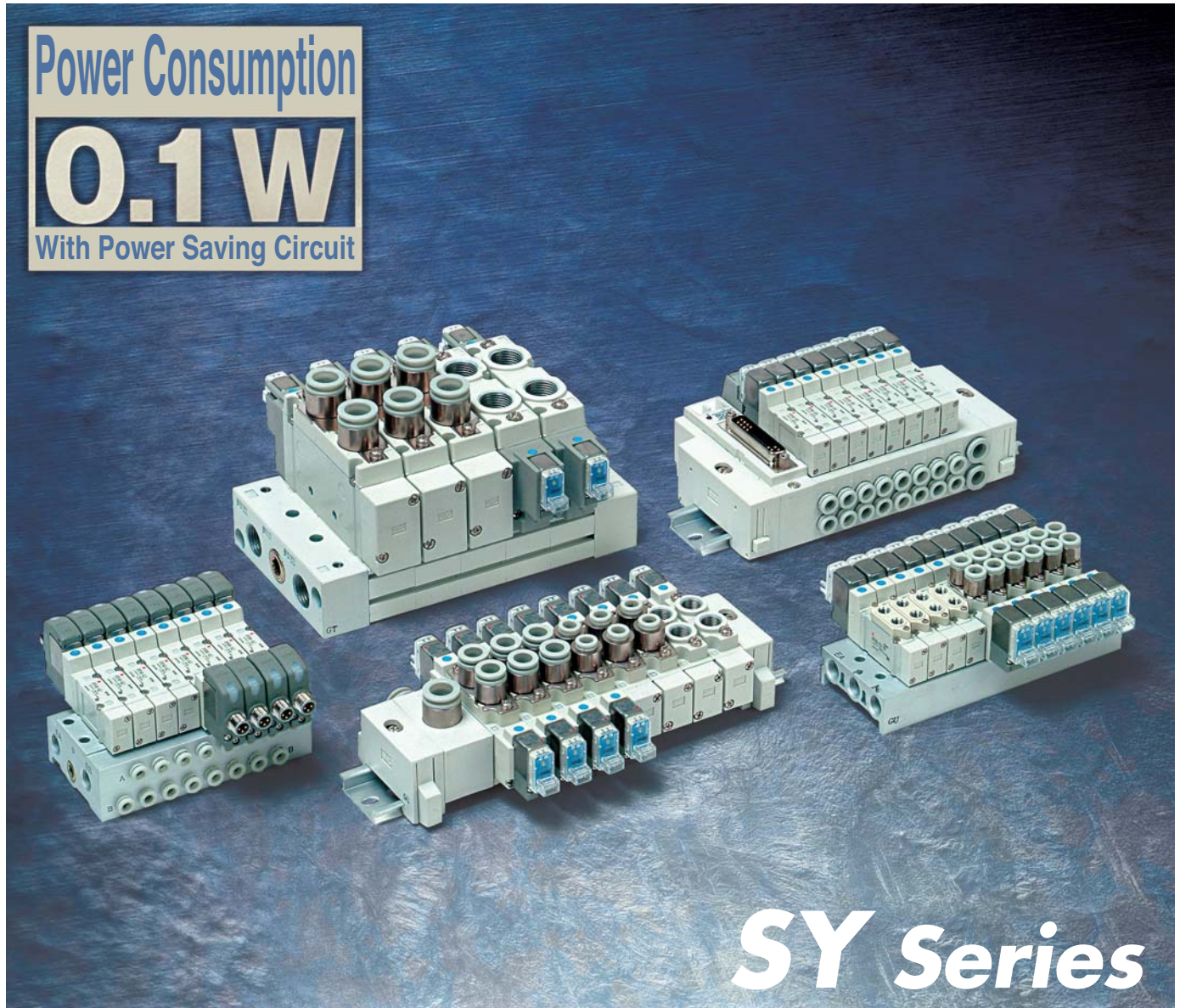
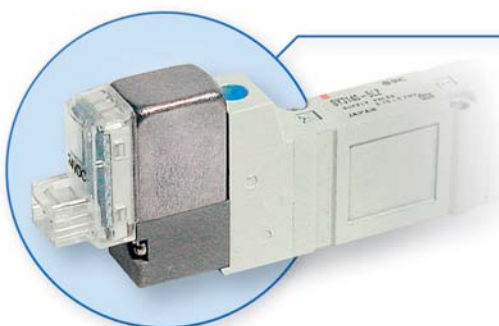


5 Port Solenoid Valve

Power Consumption
0.1 W
 With Power Saving Circuit



SY Series



Cover (stainless steel)

- **Improved pilot valve**

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

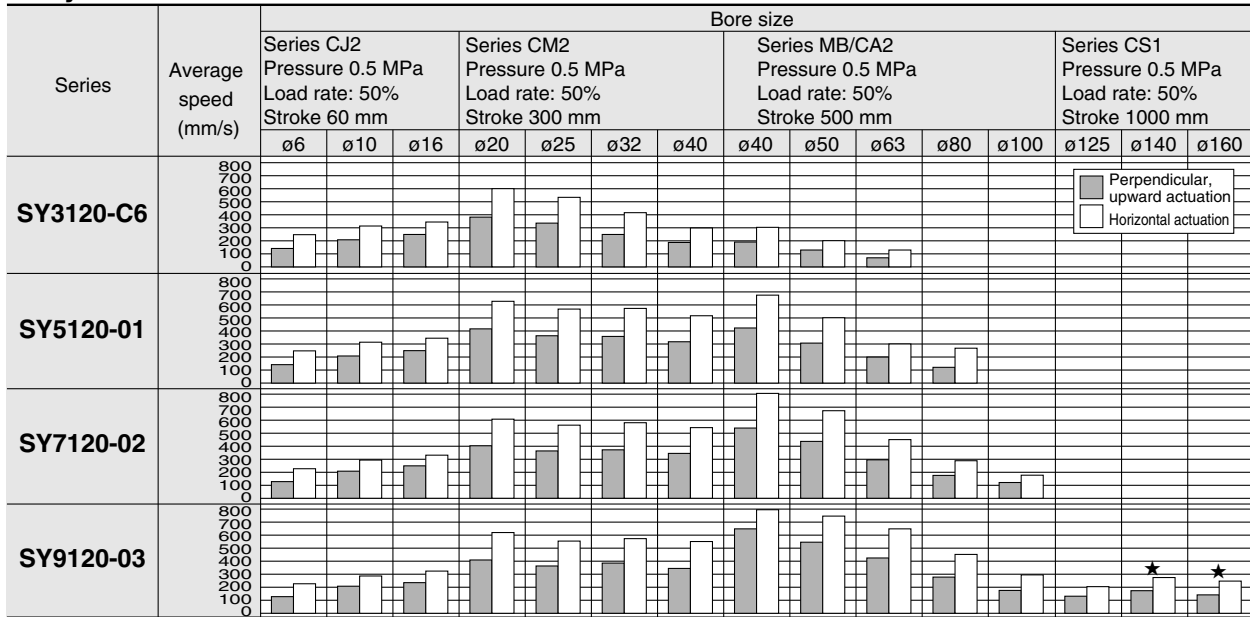
- **Flow Characteristics**

Series	Flow characteristics			
	C [dm ³ /(s·bar)]	b	Cv	Q [ℓ/min(ANR)]
SY3000	1.1	0.28	0.29	276
SY5000	2.8	0.37	0.90	746
SY7000	4.5	0.28	1.4	1130
SY9000	10	0.29	2.5	2527

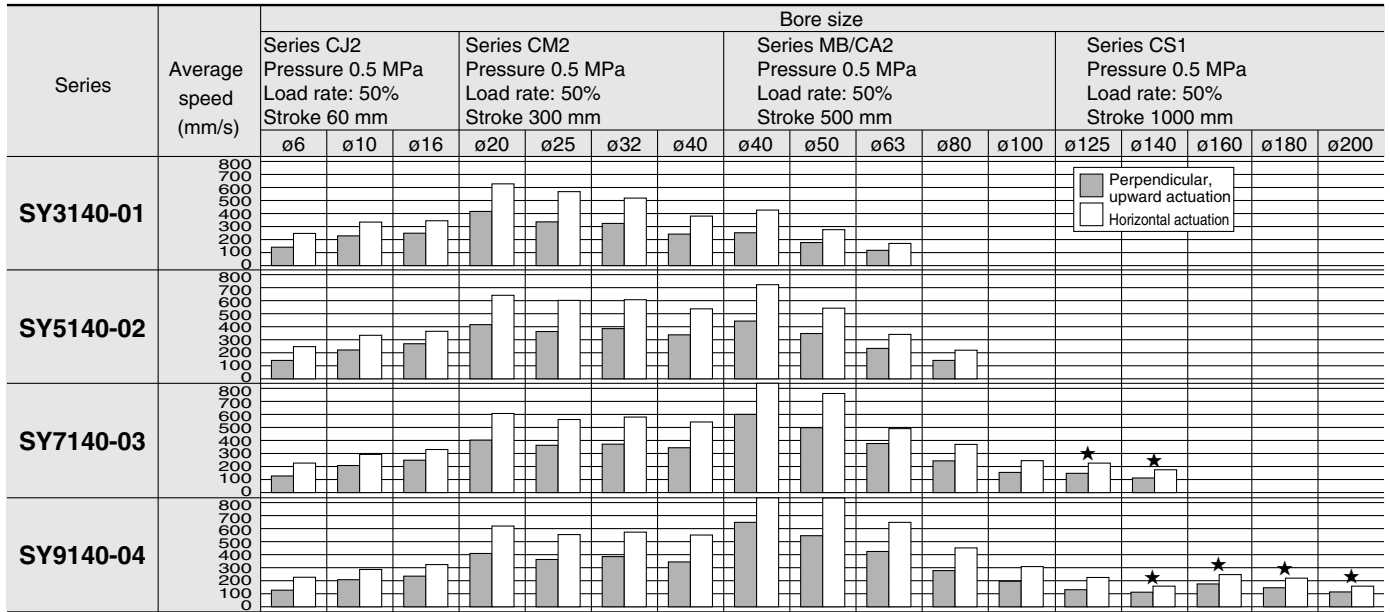
Cylinder Speed Chart

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

Body Ported



Base Mounted



- * Cylinder is in extending. Speed controller is meter-out, which is directly connected with cylinder and its needle is fully opened.
- * Average speed of cylinder is obtained by dividing the full stroke time by the stroke.
- * Load factor: ((Load weight x 9.8) / Theoretical force) x 100%
- * The histograms with ★ marked are the case when piping is done by using steel.

Conditions

Body ported		Series CJ2	Series CM2	Series MB/CA2	Series CS1
SY3120-C6	Tubing bore x Length	T0604 x 1 m		-	
	Speed controller	AS2051F-06		-	
	Silencer	AN120-M5		-	
SY5120-01	Tubing bore x Length	T0604 x 1 m	T0806 x 1 m	-	
	Speed controller	AS3001F-06	AS3001F-08	-	
	Silencer	AN101-01		-	
SY7120-02	Tubing bore x Length	T0604 x 1 m	T1075 x 1 m	-	
	Speed controller	AS3001F-06	AS4001F-10	-	
	Silencer	AN110-01		-	
SY9120-03	Tubing bore x Length	T0604 x 1 m	T1075 x 1 m	T1209 x 1 m	
	Speed controller	AS3001F-06	AS4001F-10	AS4001F-12	
	Silencer	AN200-02		AN202-02	

Conditions [When using SGP (steel pipe)]

Body ported		Series CS1
SY9120-03	Tubing bore x Length	SGP10A x 1 m
	Speed controller	AS420-03
	Silencer	AN200-02

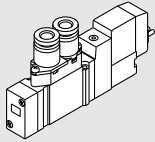
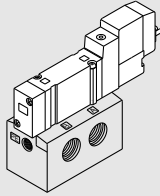
Conditions

Base mounted		Series CJ2	Series CM2	Series MB/CA2	Series CS1
SY3140-01	Tubing bore x Length	T0604 x 1 m		-	
	Speed controller	AS3001F-06		-	
	Silencer	AN110-01		-	
SY5140-02	Tubing bore x Length	T0604 x 1 m	T0806 x 1 m	-	
	Speed controller	AS3001F-06	AS3001F-08	-	
	Silencer	AN101-01		-	
SY7140-03	Tubing bore x Length	T0604 x 1 m	T1075 x 1 m	T1209 x 1 m	-
	Speed controller	AS3001F-06	AS4001F-10		-
	Silencer	AN200-02		-	
SY9140-04	Tubing bore x Length	T0604 x 1 m	T1075 x 1 m	T1209 x 1 m	
	Speed controller	AS3001F-06	AS4001F-10	AS4001F-12	
	Silencer	AN200-02		-	

Conditions [When using SGP (steel pipe)]

Base mounted		Series CS1
SY7140-03	Tubing bore x Length	SGP10A x 1 m
	Speed controller	AS420-03
	Silencer	AN300-03
SY9140-04	Tubing bore x Length	SGP15A x 1 m
	Speed controller	AS420-04
	Silencer	AN400-04

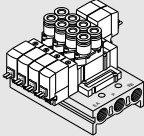
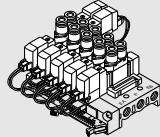
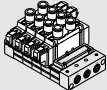
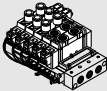
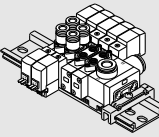


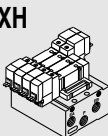
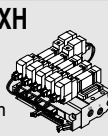
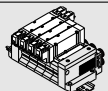
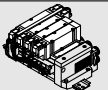
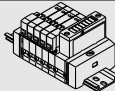
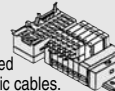
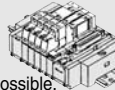
Valve Variations

	Series	Sonic conductance C [dm ³ /(s·bar)] { 4/2→5/3 } { (A/B→EA/EB) }	Actuation					Voltage		Electrical entry					Light/surge voltage suppressor
			2 position		3 position			DC 24 V 12 V 6 V 5 V 3 V	AC 100 V 50/60 Hz 110 V 50/60 Hz 200 V 50/60 Hz 220 V 50/60 Hz	Grommet	L plug connector	M plug connector	DIN terminal	M8 connector	
			Single	Double	Closed center	Exhaust center	Pressure center								
Body ported 	P.1	SY3 □ 20	0.65	●	●	●	●	●	●	●	●	●	●	●	●
		SY5 □ 20	2.4	●	●	●	●	●	●	●	●	●	●	●	●
		SY7 □ 20	3.3	●	●	●	●	●	●	●	●	●	●	●	●
		SY9 □ 20	8.6	●	●	●	●	●	●	●	●	●	●	●	●
Base mounted 	P.19	SY3 □ 40	1.1	●	●	●	●	●	●	●	●	●	●	●	●
		SY5 □ 40	2.8	●	●	●	●	●	●	●	●	●	●	●	●
		SY7 □ 40	4.5	●	●	●	●	●	●	●	●	●	●	●	●
		SY9 □ 40	10	●	●	●	●	●	●	●	●	●	●	●	●

Series	Manual override				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	Bracket	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 IP65	Interface regulator	
															C4	C6	C8	C10	C12	N3	N7								N9
Body ported	SY3 □ 20	●	●	●	●	●	—	—	—	—	●	—	—	—	—	●	●	—	—	—	—	—	—	●	—	—	—	—	—
	SY5 □ 20	●	●	●	●	—	●	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SY7 □ 20	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SY9 □ 20	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Base mounted	SY3 □ 40	●	●	●	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	SY5 □ 40	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	SY7 □ 40	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	SY9 □ 40	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

- Note 1) All AC voltage models have built-in surge voltage suppressor.
 Note 2) Body ported external pilot style (made to order) is not available for DIN terminal.
 Note 3) Only available for DIN terminal and M8 connector.
 Note 4) SY3000 does not have a DIN terminal which can be connected to a manifold.

Manifold Variations

Manifold Variations		Valve Series	Wiring												
			Connection							Common specifications					
			Individual wiring	Flat ribbon cable (26 pins)	Flat ribbon cable (20 pins) connector box	Plug-in type D-sub connector (25 pins)	Plug-in type flat ribbon cable (26, 20, 10 pins)	Plug-in type terminal block (9, 18 pins)	PC wiring	Serial transmission unit	Positive common	Negative common			
Body ported	Bar stock type Individual wiring ■ Direct piping to the main unit of a valve. Combination of different fittings is possible.		Type 20 P. 37	SY3 □ 20	●	—	—	—	—	—	—	—	—	—	
				SY5 □ 20	—	●	—	—	—	—	—	—	—	—	
				SY7 □ 20	—	—	—	—	—	—	—	—	—	—	
	Bar stock type Flat ribbon cable ■ A 26 pins MIL connector permits One-touch wiring of external cables in a bundle.		Type 20P P. 47	SY3 □ 20	—	●	—	—	—	—	—	—	●	—	
				SY5 □ 20	—	—	—	—	—	—	—	—	—	●	—
				SY7 □ 20	—	—	—	—	—	—	—	—	—	●	—
	Stacking type Individual wiring ■ Manifold stations can be increased.		Type 23 P. 43	SY9 □ 20	●	—	—	—	—	—	—	—	—	—	
				SY9 □ 20	—	●	—	—	—	—	—	—	—	—	—
	Stacking type Flat ribbon cable ■ Manifold stations can be increased.		Type 23P P. 53	SY9 □ 20	—	●	—	—	—	—	—	—	—	●	
				SY9 □ 20	—	—	—	—	—	—	—	—	—	—	●
	Cassette type Individual wiring ■ Size and weight reduced by eliminating the manifold base		Type 60 P. 59	SY3 □ 60	●	—	—	—	—	—	—	—	—	—	
				SY5 □ 60	●	—	—	—	—	—	—	—	—	—	—
				SY7 □ 60	●	—	—	—	—	—	—	—	—	—	—
	Base mounted	Compact bar stock type Individual wiring ■ The base mounting facilitates maintenance after valves are changed.		Type 41 P. 79	SY3 □ 40	●	—	—	—	—	—	—	—	—	
					SY5 □ 40	—	●	—	—	—	—	—	—	—	—
Compact bar stock type Flat ribbon cable ■ A 26 pins MIL connector permits one-touch wiring of external cables in a bundle.			Type 41P P. 95	SY3 □ 40	—	●	—	—	—	—	—	—	●		
				SY5 □ 40	—	—	—	—	—	—	—	—	—	●	
Bar stock type/Common external EXH Individual wiring ■ The base mounting facilitates maintenance after valves are changed. ■ Vacuum/low pressure combination system is possible.			Type 42 P. 79	SY3 □ 40	●	—	—	—	—	—	—	—	—		
				SY5 □ 40	—	●	—	—	—	—	—	—	—	—	
				SY7 □ 40	—	—	—	—	—	—	—	—	—	—	
Bar stock type/Common external EXH 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.			Type 42P P. 95	SY3 □ 40	—	●	—	—	—	—	—	—	●		
				SY5 □ 40	—	—	—	—	—	—	—	—	—	●	
				SY7 □ 40	—	—	—	—	—	—	—	—	—	●	
Stacking type Individual wiring ■ Manifold stations can be increased.			Type 43 P. 89	SY9 □ 40	●	—	—	—	—	—	—	—	—		
				SY9 □ 40	—	●	—	—	—	—	—	—	—	—	
Stacking type Flat ribbon cable ■ Manifold stations can be increased.			Type 43P P. 103	SY9 □ 40	—	●	—	—	—	—	—	—	●		
				SY9 □ 40	—	—	—	—	—	—	—	—	—	●	
Stacking type/DIN rail mounted Individual wiring ■ Stations can be increased on the DIN rail. Integral mounting of other electric parts is possible, too.			Type 45 P. 115	SY3 □ 40	●	—	—	—	—	—	—	—	—		
	SY5 □ 40			—	●	—	—	—	—	—	—	—	—		
Stacking type/DIN rail mounted Connector box ■ Stations can be increased on the DIN rail. The provided connector box permits one-touch connection of electric cables.		Type 45^A_{NA} P. 127	SY3 □ 40	—	—	●	—	—	●	—	●	●			
			SY5 □ 40	—	—	—	—	—	●	—	●	●			
Stacking type/DIN rail mounted Plug-in ■ Stations can be increased on the DIN rail. ■ A variety of centralised wiring methods are possible.		Type 45 P. 135	SY3 □ 40	—	—	—	●	●	●	●	●	●			
			SY5 □ 40	—	—	—	—	●	●	●	●	●			

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

5 Port Solenoid Valve

Series SY3000/5000/7000/9000

Body Ported

Single Unit



Refer to www.smcworld.com for details of products compatible with overseas standards.

How to Order

SY 5 1 20 [] 5 L [] [] 01 [] [] -Q

Series

3	SY3000
5	SY5000
7	SY7000
9	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

-	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.

For DC

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

Rated voltage

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.
* AC specification is only available with D, DO type.

Electrical entry

24, 12, 6, 5, 3 VDC				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 MN: Without lead wire (Length 300 mm)	D: With connector	
H: Lead wire length 600 mm	LN: Without lead wire	LO: Without connector	MO: Without connector	DO: Without connector

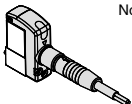
24, 12, 6, 5, 3 VDC

M8 connector *

WO: Without connector cable



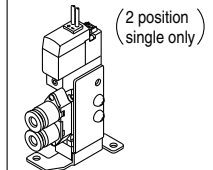
W□: With connector cable (Note 1)



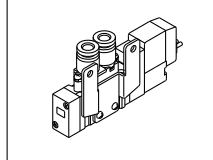
* LN, MN type: with 2 sockets.
* For DIN terminal of SY3000 series, refer to back page 10.
* DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 210.
* For connector cable of M8 connector, refer to back page 12.
* Connector M8 type "WA" conforming to IEC 60947-5-2 standard, is also available. For details, see page 211.
Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to back page 13.
Note 2) Except SY3000.

Bracket

-: Without bracket
F1: With foot bracket



F2: With side bracket



* SY9000 has no bracket.

A, B port size

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

One-touch fitting (Metric size)

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

One-touch fitting (Inch size)

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

Thread type

-	Rc
F	G
N	NPT
T	NPTF

* Except for M5

Manual override

-: 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

-	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)

* Power saving circuit is only available in the "Z" type.

Electrical entry for D (except SY3000)

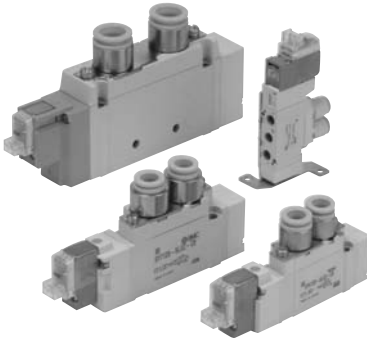
-	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor

* 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 56.)

SY3000/5000/7000/9000 Body Ported

Specifications



Series		SY3000	SY5000	SY7000	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			
Ambient and fluid temperature (°C)		-10 to 50 (No freezing. Refer to back page 3.)			
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 ²) <small>Note)</small>		150/30			
Enclosure		Dust proof (* DIN terminal and M8 connector: IP65)			



* Based on IEC60529)

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 energised and de-energised 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 energised and de-energised states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)



Made to Order

(For details, refer to pages 199 through to 213.)

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 50/60 Hz	100, 110		200, 220	
Allowable voltage fluctuation (%)		±10% of rated voltage *			
Power consumption (W)	DC	Standard	0.35 (With indicator light: 0.4 DIN terminal with indicator light: 0.45)		
		With power saving circuit	0.1 (With indicator light only)		
Apparent power (VA) *	AC	100 V	-	0.78 (With indicator light: 0.87)	
		110 V	-	0.86 (With indicator light: 0.97)	
		[115 V]	-	[0.94 (With indicator light: 1.07)]	
		200 V	-	1.15 (With indicator light: 1.30)	
		220 V [230 V]	-	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 type.)			
Indicator light		LED (AC of DIN connector 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.

* S, Z and T type (with power saving circuit) should be used within the following allowable voltage fluctuation range due to a voltage drop caused by the internal circuit.

S and Z type: 24 VDC: -7% to +10%

12 VDC: -4% to +10%

T type: 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)

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

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

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

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

Body Ported

Flow Characteristics/Weight

Series SY3000

Valve model	Type of actuation		Port size		Flow characteristics								Weight (g)				
					1→4/2 (P→A/B)				4/2→5/3 (A/B→EA/EB)				Gro-mmet	L/M plug connector	W M8 connector		
					C (l/dm ² (s·bar))	b	Cv	Q (l/min(ANR))	C (l/dm ² (s·bar))	b	Cv	Q (l/min(ANR))					
SY3□20 -□-M5	2 position	Single	M5 x 0.8	4, 2 (A, B)	0.61	0.44	0.16	171	0.64	0.45	0.18	181	51	53	57		
		Double			0.48	0.46	0.13	137	0.47	0.43	0.13	131	68	74	82		
	3 position	Closed center			0.47	0.42	0.13	130	0.47	0.41	0.13	129	71	76	84		
		Exhaust center			0.50	0.48	0.15	145	0.47	0.43	0.13	131					
SY3□20 -□-C4	2 position	Single			M5 x 0.8	C4 (One-touch fitting for ø4)	0.72	0.29	0.18	182	0.64	0.34	0.17	167	60	63	67
		Double					0.59	0.28	0.15	148	0.59	0.30	0.15	150	78	83	91
	3 position	Closed center					0.63	0.35	0.16	166	0.42	0.34	0.11	110	81	86	94
		Exhaust center					0.76	0.42	0.21	210	0.59	0.29	0.15	149			
SY3□20 -□-C6	2 position	Single	M5 x 0.8	C6 (One-touch fitting for ø6)			0.76	0.30	0.19	193	0.65	0.39	0.17	176	56	59	63
		Double					0.76	0.55	0.24	233	0.60	0.33	0.16	156	74	79	87
	3 position	Closed center					0.65	0.32	0.16	167	0.64	0.31	0.17	164	77	82	90
		Exhaust center					0.77	0.34	0.21	201	0.61	0.34	0.16	159			
	2 position	Single					0.76	0.30	0.19	193	0.65	0.39	0.17	176	56	59	63
		Double					0.76	0.55	0.24	233	0.60	0.33	0.16	156	74	79	87
	3 position	Closed center					0.65	0.32	0.16	167	0.64	0.31	0.17	164	77	82	90
		Exhaust center					0.77	0.34	0.21	201	0.61	0.34	0.16	159			

Note) (): denotes normal position.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Series SY5000

Valve model	Type of actuation		Port size		Flow characteristics								Weight (g)					
					1→4/2 (P→A/B)				4/2→5/3 (A/B→EA/EB)				Gro-mmet	L/M plug connector	DIN terminal	W M8 connector		
					C (dm ² (s·bar))	b	Cv	Q (l/min(ANR))	C (dm ² (s·bar))	b	Cv	Q (l/min(ANR))						
SY5□20 -□-01	2 position	Single	1/8	4, 2 (A, B)	1.9	0.35	0.49	499	2.4	0.39	0.61	648	70	72	93	76		
		Double			1.7	0.43	0.45	473	1.8	0.35	0.46	473	88	93	135	101		
	3 position	Closed center			1.5	0.44	0.41	420	2.5	0.32	0.59	644	93	98	140	106		
		Exhaust center			2.2	0.46	0.61	626	1.8	0.38	0.46	483						
SY5□20 -□-C4	2 position	Single			1/8	C4 (One-touch fitting for ø4)	0.75	0.43	0.20	209	0.85	0.64	0.30	285	94	96	117	100
		Double					0.74	0.40	0.19	201	0.84	0.57	0.28	263	111	117	159	125
	3 position	Closed center					0.75	0.36	0.19	198	0.84	0.64	0.30	281	117	122	164	130
		Exhaust center					0.78	0.44	0.21	219	0.84	0.57	0.27	263				
SY5□20 -□-C6	2 position	Single	1/8	C6 (One-touch fitting for ø6)			1.5	0.33	0.33	389	2.0	0.37	0.52	533	88	91	112	95
		Double					1.3	0.31	0.33	333	1.6	0.32	0.39	412	106	111	153	119
	3 position	Closed center					1.3	0.33	0.33	337	1.8	0.35	0.44	473	111	116	158	124
		Exhaust center					1.7	0.31	0.42	435	1.7	0.33	0.44	441				
SY5□20 -□-C8	2 position	Single			1/8	C8 (One-touch fitting for ø8)	1.9	0.21	0.45	458	2.3	0.29	0.57	581	80	82	103	86
		Double					1.6	0.29	0.39	404	1.7	0.38	0.46	456	98	103	145	111
	3 position	Closed center					1.4	0.38	0.39	375	2.0	0.37	0.52	533	103	108	150	116
		Exhaust center					2.2	0.32	0.56	567	1.8	0.41	0.50	493				
	2 position	Single					1.9	0.21	0.45	458	2.3	0.29	0.57	581	80	82	103	86
		Double					1.6	0.29	0.39	404	1.7	0.38	0.46	456	98	103	145	111
	3 position	Closed center					1.4	0.38	0.39	375	2.0	0.37	0.52	533	103	108	150	116
		Exhaust center					2.2	0.32	0.56	567	1.8	0.41	0.50	493				

Note) (): denotes normal position.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

SY3000/5000/7000/9000 Body Ported

Series 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)				Gro- mmet	L/M plug connector	DIN terminal	W M8 connector								
					C (dm ³ /s·bar)	b	Cv	Q [l/min(ANR)]	C (dm ³ /s·bar)	b	Cv	Q [l/min(ANR)]												
SY7□20 -□-02	2 position	Single	1 (P) Port 1/4	C8 (One- touch fitting for ø8)	1/4	4.1	0.23	0.93	999	3.3	0.33	0.81	855	101	104	125	108							
		Double				2.9	0.31	0.70	742	2.4	0.38	0.63	644	120	125	167	133							
	3 position	Exhaust center				2.5	0.39	0.65	675	3.4 (2.1)	0.35 (0.54)	0.82 (0.563)	893 (563)	128	133	175	141							
		Pressure center				4.3 (2.4)	0.23 (0.32)	0.97 (0.61)	1048 (618)	2.2	0.39	0.58	594											
SY7□20 -□-08	2 position	Single				5, 3 (EA, EB) port 1/8	C10 (One- touch fitting for ø10)	3/8	3.2	0.26	0.77	794	3.2					0.37	0.82	852	107	110	131	114
		Double							2.6	0.24	0.63	637	2.4					0.31	0.62	614	126	132	174	140
	3 position	Exhaust center							2.4	0.25	0.57	592	2.6 (1.9)	0.42 (0.46)	0.70 (0.56)	718 (541)	134	140	182	148				
		Pressure center							3.3 (2.4)	0.28 (0.22)	0.78 (0.57)	829 (581)	2.2	0.34	0.60	574								
	SY7□20 -□-10	2 position	Single	C10 (One- touch fitting for ø10)	1/2				3.8	0.26	0.86	943	3.2	0.34	0.82	835					103	105	126	109
			Double						2.8	0.27	0.67	699	2.4	0.21	0.59	578					122	127	169	135
3 position		Exhaust center	2.5			0.25	0.59	616	2.7 (2.0)	0.38 (0.38)	0.70 (0.56)	724 (536)	130	135	177	143								
		Pressure center	3.8 (2.4)			0.25 (0.31)	0.89 (0.61)	937 (614)	2.3	0.38	0.61	617												

Note (): denotes normal position.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Series 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)				Gro- mmet	L/M plug connector	DIN terminal	W M8 connector								
					C (dm ³ /s·bar)	b	Cv	Q [l/min(ANR)]	C (dm ³ /s·bar)	b	Cv	Q [l/min(ANR)]												
SY9□20 -□-02	2 position	Single	1/4	C8 (One- touch fitting for ø8)	1/4	7.0	0.33	1.7	1815	7.6	0.35	2.0	1997	241	244	265	248							
		Double				6.7	0.37	1.7	1784	6.4	0.34	1.6	1670	260	266	308	274							
	3 position	Exhaust center				6.4	0.36	1.6	1693	8.3 (4.1)	0.41 (0.27)	2.2 (0.91)	2274 (1023)	284	290	332	298							
		Pressure center				8.0 (3.2)	0.27 (0.34)	1.8 (0.76)	1997 (835)	6.5	0.22	1.4	1575											
SY9□20 -□-03	2 position	Single				3/8	C10 (One- touch fitting for ø10)	1/2	8.0	0.29	1.9	2021	8.0					0.33	2.0	2074	236	239	260	243
		Double							7.9	0.33	1.9	2048	6.6					0.27	1.6	1647	255	261	303	269
	3 position	Exhaust center							8.0	0.33	1.9	2074	8.7 (8.3)	0.34 (0.40)	2.2 (2.3)	2270 (2258)	279	285	327	293				
		Pressure center							8.9 (3.3)	0.34 (0.40)	2.2 (0.82)	2323 (898)	6.5	0.25	1.5	1603								
SY9□20 -□-08	2 position	Single	1/4	C8 (One- touch fitting for ø8)	1/4				4.3	0.28	0.96	1080	7.1	0.32	1.7	1829					293	296	317	300
		Double							4.3	0.31	0.99	1100	6.1	0.28	1.4	1532					312	318	360	326
	3 position	Exhaust center							4.3	0.3	0.99	1093	7.4 (3.8)	0.36 (0.29)	1.9 (0.86)	1957 (960)	336	342	384	350				
		Pressure center							4.4 (3.2)	0.35 (0.26)	1.0 (0.71)	1156 (794)	2.1	0.41	0.53	575								
SY9□20 -□-10	2 position	Single				1/2	C10 (One- touch fitting for ø10)	3/8	6.1	0.28	1.4	1532	7.9	0.33	1.9	2048					279	282	303	286
		Double							5.9	0.30	1.4	1500	6.5	0.26	1.5	1612					298	304	346	312
	3 position	Exhaust center							5.8	0.25	1.3	1430	8.4 (4.1)	0.33 (0.27)	2.0 (0.93)	2178 (1023)	322	328	370	336				
		Pressure center							6.3 (3.2)	0.29 (0.29)	1.5 (0.72)	1592 (809)	6.4	0.25	1.5	1578								
SY9□20 -□-12	2 position	Single	3/8	C12 (One- touch fitting for ø12)	1/2				7.0	0.25	1.6	1726	8.6	0.41	2.2	2356					265	268	289	272
		Double							6.9	0.24	1.6	1691	7.0	0.33	1.7	1815					284	290	332	298
	3 position	Exhaust center							6.6	0.23	1.4	1608	9.4 (4.5)	0.48 (0.32)	2.6 (1.0)	2718 (1159)	308	314	356	322				
		Pressure center							7.4 (3.2)	0.25 (0.34)	1.7 (0.74)	1825 (835)	6.6	0.23	1.5	1608								

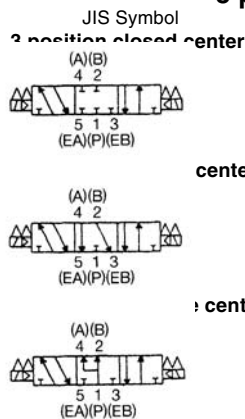
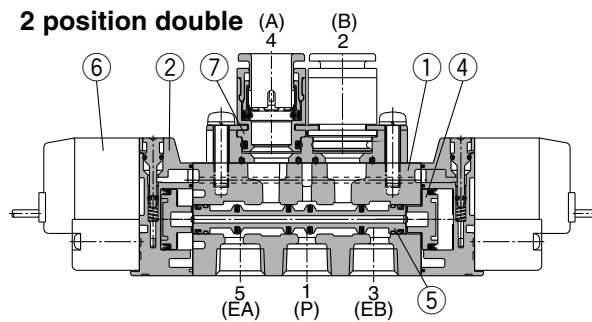
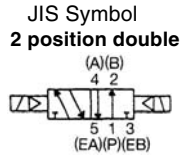
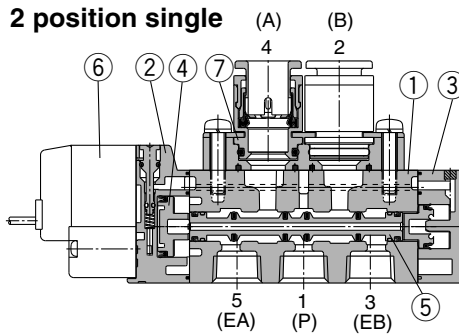
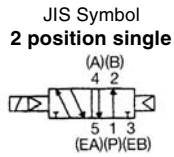
Note (): denotes normal position.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

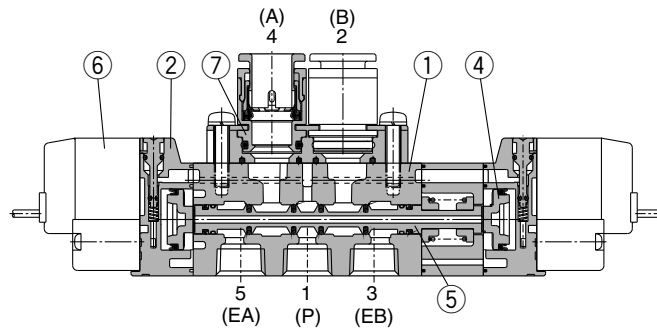
Body Ported

Construction

Series SY



3 position closed center / exhaust center / pressure center



(This figure shows a closed center type.)

Component Parts

No.	Description	Material	Note
1	Body	Aluminum die-casted (SY3000: Zinc die-casted)	White
2	Adapter plate	Resin	White (SY9000: Gray)
3	End plate	Resin	White
4	Piston	Resin	—
5	Spool valve assembly	Aluminum, HNBR	—

Replacement Parts

No.	Description	No.
6	Pilot valve assembly	Refer to "How to Order Pilot Valve Assembly" on page 5.
7	M5 port block assembly	Refer to "How to Order Port Block Assembly" on page 6.

Bracket Assembly No.

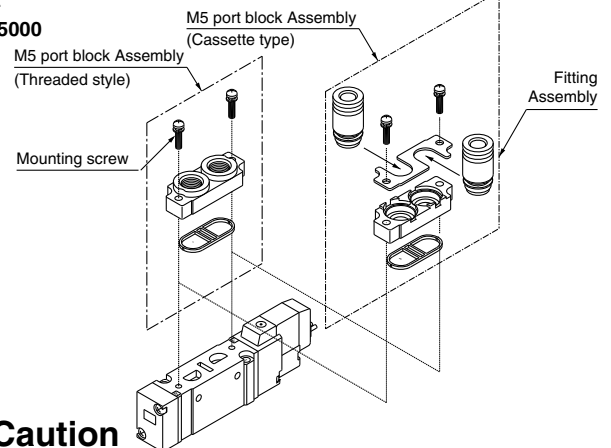
Description	No.
Bracket (For F1)	SX ³ 000-16-2A (with mounting screw)
Bracket (For F2)	SX ³ 000-16-1A (with mounting screw)

* SY9000 has no bracket.

How to Change Port Block Assembly

If using body port type, both A and B port sizes can be changed by replacing the port block assembly mounted on the body. When changing this block assembly, the correct screw torque must be achieved to avoid possible air leakage.

For SY5000



Caution

Mounting screw tightening torques

SY3000 (M2): 0.12 N·m
SY⁵000 (M3): 0.6 N·m
SY9000 (M4): 1.4 N·m

* Refer to "How to Order Port Block Assembly" on page 6 for part no.

SY3000/5000/7000/9000 Body Ported

How to Order Pilot Valve Assembly

How to Order Connector Assembly for L/M Plug Connector

V111 5 G

Coil specifications

-	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

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)

* 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	With lead wire	
LN	L plug connector	Without lead wire
LO		Without connector
M	With lead wire	
MN	M plug connector	Without lead wire
MO		Without connector
WO	M8 Without connector cable	
W <input type="checkbox"/>	M8 With connector cable (Note 1)	

* For connector cable of M8 connector, refer to back page 12.
Note 1) Enter the cable length symbols in . Please be sure to fill in the blank referring to back page 13.

For DC: SY100-30-4A-

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

Lead wire length

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

How to Order M8 Connector Cable

■ Straight type

V100-49-1-

Cable length

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

■ DIN terminal type

V115-5 D

Rated voltage

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

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

Light/surge voltage suppressor

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

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

Electrical entry

D	DIN terminal	With connector
DO	terminal	Without connector

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

How to Order Port Block Assembly

SY 000-6A-

Series

3	SY3000
5	SY5000
7	SY7000
9	SY9000

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

* Except for M5

A, B port size Thread piping

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

One-touch fitting (Metric size)

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

One-touch fitting (Inch size)

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

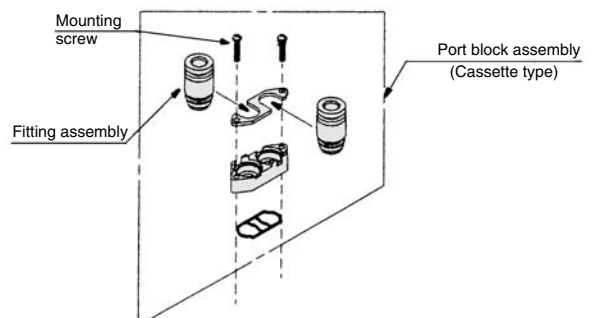
* Only replacement of the fittings assembly is possible.

Metric size

Series	Port size	Part Number
SY3000	One-touch fitting for ø4	VVQ1000-50A-C4
	One-touch fitting for ø6	VVQ1000-50A-C6
SY5000	One-touch fitting for ø4	VVQ1000-51A-C4
	One-touch fitting for ø6	VVQ1000-51A-C6
SY7000	One-touch fitting for ø8	VVQ2000-51A-C8
	One-touch fitting for ø10	VVQ2000-51A-C10
SY9000	One-touch fitting for ø8	VVQ4000-50B-C8
	One-touch fitting for ø10	VVQ4000-50B-C10
	One-touch fitting for ø12	VVQ4000-50B-C12

Inch size

Series	Port size	Part Number
SY3000	One-touch fitting for ø 5/32"	VVQ1000-50A-N3
	One-touch fitting for ø 1/4"	VVQ1000-50A-N7
SY5000	One-touch fitting for ø 5/32"	VVQ1000-51A-N3
	One-touch fitting for ø 1/4"	VVQ1000-51A-N7
SY7000	One-touch fitting for ø 5/16"	VVQ1000-51A-N9
	One-touch fitting for ø 3/8"	VVQ2000-51A-N9
SY9000	One-touch fitting for ø 5/16"	VVQ4000-50B-N9
	One-touch fitting for ø 3/8"	VVQ4000-50B-N11

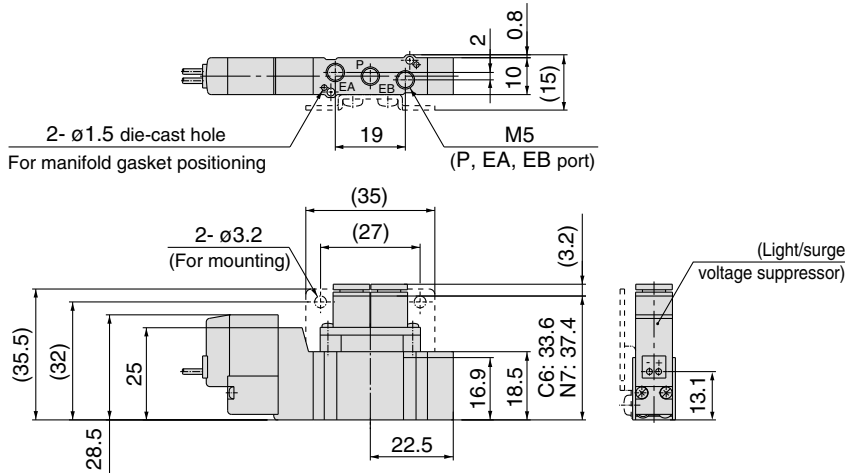


Body Ported

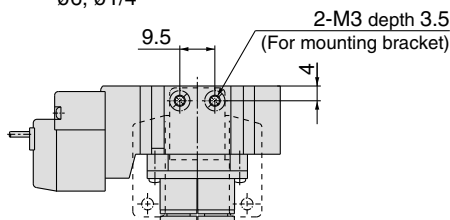
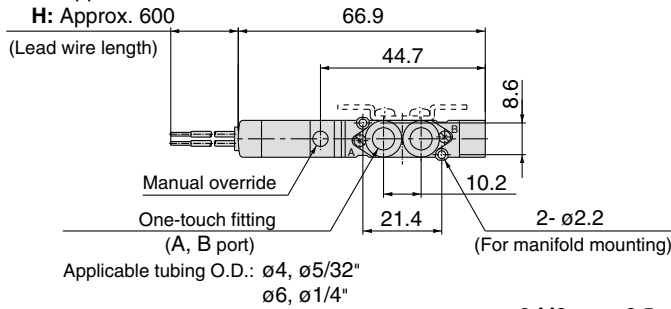
Dimensions: Series SY3000

2 position single

Grommet (G), (H): SY3120-□_G□□-C₄, N₃/C₆, N₇-(F₂)-Q

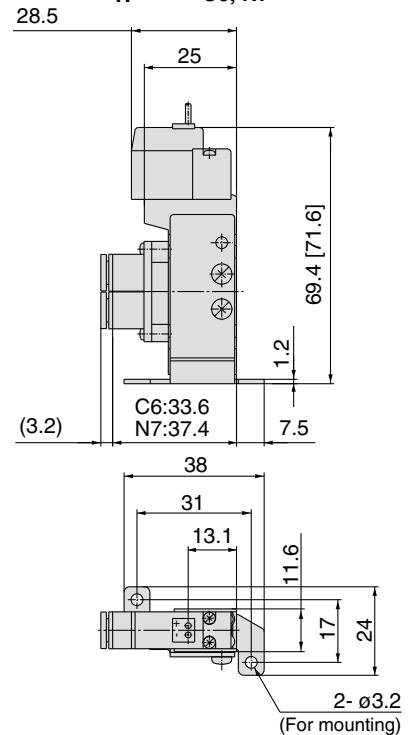


G: Approx. 300
H: Approx. 600

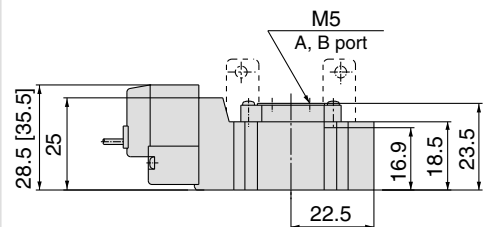


Foot bracket

SY3120-□_G□□-C₄, N₃/C₆, N₇-F₁-Q

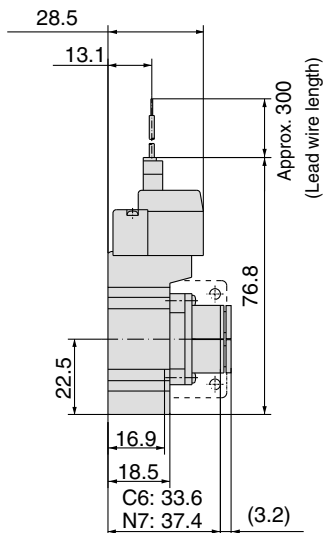


SY3120-□_G□□-M5-(F₂)-Q



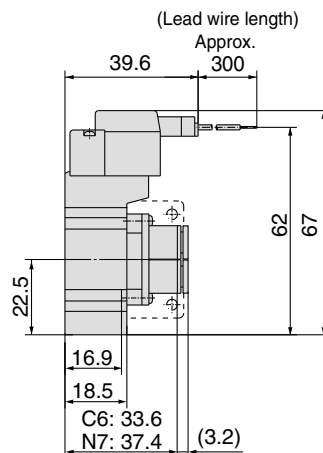
L plug connector (L):

SY3120-□_L□□-C₄, N₃/C₆, N₇-(F₂)-Q



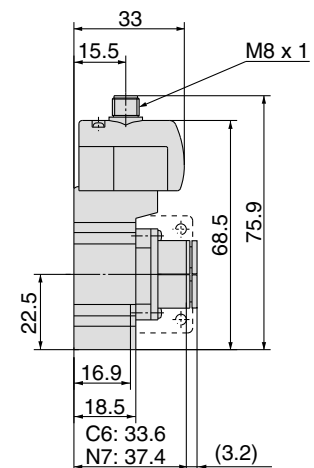
M plug connector (M):

SY3120-□_M□□-C₄, N₃/C₆, N₇-(F₂)-Q



M8 connector (WO):

SY3120-□_{WO}□□-C₄, N₃/C₆, N₇-(F₂)-Q



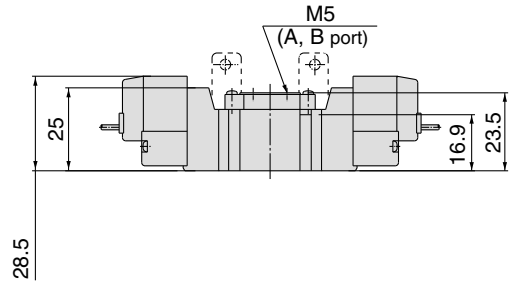
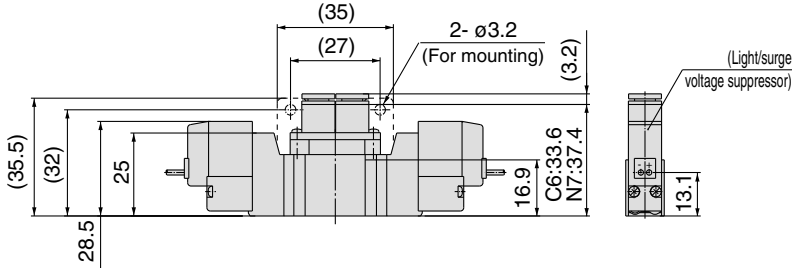
Note) Refer to back page 12 for dimensions of connector types.

Dimensions: Series SY3000

2 position double

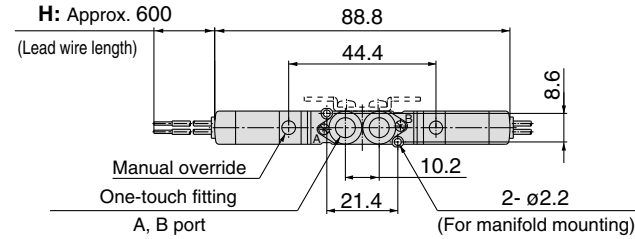
Grommet (G), (H): SY3220-□^G□□-C4, N3
C6, N7(-F2)-Q

SY3220-□^G□□-M5(-F2)-Q

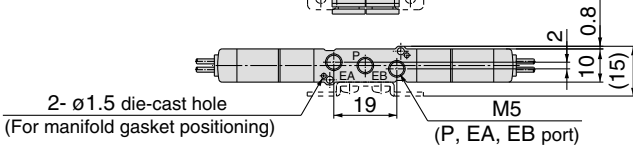
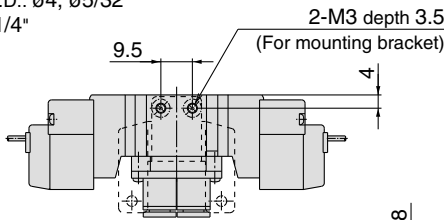


G: Approx. 300

H: Approx. 600



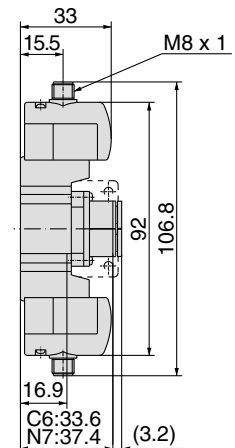
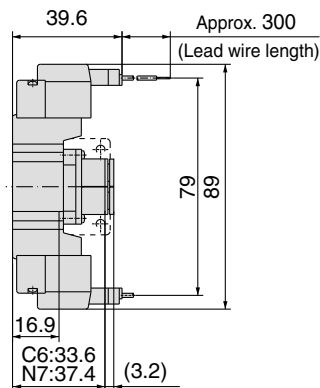
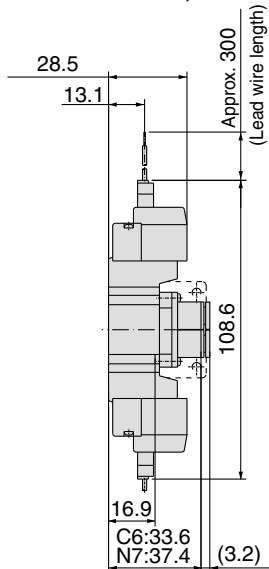
Applicable tubing O.D.: ø4, ø5/32"
: ø6, ø1/4"



L plug connector (L):
SY3220-□L□□-C4, N3
C6, N7(-F1)-Q

M plug connector (M):
SY3220-□M□□-C4, N3
C6, N7(-F2)-Q

M8 connector (WO):
SY3220-WO□□-C4, N3
C6, N7(-F2)-Q



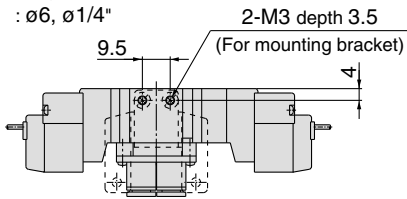
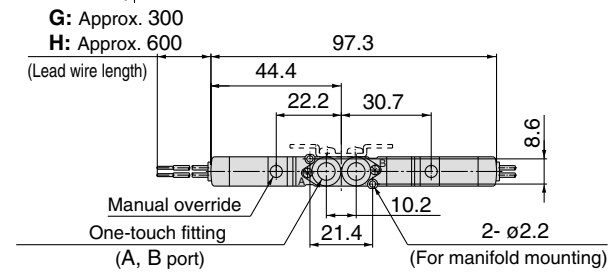
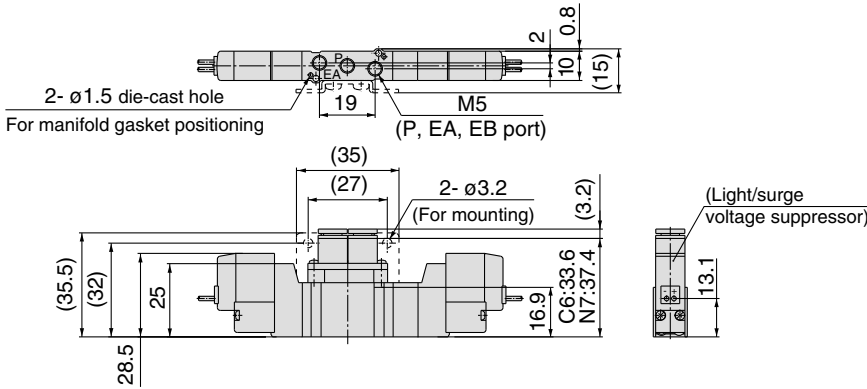
Note) Refer to back page 12 for dimensions of connector types.

