3 sets (Connector assembly part no.)  
 \* SY3000-37-4A.....2 sets (Connector assembly part no.)  
 \* The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

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

## How to Order Valves



Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Fittings &amp; Tubing

Air preparation equipment

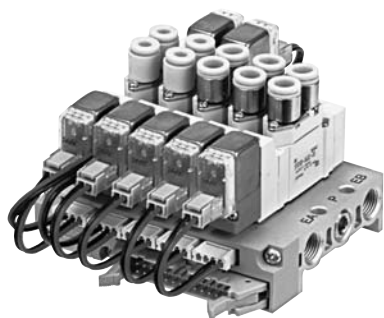
Pressure switch

Clean gas filter

# Type 20P Body ported type 10-SY3000/5000/7000

- 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.



## Manifold Specifications

Model	10-SS5Y3-20P	10-SS5Y5-20P	10-SS5Y7-20P
Applicable valve	10-SY3□20	10-SY5□20	10-SY7□20
Manifold type	Single base / B mount		
P (SUP) / R (EXH)	Common SUP, Common EXH		
Valve Stations	4 to 12 stations <small>Note 1)</small>	3 to 12 stations <small>Note 1)</small>	
A, B port location		Valve	
Port size	P, EA, EB port	1/8	1/4
	A, B port	M5 x 0.8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)
Manifold base weight W (g) n: Stations	W=19n+45	W=43n+77	W=51n+81
Applicable flat ribbon cable connector	Flat ribbon cable connector, Socket: 26 pins MIL type with strain relief, Conforming to MIL-C-83503		
Internal wiring	In common between +COM and -COM (Z type: +COM only).		
Rated voltage	12, 24 VDC 100, 110 VAC		



Note 1) For more than 10 stations (more than 5 stations in the case of 10-SS5Y7), supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

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

Note 3) Refer to "Manifold Option" on Page 413.

## Flow Characteristics

Model	Port size		Flow Characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv
10-SS5Y3-20P	1/8	C6	0.72	0.29	0.18	0.80	0.36	0.21
10-SS5Y5-20P	1/4	C8	1.9	0.28	0.48	2.2	0.20	0.53
10-SS5Y7-20P	1/4	C10	3.6	0.31	0.93	3.6	0.27	0.88



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

## How to Order Connector Assembly

### For 12, 24 VDC

Specifications	For 10-SY3000	For 10-SY5000/7000
For single solenoid	SY3000-37-3A	SY5000-37-3A
Double solenoid, 3 position	SY3000-37-4A	SY5000-37-4A
Single with spacer assembly	SY5000-37-3A	SY5000-37-5A
Double, 3 position with spacer assembly	SY3000-37-6A	SY5000-37-6A

### For 100 VAC

Specifications	For 10-SY3000	For 10-SY5000/7000
For single solenoid	SY3000-37-32A	SY5000-37-15A
Double solenoid, 3 position	SY3000-37-33A	SY5000-37-16A
Single with spacer assembly	SY5000-37-15A	SY5000-37-17A
Double, 3 position with spacer assembly	SY3000-37-34A	SY5000-37-18A

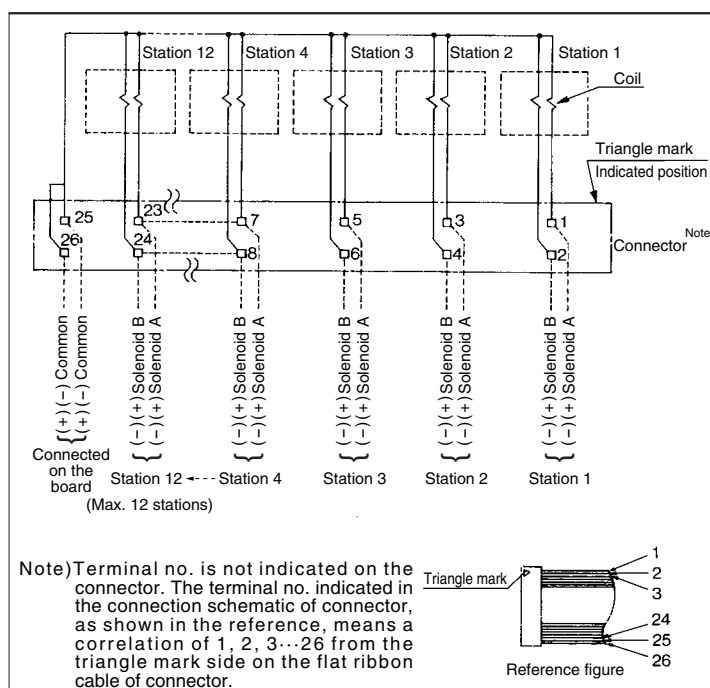
### 110 VAC (115 VAC)

Specifications	For 10-SY3000	For 10-SY5000/7000
For single solenoid	SY3000-37-35A	SY5000-37-19A
Double solenoid, 3 position type	SY3000-37-36A	SY5000-37-20A
Single with spacer assembly	SY5000-37-19A	SY5000-37-21A
Double, 3 position with spacer assembly	SY3000-37-37A	SY5000-37-22A

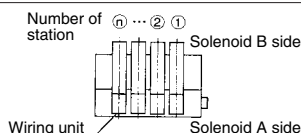
## ⚠ Caution

- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.

## Internal Wiring of Manifold (Non-polar Type)



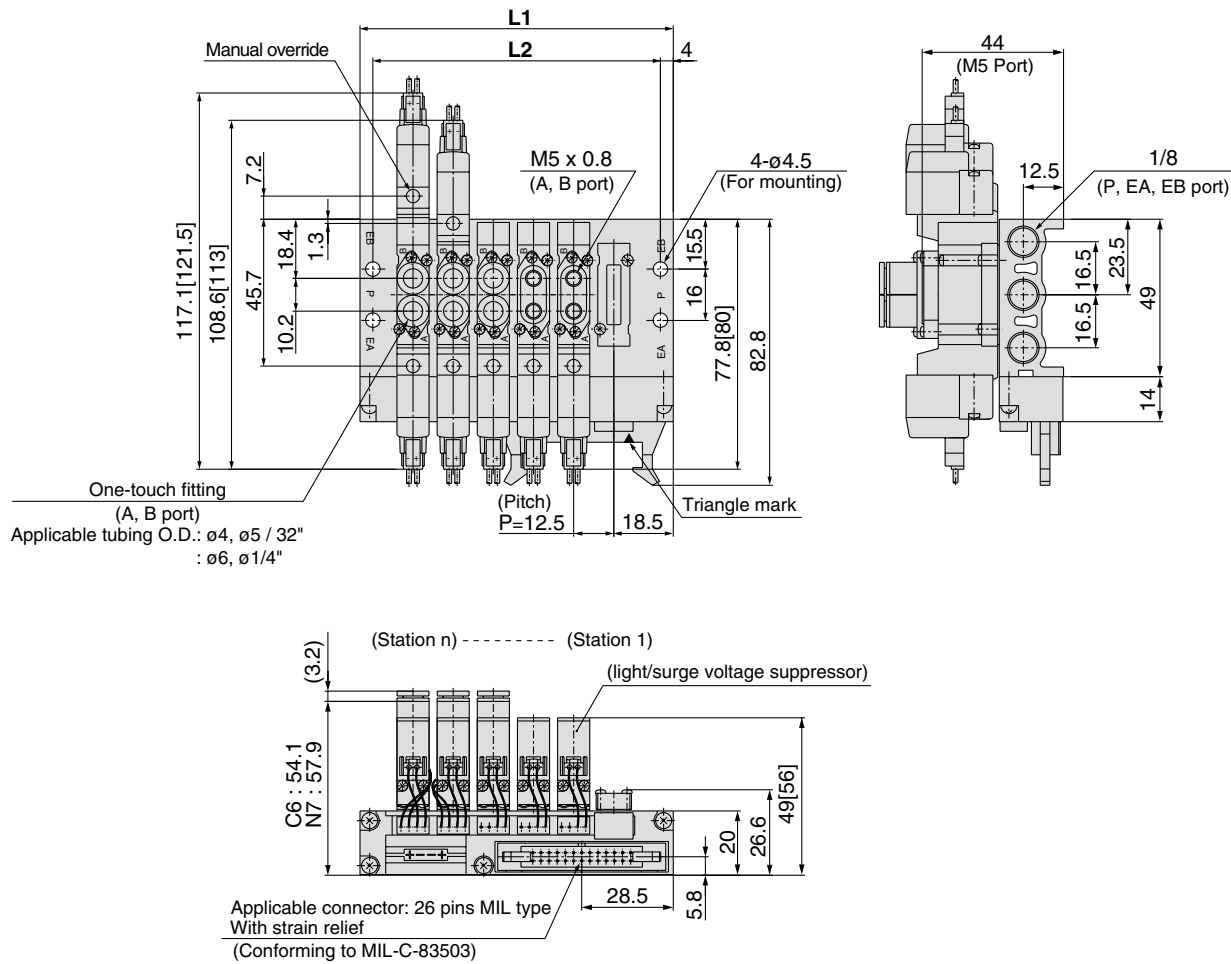
- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.






10-SY3000: 10-SS5Y3-20P- Stations

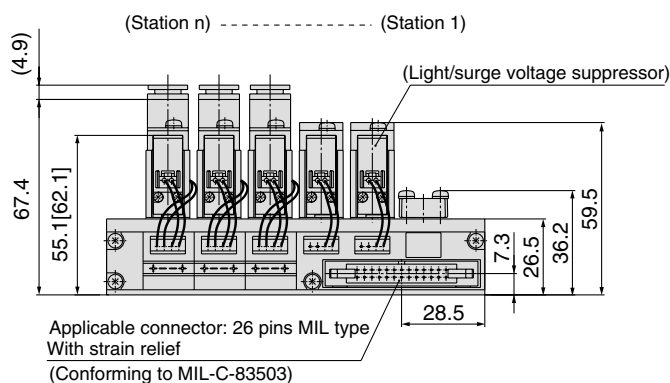
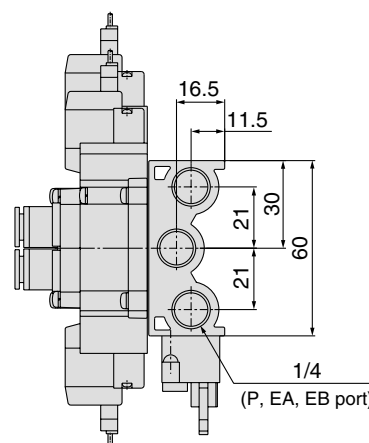
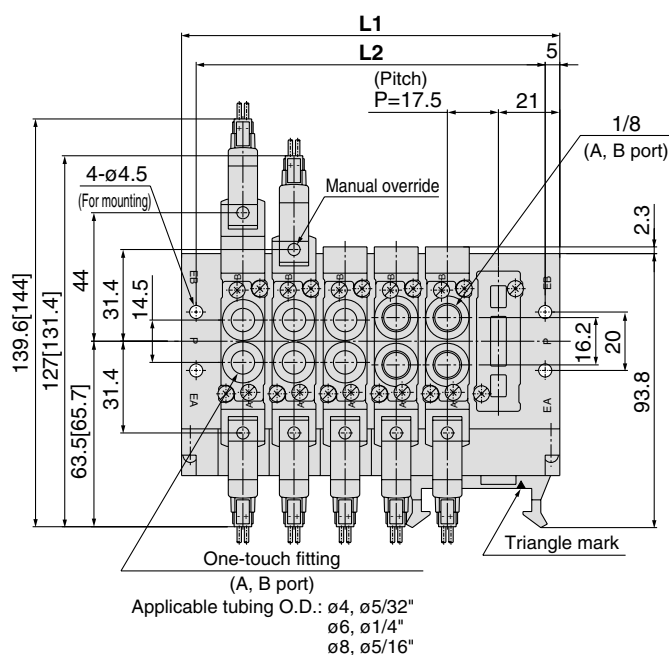
Note) [ ]: AC



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

**10-SY5000: 10-SS5Y5-20P-Stations**

 Note) [ ]: In case of AC

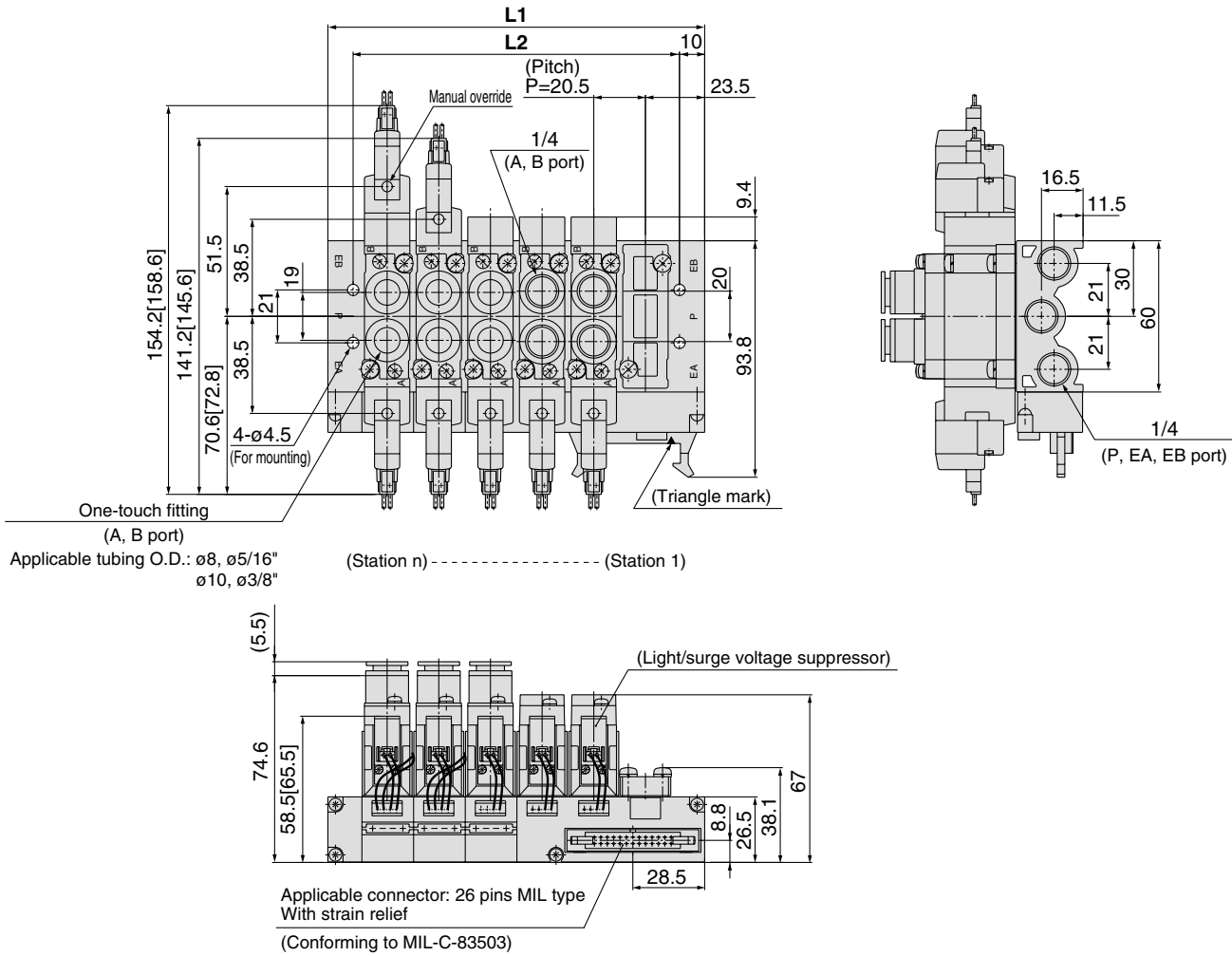


Stations n	3	4	5	6	7	8	9	10	11	12
<b>L1</b>	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
<b>L2</b>	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5

10-SY7000: 10-SS5Y7-20P- Stations



Note) [ ]: In case of AC



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

# Series 10-SY9000

Type **23P**

Body ported manifold  
Stacking type/Flat ribbon cable

## How to Order Manifold

**10-SS5Y9-23P-05**

- Clean series**
- Manifold series**  
9 10-SY9000
- Thread type**

Nil	Rc
00F	G
00N	NPT
00T	NPTF
- Valve stations**

Symbol	Stations
4	4 stations
⋮	⋮
12	12 stations
- Option**

Symbol	Mounting
Nil	Direct mounting
D	DIN rail mounting (with DIN rail)
D0	DIN rail mounting (without DIN rail)
D*	When a DIN rail longer than the specified stations is required, enter the station number to be required into * mark.

\* This also includes the number of blanking plate assemblies.

\* Type 23P manifold of Series 10-SY9000 is concurrently used for the internal and external pilot.

## How to Order Valve Manifold Assembly

### Ordering example

Size of cylinder port  
C12: One-touch fitting for □12

(Single solenoid) Connector assembly  
**SY9000-37-1A**

(Double solenoid) Connector assembly  
**SY9000-37-2A**

Double solenoid (24 VDC)  
**10-SY9220-5LOU-C12(2set)**

Single solenoid (24 VDC)  
**10-SY9120-5LOU-C12(2set)**

Blanking plate assembly  
**SY9000-26-3A(1set)**

Manifold base (5 stations)  
**10-SS5Y9-23P-05**

Stations --- 3 2 1

**10-SS5Y9-23P-05** ..... 1 set (Type 23P, 5 stations manifold base part no.)  
**\*SY9000-26-3A** ..... 1 set (Blanking plate assembly part no.)  
**\*10-SY9120-5LOU-C12** ... 2 sets (Single solenoid part no.)  
**\*10-SY9220-5LOU-C12** ... 2 sets (Double solenoid part no.)  
**\*SY9000-37-1A** ..... 2 sets (Connector assembly part no.)  
**\*SY9000-37-2A** ..... 2 sets (Connector assembly part no.)

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

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

## How to Order Valves

**For DC:** 10-SY9 1 20 5 LO Z 02

**For AC:** 10-SY9 1 20 1 LO Z 02

- Clean series**

5	24 VDC
6	12 VDC
- Series**  
9 10-SY9000
- Type of actuation**

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
- Pilot specifications**

Nil	Internal pilot
R	External pilot

\* Type 23P manifolds can be used for both internal and external pilots.
- Rated voltage**

1	100 VAC
3	110 VAC (115 VAC)
- Manual override**

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type
- Light/surge voltage suppressor**

Z	With light/surge voltage suppressor
U	With light/surge voltage suppressor (Non-polar type)

Note) Z: Positive common specifications only.
- Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF
- A, B port size Thread piping**

Symbol	Port size
02	1/4
03	3/8
- One-touch fitting (Metric size)**

Symbol	Port size
C8	One-touch fitting for ø8
C10	One-touch fitting for ø10
C12	One-touch fitting for ø12
- One-touch fitting (Inch size)**

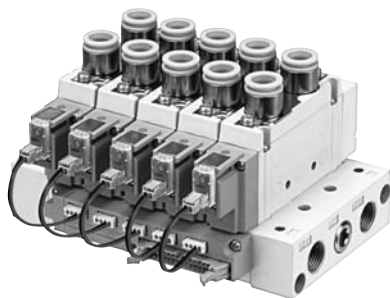
Symbol	Port size
N9	One-touch fitting for ø 5/16"
N11	One-touch fitting for ø 3/8"

Note) In the case of flat cable type, "U" and "Z" types are for DC specifications and "Z" type is for AC specifications. "Z" type for DC is positive common specification only. For other combinations, please contact SMC.

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, please refer to page 413 of the catalog).

- 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.



## How to Order Connector Assembly

### For 12, 24 VDC

Specifications	For 10-SY9000
For single solenoid	<b>SY9000-37-1A</b>
Double solenoid 3 position	<b>SY9000-37-2A</b>
Single with spacer assembly	<b>SY9000-37-3A</b>
Double, 3 position with spacer assembly	<b>SY9000-37-4A</b>

### For 100 VAC

Specifications	For 10-SY9000
For single solenoid	<b>SY9000-37-1B</b>
Double solenoid 3 position	<b>SY9000-37-2B</b>
Single with spacer assembly	<b>SY9000-37-3B</b>
Double, 3 position with spacer assembly	<b>SY9000-37-4B</b>

### 110 VAC (115 VAC)

Specifications	For 10-SY9000
For single solenoid	<b>SY9000-37-1C</b>
Double solenoid 3 position	<b>SY9000-37-2C</b>
Single with spacer assembly	<b>SY9000-37-3C</b>
Double, 3 position with spacer assembly	<b>SY9000-37-4C</b>

## Caution

- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.

## Manifold Specifications

Model	<b>10-SS5Y9-23P</b>
Applicable valve	<b>10-SY9□20</b>
Manifold type	Stacking type
P (SUP) / R (EXH)	Common SUP, Common EXH
Valve stations	4 to 12 stations <sup>Note 1)</sup>
A, B port location	Valve
Port size	P, EA, EB port
	3/8
	1/4
	3/8
A, B port	C8 (One-touch fitting for ø8 )
	C10 (One-touch fitting for ø10 )
	C12 (One-touch fitting for ø12 )
Manifold base weight W (g)	W=73n+259
n: Stations	
Applicable flat ribbon cable connector	Flat ribbon cable connector, Socket: 26 pins MIL type with strain relief, Conforming to MIL-C-83503
Internal wiring	In common between +COM and -COM (Z type: +COM only)
Rated voltage	12, 24 VDC 100, 110 VAC

Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA/EB port on both sides.

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

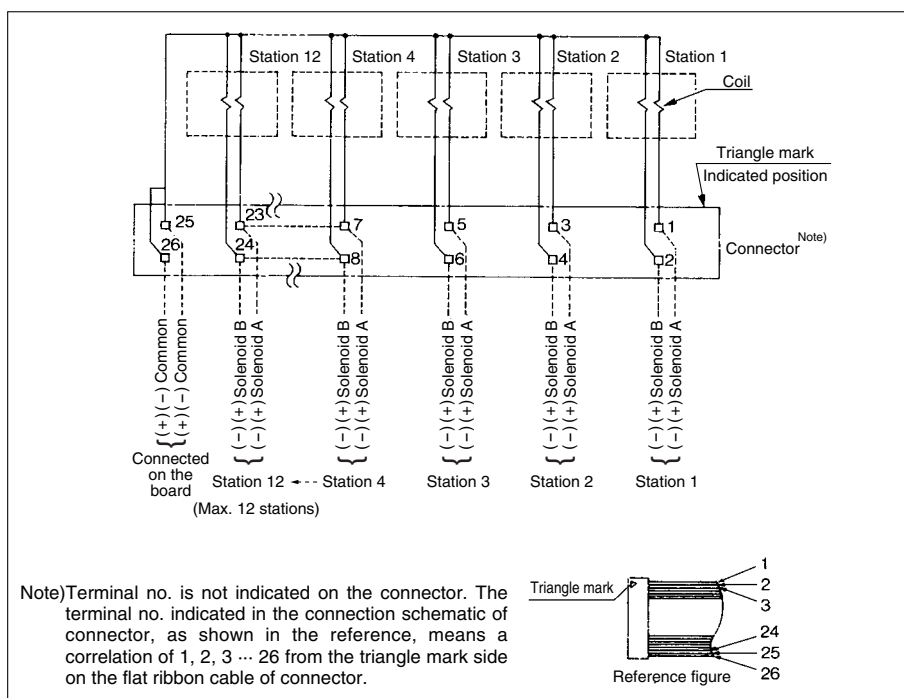
Note 3) Refer to "Manifold Option" on page 413.

## Flow Characteristics

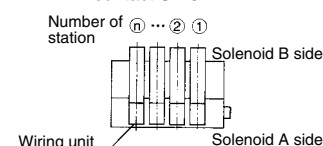
Model	Port size		Flow Characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv
10-SS5Y9-23P	3/8	C12	6.3	0.20	1.5	8.2	0.28	1.9

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

## Internal wiring of manifold (Non-polar type)



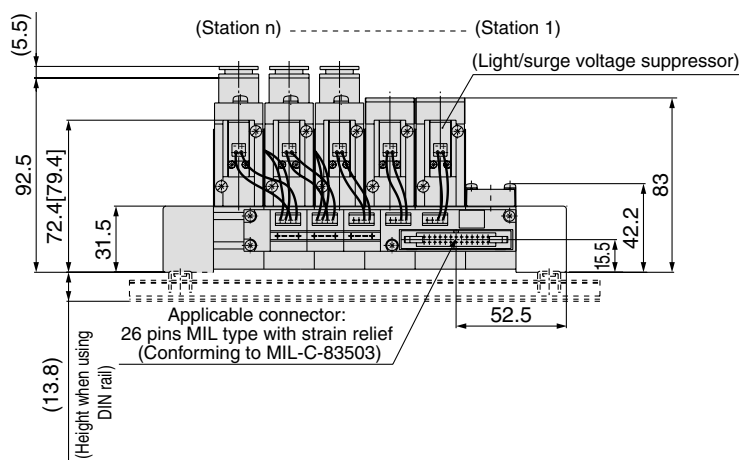
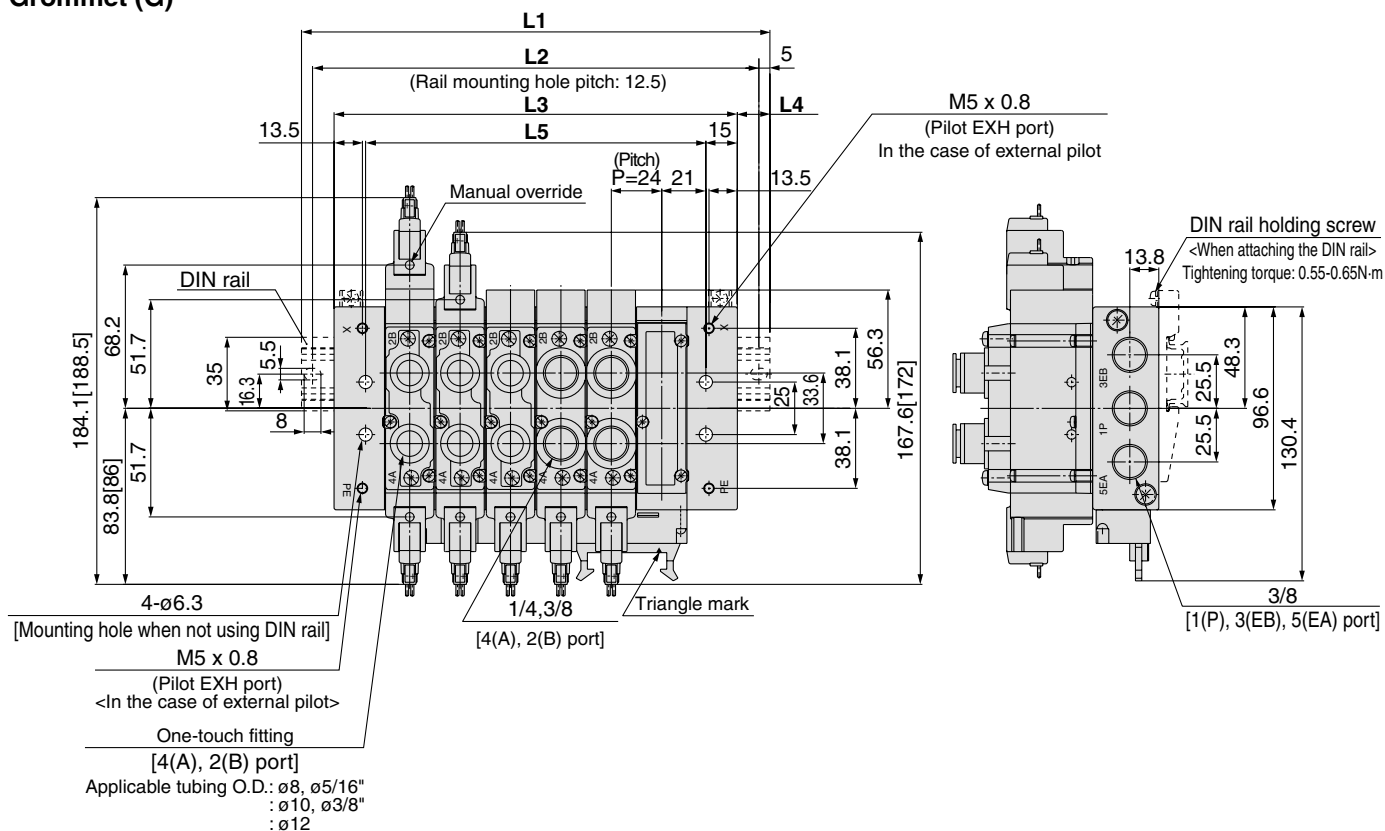
- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.



**10-SY9000: 10-SS5Y9-23P- Stations -(D)**

Note) [ ] : AC

**Grommet (G)**

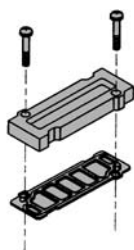


Stations n	4 stations	5	6	7	8	9	10	11	12 stations
<b>L1</b>	173	198	223	248	273	298	323	335.5	360.5
<b>L2</b>	162.5	187.5	212.5	237.5	262.5	287.5	312.5	325	350
<b>L3</b>	144	168	192	216	240	264	288	312	336
<b>L4</b>	14.5	15	15.5	16	16.5	17	17.5	12	12.5
<b>L5</b>	114	138	162	186	210	234	258	282	306

Note) In the case of direct mounting without DIN rail, total width of manifold is L3.

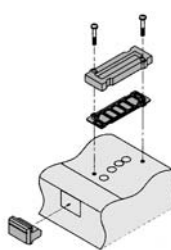
## Manifold Option

## ■ Type 20, 23 Blanking plate assembly



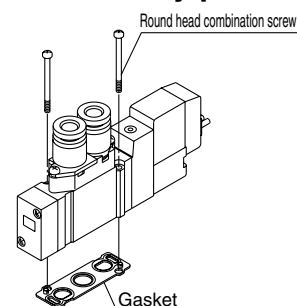
Series	Assembly part No.
10-SY3000	SY3000-26-9A
10-SY5000	SY5000-26-20A
10-SY7000	SY7000-26-22A
10-SY9000	SY9000-26-1A

## ■ Type 20P, 23P Blanking plate assembly



Series	Assembly part No.
10-SY3000	SY3000-26-10A
10-SY5000	SY5000-26-21A
10-SY7000	SY7000-26-23A
10-SY9000	SY9000-26-3A

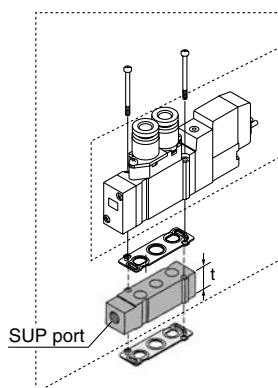
## ■ Gasket assembly part No.



Series	Gasket assembly
10-SY3000	SY3000-GS-1
10-SY5000	SY5000-GS-1
10-SY7000	SY7000-GS-1
10-SY9000	SY9000-GS-1

Note) Gasket assembly consists of mounting screws and a gasket.

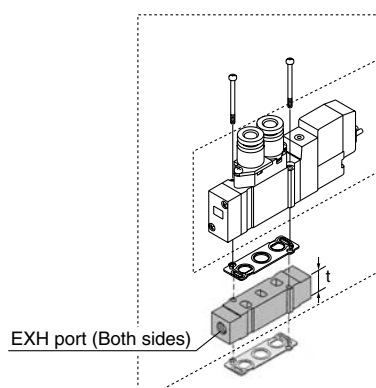
## ■ Individual SUP spacer assembly



Series	Assembly part No.	Port size	t
10-SY3000	SY3000-38-20A	M5 x 0.8	10.5
10-SY5000	SY5000-38-1 * A	1/8	15
10-SY7000	SY7000-38-1 * A	1/4	18
10-SY9000	SY9000-38-1 * A	1/4	20

Note) · The SUP port of 10-SY3000/5000/7000 may be either on the lead wire side or end plate side. (An assembly is shipped under the conditions shown in the figure.)  
· The end plate side is only available to 10-SY9000.

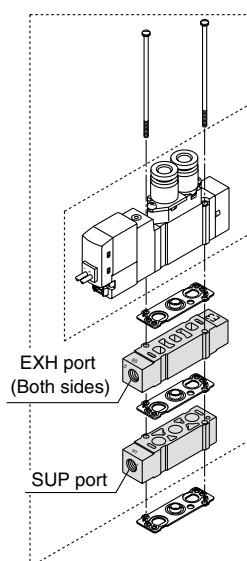
## ■ Individual EXH spacer assembly



Series	Assembly part No.	Port size	t
10-SY3000	SY3000-39-20A	M5 x 0.8	10.5
10-SY5000	SY5000-39-1 * A	1/8	15
10-SY7000	SY7000-39-1 * A	1/4	18
10-SY9000	SY9000-39-1 * A	1/4	20

Note) In case of types 20P and 23P, for protection of the wiring unit section from drainage, piping at the EA port should be arranged so that it will not be directly exposed to exhaust from the valve.

## ■ Individual SUP spacer assembly + Individual EXH spacer assembly (stacked)



## ⚠ Caution

## Mounting screw tightening torque

M2: 0.16N·m  
M3: 0.8N·m  
M4: 1.4N·m

\* : Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

## ⚠ Warning

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

[○: Applicable ×: Not applicable]

Series	Individual SUP + individual EXH assembly part No.	Port size	Applicable manifold type	
			20	20P
10-SY3000	SY3000-120-1A	M5 x 0.8	○	×
10-SY5000	SY5000-75-2 * A	1/8	○	×
10-SY7000	SY7000-73-3 * A	1/4	○	×



Note) The SUP port of SUP spacer can be mounted in either direction. For the EXH port, connect the side marked with "5" to the pilot valve side. Be sure to connect each port of the pilot valve to protect from drainage.

An individual SUP spacer and an individual EXH spacer can be mounted on either top or bottom. (An assembly is shipped under the condition shown in the figure above.)

## Manifold option

### ■ SUP block disc (for 10-SY9000)

By installing a SUP block disc in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.



Series	Part no.
<b>10-SY9000</b>	SY9000-61-2A

### ■ EXH block disc (for 10-SY9000)

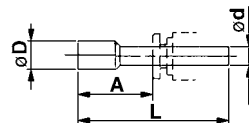
By installing an EXH block disc in the exhaust passage of a manifold valve, it is possible to divide the valve's exhaust so that it does not affect another valve. (Two block disks are needed to divide both exhausts.)



Series	Part no.
<b>10-SY9000</b>	SY9000-61-2A

### ■ Plug (White)

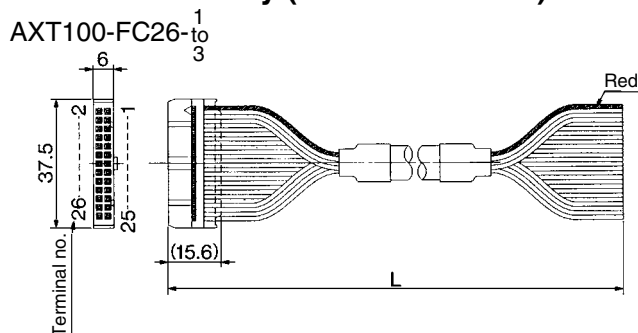
To be inserted into unused cylinder ports and supply/exhaust ports. The minimum order quantity is 10 pieces.



### Dimensions

Applicable fitting size ød	Model	A	L	D
4	<b>10-KQP-04</b>	16	32	6
6	<b>10-KQP-06</b>	18	35	8
8	<b>10-KQP-08</b>	20.5	39	10
10	<b>10-KQP-10</b>	22	43	12
12	<b>10-KQP-12</b>	24	44.5	14
1/8"	<b>10-KQP-01</b>	16	31.5	5
5/32"	<b>10-KQP-03</b>	16	32	6
1/4"	<b>10-KQP-07</b>	18	35	8.5
5/16"	<b>10-KQP-09</b>	20.5	39	10
3/8"	<b>10-KQP-11</b>	22	43	11.5

### ■ Cable assembly (for 20P and 23P)



### Connector assembly for flat ribbon cable

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

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

### Example of connector manufacturers

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

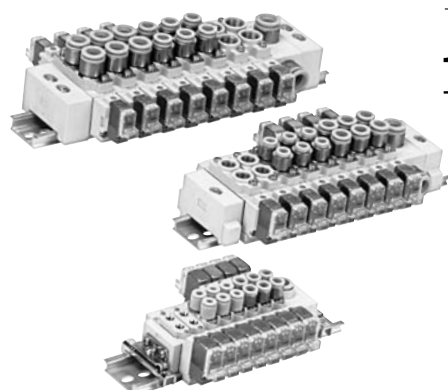


# Series 10-SY3000/5000/7000

Type **60**

Body ported cassette manifold

## How to Order



**10** — **SS5Y** **3** — **60** — **05** **D** — [ ]

• Clean series

Series

3	10-SY3000
5	10-SY5000
7	10-SY7000

Valve stations

02	2 stations
...	...
20	20 stations

• Option

When a DIN rail longer than the specified stations is required, enter the number of manifold stations. (Max. 20 stations)

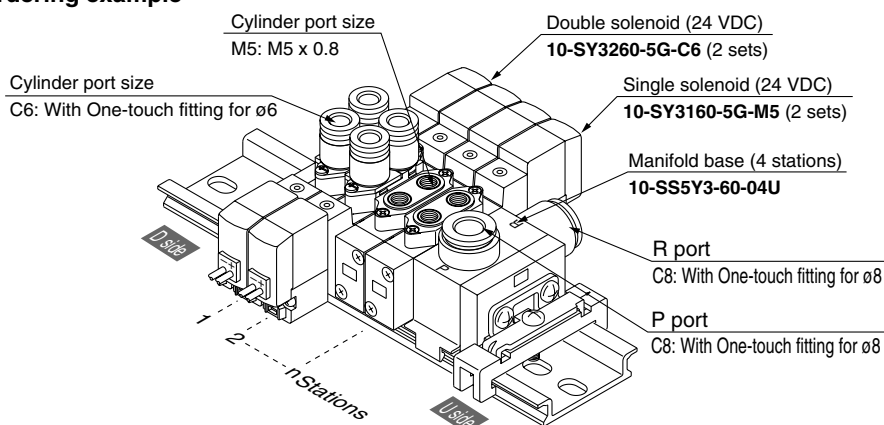
• SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
<b>U</b>	U side	2 to 10 stations
<b>D</b>	D side	2 to 10 stations
<b>B</b>	Both sides	2 to 20 stations
<b>M*</b>	Special specifications	

\* For special specifications, indicate separately on the manifold specification sheet.

## How to Order Valve Manifold Assembly

### Ordering example



10-SS5Y3-60-04U .....1 set (Type 60, 4 station manifold base part No.)

\* 10-SY3260-5G-C6 .....2 sets (Double solenoid part No.)

\* 10-SY3160-5G-M5 .....2 sets (Single solenoid part No.)


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

Add the valve and option part number under the manifold base part number.

In the case of complex arrangement, specify them on the manifold specification sheet.


## Manifold Specifications

Model		10-SS5Y3-60	10-SS5Y5-60	10-SS5Y7-60
Applicable valve		10-SY3□60	10-SY5□60	10-SY7□60
Manifold type		Stacking type / DIN rail mounted		
P(SUP) / R(EXH)		Common SUP / Common EXH		
Valve stations		2 to 20 stations <sup>Note)</sup>		
A, B port location		Valve		
Port size	P, R port	C8 (One-touch fitting for ø8)	C10 (One-touch fitting for ø10)	C12 (One-touch fitting for ø12)
	A, B port	M5 x 0.8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)
Manifold base weight W (g) (n: Number of SUP / EXH blocks, m: Weight of DIN rail )		W = 13n + m + 36	W = 41.2n + m + 77.6	W = 65.4n + m + 128.2

 Note) In cases such as those where many valves are operated simultaneously, use "- Stations B ( SUP/EXH block on both sides)", applying pressure to the P ports on both sides and exhausting from the R ports on both sides.

## Flow characteristics

Model	Port size		Flow characteristics					
	1,5/3 (P,R)	4,2 (A,B)	1→4/2(P→A/B)			4/2→5/3(A/B→R)		
			C[dm³/(s·bar)]	b	Cv	C[dm³/(s·bar)]	b	Cv
10-SS5Y3-60	C8	M5	0.55	0.29	0.14	0.72	0.24	0.18
		C4	0.57	0.24	0.14	0.71	0.20	0.17
		C6	0.68	0.28	0.17	0.77	0.24	0.19
10-SS5Y5-60	C10	1/8	1.8	0.24	0.44	2.1	0.17	0.47
		C6	1.5	0.30	0.37	2.0	0.16	0.46
		C8	1.8	0.20	0.45	2.2	0.17	0.50
10-SS5Y7-60	C12	1/4	3.7	0.25	0.96	3.8	0.19	0.94
		C8	3.2	0.26	0.81	4.0	0.18	0.96
		C10	3.7	0.28	0.98	4.1	0.19	1.0

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

## How to Order Valves

10 — SY 3 1 60 — 5 L — C6

• Clean series

Series

3	10-SY3000
5	10-SY5000
7	10-SY7000

Type of actuation

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

Coil specifications

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

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

Rated voltage

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

AC (50/60Hz)	
1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
\* "D" and "DO" are only available for 10-SY5000/7000.  
\* For type "W□", DC voltage is only available.

• A, B port size

Thread piping

Symbol	Port size	Applicable series
M5	M5 x 0.8	10-SY3000
01	1/8	10-SY5000
02	1/4	10-SY7000

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	10-SY5000
C4	One-touch fitting for ø4	10-SY5000
C6	One-touch fitting for ø6	10-SY5000
C8	One-touch fitting for ø8	10-SY5000
C8	One-touch fitting for ø8	10-SY7000
C10	One-touch fitting for ø10	10-SY7000

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø5/32"	10-SY3000
N7	One-touch fitting for ø1/4"	10-SY3000
N3	One-touch fitting for ø5/32"	10-SY5000
N7	One-touch fitting for ø1/4"	10-SY5000
N9	One-touch fitting for ø5/16"	10-SY5000
N9	One-touch fitting for ø5/16"	10-SY7000
N11	One-touch fitting for ø3/8"	10-SY7000

• Manual override

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

• 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)

\* Type "S" is not available with AC, which prevents surge voltage with a rectifier.  
\* Power saving circuit is only available in the "Z" type.

Electrical entry for D (10-SY5000/7000 only)

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

\* Type "S" is not available with AC, which prevents surge voltage with a rectifier.


• 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 (10-SY5000/7000 only)	<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
			<b>W□:</b> With connector cable (Note 1)	

\* "LN", "MN" type: with 2 sockets.  
\* DIN terminal type "Y" conforming to EN-175301-803C (former DIN43650C) is available, too. For details, please refer to page 482.  
\* For M8 connector cable, please refer to page 490.  
Note 1) Please enter cable length in □ with reference to page 491.

## Specifications


Series		10-SY3000	10-SY5000	10-SY7000
<b>Fluid</b>		Air		
Internal pilot operating pressure range MPa	<b>2 position single</b>	0.15 to 0.7		
	<b>2 position double</b>	0.1 to 0.7		
	<b>3 position</b>	0.2 to 0.7		
Ambient and fluid temperature (°C)		Max. 50		
Max. operating frequency(Hz)	2 position single/double	10	5	5
	<b>3 position</b>	3	3	3
<b>Manual override (Manual operation)</b>		Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type		
<b>Pilot exhaust system</b>		Common exhaust type for main and pilot valve		
<b>Lubrication</b>		Not required		
<b>Mounting orientation</b>		Unrestricted		
Impact / Vibration resistance m/s <sup>2</sup> (Note)		150/30		
<b>Enclosure</b>		Dustproof (* DIN terminal, M8 connector conforms to IP65)		

 Note) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states once each condition.

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

## Solenoid specifications

Electrical entry			Grommet (G)/(H) L plug connector (L) M plug connector (M) DIN terminal (D) M8 connector (W)	
			G, H, L, M, W	D
Coil rated voltage (V)	DC	24, 12, 6, 5, 3		24, 12
	AC 50/60Hz	100, 110, 200, 220		
Allowable voltage fluctuation			±10% of rated voltage *	
Power consumption (W)	DC	Standard	0.35 {With indicator light: 0.4 (DIN terminal with light: 0.45)}	
		With power saving circuit	0.1 (With indicator light only)	
Apparent * power (VA)	AC	100V	0.78 (With indicator light: 0.81)	0.78 (With indicator light: 0.87)
		110V [115V]	0.86 (With indicator light: 0.89) [0.94 (With indicator light: 0.97)]	0.86 (With indicator light: 0.97) [0.94 (With indicator light: 1.07)]
		200V	1.18 (With indicator light: 1.22)	1.15 (With indicator light: 1.30)
		220V [230V]	1.30 (With indicator light: 1.34) [1.42 (With indicator light: 1.46)]	1.27 (With indicator light: 1.46) [1.39 (With indicator light: 1.60)]
Surge voltage suppressor			Diode (Varistor is for DIN terminal and non-polar.)	
Indicator light			LED (AC of DIN connector in neon bulb.)	

 \* 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.

\* Allowable voltage fluctuation range for types S, Z and T (with power saving circuit) are shown below. These types generate voltage drop due to internal circuit.

Type S, Z 24 VDC: -7% to +10%  
12 VDC: -4% to +10%  
Type T 24 VDC: -8% to +10%  
12 VDC: -6% to +10%

## Response time



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

### 10-SY3000

Type of actuation	Response time ms (at 0.5MPa)		
	Without surge voltage suppressor	With surge voltage suppressor	
		S, Z type	R, U type
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

### 10-SY5000

Type of actuation	Response time ms (at 0.5MPa)		
	Without surge voltage suppressor	With surge voltage suppressor	
		S, Z type	R, U type
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

### 10-SY7000

Type of actuation	Response time ms (at 0.5MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		S, Z type	R, U type
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

## How to Order Pilot Valve Assembly

10 — V111 — 5 G

• Clean series

Coil specifications

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

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

Rated voltage

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC
1	100 VAC <sup>50/60</sup> Hz
2	200 VAC <sup>50/60</sup> Hz
3	110 VAC <sup>50/60</sup> Hz [115 VAC <sup>50/60</sup> Hz]
4	220 VAC <sup>50/60</sup> Hz [230 VAC <sup>50/60</sup> 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 "R" and "U", DC voltage is only available.  
\* Power saving circuit is only available in the "Z" type.

• Electrical entry

G	Grommet (Lead wire length 300 mm)
H	Grommet (Lead wire length 600 mm)
L	L plug connector
LN	Without lead wire
LO	Without connector
M	M plug connector
MN	Without lead wire
MO	Without connector
WO	Without connector cable
Wm	With connector cable <sup>Note 1)</sup>

\* For connector cable of M8 connector, refer to page 490.  
Note 1) Please enter cable length in □ with reference to page 491.

## 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  
(only connector and 2 pcs. of sockets)

Lead wire length

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

## ■ DIN terminal type

10 — V115 — 5 D

• Clean series

Rated voltage

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

\* DC specifications of type "D" and "DO" is only available with 12 VDC and 24 VDC.

• 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
DO	Without connector

Note) Do not replace 10-V111 (G, H, L, M) to 10-V115 (DIN terminal) and vice versa when replacing pilot valve assembly only.

## How to Order M8 Connector Cable

V100-49-1

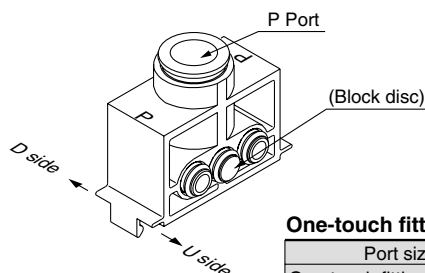
Cable length

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

\* Refer to page 491 for details.

## Manifold Option

### Individual SUP block assembly



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

Port size	Assembly part No.	Applicable series
One-touch fitting for ø6	SY3000-54-2C	10-SY3000
One-touch fitting for ø8	SY3000-54-1C	10-SY3000
One-touch fitting for ø10	SY5000-54-1C	10-SY5000
One-touch fitting for ø12	SY7000-54-1C	10-SY7000

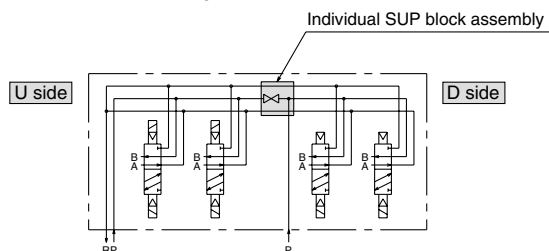
#### One-touch fitting (Inch size)

Port size	Assembly part No.	Applicable series
One-touch fitting for ø5 / 16"	SY3000-54-3C	10-SY3000
One-touch fitting for ø3 / 8"	SY5000-54-2C	10-SY5000
One-touch fitting for ø3 / 8"	SY7000-54-3C	10-SY7000

[When supplying the manifold with 2 different supply pressures.]

Specify arrangement of individual SUP block assembly on the manifold specification sheet. (When using 10-SS5Y□-60-□□D, block disk is assembled on D side.)

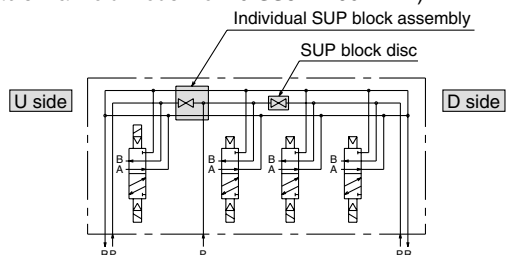
<Manifold model: 10-SS5Y<sup>3</sup>□-60-□□D>



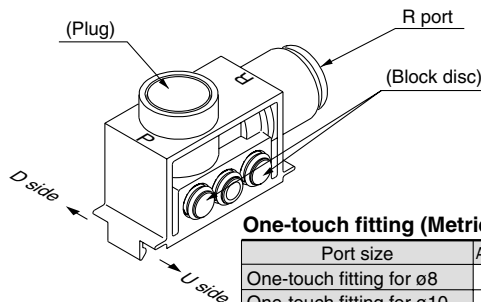
[When a different supply pressure is required for only a middle valve.]

Specify arrangement of individual SUP block assembly and SUP block disk on the manifold specification sheet.

(Applicable manifold model no. 10-SS5Y□-60-□□B)



### Individual EXH block assembly



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

Port size	Assembly part No.	Applicable series
One-touch fitting for ø8	SY3000-55-1B	10-SY3000
One-touch fitting for ø10	SY5000-55-1B	10-SY5000
One-touch fitting for ø12	SY7000-55-1B	10-SY7000

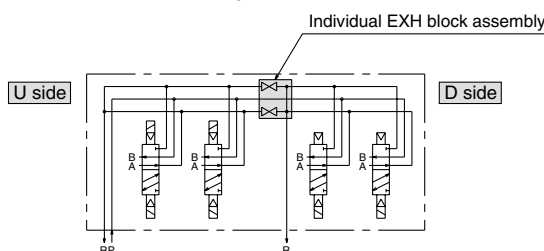
#### One-touch fitting (Inch size)

Port size	Assembly part No.	Applicable series
One-touch fitting for ø5 / 16"	SY3000-55-2B	10-SY3000
One-touch fitting for ø3 / 8"	SY5000-55-2B	10-SY5000
One-touch fitting for ø3 / 8"	SY7000-55-3B	10-SY7000

[When 2 different EXH passages are required.]

Specify arrangement of individual EXH block assembly on the manifold specification sheet. (When using 10-SS5Y□-60-□□D, block disk is assembled on D side.)

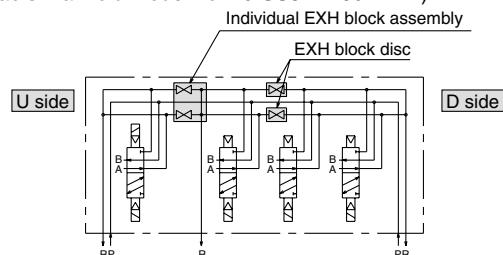
<Manifold model: 10-SS5Y<sup>3</sup>□-60-□□D>



[When a separate exhaust passage is needed on only a middle valve.]

Specify arrangement of individual EXH block assembly and EXH block disk on the manifold specification sheet.

(Applicable manifold model no. 10-SS5Y□-60-□□B)



## Manifold Option

### ■SUP block disc

By installing a SUP block disc in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold. (This is the same block disc used with the individual SUP block assembly.)



Series	Part No.
<b>10-SY3000</b>	SY3000-52-6A
<b>10-SY5000</b>	SY5000-52-4A
<b>10-SY7000</b>	SY7000-70-2A

### ■EXH block disc

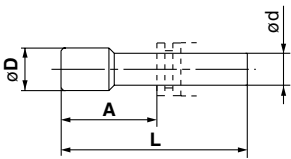
By installing an EXH block disc in the exhaust passage of a manifold valve, it is possible to divide the valve's exhaust so that it does not affect another valve. (Two block disks are needed to separate both EXH passages. It is the same block disk that is used in the individual EXH block assembly.)



Series	Part no.
<b>10-SY3000</b>	SY3000-52-6A
<b>10-SY5000</b>	SY5000-52-4A
<b>10-SY7000</b>	SY7000-70-2A

### ■Plug (White)

These are inserted in unused cylinder ports and SUP/EXH ports. Purchasing order is available in units of 10 pieces.



### Dimensions

Applicable fitting size ød	Model	A	L	D
4	<b>10-KQP-04</b>	16	32	6
6	<b>10-KQP-06</b>	18	35	8
8	<b>10-KQP-08</b>	20.5	39	10
10	<b>10-KQP-10</b>	22	43	12
12	<b>10-KQP-12</b>	24	45.5	14
5/32"	<b>10-KQP-03</b>	16	32	6
1/4"	<b>10-KQP-07</b>	18	35	8.5
5/16"	<b>10-KQP-09</b>	20.5	39	10
3/8"	<b>10-KQP-11</b>	22	43	11.5

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Fittings & Tubing

Air preparation equipment

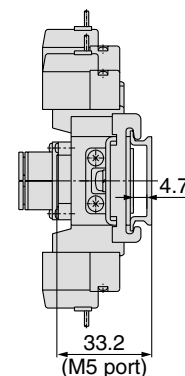
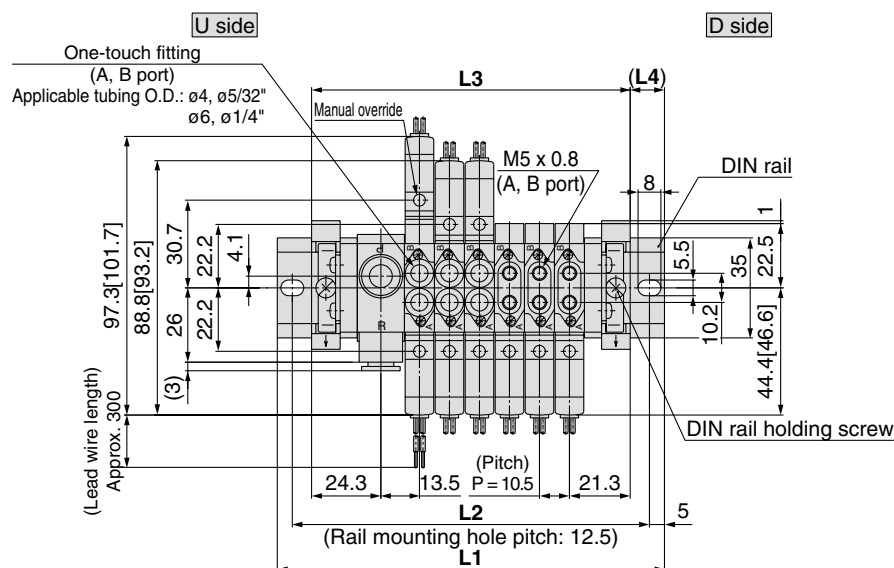
Pressure switch

Clean gas filter

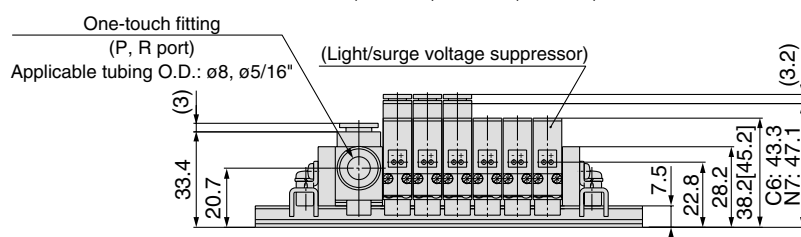


## Dimensions

### 10-SS5Y3-60- Stations U

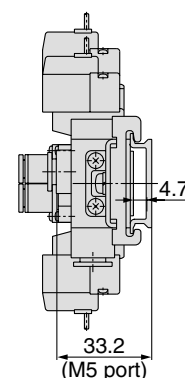
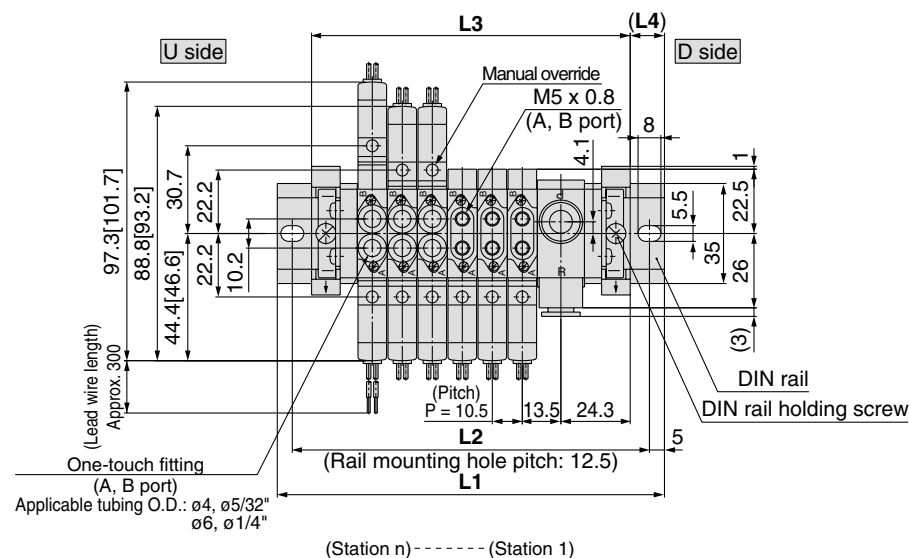


(Station n) ----- (Station 1)

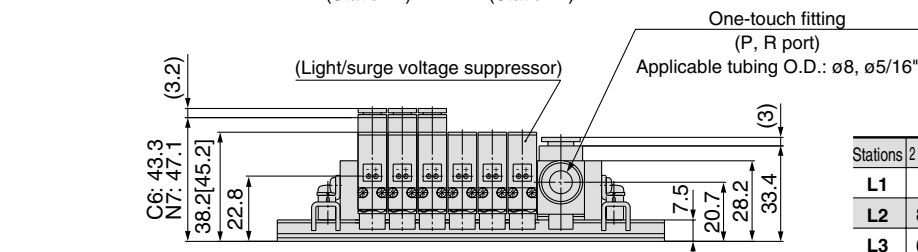


Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	98	110.5	123	135.5	135.5	148	160.5	173	185.5
L2	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	69.5	80	90.5	101	111.5	122	132.5	143	153.5
L4	14	15	16	17	12	13	14	15	16

### 10-SS5Y3-60- Stations D



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



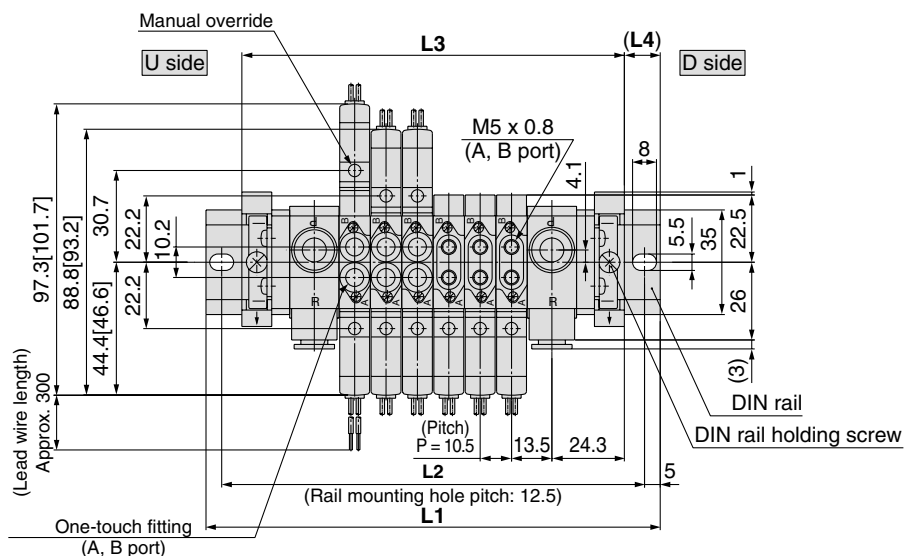
Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	98	110.5	123	135.5	135.5	148	160.5	173	185.5
L2	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	69.5	80	90.5	101	111.5	122	132.5	143	153.5
L4	14	15	16	17	12	13	14	15	16





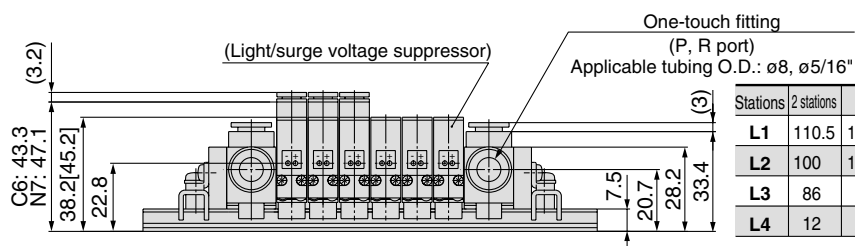
Note) [ ] : AC

## 10-SS5Y3-60- Stations B



Applicable tubing O.D.:  $\phi 4$ ,  $\phi 5/32$ "

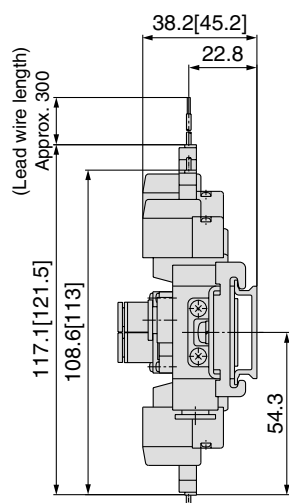
$\phi 6$ ,  $\phi 1/4$ " (Station n) ----- (Station 1)



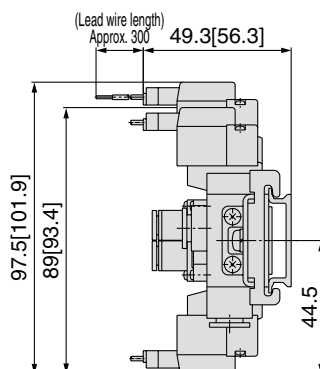
Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	110.5	123	135.5	148	160.5	173	173	185.5	198
L2	100	112.5	125	137.5	150	162.5	162.5	175	187.5
L3	86	96.5	107	117.5	128	138.5	149	159.5	170
L4	12	13	14	15	16	17	12	13	14

Stations	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	210.5	223	235.5	235.5	248	260.5	273	285.5	298	310.5
L2	200	212.5	225	225	237.5	250	262.5	275	287.5	300
L3	180.5	191	201.5	212	222.5	233	243.5	254	264.5	275
L4	15	16	17	11.5	12.5	13.5	14.5	15.5	16.5	17.5

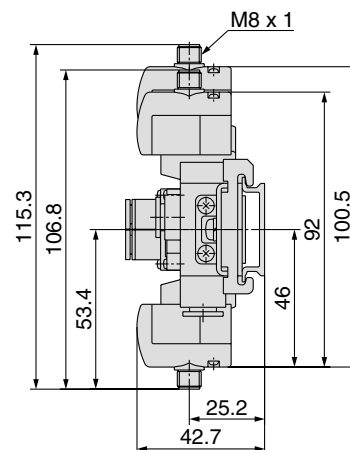
### L plug connector (L)



### M plug connector (M)



### M8 connector (WO)



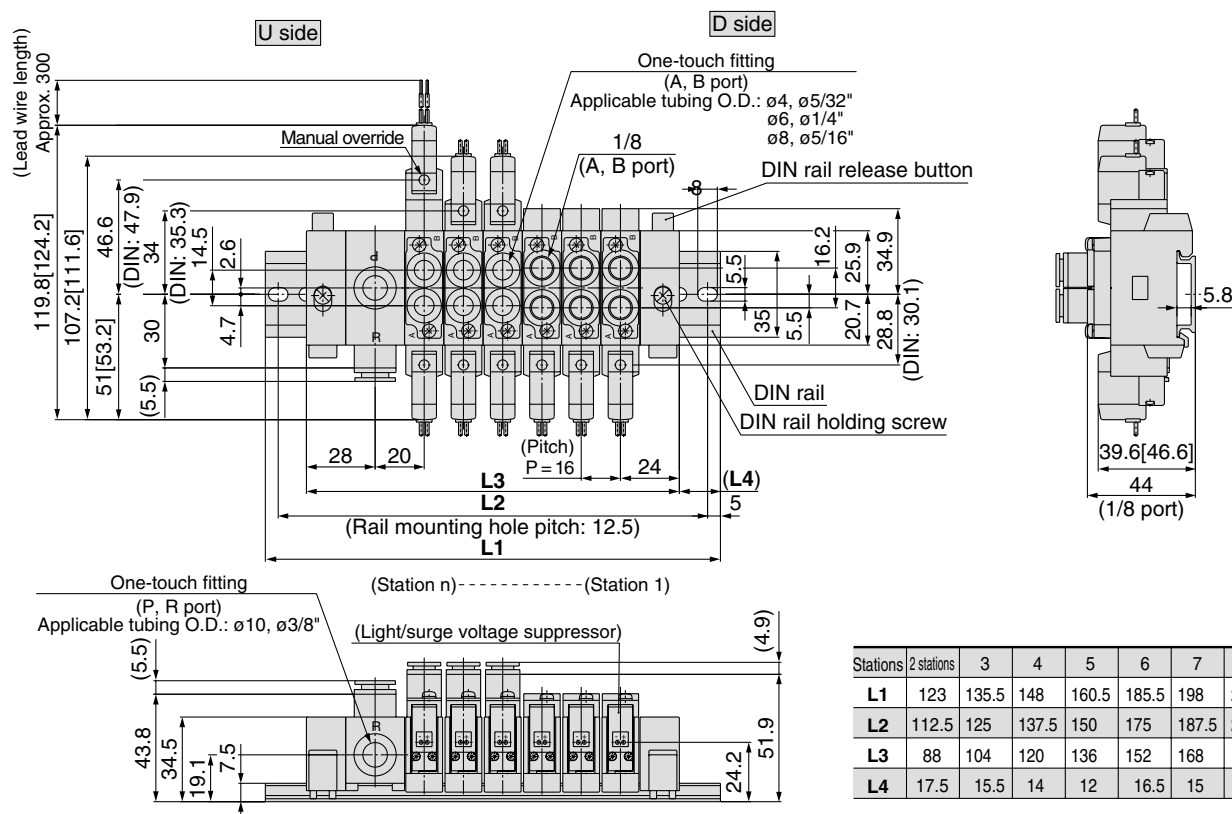
Note) Refer to page 490 for dimensions of connector types.

## Dimensions

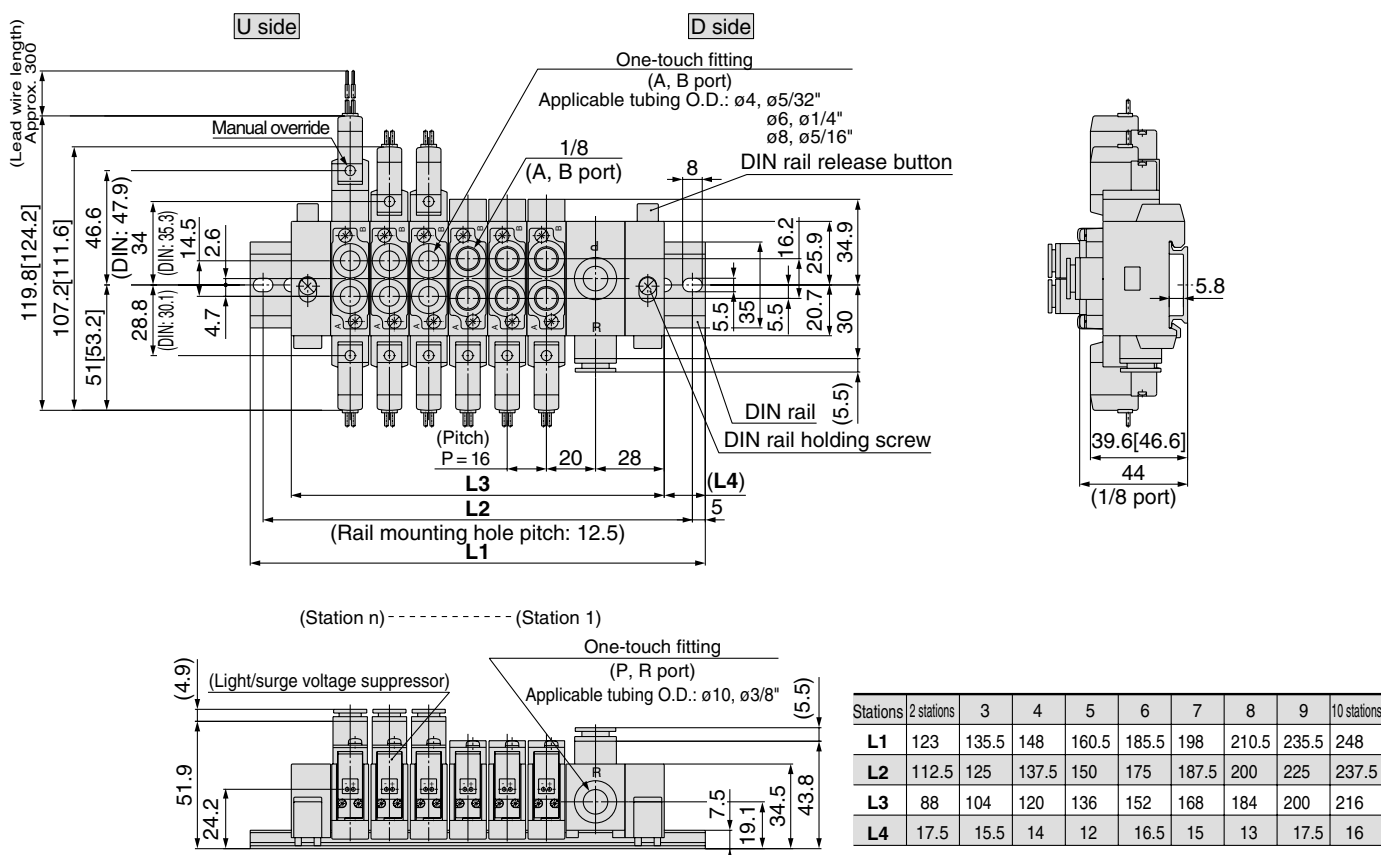


Note) [ ] : AC

### 10-SS5Y5-60- Stations U



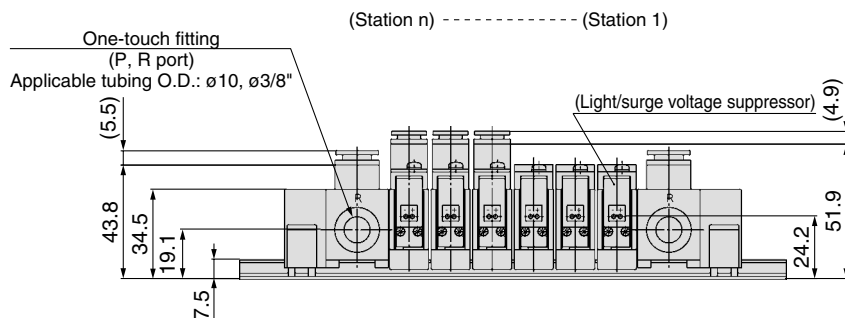
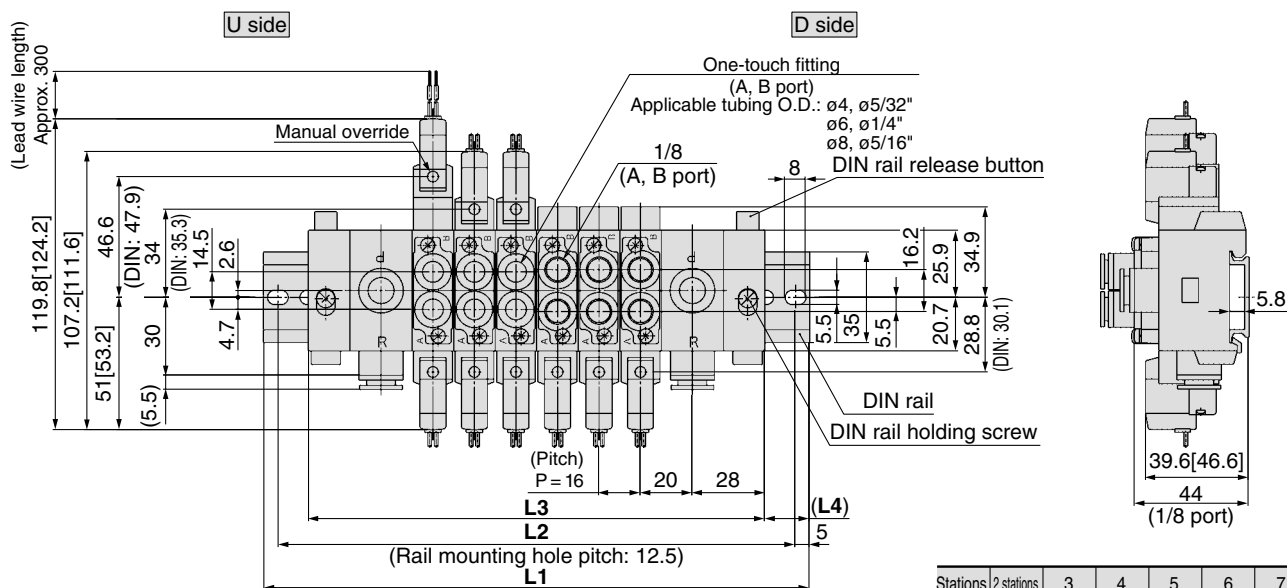
### 10-SS5Y5-60- Stations D





Note) [ ] : AC

## 10-SS5Y5-60- Stations B

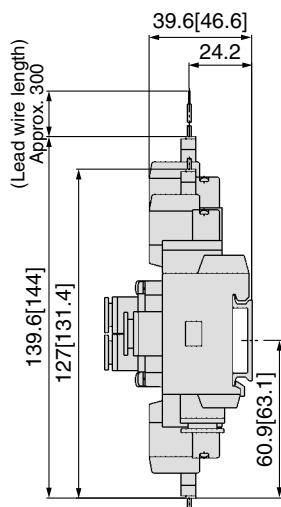


Stations	2 stations	3	4	5	6	7	8 stations
L1	135.5	160.5	173	185.5	210.5	223	235.5
L2	125	150	162.5	175	200	212.5	225
L3	112	128	144	160	176	192	208
L4	11.5	16	14.5	12.5	17.5	15.5	13.5

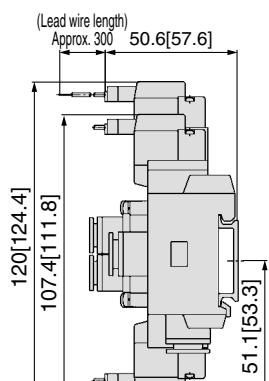
Stations	9 stations	10	11	12	13	14	15 stations
L1	248	273	285.5	298	323	335.5	348
L2	237.5	262.5	275	287.5	312.5	325	337.5
L3	224	240	256	272	288	304	320
L4	12	16.5	14.5	13	17.5	15.5	14

Stations	16 stations	17	18	19	20 stations
L1	360.5	385.5	398	410.5	435.5
L2	350	375	387.5	400	425
L3	336	352	368	384	400
L4	12	16.5	15	13	17.5

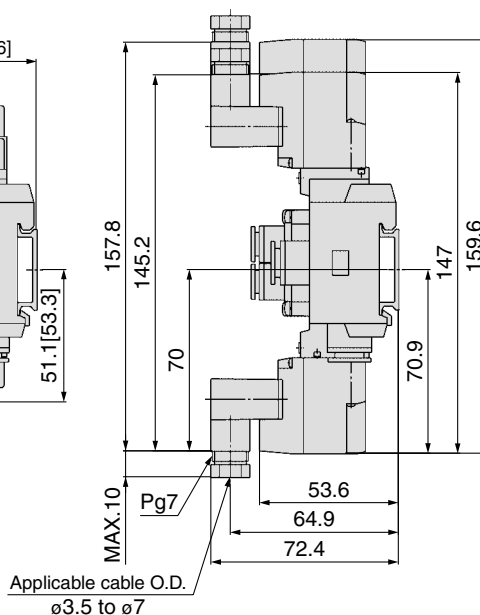
### L plug connector (L)



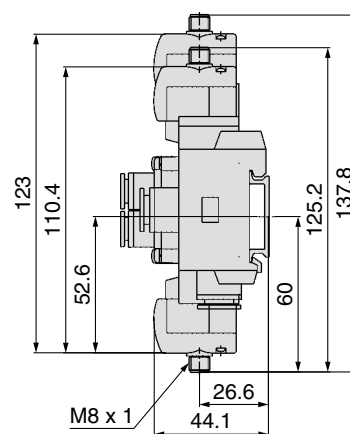
### M plug connector (M)



### DIN terminal (D)



### M8 connector (WO)



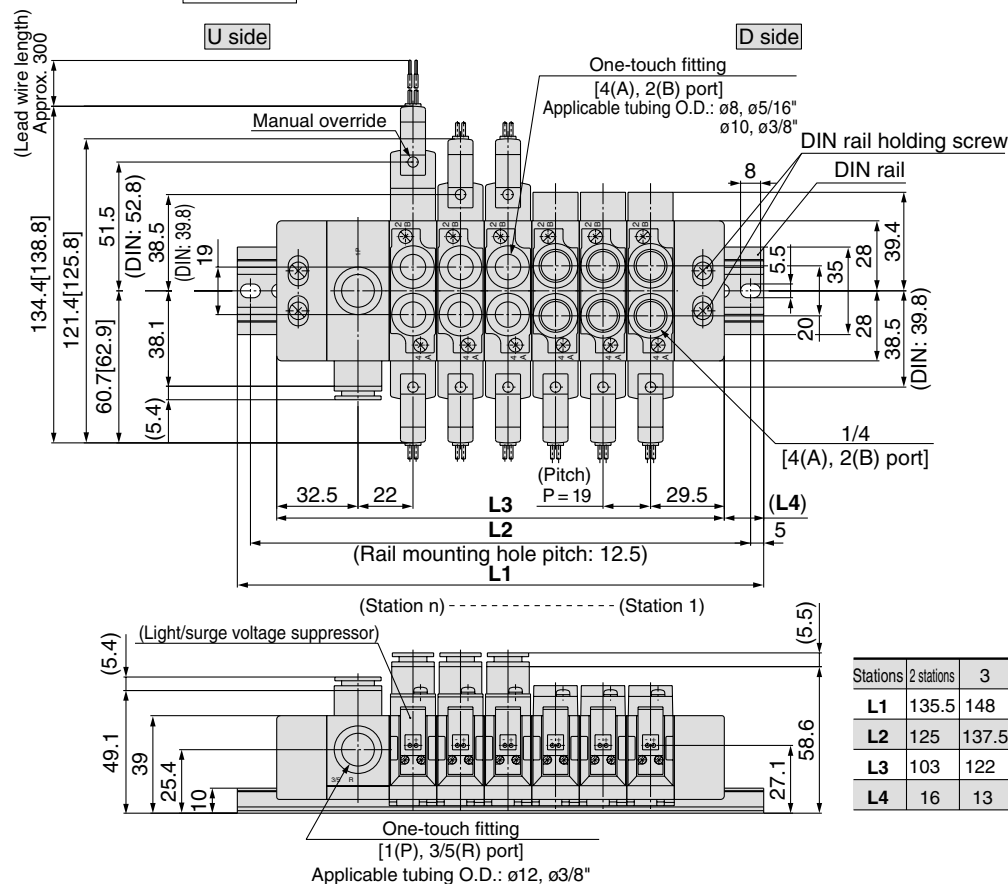
Note) Refer to page 490 for dimensions of connector types.