Body Ported

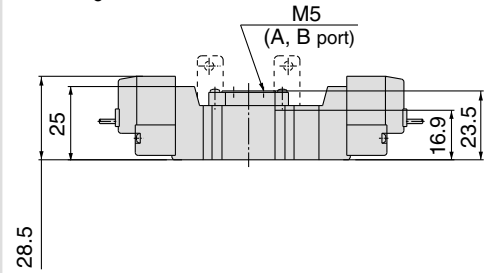
Dimensions: Series SY3000

3 position closed center / exhaust center / pressure center

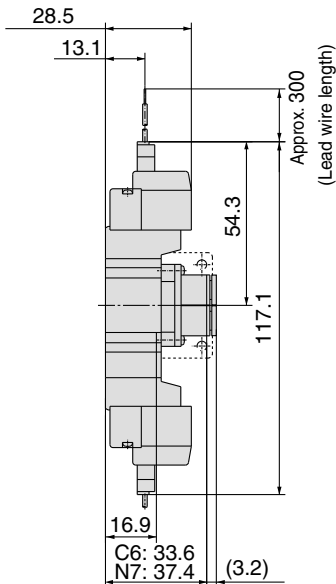
Grommet (G), (H): SY3³/₄20-□^G□□-C₄, N₃/_{C₆, N₇}(-F2)-Q



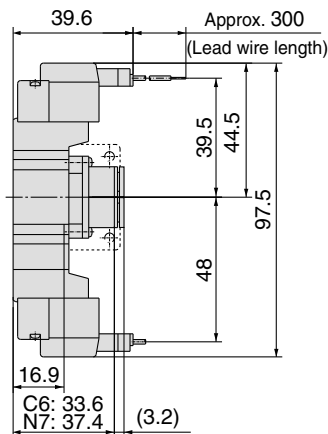
SY3³/₄20-□^H□□-M5(-F2)-Q



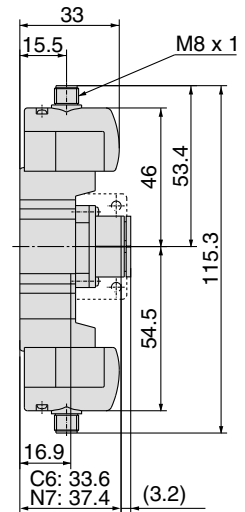
L plug connector (L):
SY3³/₄20-□L□□-C₄, N₃/_{C₆, N₇}(-F2)-Q



M plug connector (M):
SY3³/₄20-□M□□-C₄, N₃/_{C₆, N₇}(-F2)-Q



M8 connector (WO):
SY3³/₄20-□WO□□-C₄, N₃/_{C₆, N₇}(-F2)-Q



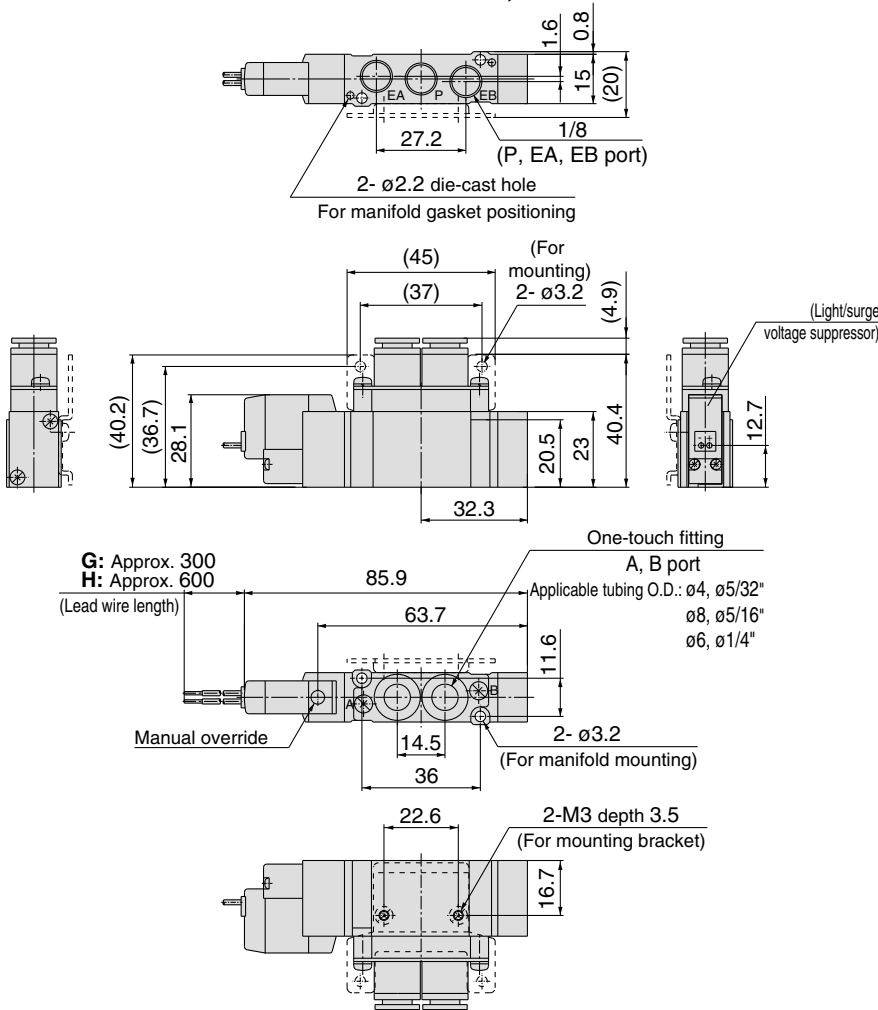
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Body Ported

Dimensions: Series SY5000

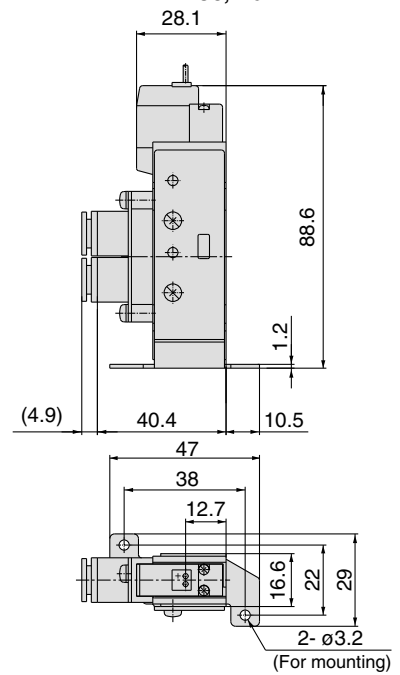
2 position single

Grommet (G), (H): SY5120-□^G□□□-^{C4, N3}_{C6, N7}□□(-F₂)-Q
^{C8, N9}

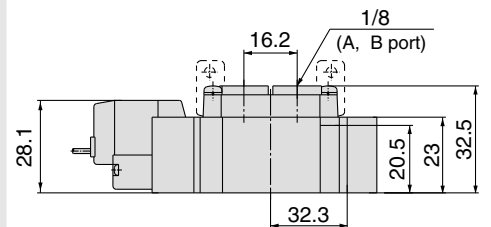


Foot bracket

SY5120-□^G□□□-^{C4, N3}_{C6, N7}□□(-F₁)-Q
^{C8, N9}

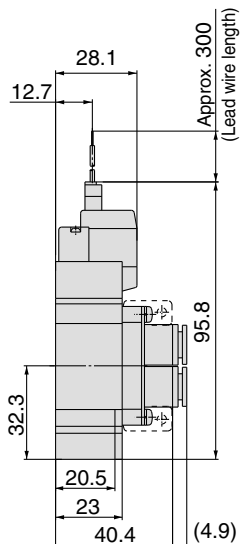


SY5120-□^G□□□-01□(-F₂)-Q



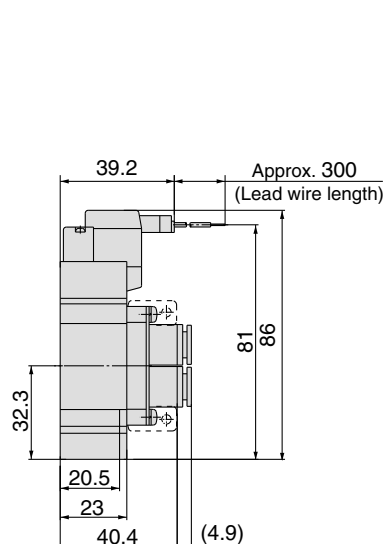
L plug connector: L

SY5120-□L□□□-^{C4, N3}_{C6, N7}□□(-F₂)-Q
^{C8, N9}



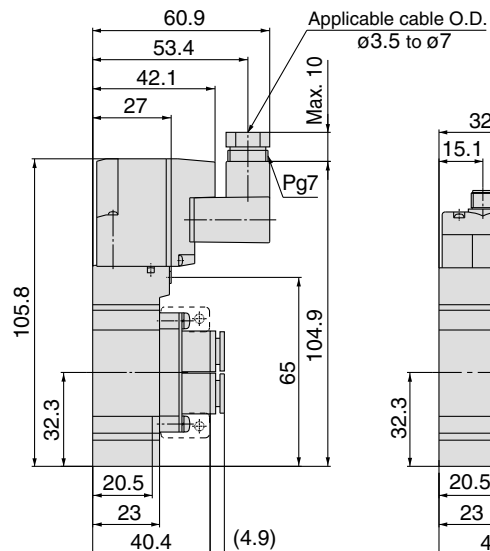
M plug connector: M

SY5120-□M□□□-^{C4, N3}_{C6, N7}□□(-F₂)-Q
^{C8, N9}



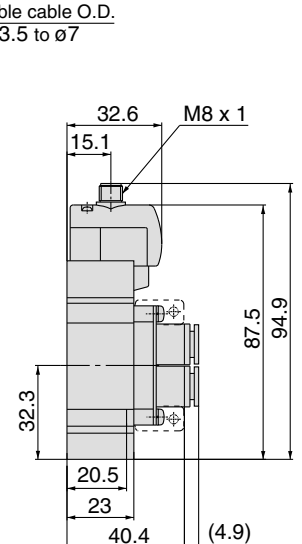
DIN terminal (D):

SY5120-□D□□□-^{C4, N3}_{C6, N7}□□(-F₂)-Q
^{C8, N9}



M8 connector (WO):

SY5120-□WO□□□-^{C4, N3}_{C6, N7}□□(-F₂)-Q
^{C8, N9}



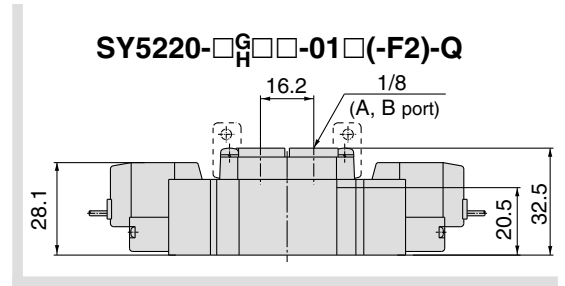
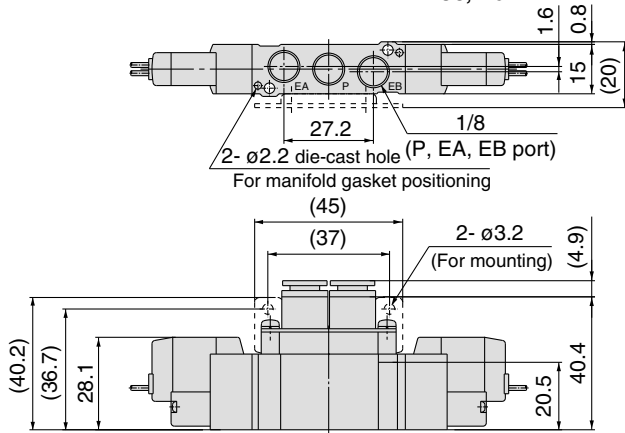
Note) Refer to back page 12 for dimensions of connector types.

Body Ported

Dimensions: Series SY5000

2 position double

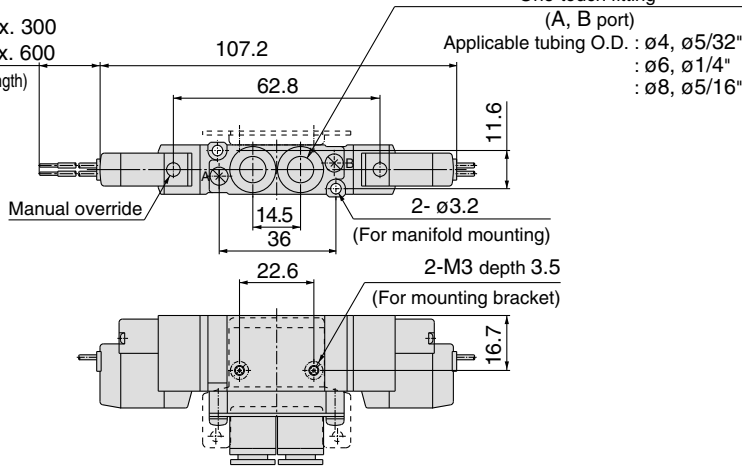
Grommet (G), (H): SY5220-□^G□□-C4, N3
C6, N7□(-F2)-Q
C8, N9



G: Approx. 300

H: Approx. 600

(Lead wire length)



L plug connector (L):

SY5220-□L□□-C4, N3
C6, N7□(-F2)-Q
C8, N9

M plug connector (M):

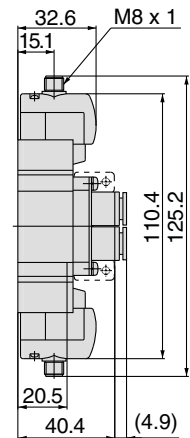
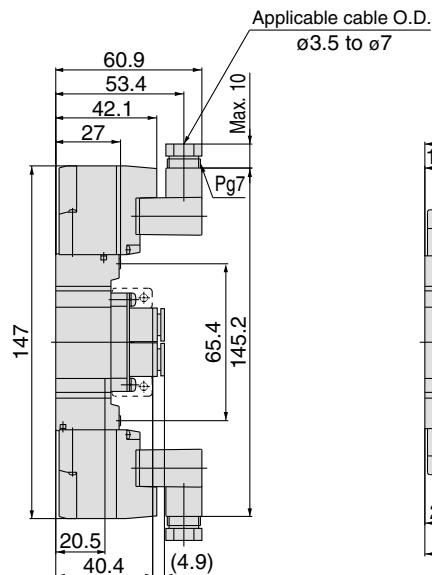
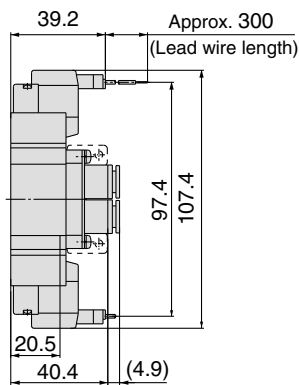
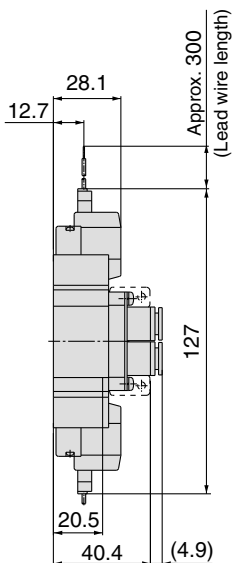
SY5220-□M□□-C4, N3
C6, N7□(-F2)-Q
C8, N9

DIN terminal (D):

SY5220-□D□□-C4, N3
C6, N7□(-F2)-Q
C8, N9

M8 connector (WO):

SY5220-□WO□□-C4, N3
C6, N7□(-F2)-Q
C8, N9



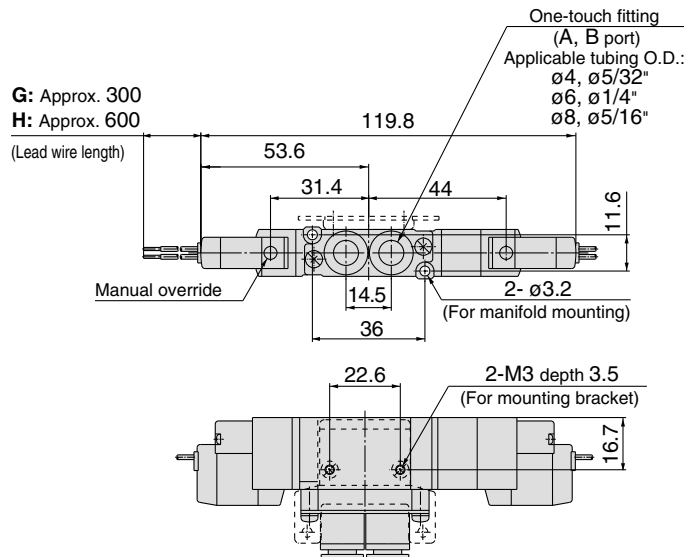
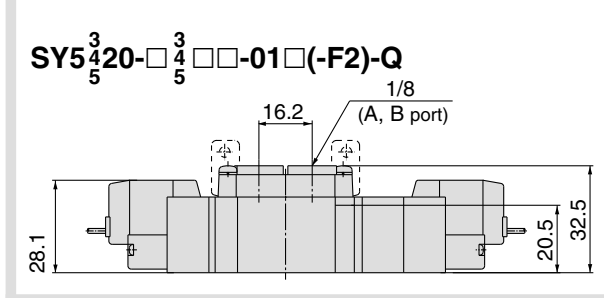
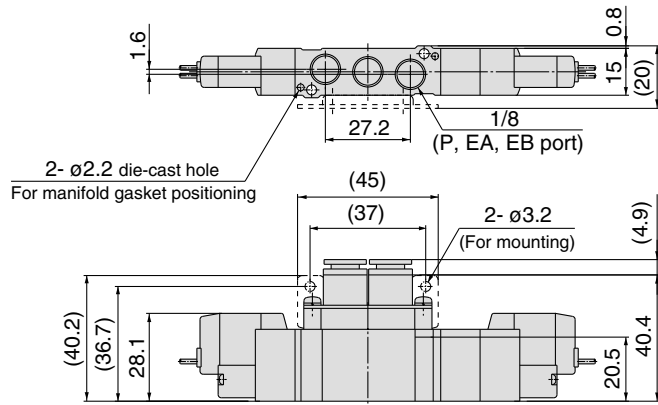
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Body Ported

Dimensions: Series SY5000

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY5³/₅420-□³/₅□□□-C4, N3
C6, N7 □(-F2)-Q
C8, N9



L plug connector (L):

SY5³/₅420-□L□□□-C4, N3
C6, N7 □(-F2)-Q
C8, N9

M plug connector (M):

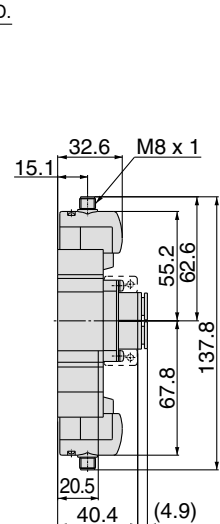
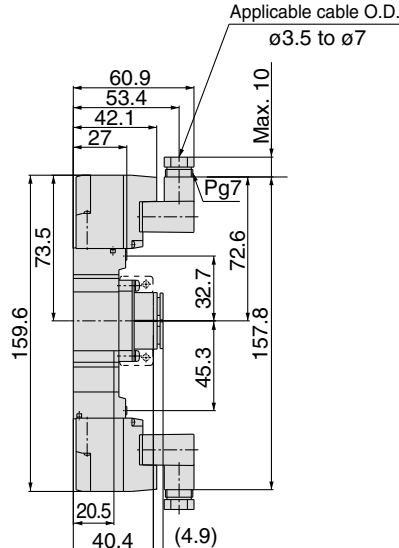
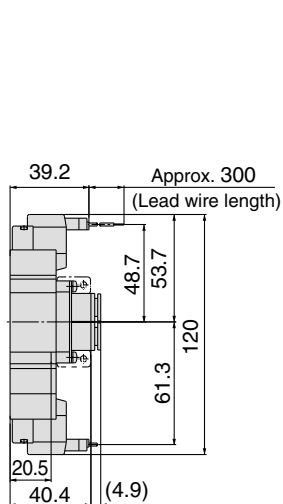
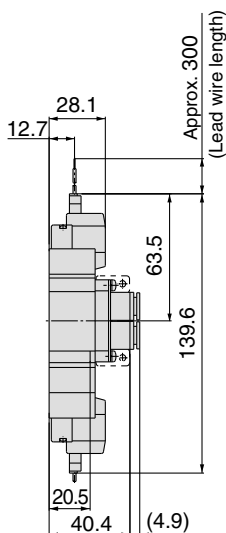
SY5³/₅420-□M□□□-C4, N3
C6, N7 □(-F2)-Q
C8, N9

DIN terminal (D):

SY5³/₅420-□D□□□-C4, N3
C6, N7 □(-F2)-Q
C8, N9

M8 connector (WO):

SY5³/₅420-□WO□□□-C4, N3
C6, N7 □(-F2)-Q
C8, N9



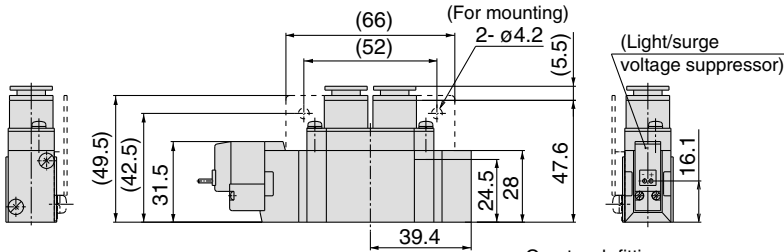
Note) Refer to back page 12 for dimensions of connector types.

Body Ported

Dimensions: Series SY7000

2 position single

Grommet (G), (H): SY7120-□_G□_H□_{C8, N9}□_{C10, N11}□(-F2)-Q

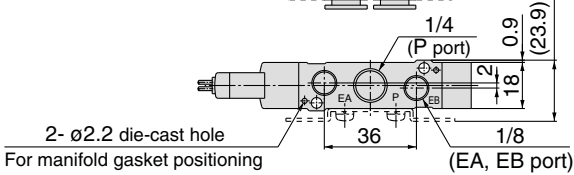


G: Approx. 300
H: Approx. 600
(Lead wire length)

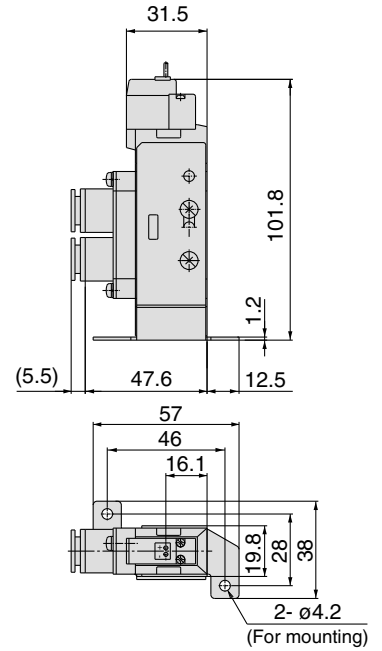
100.1
77.9
13.6
Applicable tubing O.D.: ø8, ø5/16"
: ø10, ø3/8"

Manual override
19
42
2-ø4.2
(For manifold mounting)

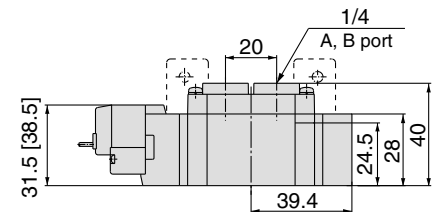
20
2-M4 depth 6.5
(For mounting bracket)



SY7120-□_G□_H□_{C8, N9}□_{C10, N11}□(-F1)-Q



SY7120-□_G□_H□□(-F2)-Q



L plug connector (L):

SY7120-□_L□□_{C8, N9}□_{C10, N11}□(-F₂¹)-Q

M plug connector (M):

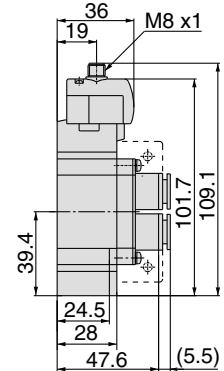
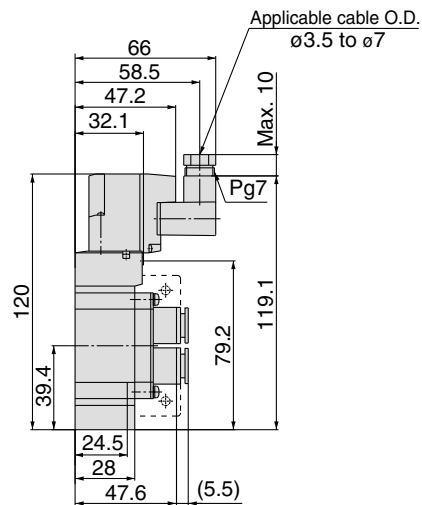
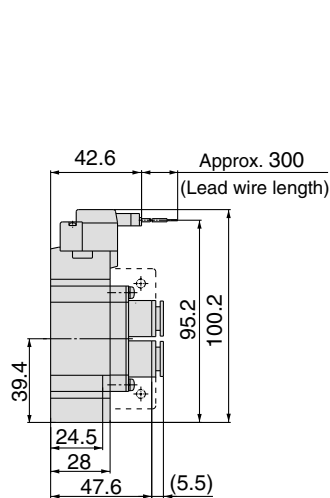
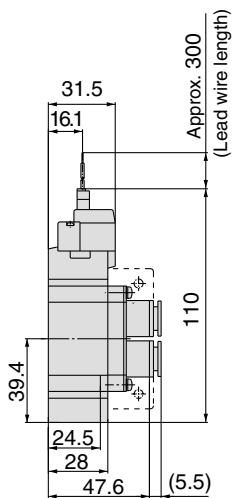
SY7120-□_M□□□_{C8, N9}□_{C10, N11}□(-F₂¹)-Q

DIN terminal (D):

SY7120-□_D□□□_{C8, N9}□_{C10, N11}□(-F₂¹)-Q

M8 connector (WO):

SY7120-□_{WO}□□□_{C8, N9}□_{C10, N11}□(-F₂¹)-Q



Note) Refer to back page 12 for dimensions of connector types.

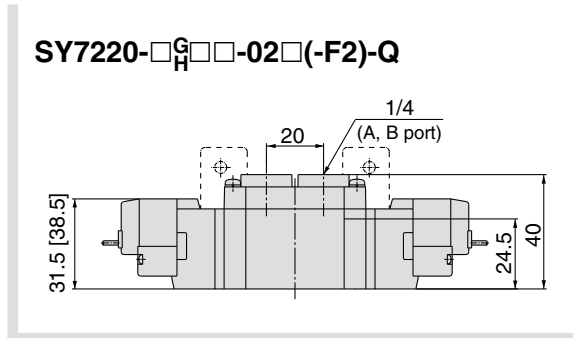
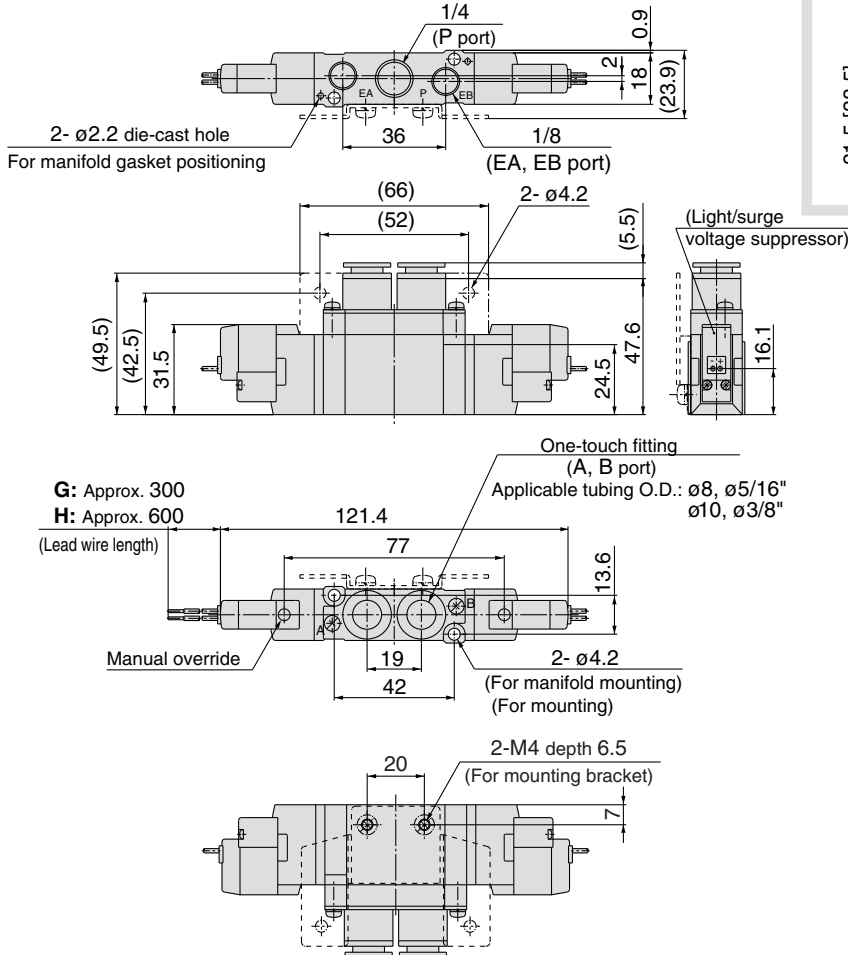
SY3000/5000/7000/9000 Body Ported

Dimensions: Series SY7000

2 position double

Grommet (G), (H): SY7220-□G□□-C8, N9□(-F2)-Q
C10, N11

SY7220-□G□□-02□(-F2)-Q



L plug connector (L):

SY7220-□L□□-C8, N9□(-F2)-Q
C10, N11

M plug connector (M):

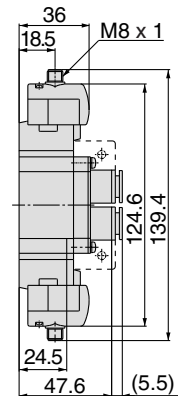
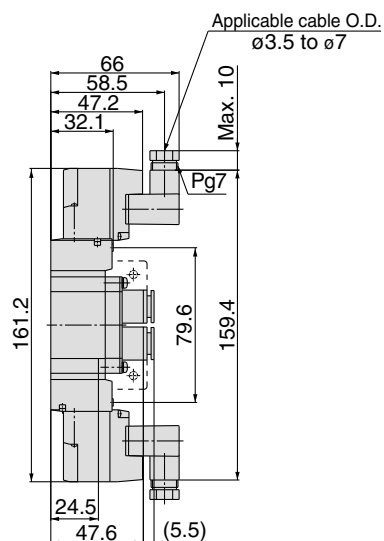
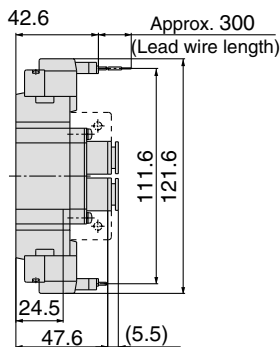
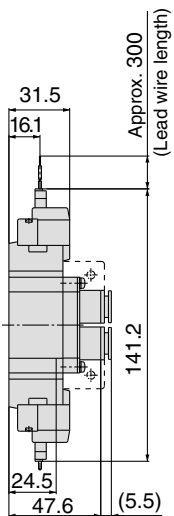
SY7220-□M□□-C8, N9□(-F2)-Q
C10, N11

DIN terminal (D):

SY7220-□D□□-C8, N9□(-F2)-Q
C10, N11

M8 connector (WO):

SY7220-□WO□□-C8, N9□(-F2)-Q
C10, N11



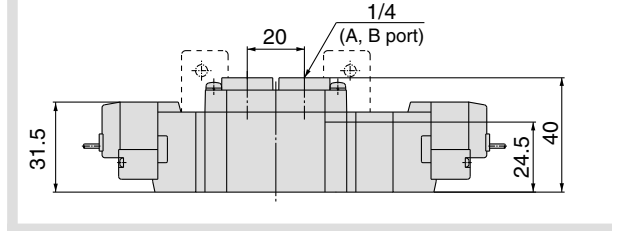
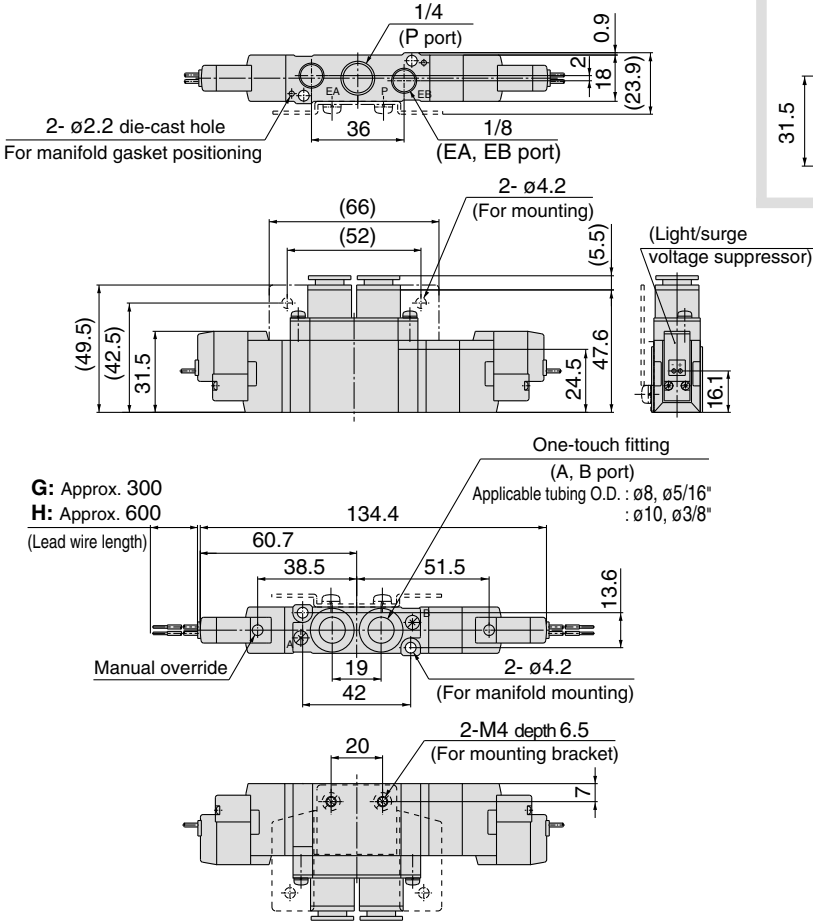
Note) Refer to back page 12 for dimensions of connector types.

Body Ported

Dimensions: Series SY7000

3 position closed center / exhaust center / pressure center
 Grommet (G), (H): SY7³/₅20-□G□□-C_{8, N₉}-C_{10, N₁₁}(-F2)-Q

SY7³/₅20-□G□□-02□(-F2)-Q



L plug connector (L):

SY7³/₅20-□L□□-C_{8, N₉}-C_{10, N₁₁}(-F2)-Q

M plug connector (M):

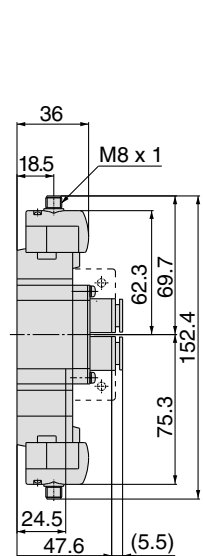
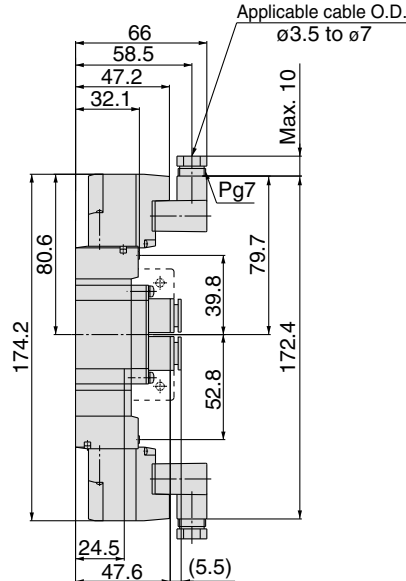
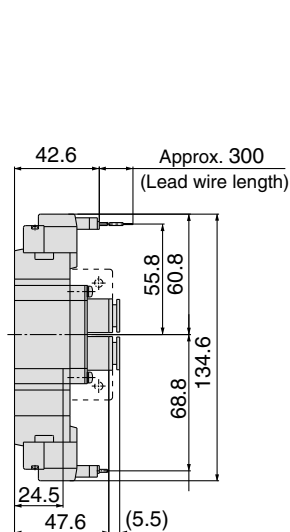
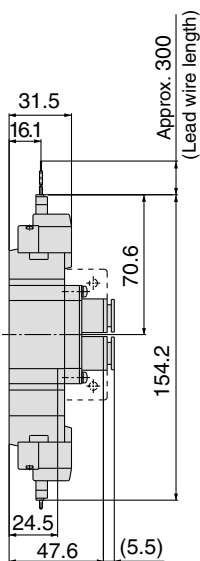
SY7³/₅20-□M□□-C_{8, N₉}-C_{10, N₁₁}(-F2)-Q

DIN terminal (D):

SY7³/₅20-□D□□-C_{8, N₉}-C_{10, N₁₁}(-F2)-Q

M8 connector (WO):

SY7³/₅20-□WO□□-C_{8, N₉}-C_{10, N₁₁}(-F2)-Q



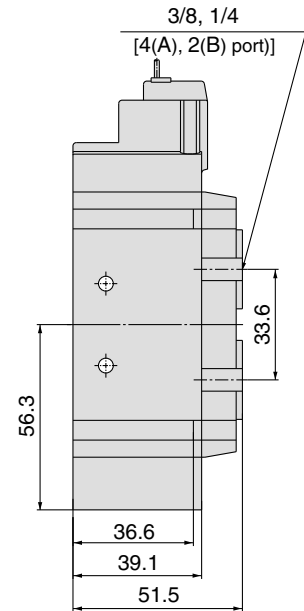
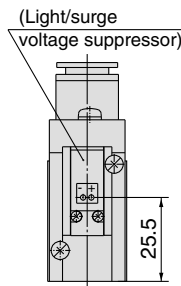
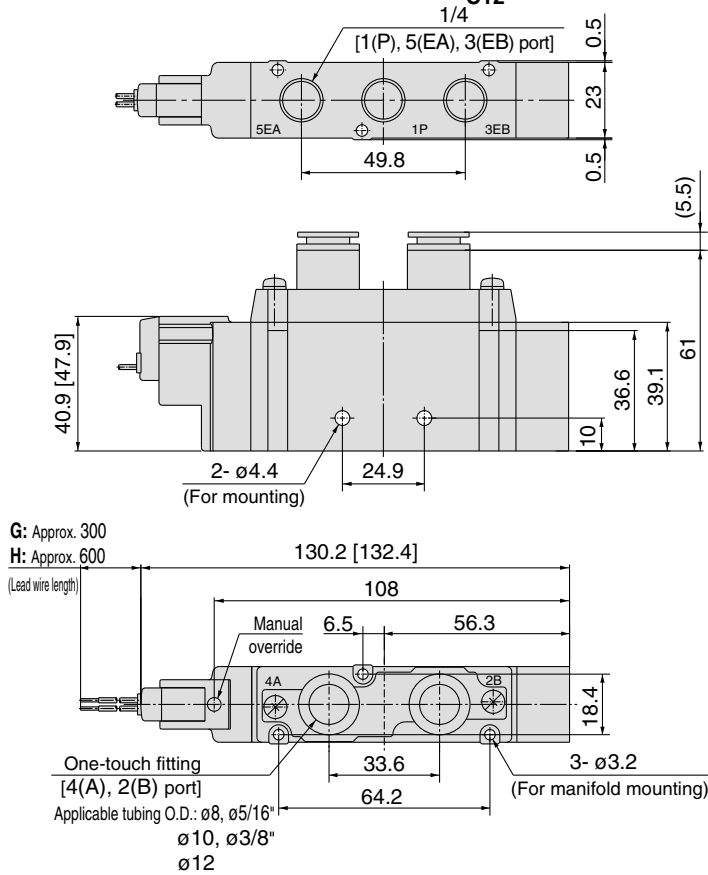
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Body Ported

Dimensions: Series SY9000

2 position single
Grommet (G), (H): SYJ9120-□^G□□□□-C8, N9
C10, N11□-Q

SY9120-□^G□□□□-02
03□-Q

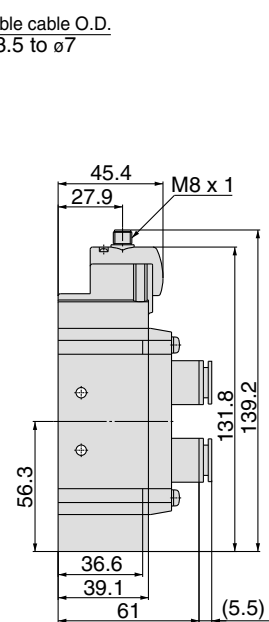
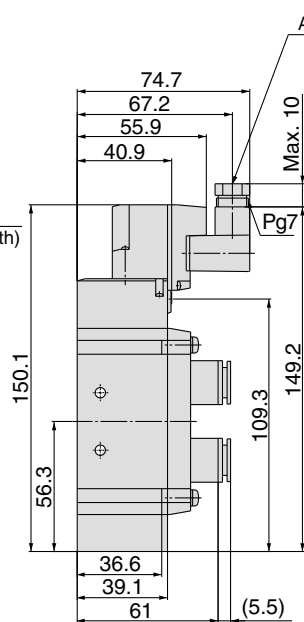
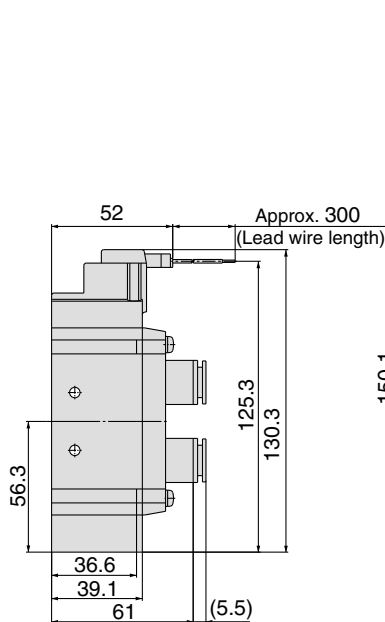
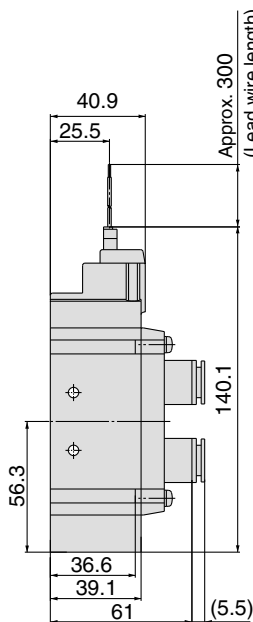


L plug connector (L):
SY9120-□L□□-C8, N9
C10, N11□-Q

M plug connector (M):
SY9120-□M□□-C8, N9
C10, N11□-Q

DIN terminal (D):
SY9120-□D□□-C8, N9
C10, N11□-Q

M8 connector (WO):
SY9120-□WO□□-C8, N9
C10, N11□-Q



Note) Refer to back page 12 for dimensions of connector types.

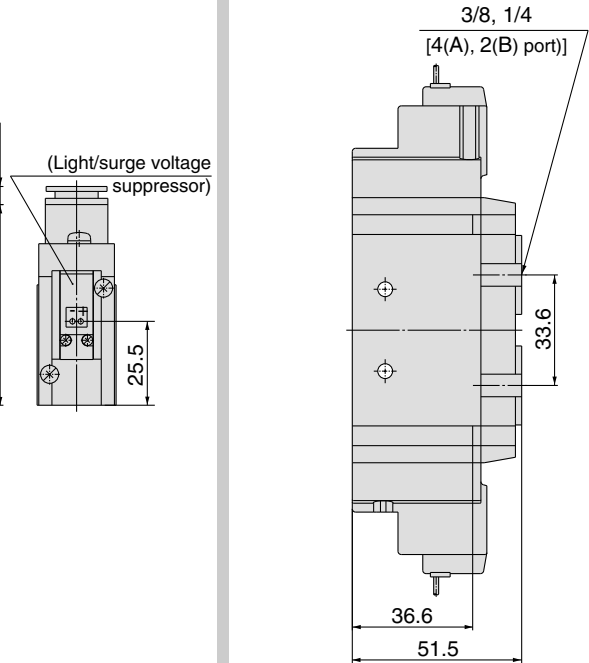
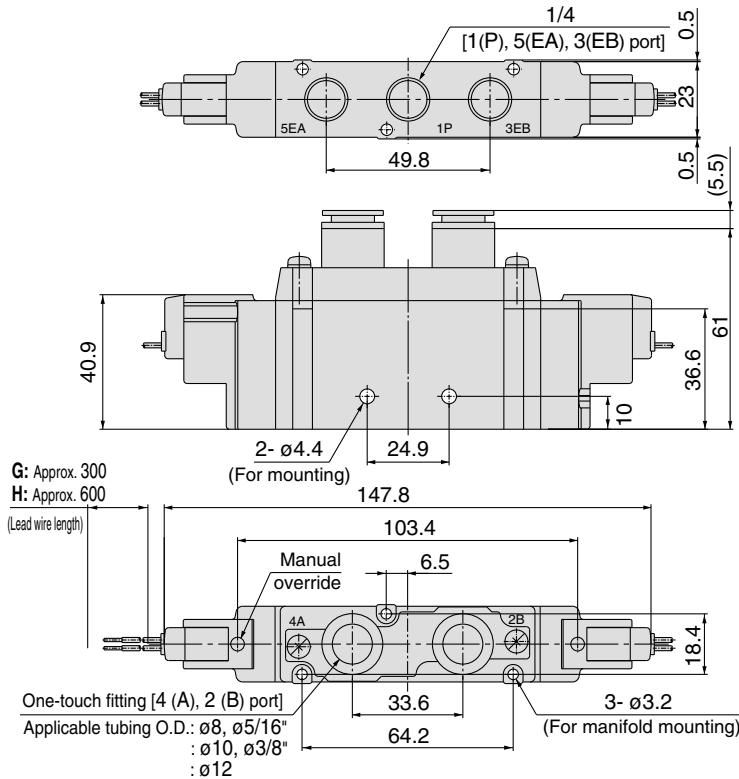
Body Ported

Dimensions: Series SY9000

2 position double

Grommet (G), (H): SY9220-□_G□□-C8, N9-C10, N11 □-Q
C12

SY9220-□_G□□-02₀₃□-Q



L plug connector (L):

SY9220-□L□□-C8, N9-C10, N11 □-Q
C12

M plug connector (M):

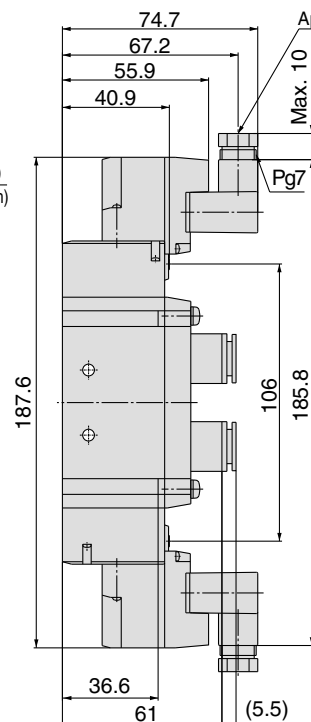
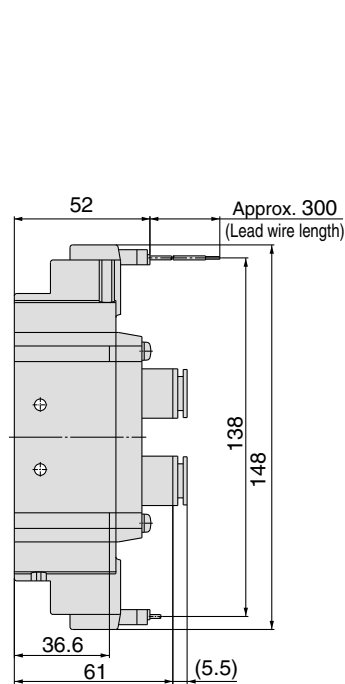
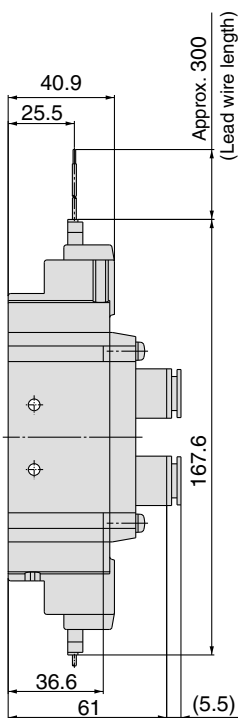
SY9220-□M□□-C8, N9-C10, N11 □-Q
C12

DIN terminal (D):

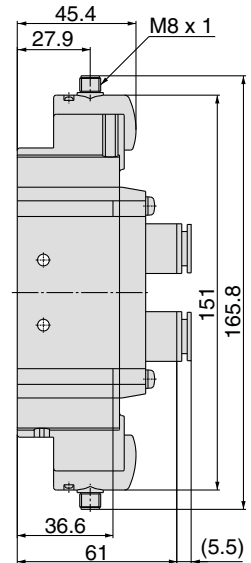
SY9220-□D□□-C8, N9-C10, N11 □-Q
C12

M8 connector (WO):

SY9220-□WO□□-C8, N9-C10, N11 □-Q
C12



Applicable cable O.D.
ø3.5 to ø7



Note) Refer to back page 12 for dimensions of connector types.

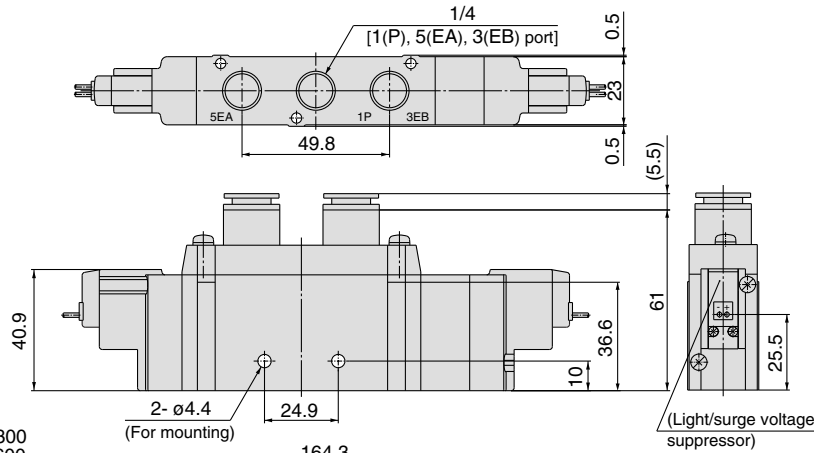
SY3000/5000/7000/9000 Body Ported

Dimensions: Series SY9000

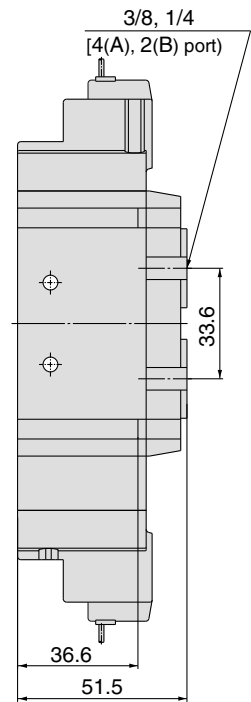
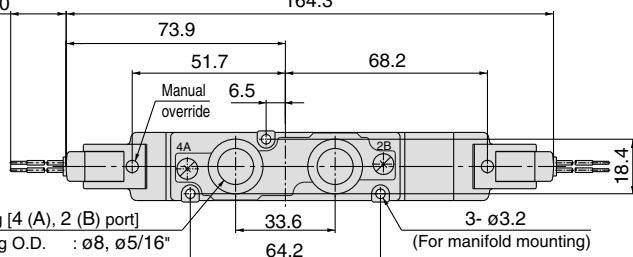
3 position closed center / exhaust center / pressure

Grommet (G), (H): SY9³/₅420-□^G□□-C^{8, N9}_{10, N11}□-Q

SY9³/₅420-□^G□□-0²/₀₃□-Q



G: Approx. 300
H: Approx. 600
(Lead wire length)



L plug connector (L):

SY9³/₅420-□L□□-C^{8, N9}_{10, N11}□-Q

M plug connector (M):

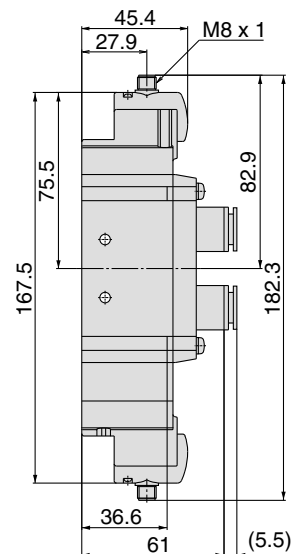
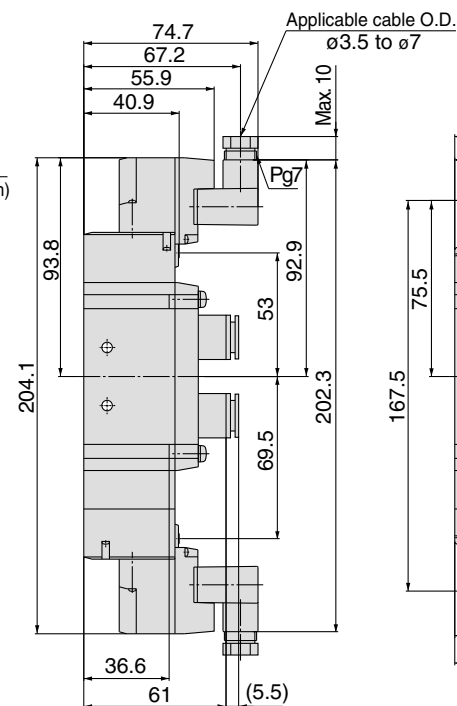
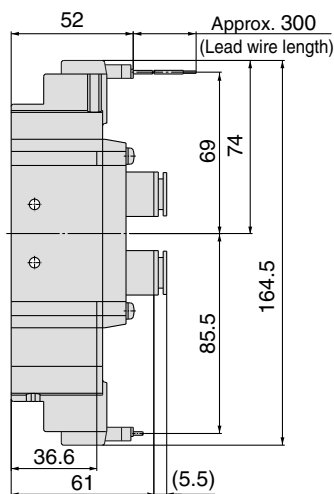
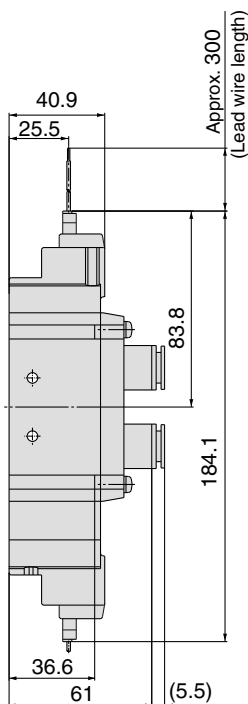
SY9³/₅420-□M□□-C^{8, N9}_{10, N11}□-Q

DIN terminal (D):

SY9³/₅420-□D□□-C^{8, N9}_{10, N11}□-Q

M8 connector (WO):

SY9³/₅420-□WO□□-C^{8, N9}_{10, N11}□-Q



Note) Refer to back page 12 for dimensions of connector types.

5 Port Solenoid Valve

Series SY3000/5000/7000/9000

Base Mounted

Single Unit



Refer to www.smcworld.com for details of products compatible with overseas standards.

How to Order

SY **5** **2** 40 **5** **L** **-Q**

Series

3	SY3000
5	SY5000
7	SY7000
9	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

-	Internal pilot
R	External pilot

Coil specifications

-	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.
* AC specification is only available with D, DO type.

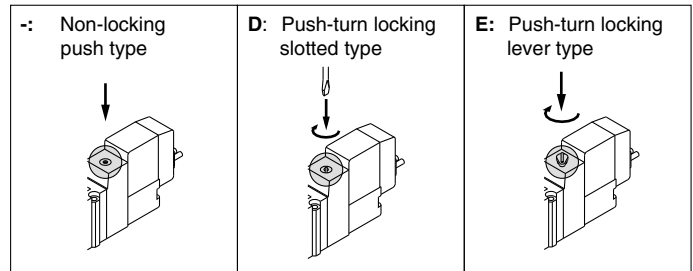
Port size

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

Thread type

-	Rc
F	G
N	NPT
T	NPTF

Manual override



(Light/surge voltage suppressor)

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

-	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)

* Power saving circuit is only available in the "Z" type.