## Dimensions

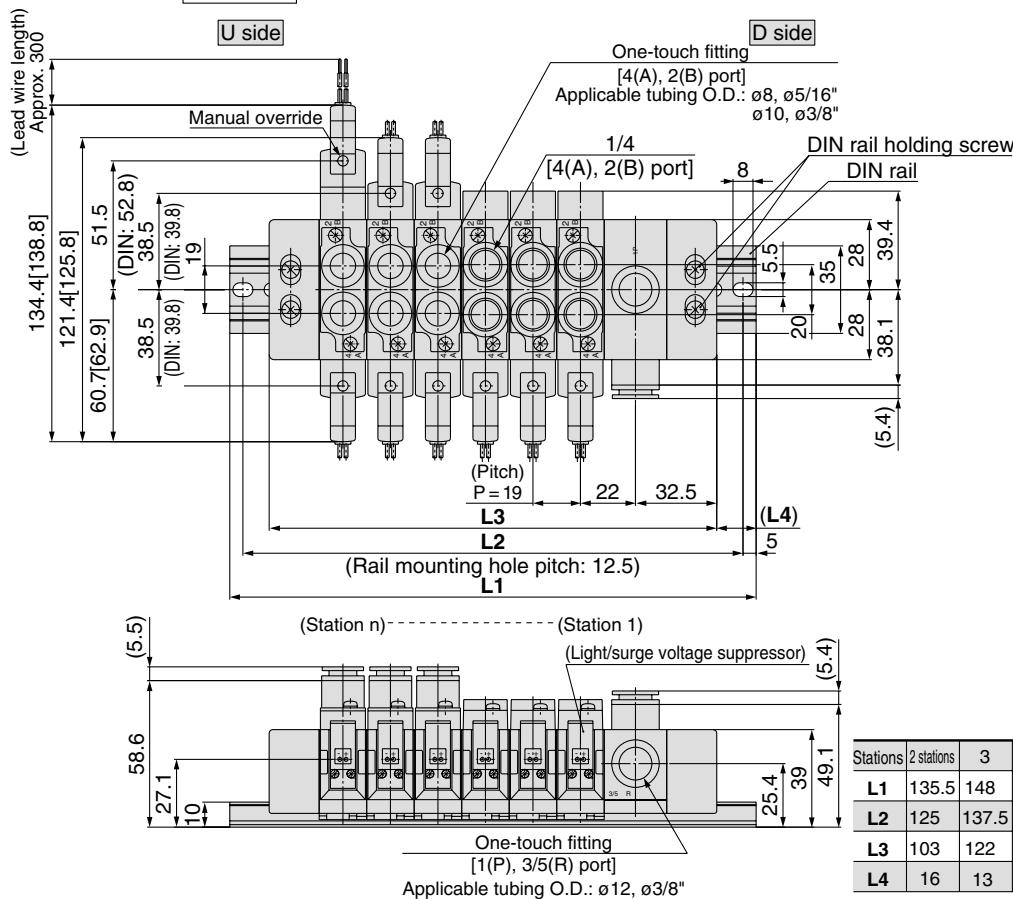


Note) [ ] : AC

### 10-SSY7-60- Stations U



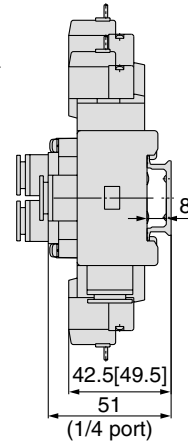
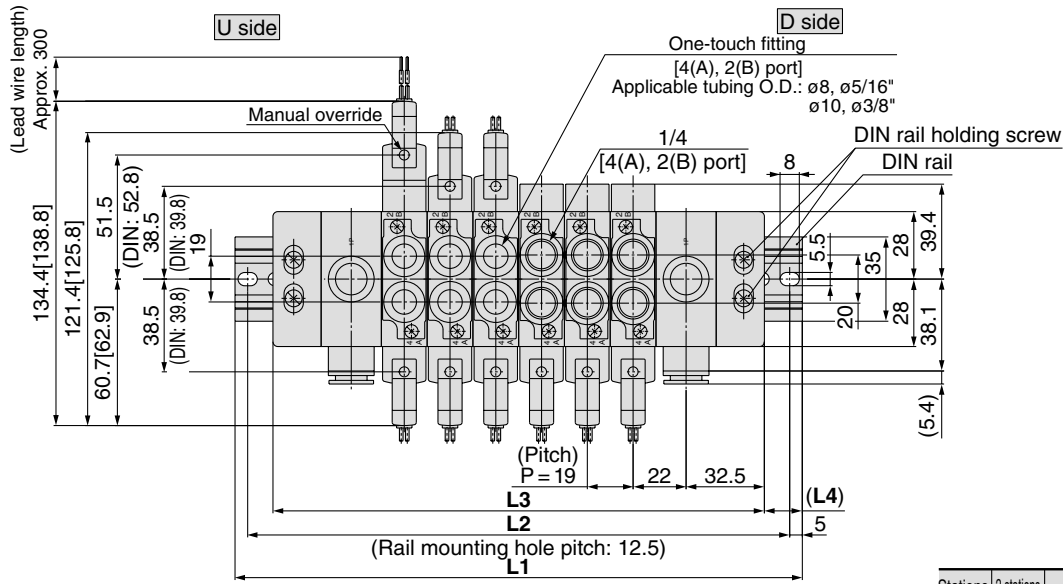
### 10-SSY7-60- Stations D



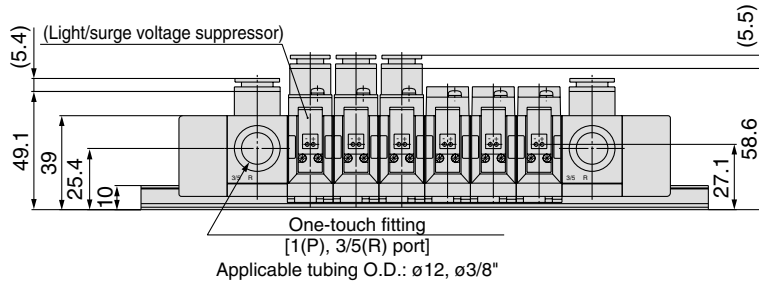


Note) [ ]: AC

10-SS5Y7-60-Stations B



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

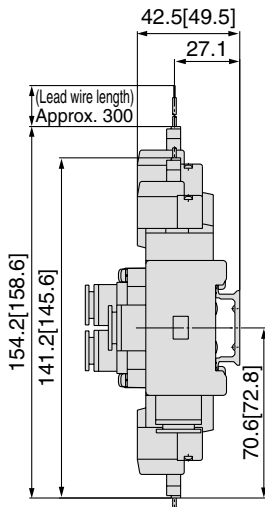


Stations	2 stations	3	4	5	6	7	8 stations
L1	160.5	173	198	210.5	235.5	248	273
L2	150	162.5	187.5	200	225	237.5	262.5
L3	128	147	166	185	204	223	242
L4	16	13	16	12.5	15.5	12.5	15.5

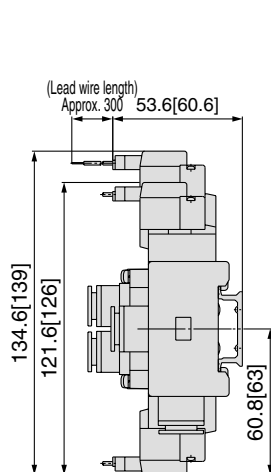
Stations	9 stations	10	11	12	13	14	15 stations
L1	285.5	310.5	323	348	360.5	385.5	410.5
L2	275	300	312.5	337.5	350	375	400
L3	261	280	299	318	337	356	375
L4	12	15	12	15	11.5	14.5	17.5

Stations	16 stations	17	18	19	20 stations
L1	423	448	460.5	485.5	498
L2	412.5	437.5	450	475	487.5
L3	394	413	432	451	470
L4	14.5	17.5	14	17	14

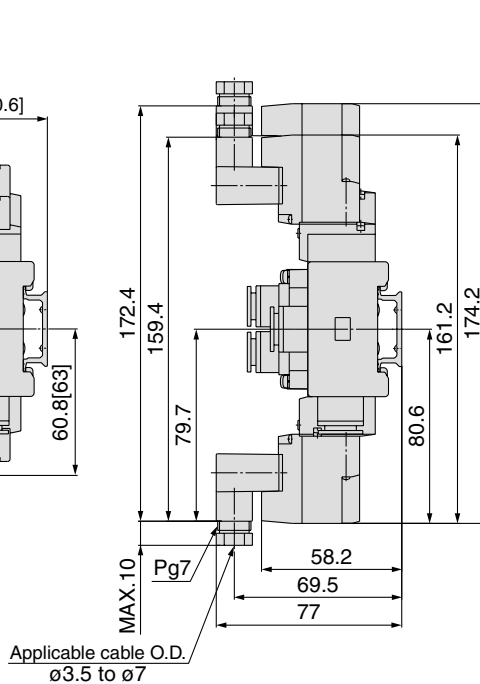
L plug connector (L)



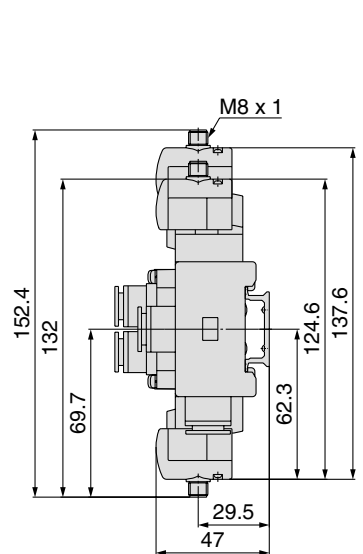
M plug connector (M)



DIN terminal (D)



M8 connector (WO)



Note) Refer to page 490 for dimensions of connector types.

# Series 10-SY3000/5000/7000

Type 41  
Type 42

Base mounted manifold  
Bar stock type /  
Individual wiring

## How to Order Manifold

### Type 41 / Compact type

10 — SS5Y 5 — 41 — 05 — C8

#### Clean series

#### Manifold series

3	10-SY3000
5	10-SY5000

#### Stations

02	2 stations
⋮	⋮
20	20 stations

\* This also includes the number of blanking plate assemblies.

#### A, B port size

#### Thread piping

Symbol	Port size	Applicable series
M5	M5 x 0.8	10-SY3000
01	1/8	10-SY5000

#### Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

\* Except M5

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

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	10-SY3000
C6	One-touch fitting for ø6	10-SY5000
C8	One-touch fitting for ø8	10-SY5000

#### One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	5/32" One-touch fitting for ø	10-SY3000
N7	1/4" One-touch fitting for ø	10-SY3000
N7	1/4" One-touch fitting for ø	10-SY5000
N9	5/16" One-touch fitting for ø	10-SY5000

### Type 42/External pilot capable type

10 — SS5Y 5 — 42 — 05 — C8

#### Clean series

#### Manifold series

3	10-SY3000
5	10-SY5000
7	10-SY7000

#### Stations

02	2 stations
⋮	⋮
20	20 stations

#### A, B port size

#### Thread piping

Symbol	Port size	Applicable series
01	1/8	10-SY3000
02	1/4	10-SY5000
02	1/4	10-SY7000

#### Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

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

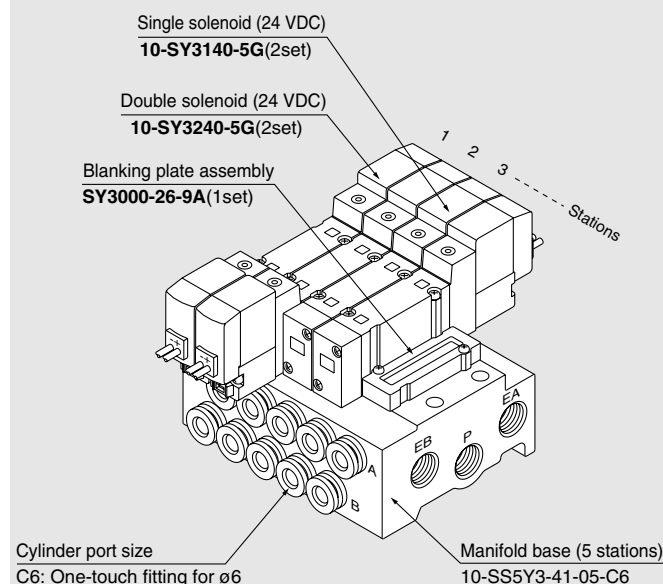
Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	10-SY3000
C6	One-touch fitting for ø6	10-SY5000
C8	One-touch fitting for ø8	10-SY5000
C10	One-touch fitting for ø10	10-SY7000

#### One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø5/32"	10-SY3000
N7	One-touch fitting for ø1/4"	10-SY3000
N7	One-touch fitting for ø1/4"	10-SY5000
N9	One-touch fitting for ø5/16"	10-SY5000
N11	One-touch fitting for ø3/8"	10-SY7000

## How to Order Valve Manifold Assembly

### Ordering example



10-SS5Y3-41-05-C6 · 1 set (Type 41, 5 stations manifold base part no.)  
 \*10-SY3240-5G .....2 sets (Double solenoid part no.)  
 \*10-SY3140-5G .....2 sets (Single solenoid part no.)  
 \*SY3000-26-9A .....1 set (Blanking plate assembly part no.)

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

Add the valve and option part numbers under the manifold base part no. In the case of complex arrangement, specify them on the manifold specification sheet.

## How to Order Valves

10 — SY 5 2 40 □ □ — 5 L □ □

## ● Clean series

## Series ●

3	10-SY3000
5	10-SY5000
7	10-SY7000

## Type of actuation ●

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

## Pilot type ●

Nil	Internal pilot
R	External pilot

## Coil specifications ●

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

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

## Rated voltage ●

## DC specifications

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

## AC specifications (50/60 Hz)

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

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

## ● Manual override

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

## ● 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 "R" and "U", only DC voltage is 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, there is no "S" option. It is already built-in to the rectifier circuit.

## ● Electrical entry

24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC			24, 12 VDC 100, 110 VAC 200, 220 VAC	24, 12 VDC 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal	M8 connector
G: Lead wire length 300 mm H: Lead wire length 600 mm	L: With lead wire (length 300 mm) LN: Without lead wire LO: Without connector	M: With lead wire (length 300 mm) MN: Without lead wire MO: Without connector	(10-SY5000, 7000 only) D: With connector DO: Without connector	WO: Without connector cable W□: With connector cable <sup>Note 1)</sup>

\* "LN", "MN" type: with 2 sockets.  
\* DIN terminal type "Y" conforming to EN-175301-803C (former DIN43650C) is also available.  
For details, refer to page 482.  
\* For connector cable of M8 connector, refer to page 490.  
Note 1) Please enter cable length in □ with reference to page 491.

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

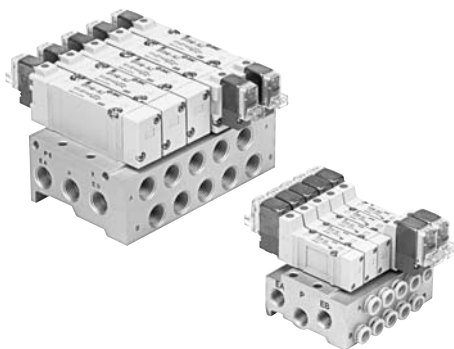
Filter, Pressure control equipment

Fittings &amp; Tubing

Air preparation equipment

Pressure switch

Clean gas filter



## Manifold Specifications

Model		10-SS5Y3-41	10-SS5Y3-42	10-SS5Y5-41	10-SS5Y5-42	10-SS5Y7-42
Applicable valve		10-SY3□40		10-SY5□40		10-SY7□40
Manifold type		Single base / B mount				
P(SUP)/R(EXH)		Common SUP, Common EXH				
Stations		2 to 20 stations <small>Note 1)</small>				
A, B port piping specifications	Location	Base				
	Direction	Side				
Port size	P, EA, EB port	1/8		1/4		1/4
	A, B port	M5 x 0.8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C10 (One-touch fitting for ø10)
Manifold base weight W (g) n: Stations		W = 30n + 50	W = 37n + 63	W = 61n + 101	W = 79n + 127	W = 100n + 151



Note 1) For more than 10 stations (more than 5 stations in the case of 10-SS5Y7), supply pressure to P port on both sides and exhaust from EA and EB port on both sides.

Note 2) Refer to "Manifold Option" on page 458.

## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv
10-SS5Y3-41	1/8	C6	0.75	0.19	0.18	0.81	0.23	0.20
10-SS5Y3-42	1/8	C6	0.75	0.20	0.18	0.82	0.20	0.20
10-SS5Y5-41	1/4	C8	1.8	0.23	0.44	1.9	0.16	0.45
10-SS5Y5-42	1/4	C8	1.9	0.20	0.46	1.9	0.12	0.43
10-SS5Y7-42	1/4	C10	3.0	0.25	0.75	3.0	0.12	0.66



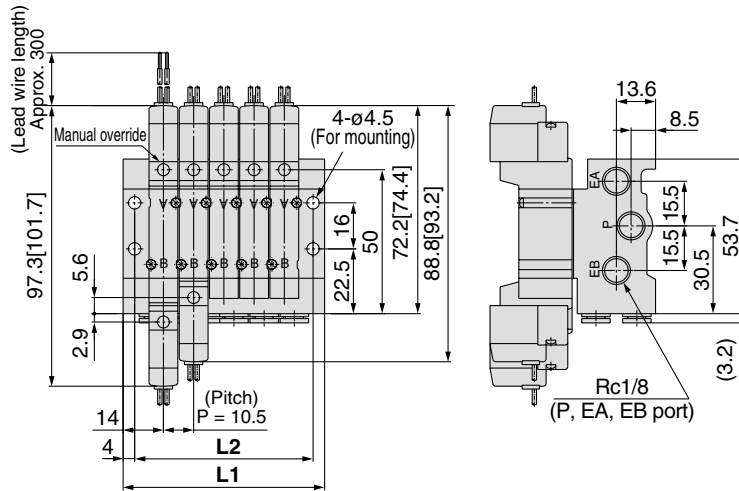
Note) The value is for manifold base with 5 stations and individually operated 2 position type.



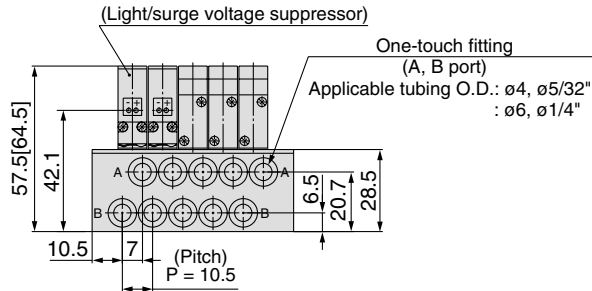
10-SY3000: 10-SS5Y3-41- Stations -M5, <sup>C4,N3</sup><sub>C6,N7</sub>

Note) [ ]: AC

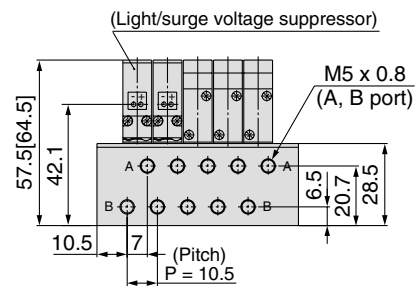
## Grommet (G)



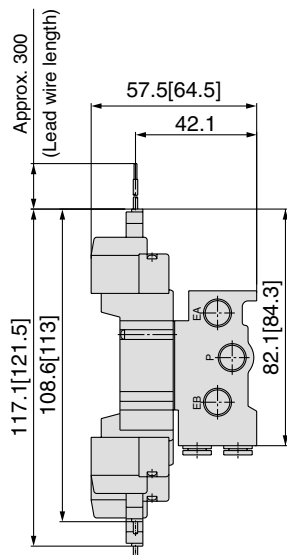
(Station 1) ----- (Station n)



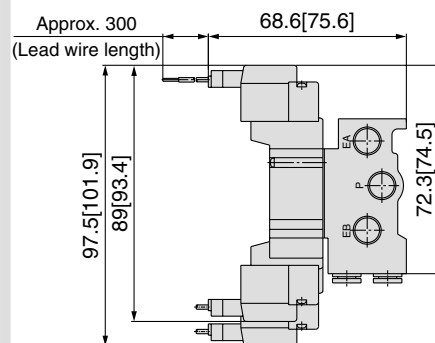
## M5



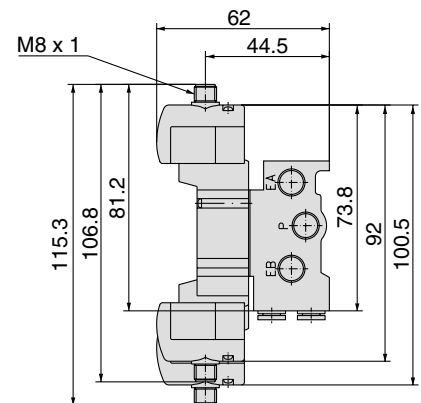
## L plug connector (L)



## M plug connector (M)



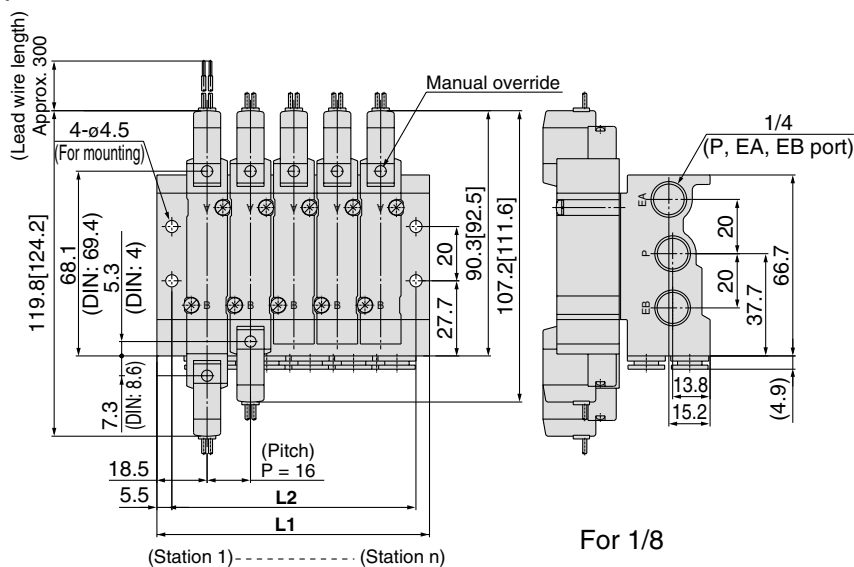
## M8 connector (WO)



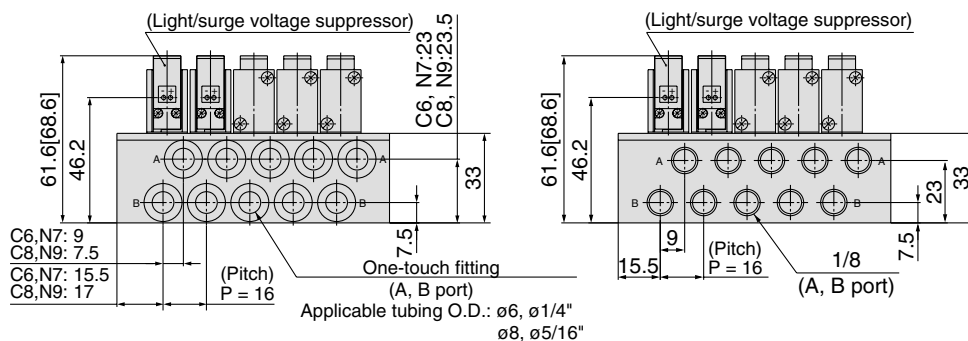
Note) Refer to page 490 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

**Grommet (G)**



For 1/8

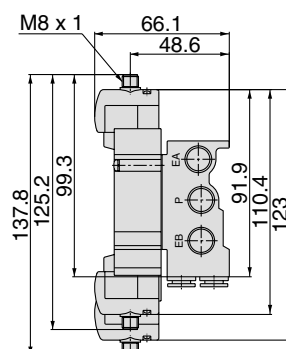
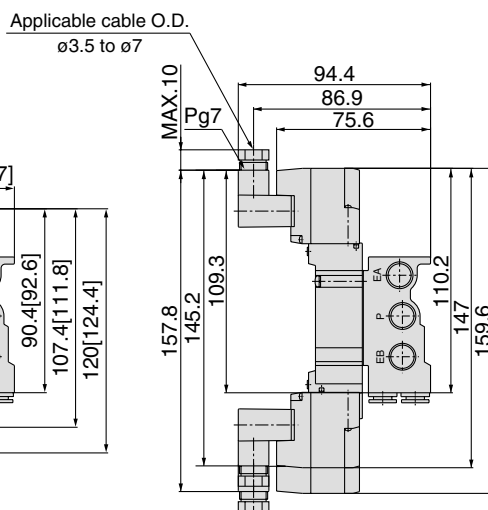
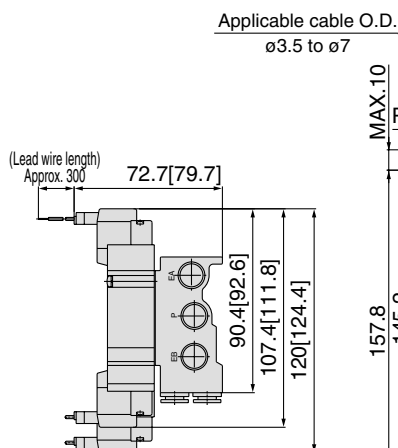
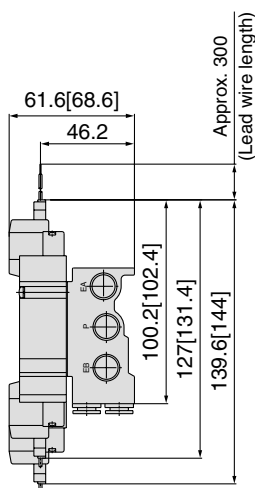


**L plug connector (L)**

**M plug connector (M)**

**DIN terminal (D)**

**M8 connector (WO)**



Note) Refer to page 490 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	52.5	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5	308.5	324.5	340.5
<b>L2</b>	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330

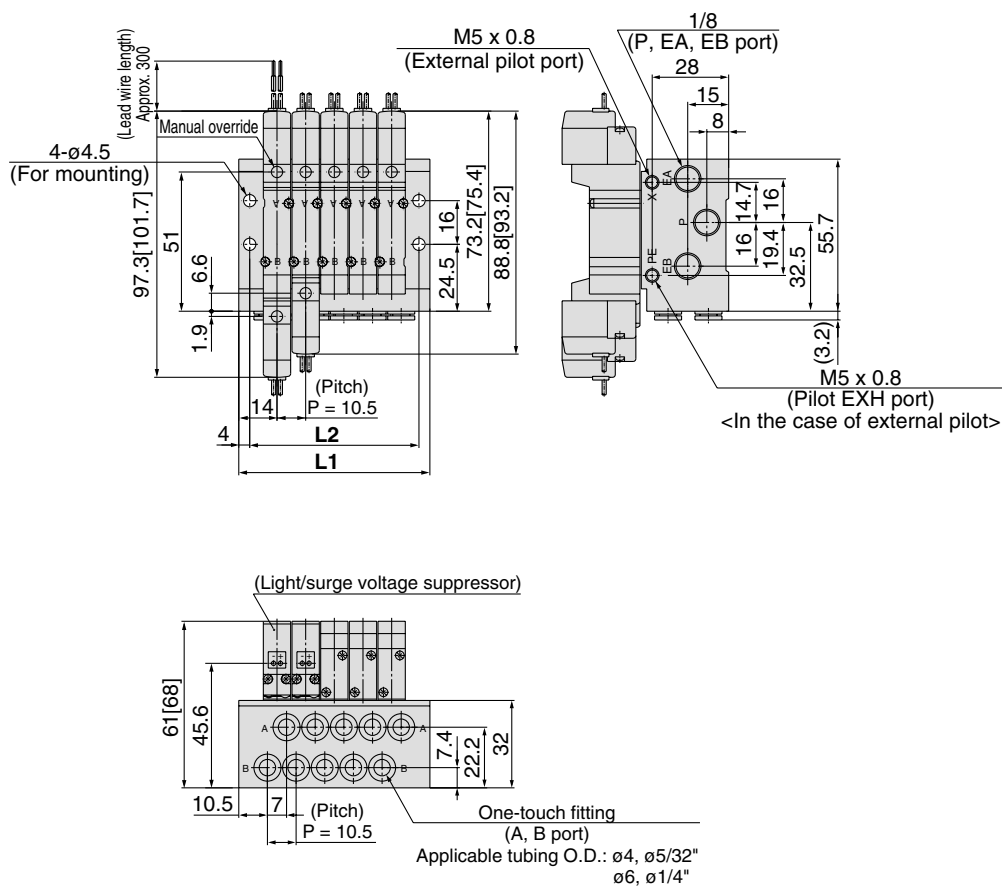
## 10-SY3000:10-SS5Y3-42- Stations

C4,N3  
C6,N7

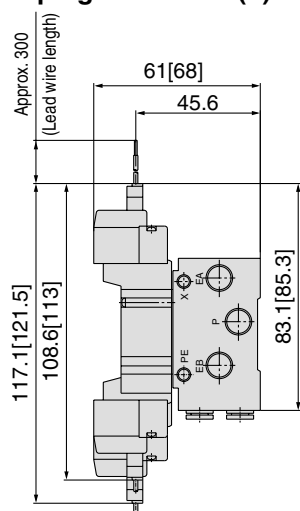


Note) [ ]: AC

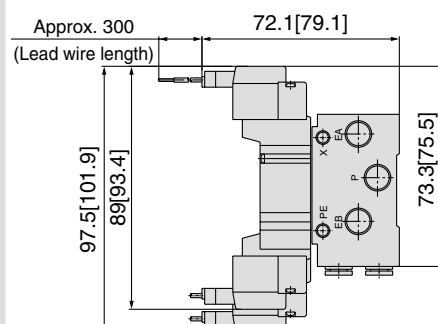
**Grommet (G)**



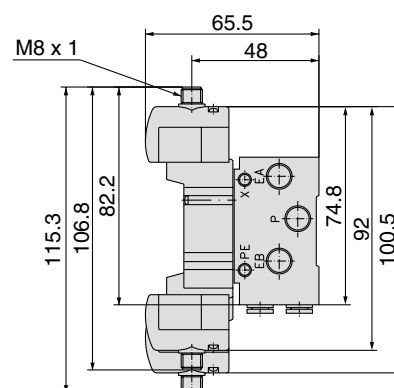
### L plug connector (L)



**M plug connector (M)**



### M8 connector (WO)

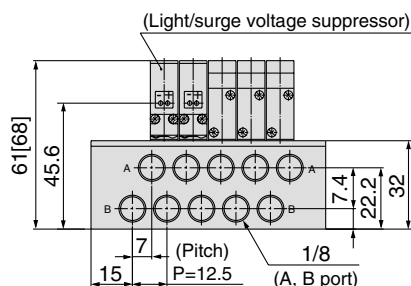
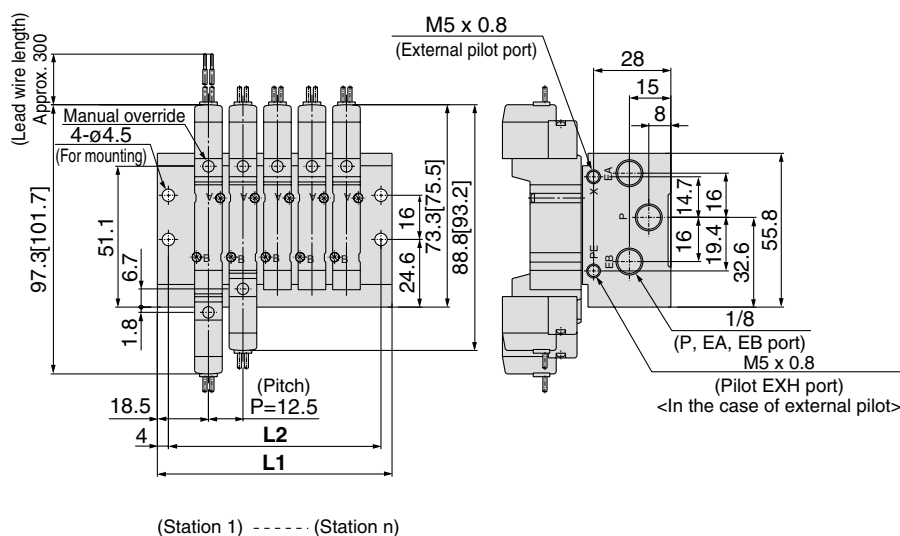


Note) Refer to page 490 for dimensions of connector types.

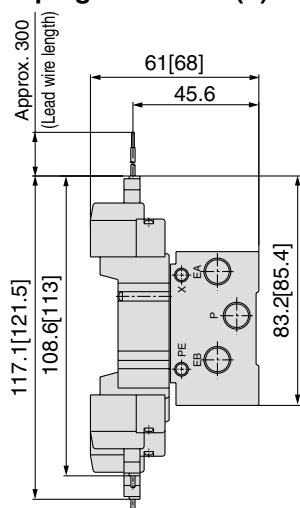
Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
<b>L2</b>	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5



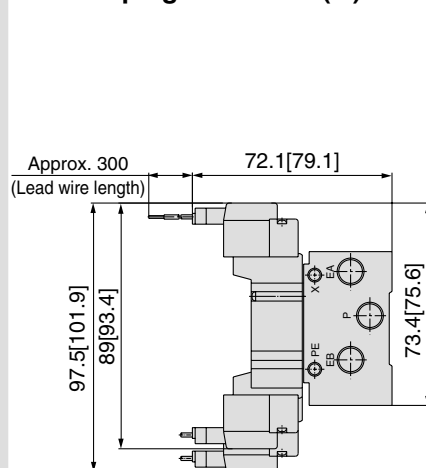
**Grommet (G)**



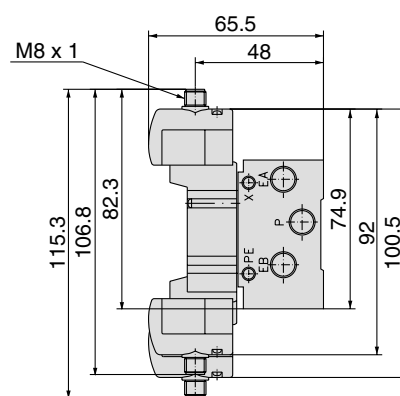
**L plug connector (L)**



**M plug connector (M)**



**M8 connector (WO)**

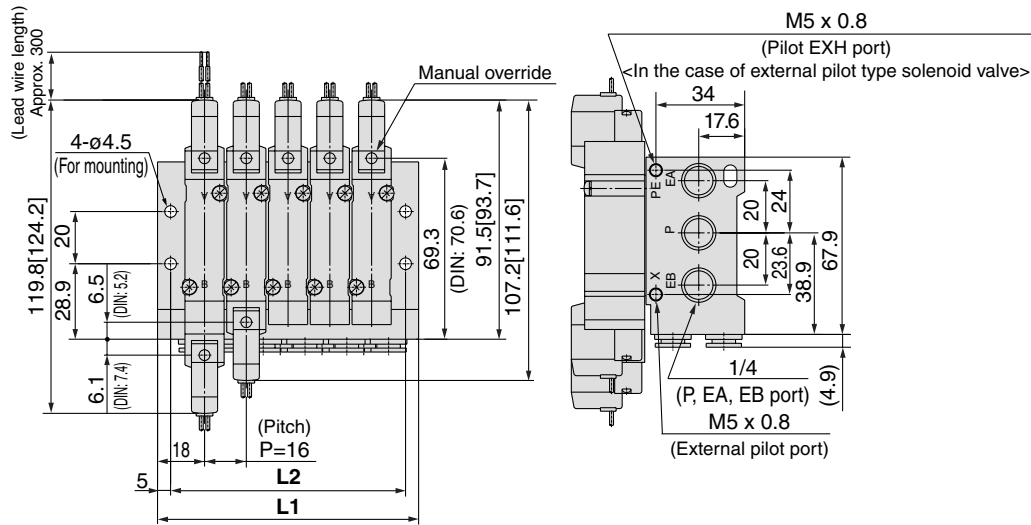


Note) Refer to page 490 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	47.5	60	72.5	85	97.5	110	122.5	135	147.5	160	172.5	185	197.5	210	222.5	235	247.5	260	272.5
<b>L2</b>	39.5	52	64.5	77	89.5	102	114.5	127	139.5	152	164.5	177	189.5	202	214.5	227	239.5	252	264.5

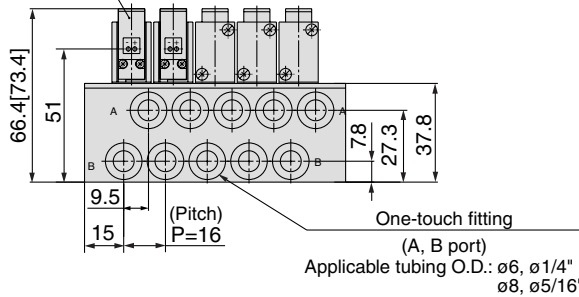
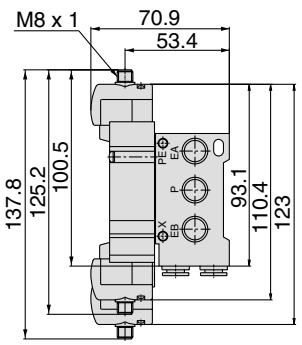
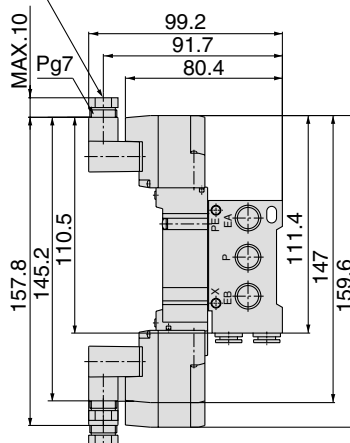
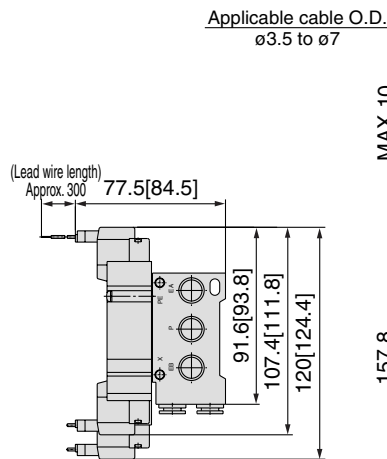
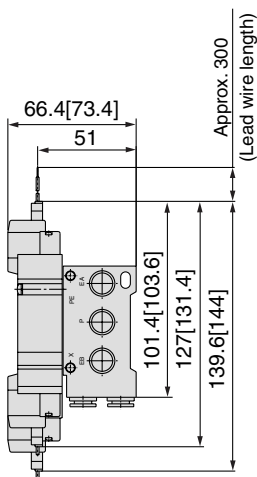
**10-SY5000: 10-SS5Y5-42- Stations** - C4,N3  
C6,N7

Note) [ ]: AC

**Grommet (G)**

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

(Light/surge voltage suppressor)

**L plug connector (L)****M plug connector (M)****DIN terminal (D)****M8 connector (WO)**

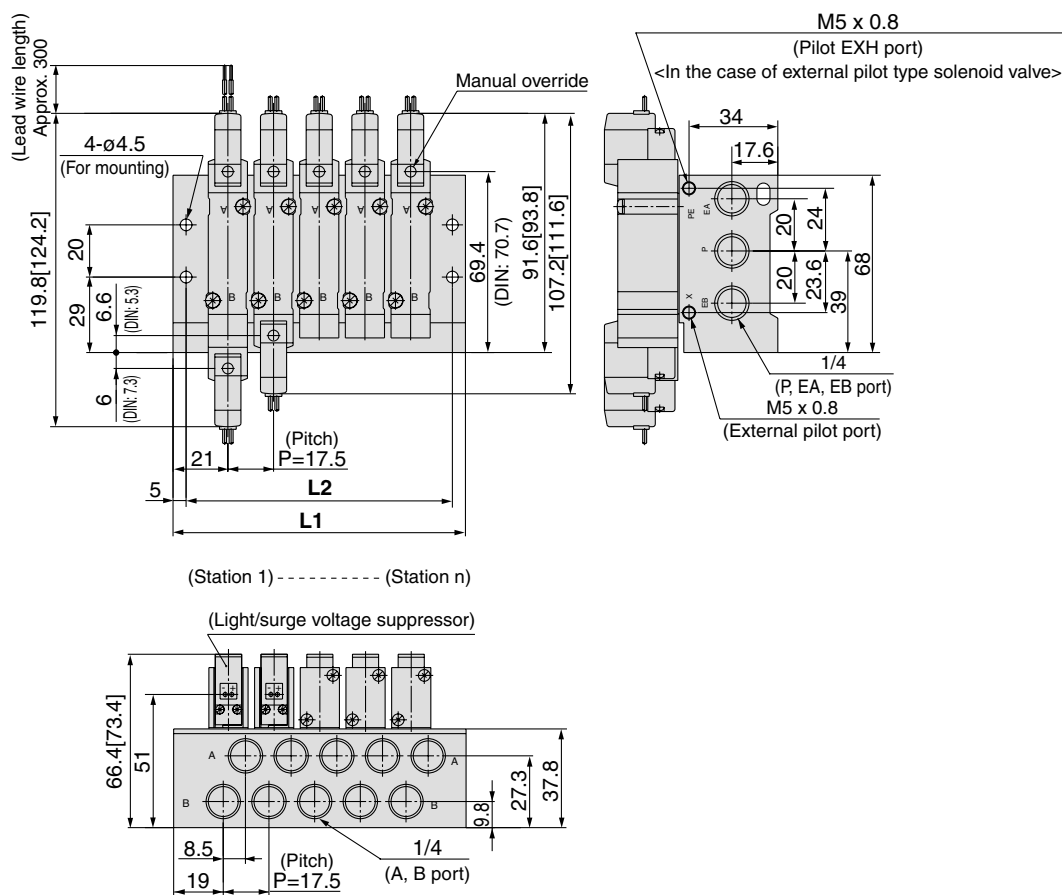
Note) Refer to page 490 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340
L2	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330