Electrical entry for D (Except SY3000)

-	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				24, 12 VDC/ 100, 110, 200, 220 VAC	24, 12, 6, 5, 3 VDC
Grommet	L plug connector	M plug connector		DIN terminal	M8 connector *
G: Lead wire length 300 mm 	L: With lead wire (Length 300 mm) 	M: With lead wire (Length 300 mm) 	MN: Without lead wire 	(Except SY3000) D: With connector 	WO: Without connector cable
H: Lead wire length 600 mm 	LN: Without lead wire 	LO: Without connector 	MO: Without connector 	DO: Without connector 	W□: With connector cable (Note 1)

* LN, MN type: with 2 sockets.
* For DIN terminal of SY3000 series, refer to back page 10.

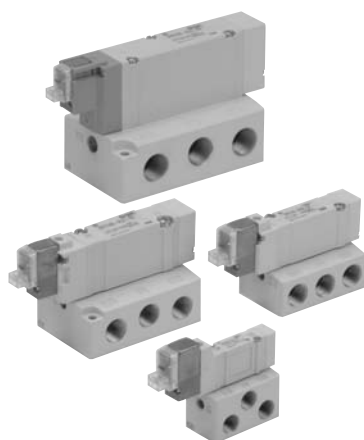
* DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 210.

* For connector cable of M8 connector, refer to back page 12.
* Connector M8 type "WA" conforming to IEC 60947-5-2 standard, is also available. For details, see page 211.

Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to back page 13.

SY3000/5000/7000/9000 Base Mounted

Specifications



Made to Order

(For details, refer to pages 199 through to 213.)

Series		SY3000	SY5000	SY7000	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 back page 3.)			
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	Internal pilot	Common exhaust type for main and pilot valve			
	External pilot	Pilot valve individual exhaust			
Lubrication		Not required			
Mounting orientation		Unrestricted			
Impact/Vibration resistance (m/s ²) ^{Note)}		150/30			
Enclosure		Dust proof (* DIN terminal and M8 connector: IP65)			



* Based on IEC60529)

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 energised and de-energised 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 energised and de-energised states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

Response Time



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

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

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

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

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

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 50/60 Hz	100, 110	200, 220
Allowable voltage fluctuation (%)	±10% of rated voltage *		
Power consumption (W)	DC	Standard	0.35 (With indicator light: 0.4 DIN terminal with indicator light: 0.45)
		With power saving circuit	0.1 (With indicator light only)
Apparent power (VA) *	AC	100 V	-
		110 V	-
		[115 V]	-
		200 V	1.15 (With indicator light: 1.30)
		220 V [230 V]	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 type.)		
Indicator light	LED (AC of DIN connector 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.

* S, Z and T type (with power saving circuit) should be used within the following allowable voltage fluctuation range due to a voltage drop caused by the internal circuit.

S and Z type: 24 VDC: -7% to +10%

12 VDC: -4% to +10%

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

12 VDC: -6% to +10%

Base Mounted

Flow Characteristics/Weight

Series 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)				Grommet	L plug connector, M plug connector	W M8 connector
				C (dm ³ /(s·bar))	b	Cv	Q _l /(min(ANR))	C (dm ³ /(s·bar))	b	Cv	Q _l /(min(ANR))			
SY3□40-□-01	2 position	Single	1/8	1.0	0.30	0.24	254	1.1	0.30	0.26	280	84 [50]	85 [53]	89 [57]
		Double		0.77	0.28	0.18	193	0.85	0.30	0.19	216	102 [68]	107 [73]	115 [81]
	3 position	Closed center		0.73	0.31	0.18	187	1.1 (0.55)	0.26 (0.52)	0.24 (0.16)	273 (164)	104 [69]	109 [74]	117 [82]
		Exhaust center		1.2 (0.51)	0.24 (0.45)	0.29 (0.14)	294 (144)	0.89	0.47	0.24	255			



Note 1) [] : denotes the normal position. Note 2) [] : denotes without sub-plate.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Series 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)				Grommet	L plug connector, M plug connector	DIN terminal	W M8 connector
				C (dm ³ /(s·bar))	b	Cv	Q _l /(min(ANR))	C (dm ³ /(s·bar))	b	Cv	Q _l /(min(ANR))				
SY5□40-□-02	2 position	Single	1/4	2.4	0.41	0.64	658	2.8	0.29	0.66	707	121 [58]	123 [61]	154 [92]	127 [65]
		Double		1.8	0.47	0.50	516	1.8	0.40	0.47	490	139 [76]	144 [81]	186 [123]	152 [89]
	3 position	Closed center		1.4	0.55	0.44	430	3.0 (1.2)	0.33 (0.48)	0.72 (0.37)	778 (347)	144 [82]	150 [87]	192 [129]	158 [95]
		Exhaust center		3.3 (0.84)	0.36 (0.60)	0.85 (0.28)	873 (270)	1.8	0.40	0.48	490				



Note 1) [] : denotes the normal position. Note 2) [] : denotes without sub-plate.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Series 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)				Grommet	L plug connector, M plug connector	DIN terminal	W M8 connector
				C (dm ³ /(s·bar))	b	Cv	Q _l /(min(ANR))	C (dm ³ /(s·bar))	b	Cv	Q _l /(min(ANR))				
SY7□40-□-02	2 position	Single	1/4	4.1	0.41	1.1	1123	4.1	0.29	1.0	1036	218 [89]	221 [92]	242 [113]	225 [96]
		Double		3.0	0.43	0.80	834	2.6	0.41	0.72	712	237 [108]	242 [113]	284 [155]	250 [121]
	3 position	Closed center		2.6	0.42	0.71	718	4.7 (1.7)	0.35 (0.48)	1.1 (0.49)	1235 (492)	239 [110]	245 [116]	287 [158]	253 [124]
		Exhaust center		5.3 (2.3)	0.39 (0.49)	1.3 (0.65)	1431 (670)	2.2	0.49	0.63	641				



Note 1) [] : denotes the normal position. Note 2) [] : denotes without sub-plate.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Series 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)				Grommet	L plug connector, M plug connector	DIN terminal	W M8 connector
				C (dm ³ /(s·bar))	b	Cv	Q _l /(min(ANR))	C (dm ³ /(s·bar))	b	Cv	Q _l /(min(ANR))				
SY9□40-□-03	2 position	Single	3/8	7.9	0.34	2.0	2062	9.6	0.43	2.6	2670	469 [172]	472 [175]	493 [196]	476 [179]
		Double		7.5	0.33	1.8	1944	7.3	0.30	1.7	1856	488 [191]	494 [197]	535 [239]	502 [205]
	3 position	Closed center		7.2	0.34	1.7	1879	13 (4.0)	0.23 (0.41)	2.8 (0.95)	3168 (1096)	512 [215]	518 [221]	560 [263]	526 [229]
		Exhaust center		12 (3.3)	0.26 (0.41)	2.8 (0.84)	2977 (904)	6.7	0.40	1.9	1823				

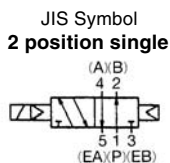


Note 1) [] : denotes the normal position. Note 2) [] : denotes without sub-plate.

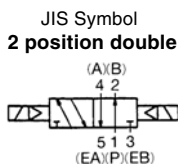
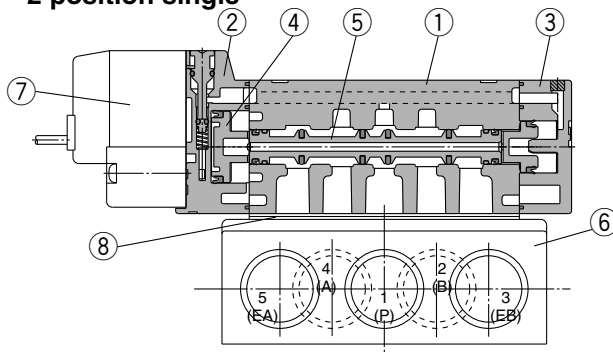
* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Construction

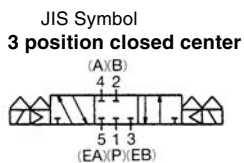
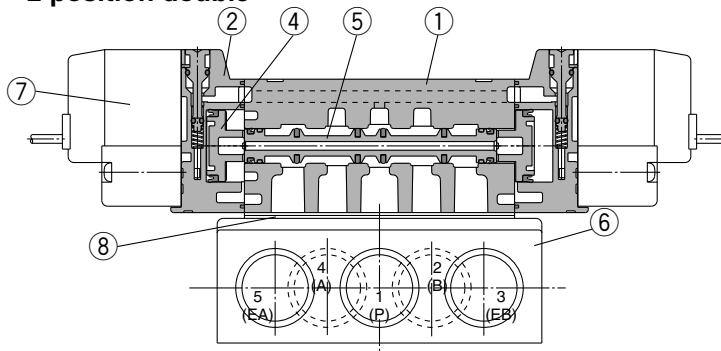
Series SY



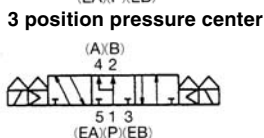
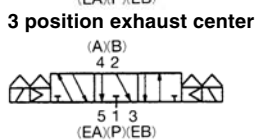
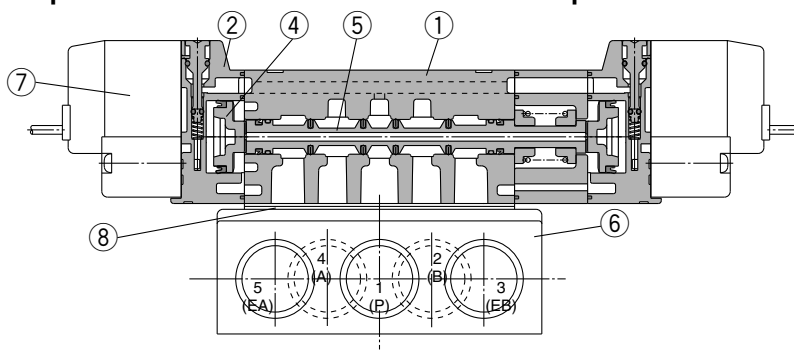
2 position single



2 position double



3 position closed center / exhaust center / pressure center



(This figure shows a closed center type.)

Component Parts

No.	Description	Material	Note
1	Body	Aluminum die-casted (SY3000: Zinc die-casted)	White
2	Adapter plate	Resin	White (SY9000: Gray)
3	End plate	Resin	White
4	Piston	Resin	-
5	Spool valve assembly	Aluminum, HNBR	-

Replacement Parts

No.	Description	Part No.				Note
		SY3□40	SY5□40	SY7□40	SY9□40	
6	Sub-plate	SY3000-27-1* ¹ -Q	SY5000-27-1* ¹ -Q	1/4: SY7000-27-1* ¹ -Q 3/8: SY7000-27-2* ¹ -Q	3/8: SY9000-27-1* ¹ -Q 1/2: SY9000-27-2* ¹ -Q	Aluminum die-casted
7	Pilot valve assembly	Refer to "How to Order Pilot Valve Assembly" on page 23.				
8	Gasket	SY3000-11-25	SY5000-11-15	SY7000-11-11	SY9000-11-2	H-NBR
-	Round head combination screw	SY3000-23-4 (M2 x 21)	M3 x 26	M4 x 31	SY9000-18-2 (M3 x 42)	For valve mounting (Matt nickel plated)

* Thread type

Caution

Mounting screw
tightening torques

M2: 0.16 N·m

M3: 0.8 N·m

M4: 1.4 N·m

Base Mounted

How to Order Pilot Valve Assembly

V111 5 G

Coil specifications

-	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

Light/surge voltage suppressor

-	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)

* Power saving circuit is only available in the "Z" type.

Electrical entry

G	Grommet, 300 mm lead wire	
H	Grommet, 600 mm lead wire	
L	L plug connector	With lead wire
LN		Without lead wire
LO		Without connector
M	M plug connector	With lead wire
MN		Without lead wire
MO		Without connector
WO	M8	Without connector cable
W <input type="checkbox"/>	connector	With connector cable ^{Note 1)}

* For connector cable of M8 connector, refer to back page 12.

Note 1) Enter the cable length symbols in . Please be sure to fill in the blank referring to back page 13.

■ DIN terminal type

V115 5 D

Rated voltage

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

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

Light/surge voltage suppressor

-	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	With connector
DO	terminal	Without connector

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

How to Order Connector Assembly for L/M Plug Connector

For DC: SY100-30-4A

Without lead wire: SY100-30-A

Only connector and sockets (x 2 pcs.)

Lead wire length

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

How to Order M8 Connector Cable

■ Straight type

V100-49-1

Cable length

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

How to Order Interface Regulator

Series SY3000

ARBY3000-05-P-2

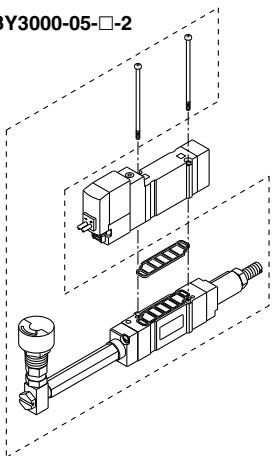
Pressure gauge connection port

05	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

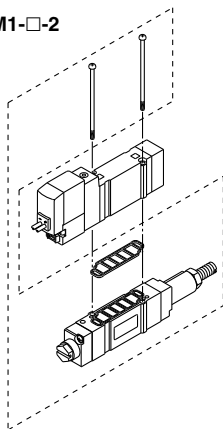
Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

ARBY3000-05-□-2



ARBY3000-M1-□-2



Series SY5000

ARBY5000-00-P-2

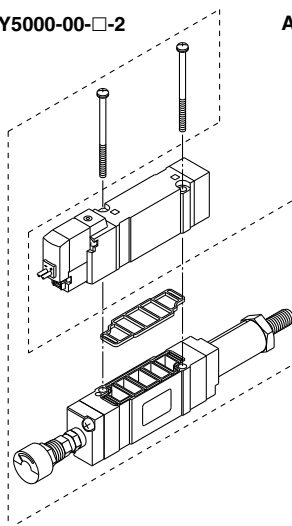
Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

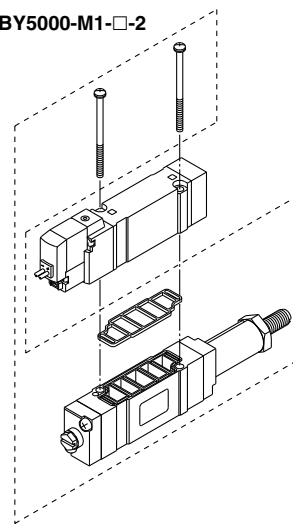
Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

ARBY5000-00-□-2



ARBY5000-M1-□-2



Series SY7000

ARBY7000-00-P-2

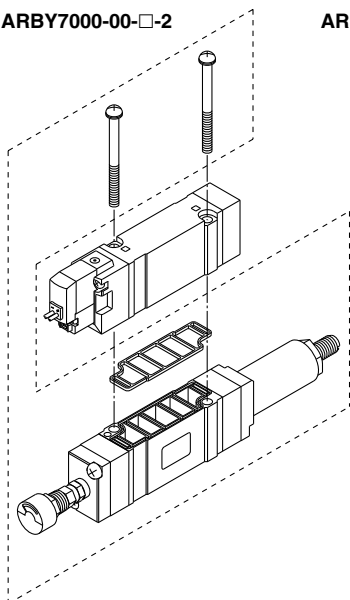
Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

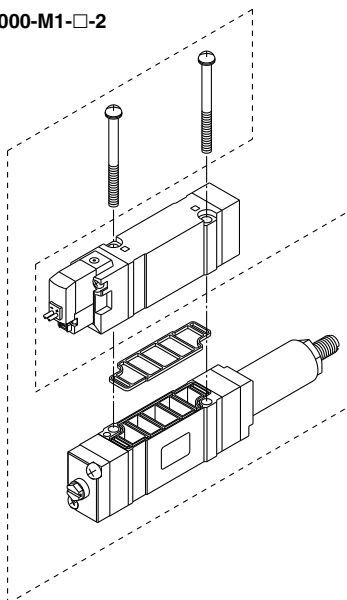
Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

ARBY7000-00-□-2



ARBY7000-M1-□-2



Accessory

Series	Round head combination screw	Gasket
ARBY3000	SY3000-23-10 (M2 x 36)	SX3000-57-4
ARBY5000	M3 x 48.5, Matt nickel plated	SX5000-57-6
ARBY7000	M4 x 57, Matt nickel plated	SX7000-57-4

⚠ Caution

Mounting screw
tightening torques

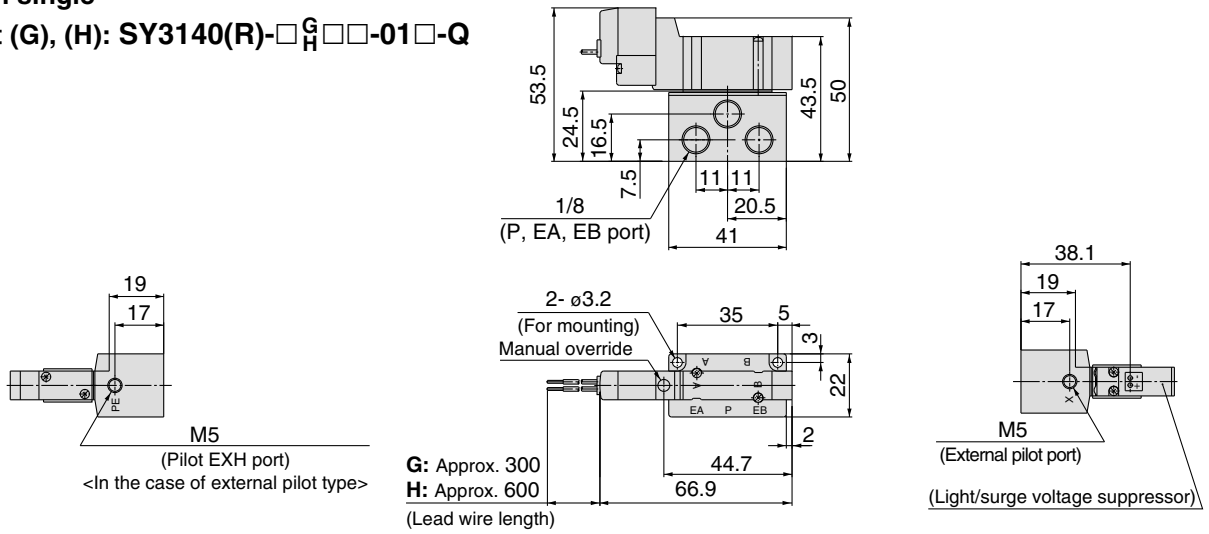
M2: 0.16 N·m
M3: 0.8 N·m
M4: 1.4 N·m

Base Mounted

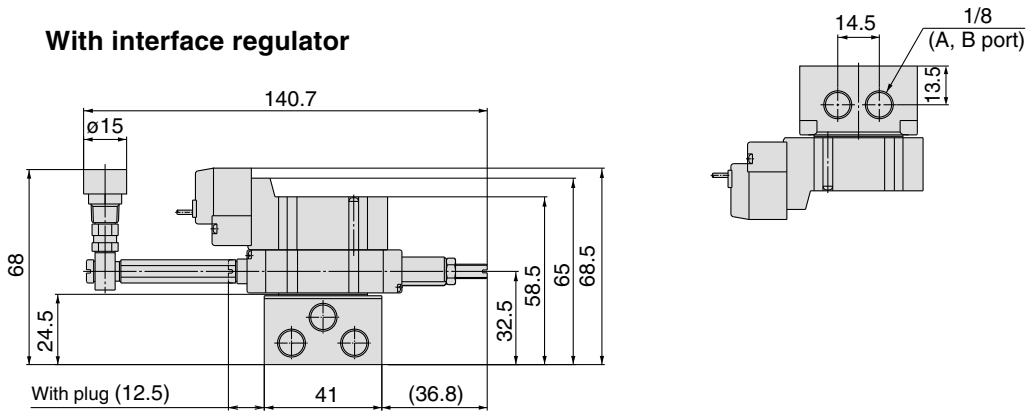
Dimensions: Series SY3000

2 position single

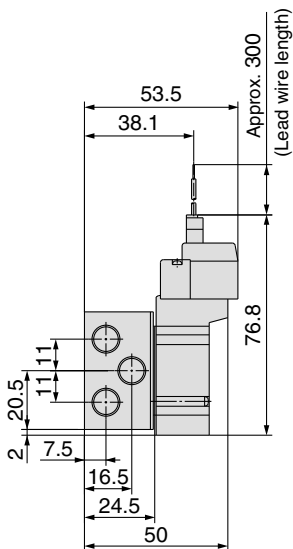
Grommet (G), (H): SY3140(R)-□^G□□-01□-Q



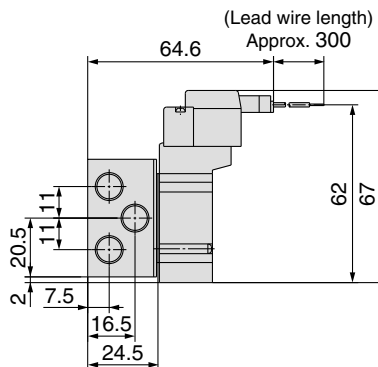
With interface regulator



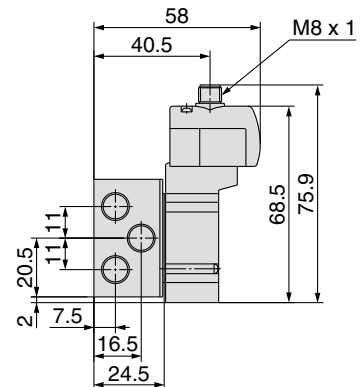
L plug connector (L):
SY3140(R)-□L□□-01□-Q



M plug connector (M):
SY3140(R)-□M□□-01□-Q



M8 connector (WO):
SY3140(R)-□WO□□-01□-Q



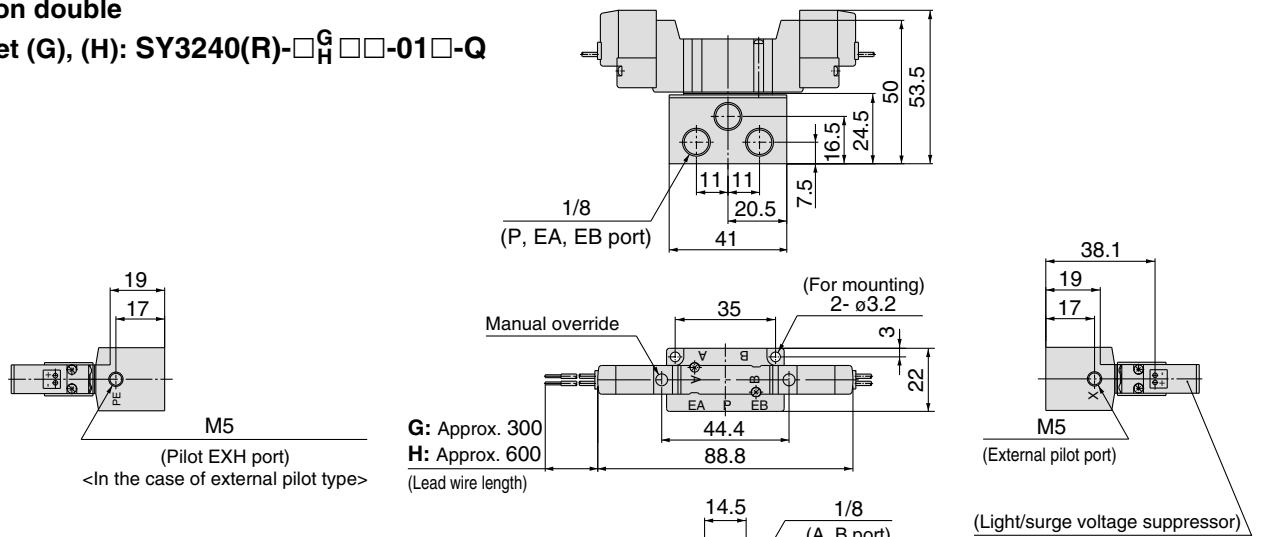
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Base Mounted

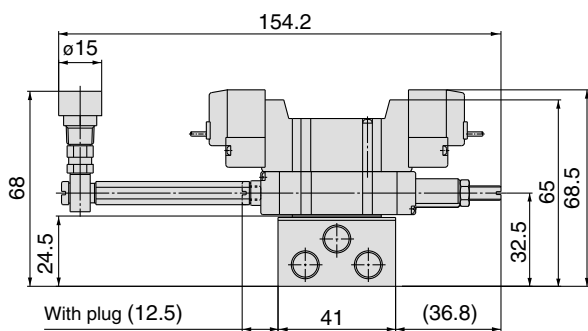
Dimensions: Series SY3000

2 position double

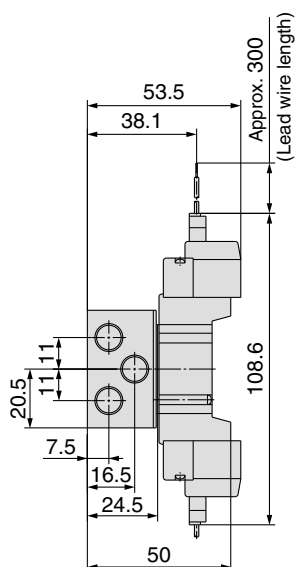
Grommet (G), (H): SY3240(R)-□^G_H□□-01□-Q



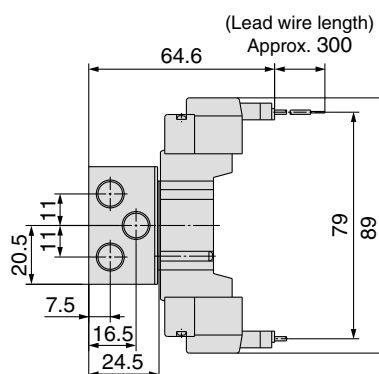
With interface regulator



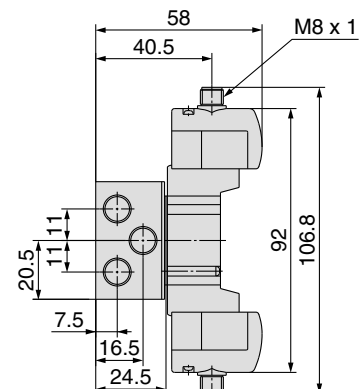
L plug connector (L):
SY3240(R)-□L□□-01□-Q



M plug connector (M):
SY3240(R)-□M□□-01□-Q



M8 connector (WO):
SY3240(R)-□WO□□-01□-Q



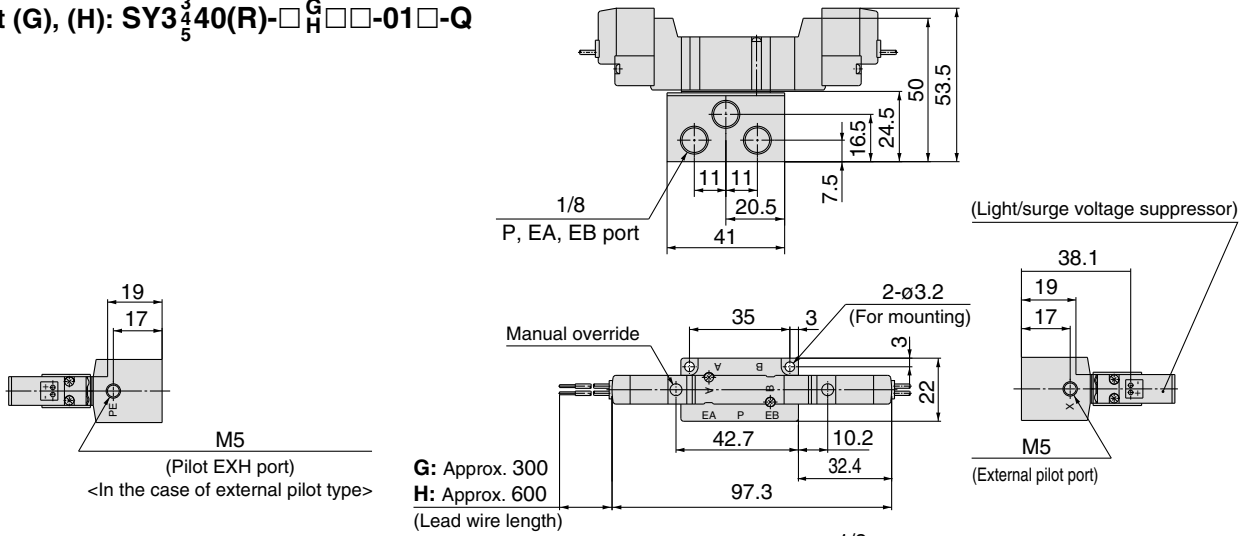
Note) Refer to back page 12 for dimensions of connector types.

Base Mounted

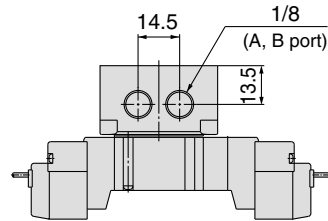
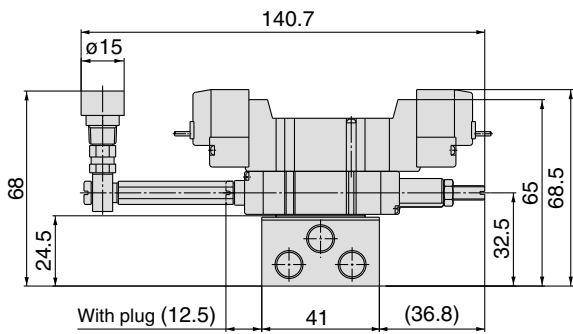
Dimensions: Series SY3000

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY3³/₅40(R)-□^G□□-01□-Q

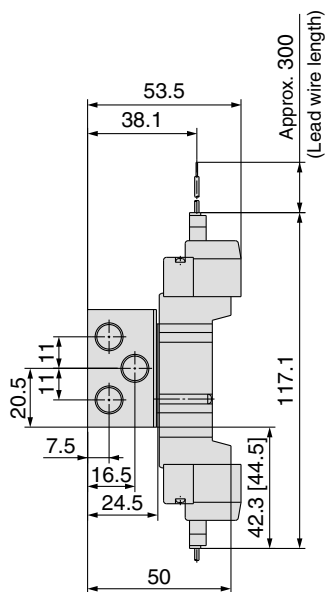


With interface regulator



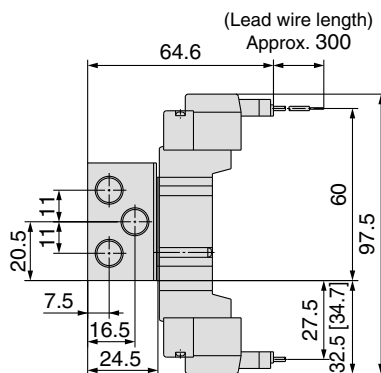
L plug connector (L):

SY3³/₅40(R)-□L□□-01□-Q



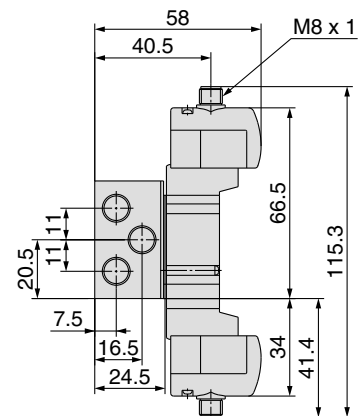
M plug connector (M):

SY3³/₅40(R)-□M□□-01□-Q



M8 connector (WO):

SY3³/₅40(R)-□WO□□-01□-Q



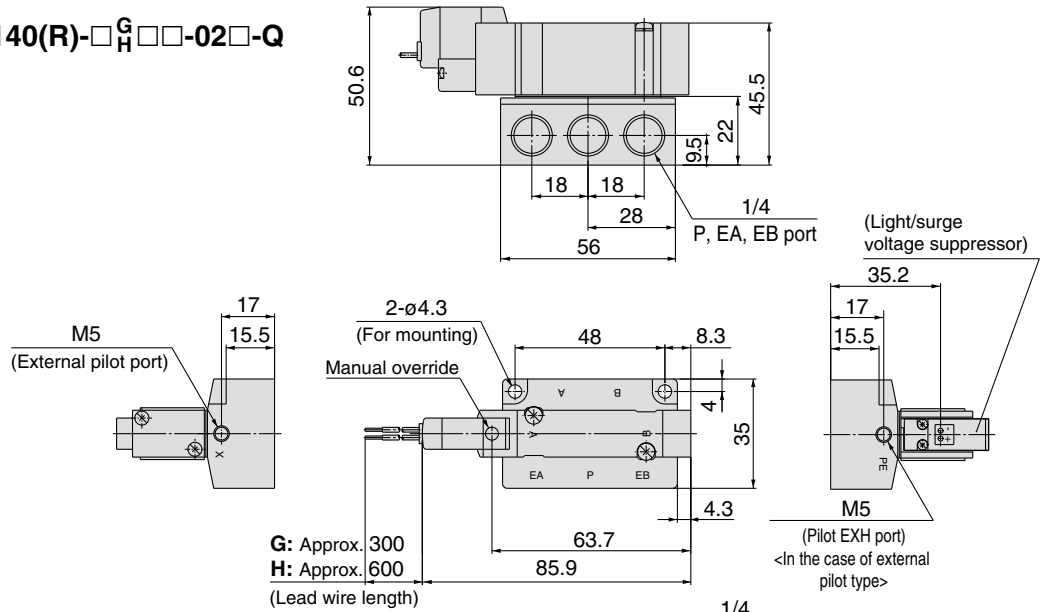
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Base Mounted

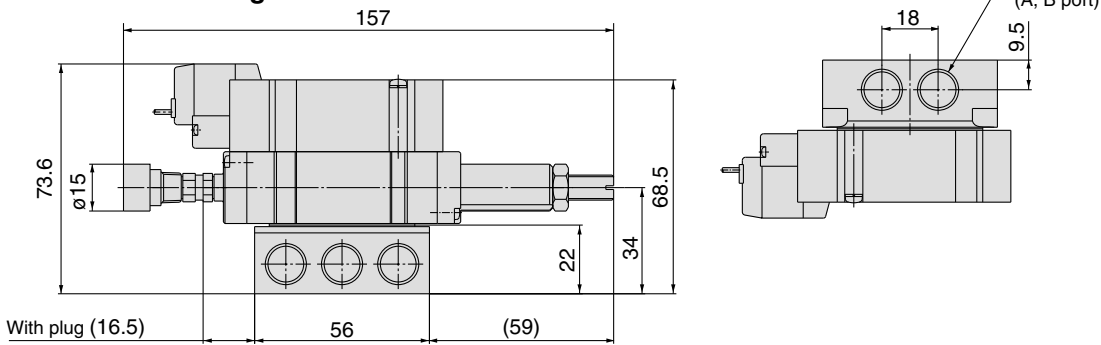
Dimensions: Series SY5000

2 position single

Grommet (G), (H): SY5140(R)-□^G_H□□-02□-Q



With interface regulator

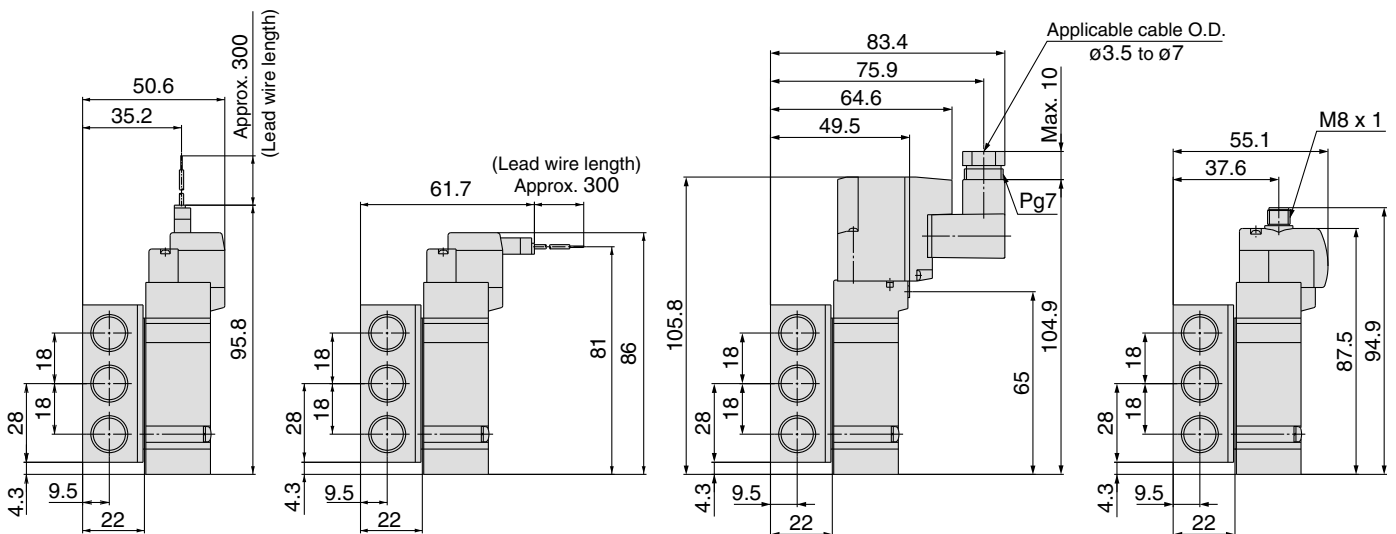


L plug connector (L):
SY5140(R)-□L□□-02□-Q

M plug connector (M):
SY5140(R)-□M□□-02□-Q

DIN terminal (D):
SY5140(R)-□D□□-02□-Q

M8 connector (WO):
SY5140(R)-□WO□□-02□-Q



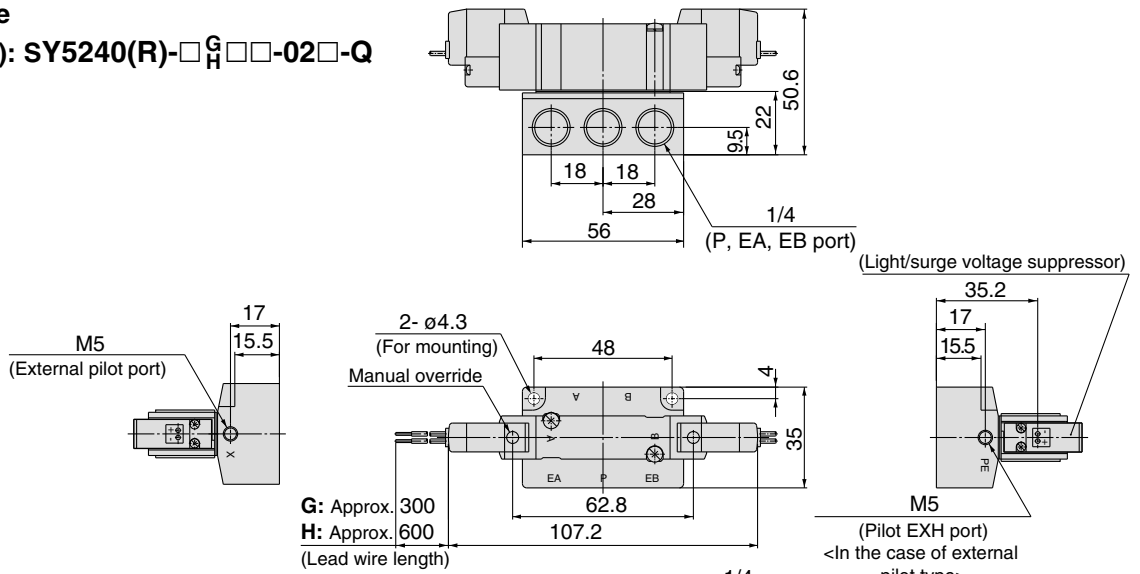
Note) Refer to back page 12 for dimensions of connector types.

Base Mounted

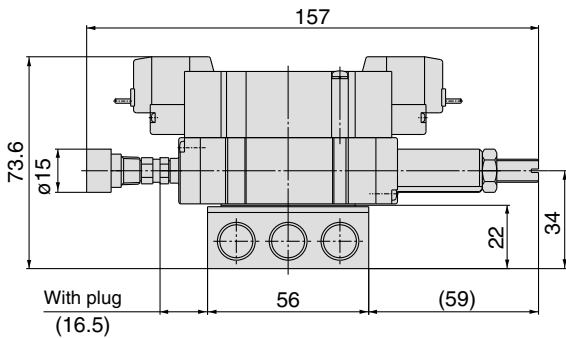
Dimensions: Series SY5000

2 position double

Grommet (G), (H): SY5240(R)-□^G□□-02□-Q



With interface regulator

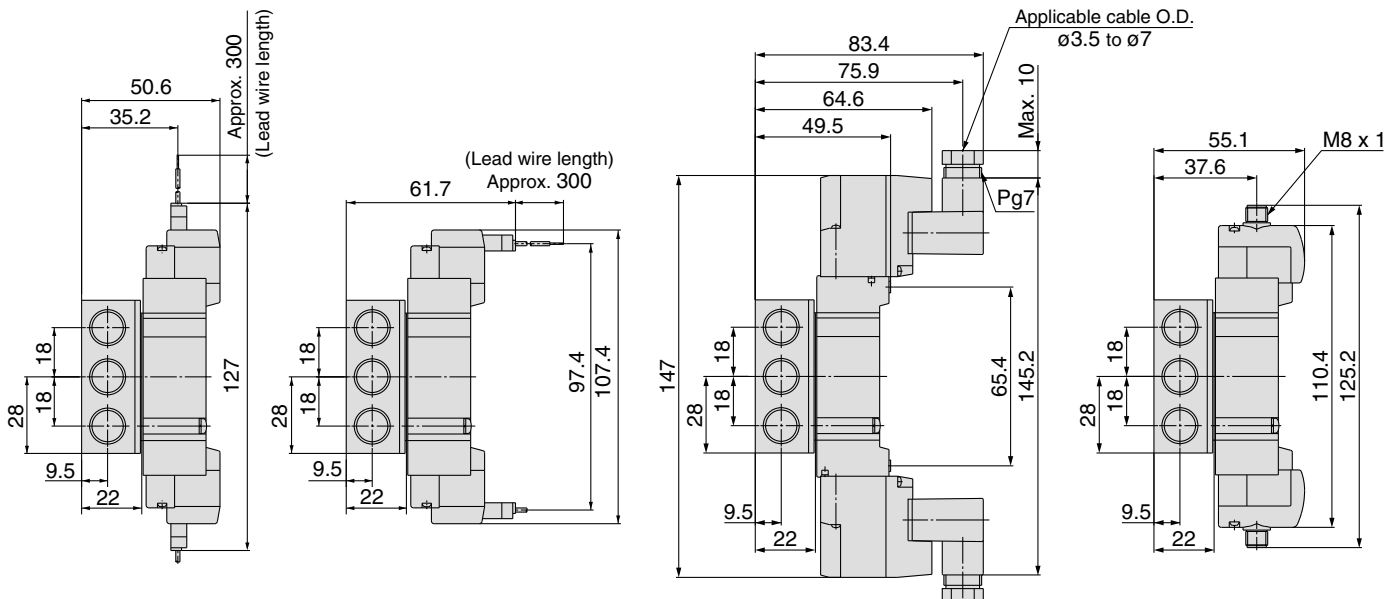


L plug connector (L):
SY5240(R)-□L□□-02□-Q

M plug connector (M):
SY5240(R)-□M□□-02□-Q

DIN terminal (D):
SY5240(R)-□D□□-02□-Q

M8 connector (WO):
SY5240(R)-□WO□□-02□-Q



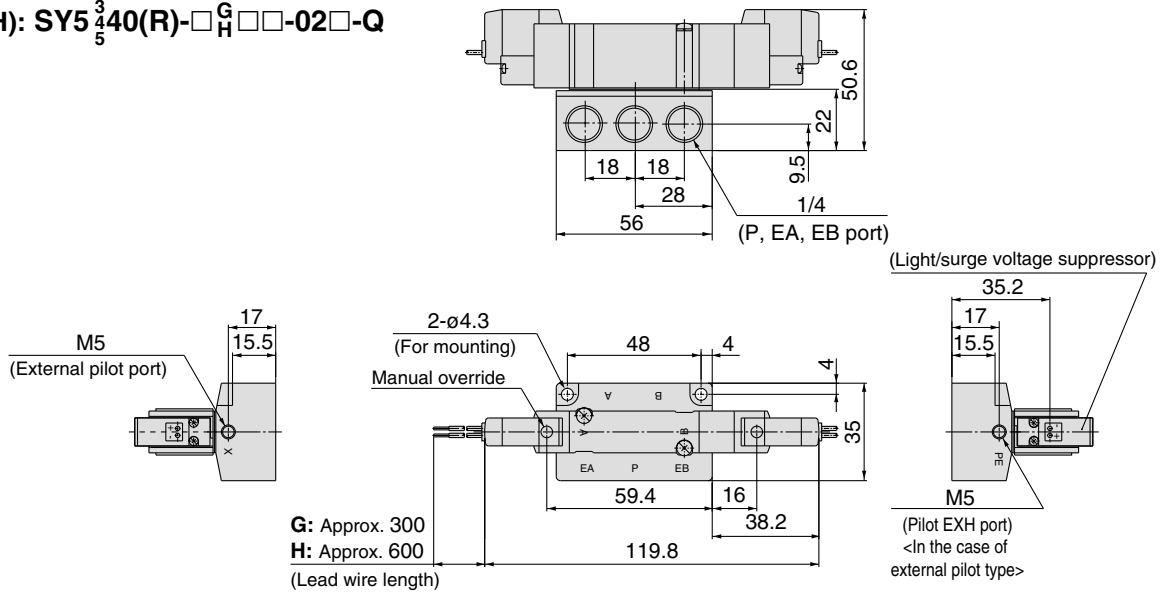
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Base Mounted

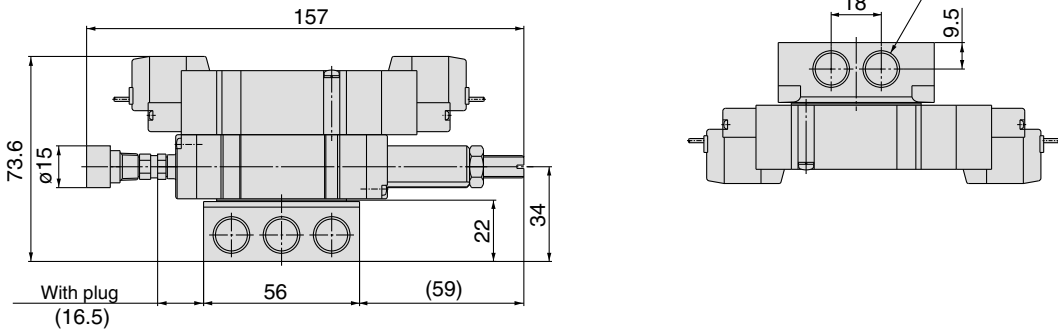
Dimensions: Series SY5000

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY5³/₅40(R)-□^G/_H□□-02□-Q



With interface regulator



L plug connector (L):

SY5³/₅40(R)-□L□□-02□-Q

M plug connector (M):

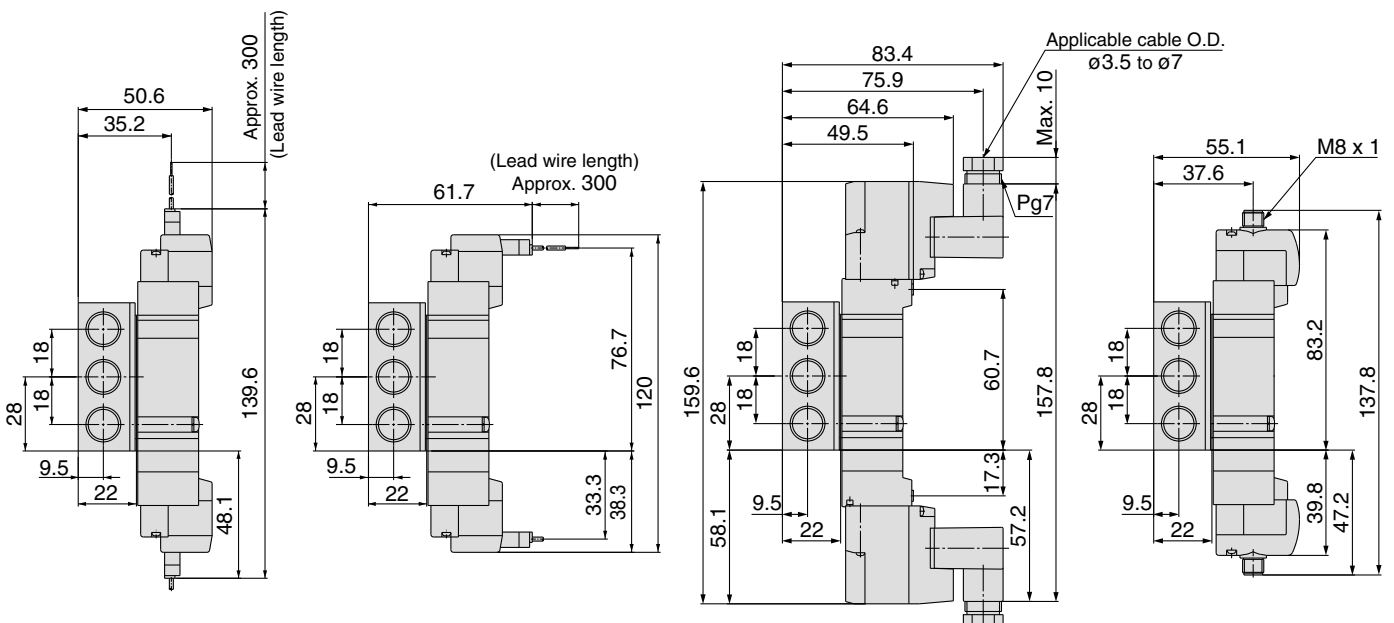
SY5³/₅40(R)-□M□□-02□-Q

DIN terminal (D):

SY5³/₅40(R)-□D□□-02□-Q

M8 connector (WO):

SY5³/₅40(R)-□WO□□-02□-Q



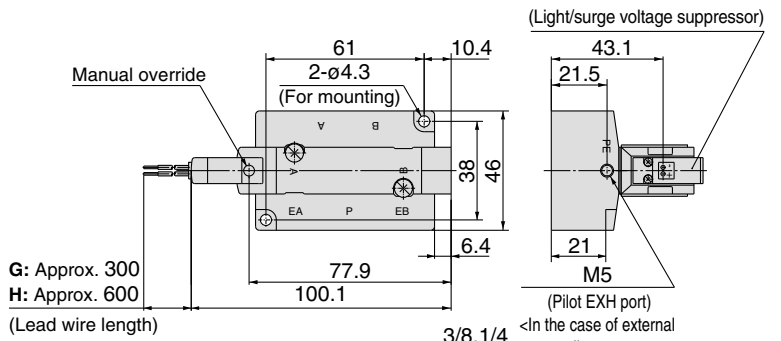
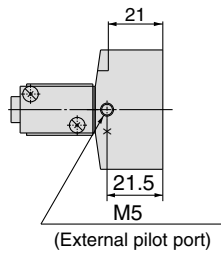
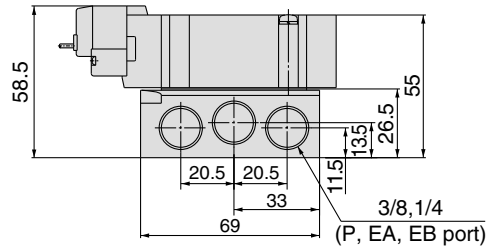
Note) Refer to back page 12 for dimensions of connector types.