**10-SY5000: 10-SS5Y5-42- Stations -02**

Note) [ ] : AC

**Grommet (G)**

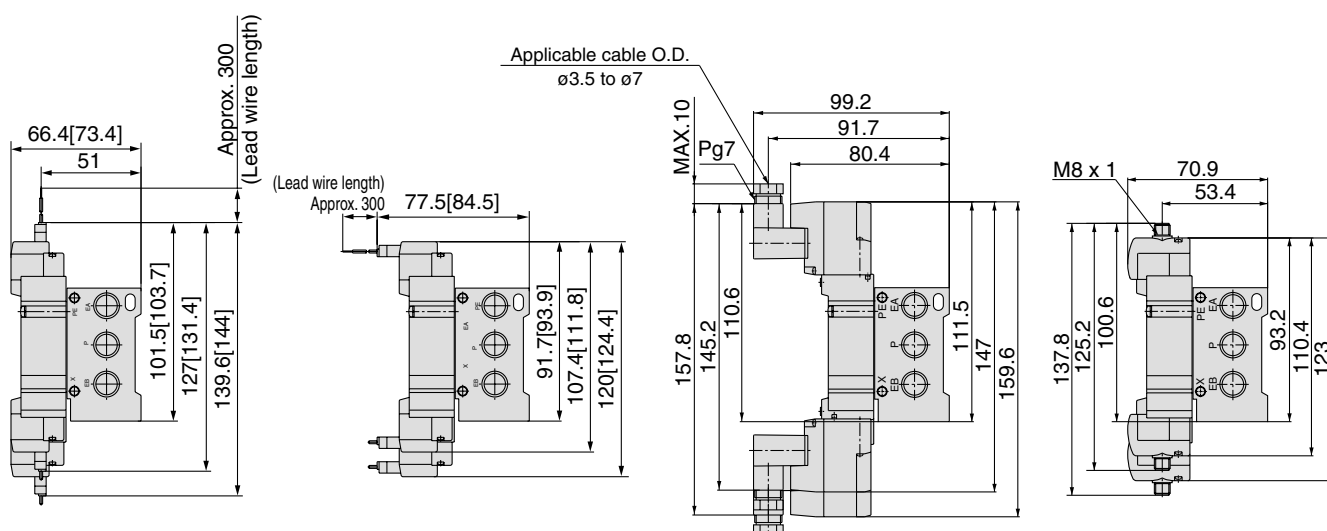


**L plug connector (L)**

**M plug connector (M)**

**DIN terminal (D)**

**M8 Connector (WO)**

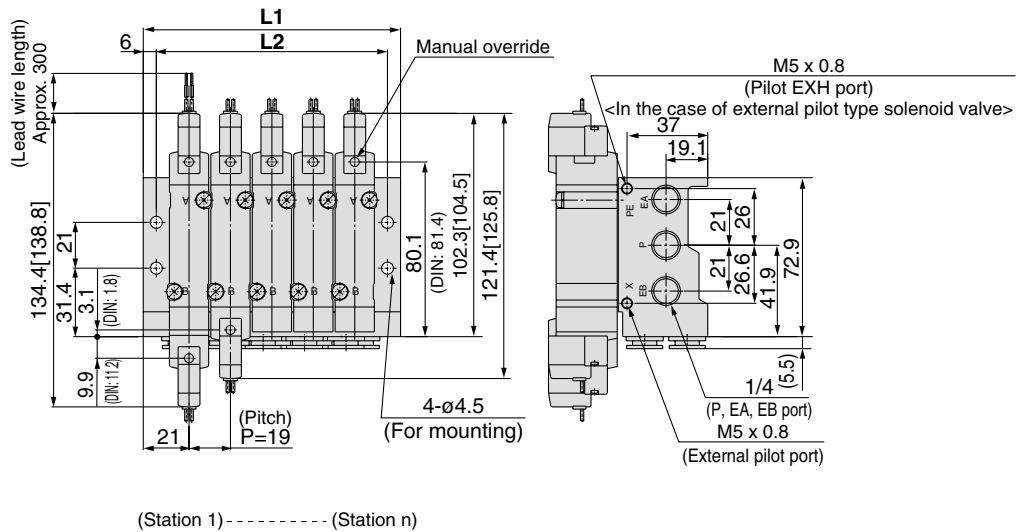


Note) Refer to page 490 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	59.5	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5	252	269.5	287	304.5	322	339.5	357	374.5
<b>L2</b>	49.5	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5	242	259.5	277	294.5	312	329.5	347	364.5

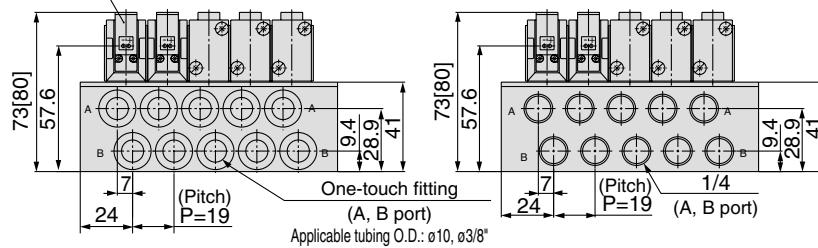
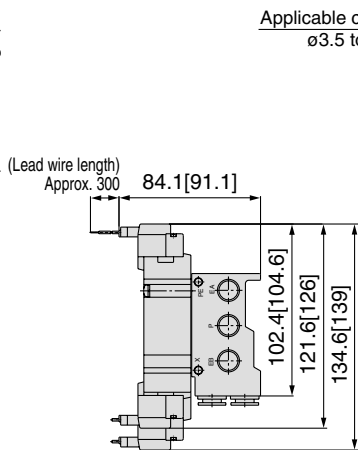
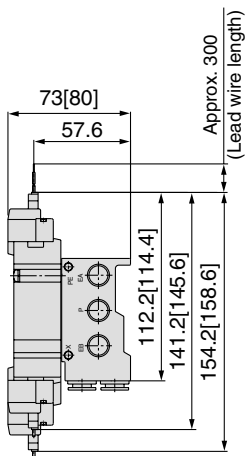
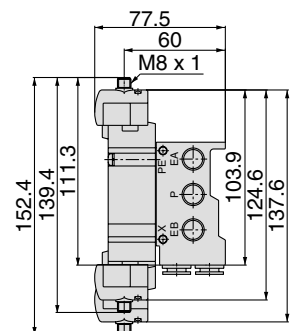
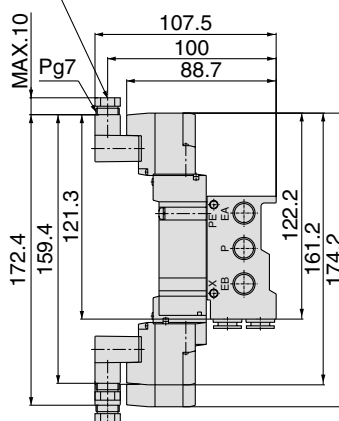
**10-SY7000: 10-SS5Y7-42- Stations -02, C10, N11**

Note) [ ] : AC

**Grommet (G)**

(Light/surge voltage suppressor)

For 1/4

**L plug connector (L)****M plug connector (M)****DIN terminal (D)****M8 connector (WO)**Applicable cable O.D.  
 $\phi$ 3.5 to  $\phi$ 7

Note) Refer to page 490 for dimensions of connector types.

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

# Series 10-SY9000

Type **43**

Base mounted manifold  
Stacking type / Individual wiring

## How to Order Manifold

10-SS5Y9-43-05U...C8

**Clean series**

**Manifold series**

9	10-SY9000
---	-----------

**Valve stations**

Symbol	Stations
02	2 stations
...	...
20	20 stations

\* This also includes the number of blanking plate assemblies.

**P, R port outlets**

Symbol	Port outlet	Applicable number of stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 20 stations

**SUP/EXH block assembly specifications**

Symbol	Specifications
Nil	Standard/Internal pilot
R	External pilot

**Thread type**

Symbol	Thread type
Nil	Rc
F	G
N	NPT
T	NPTF

**Option**

Symbol	Mounting
Nil	Direct mounting
D	DIN rail mounting (with DIN rail)
DO	DIN rail mounting (without DIN rail)
D*	When a DIN rail longer than the specified stations is required, specify the station number in asterisk part.

**A, B port size**

**Thread piping**

Symbol	Port size
02	1/4
03	3/8

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

Symbol	Port size
C8	One-touch fitting for ø8
C10	One-touch fitting for ø10
C12	One-touch fitting for ø12
M	Mixed

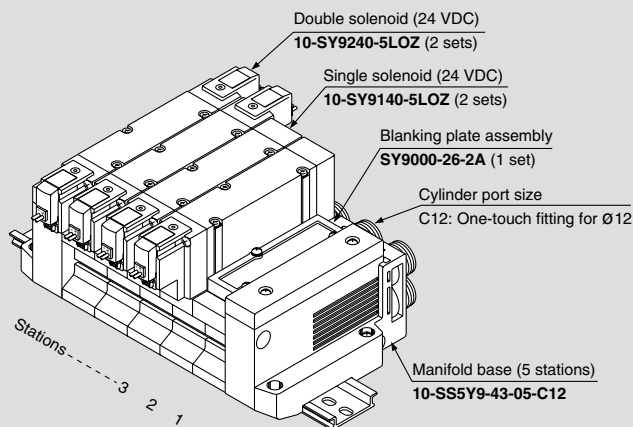
**One-touch fitting (Inch size)**

Symbol	Port size
N9	One-touch fitting for ø5/16"
N11	One-touch fitting for ø3/8"
M	Mixed

\* In the case of mixed specifications (M), indicate separately on the manifold specification sheet.

## How to Order Manifold Assembly (Example)

### Ordering example



10-SS5Y9-43-05B-C12.....1 set (Type 43, 5 station manifold base part no.)  
 \* SY9000-26-2A .....1 set (Blanking plate assembly part no.)  
 \* 10-SY9140-5LOZ.....2 sets (Single solenoid part no.)  
 \* 10-SY9240-5LOZ.....2 sets (Double solenoid part no.)

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

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



## How to Order Valves

10 — SY 9 2 40 — — 5 L — —

• Clean series

Series

9	10-SY9000
---	-----------

Type of actuation

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

Pilot type

Nil	Internal pilot
R	External pilot

Coil specifications

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

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

Rated voltage

For DC

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

For AC (50/60 Hz)

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

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

• Manual override

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

• 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 "R" and "U", only DC voltage is 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.

• Electrical entry

24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC			24, 12 VDC 100, 110 VAC 200, 220 VAC	24, 12 VDC 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)	D: With connector	WO: Without connector cable
H: Lead wire length 600 mm	LN: Without lead wire	MN: Without lead wire	DO: Without connector	W□: With connector cable <sup>Note 1)</sup>
	LO: Without connector	MO: Without connector		

\* "LN", "MN" type: with 2 sockets.  
\* DIN terminal type "Y" conforming to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 482.  
\* For connector cable of M8 connector, refer to page 490.  
Note 1) Be sure to enter the symbol of cable length with reference to page 491.

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

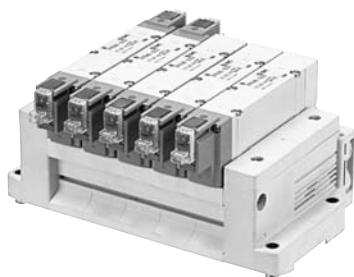
Filter, Pressure control equipment

Fittings & Tubing

Air preparation equipment

Pressure switch

Clean gas filter



## Manifold Specifications

Model		10-SS5Y9-43
Applicable valve		10-SY9□40
Manifold type		Stacking type
P(SUP)/R(EXH)		Common SUP, Common EXH
Valve stations		2 to 20 stations <sup>Note 1)</sup>
A, B port piping specifications	Location	Base
	Direction	Side
Port size	P, EA, EB port	C12 (One-touch fitting for ø12)
	A, B port	1/4
		3/8
		C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)
Manifold base weight W (g) n: Stations		W = 107n + 330



Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA and EB port on both sides.

Note 2) Refer to "Manifold Option" on page 458.


## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv
<b>10-SS5Y9-43</b>	C12	C12	6.4	0.29	1.6	7.3	0.29	1.8

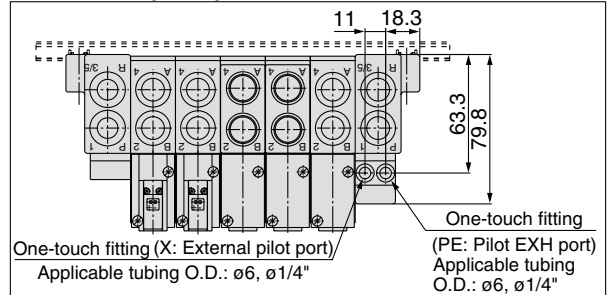
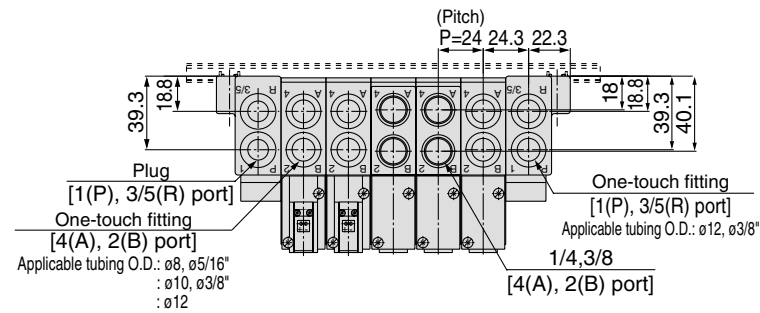
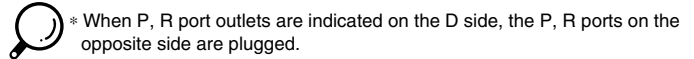


Note) The value is for manifold base with 5 stations and individually operated 2 position type.

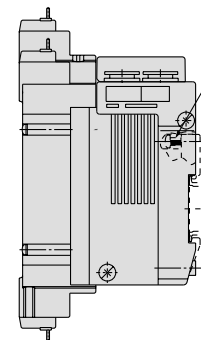
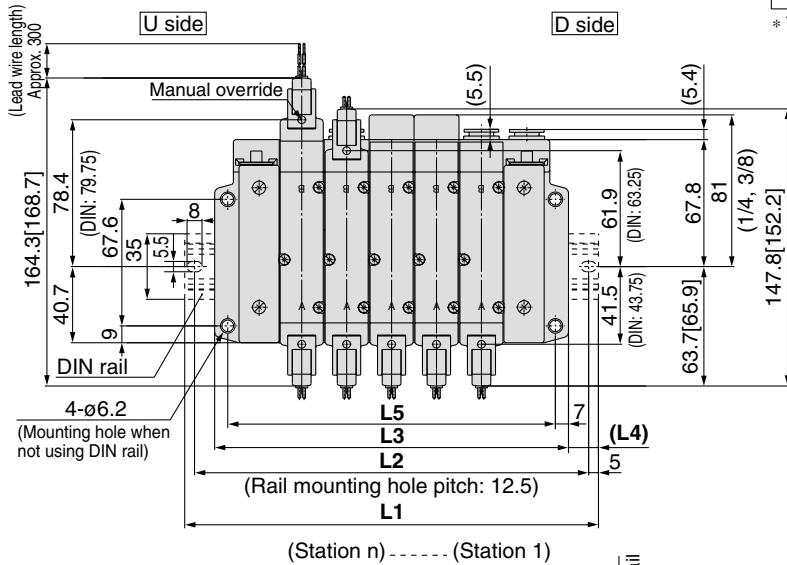
**10-SY9000:10-SS5Y9-43- Stations D-  <sup>C8,N9</sup><sub>02,</sub> <sup>C10,N11</sup><sub>03,</sub> <sup>C12</sup>  (-D)**

 Note) [ ]: AC

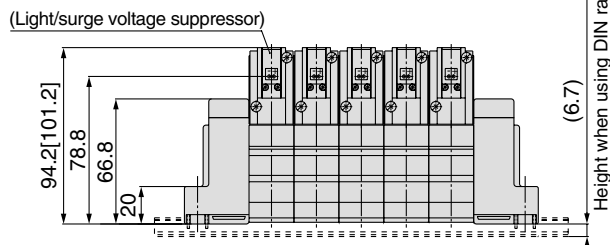
### Grommet (G)



\* The external pilot's extracting position is in the D side.



DIN rail holding screw  
 <When DIN rail is used>  
 Tightening torque: 0.55 to 0.65N·m



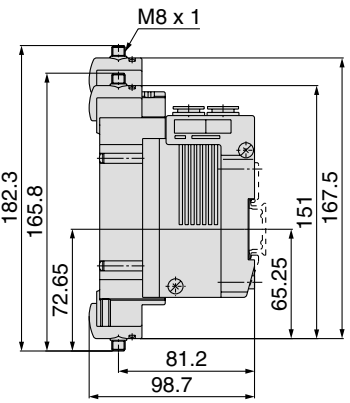
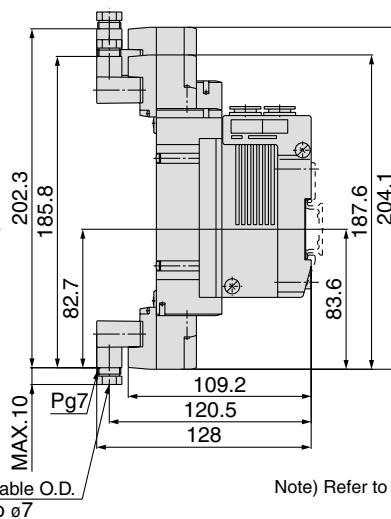
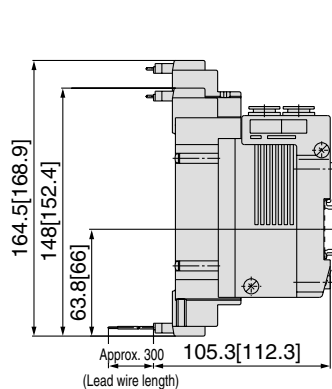
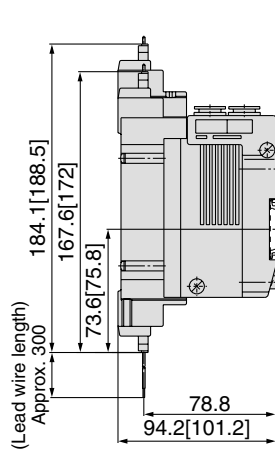
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
<b>L1</b>	148	173	198	223	248	260.5	285.5	310.5	335.5
<b>L2</b>	137.5	162.5	187.5	212.5	237.5	250	275	300	325
<b>L3</b>	117	141	165	189	213	237	261	285	309
<b>L4</b>	15.5	16	16.5	17	17.5	12	12.5	13	13.5
<b>L5</b>	103	127	151	175	199	223	247	271	295

### L plug connector (L)

**M plug connector (M)**

**DIN terminal (D)**

### M8 connector (WO)

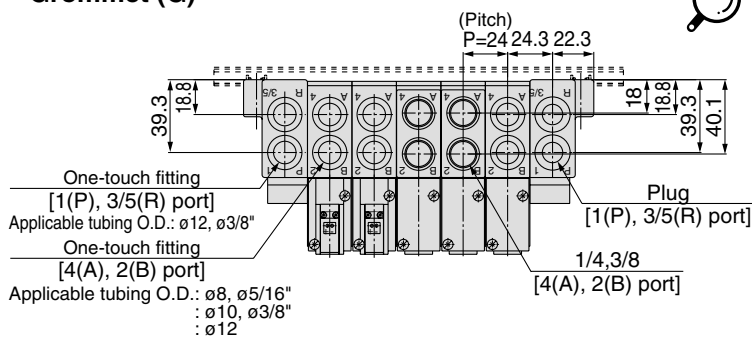


Note) Refer to page 490 for dimensions of connector types.

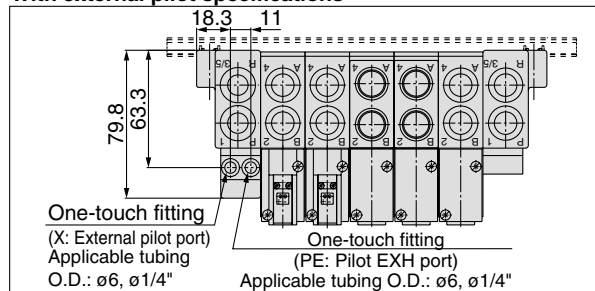


Note) [ ] : AC

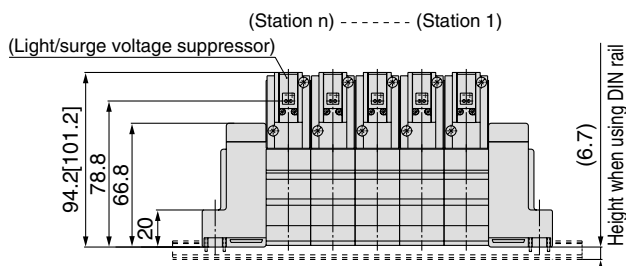
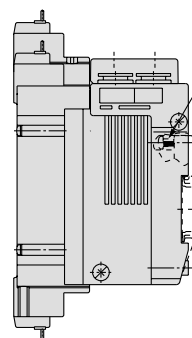
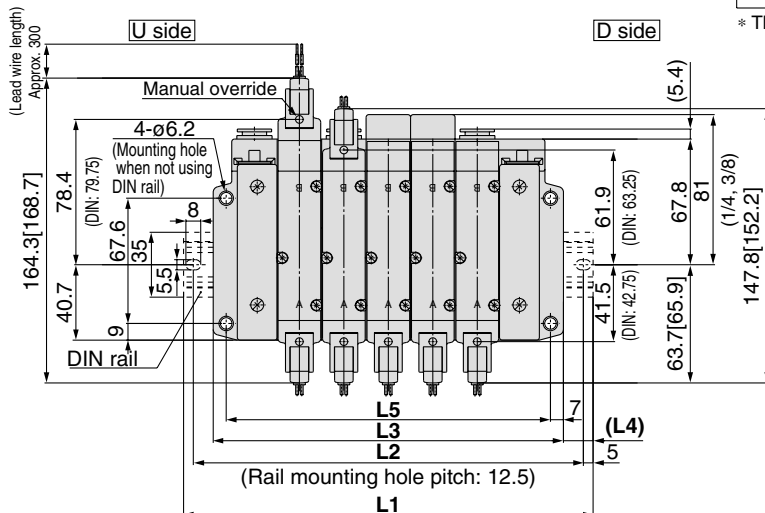
### Grommet (G)



### With external pilot specifications

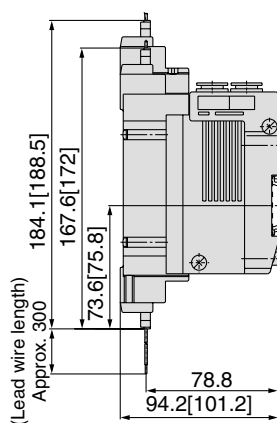


\* The external pilot's extracting position is in the U side.

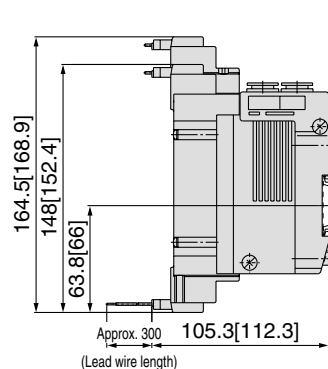


Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	198	223	248	260.5	285.5	310.5	335.5
L2	137.5	162.5	187.5	212.5	237.5	250	275	300	325
L3	117	141	165	189	213	237	261	285	309
L4	15.5	16	16.5	17	17.5	12	12.5	13	13.5
L5	103	127	151	175	199	223	247	271	295

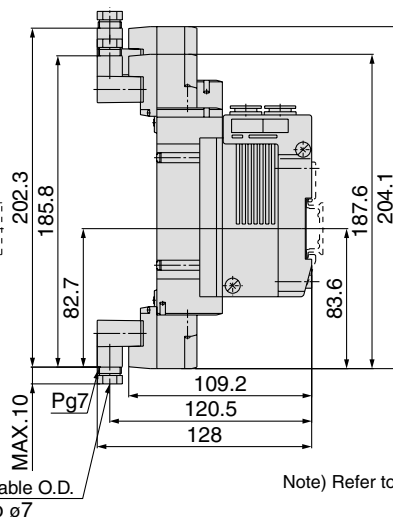
### L plug connector (L)



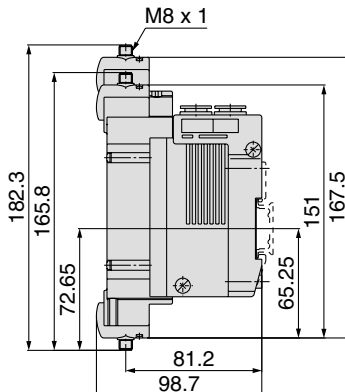
### M plug connector (M)



### DIN terminal (D)



### M8 connector (WO)

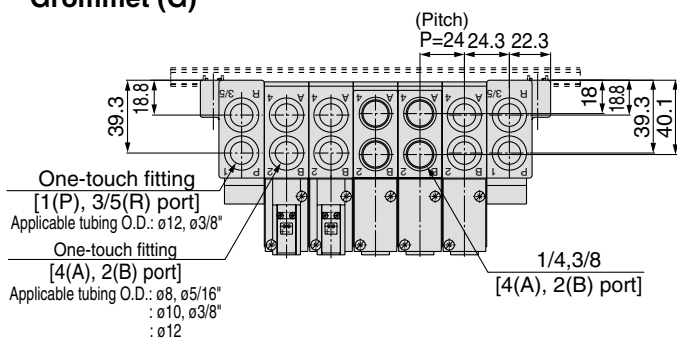


Note) Refer to page 490 for dimensions of connector types.

10-SY9000:10-SS5Y9-43- Stations B- 02, C8, N9  
03, C10, N11  
C12 (-D)

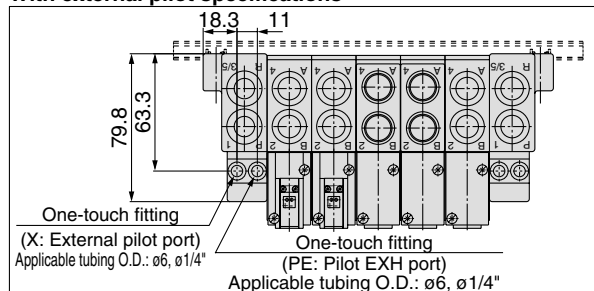
Note) [ ] : AC

**Grommet (G)**

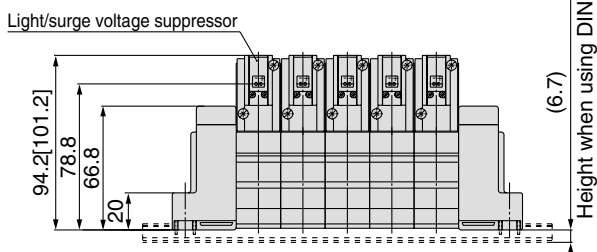
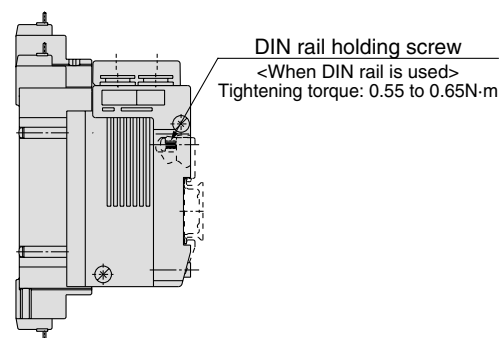
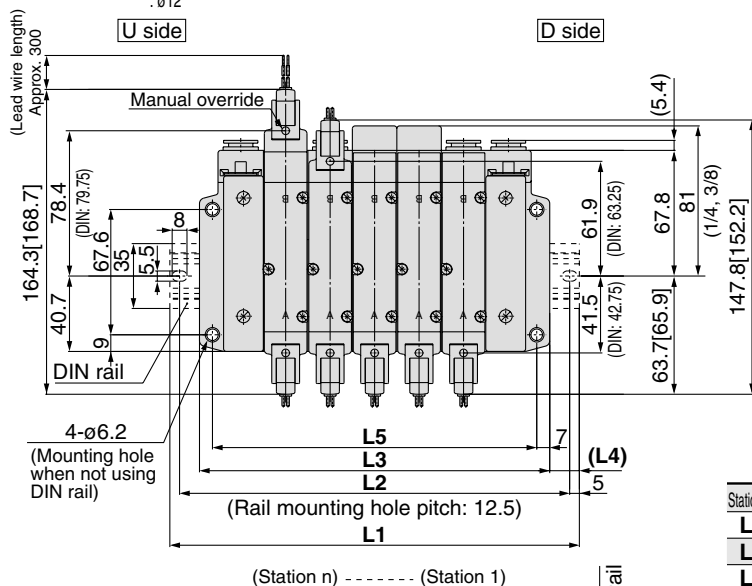


\* When P, R port outlets are indicated on the B side, the P, R ports on the both sides are in the open state.

**With external pilot specifications**



\* The external pilot's extracting position is in the B side (both sides).



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	198	223	248	260.5	285.5	310.5	335.5
L2	137.5	162.5	187.5	212.5	237.5	250	275	300	325
L3	117	141	165	189	213	237	261	285	309
L4	15.5	16	16.5	17	17.5	12	12.5	13	13.5
L5	103	127	151	175	199	223	247	271	295

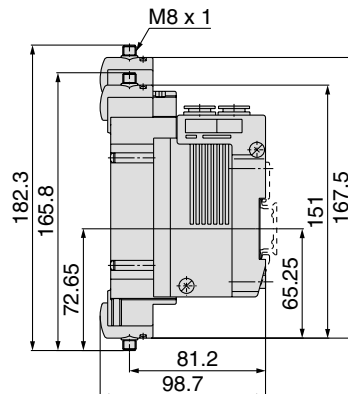
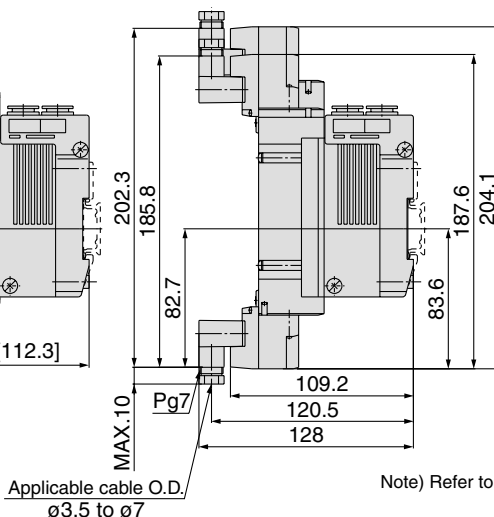
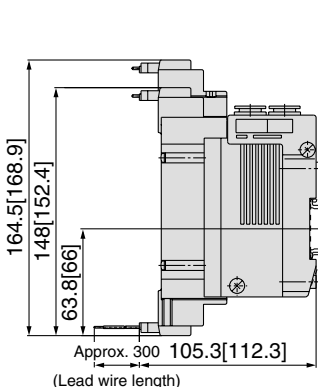
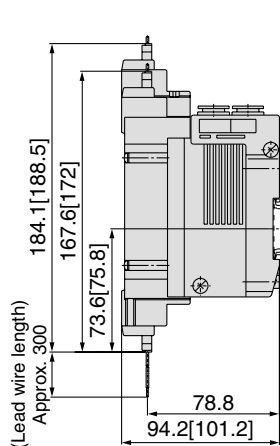
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5	573
L2	350	375	400	425	450	475	500	525	550	562.5
L3	333	357	381	405	429	453	477	501	525	549
L4	14	14.5	15	15.5	16	16.5	17	17.5	18	12
L5	319	343	367	391	415	439	463	487	511	535

**L plug connector (L)**

**M plug connector (M)**

**DIN terminal (D)**

**M8 connector (WO)**



Note) Refer to page 490 for dimensions of connector types.

# Series 10-SY3000/5000/7000

Type **41P**

Type **42P**

Base mounted manifold  
Bar stock type / Flat ribbon cable

## How to Order Manifold

### Type 41P / Compact type

**10—SS5Y 5—41P—05—C8**

- Clean series**
- Manifold series**

3	10-SY3000
5	10-SY5000
- Stations**

03	3 stations
12	12 stations

\* 10-SS5Y3 has 4 to 12 stations.
- Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

\* Except M5
- A, B port size**
- Thread piping**

Symbol	Port size	Applicable series
M5	M5 x 0.8	10-SY3000
01	1/8	10-SY5000

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

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	10-SY3000
C6	One-touch fitting for ø6	10-SY5000
C8	One-touch fitting for ø8	10-SY5000

#### One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø 5/32"	10-SY3000
N7	One-touch fitting for ø 1/4"	10-SY3000
N7	One-touch fitting for ø 1/4"	10-SY5000
N9	One-touch fitting for ø 5/16"	10-SY5000

### 42P Type 42P / Common external pilot type

**10—SS5Y 5—42P—05—C8**

- Clean series**
- Manifold series**

3	10-SY3000
5	10-SY5000
7	10-SY7000
- Stations**

03	3 stations
12	12 stations

\* 4 to 12 stations in the case of 10-SS5Y3.
- Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF
- A, B port size**
- Thread piping**

Symbol	Port size	Applicable series
01	1/8	10-SY3000
02	1/4	10-SY5000
02	1/4	10-SY7000

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

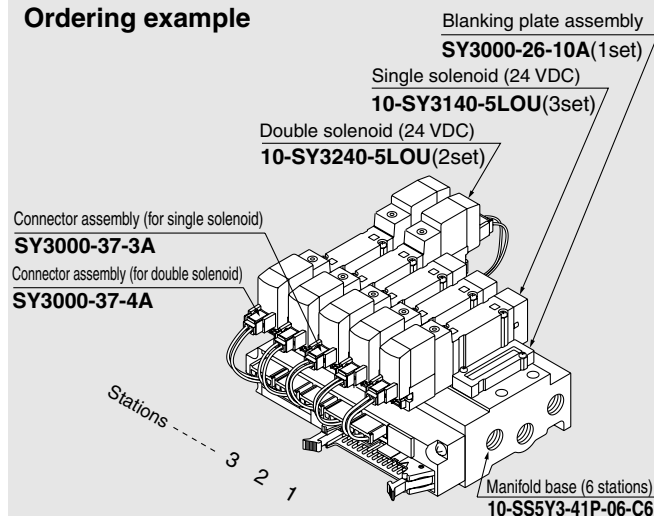
Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	10-SY3000
C6	One-touch fitting for ø6	10-SY5000
C8	One-touch fitting for ø8	10-SY5000
C10	One-touch fitting for ø10	10-SY7000

#### One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø 5/32"	10-SY3000
N7	One-touch fitting for ø 1/4"	10-SY3000
N7	One-touch fitting for ø 1/4"	10-SY5000
N9	One-touch fitting for ø 5/16"	10-SY5000
N11	One-touch fitting for ø 3/8"	10-SY7000

## How to Order Manifold Assembly (Example)

### Ordering example

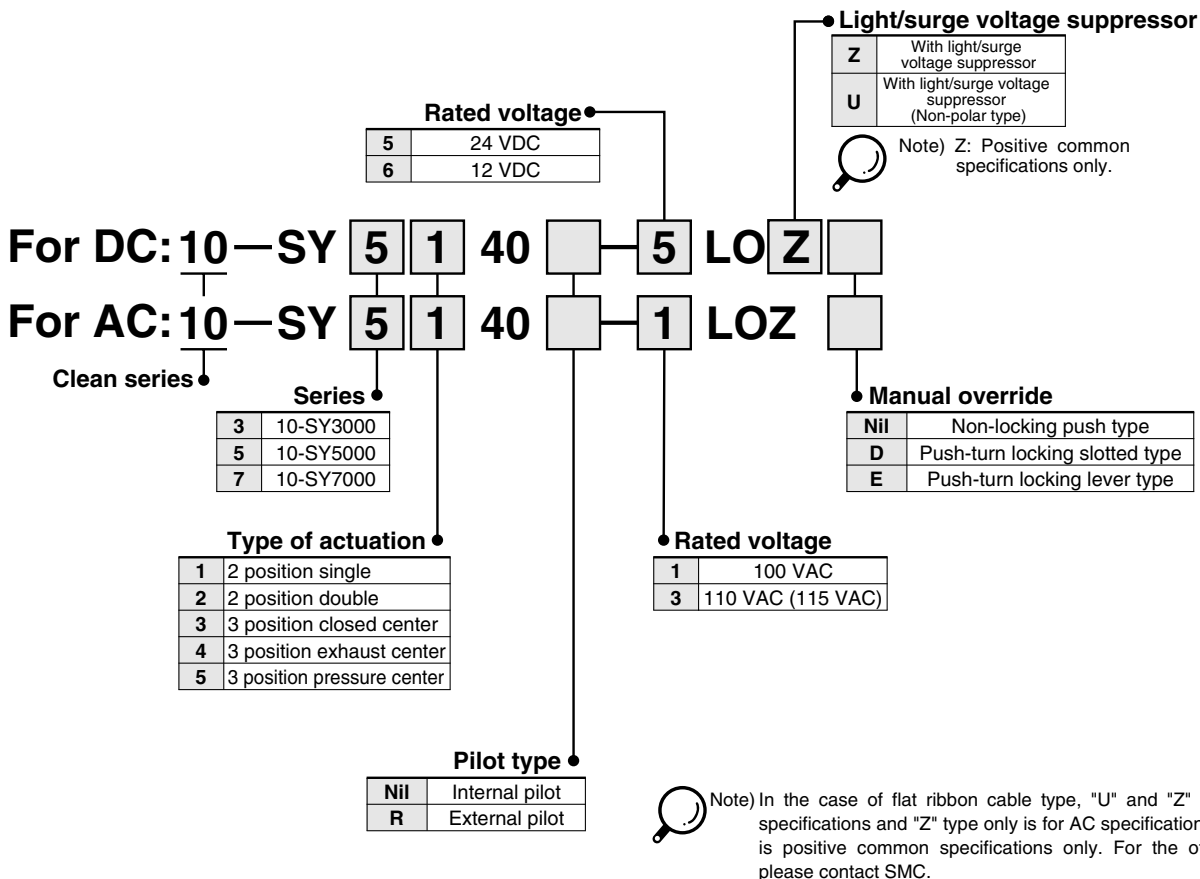


**10-SS5Y3-41P-06-C6** ..1set (Type 41P, 6 station manifold base part no.)  
 \* **SY3000-26-10A** .....1 set (Blanking plate assembly part No.)  
 \* **10-SY3140-5LOU** .....3sets (Single solenoid part no.)  
 \* **10-SY3240-5LOU** .....2 sets (Double solenoid part no.)  
 \* **SY3000-37-3A** .....3 sets (Connector assembly part no.)  
 \* **SY3000-37-4A** .....2 sets (Connector assembly part No.)

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

Add the valve and option part number under the manifold base part no. In the case of complex arrangement, specify them on the manifold specification sheet.

## How to Order Valves



## How to Order Connector Assembly

## For 12, 24 VDC

Specifications	For 10-SY3000	For 10-SY5000/7000
For single solenoid	SY3000-37-3A	SY5000-37-3A
Double solenoid 3 position	SY3000-37-4A	SY5000-37-4A
Single with spacer assembly	SY5000-37-3A	SY5000-37-5A
Double, 3 position with spacer assembly	SY3000-37-6A	SY5000-37-6A

## For 100 VAC

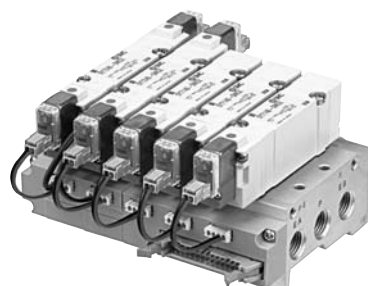
Specifications	For 10-SY3000	For 10-SY5000/7000
For single solenoid	SY3000-37-32A	SY5000-37-15A
Double solenoid 3 position type	SY3000-37-33A	SY5000-37-16A
Single with spacer assembly	SY5000-37-15A	SY5000-37-17A
Double, 3 position with spacer assembly	SY3000-37-34A	SY5000-37-18A

## 110 VAC (115 VAC)

Specifications	For 10-SY3000	For 10-SY5000/7000
For single solenoid	SY3000-37-35A	SY5000-37-19A
Double solenoid 3 position type	SY3000-37-36A	SY5000-37-20A
Single with spacer assembly	SY5000-37-19A	SY5000-37-21A
Double, 3 position with spacer assembly	SY3000-37-37A	SY5000-37-22A

- 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	10-SS5Y3-41P	10-SS5Y3-42P	10-SS5Y5-41P	10-SS5Y5-42P	10-SS5Y7-42P
Applicable valve	10-SY3□40		10-SY5□40		10-SY7□40
Manifold type	Single base / B mount				
P(SUP) / R(EXH)	Common SUP, Common EXH				
Valve stations	4 to 12 stations <sup>Note 1)</sup>		3 to 12 stations <sup>Note 1)</sup>		
A, B port Piping	Location		Base		
specifications	Direction		Side		
Port size	P, EA, EB port	1/8		1/4	
	A, B port	M5 x 0.8	1/8	1/8	1/4
		C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)
Manifold base weight W (g) n: Stations	W = 39n + 83	W = 48n + 99	W = 67n + 118	W = 88n + 151	W = 109n + 174
Applicable flat ribbon cable connector	Flat ribbon cable connector, Socket: 26 pins MIL type with strain relief, Conforming to MIL-C-83503				
Internal wiring	In common between +COM and -COM (Z type: +COM only)				
Rated voltage	12, 24 VDC 100, 110 VAC				

Note 1) For more than 10 stations (more than 5 stations in the case of 10-SS5Y7), supply pressure to P port on both sides and exhaust from EA and EB port on both sides.

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

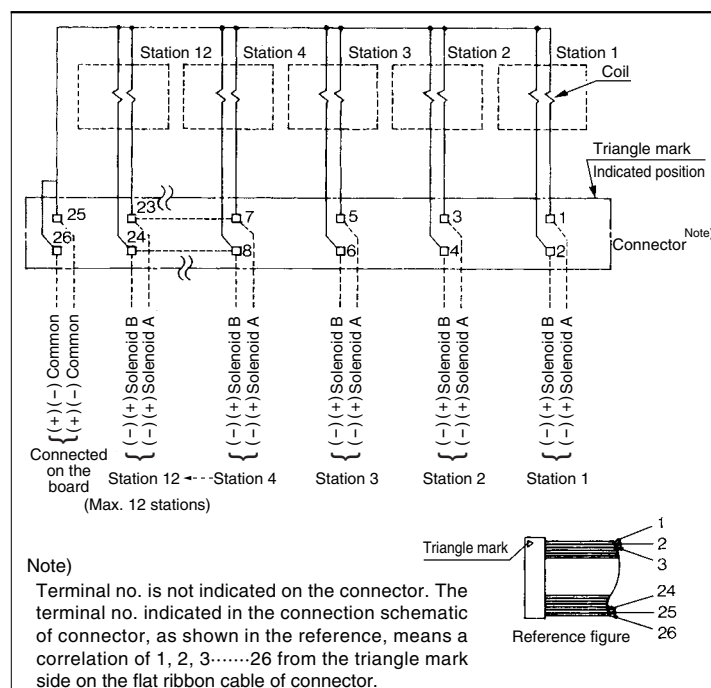
Note 3) Refer to "Manifold Option" on page 458.

## Flow Characteristics

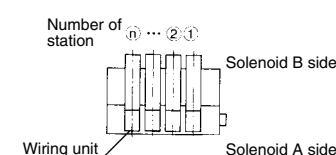
Model	Port size		Flow characteristics					
	1,5,3 (P,EA,EB)	4,2 (A,B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv
10-SS5Y3-41P	1/8	C6	0.75	0.19	0.18	0.81	0.23	0.20
10-SS5Y3-42P	1/8	C6	0.75	0.20	0.18	0.82	0.20	0.20
10-SS5Y5-41P	1/4	C8	1.8	0.23	0.44	1.9	0.16	0.45
10-SS5Y5-42P	1/4	C8	1.9	0.20	0.46	1.9	0.12	0.43
10-SS5Y7-42P	1/4	C10	3.0	0.25	0.75	3.0	0.12	0.66

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

## Internal wiring of manifold (Non-polar type)



- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12.
- For more stations, please contact SMC.



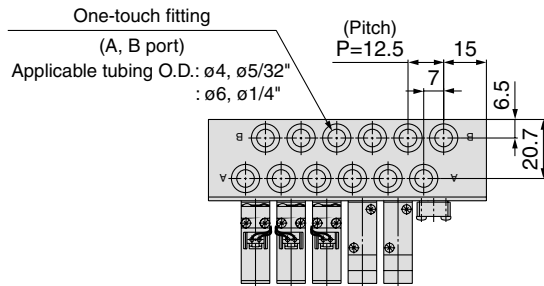
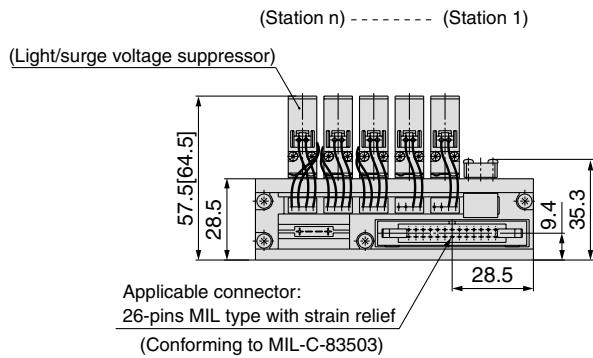
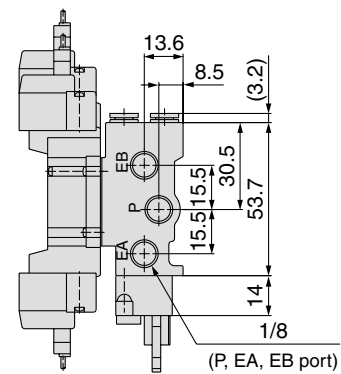
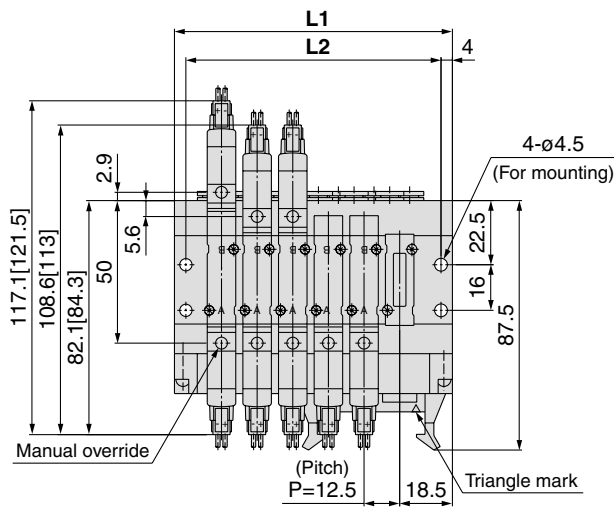
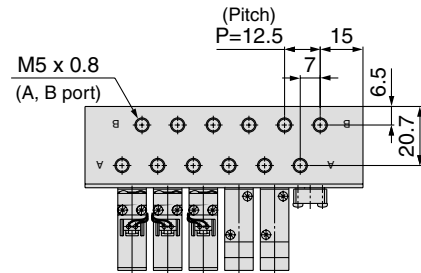
## Caution

- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.



10-SY3000: 10-SS5Y3-41P- Stations -M5, C4,N3  
C6,N7

(Note) [ ] : AC

**M5 x 0.8**

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

Air cylinder

Rotary actuator

Air gripper

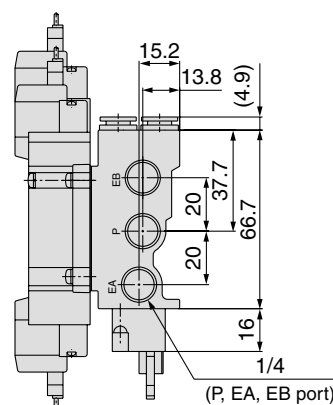
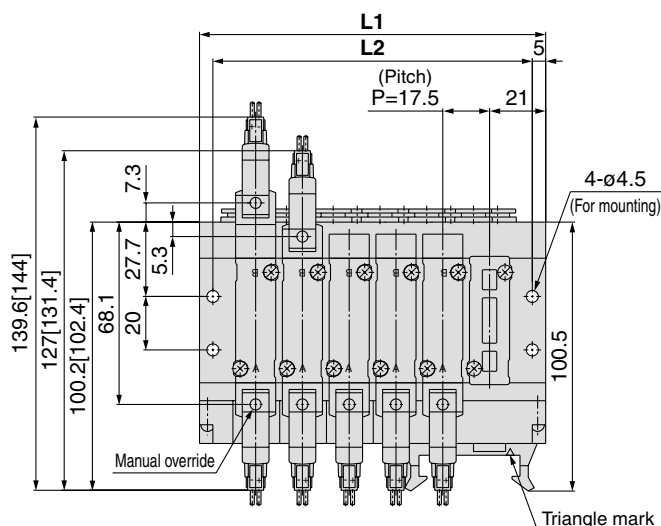
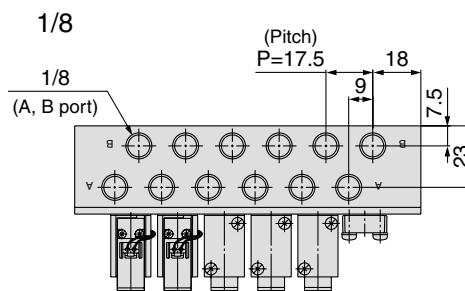
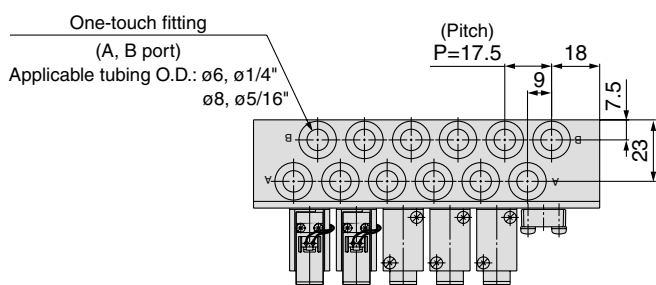
Directional control  
valveFlow control  
equipmentFilter, Pressure  
control equipment

Fittings &amp; Tubing

Air preparation  
equipment

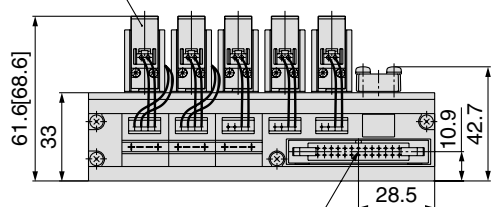
Pressure switch

Clean gas filter



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

(Light/surge voltage suppressor)



Applicable connector:  
26-pins MIL type with strain relief  
(Conforming to MIL-C-83503)

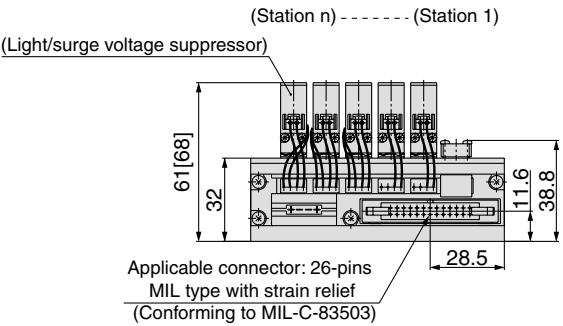
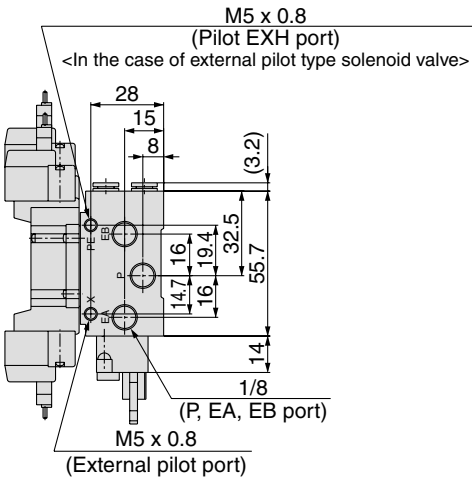
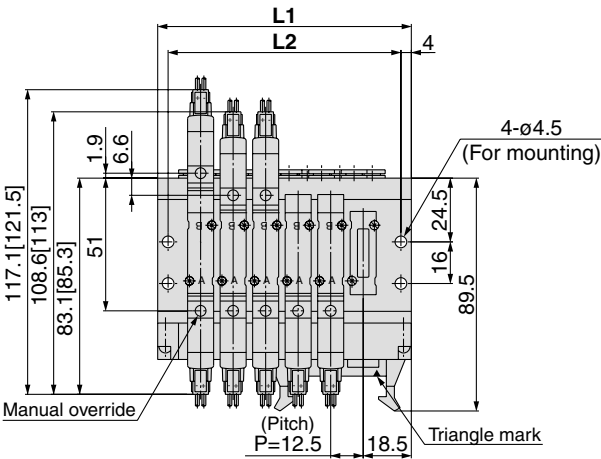
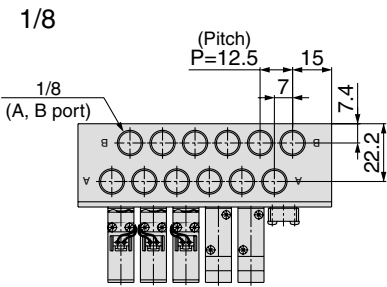
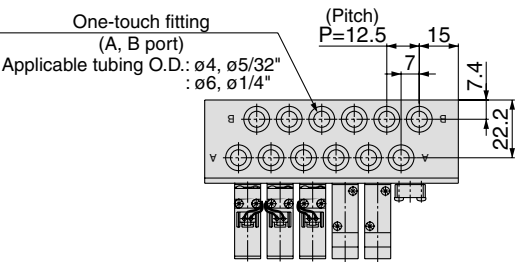
Stations n	3	4	5	6	7	8	9	10	11	12
L1	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
L2	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5

10-SY3000: 10-SS5Y3-42P-

Stations-01,

C4,N3  
C6,N7

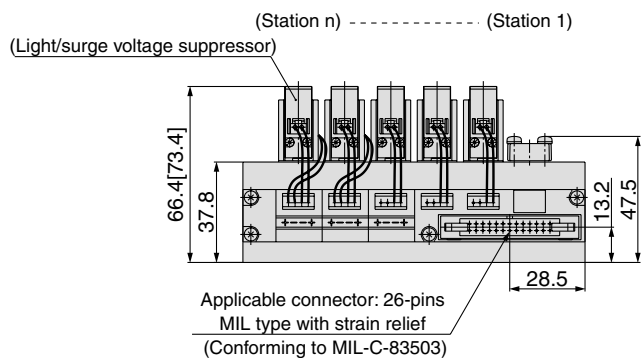
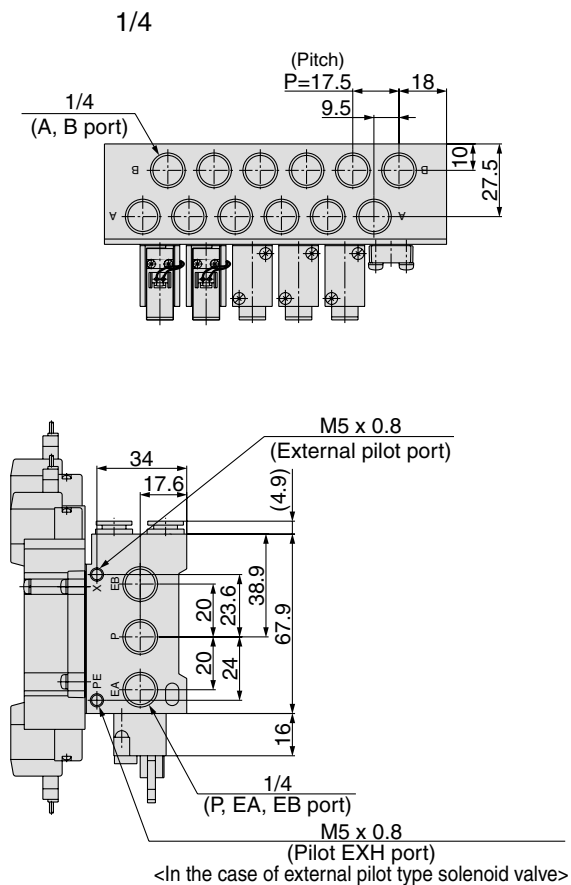
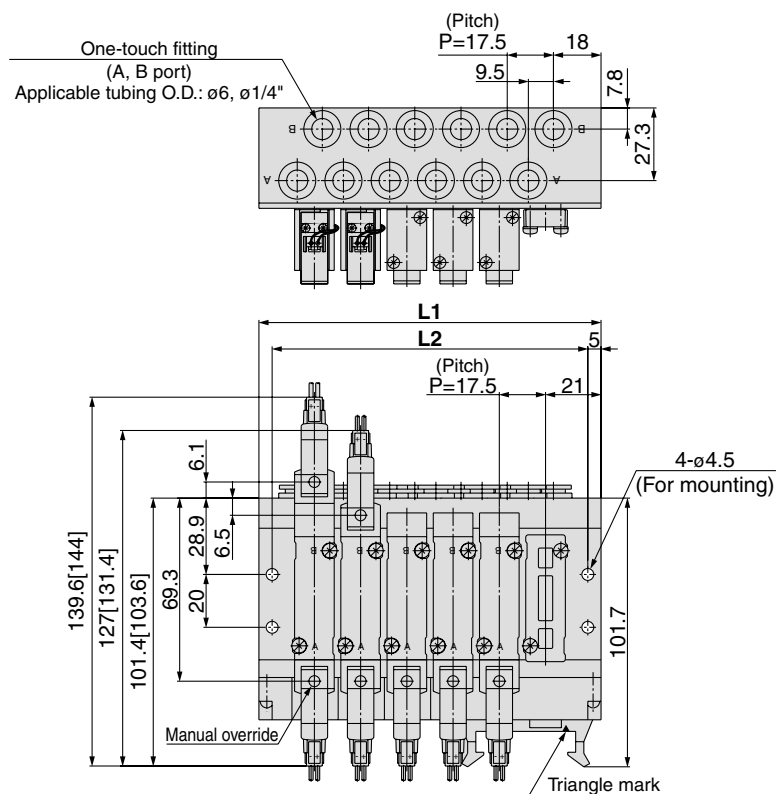
Note) [ ] : AC



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

- Air cylinder
- Rotary actuator
- Air gripper
- Directional control valve
- Flow control equipment
- Filter, Pressure control equipment
- Fittings & Tubing
- Air preparation equipment
- Pressure switch
- Clean gas filter

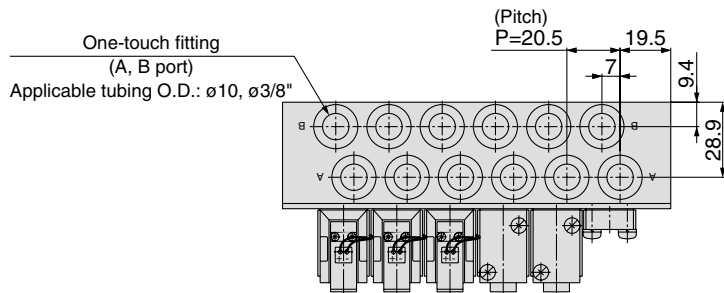
# Grommet (G)



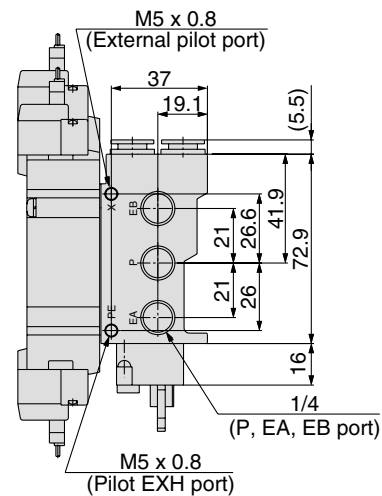
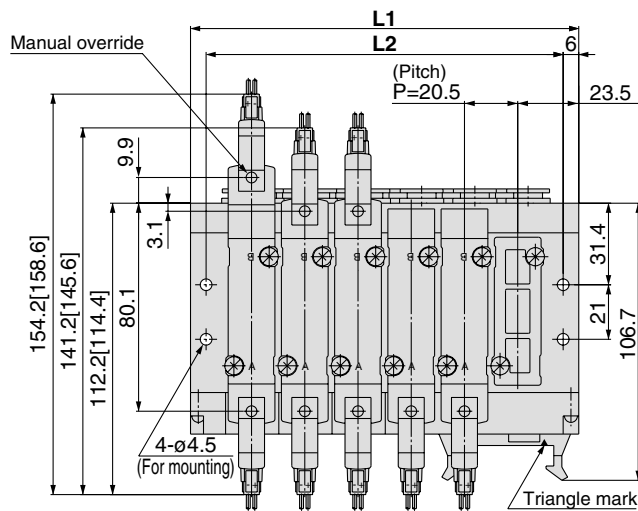
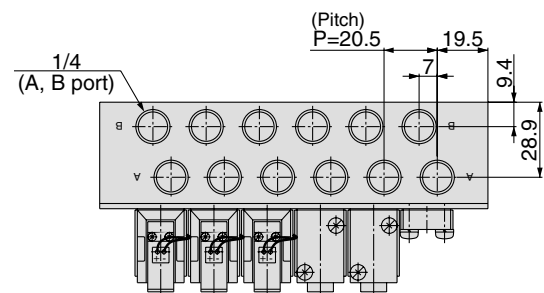
Station n	3	4	5	6	7	8	9	10	11	12
L1	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
L2	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5

**10-SY7000: 10-SS5Y7-42P-Stations -02, C10,N11**

(Note) [ ] : AC

**Grommet (G)**

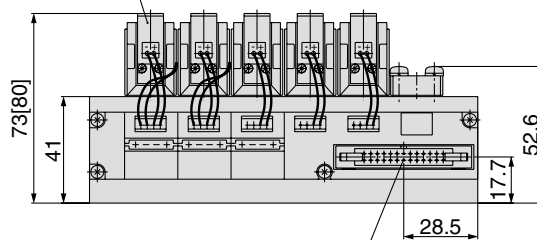
For 1/4



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

&lt;In the case of external pilot type solenoid valve&gt;

(Light/surge voltage suppressor)



Applicable connector:  
26-pins MIL type with strain relief  
(Conforming to MIL-C-83503)

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

# Series 10-SY9000

Type **43P**

Base mounted manifold  
Stacking type / Flat ribbon cable

## How to Order Manifold

10-SS5Y9-43P-05 U [ ] C8 [ ] [ ]

Clean series

Manifold series  
9 10-SY9000

Valve stations

Symbol	Stations
4	4 stations
⋮	⋮
12	12 stations

\* This also includes the number of blanking plate assemblies.

P, R port outlets

Symbol	Port outlet	Applicable stations
U	U side	4 to 10 stations
D	D side	4 to 10 stations
B	Both sides	4 to 12 stations

SUP/EXH block

assembly specifications

Symbol	Specifications
Nil	Standard / Internal pilot specifications
R	External pilot specifications

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Option

Symbol	Mounting
Nil	Direct mounting
D	DIN rail mounting (with DIN rail)
D0	DIN rail mounting (without DIN rail)
D *	When a DIN rail longer than the specified stations is required, specify the station number in asterisk part.

A, B port size

Thread piping

Symbol	Port size
02	1/4
03	3/8

One-touch fitting (Metric size)

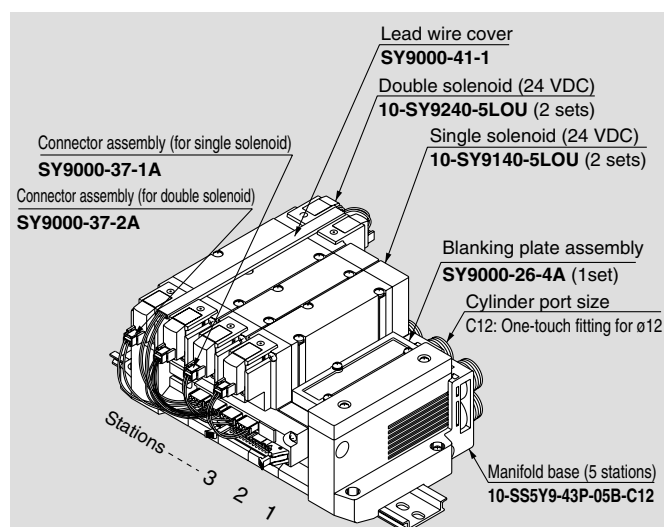
Symbol	Port size
C8	One-touch fitting for ø8
C10	One-touch fitting for ø10
C12	One-touch fitting for ø12
M	Mixed

One-touch fitting (Inch size)

Symbol	Port size
N9	One-touch fitting for ø 5/16"
N11	One-touch fitting for ø 3/8"
M	Mixed

\* In the case of mixed specifications, indicate separately on the manifold specification sheet.

## How to Order Valve Manifold Assembly

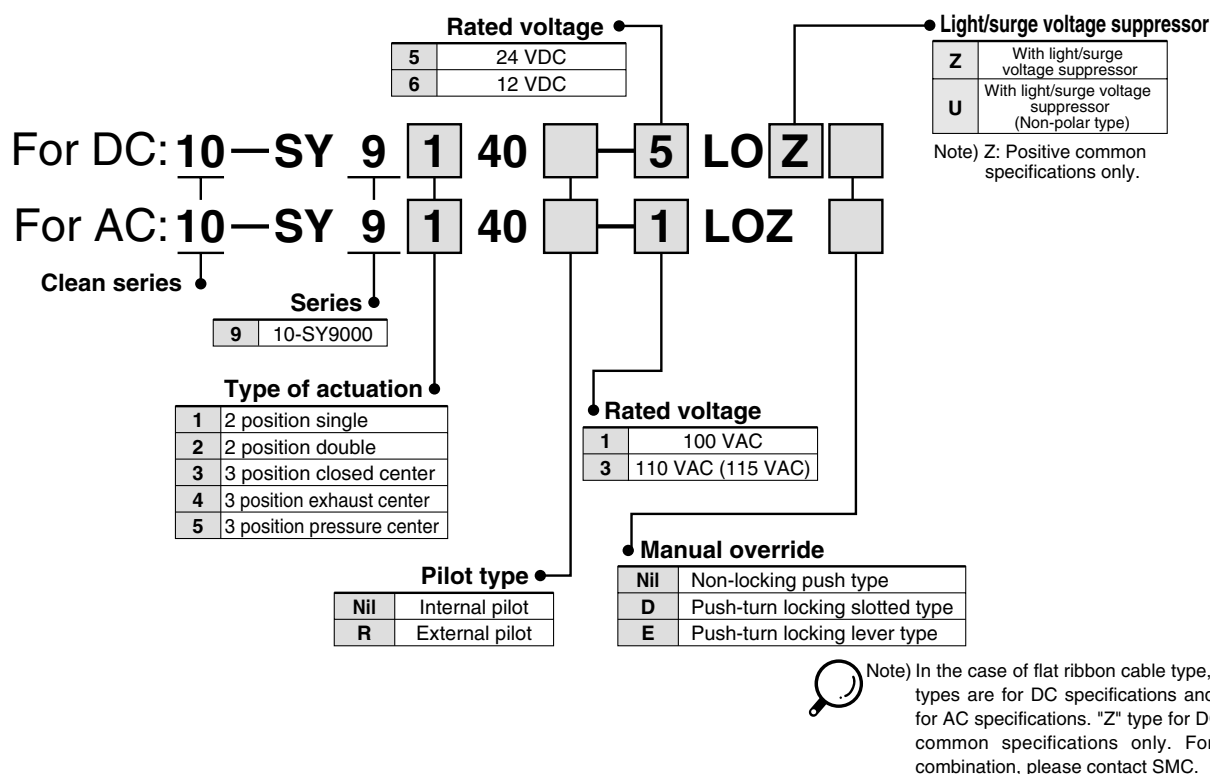


- 10-SS5Y9-43P-05B-C12.....1 set (Type 43P type, 5 station manifold base part no.)
- \* SY9000-26-4A.....1 set (Blanking plate assembly part no.)
- \* 10-SY9140-5LOU.....2 sets (Single solenoid part no.)
- \* 10-SY9240-5LOU.....2 sets (Double solenoid part no.)
- \* SY9000-37-1A.....2 sets (Connector assembly part no.)
- \* SY9000-37-2A.....2 sets (Connector assembly part no.)
- \* SY9000-41-1.....1 set (Lead wire cover)

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

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

## How to Order Valves



## How to Order Connector Assembly

### For 12, 24 VDC

Specifications	For 10-SY9000
For single solenoid	<b>SY9000-37-1A</b>
Double solenoid 3 position	<b>SY9000-37-2A</b>
Single with spacer assembly	<b>SY9000-37-3A</b>
Double, 3 position with spacer assembly	<b>SY9000-37-4A</b>

### For 100 VAC

Specifications	For 10-SY9000
For single solenoid	<b>SY9000-37-1B</b>
Double solenoid 3 position	<b>SY9000-37-2B</b>
Single with spacer assembly	<b>SY9000-37-3B</b>
Double, 3 position with spacer assembly	<b>SY9000-37-4B</b>

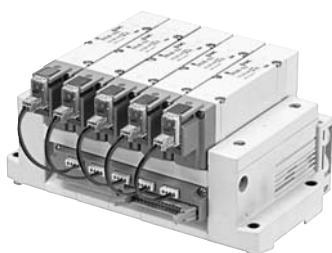
### 110 VAC (115 VAC)

Specifications	For 10-SY9000
For single solenoid	<b>SY9000-37-1C</b>
Double solenoid 3 position	<b>SY9000-37-2C</b>
Single with spacer assembly	<b>SY9000-37-3C</b>
Double, 3 position with spacer assembly	<b>SY9000-37-4C</b>

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

### • Clean appearance

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



## Flat ribbon cable manifold specifications

Model	10-SS5Y9-43P	
Applicable valve	10-SY9□40	
Manifold type	Stacking type	
P(SUP) / R(EXH)	Common SUP, Common EXH	
Valve stations	4 to 12 stations <sup>Note 1)</sup>	
A, B port piping specifications	Location	Base
	Direction	Side
Port size	P, EA, EB port	C12 (One-touch fitting for ø12)
	A, B port	1/4 3/8 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)
Manifold base weight W (g) n: Stations	W=114n+343	
Applicable flat ribbon cable connector	Flat ribbon cable connector, Socket: 26 pins MIL type with strain relief conforming to MIL-C-83503	
Internal wiring	In common between +COM and -COM (Z type: +COM only)	
Rated voltage	12, 24 VDC, 100, 110 VAC	



Note 1) For more than 10 stations, supply pressure to P port on both sides and exhaust from EA and EB port on both sides.

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

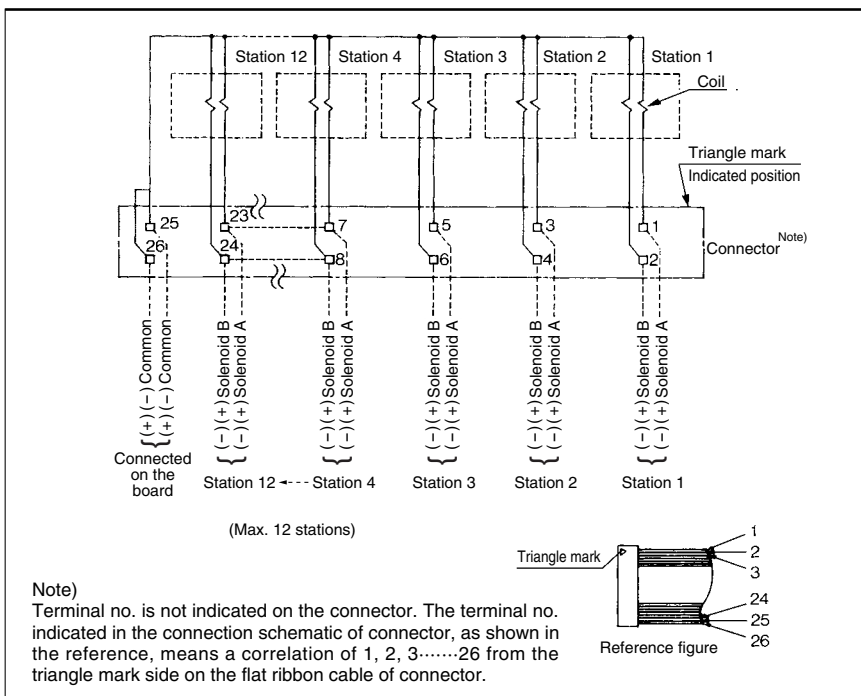
## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm³/(s·bar)]	b	Cv	C[dm³/(s·bar)]	b	Cv
10-SS5Y9-43P	C12	C12	6.4	0.29	1.6	7.3	0.29	1.8



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

## Internal wiring of manifold (Non-polar type)



### ⚠ Caution

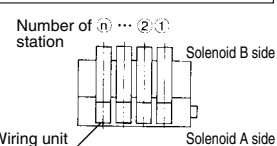
- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.



• For more than 10 stations, both poles of the common should be wired.

• For single solenoid, connect to the solenoid A side.

• The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.

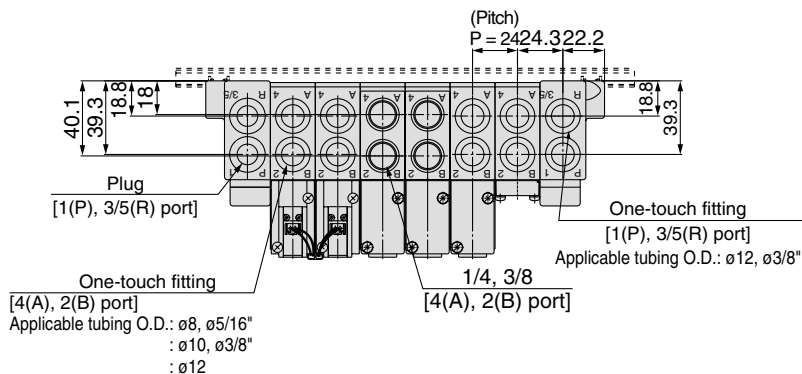




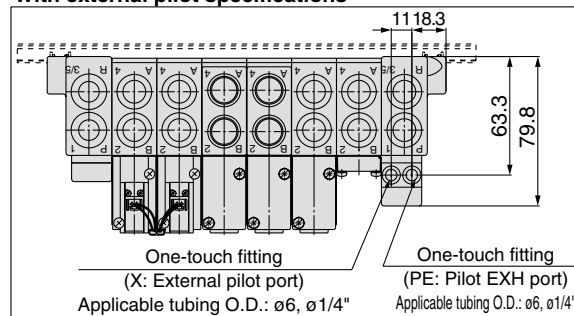
**10-SY9000: 10-SS5Y9-43P-stations D** 02 C8, N9 03 C10, N11 C12 **(-D)**

Note) [ ] : AC

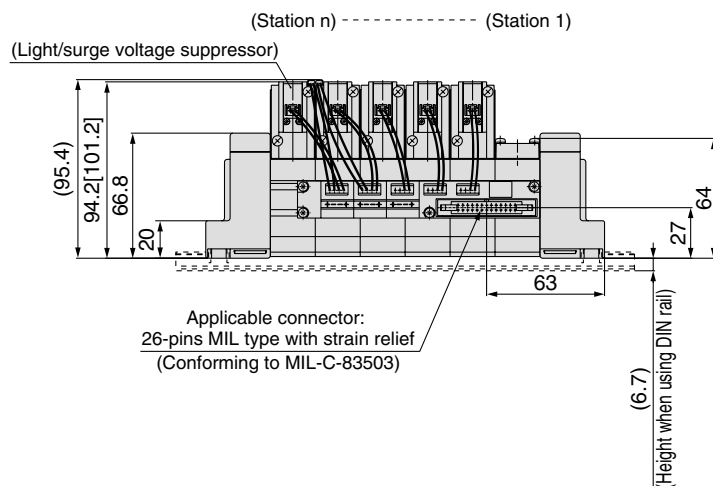
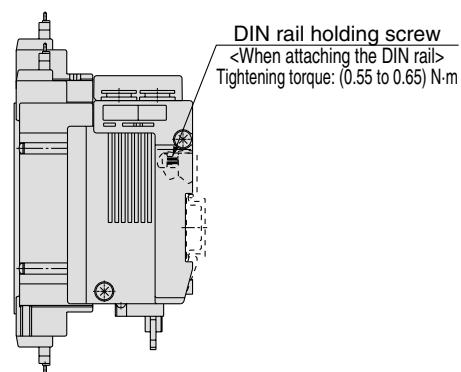
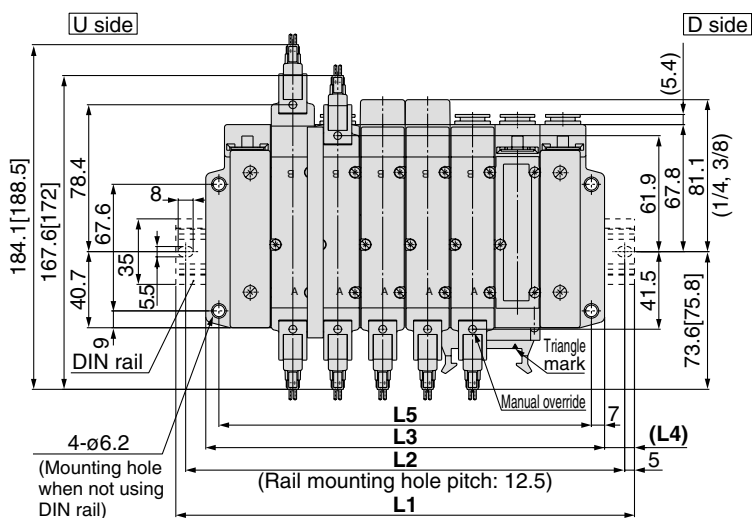
\* When P, R port outlets are indicated on the D side, the P, R ports on the opposite side are plugged.



**With external pilot specifications**



\* The external pilot's extracting position is in the D side



Stations n	4 stations	5	6	7	8	9	10 stations
L1	198	223	248	260.5	285.5	310.5	335.5
L2	187.5	212.5	237.5	250	275	300	325
L3	165	189	213	237	261	285	309
L4	16.5	17	17.5	12	12.5	13	13.5
L5	151	175	199	223	247	271	295

# Type 43P Base mounted 10-SY9000

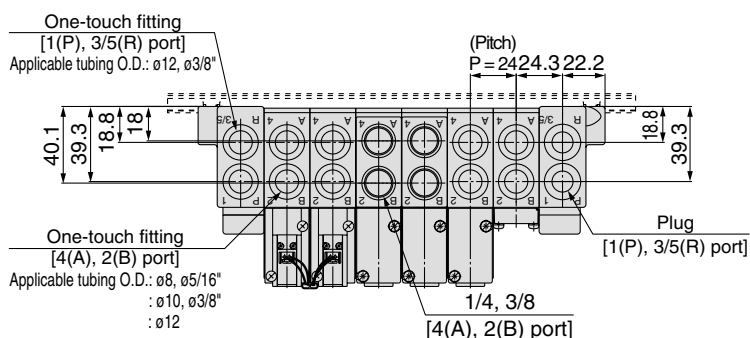
10-SY9000: 10-SS5Y9-43P- Stations U ☐ - <sup>02</sup>C8, <sup>N9</sup>C10, <sup>N11</sup>C12 ☐ (-D)



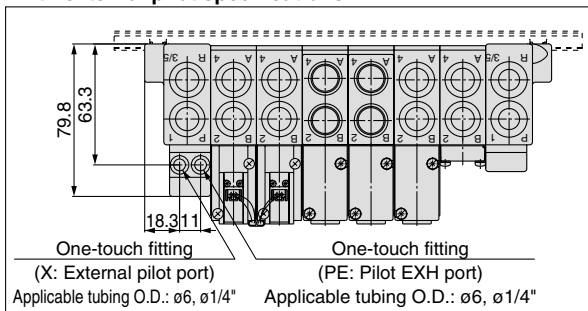
Note) [ ] : AC



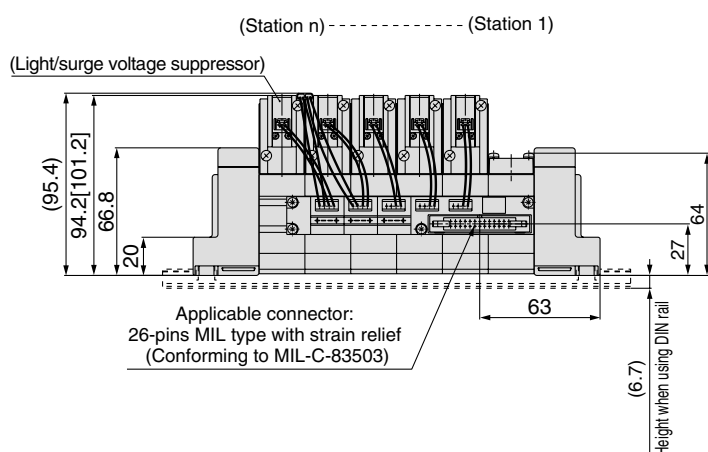
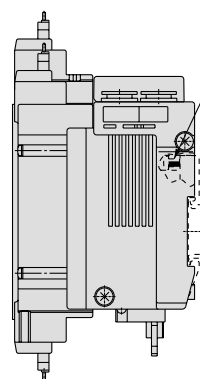
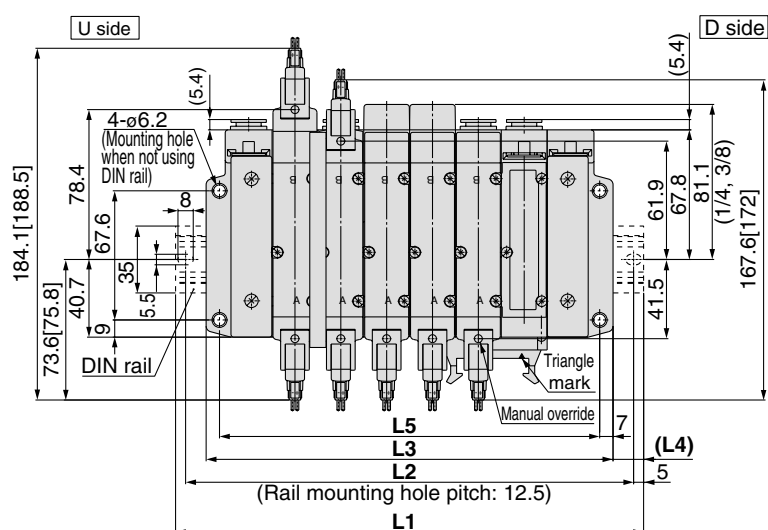
\* When P, R port outlets are indicated on the U side, the P, R ports on the opposite side are plugged.