Base Mounted

Dimensions: Series SY7000

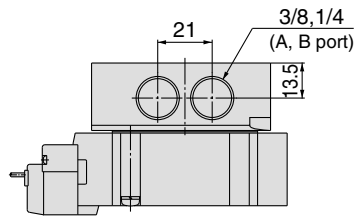
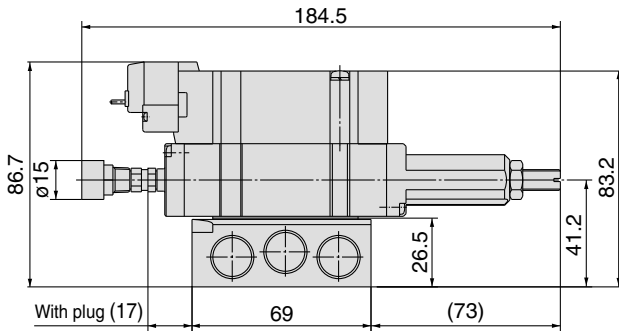
2 position single

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



G: Approx. 300
 H: Approx. 600
 (Lead wire length)

With interface regulator

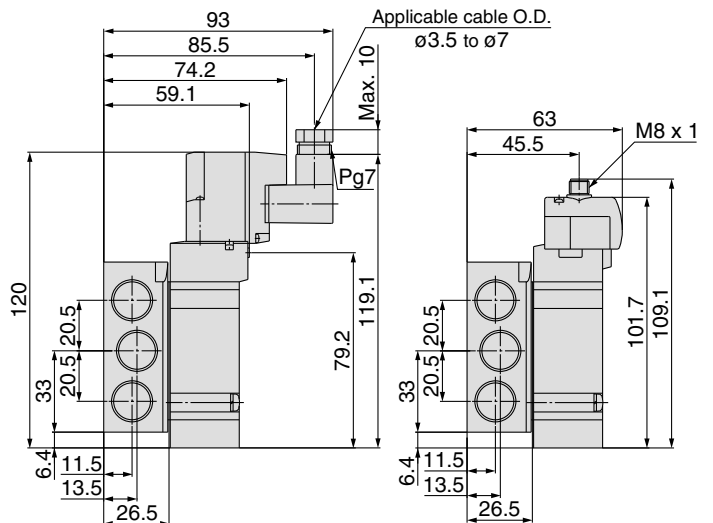
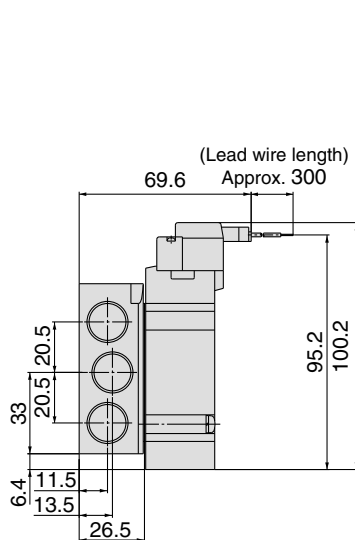
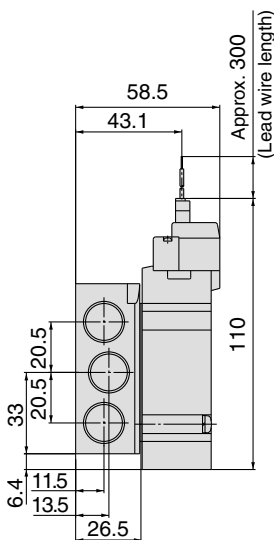


L plug connector (L):
 SY7140(R)-□L□□-02□□-Q

M plug connector (M):
 SY7140(R)-□M□□-02□□-Q

DIN terminal (D):
 SY7140(R)-□D□□-02□□-Q

M8 connector (WO):
 SY7140(R)-□WO□□-02□□-Q



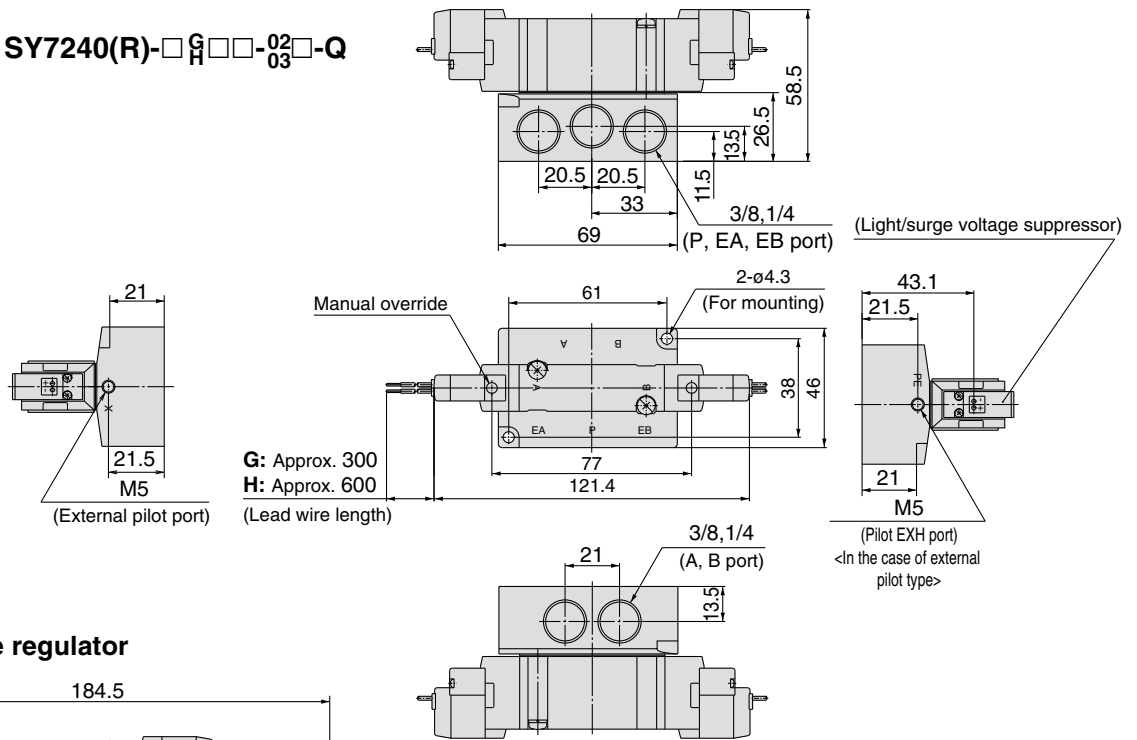
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Base Mounted

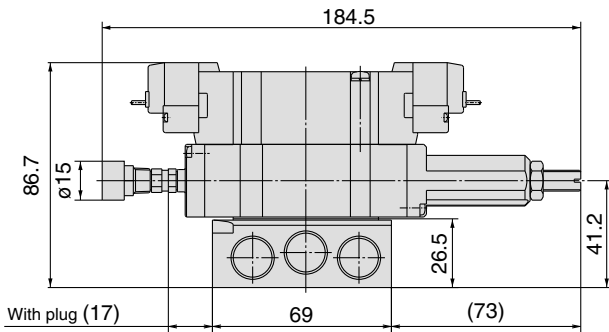
Dimensions: Series SY7000

2 position double

Grommet (G), (H): SY7240(R)-□ \square \square \square -02 \square \square -03 \square -Q



With interface regulator

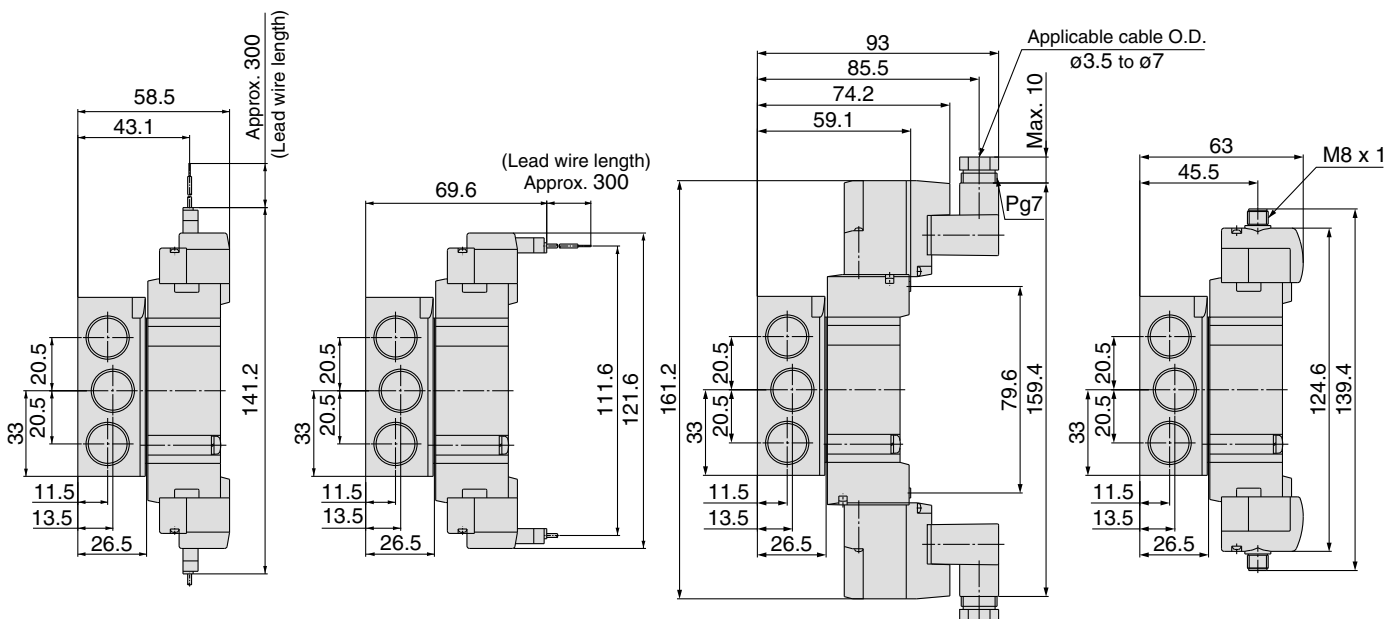


L plug connector: L
SY7240(R)-□L□□-02 \square \square -03 \square -Q

M plug connector: M
SY7240(R)-□M□□-02 \square \square -03 \square -Q

DIN terminal (D):
SY7240(R)-□D□□-02 \square \square -03 \square -Q

M8 connector (WO):
SY7240(R)-□WO□□-02 \square \square -03 \square -Q



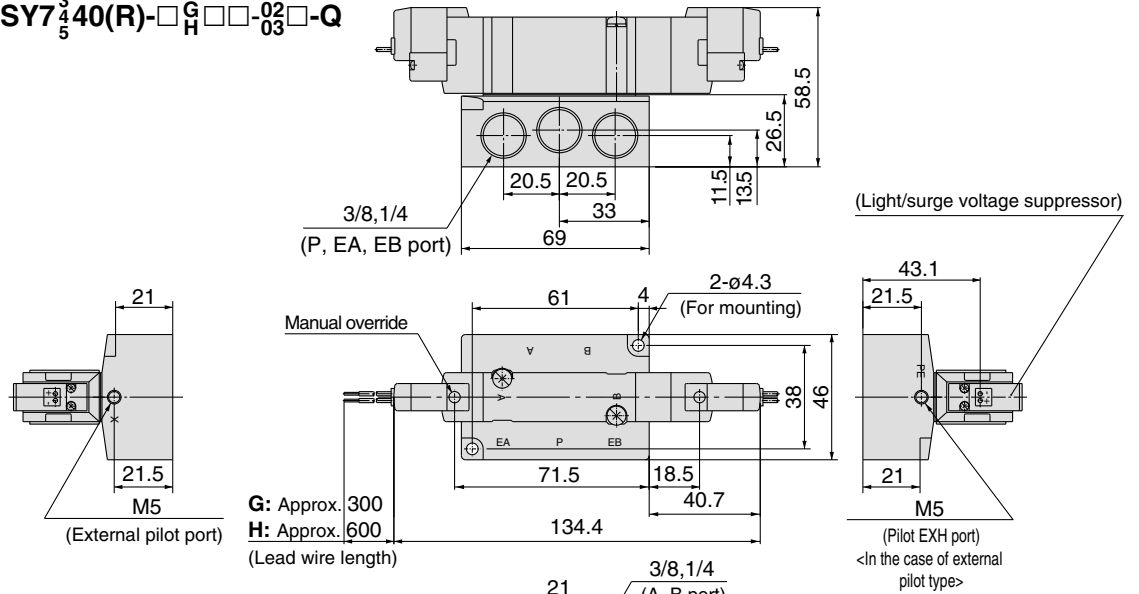
Note) Refer to back page 12 for dimensions of connector types.

Base Mounted

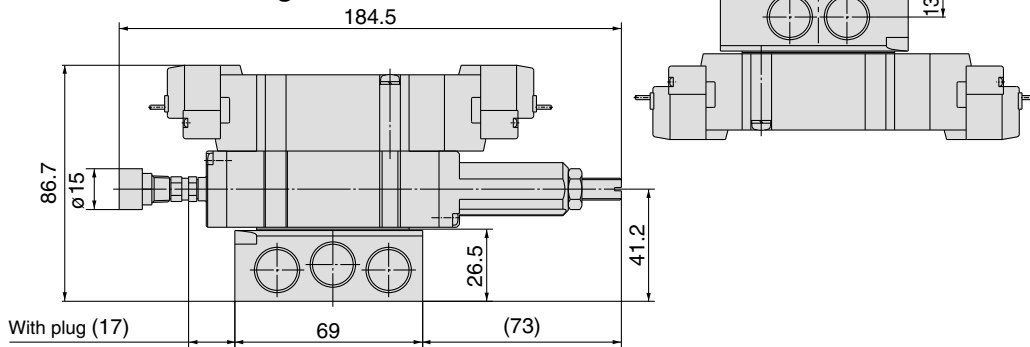
Dimensions: Series SY7000

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY7³/₅40(R)-□^G/_H□□-⁰²/₀₃□-Q



With interface regulator



L plug connector: L

SY7³/₅40(R)-□L□□-⁰²/₀₃□-Q

M plug connector: M

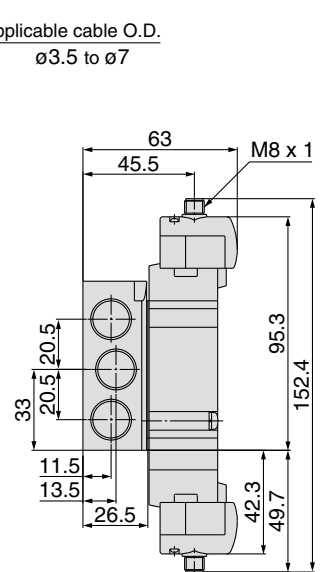
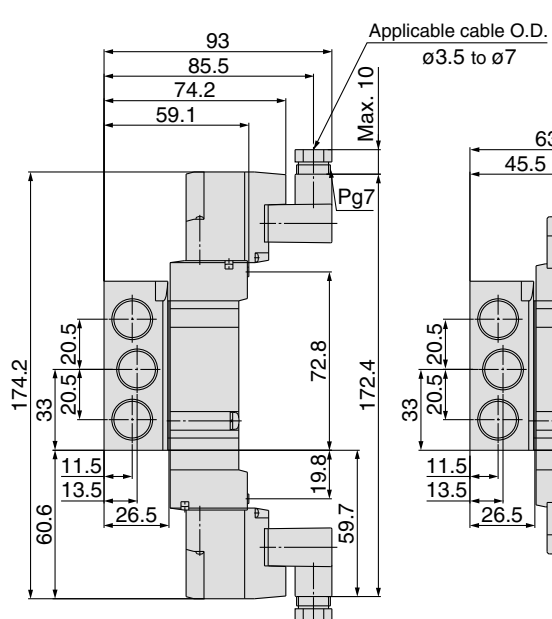
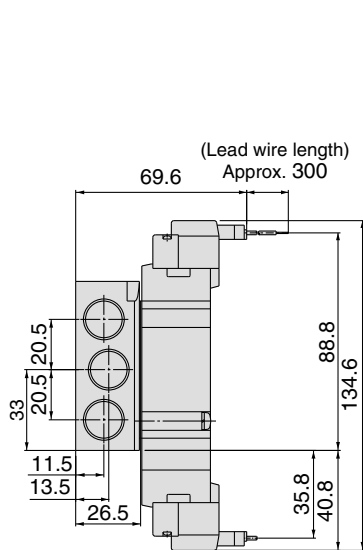
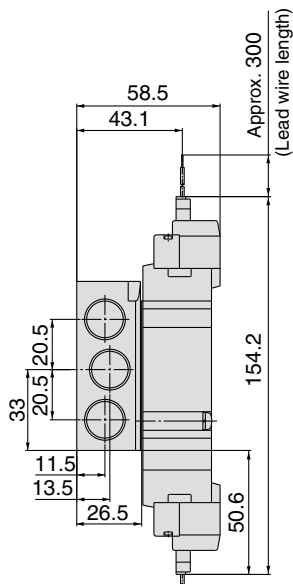
SY7³/₅40(R)-□M□□-⁰²/₀₃□-Q

DIN terminal (D):

SY7³/₅40(R)-□D□□-⁰²/₀₃□-Q

M8 connector (WO):

SY7³/₅40(R)-□WO□□-⁰²/₀₃□-Q



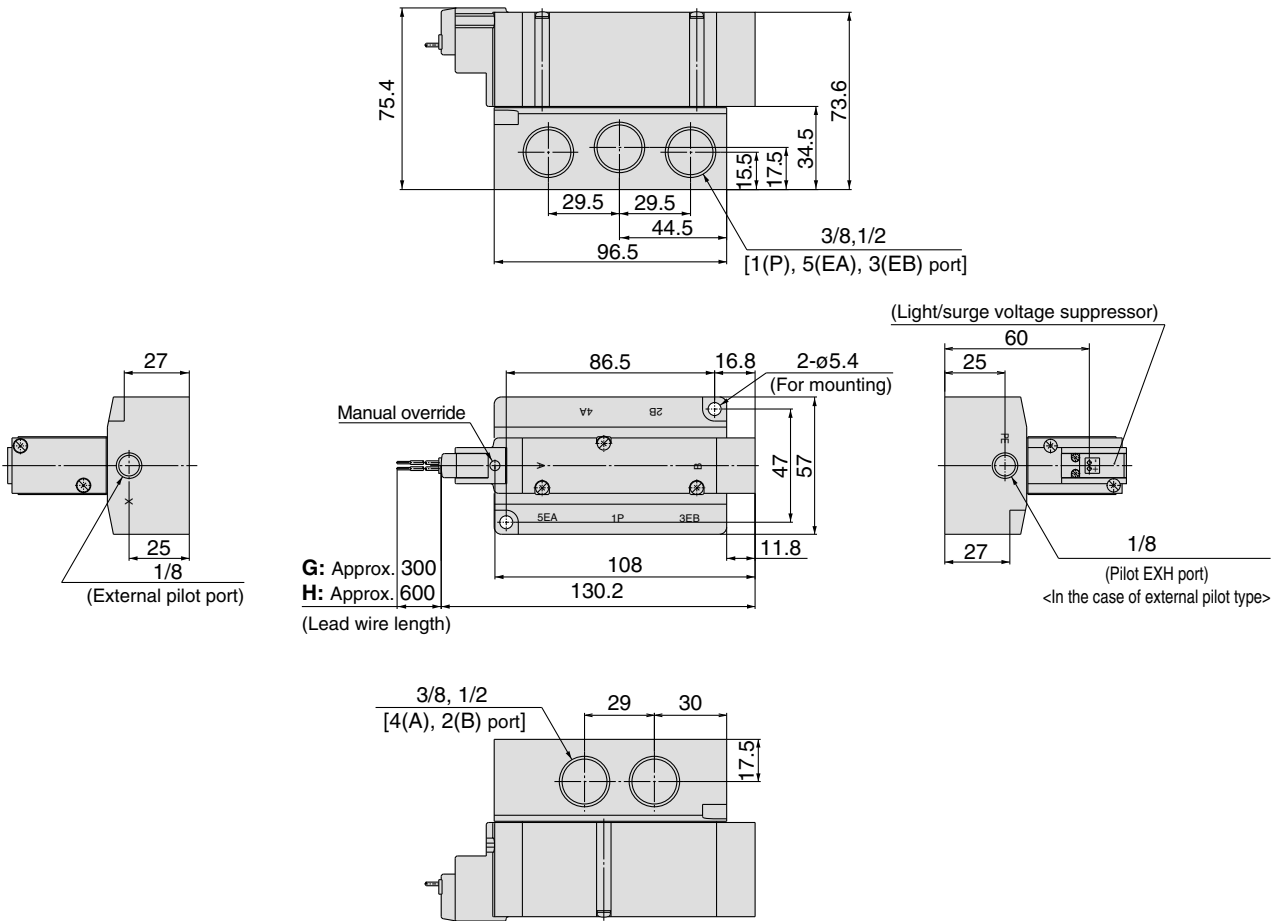
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Base Mounted

Dimensions: Series SY9000

2 position single

Grommet (G), (H): SYJ9140-□^G_H□□-⁰³₀₄□-Q

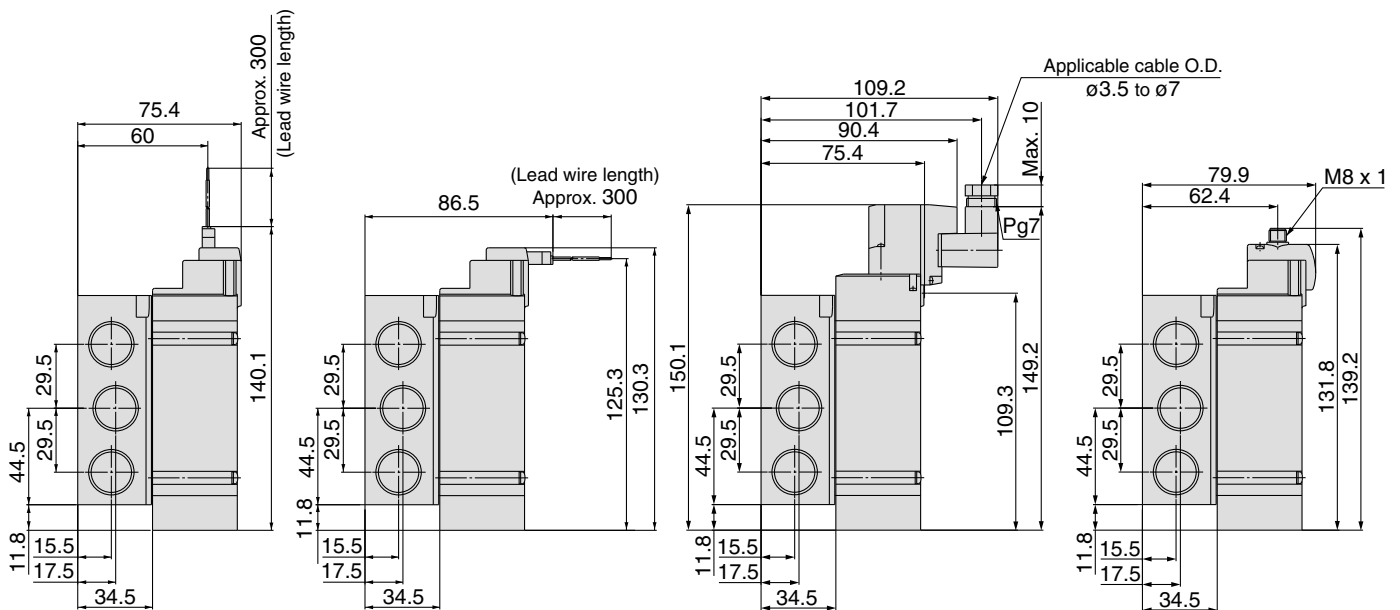


L plug connector (L):
SY9140(R)-□L□□-⁰³₀₄□-Q

M plug connector (M):
SY9140(R)-□M□□-⁰³₀₄□-Q

DIN terminal (D):
SY9140(R)-□D□□-⁰³₀₄□-Q

M8 connector (WO):
SY9140(R)-□WO□□-⁰³₀₄□-Q

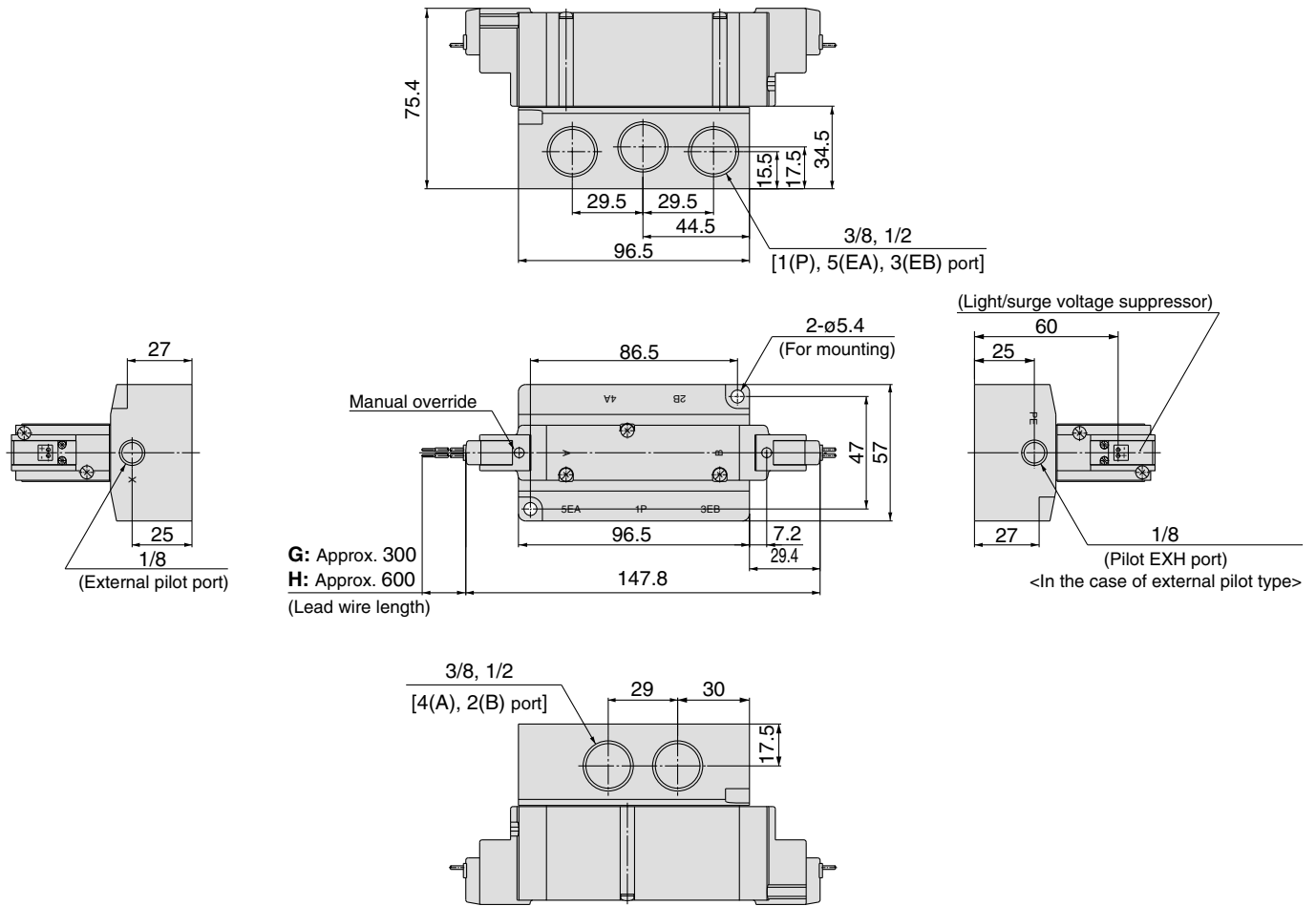


Note) Refer to back page 12 for dimensions of connector types.

Base Mounted

Dimensions: Series SY9000

2 position double
Grommet (G), (H): SY9240(R)-□^G□□-03□-Q

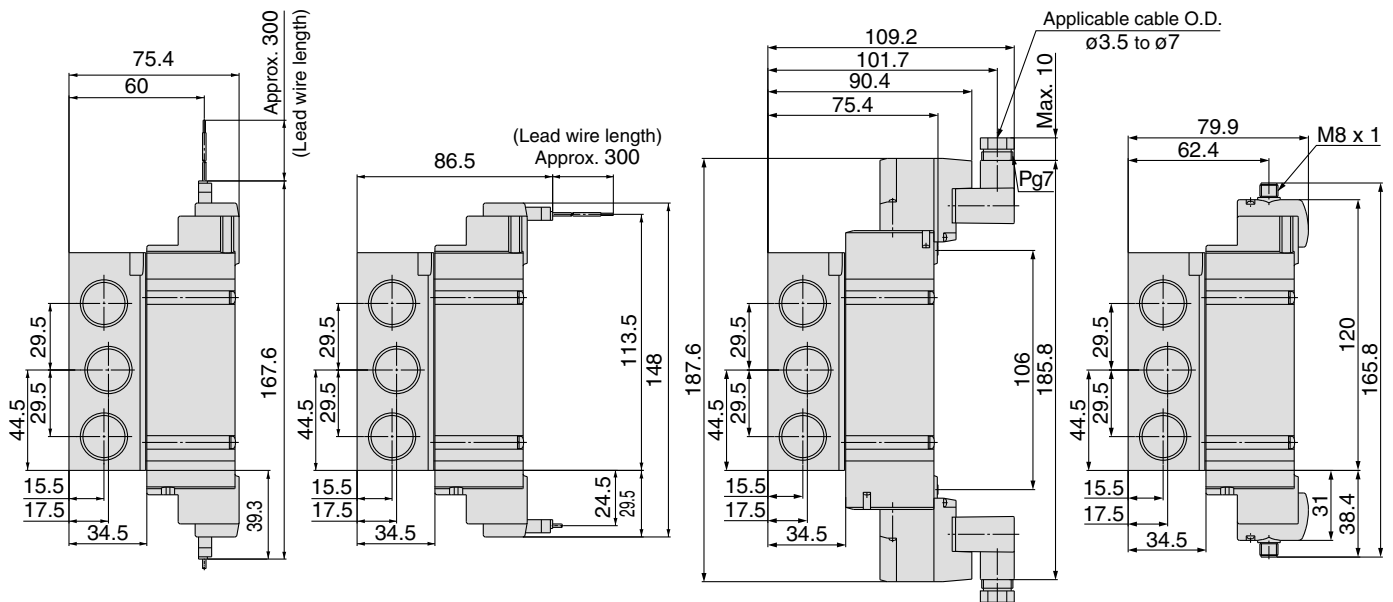


L plug connector (L):
SY9240(R)-□L□□-03□-Q

M plug connector (M):
SY9240(R)-□M□□-03□-Q

DIN terminal (D):
SY9240(R)-□D□□-03□-Q

M8 connector (WO):
SY9240(R)-□WO□□-03□-Q



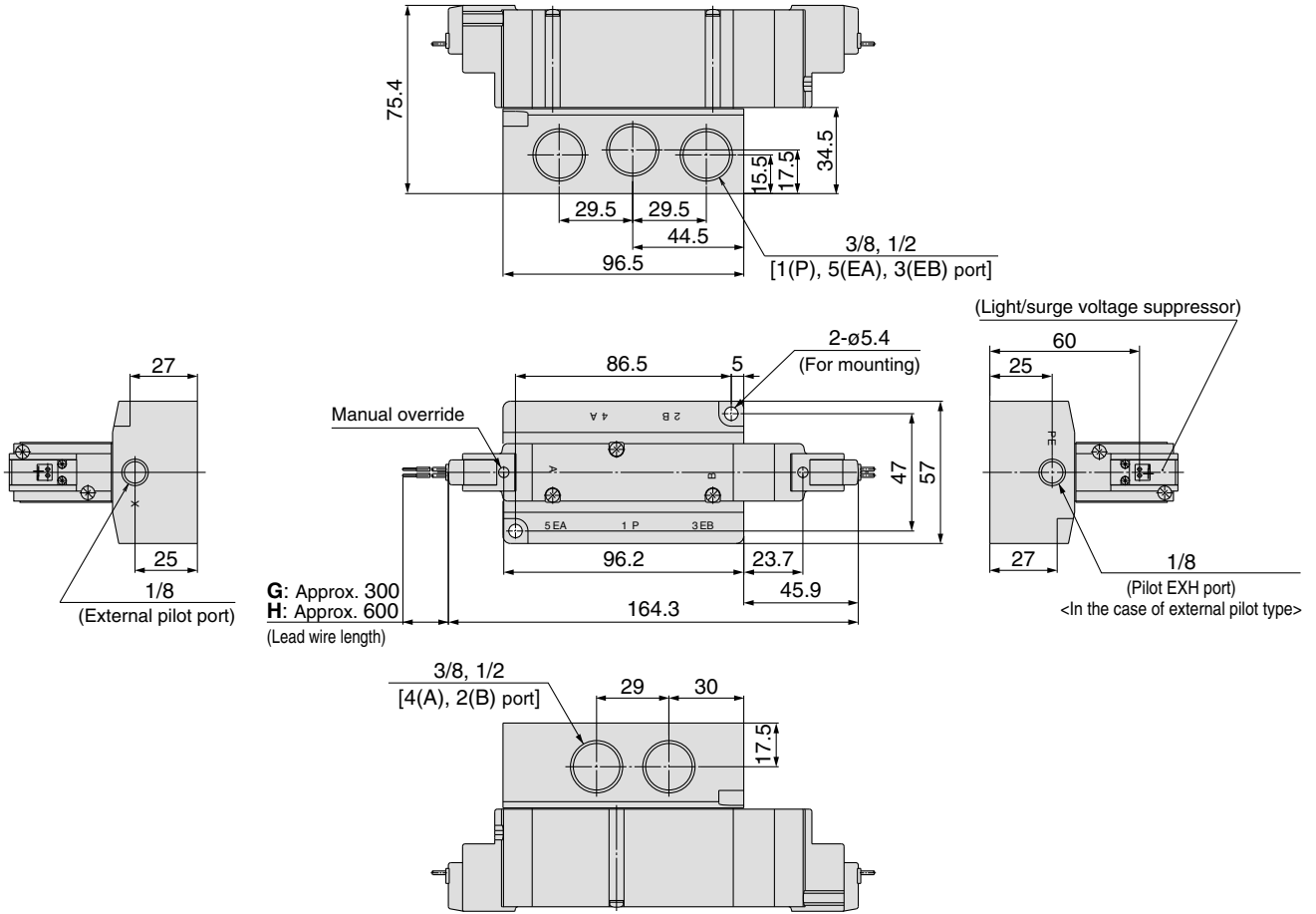
Note) Refer to back page 12 for dimensions of connector types.

SY3000/5000/7000/9000 Base Mounted

Dimensions: Series SY9000

3 position closed center / exhaust center / pressure center

Grommet (G), (H): SY9³/₄40-□₅□₄□₀₃□₀₄□-Q

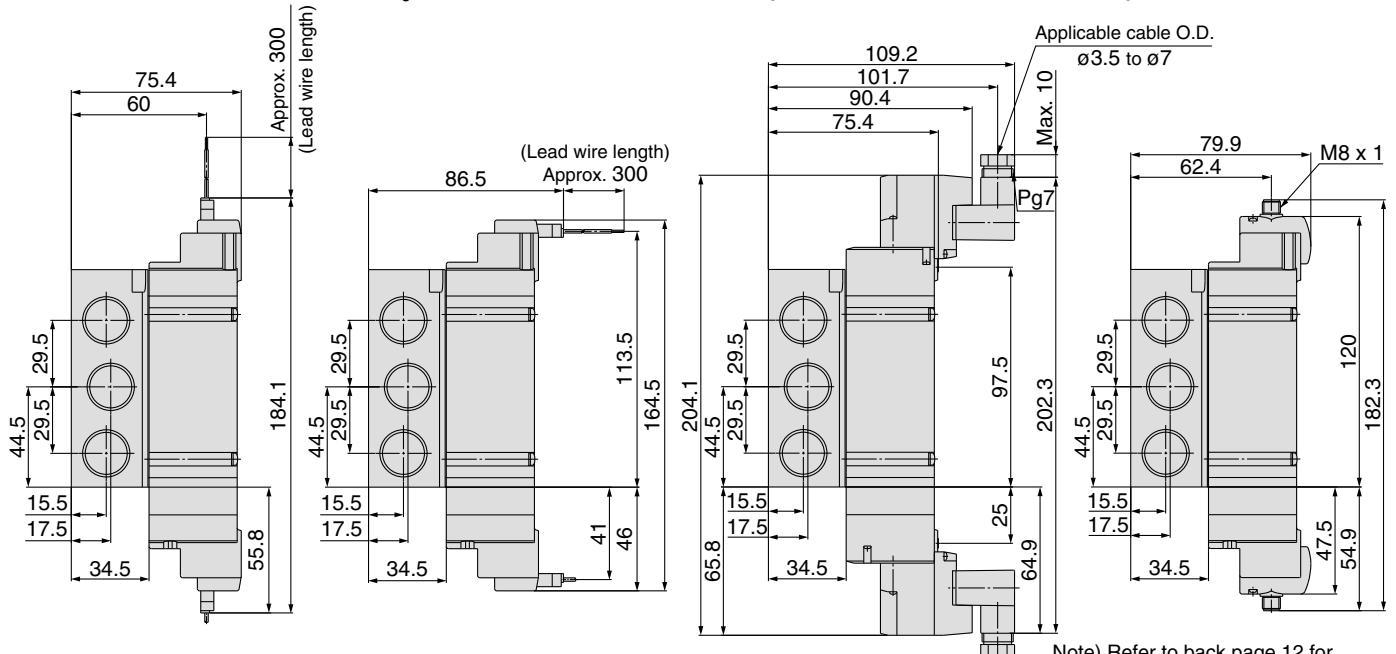


L plug connector (L):
SY9³/₄40(R)-□L□□-□₀₃□₀₄□-Q

M plug connector (M):
SY9³/₄40(R)-□M□□-□₀₃□₀₄□-Q

DIN terminal (D):
SY9³/₄40(R)-□D□□-□₀₃□₀₄□-Q

M8 connector (WO):
SY9³/₄40(R)-□WO□□-□₀₃□₀₄□-Q



Note) Refer to back page 12 for dimensions of connector types.

5 Port Solenoid Valve

Series SY3000/5000/7000

Body Ported

Bar Stock Type/Individual Wiring

How to Order Manifold

SS5Y **5** - 20 - **05** - **□** - Q

Manifold series

3	SY3000
5	SY5000
7	SY7000

Thread type

-	Rc
00F	G
00N	NPT
00T	NPTF

Stations

02	2 stations
⋮	⋮
20	20 stations

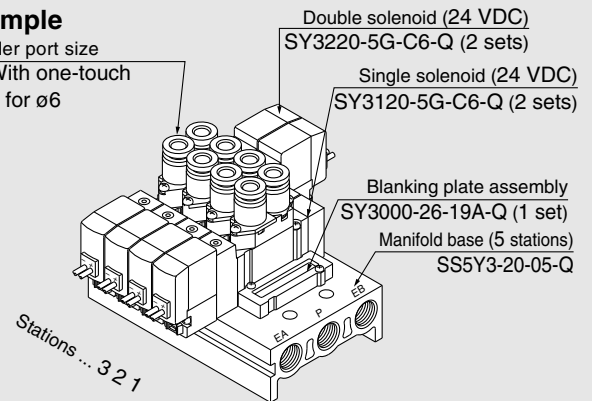


* This also includes the number of blanking plate assemblies.

How to Order Valve Manifold Assembly (Example)

Example

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

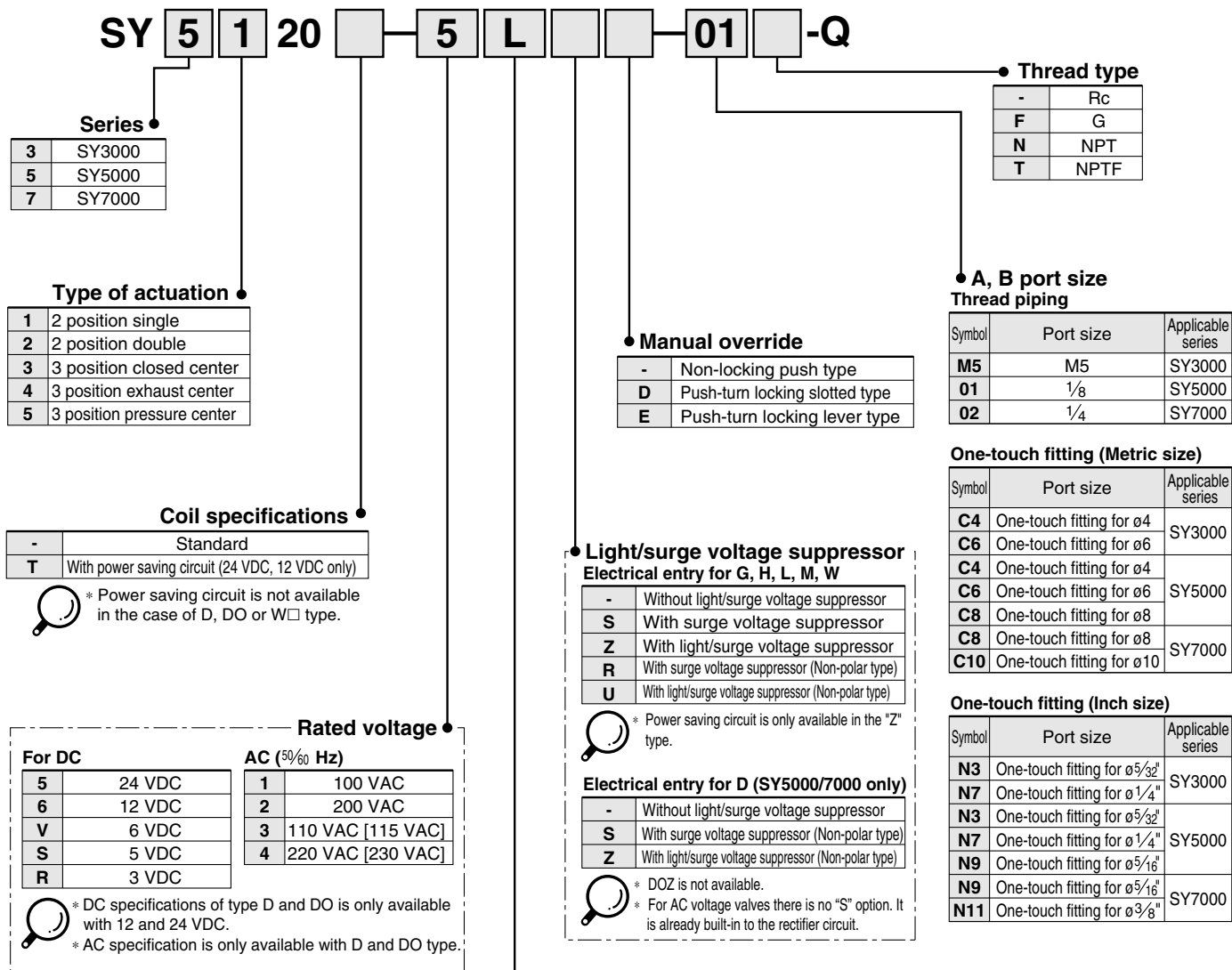


- SS5Y3-20-05-Q 1 set (Type 20, 5 station manifold base part no.)
- * SY3000-26-19A-Q 1 set (Blanking plate assembly part no.)
- * SY3120-5G-C6-Q 2 sets (Single solenoid part no.)
- * SY3220-5G-C6-Q 2 sets (Double solenoid part no.)

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

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

How to Order Valve

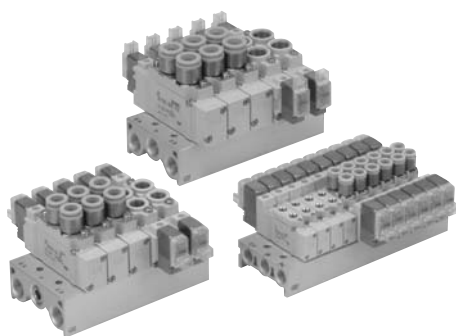


Electrical entry

24, 12, 6, 5, 3 VDC			24, 12 VDC/ 100, 110, 200, 220 VAC	24, 12, 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal ^{Note2)}	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 ^{Note 1)}

- * LN, MN type: with 2 sockets.
 - * For DIN terminal of SY3000 series, refer to back page 10.
 - * DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 210.
 - * For connector cable of M8 connector, refer to back page 12.
 - * Connector M8 type "WA" conforming to IEC 60947-5-2 standard, is also available. For details, see page 211.
- Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to back page 13.
Note2) SY5000/7000 only).

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 catalogue in page 56.)



Manifold Specifications

Model	SS5Y3-20	SS5Y5-20	SS5Y7-20	
Applicable valve	SY3□20	SY5□20	SY7□20	
Manifold type	Single base/B mount			
P (SUP)/R (EXH)	Common SUP, Common EXH			
Valve stations	2 to 20 stations ^{Note1)}			
A, B port location	Valve			
Port size	P, EA, EB port	1/8	1/4	1/4
	A, B port	M5 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)
Manifold base weight W (g) n: Stations	W = 13n + 35	W = 36n + 64	W = 43n + 64	

- Note 1) For more than 10 stations (more than 5 stations in 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 56.

Flow Characteristics

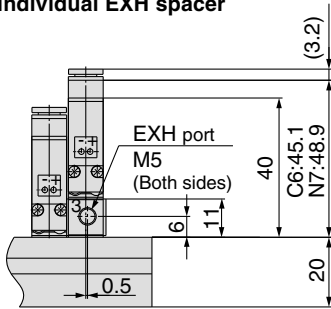
Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)				4/2 → 5/3 (A/B → EA/EB)			
			C (dm ³ /s-bar)	b	Cv	Q [l/min(ANR)]*	C (dm ³ /s-bar)	b	Cv	Q [l/min(ANR)]*
SS5Y3-20	1/8	C6	0.72	0.29	0.18	182	0.80	0.36	0.21	212
SS5Y5-20	1/4	C8	1.9	0.28	0.48	477	2.2	0.20	0.53	527
SS5Y7-20	1/4	C10	3.6	0.31	0.93	921	3.6	0.27	0.88	898

- Note) The value is for manifold base with 5 stations and individually operated 2 position type.
 * These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

SY3000: SS5Y3-20- Stations - -Q

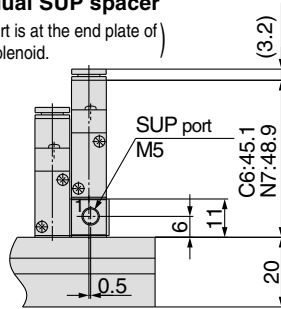
Grommet (G)

Dimensions when mounting individual EXH spacer

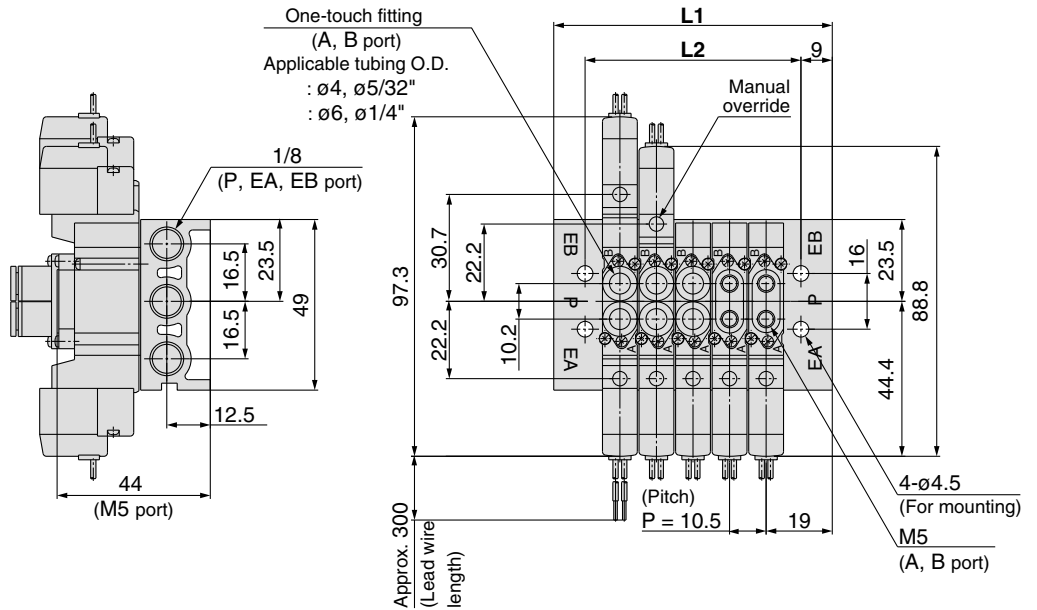
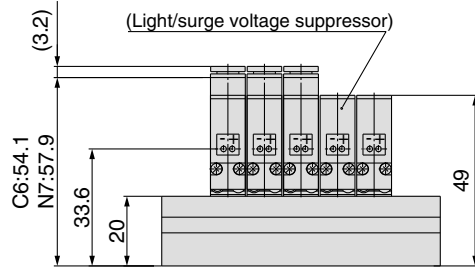


Dimensions when mounting individual SUP spacer

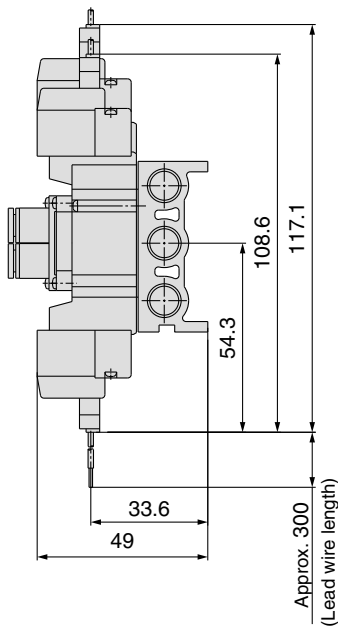
(SUP port is at the end plate of single solenoid.)



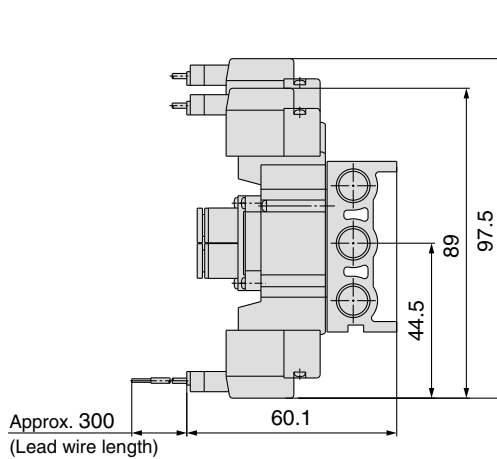
(Station n) ----- (Station 1)



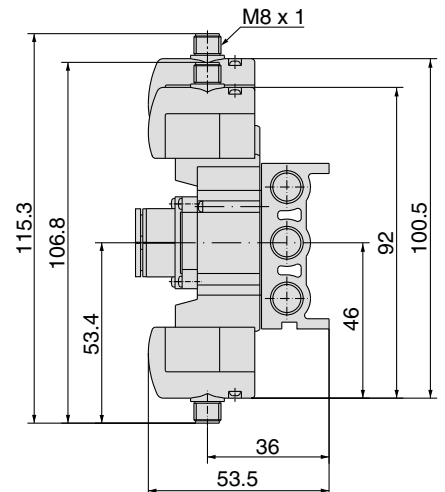
L plug connector (L)



M plug connector (M)



M8 connector (WO)



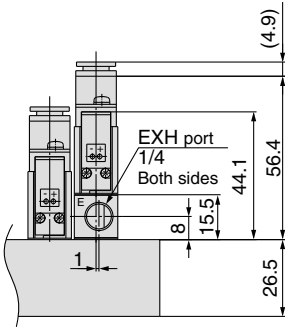
Note) Refer to back page 12 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	40	50.5	61	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229
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

SY5000: SS5Y5-20- Stations - -Q

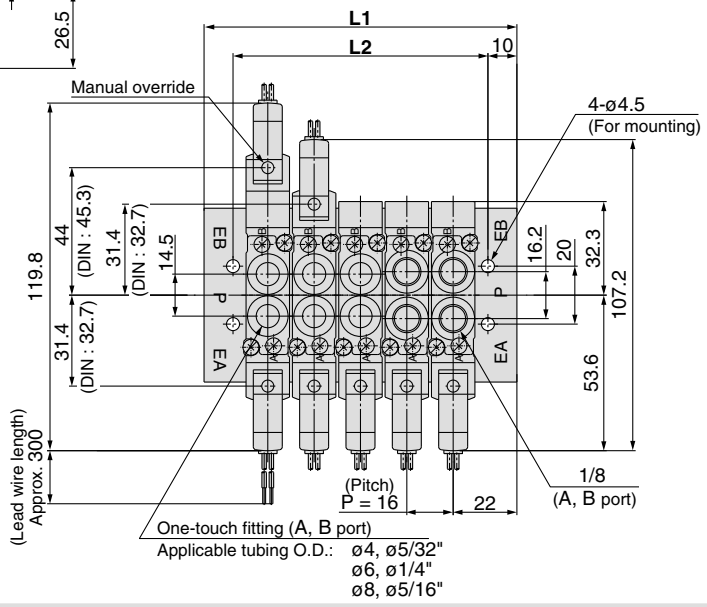
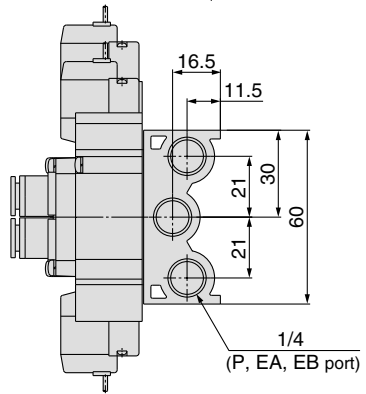
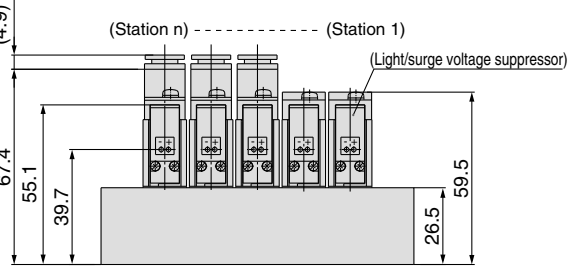
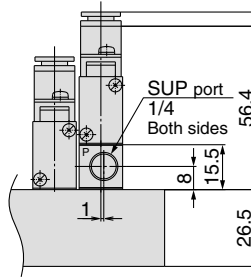
Grommet (G)

Dimensions when mounting individual EXH spacer

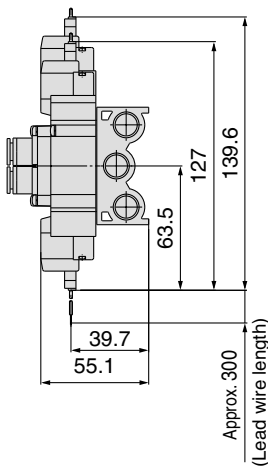


Dimensions when mounting individual SUP spacer

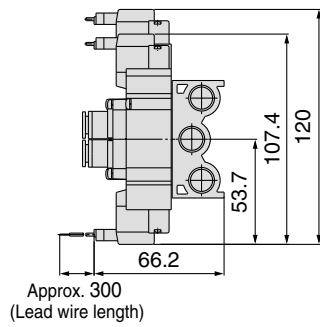
(SUP port is at the end plate of single solenoid.)



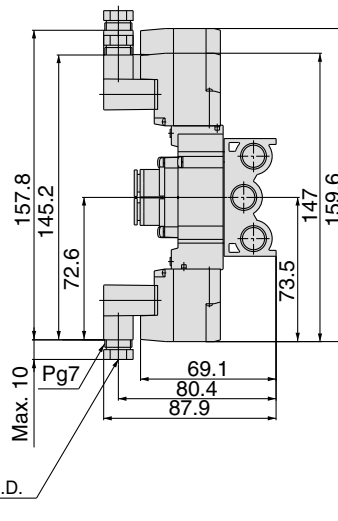
L plug connector (L)



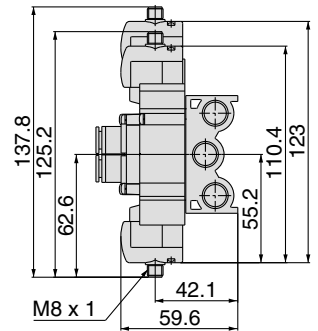
M plug connector (M)



DIN terminal (D)



M8 connector (WO)



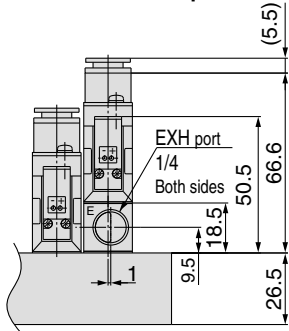
Note) Refer to back page 12 for dimensions of connector types.