## With external pilot specifications





\* The external pilot's extracting position is in the U side.

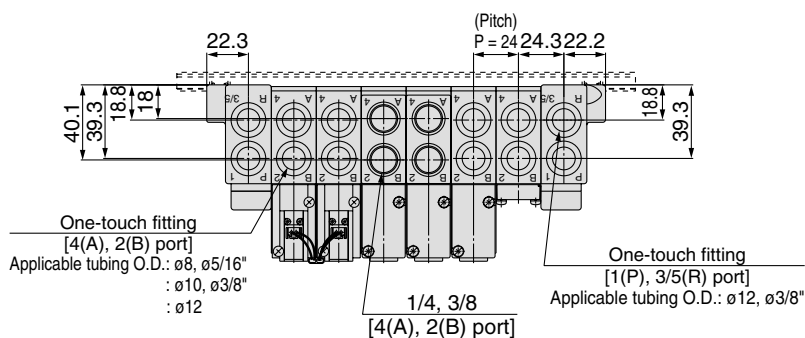


Stations n	4 stations	5	6	7	8	9	10 stations
L1	198	223	248	260.5	285.5	310.5	335.5
L2	187.5	212.5	237.5	250	275	300	325
L3	165	189	213	237	261	285	309
L4	16.5	17	17.5	12	12.5	13	13.5
L5	151	175	199	223	247	271	295

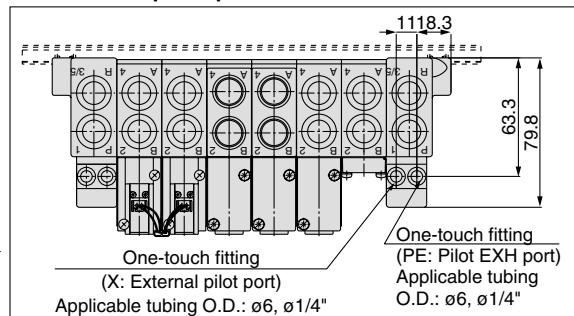
**10-SY9000:10-SS5Y9-43P- Stations B** 02 C8, N9  
03 C10, N11  
C12 **(-D)**

 (Note) [ ] : AC

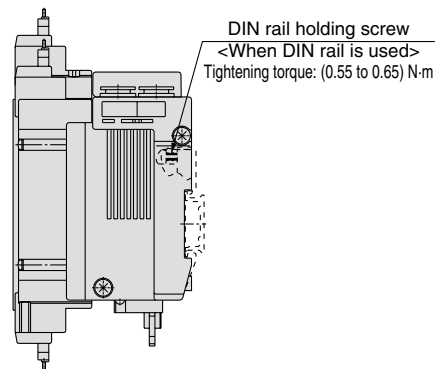
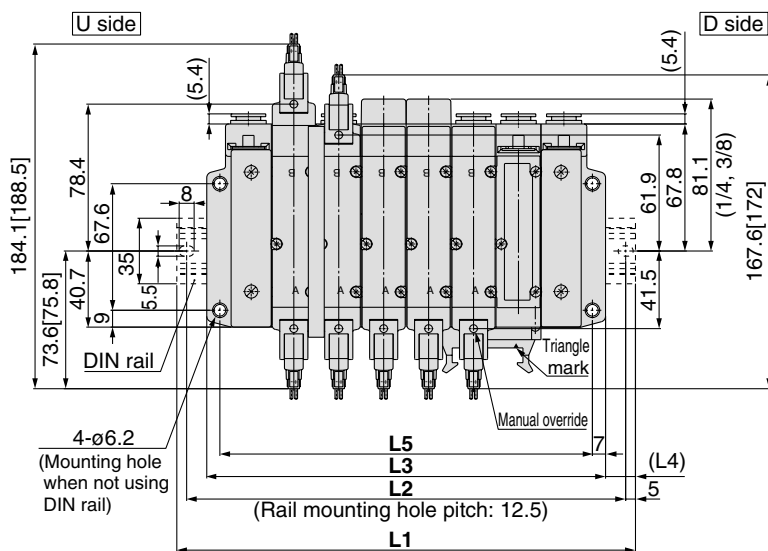
 \* When P, R port outlets are indicated on the B side, the P, R ports on the both sides are in the open state.



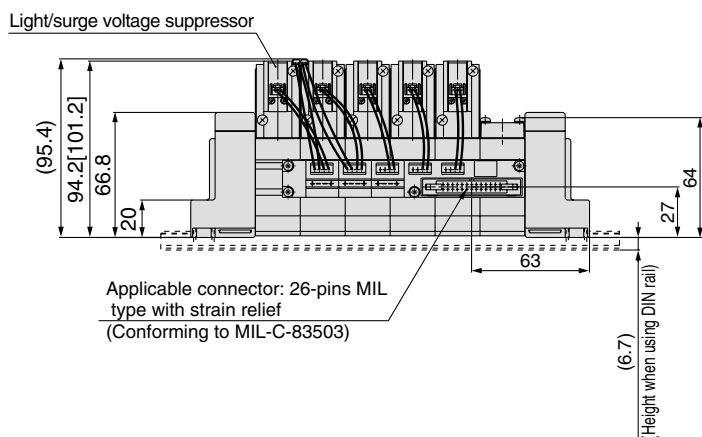
**With external pilot specifications**



\* The external pilot's extracting position is in the B side (both sides).



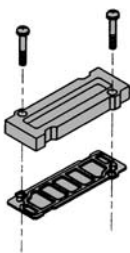
(Station n) ----- (Station 1)



Stations n	4 stations	5	6	7	8	9	10	11	12 stations
L1	198	223	248	260.5	285.5	310.5	335.5	360.5	385.5
L2	187.5	212.5	237.5	250	275	300	325	350	375
L3	165	189	213	237	261	285	309	333	357
L4	16.5	17	17.5	12	12.5	13	13.5	14	14.5
L5	151	175	199	223	247	271	295	319	343

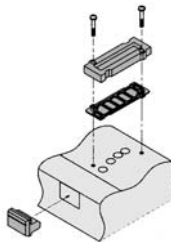
## Manifold Option

### ■ Type 41, 42, 43 Blanking plate assembly



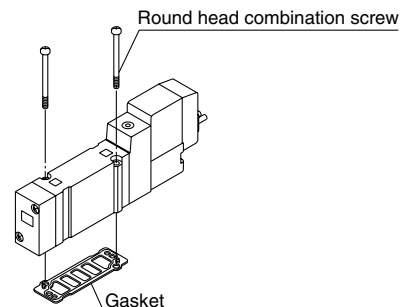
Series	Assembly part no.
10-SY3000	SY3000-26-9A
10-SY5000	SY5000-26-20A
10-SY7000	SY7000-26-22A
10-SY9000	SY9000-26-2A

### ■ Type 41P, 42P, 43P Blanking plate assembly



Series	Assembly part No.
10-SY3000	SY3000-26-10A
10-SY5000	SY5000-26-21A
10-SY7000	SY7000-26-23A
10-SY9000	SY9000-26-4A

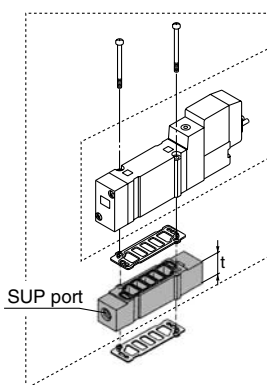
### ■ Gasket assembly part no.



Series	Gasket assembly
10-SY3000	SY3000-GS-2
10-SY5000	SY5000-GS-2
10-SY7000	SY7000-GS-2
10-SY9000	SY9000-GS-2

Note) Gasket assembly consists of mounting screws and a gasket.

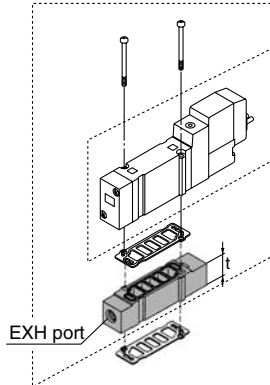
### ■ Individual SUP spacer assembly



Series	Assembly part no.	Port size	t
10-SY3000	SY3000-38-2A	M5 x 0.8	11
10-SY5000	SY5000-38-16 * A	1/8	15
10-SY7000	SY7000-38-16 * A	1/4	18
10-SY9000	SY9000-38-2 * A	1/4	20

Note) The SUP port of SY3000/5000/7000 may be either on the lead wire side or end plate side. (An assembly is shipped under the conditions shown in the figure.)  
The end plate side is only available to SY9000.

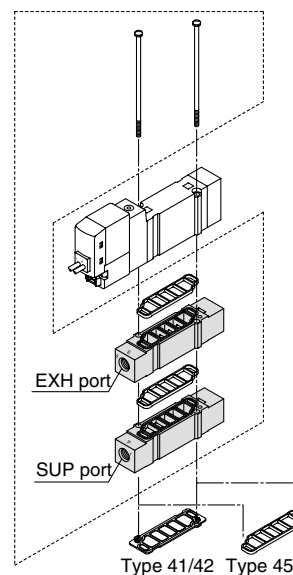
### ■ Individual EXH spacer assembly



Series	Assembly part no.	Port size	t
10-SY3000	SY3000-39-2A	M5 x 0.8	11
10-SY5000	SY5000-39-16 * A	1/8	15
10-SY7000	SY7000-39-16 * A	1/4	18
10-SY9000	SY9000-39-2 * A	1/4	20

Note) In case of types 41P, 42P and 43P, for protection of the wiring unit section from drainage, piping at the EA port should be arranged so that it will not be directly exposed to exhaust from the valve.

### ■ Individual SUP spacer assembly + Individual EXH spacer assembly (stacked)



## ⚠ Caution \* : Thread type

### Mounting screw tightening torque

M2: 0.16N·m  
M3: 0.8N·m  
M4: 1.4N·m

	Nil	Rc
F	G	
N	NPT	
T	NPTF	

## ⚠ Warning

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

[○: Available ×: Not available -: No part no. setting]

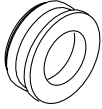
Series	Individual SUP + Individual EXH assembly part No.	Port size	Applicable manifold type						
			41	41P	42	42P	45	45-A 45-NA	45 *
10-SY3000	SY3000-120-2A	M5 x 0.8	●	×	●	×	●	×	×
10-SY5000	SY5000-75-1 * A	1/8	●	×	●	×	●	×	×
10-SY7000	SY7000-73-1 * A	1/4	●	×	●	×	-	-	-

Note) The SUP port of SUP spacer can be mounted in either direction. When connecting to the pilot valve side, be sure to connect each port to protect the pilot valve wiring part from drainage.  
An individual SUP spacer and an individual EXH spacer can be mounted on either top or bottom. (An assembly is shipped under the condition shown in the figure above.)

## Manifold Option

### ■ SUP block disk (for SY9000)

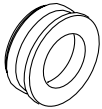
By installing a SUP block disk in the pressure supply passage of a manifold base, it is possible to supply two or more different high and low pressures to one manifold.



Series	Part no.
10-SY9000	SY9000-57-1A

### ■ EXH block disk (for SY9000)

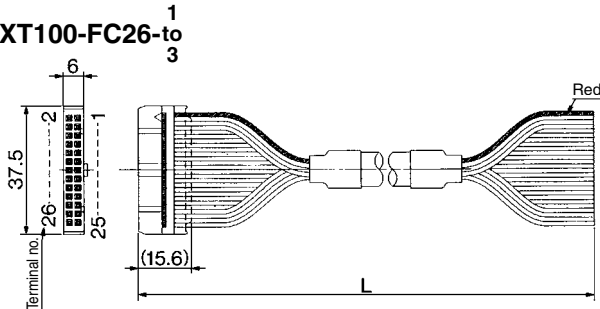
By installing an EXH block disk in the exhaust passage of a manifold valve, it is possible to divide the valve's exhaust so that it does not affect another valve. (Two block disks are needed to divide both exhausts.)



Series	Part no.
10-SY9000	SY9000-57-1A

### ■ Cable assembly

AXT100-FC26-to-3



### Flat ribbon cable connector assembly

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



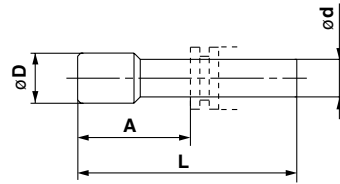
\* For other connectors in the marketplace, use a 26 pins with strain relief conforming to MIL-C-83503.

### Example of connector manufacturers

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

### ■ Plug (White)

To be inserted into unused cylinder ports and SUP, EXH ports. The minimum order quantity is 10 pieces.



### Dimensions

Applicable fitting size ød	Model	A	L	D
4	10-KQP-04	16	32	6
6	10-KQP-06	18	35	8
8	10-KQP-08	20.5	39	10
10	10-KQP-10	22	43	12
12	10-KQP-12	24	44.5	14
1/8"	10-KQP-01	16	31.5	5
5/32"	10-KQP-03	16	32	6
1/4"	10-KQP-07	18	35	8.5
5/16"	10-KQP-09	20.5	39	10
3/8"	10-KQP-11	22	43	11.5

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Fittings &amp; Tubing

Air preparation equipment

Pressure switch

Clean gas filter

# Series 10-SY3000/5000

Type **45**

Base mounted manifold  
Stacking type / DIN rail mounted  
Individual wiring

## How to Order Manifold

10-SS5Y **3** - 45 - **05** **U** - **C6** -

• Clean series

Series

3	10-SY3000
5	10-SY5000

Valve stations

02	2 stations
⋮	⋮
20	20 stations

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable no. of stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations
M*	Special specifications	

\* For special specifications, indicate separately on the manifold specification sheet.

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	
M	Mixed	
C4	One-touch fitting for ø4	10-SY5000
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	
M	Mixed	

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	5/32" One-touch fitting for ø	10-SY3000
N7	1/4" One-touch fitting for ø	
M	Mixed	
N3	5/32" One-touch fitting for ø	10-SY5000
N7	1/4" One-touch fitting for ø	
N9	5/16" One-touch fitting for ø	
M	Mixed	

\* In the case of mixed specifications, indicate separately on the manifold specification sheet.

Option

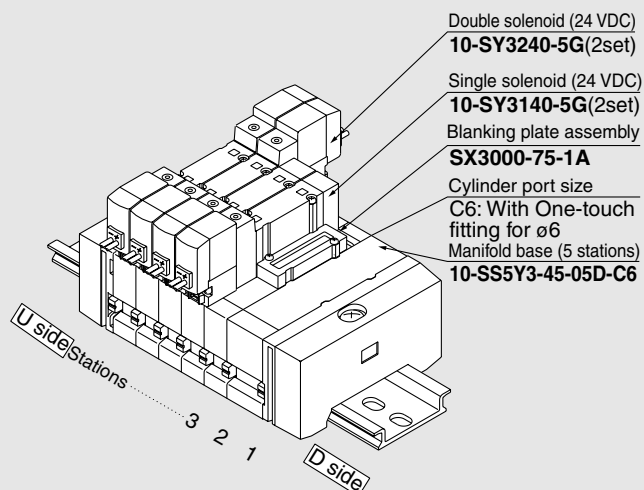
When a DIN rail longer than the specified stations is required, specify the station number. (20 stations maximum)



Refer to pages 477 to 479 for the external pilot specifications.

## How to Order Manifold Assembly

### Ordering example



10-SS5Y3-45-05D-C6...1 set (Type 45, 5 stations manifold base part no.)

\*SX3000-75-1A .....1 set (Blanking plate assembly part no.)

\*10-SY3140-5G .....2 sets (Single solenoid part no.)

\*10-SY3240-5G .....2 sets (Double solenoid part no.)

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

The valve arrangement is numbered as the 1st. station from D side regardless of the mounting position of SUP/EXH block assembly. In ordering, specify the part nos. in the order from the 1st. station on D side. Besides, when the arrangement will be complicated, fill out the manifold specification sheet to instruct SMC.

## How to Order Valves

**10—SY 5 2 40 5 L**

• **Clean series**

• **Series**

3	10-SY3000
5	10-SY5000

• **Type of actuation**

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

• **Coil specifications**

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

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

• **Rated voltage**

**DC specifications**

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

**AC specifications (50/60 Hz)**

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
 \* For type "W□", only DC voltage is available.  
 \* "D" and "DO" are only available for 10-SY5000.

• **Manual override**

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

• **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 "R" and "U", only DC voltage is 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.

• **Electrical entry**

24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC			24, 12 VDC 100, 110, 200, 220 VAC	24, 12 VDC 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal	M8 connector
<b>G</b> : Lead wire length 300 mm <b>H</b> : Lead wire length 600 mm	<b>L</b> : With lead wire (length 300 mm) <b>LN</b> : Without lead wire <b>LO</b> : Without connector	<b>M</b> : With lead wire (length 300 mm) <b>MN</b> : Without lead wire <b>MO</b> : Without connector	(10-SY5000 only) <b>D</b> : With connector <b>DO</b> : Without connector	<b>WO</b> : Without connector cable <b>W□</b> : With connector cable <sup>Note 1)</sup>

\* LN, MN: with 2 sockets.  
 \* "D" and "DO" are only available for 10-SY5000.  
 \* DIN terminal type "Y" conforming to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 482.  
 \* For connector cable of M8 connector, refer to page 490.  
 Note 1) Please enter cable length in □ with reference to page 491.

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

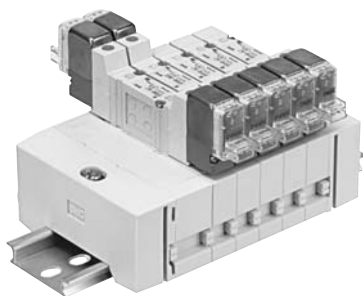
Filter, Pressure control equipment

Fittings &amp; Tubing

Air preparation equipment

Pressure switch

Clean gas filter



## Manifold Specifications

Model	<b>10-SS5Y3-45</b>		<b>10-SS5Y5-45</b>
Applicable valve	<b>10-SY3□40</b>		<b>10-SY5□40</b>
Manifold type	Stacking type / DIN rail mounted		
P (SUP), R (EXH)	Common SUP/EXH		
Valve stations	2 to 20 stations <sup>Note 1)</sup>		
A, B port piping specifications	Location	Base	
	Direction	Side	
Port size	P, R port	C8 (One-touch fitting for ø8)	C10 (One-touch fitting for ø10)
	A, B port	C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)
Manifold base weight W (g)		2 to 10 stations: W = 22n + 118	2 to 10 stations: W = 47n + 156
n: Stations		11 to 20 stations: W = 22n + 140	11 to 20 stations: W = 47n + 190



Note 1) For more than 11 stations, supply pressure to P port on both sides and exhaust from R port on both sides.

## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv
<b>10-SS5Y3-45</b>	C8	C6	0.88	0.21	0.22	0.95	0.18	0.22
<b>10-SS5Y5-45</b>	C10	C8	2.2	0.24	0.53	2.5	0.18	0.58

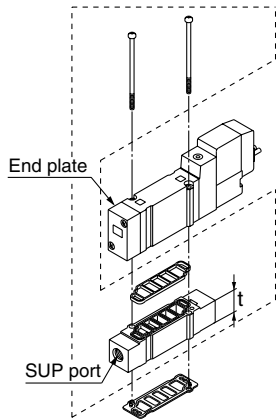


Note) The value is for manifold base with 5 stations and individually operated 2 position type.



## Manifold Option

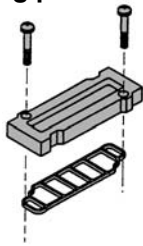
### Individual SUP spacer assembly



Series	Assembly part no.	Port size	t
10-SY3000	SY3000-38-2A	M5 x 0.8	11
10-SY5000	SY5000-38-16 * A	1/8	15

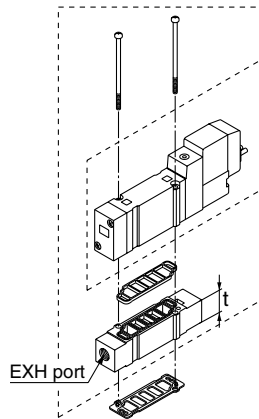
Note) The SUP port may be either on the lead wire side or on the end plate side. (An assembly is shipped under the conditions shown in the figure.)

### Blanking plate assembly



Series	Assembly part no.
10-SY3000	SX3000-75-1A
10-SY5000	SX5000-76-5A

### Individual EXH spacer assembly



Series	Assembly part no.	Port size	t
10-SY3000	SY3000-39-2A	M5 x 0.8	11
10-SY5000	SY5000-39-16 * A	1/8	15

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

#### \* : Thread type

Nil	Rc
F	G
N	NPT
T	NPTF



### Caution

Mounting screw tightening torque

M2: 0.16N·m  
M3: 0.8N·m  
M4: 1.4N·m

### SUP block disk

By installing a supply block disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.



Series	Part no.
10-SY3000	SX3000-77-1A
10-SY5000	SX5000-77-1A

### EXH block disk

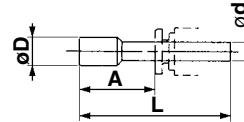
By installing an EXH block disk in the exhaust passage of a manifold valve, it is possible to divide the valve's exhaust so that it does not affect another valve. (Two block disks are needed to divide exhausts.)



Series	Part no.
10-SY3000	SX3000-77-1A
10-SY5000	SX5000-77-1A

### Plug (White)

These are inserted in unused cylinder ports and SUP, EXH ports. Purchasing order is available in units of 10 pieces.



#### Dimensions

Applicable fitting size $\phi d$	Model	A	L	D
4	10-KQP-04	16	32	6
6	10-KQP-06	18	35	8
8	10-KQP-08	20.5	39	10
10	10-KQP-10	22	43	12
1/8"	10-KQP-01	16	31.5	5
5/32"	10-KQP-03	16	32	6
1/4"	10-KQP-07	18	35	8.5
5/16"	10-KQP-09	20.5	39	10

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Fittings &amp; Tubing

Air preparation equipment

Pressure switch

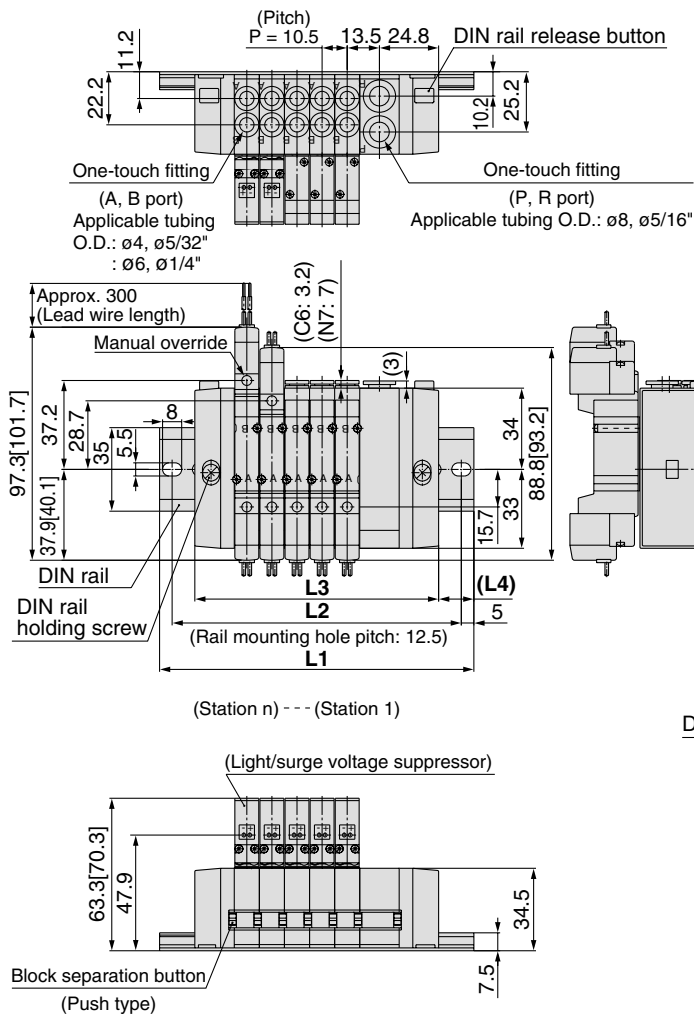
Clean gas filter



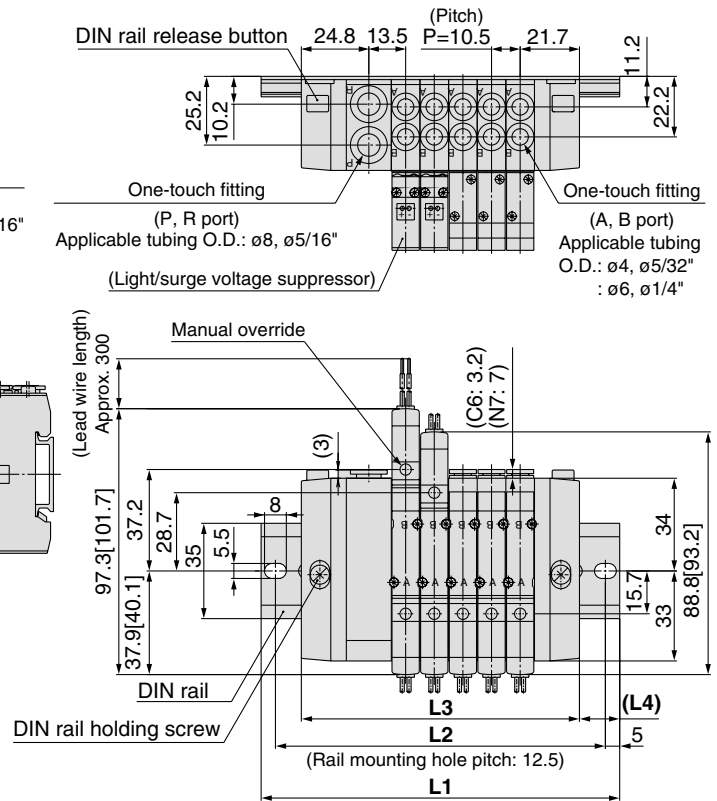
Note) [ ]: AC

## Dimensions: Series 10-SY3000

**10-SS5Y3-45- Stations D- C4,N3  
C6,N7**



10-SS5Y3-45- Stations U-<sup>C4,N3</sup><sub>C6,N7</sub>



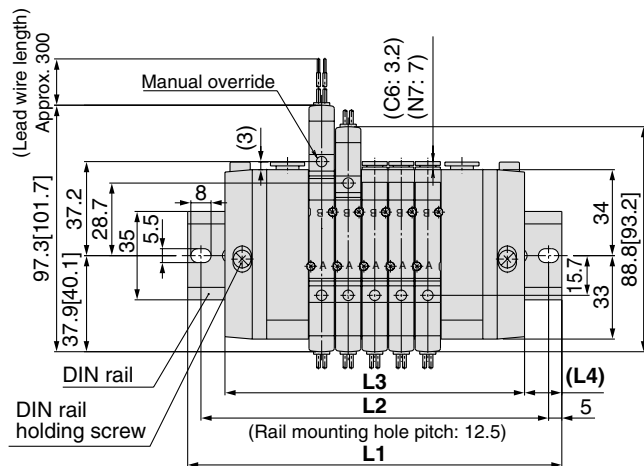
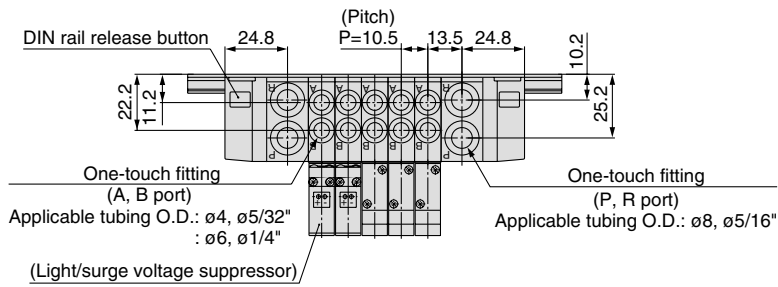
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
<b>L1</b>	98	110.5	123	135.5	148	148	160.5	173	185.5
<b>L2</b>	87.5	100	112.5	125	137.5	137.5	150	162.5	175
<b>L3</b>	70.5	81	91.5	102	112.5	123	133.5	144	154.5
<b>L4</b>	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5



Note) [ ]: AC

## Dimensions: Series 10-SY3000

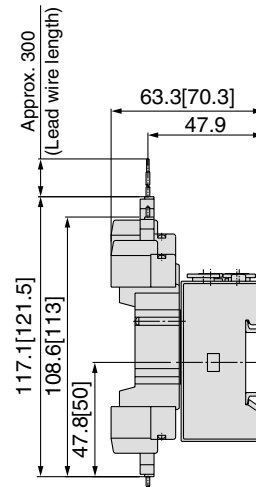
### 10-SS5Y3-45- Stations B- C4,N3 C6,N7



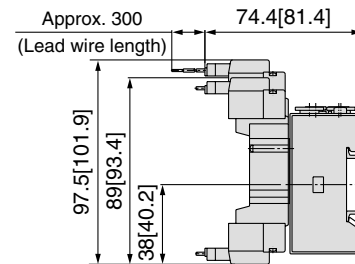
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
<b>L1</b>	110.5	123	135.5	148	160.5	173	185.5	185.5	198
<b>L2</b>	100	112.5	125	137.5	150	162.5	175	175	187.5
<b>L3</b>	87	97.5	108	118.5	129	139.5	150	160.5	171
<b>L4</b>	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
<b>L1</b>	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5
<b>L2</b>	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300
<b>L3</b>	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276
<b>L4</b>	14.5	15.5	16.5	17.5	12	13	14	15	16	17

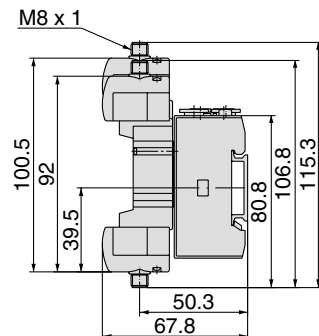
### L plug connector



### M plug connector



### M8 connector (WO)



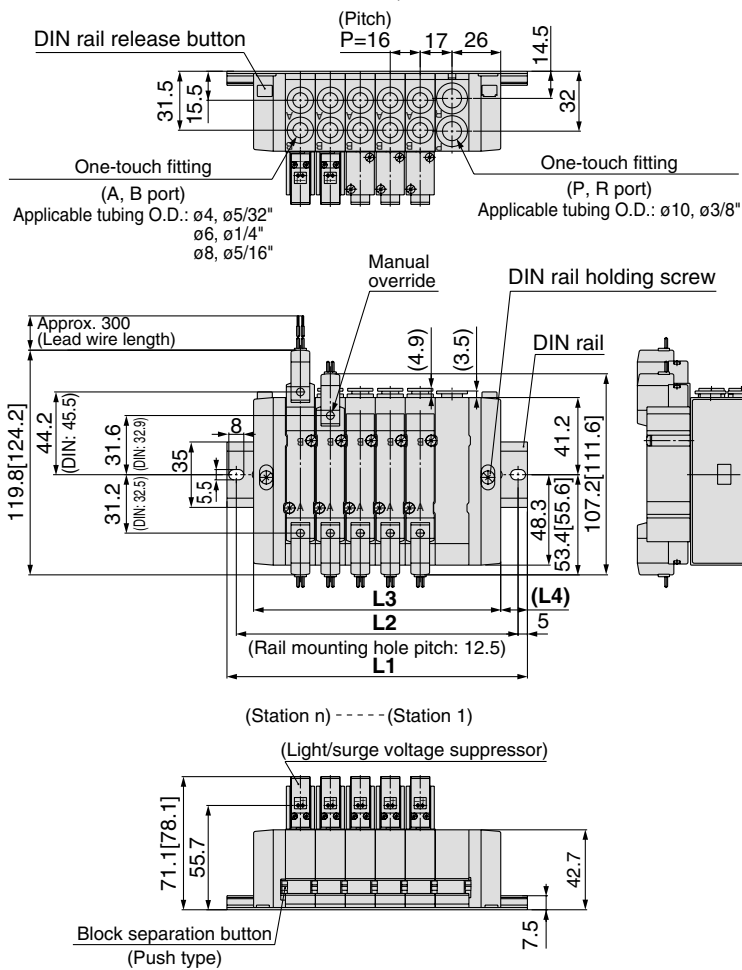
Note) Refer to page 490 for dimensions of connector types.

## Dimensions: Series 10-SY5000

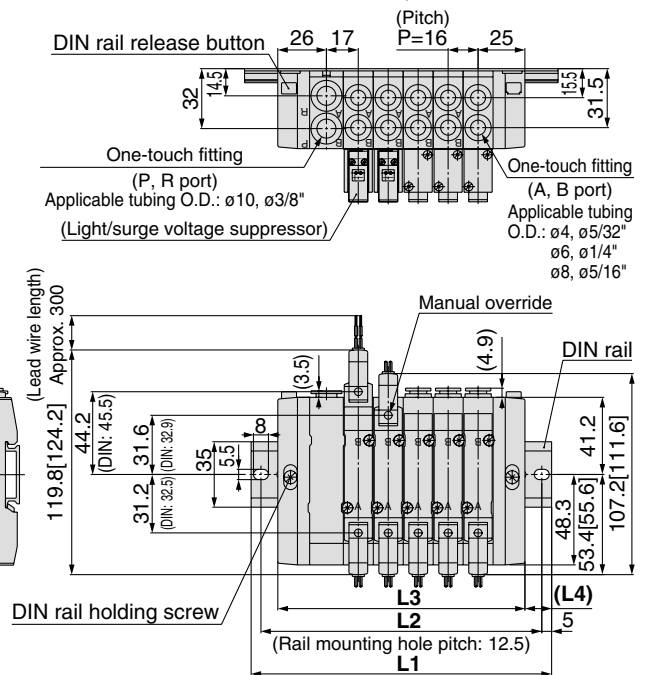


Note) [ ]: AC

**10-SS5Y5-45- Stations D-** C4,N3  
C6,N7  
C8,N9



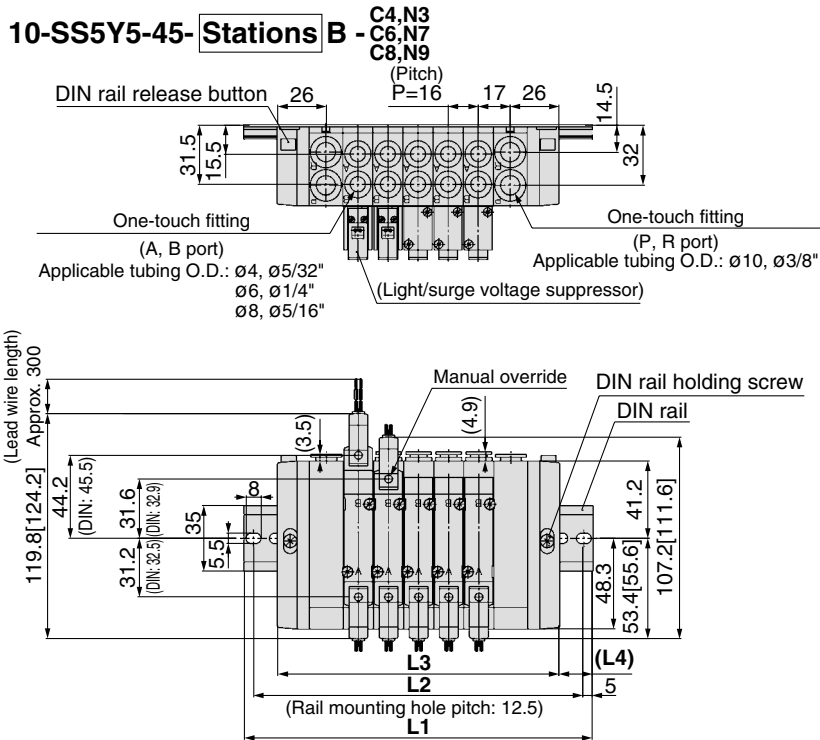
**10-SS5Y5-45- Stations U-** C4,N3  
C6,N7  
C8,N9



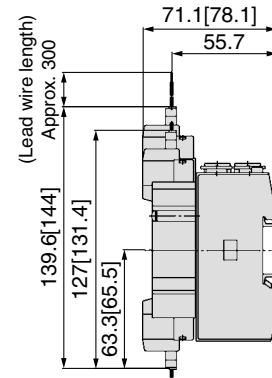
Stations	2 stations	3	4	5	6	7	8	9	10 stations
<b>L1</b>	110.5	135.5	148	160.5	173	198	210.5	223	235.5
<b>L2</b>	100	125	137.5	150	162.5	187.5	200	212.5	225
<b>L3</b>	84	100	116	132	148	164	180	196	212
<b>L4</b>	13	17.5	16	14	12.5	17	15	13.5	11.5



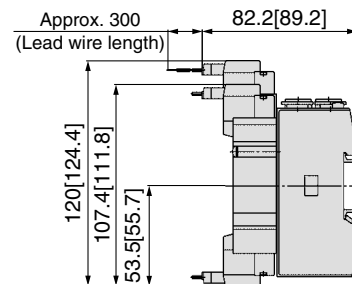
## Dimensions: Series 10-SY5000



### L plug connector



### M plug connector

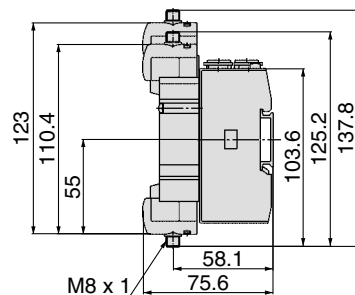


Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	223	248	260.5
L2	125	137.5	150	175	187.5	200	212.5	237.5	250
L3	102	118	134	150	166	182	198	214	230
L4	16.5	15	13	17.5	16	14	12.5	17	15

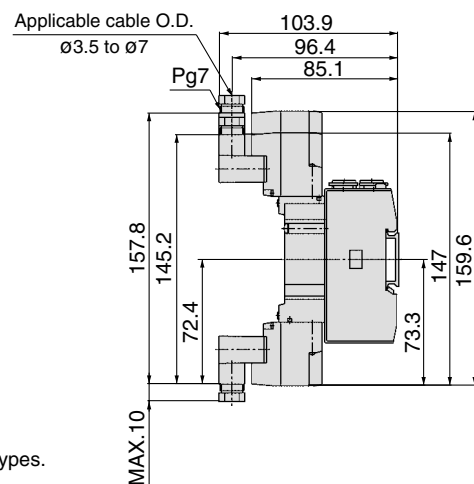
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423
L2	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5
L3	246	262	278	294	310	326	342	358	374	390
L4	13.5	11.5	16	14.5	12.5	17	15.5	13.5	12	16.5

### M8 connector (WO)



Note) Refer to page 490 for dimensions of connector types.

### DIN terminal (D)



# Series 10-SY3000/5000

Type 45-A-NA

Base mounted manifold  
Stacking type / DIN rail mounted  
Connector box

## How to Order Manifold

10-SS5Y **3** -45- **A** **U** -05 **D** -C6 -

• Clean series

Series

3	10-SY3000
5	10-SY5000

Specifications

Symbol	Specifications
A	With connector box (+COM specifications)
NA	With connector box (-COM specifications)

The style of attached lead wire assembly is different.

Connector box mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2 stations	Available up to 16 solenoid valves.
⋮	⋮	
16	16 stations	

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 16 stations
M*	Special specifications	

\* For special specifications, indicate separately on the manifold specification sheet.

A-B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	
M	Mixed	
C4	One-touch fitting for ø4	10-SY5000
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	
M	Mixed	

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø5/32"	10-SY3000
N7	One-touch fitting for ø1/4"	
M	Mixed	
N3	One-touch fitting for ø5/32"	10-SY5000
N7	One-touch fitting for ø1/4"	
N9	One-touch fitting for ø5/32"	
M	Mixed	

\* In the case of mixed specifications, indicate separately on the manifold specification sheet.

Option

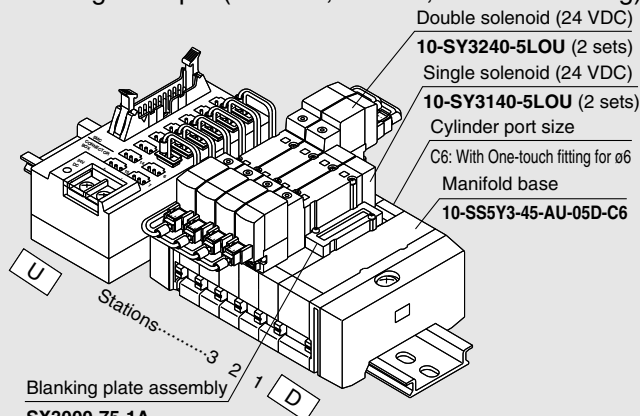
When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (20 stations at the maximum)



Refer to catalog pages 477 to 479 for the external pilot specifications.