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

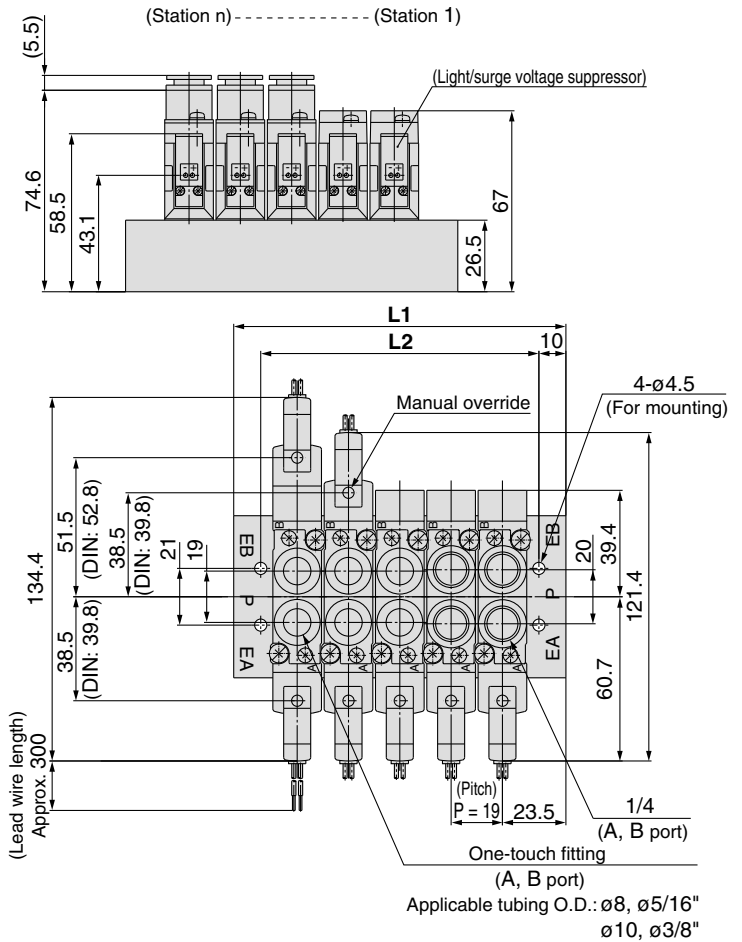
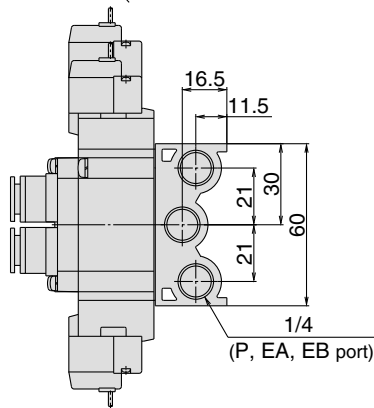
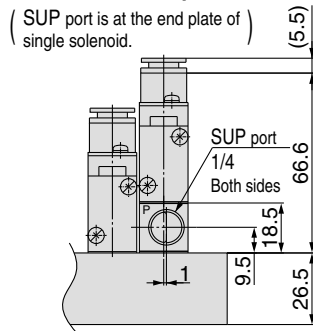
SY7000: SS5Y7-20-Stations - -Q

Grommet (G)

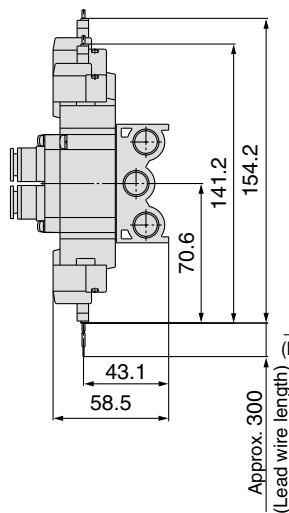
Dimensions when mounting individual EXH spacer



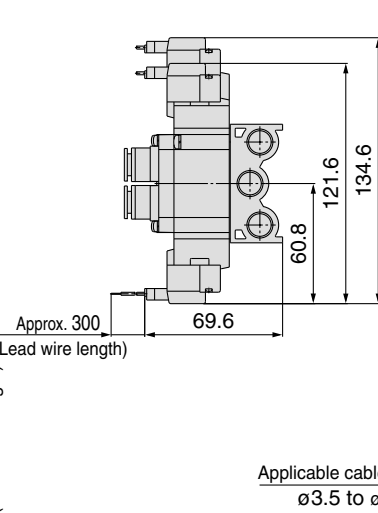
Dimensions when mounting individual SUP spacer
(SUP port is at the end plate of single solenoid.)



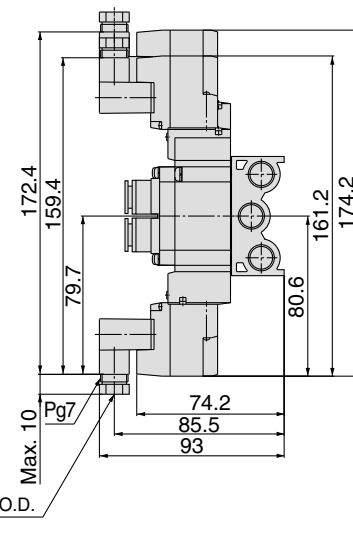
L plug connector (L)



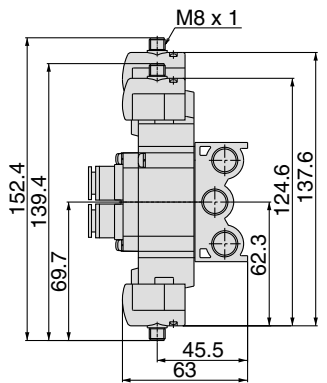
M plug connector (M)



DIN terminal (D)



M8 connector (WO)



Note) Refer to back page 12 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	55	74	93	112	131	150	169	188	207	226	245	264	283	302	321	340	359	378	397
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388


5 Port Solenoid Valve

Series **SY9000**

Body Ported

Stacking Type/Individual Wiring

How to Order Manifold

SS5Y 9 — 23 — 05  **-Q**

● **Manifold series**

9	SY9000
---	--------

● **Valve stations**

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations



* This also includes the number of blanking plate assemblies.

● **Thread type**

-	Rc
00F	G
00N	NPT
00T	NPTF

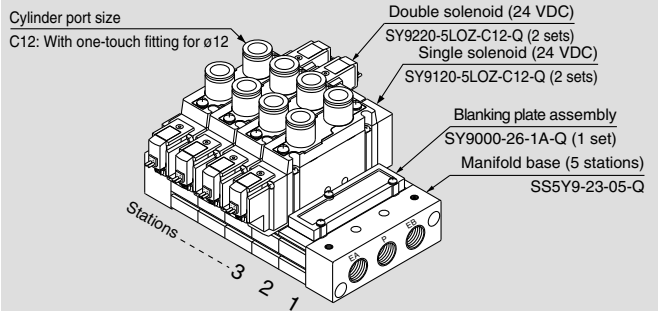
● **Option**

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

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

How to Order Valve Manifold Assembly (Example)

Example



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

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

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

How to Order Valve

SY 9 1 20 5 L 02 -Q

Series

9	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

-	Internal pilot
R	External pilot

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

Coil specifications

-	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

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

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

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 ø5/16"
N11	One-touch fitting for ø3/8"

Manual override

-	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

-	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)

** Power saving circuit is only available in the "Z" type.*

Electrical entry for D

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

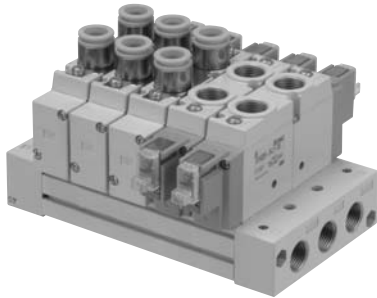
** DOZ is not available.
* For AC voltage valves there is no "S" option. It is already built-in to the rectifier circuit.*

Electrical entry

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

- * LN, MN type: with 2 sockets.*
- * DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 210.*
- * For connector cable of M8 connector, refer to back page 12.*
- * Connector M8 type "WA" conforming to IEC 60947-5-2 standard, is also available. For details, see page 211.*
- Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to back page 13.*

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 56.



Manifold Specifications

Model	SS5Y9-23	
Applicable valve	SY9□20	
Manifold type	Stacking type	
P (SUP)/R (EXH)	Common SUP, Common EXH	
Valve stations	2 to 20 stations ^{Note1)}	
A, B port location	Valve	
Port size	P, EA, EB port	3/8
	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 = 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 56.

Flow Characteristics

Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)				4/2→5/3 (A/B→EA/EB)			
			C (dm ³ /(s·bar))	b	Cv	Q(l/min/ANR))*	C (dm ³ /(s·bar))	b	Cv	Q(l/min/ANR))*
SS5Y9-23	3/8	C12	6.3	0.20	1.5	1509	8.2	0.28	1.9	2059

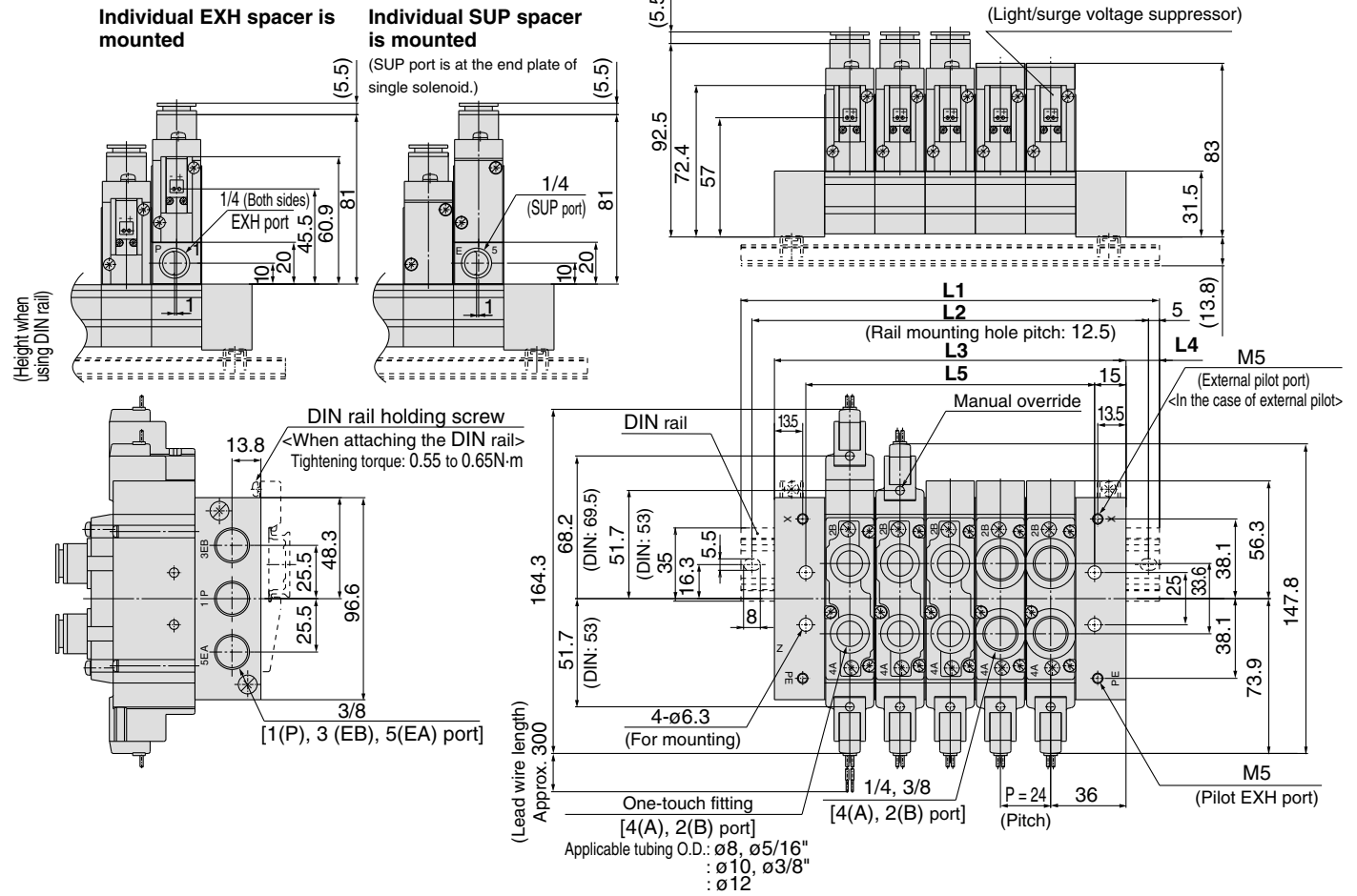


Note) The value is for manifold base with 5 stations and individually operated 2 position type.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

SY9000: SS5Y9-23- Stations -(D)-□(D)-Q

Grommet (G)

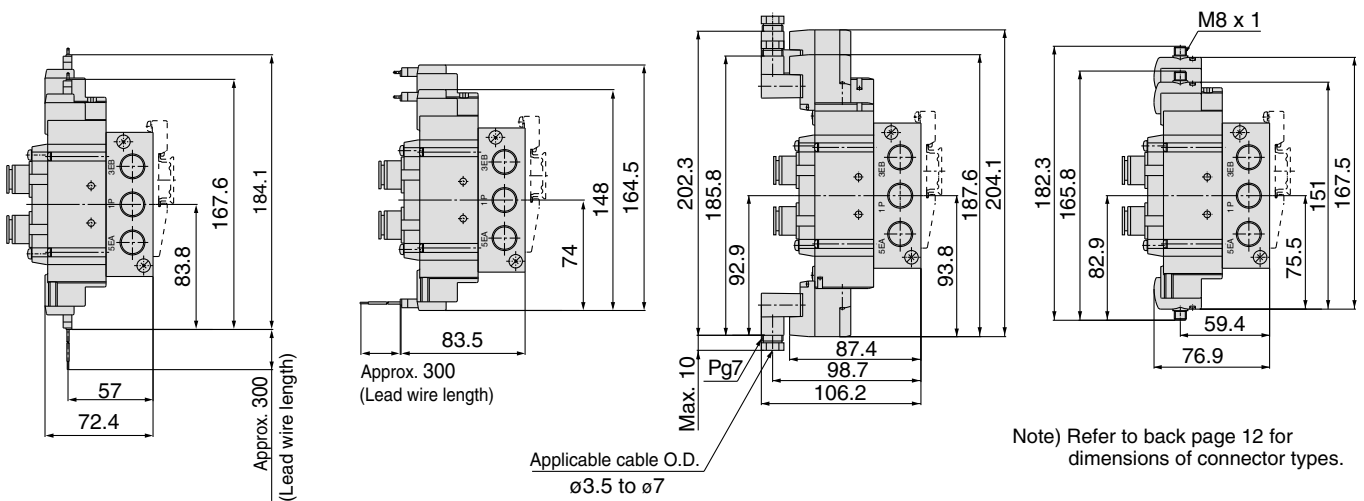


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	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
L2	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
L3	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504	528
L4	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
L5	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.

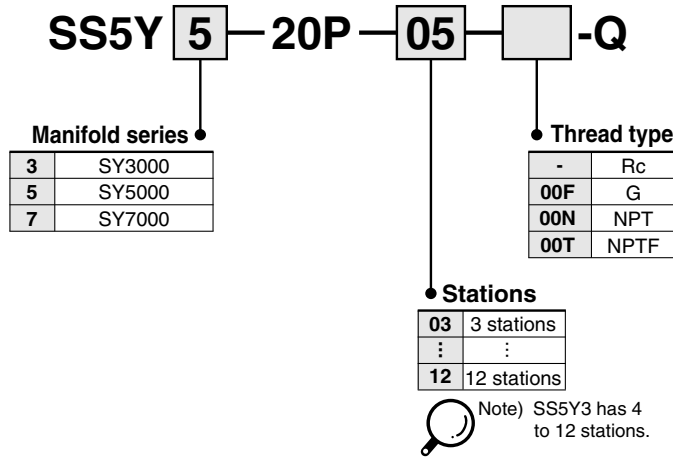
5 Port Solenoid Valve

Series SY3000/5000/7000

Body Ported

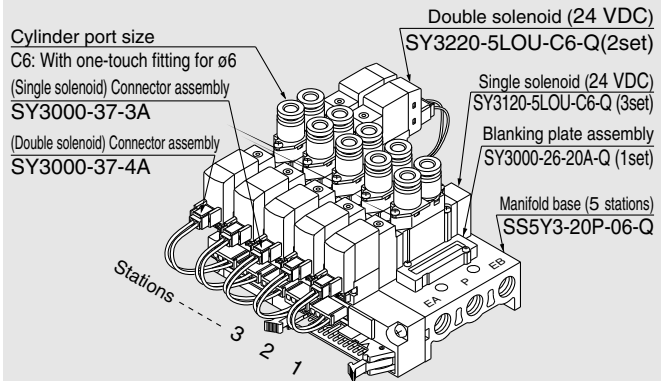
Bar Stock Type/Flat Ribbon Cable

How to Order Manifold



How to Order Valve Manifold Assembly (Example)

Example



- | | |
|--------------------|---|
| SS5Y3-20P-06-Q | 1 set (Type 20P, 6 station manifold part no.) |
| * SY3000-26-20A-Q | 1 set (Blanking plate assembly part no) |
| * SY3120-5LOU-C6-Q | 3 sets (Single solenoid part no.) |
| * SY3220-5LOU-C6-Q | 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 Valve

For DC: SY 5 1 20 - 5 LO Z [] - 01 [] - Q

Rated voltage

5	24 VDC
6	12 VDC

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

-	Rc
F	G
N	NPT
T	NPTF

* Except for M5

Series

3	SY3000
5	SY5000
7	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

Manual override

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

A, B port size

Thread piping

Symbol	Port size	Applicable series
M5	M5	SY3000
01	1/8	SY5000
02	1/4	SY7000

One-touch fitting (Metric size)

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

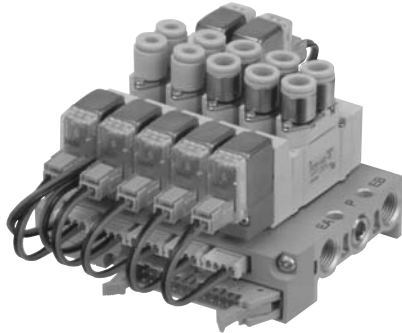
One-touch fitting (Inch size)

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

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 page 56.)

- 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	SS5Y3-20P	SS5Y5-20P	SS5Y7-20P	
Applicable valve	SY3□20	SY5□20	SY7□20	
Manifold type	Single base/B mount			
P (SUP)/R (EXH)	Common SUP, Common EXH			
Valve stations	4 to 12 stations ⁽¹⁾	3 to 12 stations ^(Note 1)		
A, B port location	Valve			
Port size	P, EA, EB port	1/8	1/4	1/4
	A, B port	M5, C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)
Manifold base weight W (g) n: Stations	W = 19n + 45	W = 43n + 77	W = 51n + 81	
Applicable flat ribbon cable connector	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			

Note 1) For more than 10 stations (more than 5 stations in case of 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 56.

Flow Characteristics

Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)				4/2 → 5/3 (A/B → EA/EB)			
			C [dm ³ /(s·bar)]	b	Cv	Q [l/min(ANR)]*	C [dm ³ /(s·bar)]	b	Cv	Q [l/min(ANR)]*
SS5Y3-20P	1/8	C6	0.72	0.29	0.18	182	0.80	0.36	0.21	212
SS5Y5-20P	1/4	C8	1.9	0.28	0.48	477	2.2	0.20	0.53	527
SS5Y7-20P	1/4	C10	3.6	0.31	0.93	921	3.6	0.27	0.88	898

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

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1 MPa.

How to Order Connector Assembly

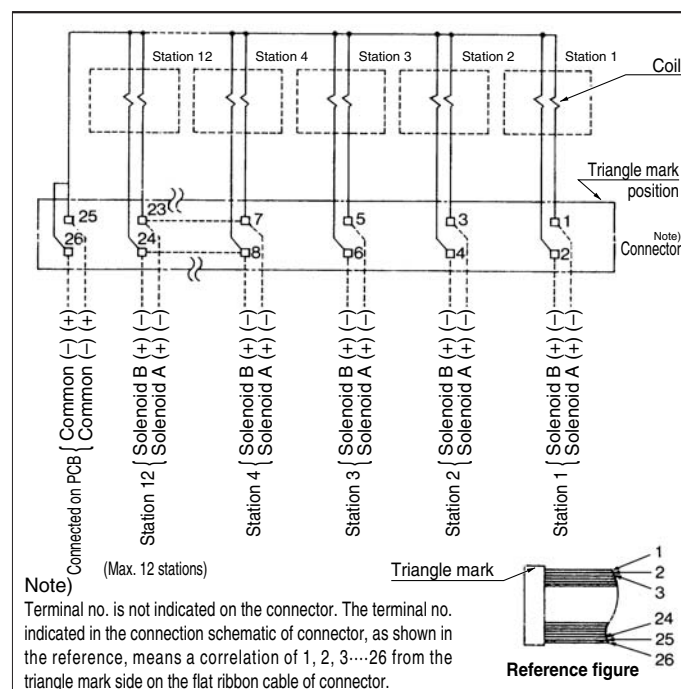
For 12, 24 VDC

For DC	For SY3000	For SY5000/7000
For single solenoid:	SY3000-37-3A	SY5000-37-3A
Double solenoid, 3 position type	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

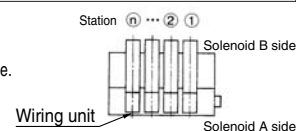
⚠ Caution

- 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.

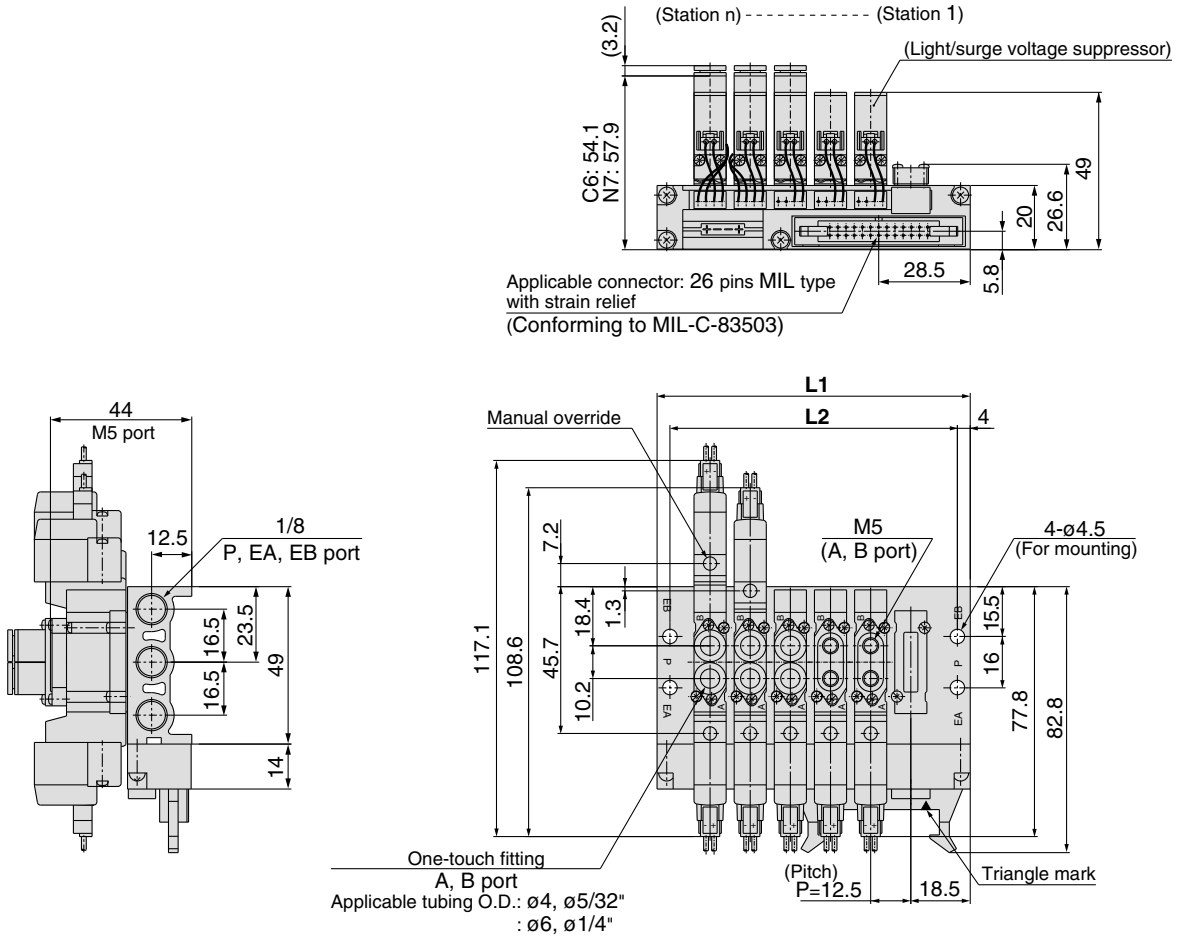
Internal Wiring of Manifold (Non-polar type)



- 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.

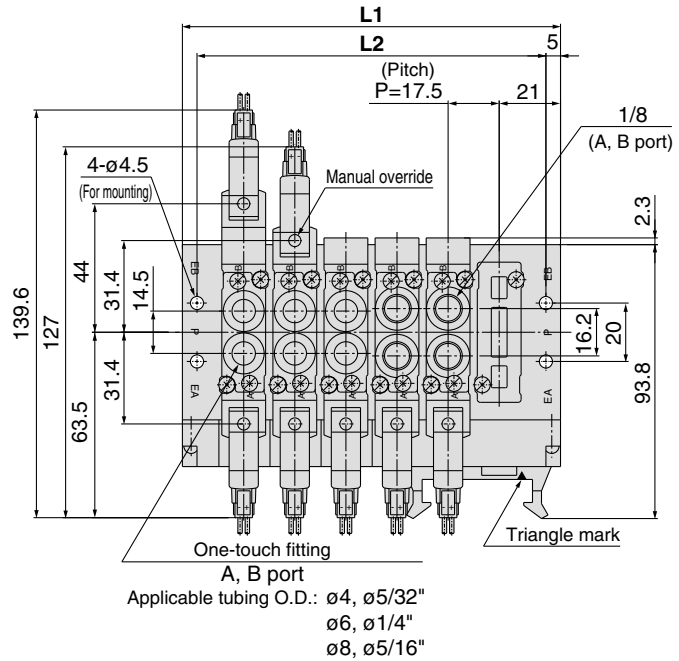
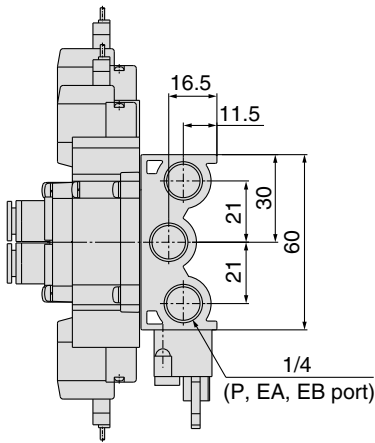
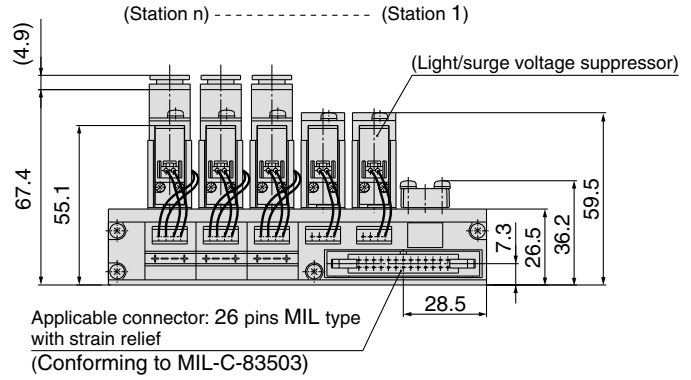


SY3000: SS5Y3-20P- Stations -□-Q



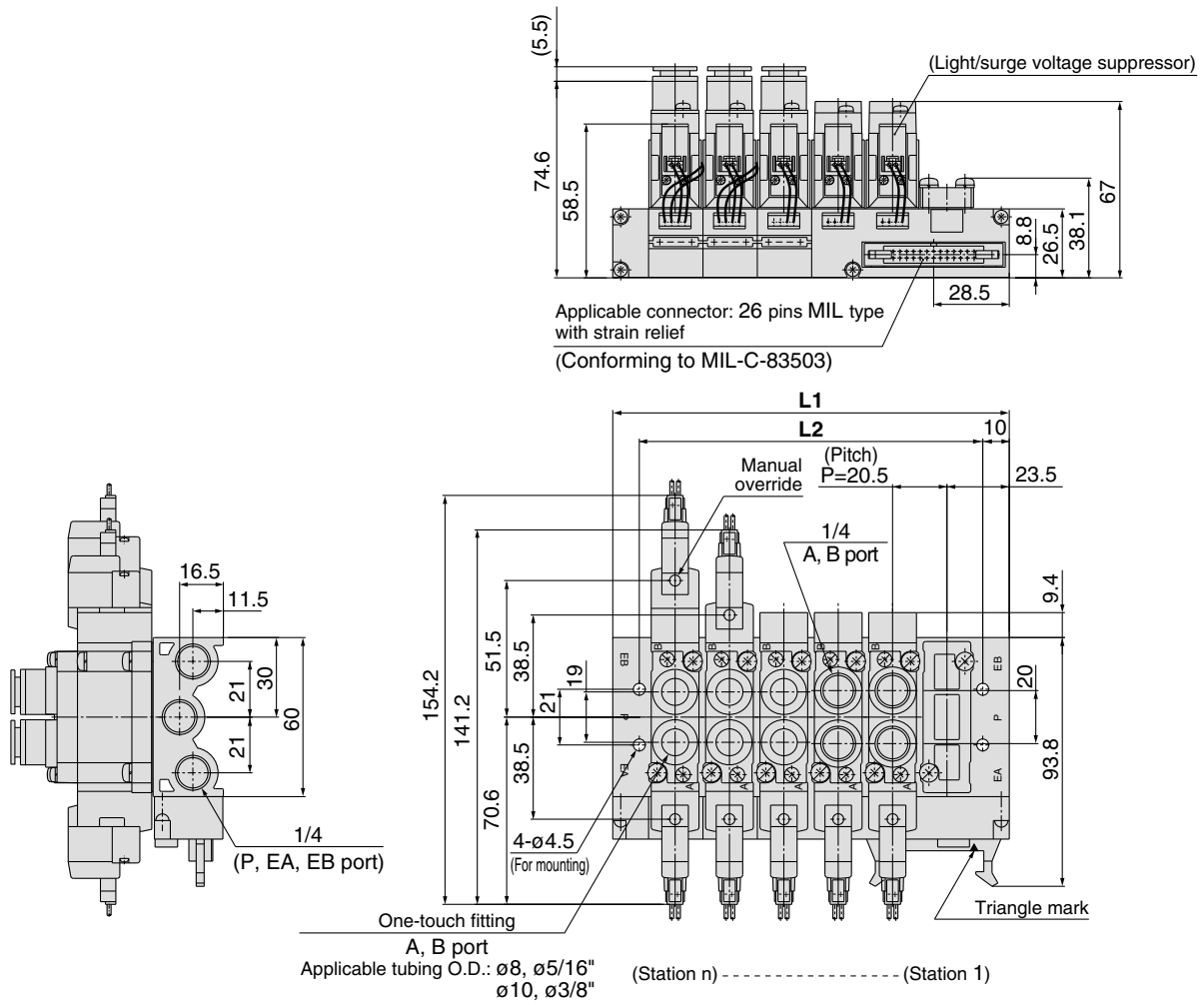
Stations n	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

SY5000: SS5Y5-20P-Stations -□-Q



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

SY7000: SS5Y7-20P- Stations -□-Q



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

5 Port Solenoid Valve

Series SY9000

Body Ported

Stacking Type/Flat Ribbon Cable

How to Order Manifold

SS5Y 9 — 23P — 05 — [] — [] — Q

- Manifold series**

9	SY9000
---	--------
- Thread type**

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

Symbol	Stations
04	4 stations
⋮	⋮
12	12 stations

* This also includes the number of blanking plate assemblies.
- Option**

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

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

How to Order Valve Manifold Assembly (Example)

Example

Cylinder port Port size
C12: One-touch fitting for ø12

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

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

Double solenoid (24 VDC)
SY9220-5LOU-C12-Q (2 sets)

Single solenoid (24 VDC)
SY9120-5LOU-C12-Q (2 sets)

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

Manifold base (5 stations)
SS5Y9-23P-05-Q

Stations --- 3 2 1

SS5Y9-23P-05-Q	1 set (Type 23, 5 station manifold base part no.)
*SY9000-26-3A-Q	1 set (Blanking plate assembly part no.)
*SY9120-5LOU-C12-Q	2 sets (Single solenoid part no.)
*SY9220-5LOU-C12-Q	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 Valve

For DC: SY 9 1 20 [] 5 LO Z [] 02 [] -Q

- Rated voltage**

5	24 VDC
6	12 VDC
- Series**

9	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**

-	Internal pilot
R	External pilot

* Type 23P manifolds can be used for both internal and external pilots.
- Manual override**

-	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**

-	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"

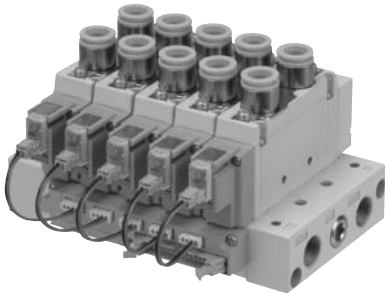
Note) When placing an order for body ported solenoid valve as a single unit, mounting bolt for manifold and gasket are not attached. Order them separately, if necessary. (For details, refer to page 56.)

Manifold Specifications

- 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.



Model	SS5Y9-23P	
Applicable valve	SY9□20	
Manifold type	Stacking type	
P (SUP)/R (EXH)	Common SUP, Common EXH	
Valve stations	4 to 12 stations ^{Note1)}	
A, B port location	Valve	
Port size	P, EA, EB port	3/8
	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 = 73n + 259	
Applicable flat ribbon cable connector	Flat ribbon cable connector, Socket: 26 pins MIL 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	

- 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 56.

How to Order Connector Assembly

For 12, 24 VDC

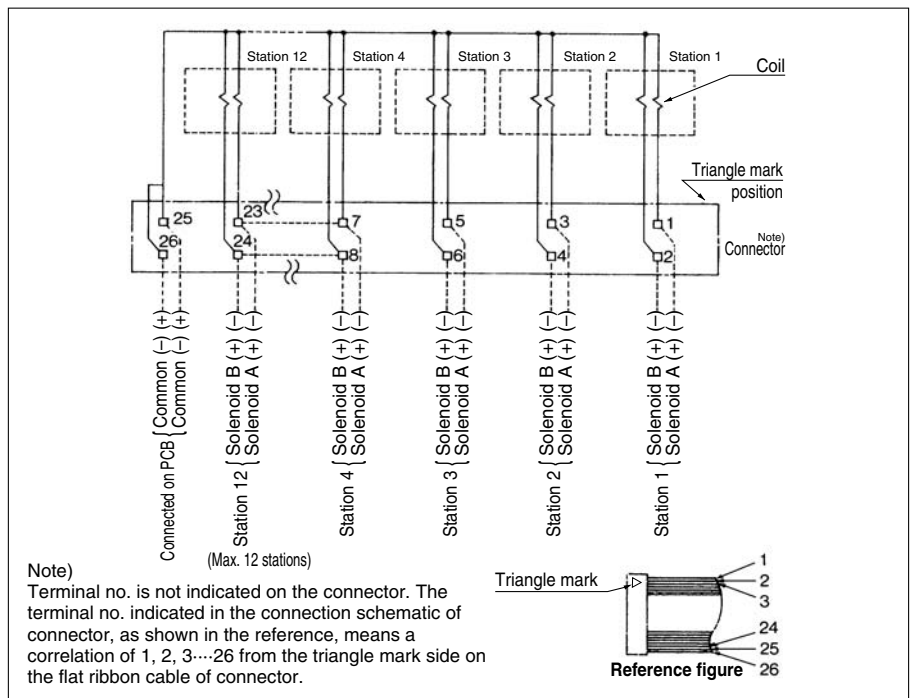
Specifications	For SY9000
For single solenoid	SY9000-37-1A
Double solenoid 3 position	SY9000-37-2A
Single with spacer assembly	SY9000-37-3A
Double, 3 position with spacer assembly	SY9000-37-4A

Flow Characteristics

Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)				4/2 → 5/3 (A/B → EA/EB)			
			C (dm ³ /(s·bar))	b	Cv	Q _l /min(ANR) ^{)*}	C (dm ³ /(s·bar))	b	Cv	Q _l /min(ANR) ^{)*}
SS5Y9-23P	3/8	C12	6.3	0.20	1.5	1509	8.2	0.28	1.9	2059

- Note) The value is for manifold base with 5 stations and individually operated 2 position type.
 * These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

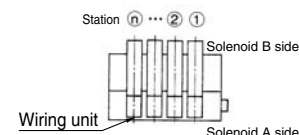
Internal Wiring of Manifold (Non-polar type)



⚠ Caution

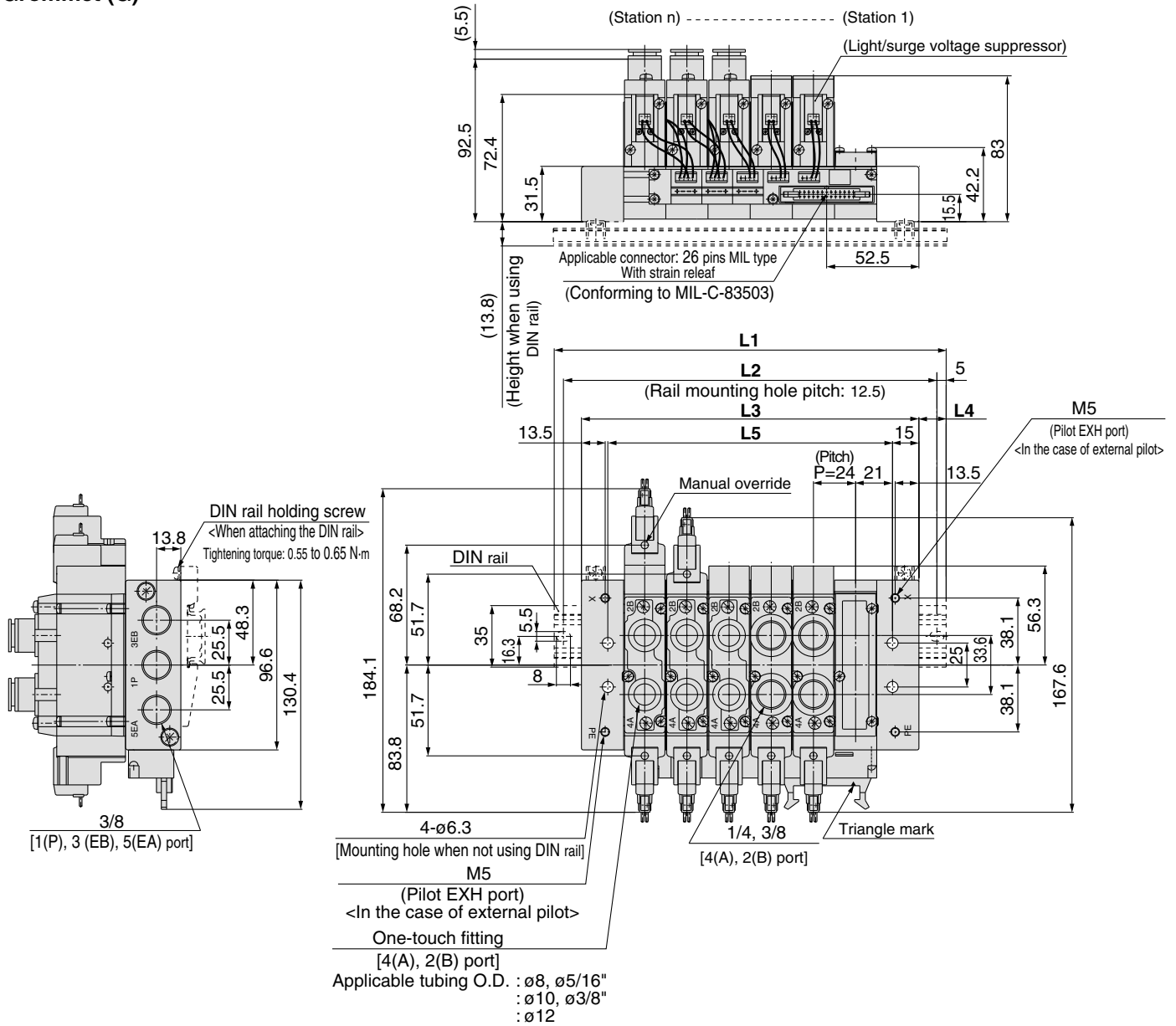
- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.

- 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.



SY9000: SS5Y9-23P- Stations- -(D)-Q

Grommet (G)

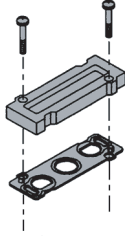


Stations n	4 stations	5	6	7	8	9	10	11	12 stations
L1	173	198	223	248	273	298	323	335.5	360.5
L2	162.5	187.5	212.5	237.5	262.5	287.5	312.5	325	350
L3	144	168	192	216	240	264	288	312	336
L4	14.5	15	15.5	16	16.5	17	17.5	12	12.5
L5	114	138	162	186	210	234	258	282	306

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

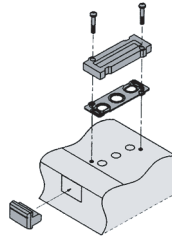
Manifold Option

■ Type 20, 23 Blanking plate assembly



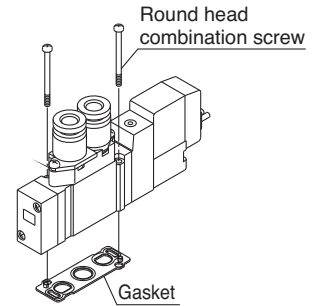
Series	Assembly part no.
SY3000	SY3000-26-19A-Q
SY5000	SY5000-26-1A-Q
SY7000	SY7000-26-1A-Q
SY9000	SY9000-26-1A-Q

■ Type 20P, 23P Blanking plate assembly



Series	Assembly part no.
SY3000	SY3000-26-20A-Q
SY5000	SY5000-26-3A-Q
SY7000	SY7000-26-3A-Q
SY9000	SY9000-26-3A

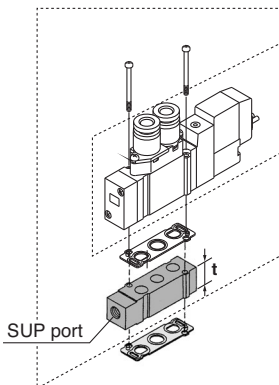
■ Gasket assembly part no.



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

Note) Gasket assembly consists of mounting screws and a gasket. (10 gasket units + screws)

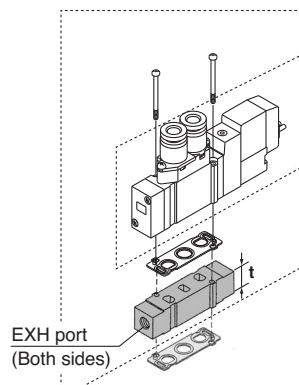
■ Individual SUP spacer assembly



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

Note) • The SUP port of SY3000/5000/7000 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.)
• The end plate side is only available to SY9000.

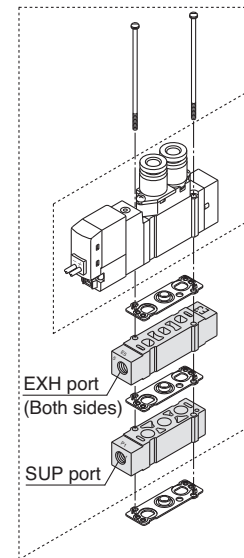
■ Individual EXH spacer assembly



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

Note) In case of 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 (Double spacer)



[●: Available X: Not available]

Series	Individual SUP + Individual EXP Assemble part no.	Port size	Applicable manifold types	
			20	20P
SY3000	SY3000-120-1A-Q	M5	●	X
SY5000	SY5000-75-2*A-Q	1/8	●	X
SY7000	SY7000-73-3*A-Q	1/4	●	X

Note) The SUP spacer's port does not have an orientation. As for the EXH ports, adjust the symbol "5" to the pilot valve side. Also, please make sure to connect the individual ports to protect the wiring section of the pilot valve from drainage, etc. The individual SUP spacer and EXH spacer can be mounted either on the upper side or lower side. (The above illustration shows the condition when the product is shipped out from a factory already assembled.)

⚠ Caution

Mounting screw tightening torques

M2: 0.16 N·m
M3: 0.8 N·m
M4: 1.4 N·m

⚠ Warning

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

* Thread type

-	Rc
F	G
N	NPT
T	NPTF

Manifold Option

▪ **SUP blocking disk (For SY9000)**

By installing a SUP blocking 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	No.
SY9000	SY9000-61-2A

▪ **EXH blocking disk (For SY9000)**

By installing an EXH blocking 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 blocking disks are needed to divide both exhausts.)



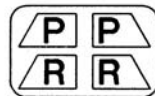
Series	No.
SY9000	SY9000-61-2A

▪ **Label for blocking disk (For SY9000)**

The labels shown below are used on manifold stations containing SUP/EXH blocking disk(s) to show their location. (3 pcs. each)

VZ3000-123-1A

Label for SUP block disk Label for EXH block disk Label for SUP/EXH block disk



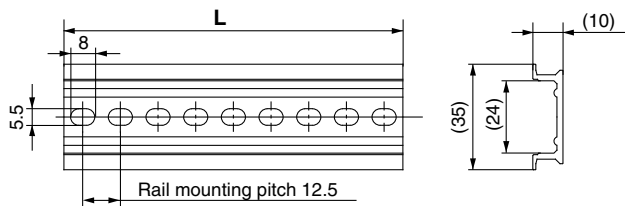
* When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

▪ **DIN Rail Dimensions/Weight for SY9000**

VZ1000-11-4-□

• **Refer to L dimensions**

* Fill in □ with an appropriate no. listed on the table of DIN rail dimensions shown below.

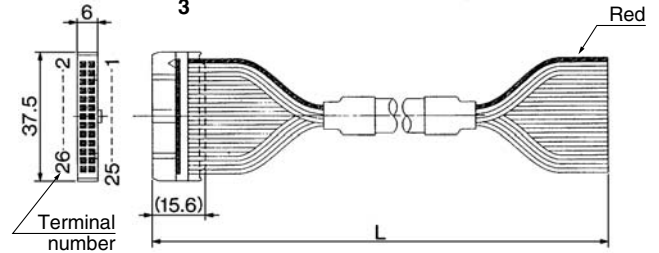


No.	0	1	2	3	4	5	6	7	8	9
L Dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3
No.	10	11	12	13	14	15	16	17	18	19
L Dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9
No.	20	21	22	23	24	25	26	27	28	29
L Dimension	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	88	91.2	94.4	97.5	100.7	103.9	107	110.2	113.3	116.5

Note) - For DIN rail, refer to page 223.
- Refer to **L1** dimension on pages starting with page 55 for lengths that correspond to the number of manifold stations.

▪ **Cable assembly (For 20P, 23P)**

AXT100-FC26-1



Connector Assembly for Flat Ribbon Cables

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

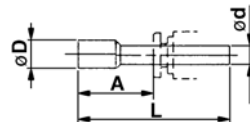
* For other commercial connectors, use a 26 pins with strain relief conforming to MIL-C-83503.

Connector manufacturers' example

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

■ **Plug (white)**

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



Dimensions

Applicable fittings size øD	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
12	KQ2P-12	24	44.5	14
1/8"	KQ2P-01	16	31.5	5
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KQ2P-09	20.5	39	10
3/8"	KQ2P-11	22	43	11.5

How to Increase Manifold Bases (Series SY9000 only) Manifold case can be added at any location.

When a type 23 manifold base is added, tension bolts as well as manifold block assembly will be required. Order the tension bolt suitable for the stations after a station was increased (decreased), since the length of a tension bolt differs by the number of stations. (For changing the number of stations for a type 23P manifold, wiring unit for the stations and lead assembly will be required.)

- 1 Loosen the tension bolts ⑤ connecting the manifold base, and pull out both of 2 tension bolts.
(When equipped with a DIN rail, loosen one DIN rail holding screw on either U side or D side.)
- 2 Separate the blocks at the location where station expansion is desired.
- 3 Mount additional manifold block assembly.
- 4 Press block-to-block so that there's no gap. After connection, insert a tension bolt for desired stations and then tighten it.

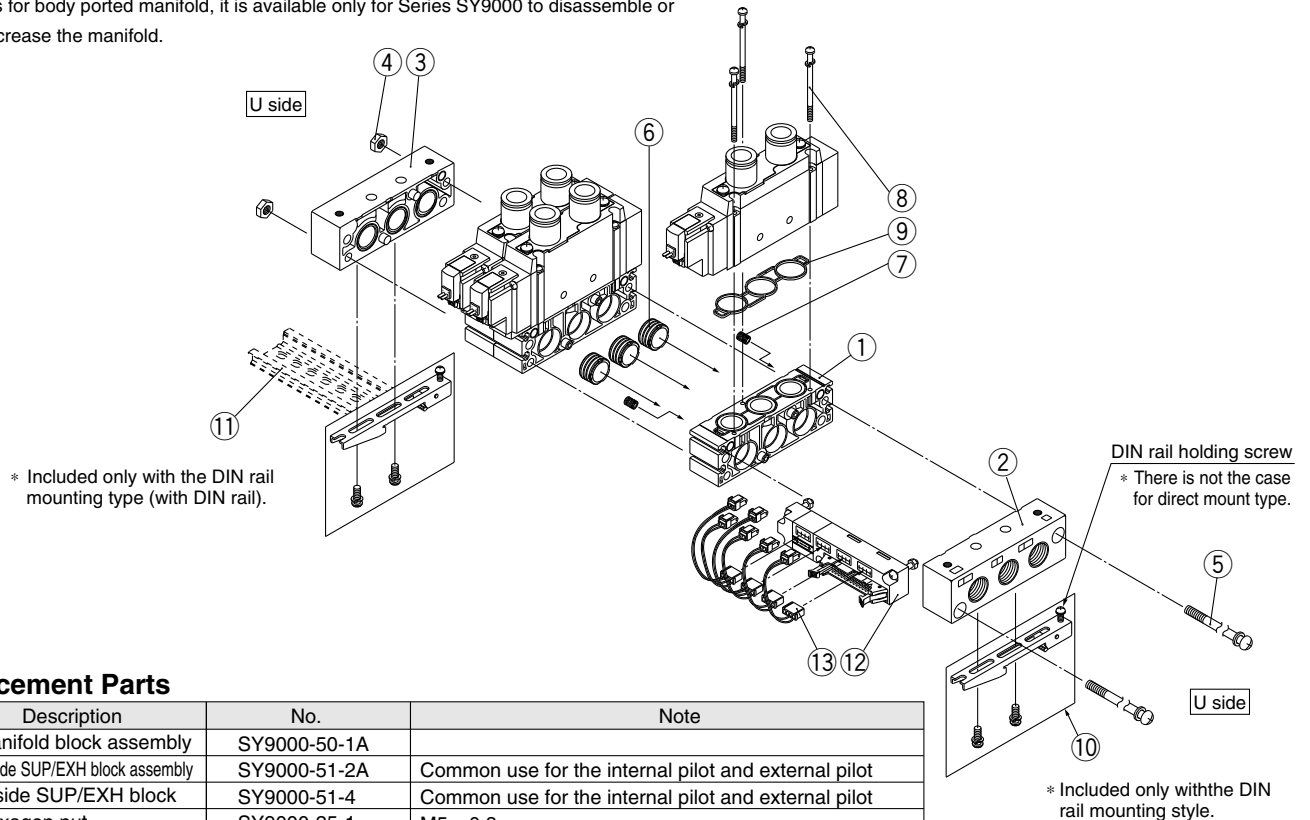
⚠ Caution (Tightening torque: 2.9 N·m)
(When equipped with a DIN rail, be sure to tighten the DIN rail holding screws after tightening the tension bolts. Tightening torque: 1.4 N·m)

⚠ Caution

1. Be sure to shut off the power and air supplies before disassembly. Furthermore, since air may remain inside the actuator, piping and manifold, confirm that the air is completely exhausted before performing any work.
2. When disassembly and assembly are performed, air leakage may result if connections between blocks and tightening of the end block's holding screw, is inadequate.
3. By adding wiring unit assembly to type 23 manifold, it can be changed to type 23P manifold, too.

Body Ported Manifold Exploded View, 23/23P Common

As for body ported manifold, it is available only for Series SY9000 to disassemble or increase the manifold.



Replacement Parts

No.	Description	No.	Note
1	Manifold block assembly	SY9000-50-1A	
2	D side SUP/EXH block assembly	SY9000-51-2A	Common use for the internal pilot and external pilot
3	U side SUP/EXH block	SY9000-51-4	Common use for the internal pilot and external pilot
4	Hexagon nut	SY9000-25-1	M5 x 0.8
5	Tension bolt	SY9000-23-□	Since □ at the end of part number corresponds with the number of stations, fill in the same number as the number of stations.
6	SUP Block bush assembly	SY9000-61-1A	Included in the Manifold block assembly and the D side SUP/EXH block assembly.
7	SUP Block bush assembly	SY9000-61-3A	Included in the Manifold block assembly and the D side SUP/EXH block assembly.
8	Round head combination screw	SY9000-18-2	Included in the Manifold block assembly.
9	Manifold gasket	SY9000-11-1	Included in the Manifold block assembly.
10	Clamp sub assembly	SY9000-29-1A	
11	DIN rail	VZ1000-11-4-□	Refer to p. 57.
12	Wiring unit assembly	SY9000-36-□A	Since □ in part number corresponds with the number of stations, fill in the number of stations (4 to 12).
13	Connector assembly	SY9000-37-□□	Refer to page 54.

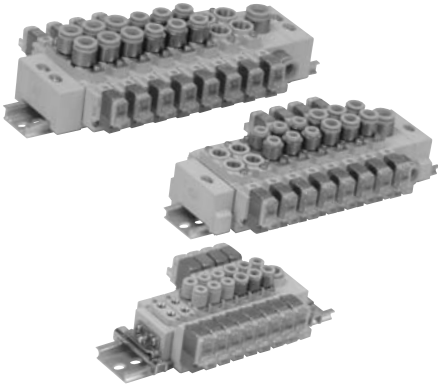
5 Port Solenoid Valve

Series SY3000/5000/7000

Body Ported

Cassette Type

Type **60**



How to Order

SS5Y **3** — 60 — **05** **D** — **-Q**

Series

3	SY3000
5	SY5000
7	SY7000

Valve stations

02	2 stations
⋮	⋮
20	20 stations

Option
When a DIN rail longer than standard is required, enter the number of manifold stations that corresponds with the length of DIN rail needed. Max. 20 stations

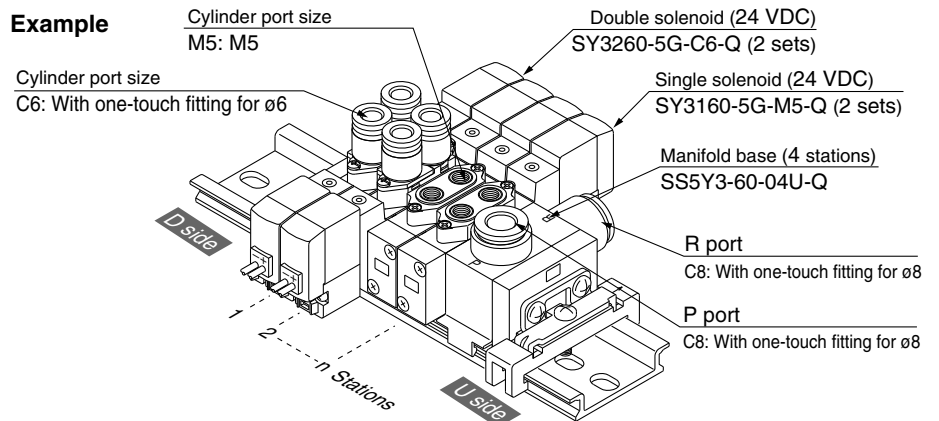
SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	
D	D side	2 to 10 stations
B	Both sides	2 to 20 stations
M*	Special location	

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

How to Order Valve Manifold Assembly (Example)

Example



SS5Y3-60-04U-Q
* SY3260-5G-C6-Q
* SY3160-5G-M5-Q

1 set (Type 60, 4 station manifold base part no.)
2 sets (Double solenoid part no.)
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	SS5Y3-60	SS5Y5-60	SS5Y7-60	
Applicable valve	SY3□60	SY5□60	SY7□60	
Manifold type	Stacking type/DIN rail mounted			
P (SUP)/R (EXH)	Common SUP/Common EXH			
Valve stations	2 to 20 stations ^{Note 1)}			
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 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) ^{Note 2)} (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 1) In cases such as those where many valves are operated simultaneously, use “-stationB (SUP/EXH block on both sides)” (both sides SUP/EXH), applying pressure to the P ports on both sides and exhausting from the R ports on both sides.

Note 2) For DIN rail weight, refer to page 67.

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 (dm ³ /(s·bar))	b	Cv	Q[l/min(ANR)]*	C (dm ³ /(s·bar))	b	Cv	Q[l/min(ANR)]*
SS5Y3-60	C8	M5	0.55	0.29	0.14	139	0.72	0.24	0.18	176
		C4	0.57	0.24	0.14	140	0.71	0.20	0.17	170
		C6	0.68	0.28	0.17	171	0.77	0.24	0.19	189
SS5Y5-60	C10	1/8	1.8	0.24	0.44	441	2.1	0.17	0.47	495
		C6	1.5	0.30	0.37	381	2.0	0.16	0.46	469
		C8	1.8	0.20	0.45	431	2.2	0.17	0.50	518
SS5Y7-60	C12	1/4	3.7	0.25	0.96	912	3.8	0.19	0.94	905
		C8	3.2	0.26	0.81	794	4.0	0.18	0.96	947
		C10	3.7	0.28	0.98	929	4.1	0.19	1.0	977

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

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

How to Order Valve

SY 3 1 60 **5 L** **C6 -Q**

Series

3	SY3000
5	SY5000
7	SY7000

Type of actuation

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

Coil specifications

-	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.

A, B port size

Thread piping

Symbol	Port size	Applicable series
M5	M5	SY3000
O1	1/8	SY5000
O2	1/4	SY7000

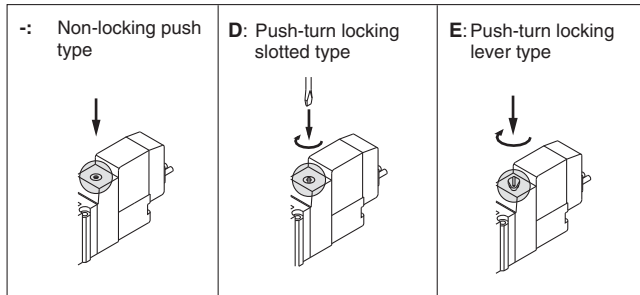
One-touch fitting (Metric size)

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

One-touch fitting (Inch size)

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

Manual override



Light/surge voltage suppressor

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

-	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)

* Power saving circuit is only available in the "Z" type.

Electrical entry for D (SY5000/7000 only)

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

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

Electrical entry

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

* LN, MN type: with 2 sockets.

* DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 210.

* For connector cable of M8 connector, refer to back page 12.

* Connector M8 type "WA" conforming to IEC 60947-5-2 standard, is also available. For details, see page 211.

Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to back page 13.

Rated voltage

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

For 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.
* AC specification is only available with D and DO type.

Specifications

Series		SY3000	SY5000	SY7000
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		
Ambient and fluid temperature (°C)		Max. 50		
Max. operating frequency (Hz)	2 position double	10	5	5
	3 position	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 position		Unrestricted		
Impact/Vibration resistance <small>Note</small>		150/30		
Enclosure		Dust proof (* DIN terminal, M8 connector: 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 energised and de-energised states every once for each condition.

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

* Based on IEC60529

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 50/60 Hz	100, 110	200, 220
Allowable voltage fluctuation (%)		±10% of rated voltage *	
Power consumption (W)	DC	Standard	0.35 [With indicator light: 0.4 (DIN terminal with indicator light: 0.45)]
		With power saving circuit	0.1 (With indicator light only)
Apparent power (VA) *	AC	100 V	- 0.78 (With indicator light: 0.87)
		110 V [115 V]	- 0.86 (With indicator light: 0.97) [0.94 (With indicator light: 1.07)]
		200 V	- 1.15 (With indicator light: 1.30)
		220 V [230 V]	- 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 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.

* S, Z and T type (with power saving circuit) should be used within the following allowable voltage fluctuation range due to a voltage drop caused by the internal circuit.

S and Z type: 24 VDC: -7% to +10%

12 VDC: -4% to +10%

T type: 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)

SY3000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	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

SY5000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	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


SY7000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	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

Weight

Series SY3000

Valve model	Type of actuation		Port size	Weight (g)		
			A, B	Gro-mmet	L/M plug connector	M8 Connector
SY3□60-□-M5	2 position	Single	M5	49	51	55
		Double		70	73	81
	3 position	Closed center		73	76	84
		Exhaust center				
		Pressure center				
SY3□60-□-C4	2 position	Single	C4 (One-touch fitting for ø4)	62	61	65
		Double		80	83	91
	3 position	Closed center		82	86	94
		Exhaust center				
		Pressure center				
SY3□60-□-C6	2 position	Single	C6 (One-touch fitting for ø6)	55	57	61
		Double		76	79	87
	3 position	Closed center		78	82	90
		Exhaust center				
		Pressure center				

 Note) []: denotes normal position.

Series SY7000

Valve model	Type of actuation		Port size	Weight (g)			
			A, B	Gro-mmet	L/M plug connector	DIN terminal	M8 Connector
SY7□60-□-02	2 position	Single	1/4	103	105	126	109
		Double		125	128	170	136
	3 position	Closed center		133	136	178	144
		Exhaust center					
		Pressure center					
SY7□60-□-C8	2 position	Single	C8 (One-touch fitting for ø8)	138	139	160	143
		Double		160	163	205	171
	3 position	Closed center		168	171	213	179
		Exhaust center					
		Pressure center					
SY7□60-□-C10	2 position	Single	C10 (One-touch fitting for ø10)	123	125	146	129
		Double		145	149	191	157
	3 position	Closed center		153	157	199	165
		Exhaust center					
		Pressure center					

Series SY5000

Valve model	Type of actuation		Port size	Weight (g)			
			A, B	Gro-mmet	L/M plug connector	DIN terminal	M8 Connector
SY5□60-□-01	2 position	Single	1/8	67	69	90	71
		Double		91	94	136	102
	3 position	Closed center		97	100	142	108
		Exhaust center					
		Pressure center					
SY5□60-□-C4	2 position	Single	C4 (One-touch fitting for ø4)	91	93	114	97
		Double		113	116	158	124
	3 position	Closed center		119	122	164	130
		Exhaust center					
		Pressure center					
SY5□60-□-C6	2 position	Single	C6 (One-touch fitting for ø6)	86	88	109	92
		Double		108	111	153	119
	3 position	Closed center		114	117	159	125
		Exhaust center					
		Pressure center					
SY5□60-□-C8	2 position	Single	C8 (One-touch fitting for ø8)	78	80	101	84
		Double		100	103	145	111
	3 position	Closed center		106	109	151	117
		Exhaust center					
		Pressure center					

How to Order Pilot Valve Assembly

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

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)

* Power saving circuit is only available in the "Z" type.

Electrical entry

G	Grommet, 300 mm lead wire	
H	Grommet, 600 mm lead wire	
L	L plug connector	With lead wire
LN		Without lead wire
LO	Without connector	
M	M plug connector	With lead wire
MN		Without lead wire
MO	Without connector	
WO	M8	Without connector cable
W <input type="checkbox"/>	connector	With connector cable ^{Note 1)}

* For connector cable of M8 connector, refer to back page 12.
 Note 1) Enter the cable length symbols in . Please be sure to fill in the blank referring to back page 13.

DIN terminal type

V115 — 5 — D

Rated voltage

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

* DC specifications of Type D and DO is only available with 12 and 24 VDC.

Light/surge voltage suppressor

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

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

Electrical entry

D	DIN terminal	With connector
DO	terminal	Without connector

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

How to Order Connector Assembly for L/M Plug Connector

For DC: SY100-30-4A

Without lead wire: SY100-30-A

Only connector and sockets (x 2 pcs.)

Lead wire length

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

How to Order M8 Connector Cable

V100-49-1

Cable length

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

* For details, refer to back page 5.

How to Order Port Block Assembly

SY **3** 000 — 6A — **C4**

• Series

3	SY3000
5	SY5000
7	SY7000

• A, B port size
• Thread piping

Symbol	Port size	Applicable series
M5	M5	SY3000
O1	1/8	SY5000
O2	1/4	SY7000

One-touch fitting (Metric size)

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

One-touch fitting (Inch size)

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

How to Change Port Block Assembly

Connecting port size of A and B can be changed by replacing port block assembly mounted on body. When changing block assembly, correct screw torque must be achieved to avoid trouble; e.g. air leakage.

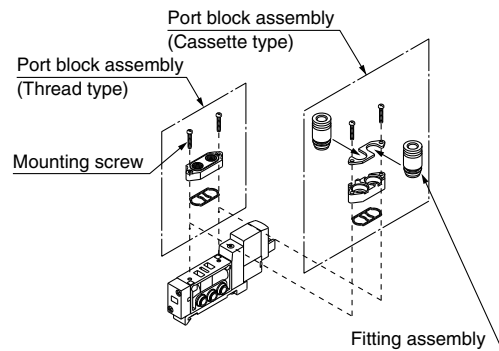
With the one-touch fitting port block assembly, it is only necessary to change the fitting and not the whole block. Refer to following part numbers.

One-touch fitting (Metric size)

Port size	Fitting assembly part no.	Applicable series
One-touch fitting for ø4	VVQ1000-50A-C4	SY3000
One-touch fitting for ø6	VVQ1000-50A-C6	
One-touch fitting for ø4	VVQ1000-51A-C4	SY5000
One-touch fitting for ø6	VVQ1000-51A-C6	
One-touch fitting for ø8	VVQ1000-51A-C8	SY7000
One-touch fitting for ø8	VVQ2000-51A-C8	
One-touch fitting for ø10	VVQ2000-51A-C10	

One-touch fitting (Inch size)

Port size	Fitting assembly part no.	Applicable series
One-touch fitting for ø5/32"	VVQ1000-50A-N3	SY3000
One-touch fitting for ø1/4"	VVQ1000-50A-N7	
One-touch fitting for ø5/32"	VVQ1000-51A-N3	SY5000
One-touch fitting for ø1/4"	VVQ1000-51A-N7	
One-touch fitting for ø5/16"	VVQ1000-51A-N9	SY7000
One-touch fitting for ø1/4"	VVQ2000-51A-N9	
One-touch fitting for ø3/8"	VVQ2000-51A-N11	



⚠ Caution

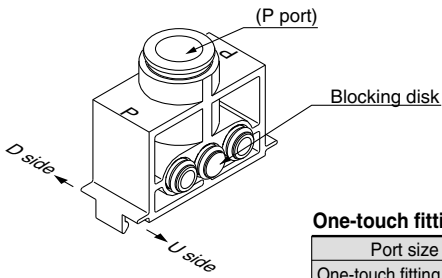
Torque for mounting screws

SY3000(M2): 0.12 N·Æm
SY5000, 7000 (M3): 0.6 N·Æm

* Refer to "How to Change Port Block Assembly" for part numbers.

Manifold Option

Individual SUP block assembly



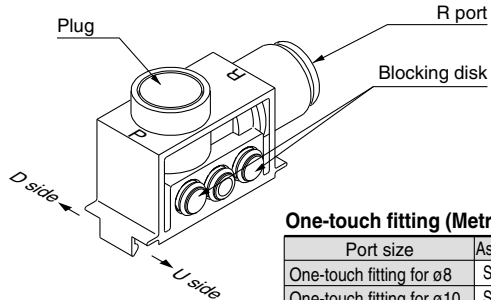
One-touch fitting (Metric size)

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

One-touch fitting (Inch size)

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

Individual EXH block assembly



One-touch fitting (Metric size)

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

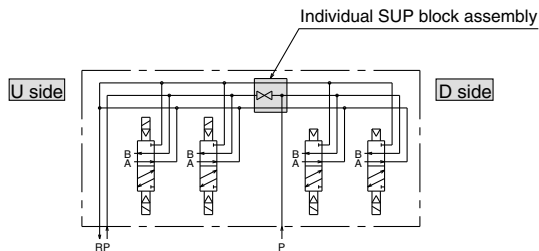
One-touch fitting (Inch size)

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

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

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

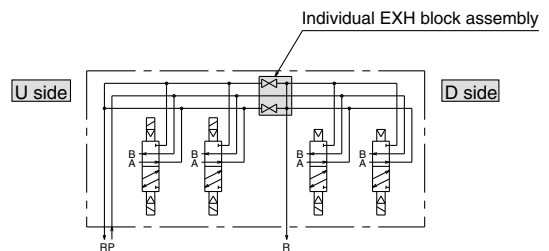
<Manifold model no.: SS5Y₃□-60-□□D>



[When 2 different EXH passages are required.]

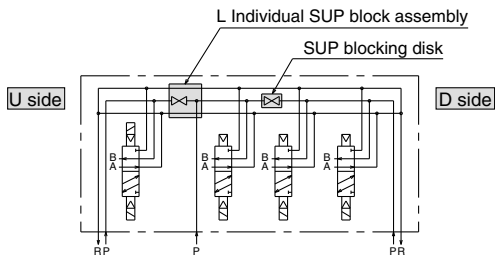
Specify arrangement of individual EXH block assembly on the manifold specification sheet. (When using SS5Y□-60-□□D, blocking disk is assembled on D side.)

<Manifold model no.: SS5Y₃□-60-□□D>



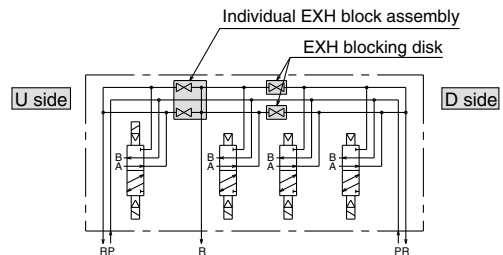
[When a different supply pressure is required for only a middle valve.]

Specify arrangement of individual SUP block assembly and SUP blocking disk on the manifold specification sheet. (Applicable manifold model no.: SS5Y□-60-□□B)



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

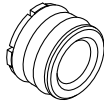
Specify arrangement of individual EXH block assembly and EXH blocking disk on the manifold specification sheet. (Applicable manifold model no.: SS5Y□-60-□□B)



Manifold Option

■ SUP blocking disk

By installing a SUP blocking 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. (This is the same block disk used with the individual SUP block assembly.)



Series	No.
SY3000	SY3000-52-6A
SY5000	SY5000-52-4A
SY7000	SY7000-70-2A

■ EXH blocking disk

By installing an EXH blocking 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 blocking disks are needed to separate both EXH passages. It is the same block disk that is used in the individual EXH block assembly.)



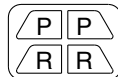
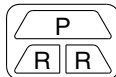
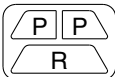
Series	No.
SY3000	SY3000-52-6A
SY5000	SY5000-52-4A
SY7000	SY7000-70-2A

■ Label for block disk

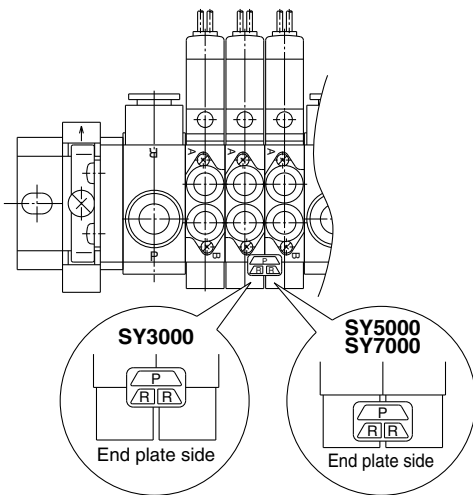
The labels shown below are used on manifold stations containing SUP/EXH blocking disk(s) to show their location. (3 pcs. each)

VZ3000-123-1A

Label for SUP block disk Label for EXH block disk Label for SUP/EXH block disk

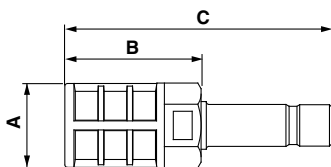


* When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.



■ Silencer with One-touch fitting

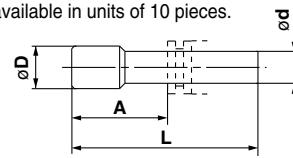
The silencer plugs directly into the One-touch fittings of the manifold.



Series	Model	Effective area	A	B	C
SY3000 (for ø8)	AN203-KM8	14 mm ²	ø16	26	51
SY5000 (for ø10)	AN200-KM10	26 mm ²	ø22	54	80.8
	AN300-KM10	30 mm ²	ø25	70	97
SY7000 (for ø12)	AN300-KM12	41 mm ²	ø25	70	98

■ Plug (white)

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



Dimensions

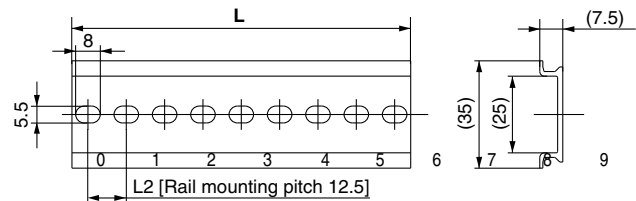
Applicable fittings size ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
12	KQ2P-12	24	45.5	14
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KQ2P-09	20.5	39	10
3/8"	KQ2P-11	22	43	11.5

■ DIN Rail Dimensions/Weight for SY3000/5000

VZ1000-11-1-□

• Refer to the L dimension tables

* Enter a number from the DIN rail dimension table below in them.



No.										
L dimension	108	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	17.6	19.9	22.1	24.4	26.6	28.9	31.1	33.4	35.6	37.9

No.										
L dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	40.1	42.4	44.6	46.9	49.1	51.4	53.6	55.9	58.1	60.4

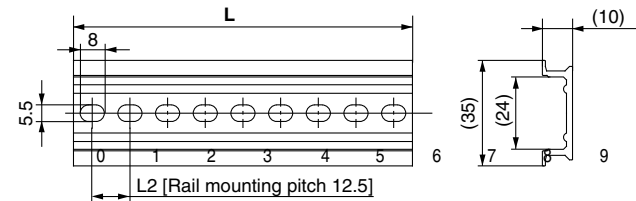
No.										
L dimension	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	62.6	64.9	67.1	69.4	71.6	73.9	76.1	78.4	80.6	82.9

■ DIN Rail Dimensions/Weight for SY7000

VZ1000-11-4-□

• Refer to the L dimension tables

* Enter a number from the DIN rail dimension table below in them.



No.										
L dimension	198	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3

No.										
L dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9

No.										
L dimension	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	88	91.2	94.4	97.5	100.7	103.9	107	110.2	113.3	116.5

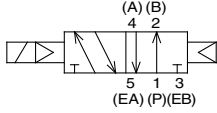
Note) For DIN rail mounting, refer to page 226.

Construction

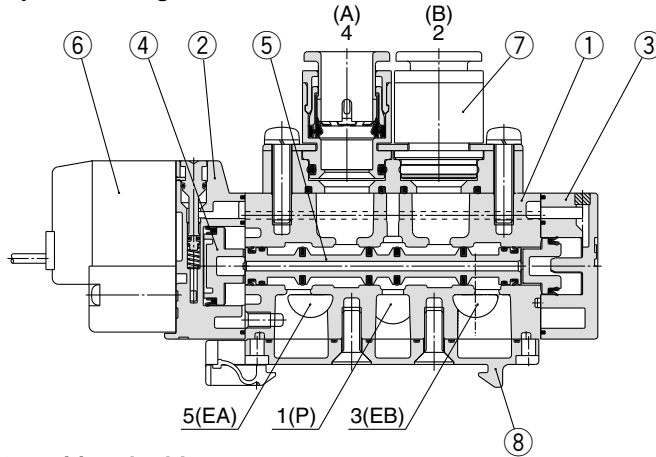
Series SY

JIS Symbol

2 position single

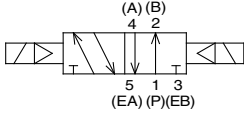


2 position single

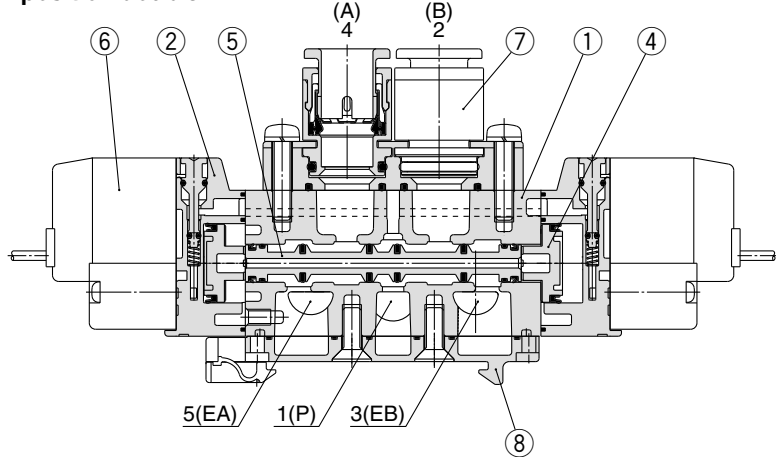


JIS Symbol

2 position double

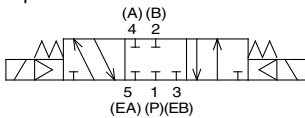


2 position double

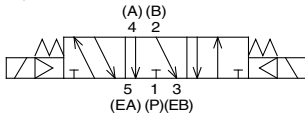


JIS Symbol

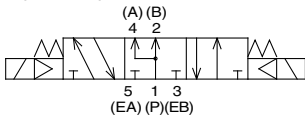
3 position closed center



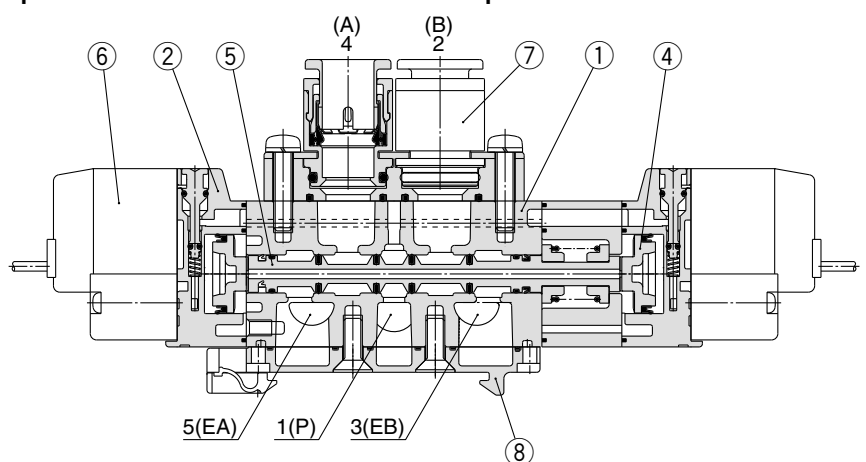
3 position exhaust center



3 position pressure center



3 position closed center / exhaust center / pressure center



(This figure shows a closed center type.)

Component Parts

No.	Description	Material	Note
1	Body	Aluminum die-casted (SY3000: Zinc die-casted)	White
2	Adapter plate	Resin	White
3	End plate	Resin	White
4	Piston	Resin	—
5	Spool valve assembly	Aluminum/NBR	—

Replacement Parts

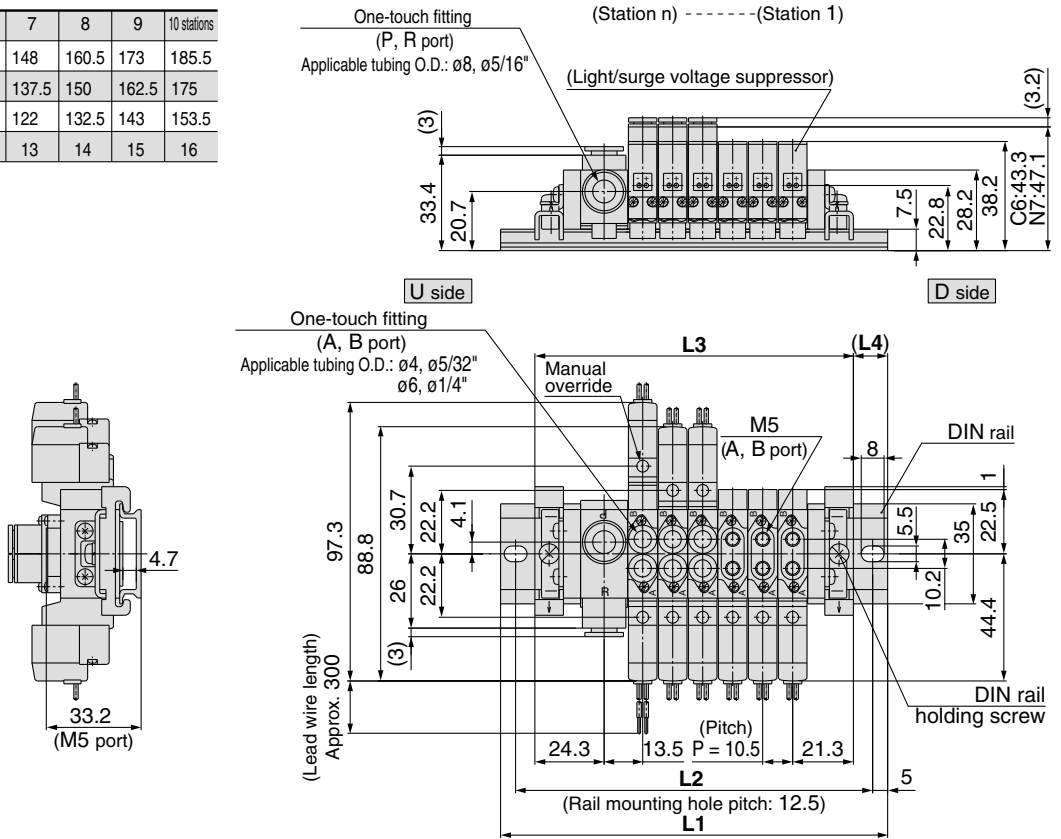
No.	Description	No.
6	Pilot valve assembly	Refer to "How to Order Pilot Valve Assembly" on page 64.
7	Port block assembly	Refer to "How to Order Port Block Assembly" on page 65.
8	Bottom cover assembly ^{Note}	SY3000-41-2A (with screw, gasket)
		SY5000-41-2A (with screw, gasket)

Note) There is no bottom cover assembly available for SY7000.

Dimensions

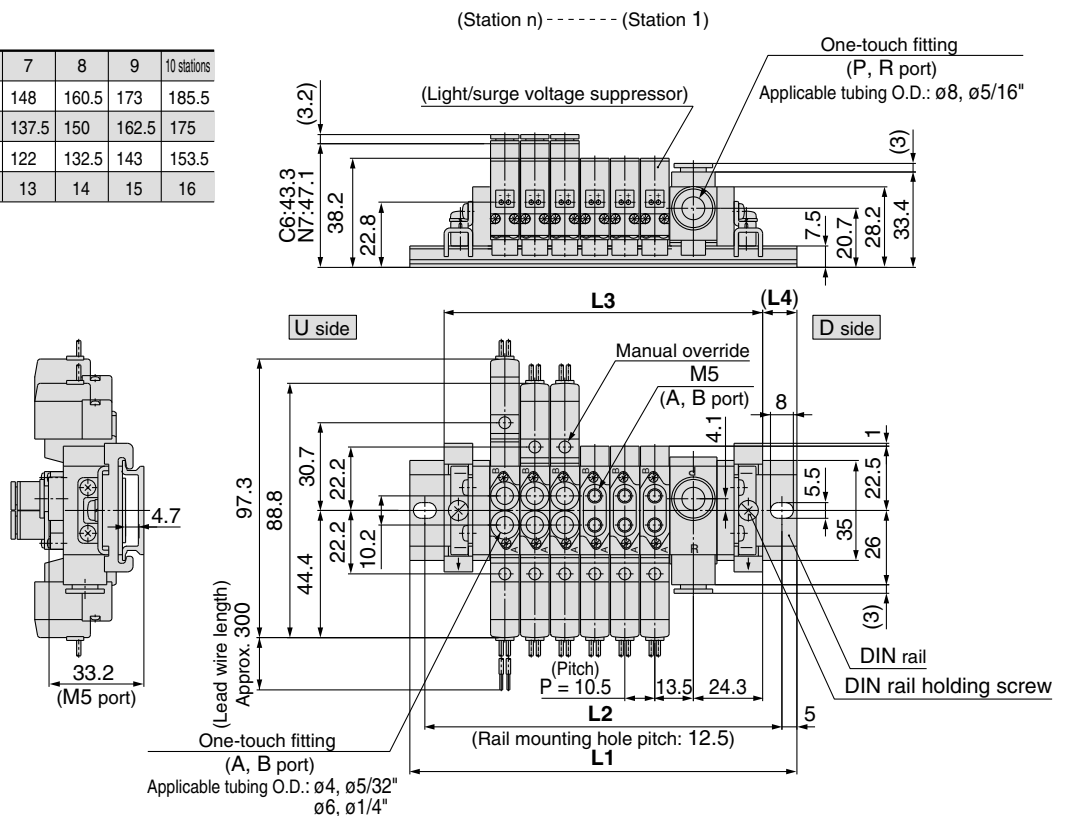
SS5Y3-60- Stations U-Q

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



SS5Y3-60- Stations D-Q

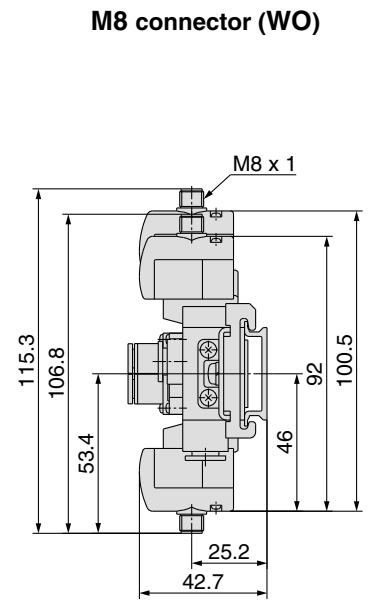
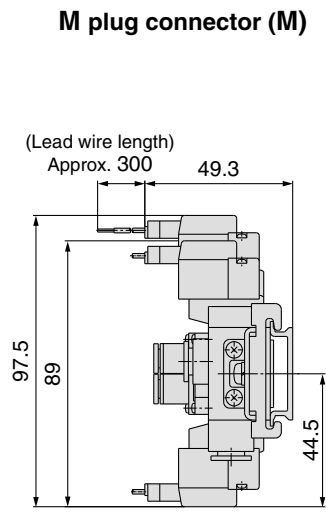
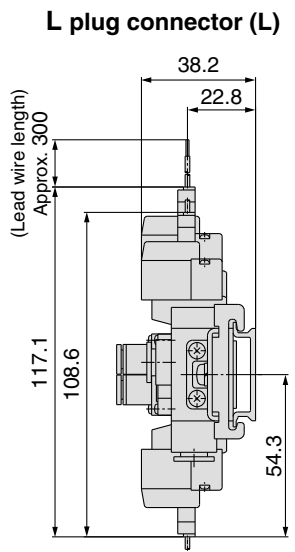
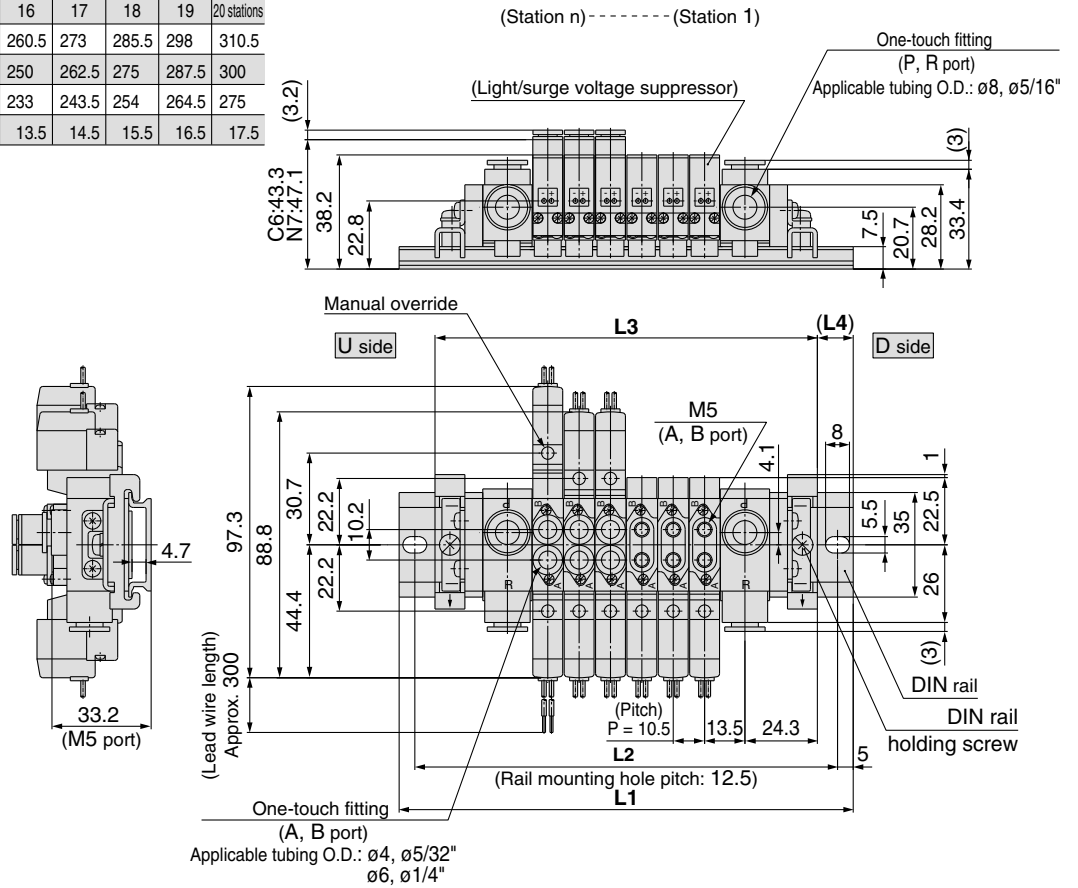
Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	98	110.5	123	135.5	135.5	148	160.5	173	185.5
L2	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	69.5	80	90.5	101	111.5	122	132.5	143	153.5
L4	14	15	16	17	12	13	14	15	16



SS5Y3-60- Stations B-Q

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

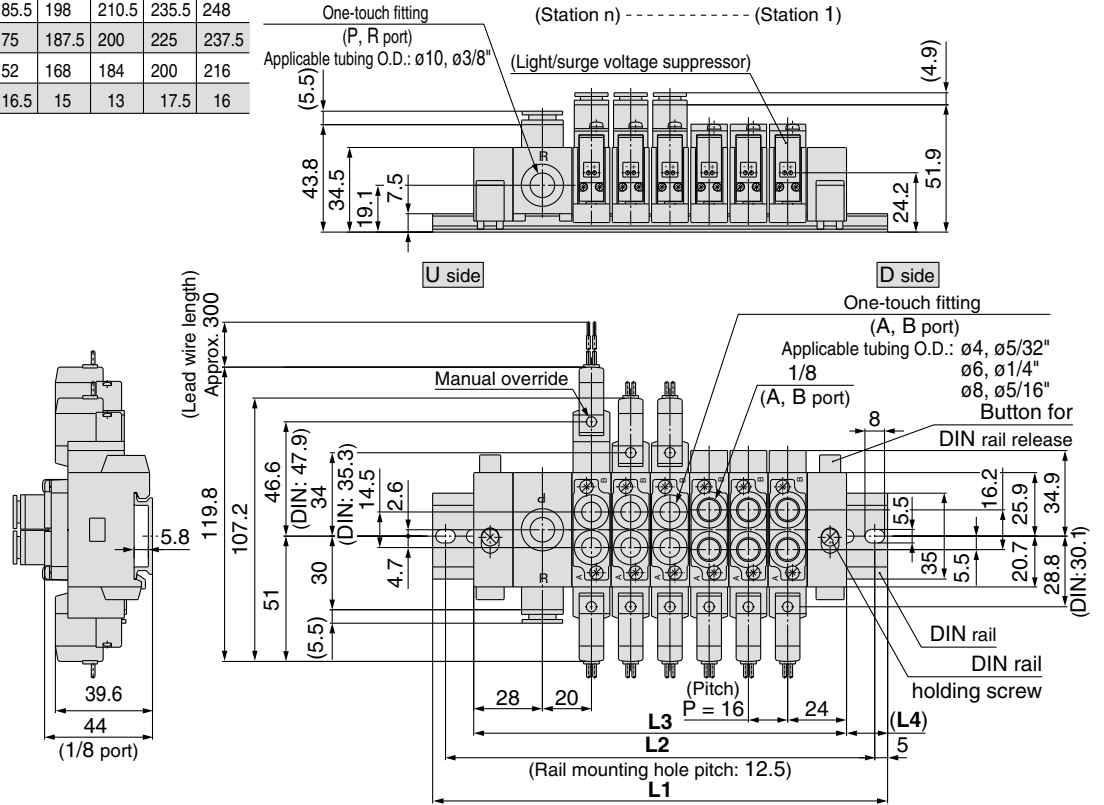


Note) Refer to back page 12 for dimensions of connector types.

Dimensions (mm)

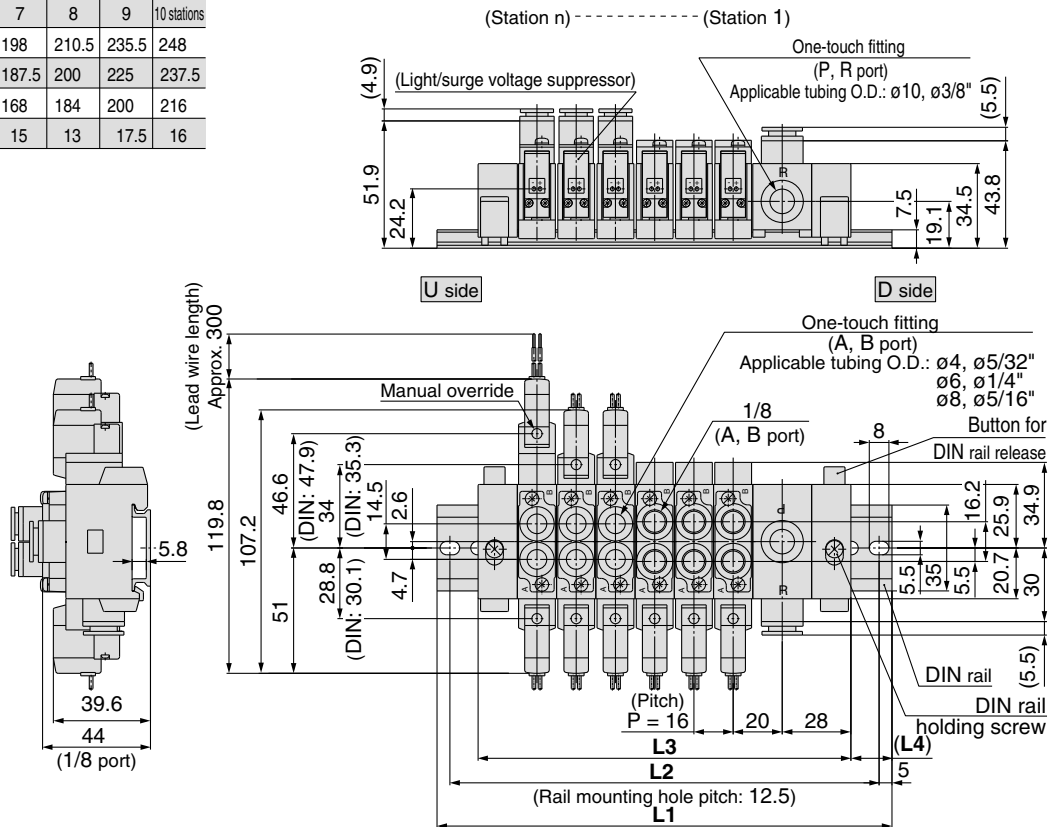
SS5Y5-60- Stations U-Q

Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	160.5	185.5	198	210.5	235.5	248
L2	112.5	125	137.5	150	175	187.5	200	225	237.5
L3	88	104	120	136	152	168	184	200	216
L4	17.5	15.5	14	12	16.5	15	13	17.5	16



SS5Y5-60- Stations D-Q

Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	160.5	185.5	198	210.5	235.5	248
L2	112.5	125	137.5	150	175	187.5	200	225	237.5
L3	88	104	120	136	152	168	184	200	216
L4	17.5	15.5	14	12	16.5	15	13	17.5	16

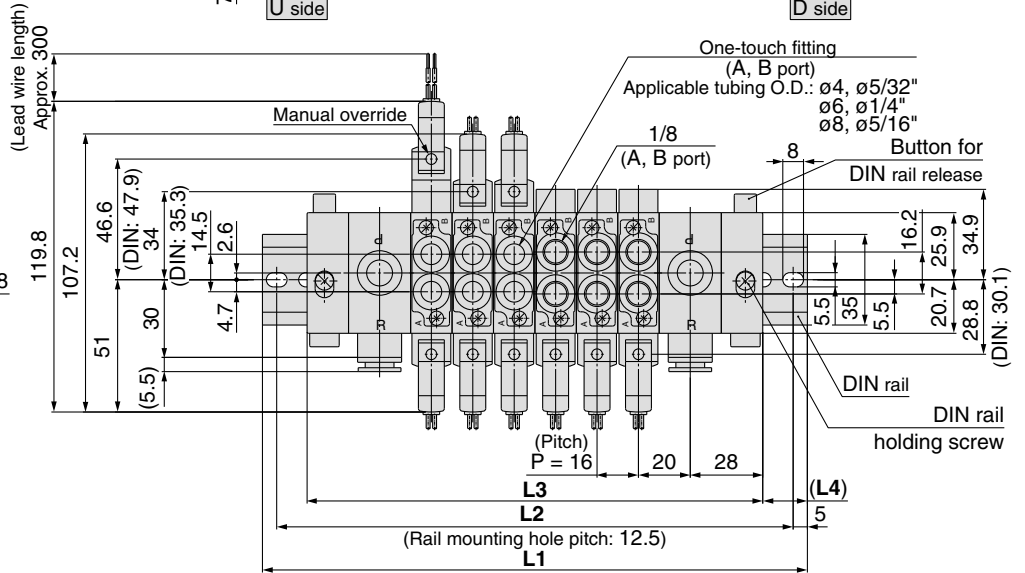
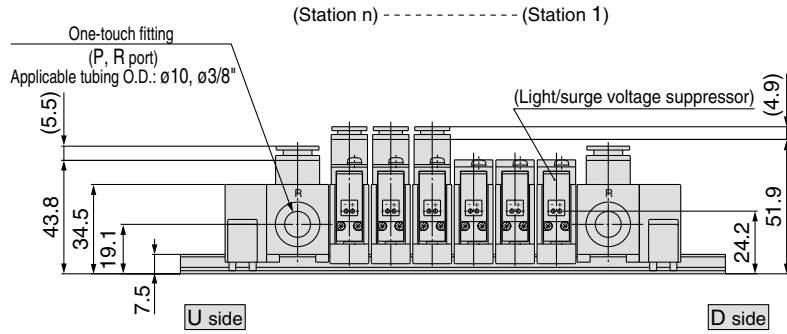
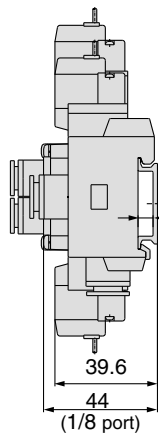


SS5Y5-60- Stations B-Q

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

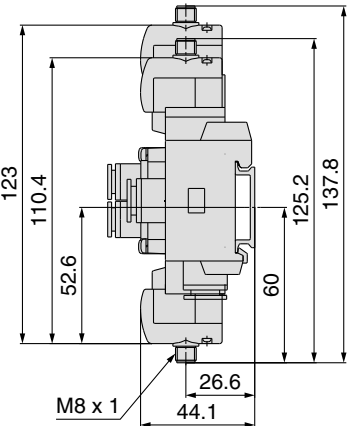
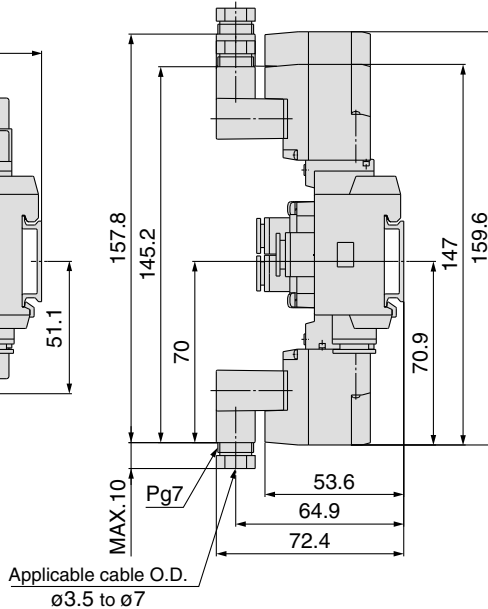
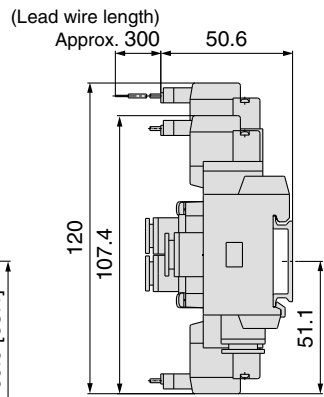
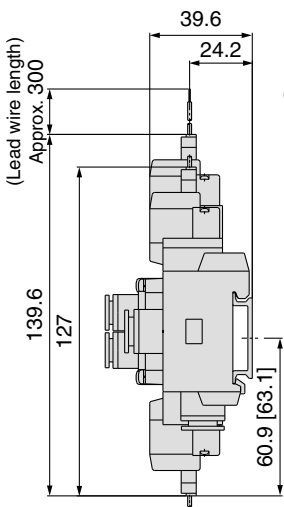


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)

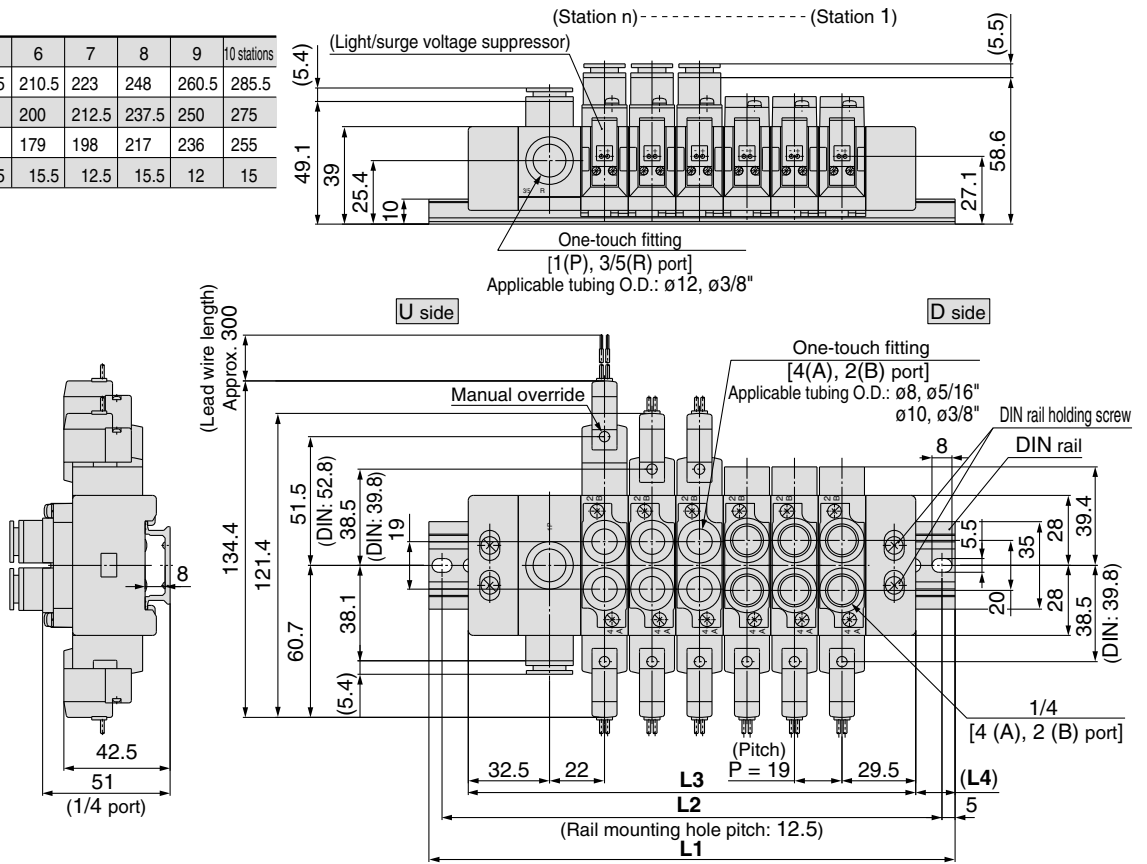


Note) Refer to back page 12 for dimensions of connector types.

Dimensions

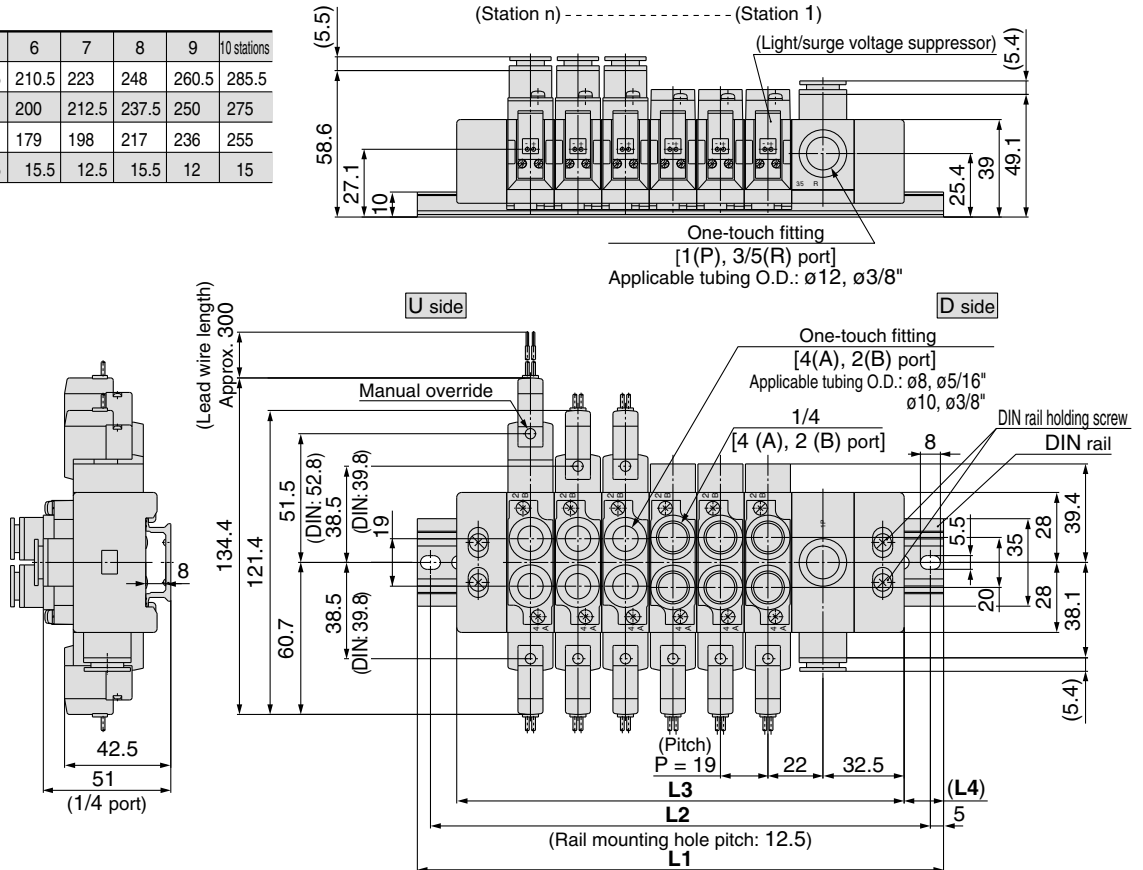
SS5Y7-60- Stations U-Q

Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	173	185.5	210.5	223	248	260.5	285.5
L2	125	137.5	162.5	175	200	212.5	237.5	250	275
L3	103	122	141	160	179	198	217	236	255
L4	16	13	16	12.5	15.5	12.5	15.5	12	15



SS5Y7-60- Stations D-Q

Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	173	185.5	210.5	223	248	260.5	285.5
L2	125	137.5	162.5	175	200	212.5	237.5	250	275
L3	103	122	141	160	179	198	217	236	255
L4	16	13	16	12.5	15.5	12.5	15.5	12	15

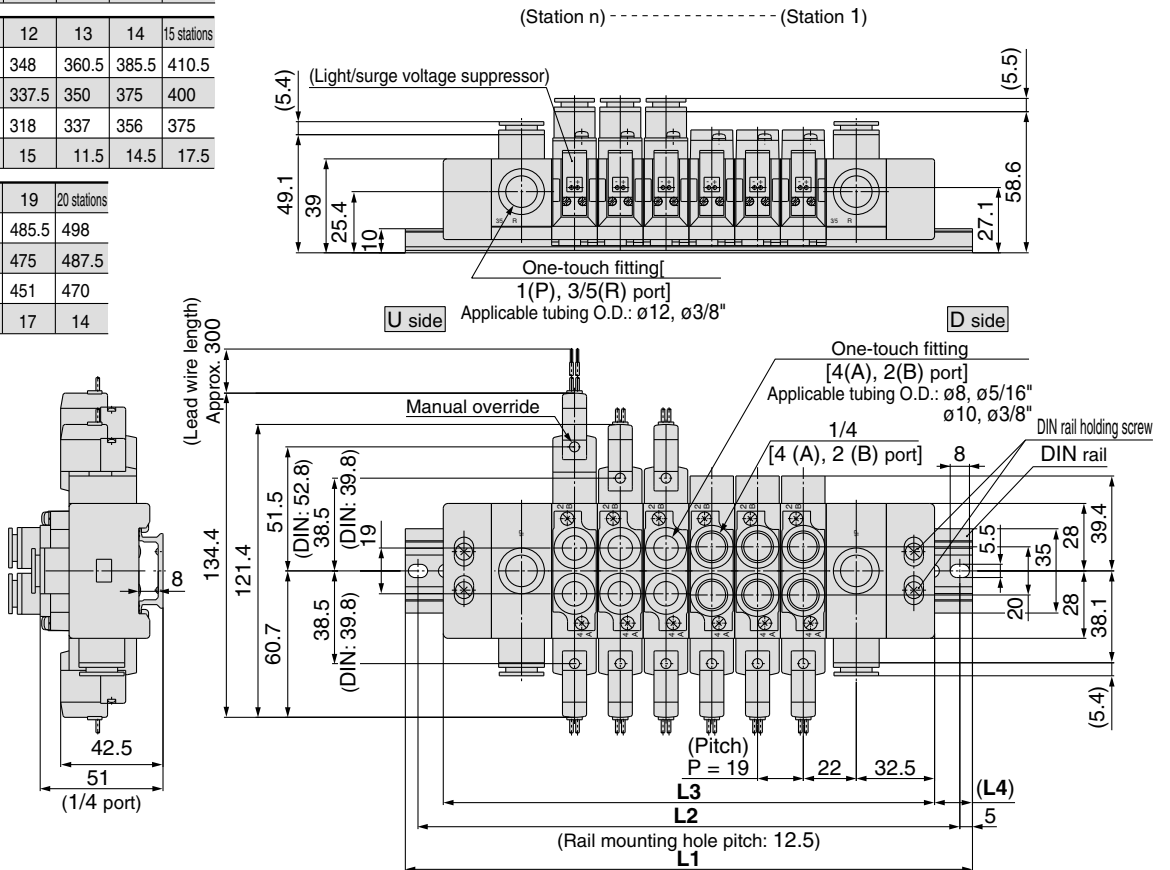


SS5Y7-60- Stations B-Q

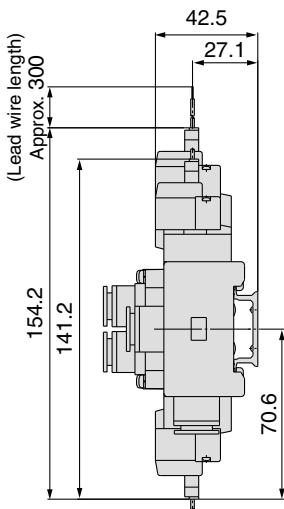
Stations	2 stations	3	4	5	6	7	8 stations
L1	160.5	173	198	210.5	235.5	248	273
L2	150	162.5	187.5	200	225	237.5	262.5
L3	128	147	166	185	204	223	242
L4	16	13	16	12.5	15.5	12.5	15.5

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

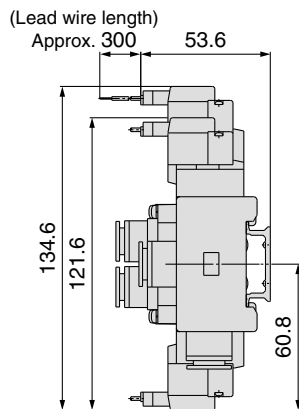
Stations	16 stations	17	18	19	20 stations
L1	423	448	460.5	485.5	498
L2	412.5	437.5	450	475	487.5
L3	394	413	432	451	470
L4	14.5	17.5	14	17	14



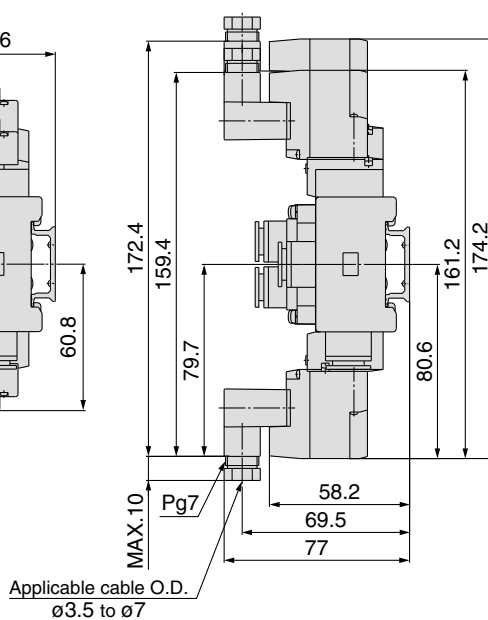
L plug connector (L)



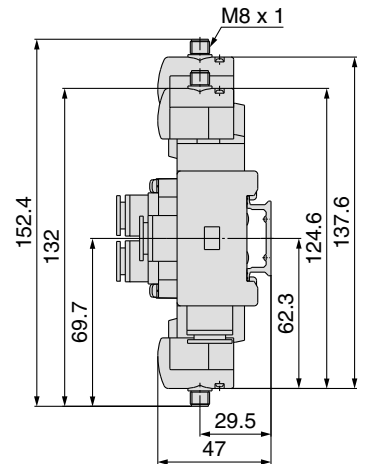
M plug connector (M)



DIN terminal (D)



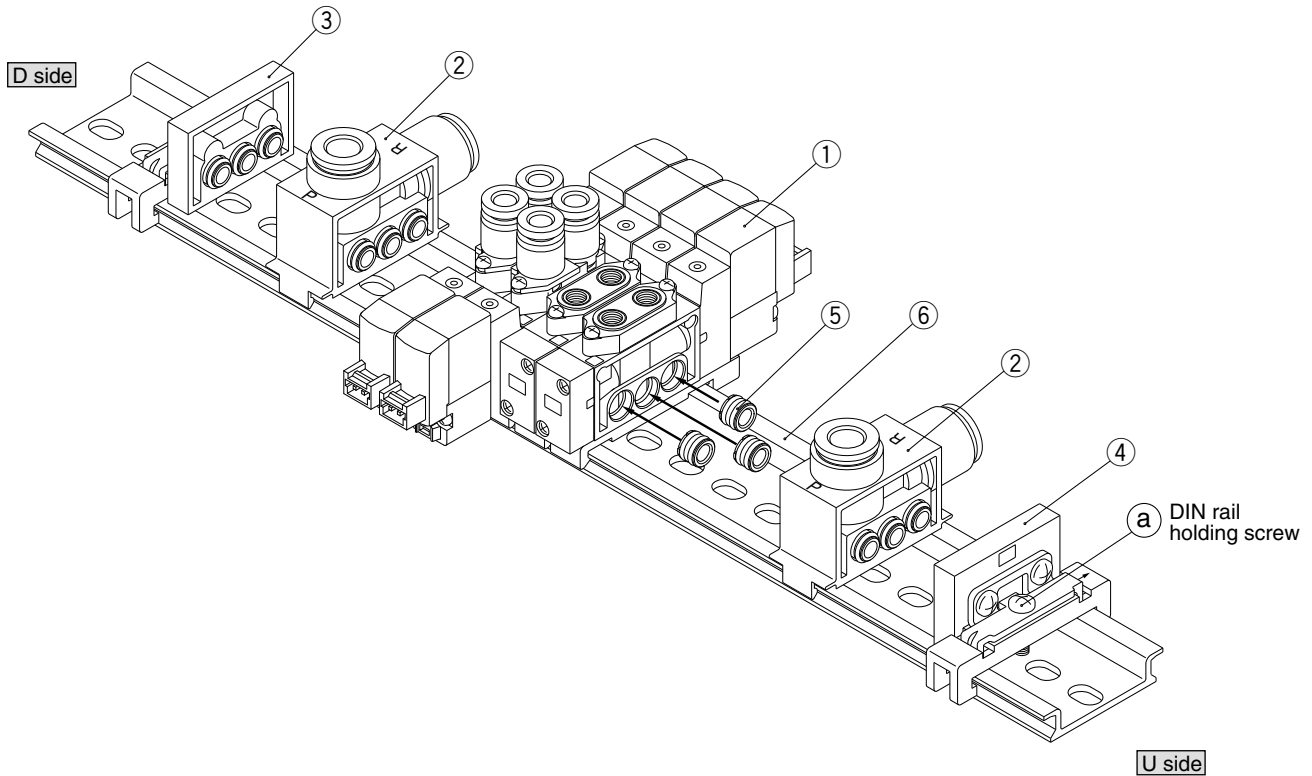
M8 connector (WO)



Note) Refer to back page 12 for dimensions of connector types.