## How to Order Valve Manifold Assembly

Ordering example (SY3000, + COM, U side mounting)



10-SS5Y3-45-AU-05D-C6 · 1set (Type 45, 5 stations manifold base part no.)  
\* SX3000-75-1A ..... 1set (Blanking plate assembly part no.)  
\* 10-SY3140-5LOU ..... 2sets (Single solenoid part no.)  
\* 10-SY3240-5LOU ..... 2sets (Double solenoid part no.)  
The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

The valve arrangement is numbered as the 1st. station from D side regardless of the mounting position of connector box. In ordering, specify the part nos. in the order from the 1st. station on D side.

When the arrangement will be complicated, fill out the manifold specification sheet to instruct SMC.

10-SS5Y<sup>2</sup>-45-A<sup>3</sup>□□-C□□ is assembled with solenoid valve and lead wire assembly when shipping. Be sure to indicate a solenoid valve part no. in ordering.

## How to Order Valves

10-SY **5** **2** 40-5 LOU

• Clean series

Series

3	10-SY3000
5	10-SY5000

• Manual override

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

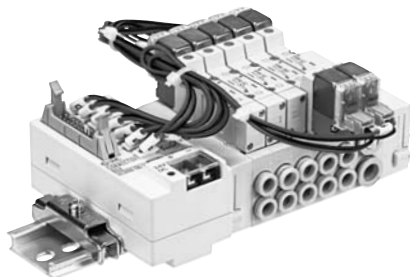
Type of actuation

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

Rated voltage

5	24 VDC
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## Manifold Specifications



Model		10-SS5Y3-45-A-NA		10-SS5Y5-45-A-NA	
Applicable valve		10-SY3□40		10-SY5□40	
Manifold type		Stacking type / DIN rail mounted			
P (SUP), R (EXH)		Common SUP, Common EXH			
Valve stations		2 to 16 stations <sup>Note1, 2)</sup>			
A, B port piping specifications	Location	Base			
	Direction	Side			
Port size	P, R port	C8 (One-touch fitting for ø8)		C10 (One-touch fitting for ø10)	
	A, B port	C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)		C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	
Manifold base weight W (g) n: Stations		2 to 10 stations: W = 26n + 207 11 to 20 stations: W = 26n + 229		2 to 10 stations: W = 52n + 245 11 to 16 stations: W = 52n + 279	
Applicable flat ribbon cable connector		Flat ribbon cable connector socket: 20 pins MIL with strain relief conforming to MIL-C-83503			
Wiring specifications		+COM specifications (Type 45-A), -COM specifications (Type 45-NA)			



Note 1) For more than 11 stations, supply pressure to P port on both sides and exhaust from R port on both sides.

Note 2) There is a limit depending on the number of solenoids. Refer to "How to Order".

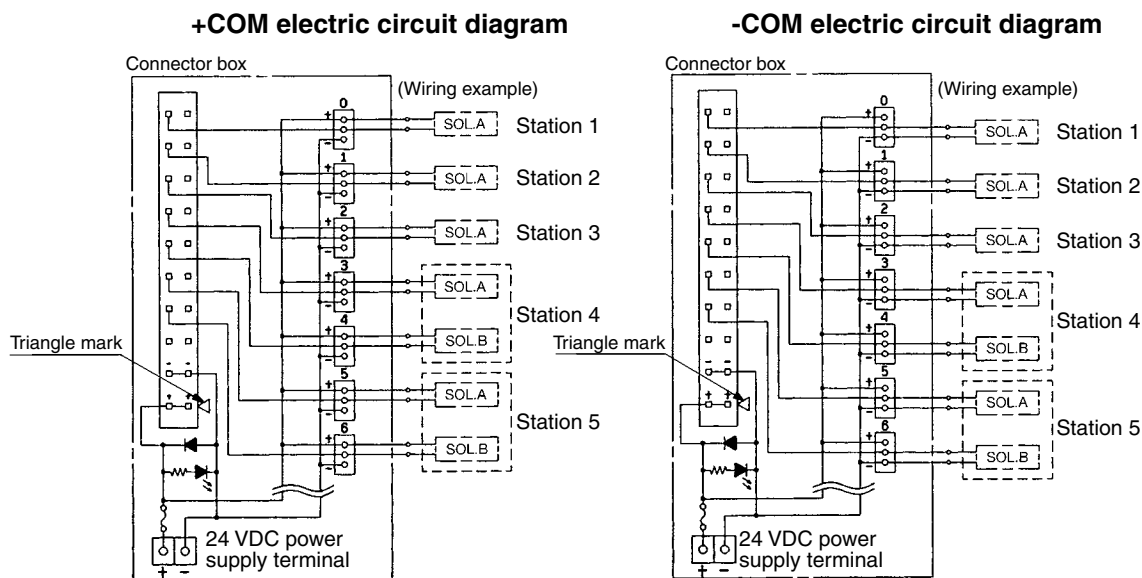
## Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)		
			C[dm³/(s·bar)]	b	Cv	C[dm³/(s·bar)]	b	Cv
10-SS5Y3-45-□	C8	C6	0.88	0.21	0.22	0.95	0.18	0.22
10-SS5Y5-45-□	C10	C8	2.2	0.24	0.53	2.5	0.18	0.58

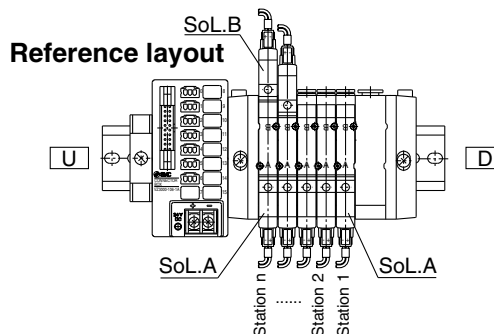


Note) The value is for manifold base with 5 stations and individually operated 2 position type.

## Manifold wiring diagram (Circuit diagram for the reference layout)

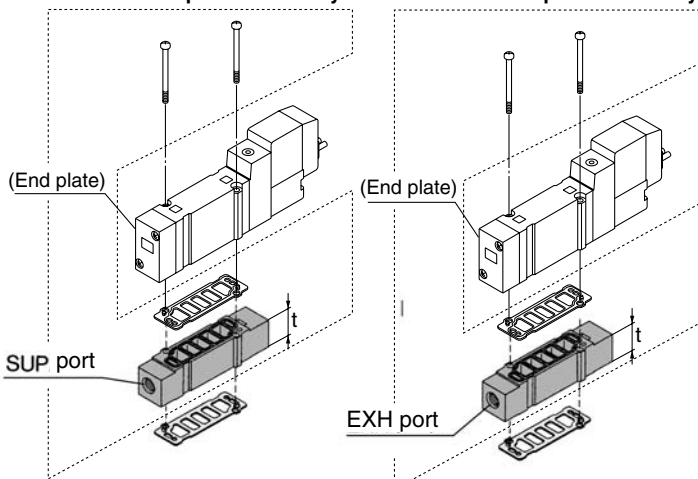


- Connector box for +COM allows transmission unit G71-0D16, manufactured by OMRON Corp. to be connected directly for serial transmission. Additionally, it can also be used for the PC wiring system.
- When an external power source must be supplied to the manifold, correct polarity must be observed, otherwise damage to PLC may occur.
- The wiring of solenoid valves corresponds to the labeled connector box 0 to 15 from D side.
- If valves other than non-polar type are used, this may cause malfunction.



## Manifold Option

### Individual SUP spacer assembly ■ Individual EXH spacer assembly



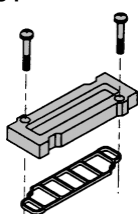
Series	Assembly part no.	Port size	t
10-SY3000	SY3000-38-2A	M5 x 0.8	11
10-SY5000	SY5000-38-16 * A	1/8"	15

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

Series	Assembly part no.	Port size	t
10-SY3000	SY3000-39-2A	M5 x 0.8	11
10-SY5000	SY5000-39-16 * A	1/8"	15

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

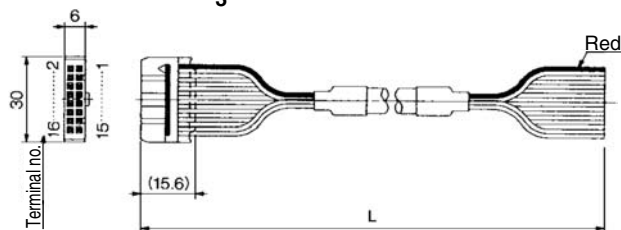
### Blanking plate assembly



Series	Assembly part no.
10-SY3000	SX3000-75-1A
10-SY5000	SX5000-76-1A

### Cable assembly

**AXT100-FC20-1**  
to  
**3**



### Flat ribbon cable connector assembly

Cable length (L)	Assembly part no.	Note
1.5m	AXT100-FC20-1	Cable 20 cores x 22AWG
3m	AXT100-FC20-2	
5m	AXT100-FC20-3	

\* For other connectors in the marketplace, use a 20 pins with strain relief conforming to MIL-C-83503.

### Example of connector manufacturers

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

### SUP block disk

By installing a SUP block disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.



Series	Part no.
10-SY3000	SX3000-77-1A
10-SY5000	SX5000-77-1A

### EXH block disk

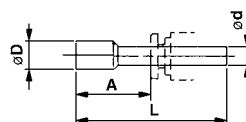
By installing an EXH block disk in the exhaust passage of a manifold valve, it is possible to divide the valve's exhaust so that it does not affect another valve. (Two block disks are needed to divide both exhausts.)



Series	Part no.
10-SY3000	SX3000-77-1A
10-SY5000	SX5000-77-1A

### Plug (White)

These are inserted in unused cylinder ports and SUP, EXH ports. Purchasing order is available in units of 10 pieces.



### Dimensions

Applicable fitting size ød	Model	A	L	D
4	10-KQP-04	16	32	6
6	10-KQP-06	18	35	8
8	10-KQP-08	20.5	39	10
10	10-KQP-10	22	43	12
1/8"	10-KQP-01	16	31.5	5
5/32"	10-KQP-03	16	32	6
1/4"	10-KQP-07	18	35	8.5
5/16"	10-KQP-09	20.5	39	10

### \* : Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

### Caution

Mounting screw tightening torque

M2: 0.16N·m  
M3: 0.8N·m  
M4: 1.4N·m

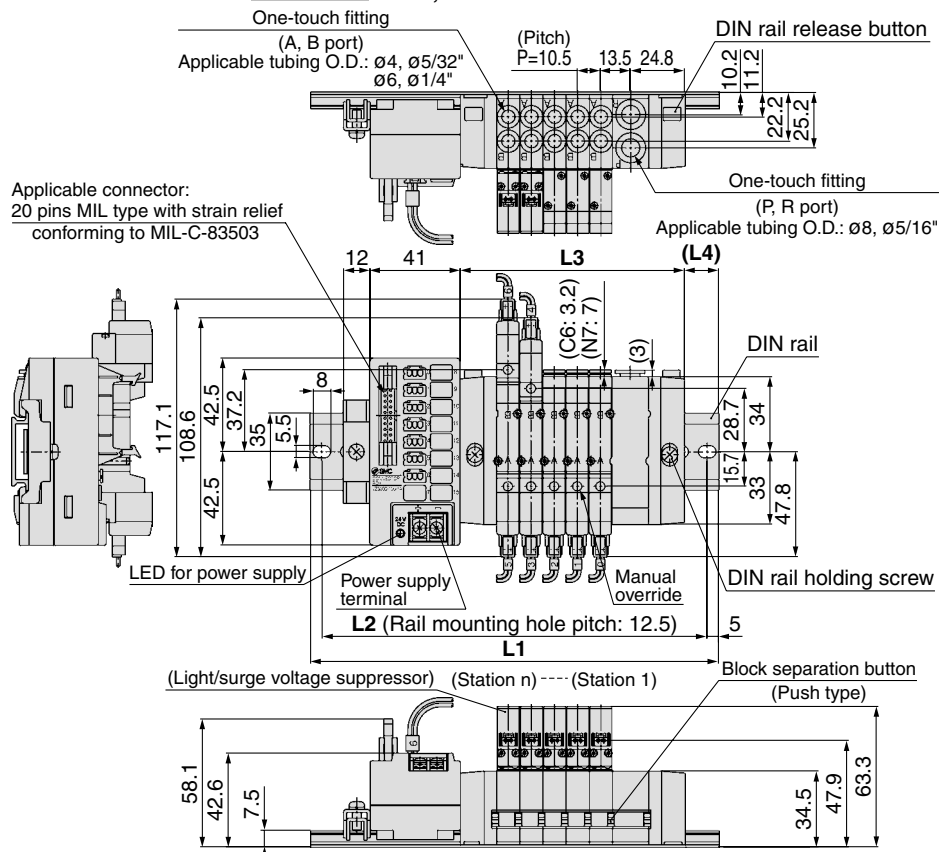
### Warning

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

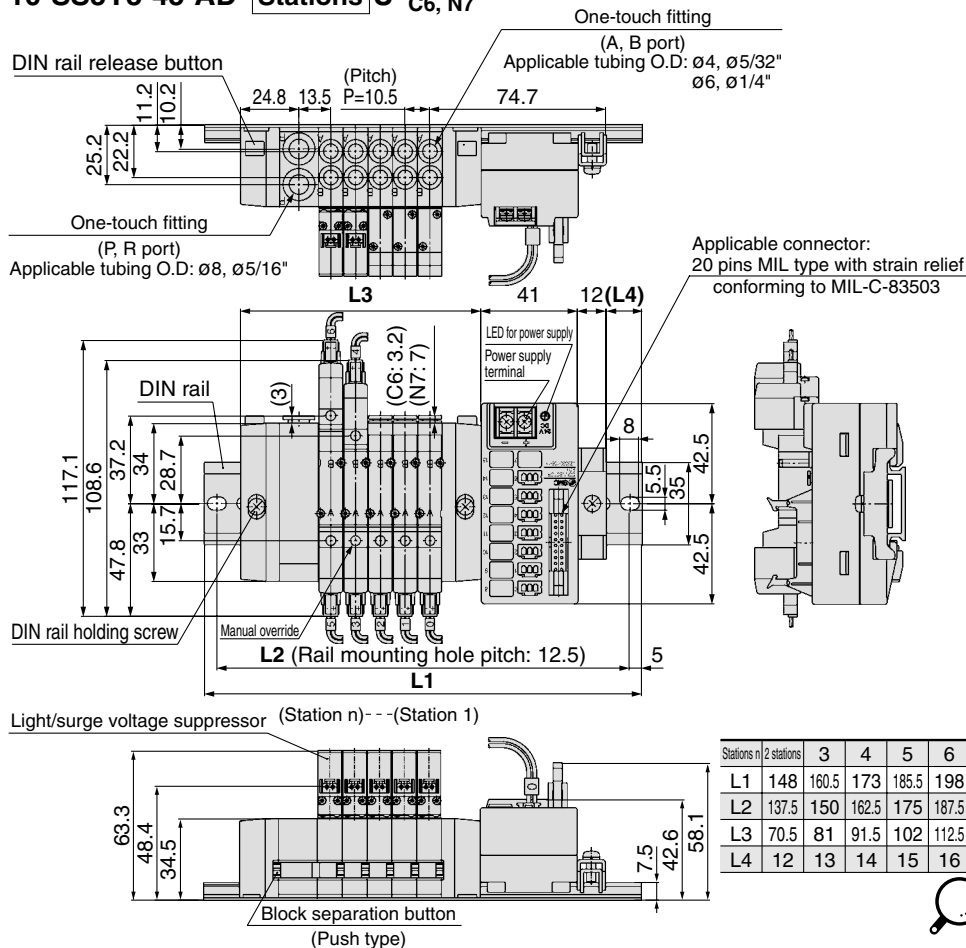


## Dimensions: Series 10-SY3000


**10-SS5Y3-45-AU- Stations D-C<sub>4</sub>, N<sub>3</sub>  
C<sub>6</sub>, N<sub>7</sub>**



**10-SS5Y3-45-AD- Stations U- C4, N3  
C6, N7**



Stations	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16 stations
L1	148	160.5	173	185.5	198	210.5	210.5	223	235.5	260.5	273	285.5	298	310.5	310.5
L2	137.5	150	162.5	175	187.5	200	200	212.5	225	250	262.5	275	287.5	300	300
L3	70.5	81	91.5	102	112.5	123	133.5	144	154.5	181.5	192	202.5	213	223.5	234
L4	12	13	14	15	16	17	12	13	14	13	14	15	16	17	11.5

 \* Two SUP/EXH blocks are provided for models with 11 stations or more.

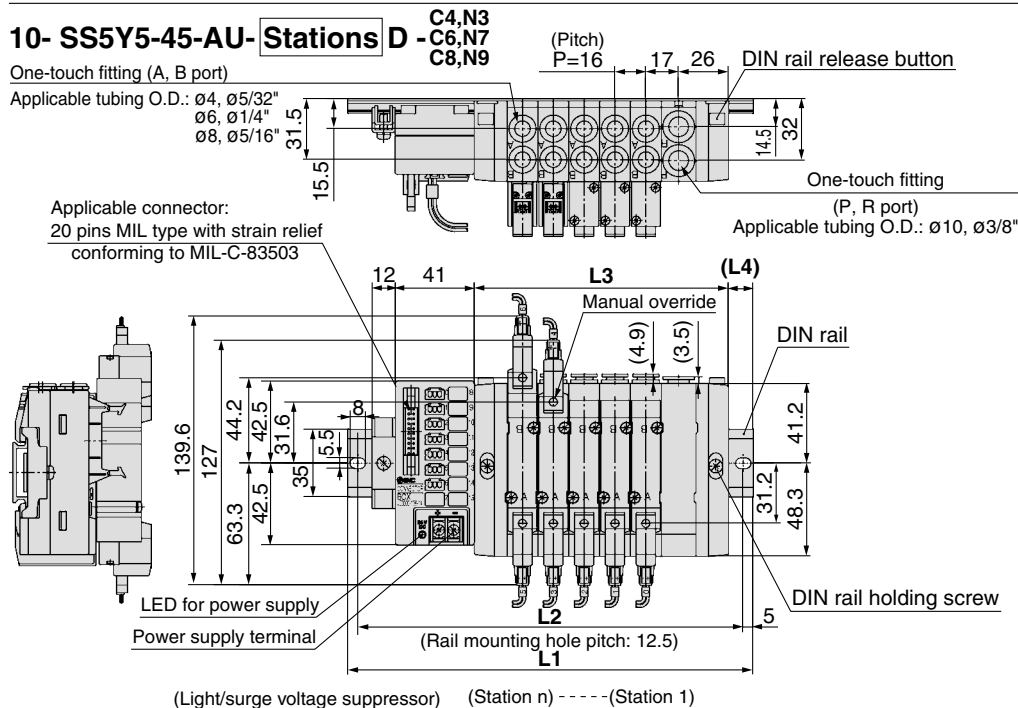
## Dimensions: Series 10-SY5000

### 10-SS5Y5-45-AU- Stations D - C4,N3 C6,N7 C8,N9

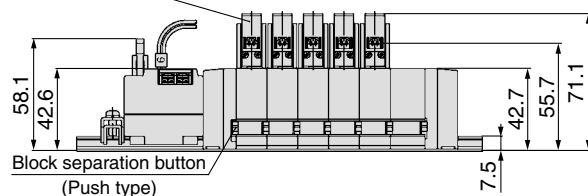
One-touch fitting (A, B port)

Applicable tubing O.D.:  $\varnothing 4$ ,  $\varnothing 5/32$ "  
 $\varnothing 6$ ,  $\varnothing 1/4$ "  
 $\varnothing 8$ ,  $\varnothing 5/16$ "

Applicable connector:  
20 pins MIL type with strain relief  
conforming to MIL-C-83503



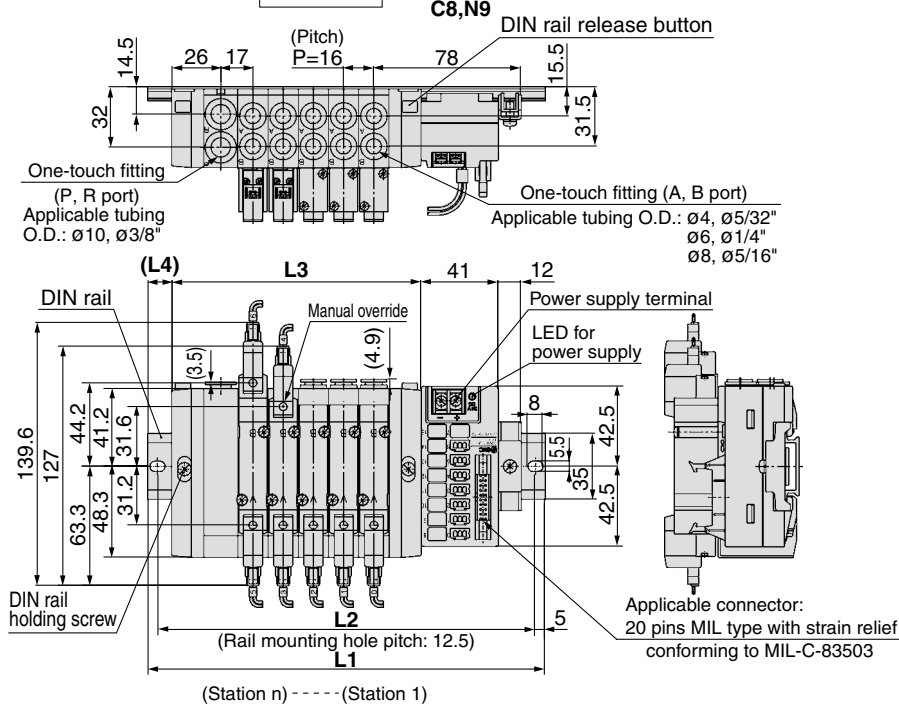
(Light/surge voltage suppressor) (Station n) -----(Station 1)



### 10-SS5Y5-45-AD- Stations U - C4,N3 C6,N7 C8,N9

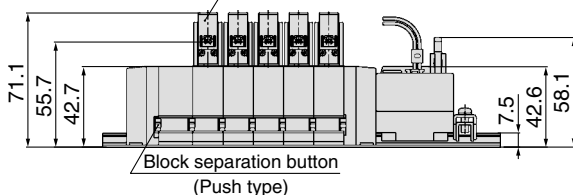
One-touch fitting (A, B port)

Applicable tubing O.D.:  $\varnothing 4$ ,  $\varnothing 5/32$ "  
 $\varnothing 6$ ,  $\varnothing 1/4$ "  
 $\varnothing 8$ ,  $\varnothing 5/16$ "



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

Light/surge voltage suppressor



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16 stations
L1	160.5	185.5	198	210.5	235.5	248	260.5	273	298	323	348	360.5	373	398	410.5
L2	150	175	187.5	200	225	237.5	250	262.5	287.5	312.5	337.5	350	362.5	387.5	400
L3	84	100	116	132	148	164	180	196	212	246	262	278	294	310	326
L4	11.5	16	14.5	12.5	17	15.5	13.5	12	16.5	12	16.5	14.5	13	17.5	15.5



\* Two SUP/EXH blocks are provided for models with 11 stations or more.

Series

10-SY300/500

Mixed mounting type  
on 5 port valve manifold

3 port valve can be mounted on manifold for 5 port valve.

Application

Possible to be mounted on all kinds of manifolds for Series 10-SY3000/5000. Refer to "How to Order Manifolds" for details.

How to Order Valve Manifold Assembly

Ordering example

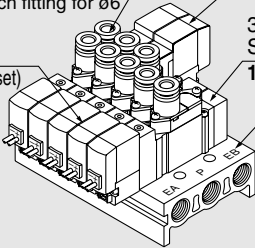
Cylinder port size  
C6: With One-touch fitting for ø6

5 port valve:  
Single solenoid  
10-SY3120-5G-C6 (1set)

5 port valve:  
Double solenoid  
10-SY3220-5G-C6 (2 sets)

3 port valve:  
Single solenoid (N.C)  
10-SY313-5G-C6 (2 sets)

Manifold base (5 stations)  
10-SS5Y3-20-05



10-SS5Y3-20-05

1 set (Type 20, 5 station manifold base part no.)

\* 10-SY313-5G-C6

2 sets (3 port valve, type N.C part no.)

\* 10-SY3120-5G-C6

1 set (5 port valve, single solenoid part no.)

\* 10-SY3220-5G-C6

2 sets (5 port valve, double solenoid part no.)

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

Add the valve and option part number under the manifold base part number.  
When the arrangement will be complicated, fill out the manifold specification sheet to instruct SMC.

## Body ported / How to Order Valve

Individual wiring: For 10-SS5Y<sup>3</sup><sub>5</sub>-20

**10—SY 5 1 3 5 L 01**

**Clean series** Series

3	10-SY300
5	10-SY500

**Type of actuation**

1	Normally closed (N.C.)
2	Normally open (N.O.)

**Solenoid type**

Nil	Single solenoid
D	Double solenoid

**Coil specifications**

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

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

**Rated voltage**

DC specifications		AC specifications	
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□", only DC voltage is available.

**Electrical entry**

24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC			24, 12 VDC 100, 110, 200, 220 VAC	24, 12 VDC 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>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>MN:</b> Without lead wire	<b>DO:</b> Without connector	<b>W□:</b> With connector cable (Note 1)
	<b>LO:</b> Without connector	<b>MO:</b> Without connector		

\* LN, MN types: with 2 sockets.  
\* Refer to page 488 for Series 10-SY300 DIN terminal.  
\* DIN terminal type "Y" conforming to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 482.

\* For connector cable of M8 connector, refer to page 490.  
Note 1) Please enter a symbol of a cable length with reference to page 491.

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

\* Except M5

**A port size**  
**Thread piping**

Symbol	Port size	Applicable series
M5	M5 x 0.8	10-SY300
01	1/8	10-SY500

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

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY300
C6	One-touch fitting for ø6	10-SY300
C6	One-touch fitting for ø6	10-SY500
C8	One-touch fitting for ø8	10-SY500

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

Symbol	Port size	Applicable series
N3	One-touch fitting for ø 3/8"	10-SY300
N7	One-touch fitting for ø 1/4"	10-SY300
N7	One-touch fitting for ø 1/4"	10-SY500
N9	One-touch fitting for ø 3/16"	10-SY500

**Manual override**

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

**Light/surge voltage suppressor**

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

Nil	Without 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 "R" and "U", only DC voltage is available.  
\* Power saving circuit is only available in the "Z" type.

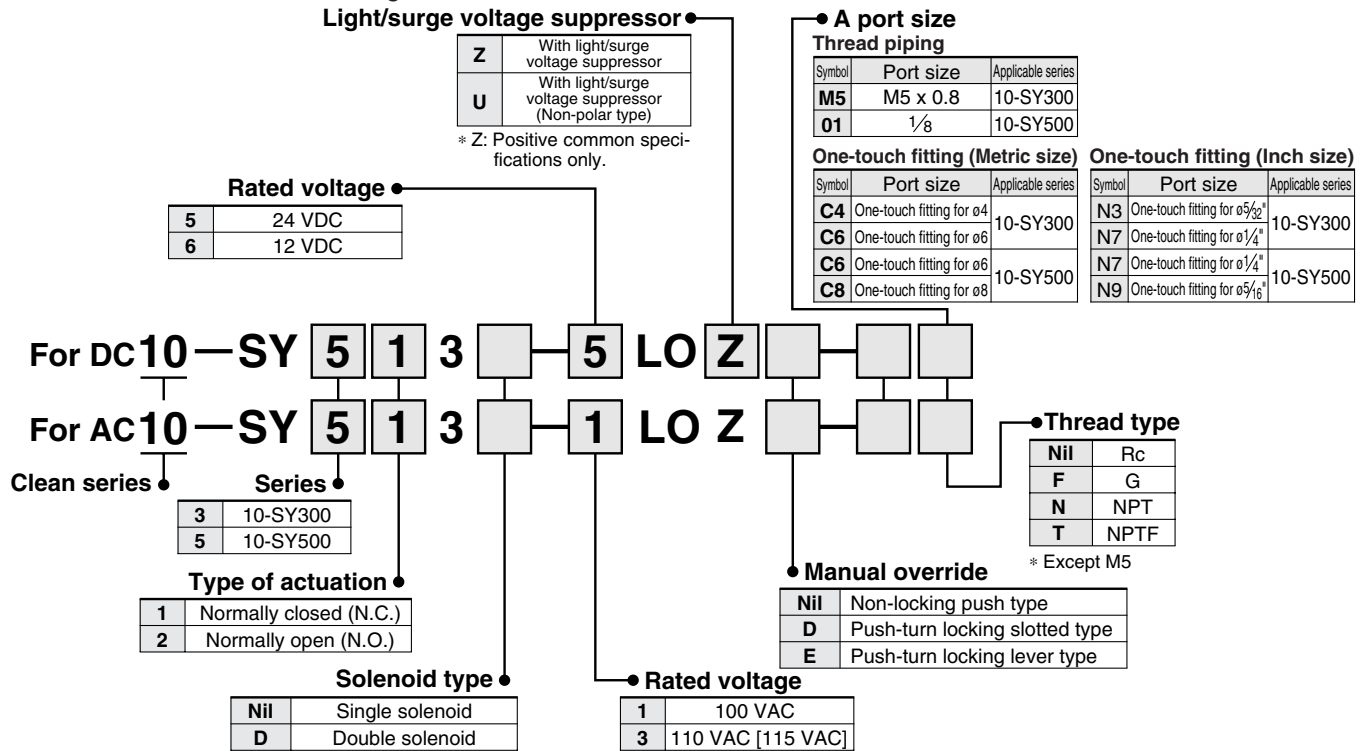
**Electrical entry for D (Only 10-SY500)**

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

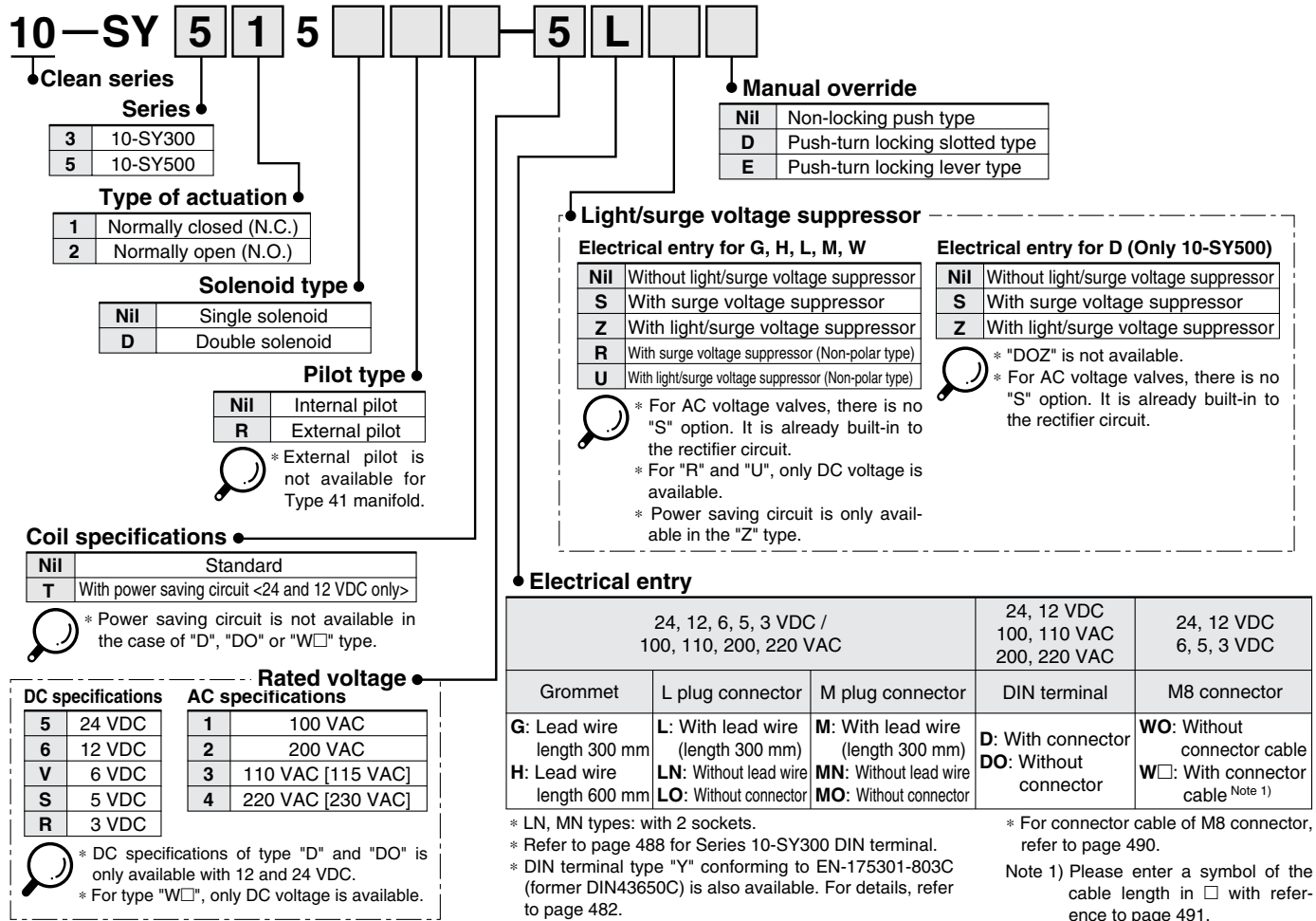
\* "DOZ" is not available.  
\* For AC voltage valves, there is no "S" option. It is already built-in to the rectifier circuit.

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 413.)

## Body Ported / How to Order Valves

Flat ribbon cable: 10-SS5Y<sup>3</sup>-20P

## Base Mounted / How to Order Valves

Individual wiring: For 10-SS5Y<sup>3</sup>-41/42/45 type

## Base Mounted / How to Order Valve

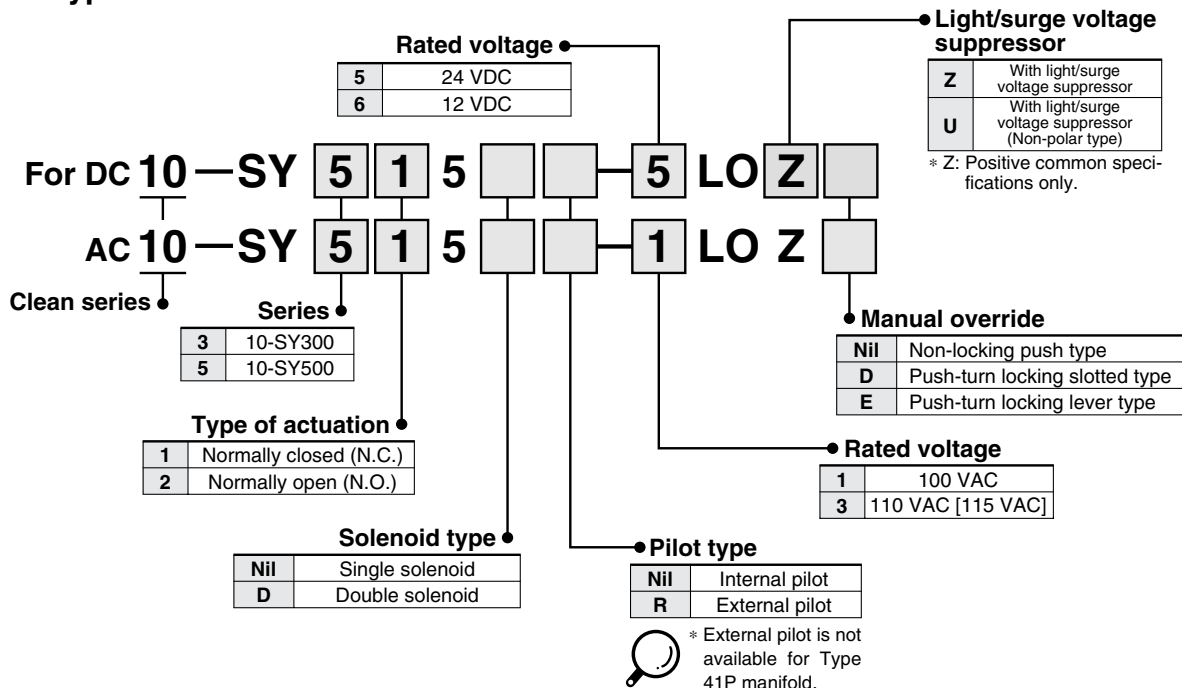
Flat ribbon cable:

Connector box type:

For 10-SS5Y<sup>3</sup><sub>5</sub>-41P/42P/45-A

41P/42P  
45-A

41P/42P



# Series 10-SY3000/5000

Type 45

Made to Order Specifications  
External pilot

External pilot manifold bases for low-pressure/vacuum use are added to stacking style/DIN rail manifolds.

## Individual wiring / Connector box type

### How to Order Manifold

#### Type 45

10-SS5Y<sup>3</sup><sub>5</sub>-45(-A)-05 U R C6

Clean series

Series	
3	10-SY3000
5	10-SY5000

Valve stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

The number of blanking plate assembly is included.

#### SUP/EXH block assembly mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations
M	Special specifications	

For special specifications, indicate separately on the manifold specification sheet.

#### SUP/EXH block assembly specifications

Symbol	Specifications
R	External pilot specifications

#### Option

When a DIN rail longer than the specified stations is required, specify the station number. (20 stations maximum)

#### A, B port size

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

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY3000
C6	One-touch fitting for ø6	
M	Mixed	
C4	One-touch fitting for ø4	10-SY5000
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	
M	Mixed	

#### One-touch fitting (Inch size)

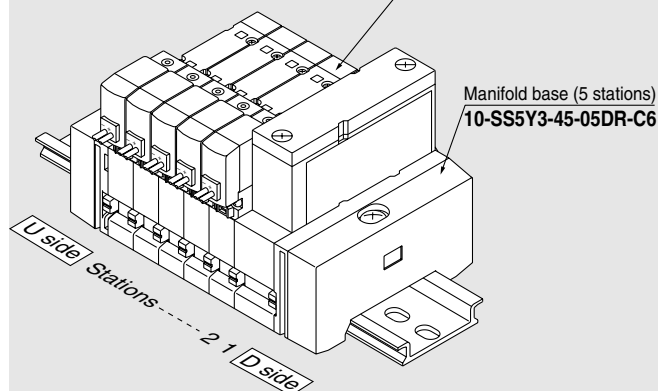
Symbol	Port size	Applicable series
N3	One-touch fitting for ø 5/32"	10-SY3000
N7	One-touch fitting for ø 1/4"	
M	Mixed	
N3	One-touch fitting for ø 5/32"	10-SY5000
N7	One-touch fitting for ø 1/4"	
N9	One-touch fitting for ø 5/16"	
M	Mixed	

\* In the case of mixed specifications, indicate separately on the manifold specification sheet.

### How to Order Valve Manifold Assembly

#### Ordering example

Single solenoid (External pilot specifications)  
10-SY3140R-5G(5set)



10-SS5Y3-45-05DR-C6.....1 set (external pilot specifications part no.)  
\* 10-SY3140R-5G.....5 sets (Single solenoid part number)

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

The valve arrangement is numbered as the 1st. station from D side regardless of the mounting position of SUP/EXH block assembly. In ordering, specify the part nos. in the order from the 1st. station on D side. Besides, when the arrangement will be complicated, fill out the manifold specification sheet to instruct SMC. For manifolds with SUP/EXH block assembly at each end of the manifold, external pilot ports will be also located at each end of the manifold.

## How to Order Valves

**10** — **SY** **5** **2** **40** **5** **L**

### • Clean series

#### Series

3	10-SY3000
5	10-SY5000

#### Type of actuation

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

#### Pilot type

Nil	Internal pilot
R	External pilot

#### Coil specifications

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

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

#### Rated voltage

##### DC specifications

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

##### AC specifications (50/60Hz)

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

\* DC specifications of type "D" and "DO" is only available with 12 and 24 VDC.  
 \* For type "W□", only DC voltage is available.  
 \* "D" and "DO" types are only available for SY5000.

### • Manual override

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

### • 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 "R" and "U", only DC voltage is available.  
 \* Power saving circuit is only available in the "Z" type.

#### Electrical entry for D (SY5000 only)

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

24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC			24, 12 VDC 100, 110 VAC 200, 220 VAC	24, 12 VDC 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal	M8 Connector
G: Lead wire length 300 mm H: Lead wire length 600 mm	L: With lead wire (length 300 mm) LN: Without lead wire LO: Without connector	M: With lead wire (length 300 mm) MN: Without lead wire MO: Without connector	(10-SY5000 only) D: With connector DO: Without connector	WO: Without connector cable W□: With connector cable <sup>Note 1)</sup>

\* LN, MN: with 2 sockets  
 \* "D" and "DO" only available for 10-SY5000.  
 \* DIN terminal type "Y" conforming to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 482.  
 \* Setting "-5LOU" is available only for connector box type.  
 \* For connector cable of M8 connector, refer to page 490.  
 Note 1) Please enter a symbol of the cable length in □ with reference to page 491.