DIN Rail Manifold Exploded View

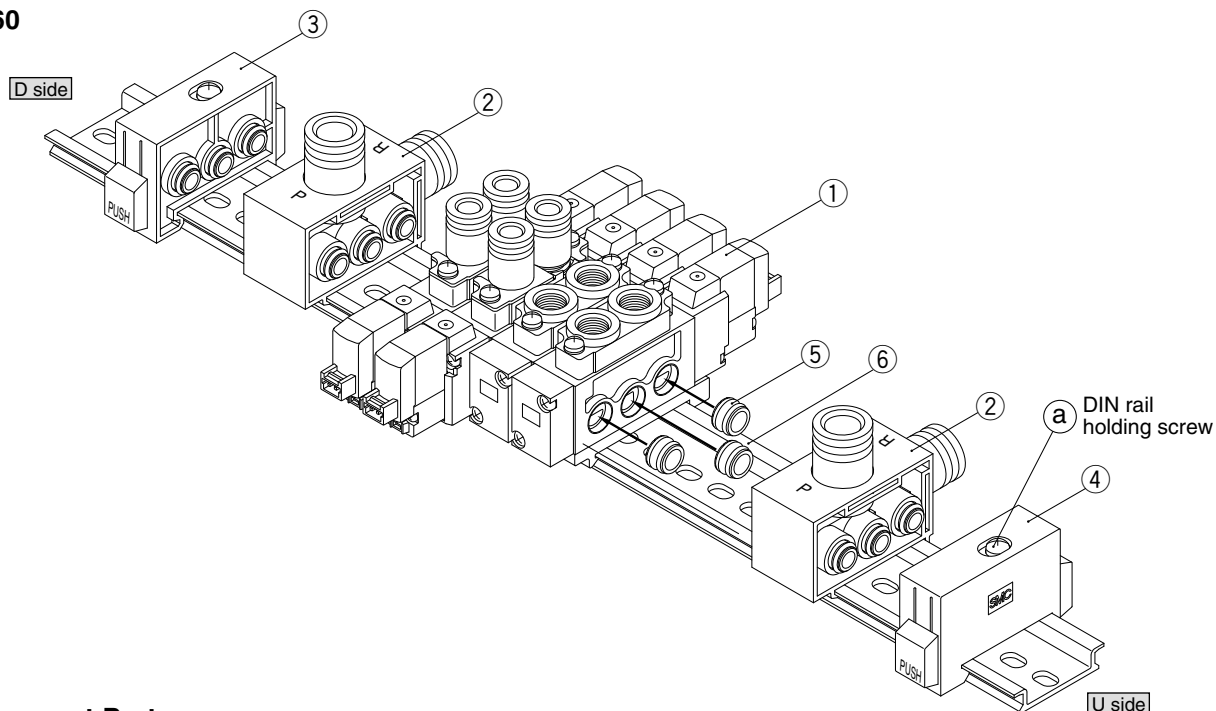
SY3000
Type 60



Replacement Parts

No.	Description	No.	Note
1	Valve	SY3□60-□□-□-□-□	□ at the end of part number denotes A. B port size: M5, C4, C6, N3, N7. Includes bushing assembly (SY3000-52-5A) 3 pcs.
2	SUP/EXH block assembly	SY3000-55- ¹ / ₂ A-Q	P, R port (1: One-touch fitting for ø8, 2: One-touch fitting for ø5/16") Includes bushing assembly (SY3000-52-5A) 3 pcs.
3	End block assembly	SY3000-56-1A-Q	For D side (Bushing assembly: Not available for SY3000-52-5A)
4	End block assembly	SY3000-56-1B-Q	For U side (Bushing assembly: Not available for SY3000-52-5A)
5	Bushing assembly	SY3000-52-5A	
6	DIN rail	VZ1000-11-1-□	Refer to page 67.

SY5000 Type 60



Replacement Parts

No.	Description	No.	Note
1	Valve	SY5□60-□□-□□-Q	□ at the end of part number denotes A. B port size: 01, C4, C6, C8, N3, N7, N9. Includes bushing assembly (SY5000-52-3A) 3 pcs.
2	SUP/EXH block assembly	SY5000-55- ¹ A-Q - ₂ A-Q	P, R port (1: One-touch fitting for ø10, 2: One-touch fitting for ø3/8") Includes bushing assembly (SY5000-52-3A) 3 pcs.
3	End block assembly	SY5000-56-1A-Q	For D side (Bushing assembly: Not available for SY5000-52-3A)
4	End block assembly	SY5000-56-1B-Q	For U side (Bushing assembly: Not available for SY5000-52-3A)
5	Bushing assembly	SY5000-52-3A	
6	DIN rail	VZ1000-11-1-□	Refer to page 67.

How to Add Additional Valves to the DIN Rail Valves can be added at any station on the rail.

- 1 Loosen the manifold base clamping screw ②.
- 2 Separate the valves at the point where more valves are to be added.
- 3 Mount the additional valves on the DIN rail as shown in Fig. 1
- 4 Connect them together while pressing the block assemblies toward each others, and tighten the holding screw ① to fix them to the DIN rail.

⚠ Caution

Tightening torque

SY3000: 1 N·m

SY5000: 1.4 N·m

(While lightly holding the blocks after fixing an end block on one side, tighten the other end block for better sealing after no gap between valves is confirmed.)

- **Bushing assembly must be seated properly to each valve block in order to prevent air leaks from occurring.**
- **Refer to the fig. 2 when dismantling the valve from the DIN rail.**

Fig. 1 Manifold mounting procedure

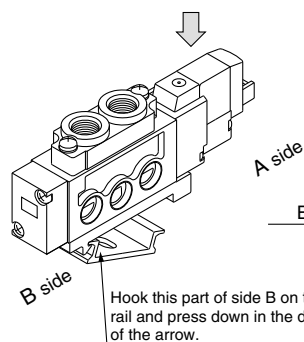
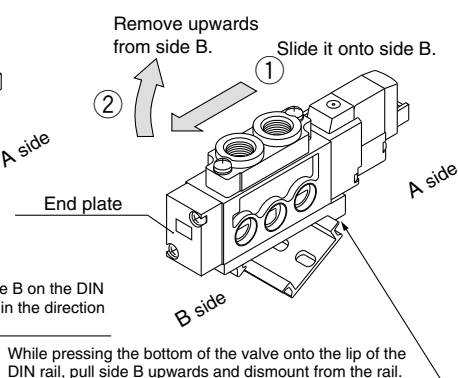


Fig. 2 Manifold dismantling procedure

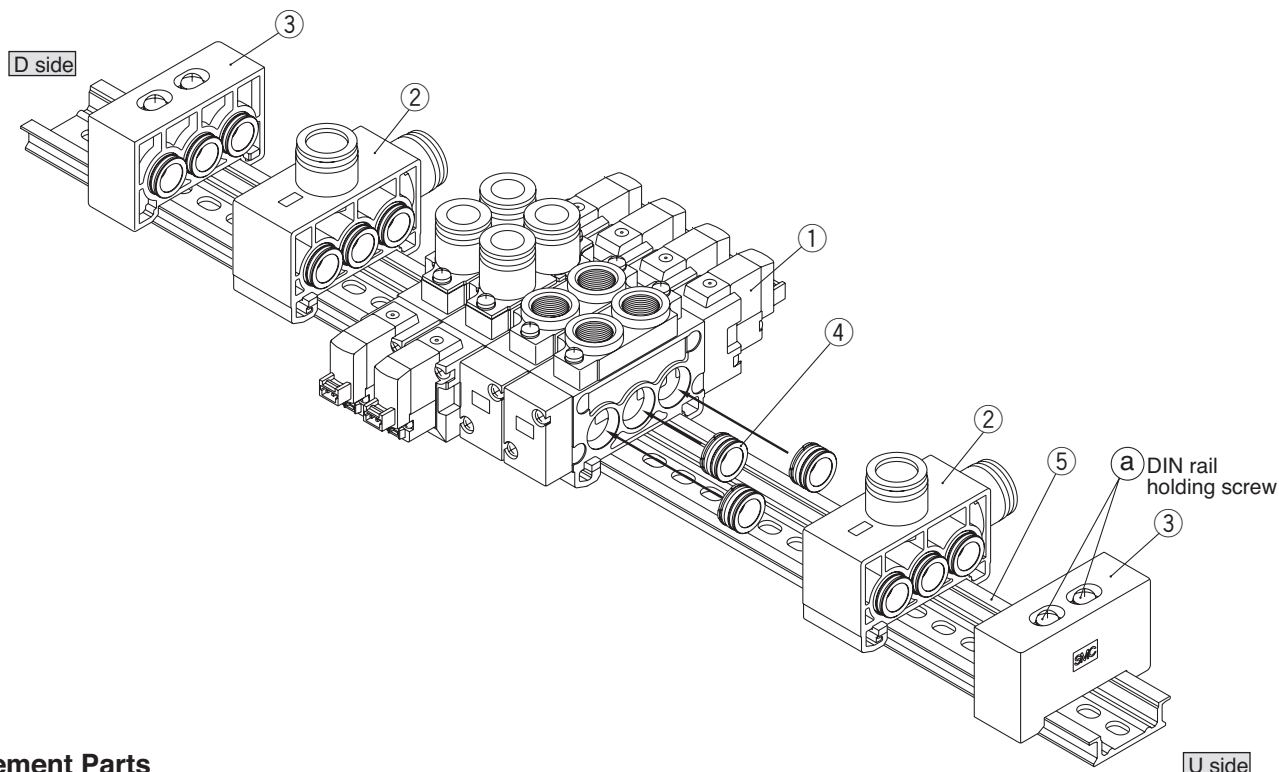


⚠ Caution

When clamping screw ② of the end block is not sufficiently tightened during reassembly, air leakage may result. Before supplying air, check that there are no gaps between valves and that the end block is firmly secured to the DIN rail in order to ensure air supply without leakage.

DIN Rail Manifold Exploded View

SY7000
Type 60



Replacement Parts

No.	Description	No.	Note
1	Valve	SY7□60-□□-□-□-□	□ at the end of part number denotes A. B port size: 02, C8, C10, N9, N11. Includes bushing assembly (SY7000-70-1A) 3 pcs.
2	SUP/EXH block assembly	SY7000-75- $\frac{1}{3}$ A-□	P,R port size (1: ϕ 12 One-touch fitting, 3: 3/8" One-touch fitting) Includes bushing assembly (SY7000-70-1A) 3pcs.
3	End block assembly	SY7000-56-1A-□	In common for D side and U side (Bushing assembly: Not available for SY7000-70-1A.)
4	Bushing assembly	SY7000-70-1A	
5	DIN rail	VZ1000-11-4-□	Refer to page 67.

How to Add Additional Valves to the DIN Rail

Valves can be added at any station on the rail.

- 1 Loosen the rail holding screw (a) at both of 2 locations which holds the manifold base either in the U side or D side.
When removing the end block assembly from the DIN rail, loosen the holding screws for DIN rail at first, then slide it to the edge of the rail.
- 2 Separate the valves at the point where more valves are to be added.
- 3 Mount the additional valves on the DIN rail as shown in Fig. 1.
- 4 Connect them together while pressing the block assemblies toward each others, and tighten the 2 holding screws (a) for DIN rail alternately (2 to 3 times) with the prescribed torque (1.4 N·m) to fix them to the DIN rail.

⚠ Caution

Tightening torque
SY7000: 1.4 N·m

(While lightly holding the blocks after fixing an end block on one side, tighten the other end block for better sealing after no gap between valves is confirmed.)

- **Bushing assembly must be seated properly to each valve block in order to prevent air leaks from occurring.**
- **Refer to the fig. 2 when dismantling the valve from the DIN rail.**

Fig. 1 Manifold mounting procedure

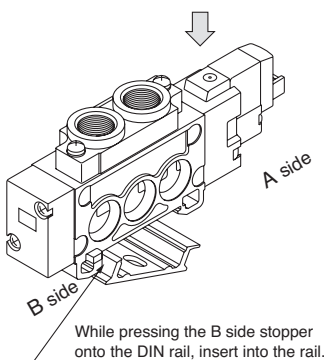
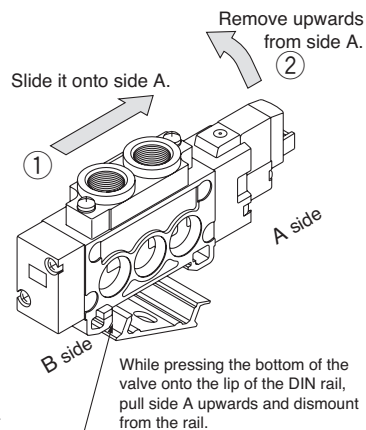


Fig. 2 Manifold dismantling procedure



⚠ Caution

When clamping screw (a) of the end block is not sufficiently tightened during reassembly, air leakage may result. Before supplying air, check that there are no gaps between valves and that the end block is firmly secured to the DIN rail in order to ensure air supply without leakage.

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

5 Port Solenoid Valve

Series SY3000/5000/7000

Base Mounted

Bar Stock Type/Individual Wiring

How to Order Manifold

Type 41/Compact style

SS5Y 5 - 41 - 05 - C8 - [] - Q

Manifold series

3	SY3000
5	SY5000

Stations

02	2 stations
⋮	⋮
20	20 stations

Thread type

-	Rc
F	G
N	NPT
T	NPTF

* This also includes the number of blanking plate assemblies.

* Except for M5

A, B port size
Thread piping

Symbol	Port size	Applicable series
M5	M5	SY3000
01	1/8	SY5000

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for $\phi 4$	SY3000
C6	One-touch fitting for $\phi 6$	SY3000
C6	One-touch fitting for $\phi 6$	SY5000
C8	One-touch fitting for $\phi 8$	SY5000

One-touch fitting (Inch size)

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

Type 42/External pilot capable

SS5Y 5 - 42 - 05 - C8 - [] - Q

Manifold series

3	SY3000
5	SY5000
7	SY7000

Stations

02	2 stations
⋮	⋮
20	20 stations

Thread type

-	Rc
F	G
N	NPT
T	NPTF

A, B port size
Thread piping

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

One-touch fitting (Metric size)

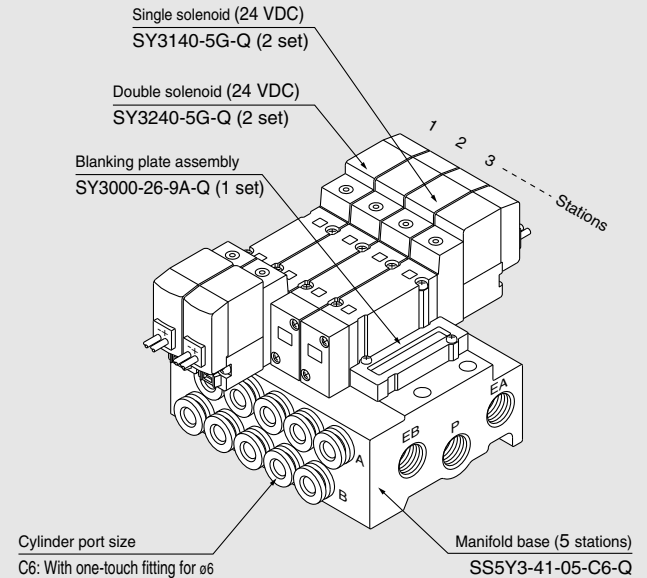
Symbol	Port size	Applicable series
C4	One-touch fitting for $\phi 4$	SY3000
C6	One-touch fitting for $\phi 6$	SY3000
C6	One-touch fitting for $\phi 6$	SY5000
C8	One-touch fitting for $\phi 8$	SY5000
C10	One-touch fitting for $\phi 10$	SY7000

One-touch fitting (Inch size)

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

How to Order Valve Manifold Assembly (Example)

Example



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

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

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

How to Order Valve

SY 5 2 40 □ □ — 5 L □ □ -Q

Series

3	SY3000
5	SY5000
7	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

-	Internal pilot
R	External pilot

Coil specifications

-	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

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.
* AC specification is only available with D and DO type.

Manual override

-	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

-	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)

* Power saving circuit is only available in the "Z" type.

Electrical entry for D (SY5000/7000 only)

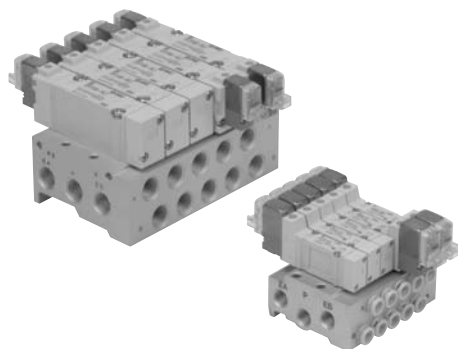
-	Without light/surge voltage suppressor
S	With surge voltage suppressor (Non-polar type)
Z	With light/surge voltage suppressor (Non-polar type)

* 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			24, 12 VDC/ 100, 110, 200, 220 VAC	24, 12, 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal ^{Note2}	M8 connector *
G: Lead wire length 300 mm lead H: Lead wire length 600 mm	L: With lead wire (Length 300 mm) LN: Without lead wire LO: Without	M: With lead wire (Length 300 mm) MN: Without lead	D: With connector DO: Without connector	WO: Without connector cable W□: With connector cable ^{Note 1)}

* LN, MN type: with 2 sockets.
* DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 210.
* For connector cable of M8 connector, refer to back page 12.
* Connector M8 type "WA" conforming to IEC 60947-5-2 standard, is also available. For details, see page 211.
Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to back page 13.
Note 2) SY5000/7000 only.



Manifold Specifications

Model	SS5Y3-41	SS5Y3-42	SS5Y5-41	SS5Y5-42	SS5Y7-42
Applicable valve	SY3□40		SY5□40		
Manifold type	Single base/B mount				
P(SUP)/R(EXH)	Common SUP, Common EXH				
Valve stations	2 to 20 stations ^{Note 1)}				
A, B port	Base				
Porting specifications	Side				
Port size	P, EA, EB port	1/8		1/4	
	A, B port	M5, 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)
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 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 109.

Flow Characteristics

Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)				4/2 → 5/3 (A/B → EA/EB)			
			C (dm ³ /(s·bar))	b	Cv	Ql/min(ANR)]*	C (dm ³ /(s·bar))	b	Cv	Ql/min(ANR)]*
SS5Y3-41	1/8	C6	0.75	0.19	0.18	179	0.81	0.23	0.20	197
SS5Y3-42	1/8	C6	0.75	0.20	0.18	180	0.82	0.20	0.20	196
SS5Y5-41	1/4	C8	1.8	0.23	0.44	439	1.9	0.16	0.45	445
SS5Y5-42	1/4	C8	1.9	0.20	0.46	455	1.9	0.12	0.43	436
SS5Y7-42	1/4	C10	3.0	0.25	0.75	740	3.0	0.12	0.66	688



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

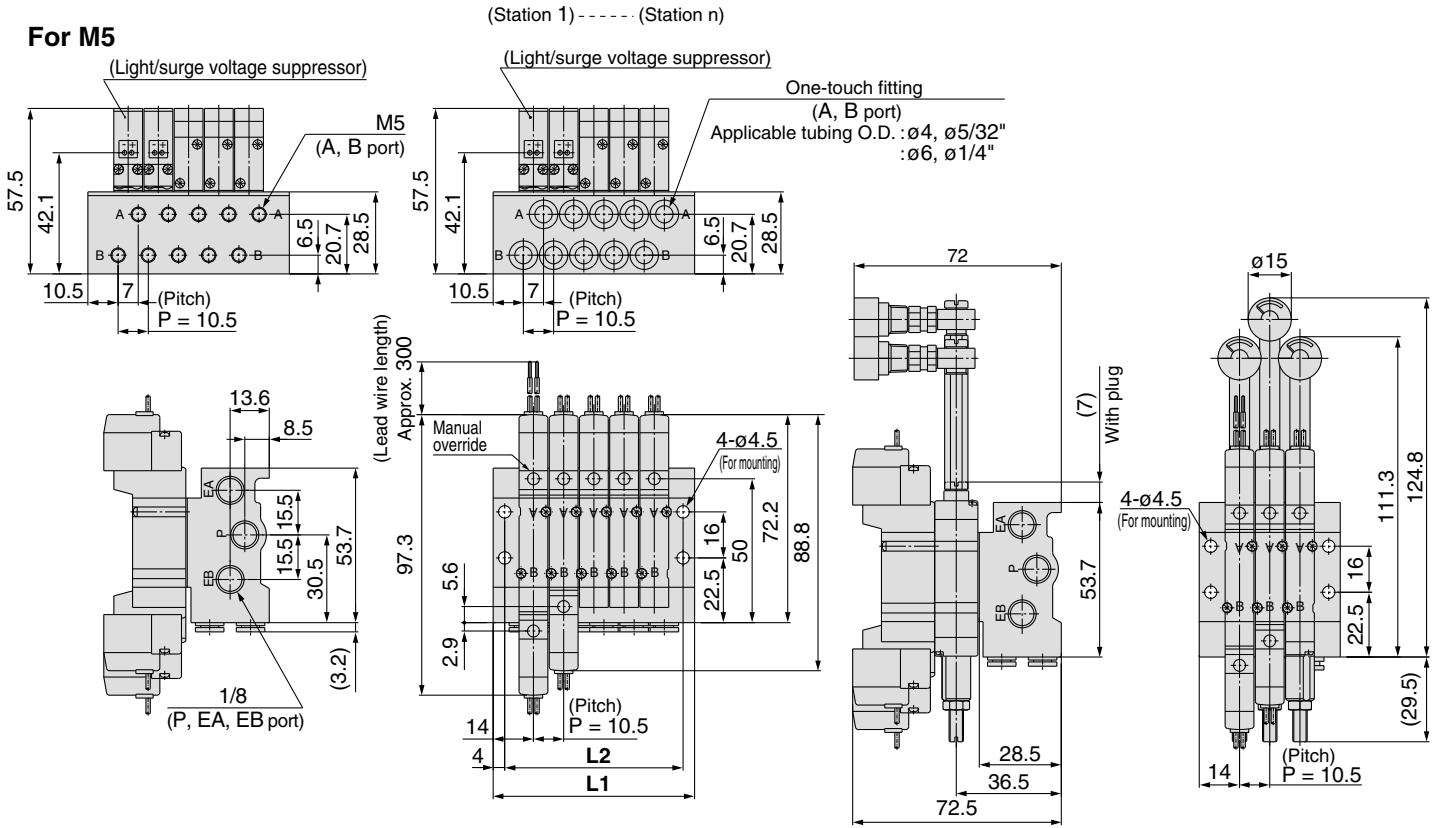
* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

SY3000: SS5Y3-41- Stations -M5, ^{C4,N3} ^{C6,N7} -Q

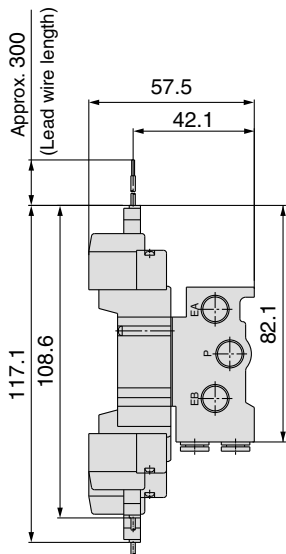
Grommet (G)

With interface regulator (with gauge)

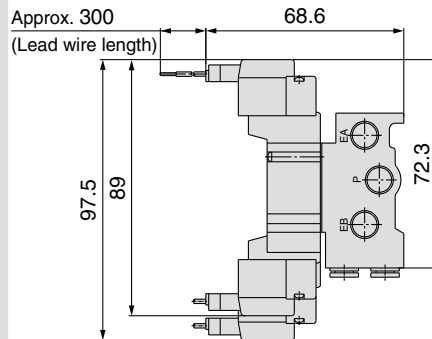
For M5



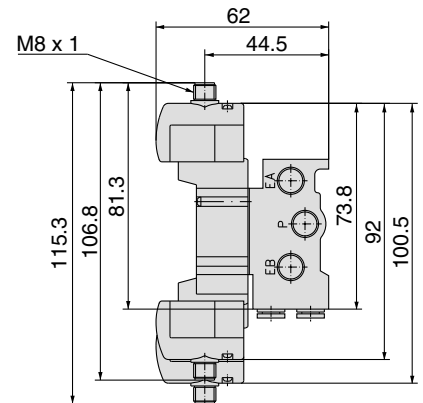
L plug connector (L)



M plug connector (M)



M8 connector (WO)



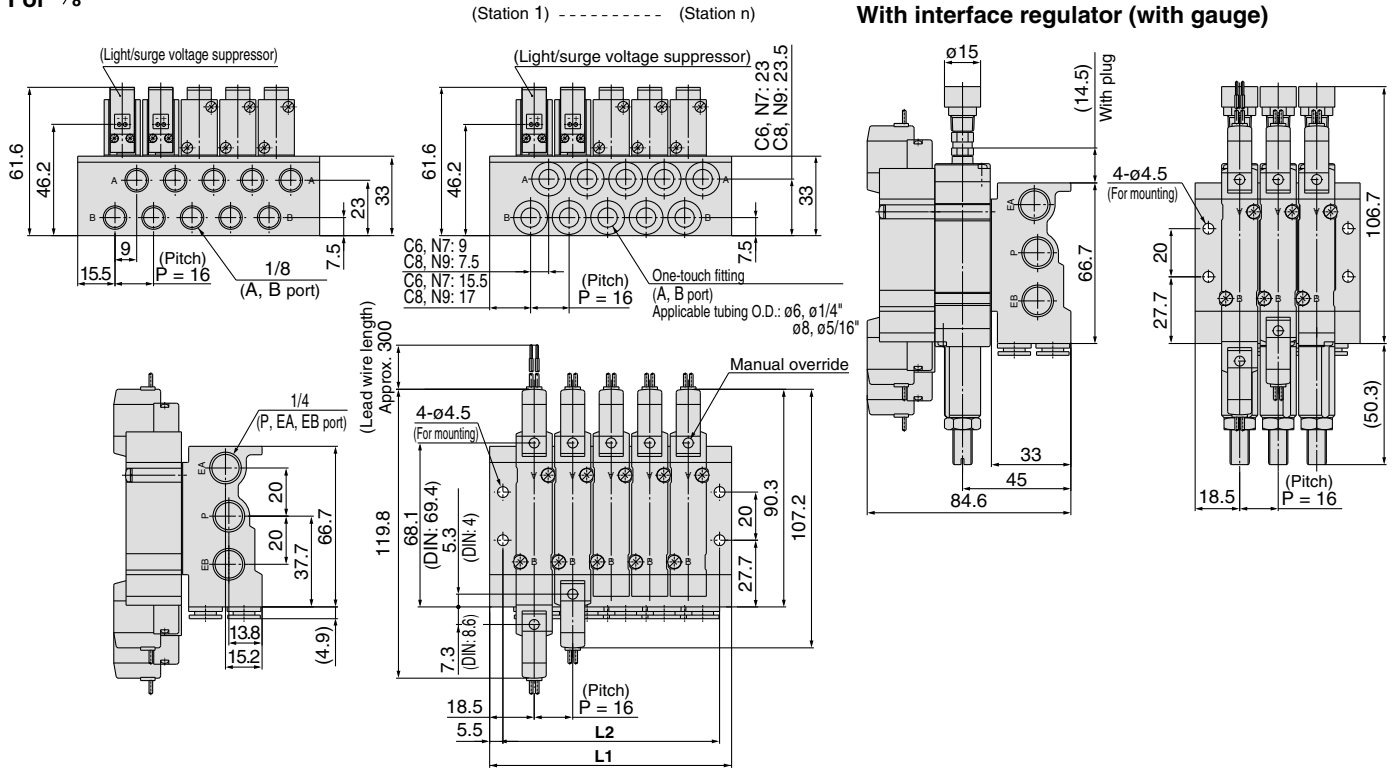
Note) Refer to back page 12 for dimensions of connector types.

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

SY5000: SS5Y5-41- Stations -01, C6, N7, C8, N9 -Q

Grommet (G)

For 1/8

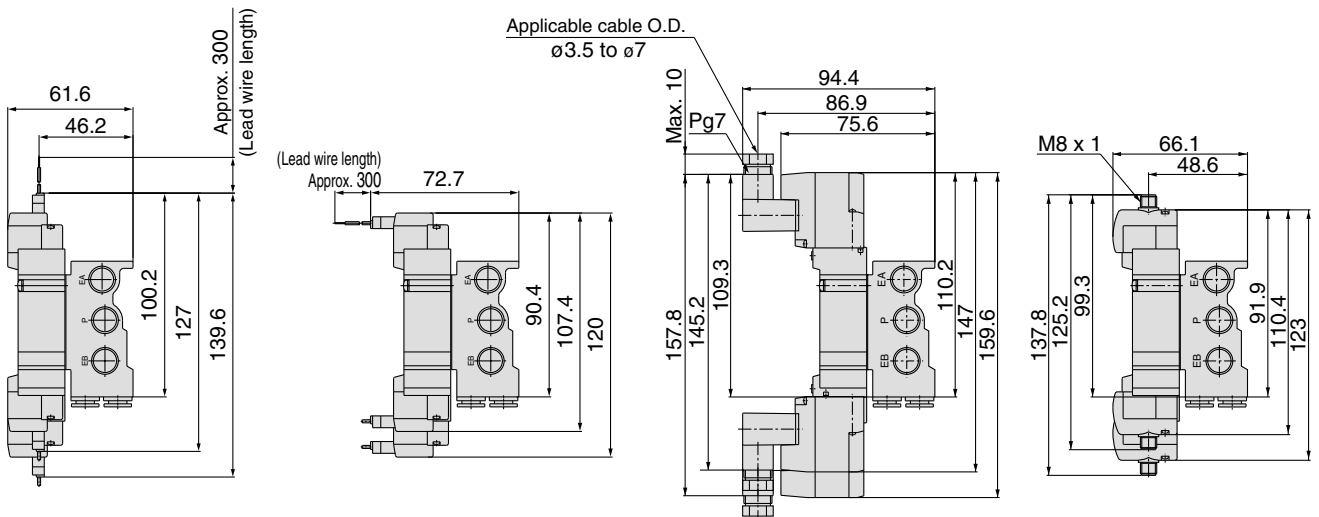


L plug connector: L

M plug connector: M

DIN terminal (D)

M8 connector (WO)

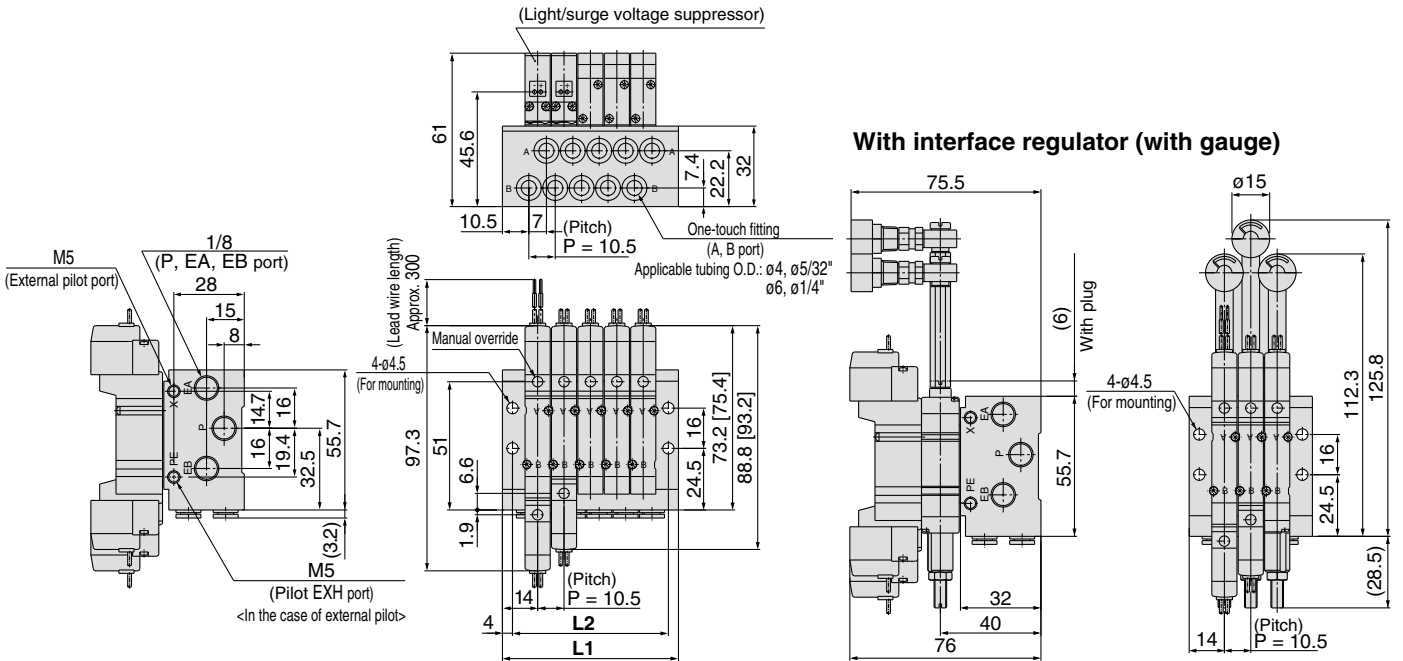


Note) Refer to back page 12 for dimensions of connector types.

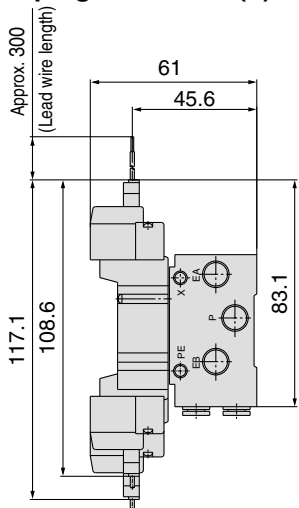
Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	52.5	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5	308.5	324.5	340.5
L2	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330

SY3000: SS5Y3-42- Stations - C4, N3 -Q
C6, N7

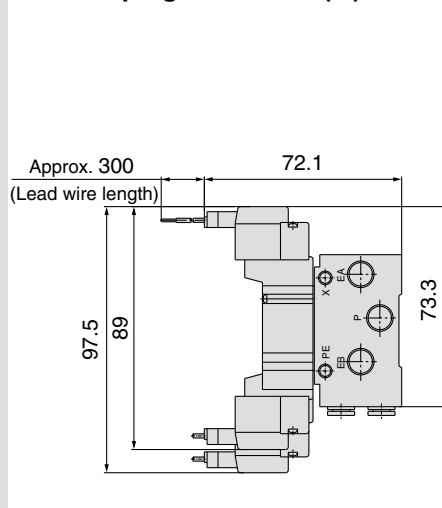
Grommet (G)



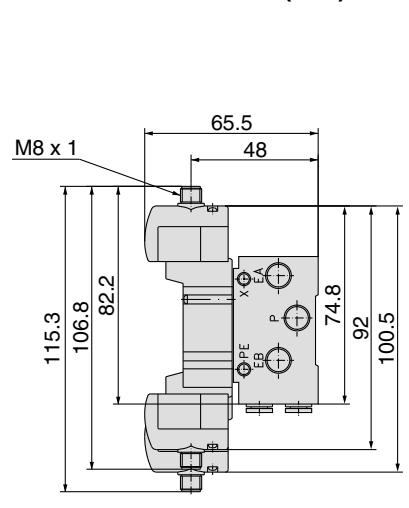
L plug connector (L)



M plug connector (M)



M8 connector (WO)



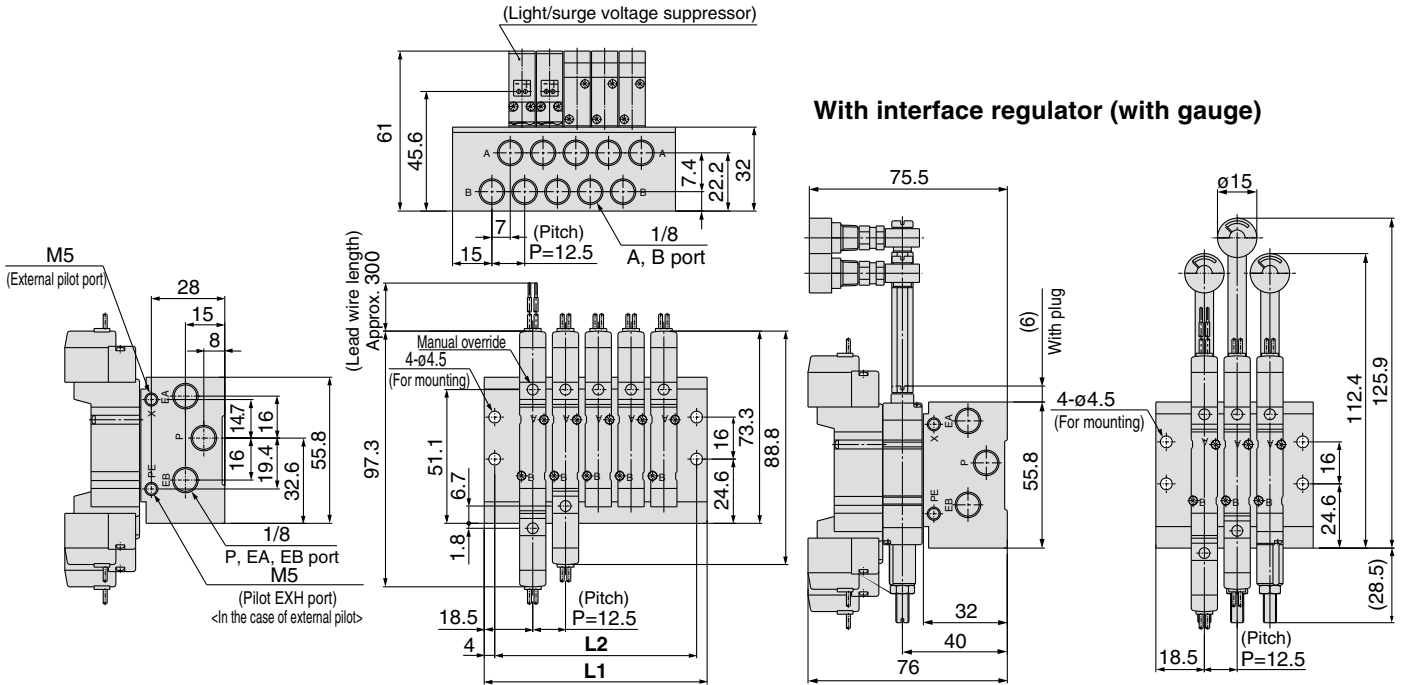
Note) Refer to back page 12 for dimensions of connector types.

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

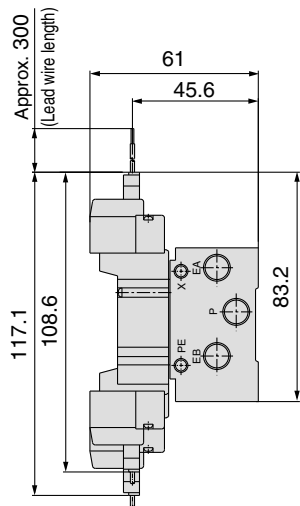
SY3000: SS5Y3-42- Stations -01 -Q

Grommet (G)

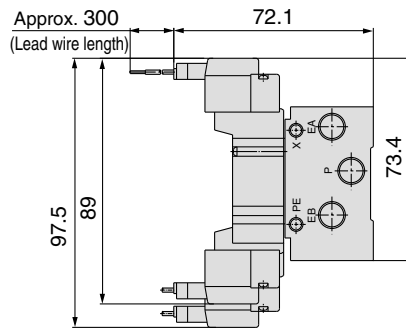
(Station 1) ----- (Station n)



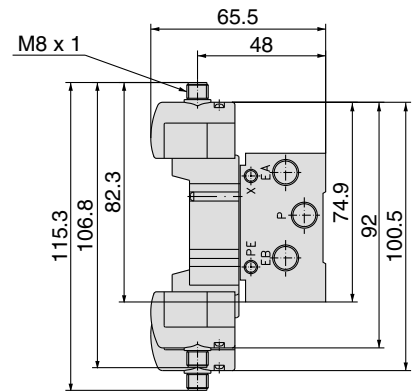
L plug connector (L)



M plug connector (M)



M8 connector (WO)

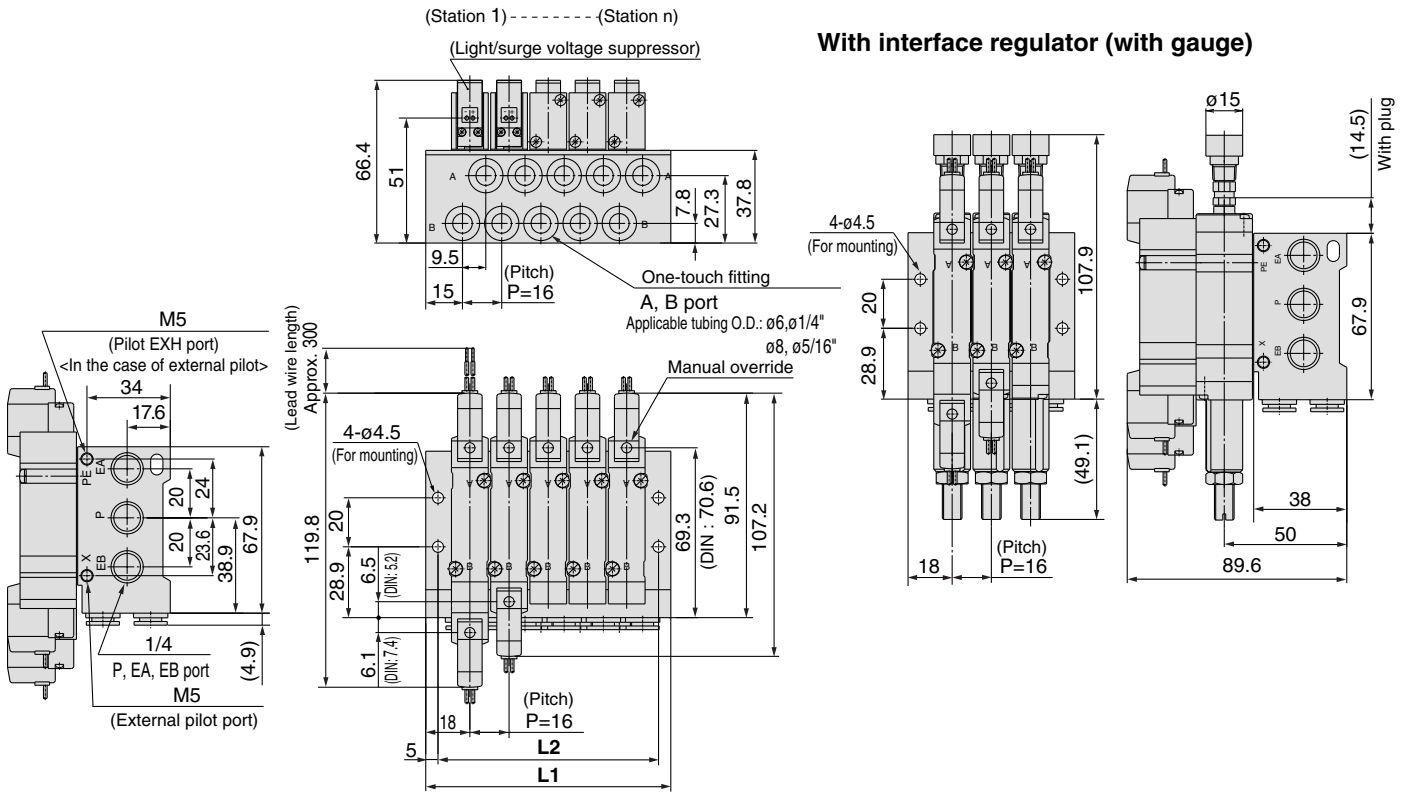


Note) Refer to back page 12 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	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
L2	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

SY5000: SS5Y5-42- Stations C4, N3 C6, N7 -Q

Grommet (G)

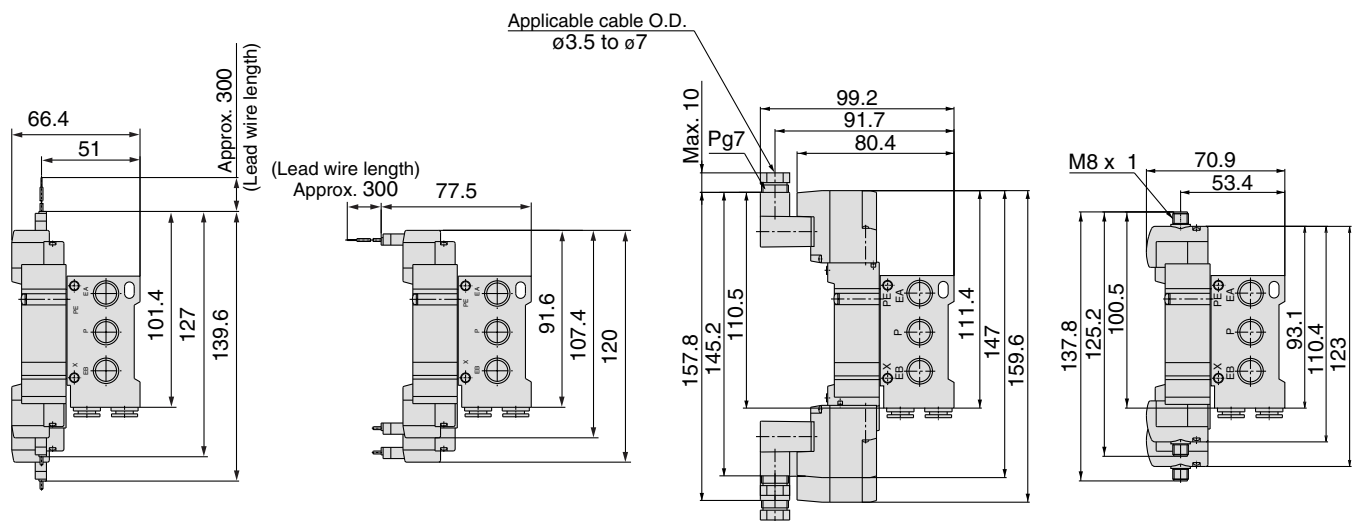


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)

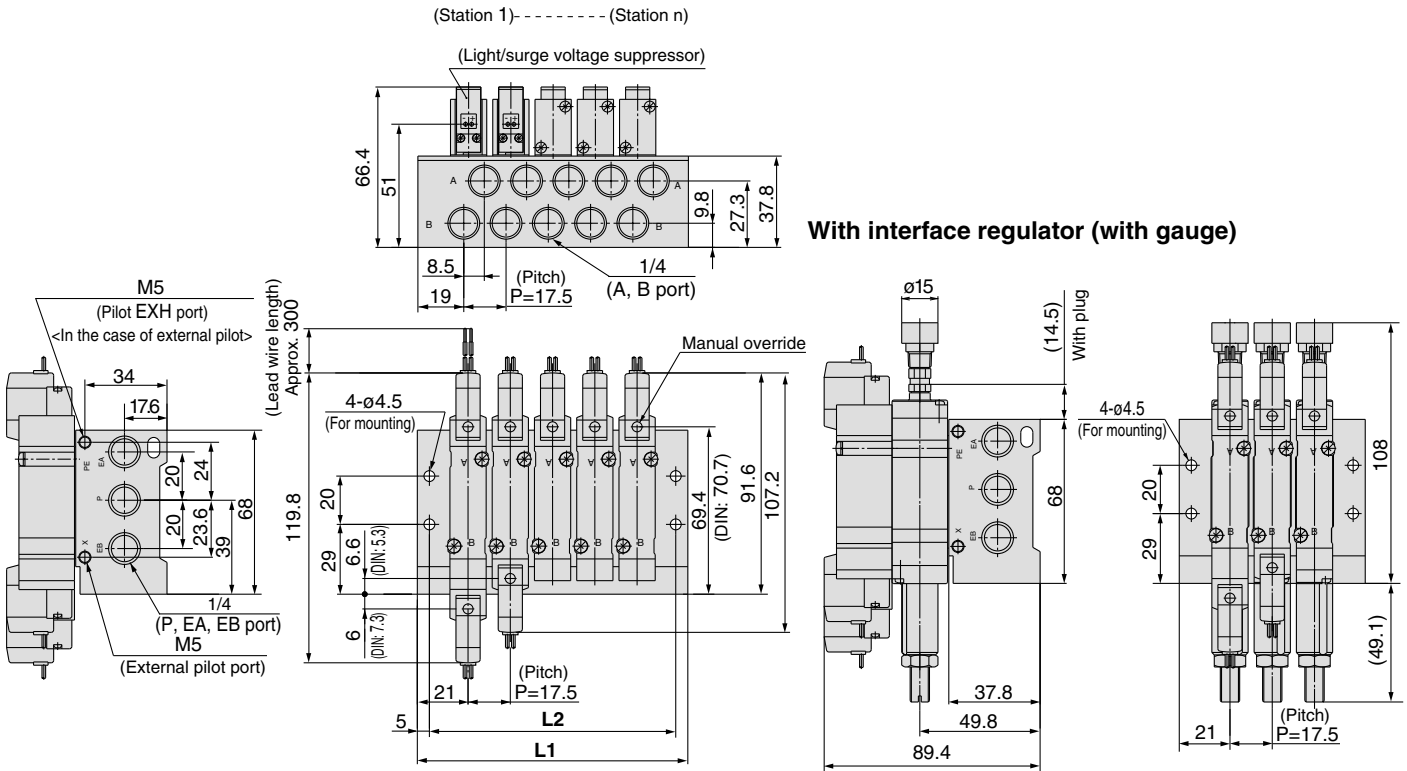


Note) Refer to back page 12 for dimensions of connector types.