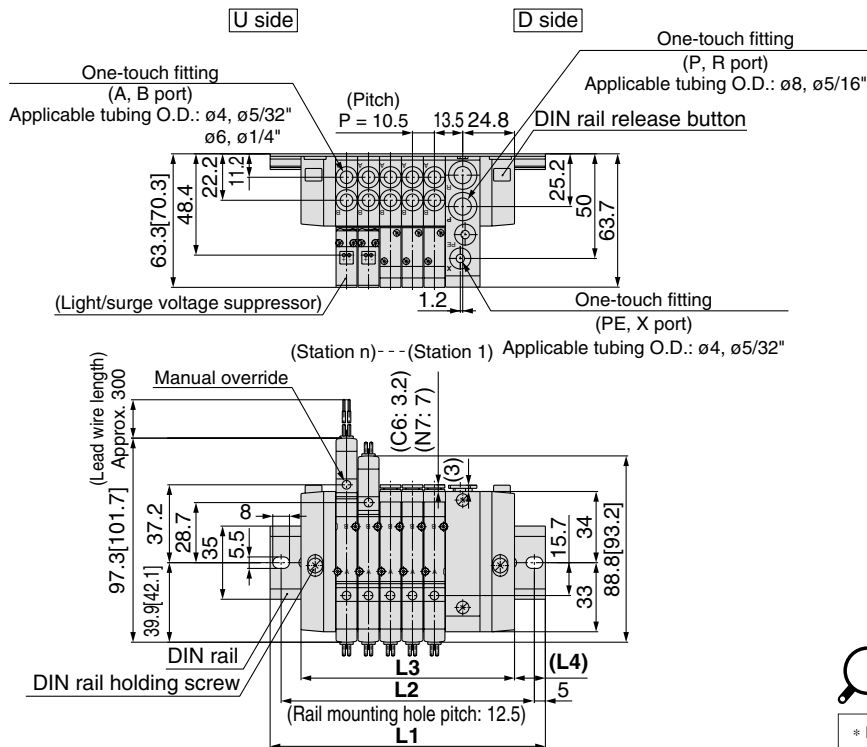


External Pilot



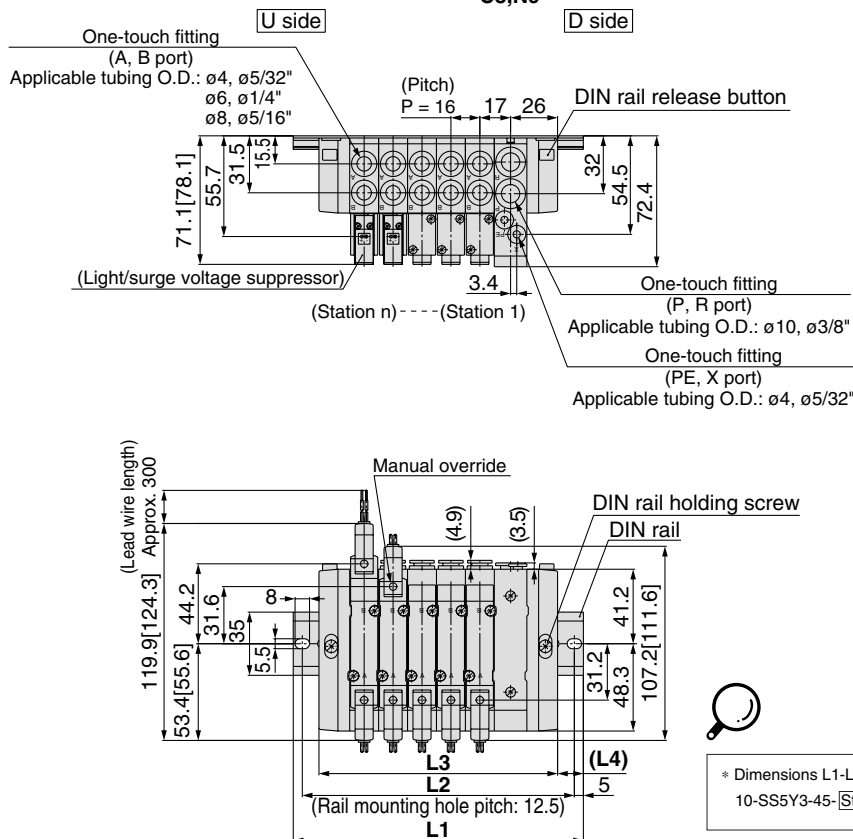
Note) [ ]: AC

10-SY3000: 10-SS5Y3-45- Stations DR- <sup>C4,N3</sup><sub>C6,N7</sub>



\* Dimensions L1-L4 are the same as those of  
10-SS5Y3-45- Stations <sup>U</sup><sub>D</sub> <sup>C4,N3</sup><sub>C6,N7</sub>

10-SY5000: 10-SS5Y5-45- Stations DR- <sup>C4,N3</sup><sub>C6,N7</sub>  
<sup>C8,N9</sup>



\* Dimensions L1-L4 are the same as those of  
10-SS5Y3-45- Stations <sup>U</sup><sub>D</sub> <sup>C4,N3</sup><sub>C6,N7</sub>  
<sup>B</sup> <sup>C8,N9</sup>

\* Dimensions of 10-SS5Y<sup>3</sup>-45- Stations-UR are the same as those of  
10-SS5Y<sup>3</sup>-45- Stations-DR.

# Series 10-SY3000/5000

Type M45

Made to Order Specifications  
Mixed mounting

Non plug-in type

10-SY3000 can be mounted on 10-SY5000 base.

## How to Order Manifolds

Type M45 (Mixed mounting type)

10-SS5Y5-M45-05 U-C86

Clean series

Mixed mounting type

Valve stations

SUP/EXH block assembly mounting position

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

The number of blanking plate assemblies is also included.

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations
M	Special specifications	

For special specifications, indicate separately on the manifold specification sheet.

Option

When a DIN rail longer than the specified stations is required, specify the station number. (20 stations maximum)

A, B port size

### One-touch fitting (Metric size)

Symbol	Port size
C44	SY5000: One-touch fitting for ø4 SY3000: One-touch fitting for ø4
C46	SY5000: One-touch fitting for ø4 SY3000: One-touch fitting for ø6
C64	SY5000: One-touch fitting for ø6 SY3000: One-touch fitting for ø4
C66	SY5000: One-touch fitting for ø6 SY3000: One-touch fitting for ø6
C84	SY5000: One-touch fitting for ø8 SY3000: One-touch fitting for ø4
C86	SY5000: One-touch fitting for ø8 SY3000: One-touch fitting for ø6
M	Mixed

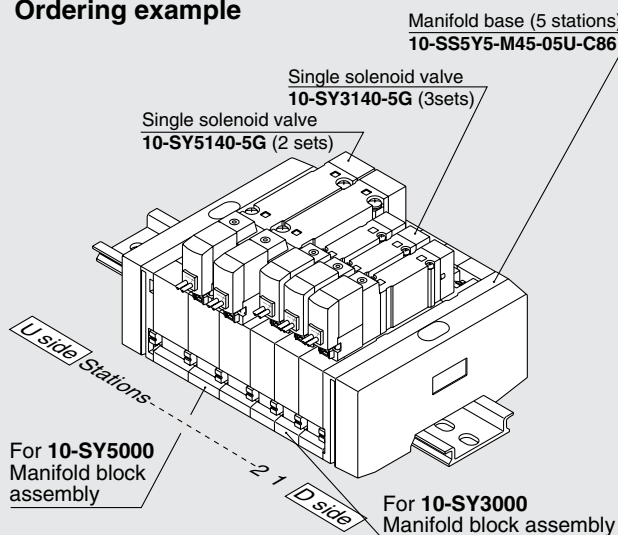
### One-touch fitting (Inch size)

Symbol	Port size
N33	SY5000: One-touch fitting for ø <sup>5</sup> / <sub>32</sub> " SY3000: One-touch fitting for ø <sup>5</sup> / <sub>32</sub> "
N37	SY5000: One-touch fitting for ø <sup>5</sup> / <sub>32</sub> " SY3000: One-touch fitting for ø <sup>1</sup> / <sub>4</sub> "
N73	SY5000: One-touch fitting for ø <sup>1</sup> / <sub>4</sub> " SY3000: One-touch fitting for ø <sup>5</sup> / <sub>32</sub> "
N77	SY5000: One-touch fitting for ø <sup>1</sup> / <sub>4</sub> " SY3000: One-touch fitting for ø <sup>1</sup> / <sub>4</sub> "
N93	SY5000: One-touch fitting for ø <sup>9</sup> / <sub>16</sub> " SY3000: One-touch fitting for ø <sup>5</sup> / <sub>32</sub> "
N97	SY5000: One-touch fitting for ø <sup>9</sup> / <sub>16</sub> " SY3000: One-touch fitting for ø <sup>1</sup> / <sub>4</sub> "
M	Mixed

\* In the case of mixed specifications, indicate separately on the manifold specification sheet.

## How to Order Valve Manifold Assembly

### Ordering example



10-SS5Y5-M45-05U-C86 .....1set (Type M45 manifold base part no.)  
 \* 10-SY3140-5G .....3 sets (Single solenoid part no.)  
 \* 10-SY5140-5G .....2 sets (Single solenoid part no.)  
 The asterisk denotes the symbol for assembly.  
 Prefix it to the part nos. of the solenoid valve, etc.

The valve arrangement is numbered as the 1st. station from D side regardless of the mounting position of SUP/EXH block assembly. In ordering, specify the part nos. in the order from the 1st. station on D side. Besides, when the arrangement will be complicated, fill out the manifold specification sheet to instruct SMC.

## How to Order Valves

10-SY 5 2 40 5 L

Clean series

Series

3	10-SY3000
5	10-SY5000

Actuation

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

Coil specifications

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

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

Rated voltage

### DC specifications

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

### AC specifications (50/60 Hz)

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

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

Manual override

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

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 "R" and "U", DC voltage is only available.  
 \* Power saving circuit is only available in the "Z" type.

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
G: Lead wire length 300 mm	L: With lead wire (length 300 mm)	M: With lead wire (length 300 mm)	WO: Without connector cable
H: Lead wire length 600 mm	LN: Without lead wire	MN: Without lead wire	W□: With connector cable <sup>Note 1)</sup>
	LO: Without connector	MO: Without connector	

\* LN, MN: with 2 sockets

\* For connector cable of M8 connector, refer to page 490.

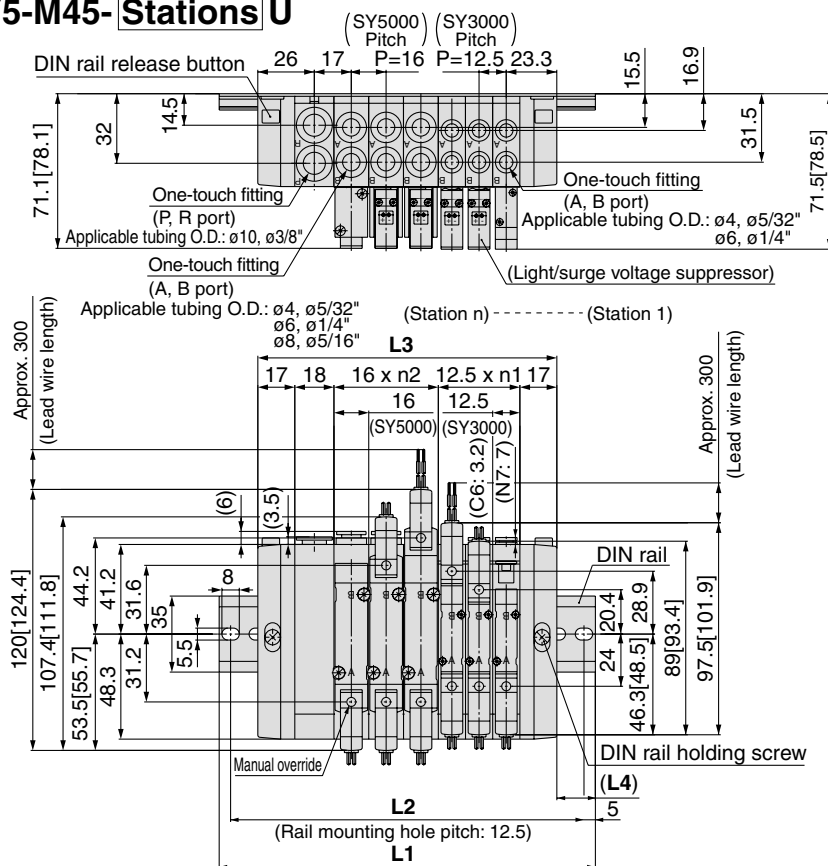
Note 1) Please enter a symbol of the cable length in □ with reference to page 491.

# Dimensions: Mixed Mounting



Note) [ ]: AC

## 10-SS5Y5-M45- Stations U



L dimension: Formulae for L1 to L4  
 $L3 = 12.5 \times n1 + 16 \times n2 + 52$

$M = \left( \frac{L3}{12.5} + 1 \right)$  Omit decimals

$L1 = 12.5 \times M + 23$

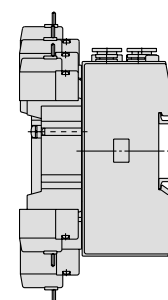
$L2 = L1 - 10.5$

$L4 = (L1 - L3)/2$

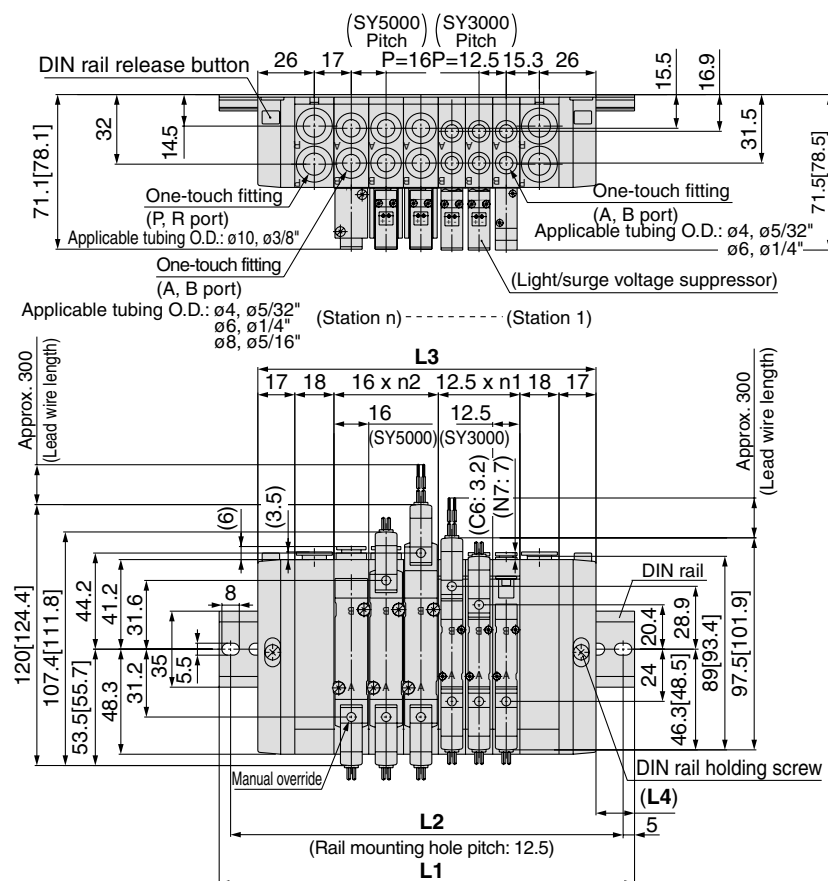
n1: Number of 10-SY3000  
 n2: Number of 10-SY5000



\* The L1 to L4 dimensions of 10-SS5Y5-M45- Stations D are identical to those of 10-SS5Y5-M45- Stations U.



## 10-SS5Y5-M45- stations B



L dimension: Formula for L1 to L4  
 $L3 = 12.5 \times n1 + 16 \times n2 + 70$

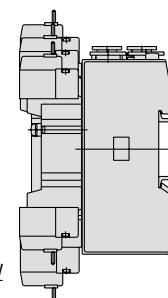
$M = \left( \frac{L3}{12.5} + 1 \right)$  Omit decimals

$L1 = 12.5 \times M + 23$

$L2 = L1 - 10.5$

$L4 = (L1 - L3)/2$

n1: Number of 10-SY3000  
 n2: Number of 10-SY5000



# Series 10-SYJ5000/7000/9000/500

Made to Order Specifications  
DIN terminal type conforming  
to EN-175301-803C (former DIN 43650C) standard

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

## How to Order Valves

**Series**

5	10-SY500
---	----------

**Type of actuation**

1	Normally open
2	Normally closed

**Type of actuation**

3	Body ported
5	Base mounted

**A port size**

Symbol	Port size
Nil	Base mounted
01	1/8
C4	One-touch fitting for ø4
C6	One-touch fitting for ø6
C8	One-touch fitting for ø8
N3	One-touch fitting for ø5/32"
N7	One-touch fitting for ø1/4"
N9	One-touch fitting for ø5/16"

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**5 port valve mixed mounting style 3 port valve**

**5 port valve**

**Clean series**

**Series**

5	10-SY5000
7	10-SY7000
9	10-SY9000

**Type of actuation**

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

**Body type**

2	Body ported
4	Base mounted

**Pilot type**

Nil	Internal pilot
R	External pilot

\* R: Base mounted type only

**Rated voltage**

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

**Electrical entry**

Y: With connector

YO: Without connector

**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.

**Manual override**

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

**Body ported Thread piping**

Symbol	Port size	Applicable series
01	1/8	10-SY5000
02	1/8	10-SY7000
03	3/8	10-SY9000

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

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	10-SY5000
C6	One-touch fitting for ø6	10-SY5000
C8	One-touch fitting for ø8	10-SY7000
C8	One-touch fitting for ø8	10-SY7000
C10	One-touch fitting for ø10	10-SY9000
C8	One-touch fitting for ø8	10-SY9000
C12	One-touch fitting for ø10	10-SY9000

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

Symbol	Port size	Applicable series
N3	One-touch fitting for ø5/32"	10-SY5000
N7	One-touch fitting for ø1/4"	10-SY5000
N9	One-touch fitting for ø5/16"	10-SY7000
N9	One-touch fitting for ø5/16"	10-SY7000
N11	One-touch fitting for ø3/8"	10-SY7000
N9	One-touch fitting for ø5/16"	10-SY9000
N11	One-touch fitting for ø3/8"	10-SY9000

**For base mounted**

Symbol	Port size	Applicable series
Nil	Without sub-plate	10-SY5000
02	With sub-plate	10-SY7000
03	With sub-plate	10-SY7000
04	With sub-plate	10-SY9000

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 catalog on page 413.)

## How to Order Pilot Valve Assembly

10-V115-5Y

Clean series

Rated voltage

DC	
5	24 VDC
6	12 VDC
AC (50/60 Hz)	
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 terminal	With connector
YO		Without connector

## DIN terminal part no.

Without light			SY100-82-1
With light			
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 IP65 (enclosure) standard cannot be met if the cable other than the specified cable (ø3.5 to ø7.5) is used. Observe the specified torque range when tightening the ground nuts or holding screws. For DIN terminals (wiring procedures, procedures for changing electrical entries, precautions, applicable cable, circuit diagram), refer to pages 487 and 488.
- Type D, DIN terminal with 9.4 mm pitch between terminals is not interchangeable.
- To distinguish from the type D, DIN connector, "N" is listed at the end of voltage symbol. (For connector parts without lights, "N" is not indicated. Please refer to the name plate to distinguish.)
- Dimensions are the same as those of Type D connector.
- When replacing a pilot valve assembly only, "10-V115-□□" is interchangeable with "10-V115-□□". Do not replace 10-V111 (G, L, M) with 10-V115-□□/□□ (DIN terminal), and vice versa.

# Series 10-SY3000/5000/7000/9000

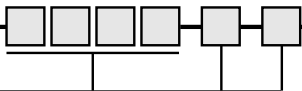
Made to order specifications  
Main valve / Fluoro rubber

## Main valve / Fluoro rubber

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

- When using a lubricant other than the recommended turbine oil, and there is a possibility of malfunction due to swelling of the spool valve seals.

Applicable solenoid valve series 10-SY3 $\frac{2}{6}$ 0, 10-SY5 $\frac{2}{6}$ 0, 10-SY7 $\frac{2}{6}$ 0, 10-SY9 $\frac{2}{6}$ 0

Model no. 10-SY $\frac{3}{5/7/9}$  $\frac{20}{40/60}$ --X90

• Clean series

• Entry is the same as standard products.

Specifications and performance are the same as standard products.

Air cylinder

Rotary actuator

Air gripper

Directional control  
valve

Flow control  
equipment

Filter, Pressure  
control equipment

Fittings & Tubing

Air preparation  
equipment

Pressure switch

Clean gas filter



# Series 10-SY

## Specific Product Precautions 1

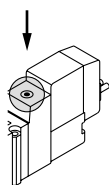
Be sure to read before handling.

### Manual override operation

#### ⚠ Warning

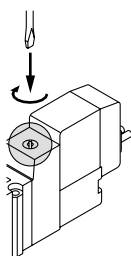
##### ■ Non-locking push type [Standard type]

Press in the direction of the arrow.

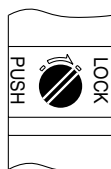


##### ■ Push-turn locking slotted type [Type D]

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

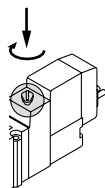
When operating the locking type D with a screwdriver, turn it gently using a watchmaker's screwdriver..

[Torque: Less than 0.1 N·m]

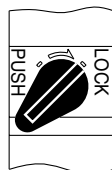
##### ■ Push-turn locking lever type [Type E]

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 200/220 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 200/220 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.

### Exhaust throttle

#### ⚠ Caution

With series 10-SY, the pilot valve and main valve share a common exhaust inside the valve. Therefore, do not block the exhaust port when arranging the piping.

### Series 10-SY3000, 5000, 7000, 9000 Used as a 3 port valve

#### ⚠ Caution

In the case of using a 5 port valve as a 3 port valve Series 10-SY 3000/5000/7000/9000 can be used as normally closed (N.C.) or normally open (N.O.) 3 port valves by closing one of the cylinder ports (A or B) with a plug. However, they should be used with the exhaust ports kept open. (Refer to pages 473 to 476 for dedicated 3 port solenoid valve.)

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



# Series 10-SY

## Specific Product Precautions 2

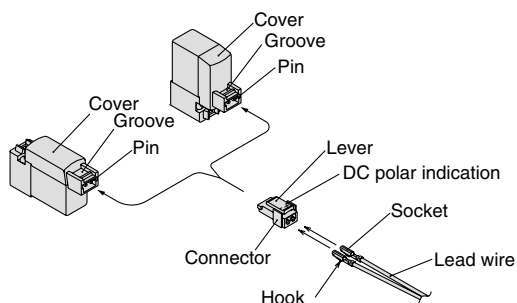
Be sure to read before handling.

### How to use plug connector

#### ⚠ Caution

##### 1. Attaching and detaching connectors

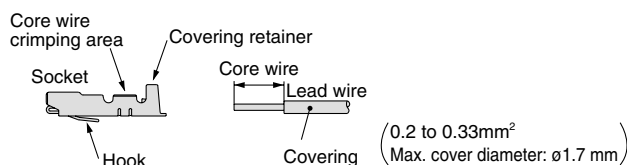
- To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.
- To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb,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



##### 2. Crimping connection of lead wire and socket

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

(Crimping tool: Model no. DXT170-75-1)



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

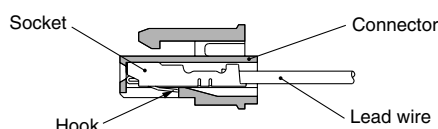
###### • Attaching

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.



### Surge voltage suppressor

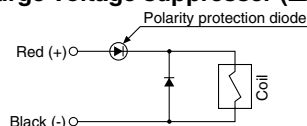
#### ⚠ Caution

(For DC)

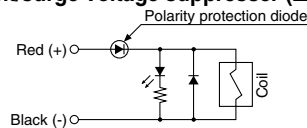
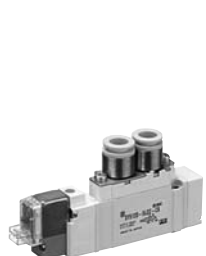
Grommet, L/M plug connector

##### ■ Standard type (With polarity)

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

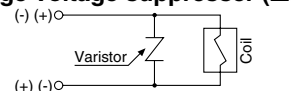


###### With light/surge voltage suppressor (□Z)

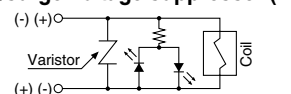


##### ■ Non-polar type

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



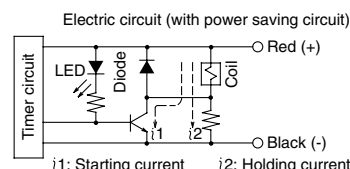
###### With light/surge voltage suppressor (□U)



- 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 and 12 VDC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- Since the valves with diode for polarity protection have a voltage drop of about 1V, be careful about allowable voltage fluctuation. (Refer to the solenoid specifications of each valve for detail.)
- 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.)

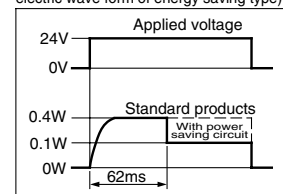


#### Working principle

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

- When a power saving circuit is installed, a diode to prevent reverse current is not provided. Therefore, use caution not to connect in reverse.
- Be careful about the allowable voltage fluctuation since voltage drop of about 0.5V occurs due to a transistor. (Refer to the solenoid specifications of each valve for details.)

(In the case of 10-SV<sub>7</sub>\*\*\*0T, the electric wave form of energy saving type)





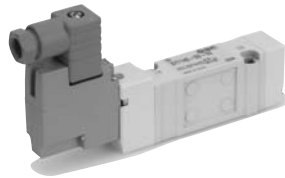
# Series 10-SY

## Specific Product Precautions 3

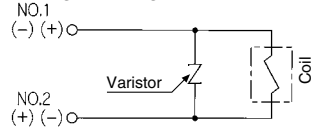
Be sure to read before handling.

### Surge voltage suppressor

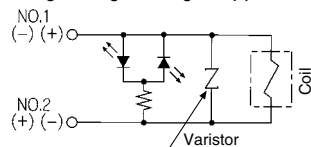
#### DIN terminal



##### With surge voltage suppressor (DS)

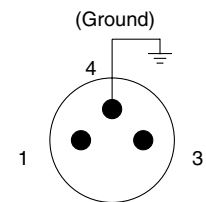


##### With light/surge voltage suppressor (DZ)



DIN terminal has no polarity.

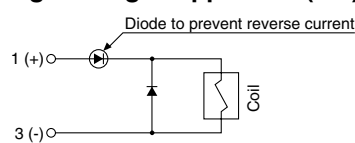
#### M8 connector type



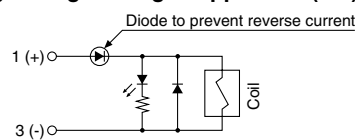
Solenoid valve side  
Pin wiring diagram

##### Standard type (With polarity)

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

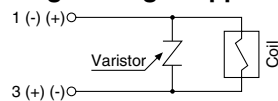


##### With light/surge voltage suppressor (□Z)

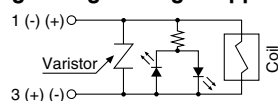


##### Non-polar type

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



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

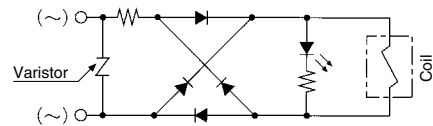


- In the case of standard type, connect + (positive) to 1 and - (negative) to 3 according to the polarity.
- For DC voltage other than 12, 24 VDC, incorrect wiring will cause damage to the surge suppressor circuit. (Use caution to polarity.)
- Since the valves with diode for polarity protection have a voltage drop of about 1V, be careful about allowable voltage fluctuation. (Refer to the solenoid specifications of each valve for detail.)

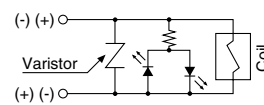
#### Grommet, L/M plug connector

##### With indicator light

GZ  
LZ, LOZ, MZ, MOZ



##### Non-polar type (□U)

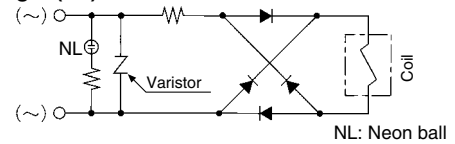


##### <For AC >

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

#### DIN terminal

##### 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 voltage. The residual voltage of the diode is approximately 1V.





# Series 10-SY

## Specific Product Precautions 4

Be sure to read before handling.

### 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)

#### How to Order

Specify the part numbers of the solenoid valve without connector and the connector assembly.

<Example> Lead wire length 2000 mm

For DC

**10-SY3120-5LO-M5**

**SY100-30-4A-20**

For AC

**10-SY3120-1LO-M5**

**SY100-30-1A-20**

#### ● Lead wire length

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

### 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, please note that using other than the specified size (ø3.5 to ø7) cabtire cable will not satisfy IP65 (enclosure) standards. Also, be sure to tighten the ground nut and holding screw within their specified torque ranges.

#### Changing the entry direction

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

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

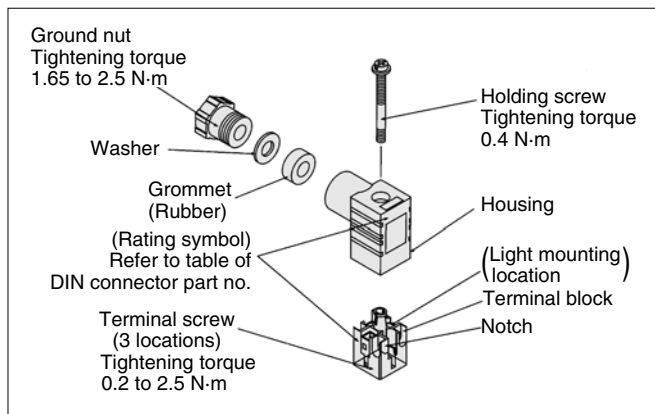
#### Precautions

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

#### Compatible cable

Cord O.D.: ø3.5 to ø7

(Reference) 0.5 mm<sup>2</sup>, 2 cores or 3 cores, equivalent to JIS C 3306





# Series 10-SY

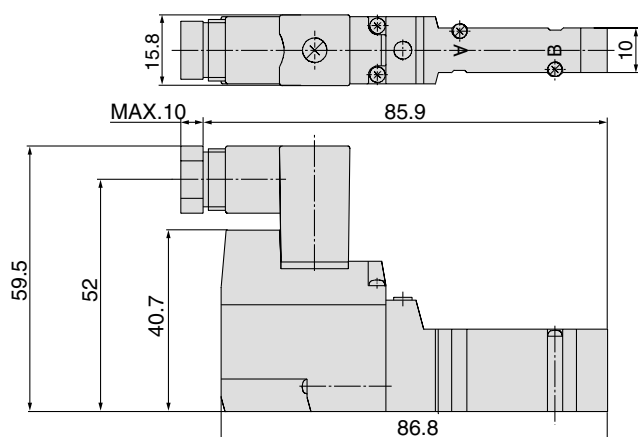
## Specific Product Precautions 5

Be sure to read before handling.

### Series 10-SY300, 10-SY3000 How to Use DIN Terminal

#### ⚠ Caution

- SMC can provide a DIN style terminal connector (body ported type, sub-plate type) for the series 10-SY300 and 10-SY3000. This cannot be assembled to a standard manifold since the DIN connector width (15.8 mm) exceeds that of the valve body (10 mm). Please contact SMC if you wish to use with a manifold. Please also note that brackets F1, F2 cannot be mounted.
- \* External pilot specifications are not available.

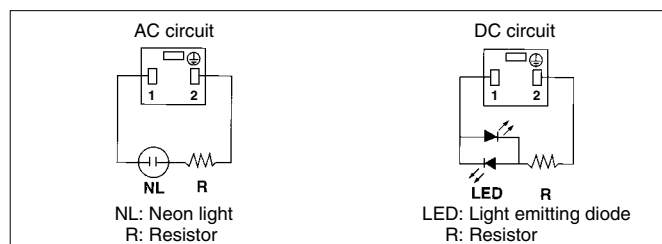


### DIN connector part no.

#### ⚠ Caution

Without light		SY100-61-1
<b>With light</b>		
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 light



Note) Refer to page 482 for DIN connector (Y) conforming to EN-175301-803C(former DIN43650C).

### Connector assembly with cover

#### ⚠ Caution

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

- Effective to prevent 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

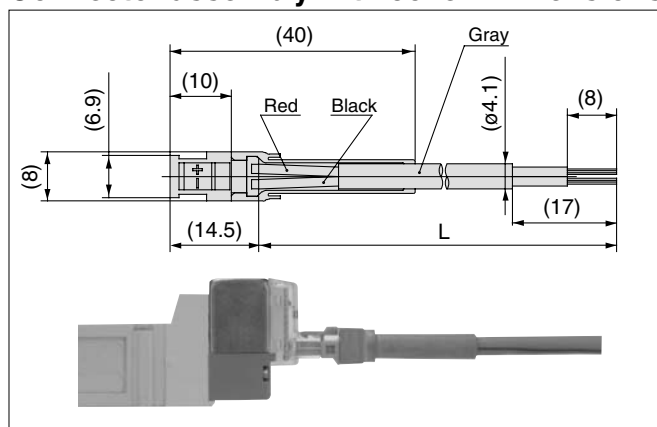
SY100-68-A



#### • Lead wire length(L)

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

### Connector assembly with cover: Dimensions



### How to Order

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

<Example 1> Lead wire length of 2000 mm

**10-SY3120-5LOZ-M5**

**SY100-68-A-20**

<Example 2> Lead wire length of 300mm (Standard)

**10-SY3120-5LPZ-M5**

Symbol for connector assembly with cover

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



## Series 10-SY

# Specific Product Precautions 6

Be sure to read before handling.

### DIN rail for Series 10-SY7000, 10-SY9000

#### ⚠ Caution

The DIN rail used with Series 10-SY7000 and 10-SY9000 is stronger than that used with Series 10-SY3000 and 10-SY5000. Use this exclusive DIN rail with Series 10-SY7000 and 10-SY9000. Furthermore, if using a DIN rail other than that supplied by SMC, refer to the manifold mounting section below, and mount using the same method as prescribed for side facing and rear facing, regardless of the mounting orientation.

### Manifold mounting

#### ⚠ Caution

For Type 23, 43, 45 and 60 DIN rail mounting, when attaching a manifold to a mounting surface, etc., with bolts, if the entire bottom surface of the DIN rail contacts the mounting surface in a horizontal mounting, it can be used by simply securing both ends of the DIN rail. However, for any other mounting method or for side facing and rear facing, etc., secure the DIN rail with bolts at uniform intervals using the following as a guide: 2 to 5 stations at 2 locations, 6 to 10 stations at 3 locations, 11 to 15 stations at 4 locations, and 16 to 20 stations at 5 locations. In addition, even in the case of a horizontal mounting, if the mounting surface is subject to vibration, etc., take the same measures indicated above. If secured at fewer than the specified number of locations, warping or twisting may occur in the DIN rail and manifold, causing trouble such as air leakage.

When attaching the DIN rail to the bottom (in the L3 dimension) of the manifold valve body using the mounting screws, please use the screws with a head/cap height as shown below.

Type 23,43(10-SY9000): 8mm or less

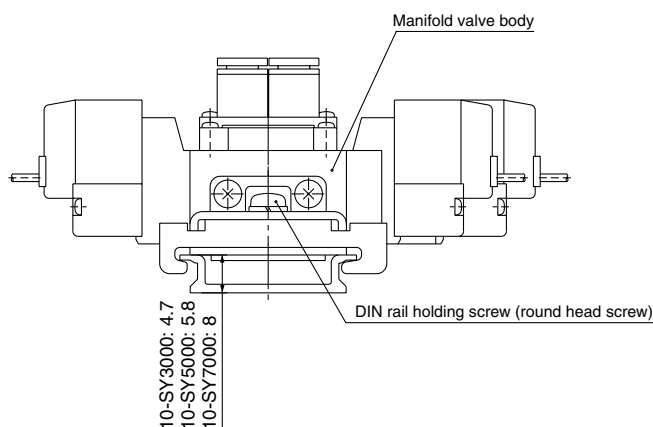
Type 45(10-SY3000,5000):5.8mm or less

Type 60

10-SY3000: 4.7mm or less

10-SY5000: 5.8mm or less

10-SY7000: 8mm or less



[For type 60]

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Fittings & Tubing

Air preparation equipment

Pressure switch

Clean gas filter



## Series 10-SY

# Specific Product Precautions 7

Be sure to read before handling.

### One-touch fittings

#### Caution

The pitch for each piping port (P, A, B, etc.) of series 10-SY is determined based on the assumption that Series KJ One-touch fittings will be used. For this reason, other pipe fittings may interfere with each other depending on their type and size. Dimensions should be confirmed in a pipe fitting catalog before they are used.

#### • Tubing attachment/detachment for One-touch fittings

##### 1. Attaching of tube

- 1) Cut off a tubing having no flaws on its periphery at a right angle. When cutting the tubing, use tubing cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tubing cutters, the tubing may be cut diagonally or become flattened, etc., making a secure installation impossible, and causing problems such as the tubing pulling out after installation or air leakage. Allow some extra length in the tubing.
- 2) Grasp the tubing and push it in slowly, inserting it securely all the way into the fitting.
- 3) After inserting the tubing, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tube pulling out.

##### 2. Detaching of tube

- 1) Push in the release button sufficiently, pushing the collar equally around the circumference.
  - 2) Pull out the tubing while holding down the release button so that it does not come out. If the release button is not pressed down sufficiently, there will be increased bite on the tubing and it will become more difficult to pull it out.
  - 3) When the removed tubing is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tubing is used as is, this can cause trouble such as air leakage or difficulty in removing the tubing.
- The pitch for each piping port (P, A, B, etc.) of series 10-SY is determined based on the assumption that Series KJ One-touch fittings will be used. For this reason, other pipe fittings may interfere

### Other tubing brands

#### Caution

1. When using other than SMC brand tubing, confirm that the following specifications are satisfied with respect to the outside diameter tolerance of the tubing.

- 1) Nylon tubing within  $\pm 0.1$  mm
- 2) Soft nylon tubing within  $\pm 0.1$  mm
- 3) Polyurethane tubing within  $+0.15$ , within  $-0.2$  mm

Do not use tubing which do not meet these outside diameter tolerances. Such tubing may not be possible to connect, or they may cause other trouble, such as air leakage or the tubing pulling out after connection.

### M8 connector

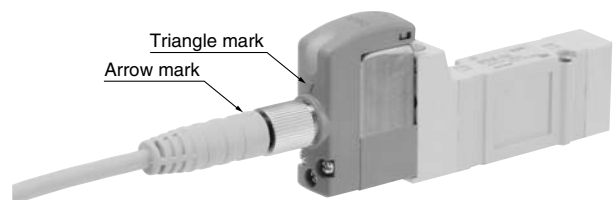
#### Caution

1. M8 connector types have an IP65 (enclosure) rating, offering protection from dust and water. However please note that 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 confirming 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 10-SY3000 manifold. If more than 10.5mm, 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 0.6N·m)
3. Do not apply force over 30N to the connector cable since IP65 cannot be satisfied.

#### 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.



# 10-SY Series

## Specific Product Precautions 8

Be sure to read before handling.

### M8 connector

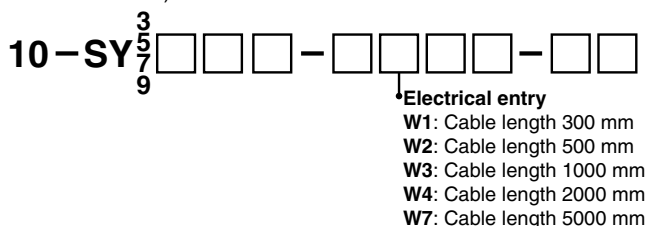
#### ⚠ Caution

##### ■Connector cable

Connector cable for M8 can be ordered as follows:

##### How to Order

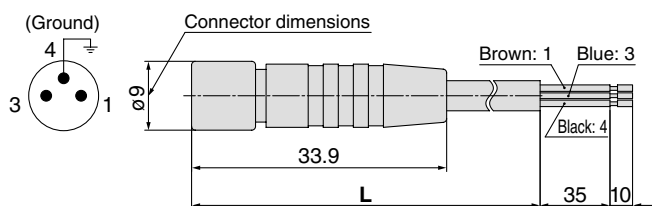
- To order solenoid valve and connector cable at the same time.(Connector cable will be included in the shipment of the solenoid valve.)



(Example 1) Cable length 300 mm  
 10-SY312-5W1ZE-C4

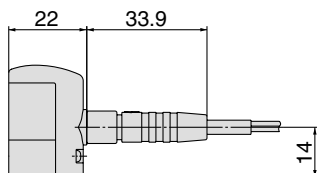
•Symbol for electrical entry

- To order connector cable only



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

#### [Dimension when installed]



### Solenoid valve mounting

#### ⚠ Caution

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

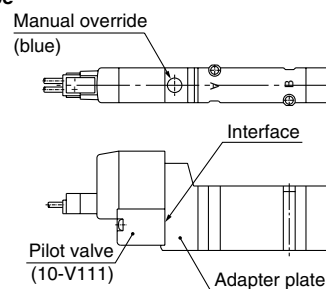
Model	Thread size	Tightening torque
10-SY3000	M2	0.16N·m
10-SY5000	M3	0.8N·m
10-SY7000	M4	1.4N·m
10-SY9000	M3	0.8N·m

### Replacement of pilot valve

#### ⚠ 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