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

SY5000: SS5Y5-42- Stations -02 -Q

Grommet (G)

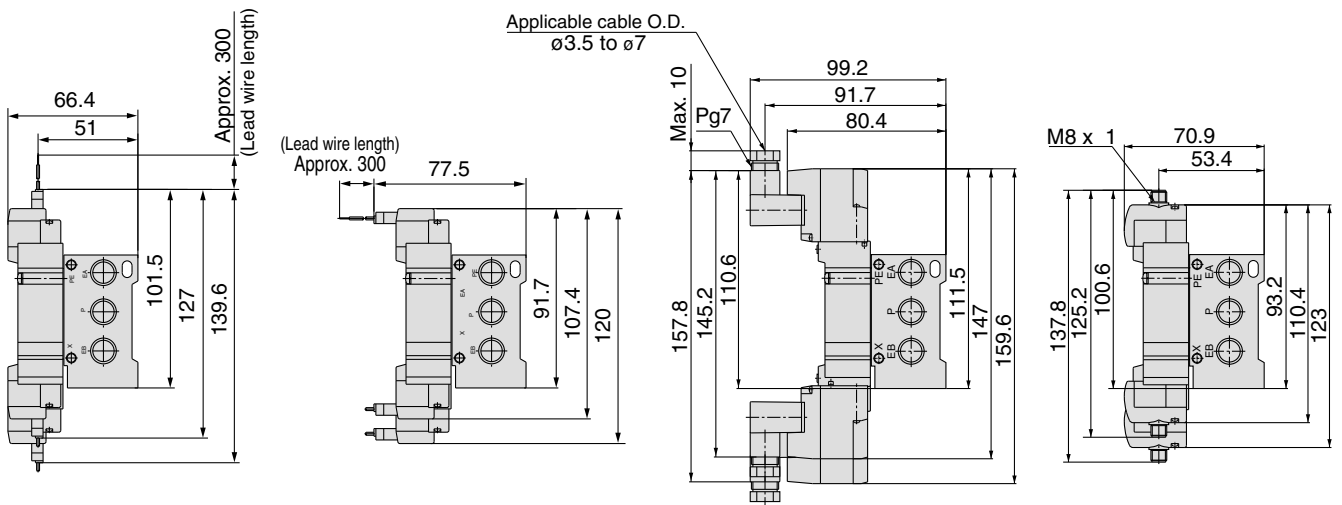


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)

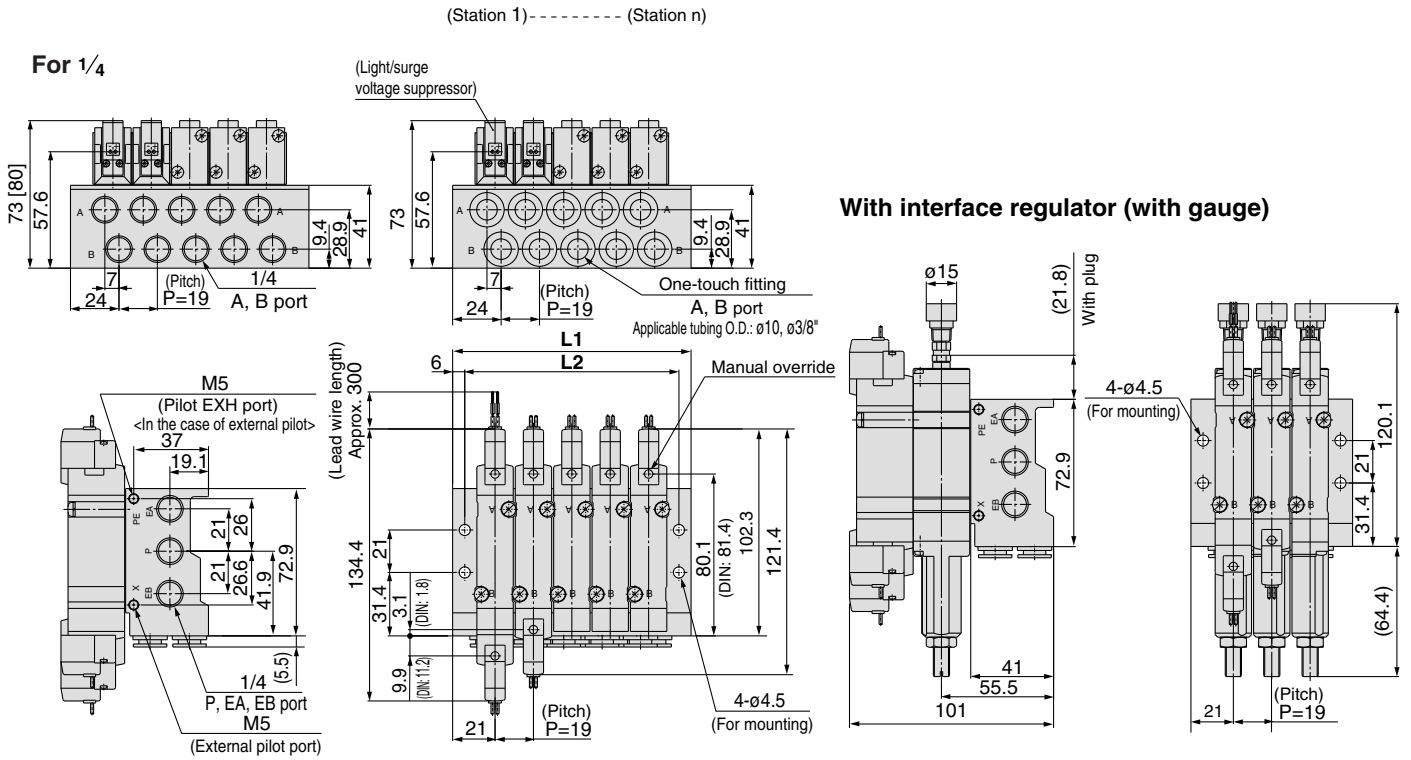


Note) Refer to back page 12 for dimensions of connector types.

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	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
L2	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

SY7000: SS5Y7-42- Stations -02, C10, N11 -Q

Grommet (G)

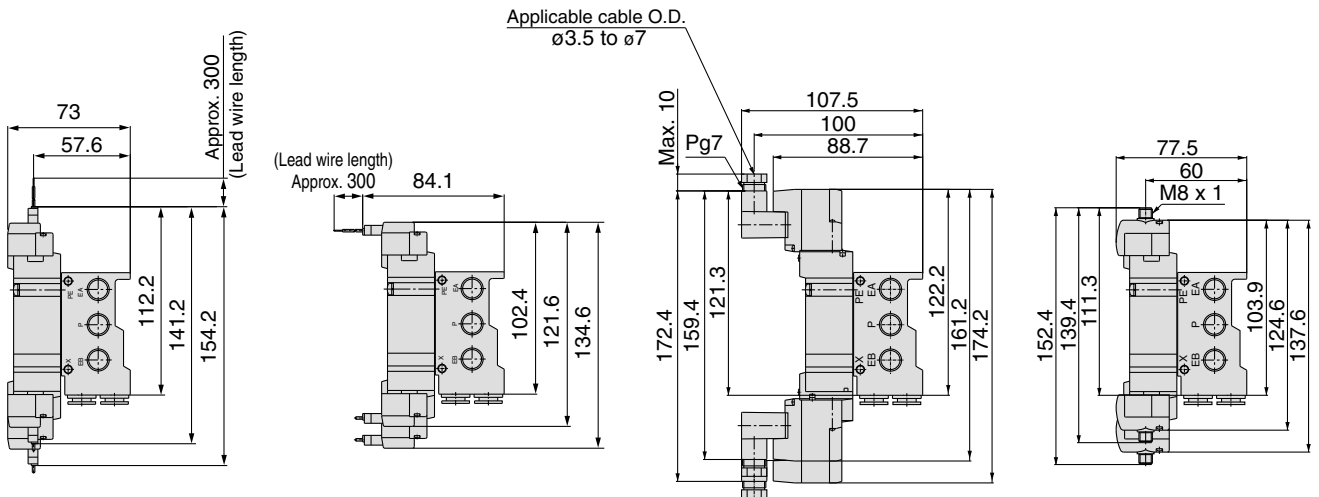


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)



Note) Refer to back page 12 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	61	80	99	118	137	156	175	194	213	232	251	270	289	308	327	346	365	384	403
L2	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391

5 Port Solenoid Valve

Series SY9000

Base Mounted

Stacking Type/Individual Wiring

How to Order Manifold

SS5Y 9 - 43 - 05 U - C8 - Q

Manifold series

9	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 stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations

SUP/EXH block assembly specifications

Symbol	Specifications
-	Standard/Internal pilot specification
R	External pilot specification
S	Internal pilot/Built-in silencer
RS	External pilot/Built-in silencer

Thread type

-	Rc
F	G
N	NPT
T	NPTF

Option

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

A, B port size

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

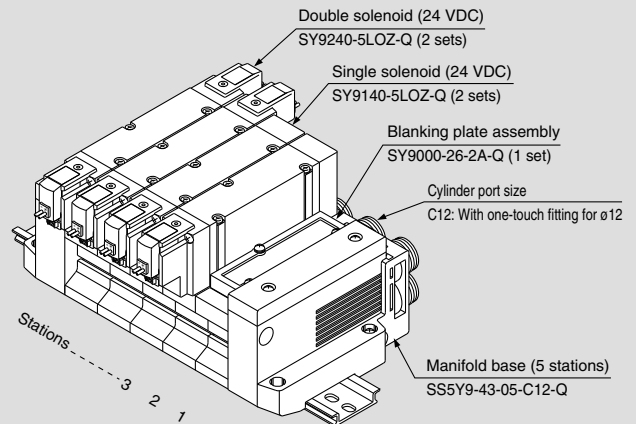
One-touch fitting (Inch size)

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 Valve Manifold Assembly (Example)

Example



SS5Y9-43-05B-C12-Q 1 set (Type 43, 5 station manifold base part no.)
 * SY9000-26-2A-Q 1 set (Blanking plate assembly part no.)
 * SY9140-5LOZ-Q 2 sets (Single solenoid part no.)
 * SY9220-5LOZ-Q 2 sets (Double solenoid part no.)

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

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

How to Order Valve

SY 9 2 40 □ □ 5 L □ □ -Q

● **Series**

9	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.

* AC specification is only available with D and DO type.

● **Manual override**

-	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

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



* Power saving circuit is only available in the "Z" type.

Electrical entry for D

-	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			24, 12 VDC/ 100, 110, 200, 220 VAC	24, 12, 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal	M8 connector *
G: Lead wire length 300 mm	L: With lead wire (Length 300 mm)	M: With lead wire (Length 300 mm)	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 ^{Note 1)}
	LO: Without connector	MO: Without connector		



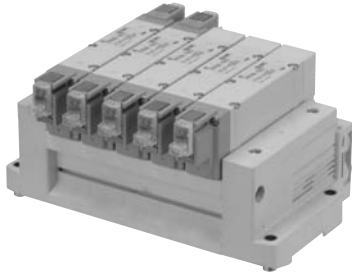
* LN, MN type: with 2 sockets.

* DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 210.

* For connector cable of M8 connector, refer to back page 12.

* Connector M8 type "WA" conforming to IEC 60947-5-2 standard, is also available. For details, see page 211.

Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to back page 13.



Manifold Specifications

Model		SS5Y9-43	
Applicable valve		SY9□40	
Manifold type		Stacking type	
P(SUP)/R(EXH)		Common SUP, Common EXH	
Valve stations		2 to 20 stations ⁽¹⁾	
A, B port	Location	Base	
Porting specifications	Direction	Side	
Port size	P, EA, EB port	C12 (One-touch fitting for ø12)	
	A, B port	$\frac{1}{4}$ $\frac{3}{8}$ 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/EB port on both sides.

Note 2) Refer to "Manifold Option" on page 109.

Flow Characteristics

Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)				4/2→5/3 (A/B→EA/EB)			
			C (dm ³ /s-bar)	b	Cv	Q(l/min(ANR))*	C (dm ³ /s-bar)	b	Cv	Q(l/min(ANR))*
SS5Y9-43	C12	C12	6.4	0.29	1.6	1617	7.3	0.29	1.8	1845



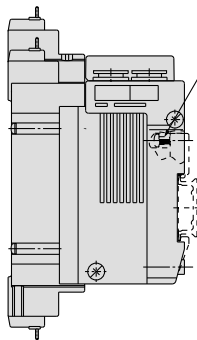
Note) The value is for manifold base with 5 stations and individually operated 2 position type.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

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

Grommet (G)

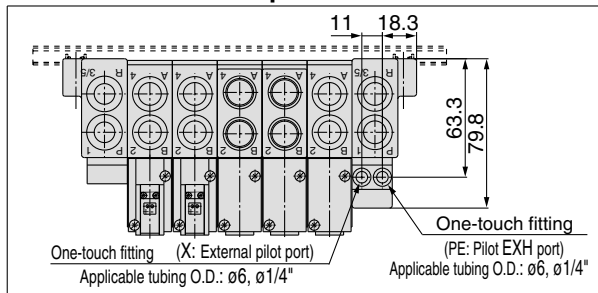
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	198	223	248	260.5	285.5	310.5	335.5
L2	137.5	162.5	187.5	212.5	237.5	250	275	300	325
L3	117	141	165	189	213	237	261	285	309
L4	15.5	16	16.5	17	17.5	12	12.5	13	13.5
L5	103	127	151	175	199	223	247	271	295



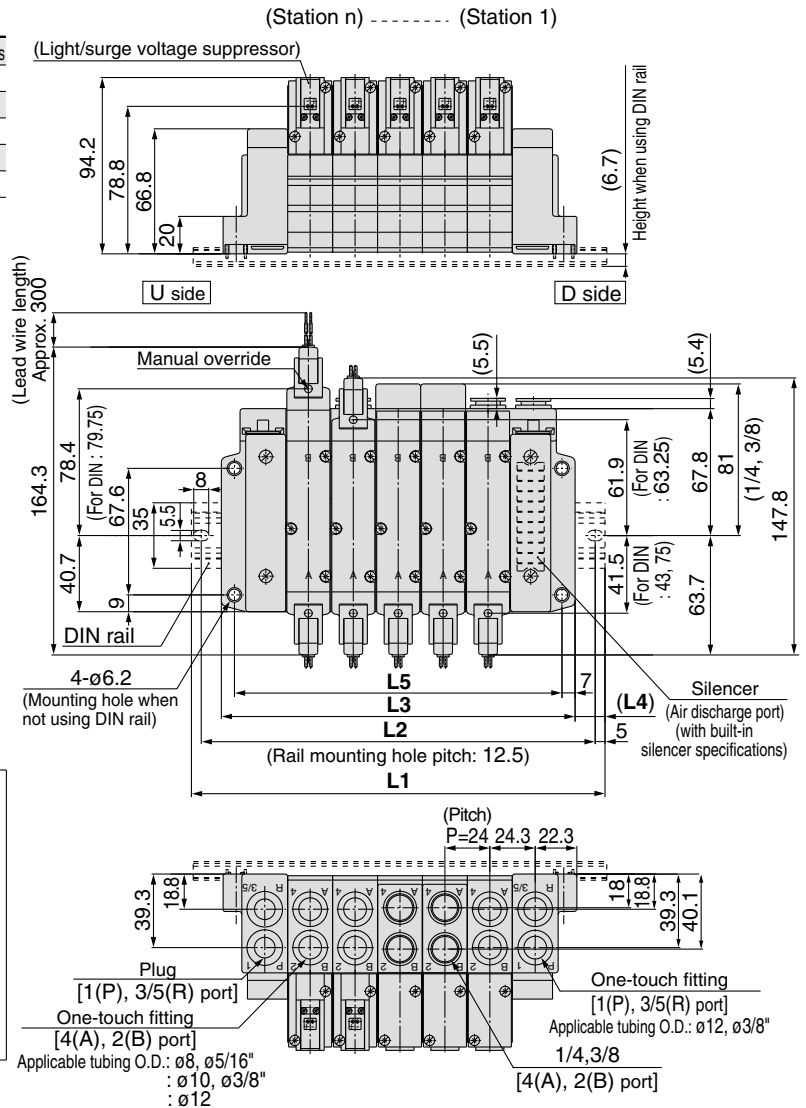
DIN rail holding screw
 <When attaching the DIN rail>
 Tightening torque: 0.55 to 0.65N·m

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

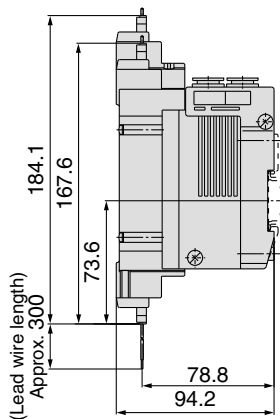
With External Pilot Specifications



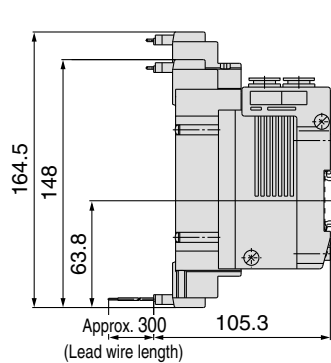
* Air discharge port on the built-in silencer type and the external pilot's extracting position are in the D side.



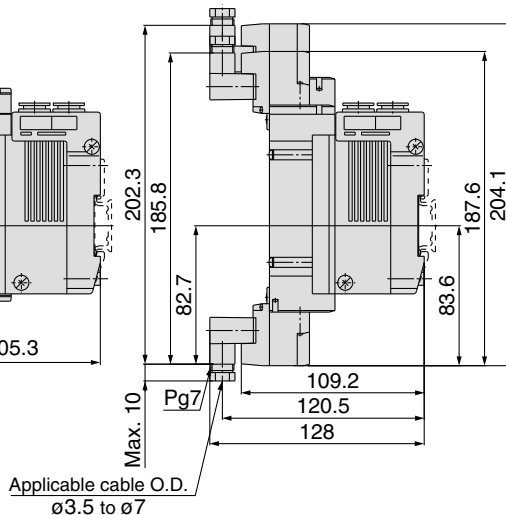
L plug connector (L)



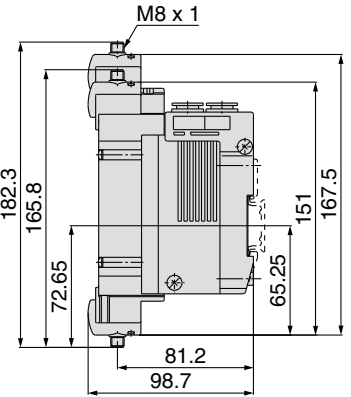
M plug connector (M)



DIN terminal (D)



M8 connector (WO)

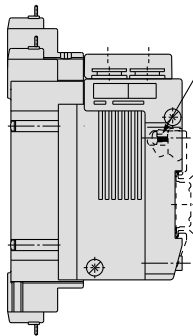


Note) Refer to back page 12 for dimensions of connector types.

SY9000: SS5Y9-43- Stations U (-D)-Q

Grommet (G)

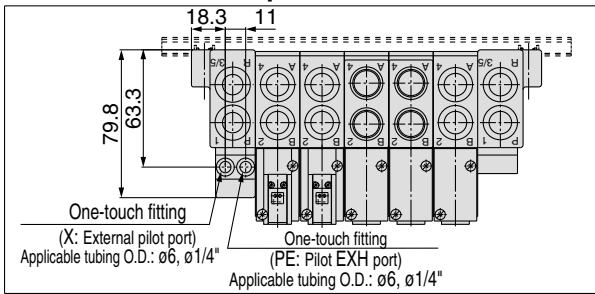
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	198	223	248	260.5	285.5	310.5	335.5
L2	137.5	162.5	187.5	212.5	237.5	250	275	300	325
L3	117	141	165	189	213	237	261	285	309
L4	15.5	16	16.5	17	17.5	12	12.5	13	13.5
L5	103	127	151	175	199	223	247	271	295



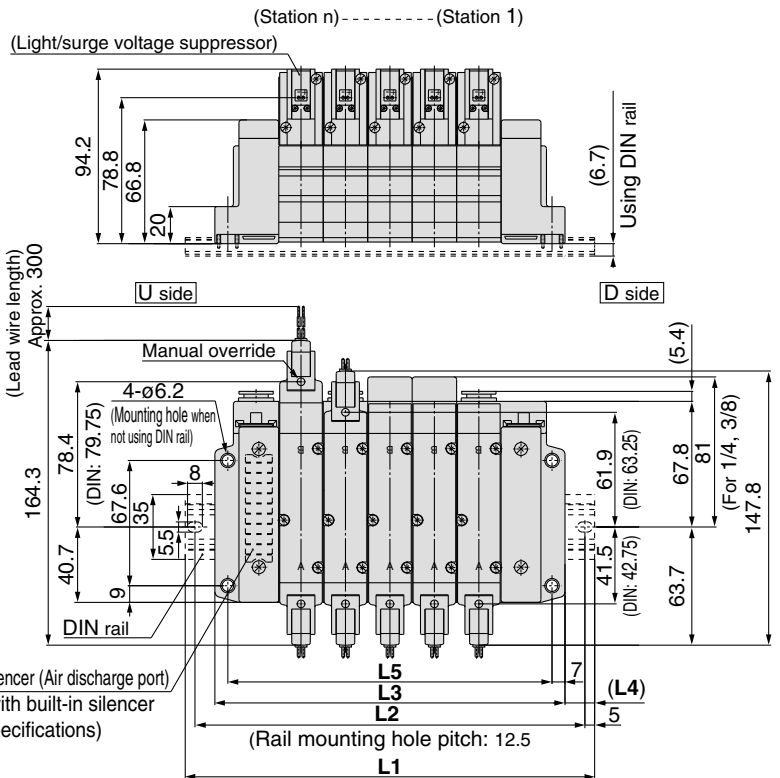
DIN rail holding screw
 <When attaching the DIN rail>
 Tightening torque: 0.55 to 0.65 N·m

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

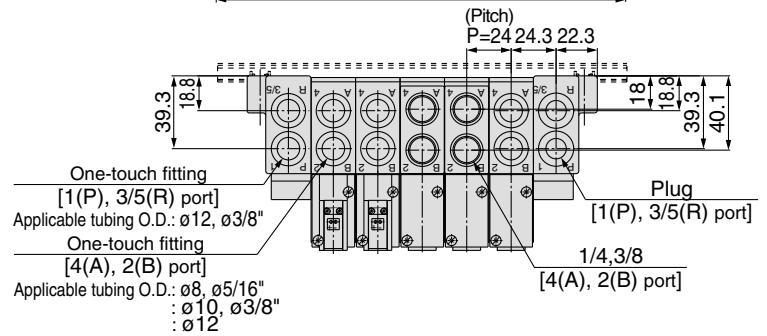
With External Pilot Specifications



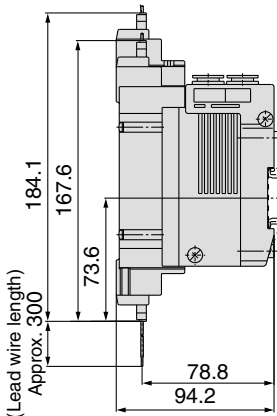
* Air discharge port on the built-in silencer type and the external pilot's extracting position are in the D side.



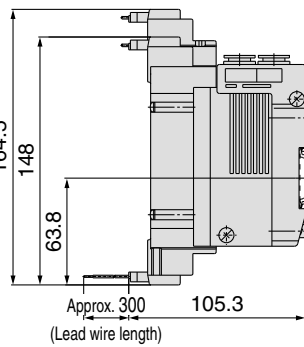
Silencer (Air discharge port)
 (with built-in silencer specifications)



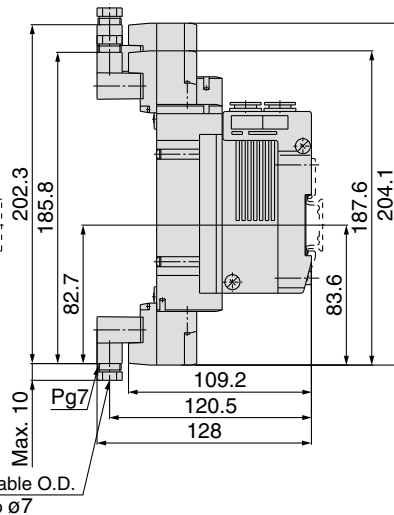
L plug connector (L)



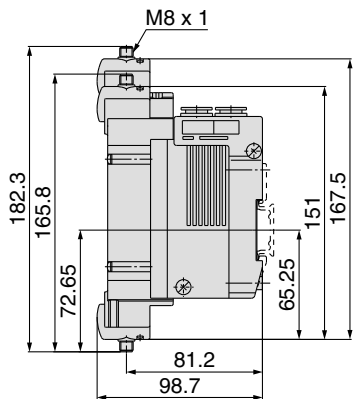
M plug connector (M)



DIN terminal (D)



M8 connector (WO)



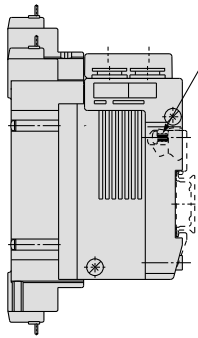
Note) Refer to back page 12 for dimensions of connector types.

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

Grommet (G)

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

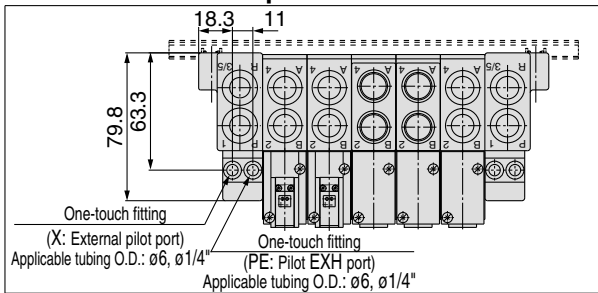
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5	573
L2	350	375	400	425	450	475	500	525	550	562.5
L3	333	357	381	405	429	453	477	501	525	549
L4	14	14.5	15	15.5	16	16.5	17	17.5	18	12
L5	319	343	367	391	415	439	463	487	511	535



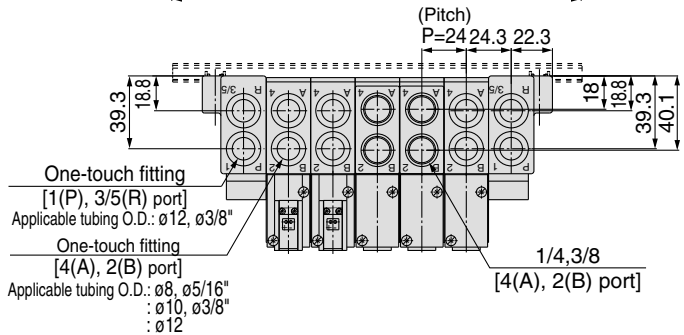
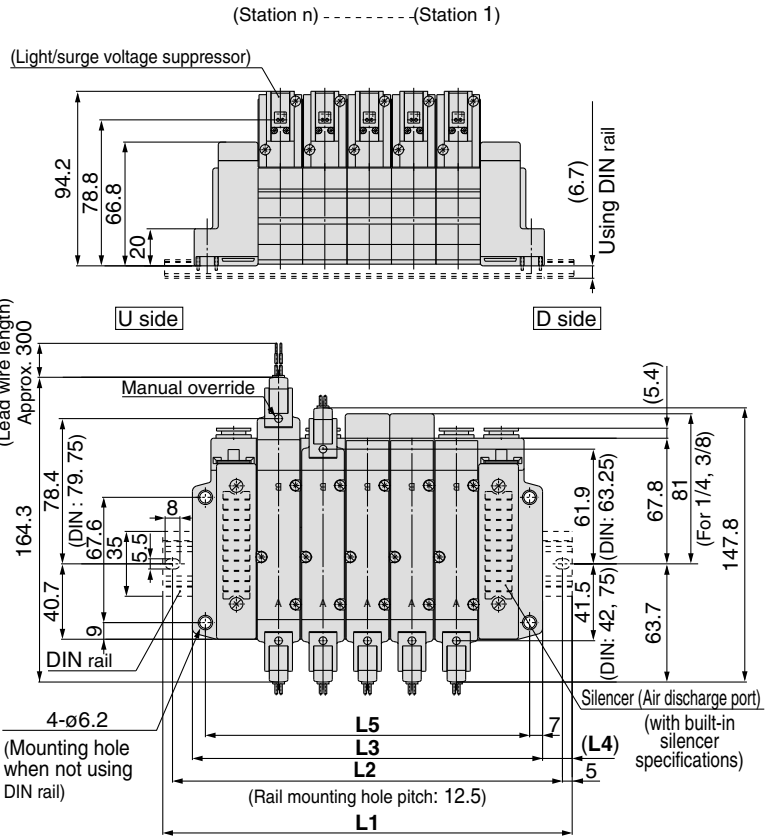
DIN rail holding screw
 <When attaching the DIN rail>
 Tightening torque: 0.55 to 0.65 N·m

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

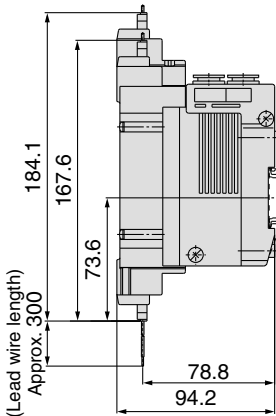
With External Pilot Specifications



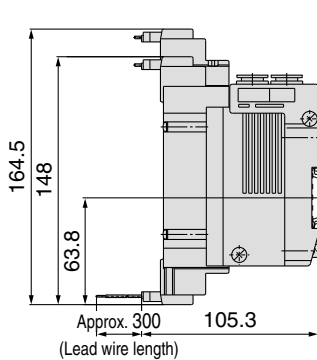
* Air discharge port on the built-in silencer type and the external pilot's extracting position are in the B side (both sides).



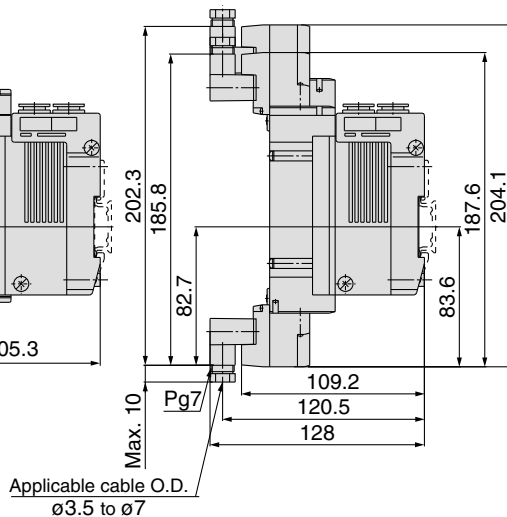
L plug connector (L)



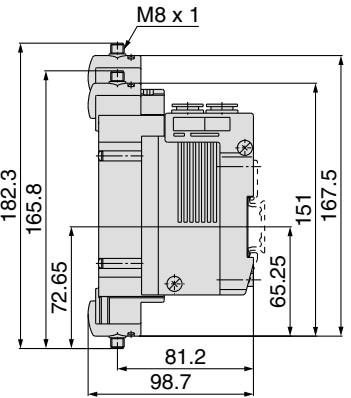
M plug connector (M)



DIN terminal (D)



M8 connector (WO)



Note) Refer to back page 12 for dimensions of connector types.

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

5 Port Solenoid Valve

Series SY3000/5000/7000

Base Mounted

Bar Stock Type/Flat Ribbon Cable

How to Order Manifold

Type 41P/Compact style

SS5Y 5-41P-05-C8 -Q

Manifold series

3	SY3000
5	SY5000

Stations

03	3 stations
:	:
12	12 stations

Thread type

-	Rc
F	G
N	NPT
T	NPTF

* SS5Y3 has 4 to 12 stations.

* Except for M5

A, B port size Thread piping

Symbol	Port size	Applicable series
M5	M5	SY3000
01	1/8	SY5000

One-touch fitting (Metric size)

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

One-touch fitting (Inch size)

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

Type 42P/Common external pilot

SS5Y 5-42P-05-C8 -Q

Manifold series

3	SY3000
5	SY5000
7	SY7000

Stations

03	3 stations
:	:
12	12 stations

Thread type

-	Rc
F	G
N	NPT
T	NPTF

* SS5Y3 has 4 to 12 stations.

A, B port size Thread piping

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

One-touch fitting (Metric size)

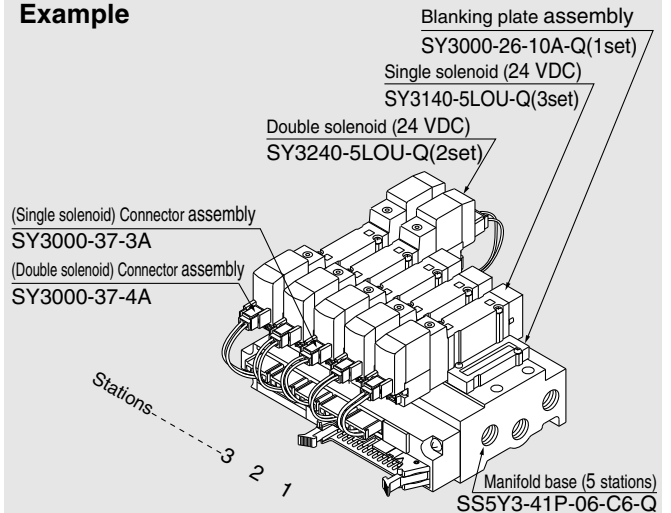
Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	
C6	One-touch fitting for ø6	SY5000
C8	One-touch fitting for ø8	
C10	One-touch fitting for ø10	SY7000

One-touch fitting (Inch size)

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

How to Order Valve Manifold Assembly (Example)

Example

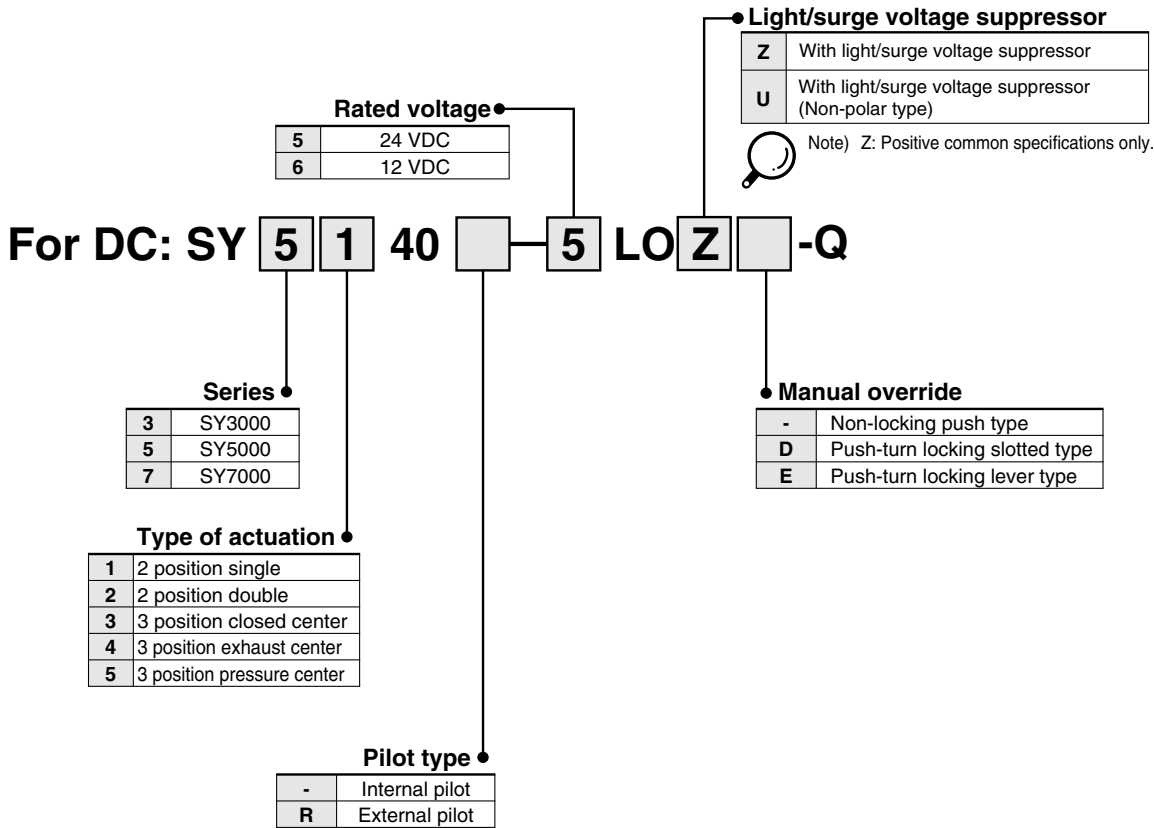


- SS5Y3-41P-06-C6-Q** 1 set (Type 41, 6 stations manifold base part no.)
 * **SX3000-26-10A-Q** 1 set (Blanking plate assembly part no.)
 * **SY3140-5LOU-Q** 3 sets (Single solenoid part no.)
 * **SY3240-5LOU-Q** 2 sets (Double solenoid part no.)
 * **SY3000-37-3A** 3 sets (Connector assembly part no.)
 * **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 Valve



How to Order Connector Assembly

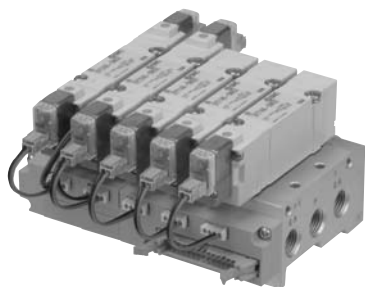
For 12, 24 VDC

For DC	For SY3000	For SY5000/7000
For single solenoid	SY3000-37-3A	SY5000-37-3A
Double solenoid, 3 position type	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

• **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	SS5Y3-41P	SS5Y3-42P	SS5Y5-41P	SS5Y5-42P	SS5Y7-42P	
Applicable valve	SY3□40		SY5□40		SY7□40	
Manifold type	Single base/B mount					
P(SUP)/R(EXH)	Common SUP, Common EXH					
Valve stations	4 to 12 stations ⁽¹⁾		3 to 12 stations ^{Note 1)}			
A, B port	Location					
	Direction					
Porting specifications	1/8		1/4		1/4	
	P, EA, EB port	M5	1/8	1/8	1/4	1/4
Port size	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)	C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	C10 (One-touch fitting for ø10)
	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					

Note 1) For more than 10 stations (more than 5 stations in case of 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 109.

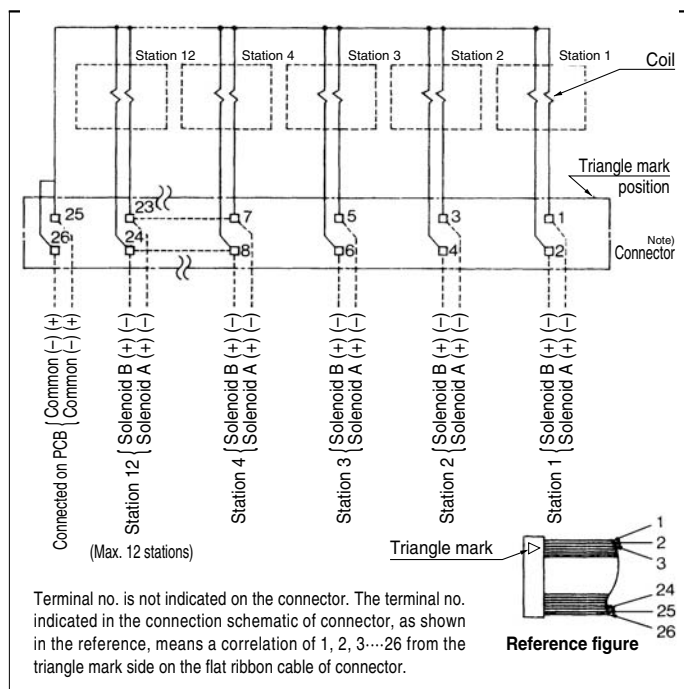
Flow Characteristics

Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)				4/2 → 5/3 (A/B → EA/EB)			
			C (dm ³ /(s·bar))	b	Cv	Q _l /min(ANR)**	C (dm ³ /(s·bar))	b	Cv	Q _l /min(ANR)**
SS5Y3-41P	1/8	C6	0.75	0.19	0.18	179	0.81	0.23	0.20	197
SS5Y3-42P	1/8	C6	0.75	0.20	0.18	180	0.82	0.20	0.20	196
SS5Y5-41P	1/4	C8	1.8	0.23	0.44	439	1.9	0.16	0.45	445
SS5Y5-42P	1/4	C8	1.9	0.20	0.46	455	1.9	0.12	0.43	436
SS5Y7-42P	1/4	C10	3.0	0.25	0.75	740	3.0	0.12	0.66	688

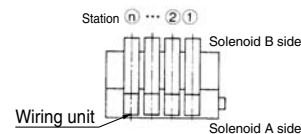
Note) The value is for manifold base with 5 stations and individually operated 2 position type.

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

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.

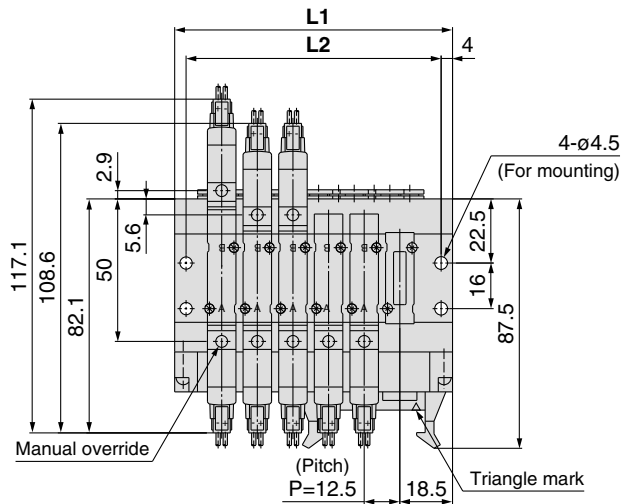
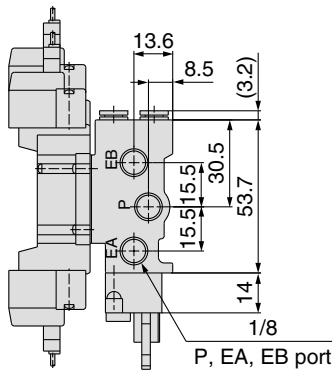
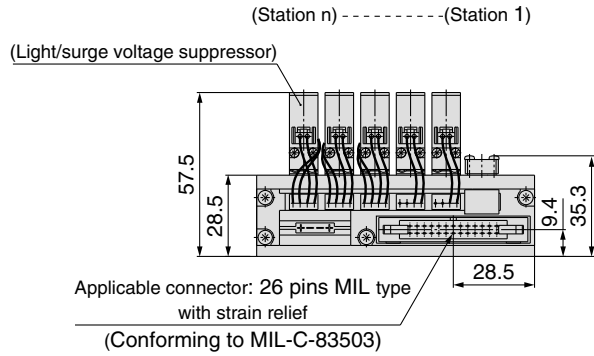
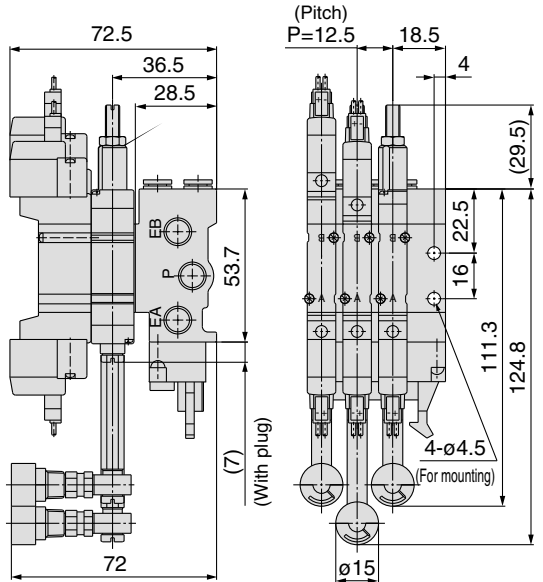


Caution

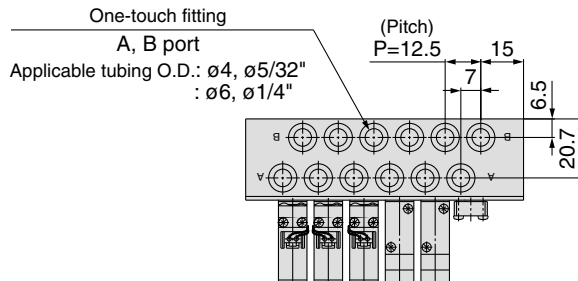
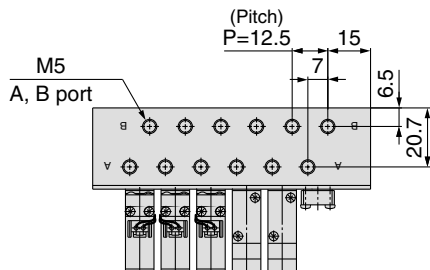
- For non-polar (U) valves, the electrical DC connections can be used with either positive and negative COM. For type (Z), only use with positive COM as the valve does not operate correctly when used with negative COM.

SY3000: SS5Y3-41P- Stations -M5, ^{C4, N3}_{C6, N7} -Q

With interface regulator (with gauge)

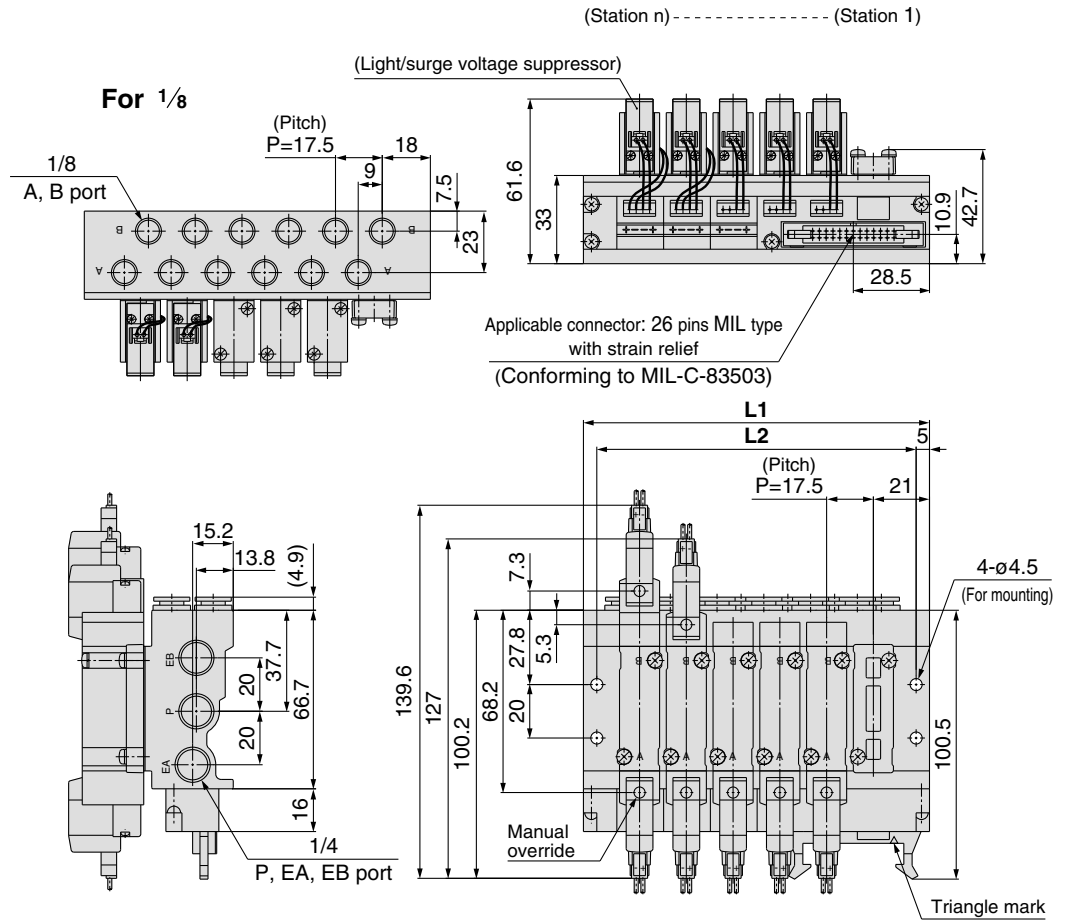


For M5

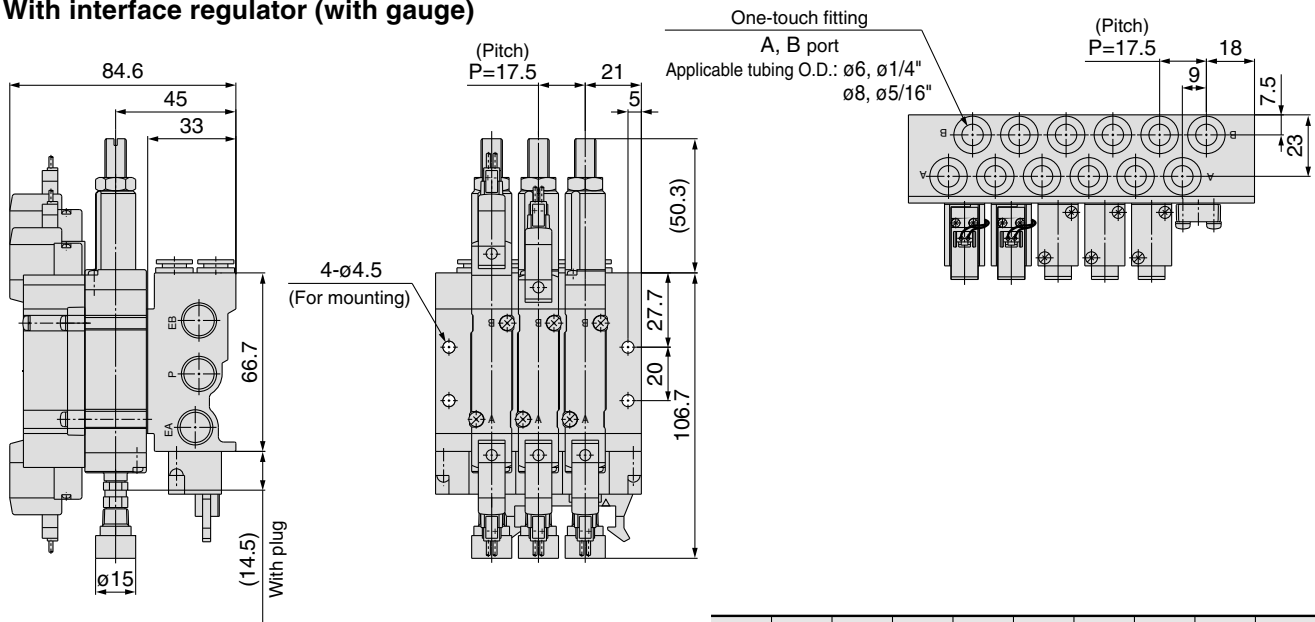


Stations n	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

SY5000: SS5Y5-41P- Stations -01, ^{C6,N7}_{C8,N9} -Q



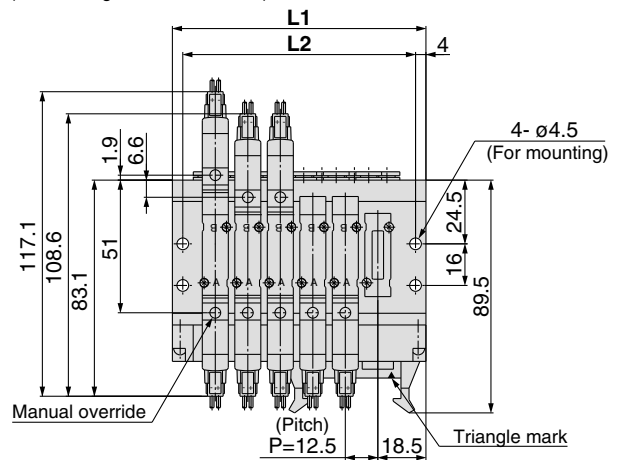
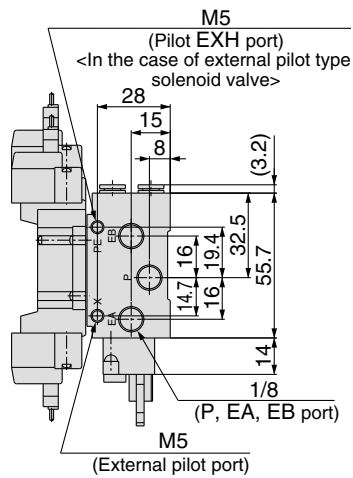
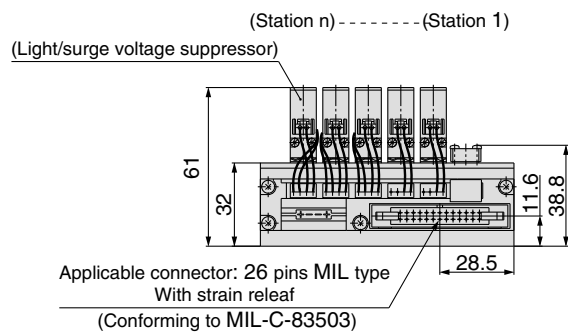
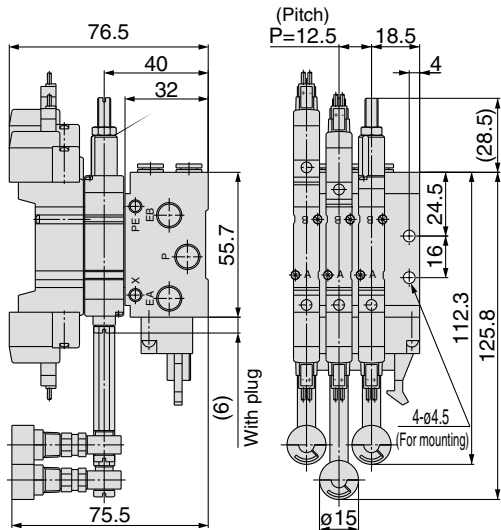
With interface regulator (with gauge)



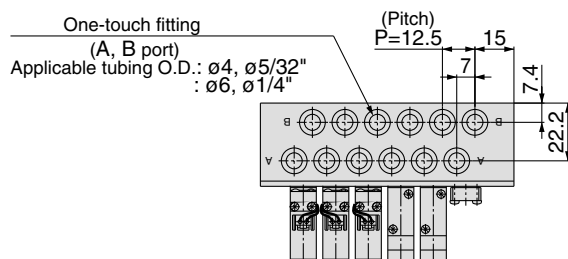
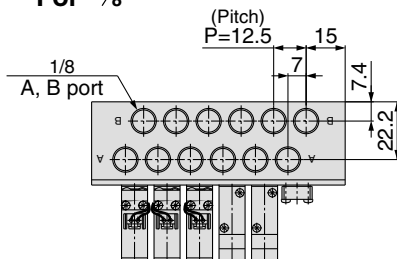
Stations n	3	4	5	6	7	8	9	10	11	12
L1	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
L2	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5

SY3000: SS5Y3-42P- Stations -01, ^{C4, N3}_{C6, N7} -Q

With interface regulator (with gauge)



For 1/8

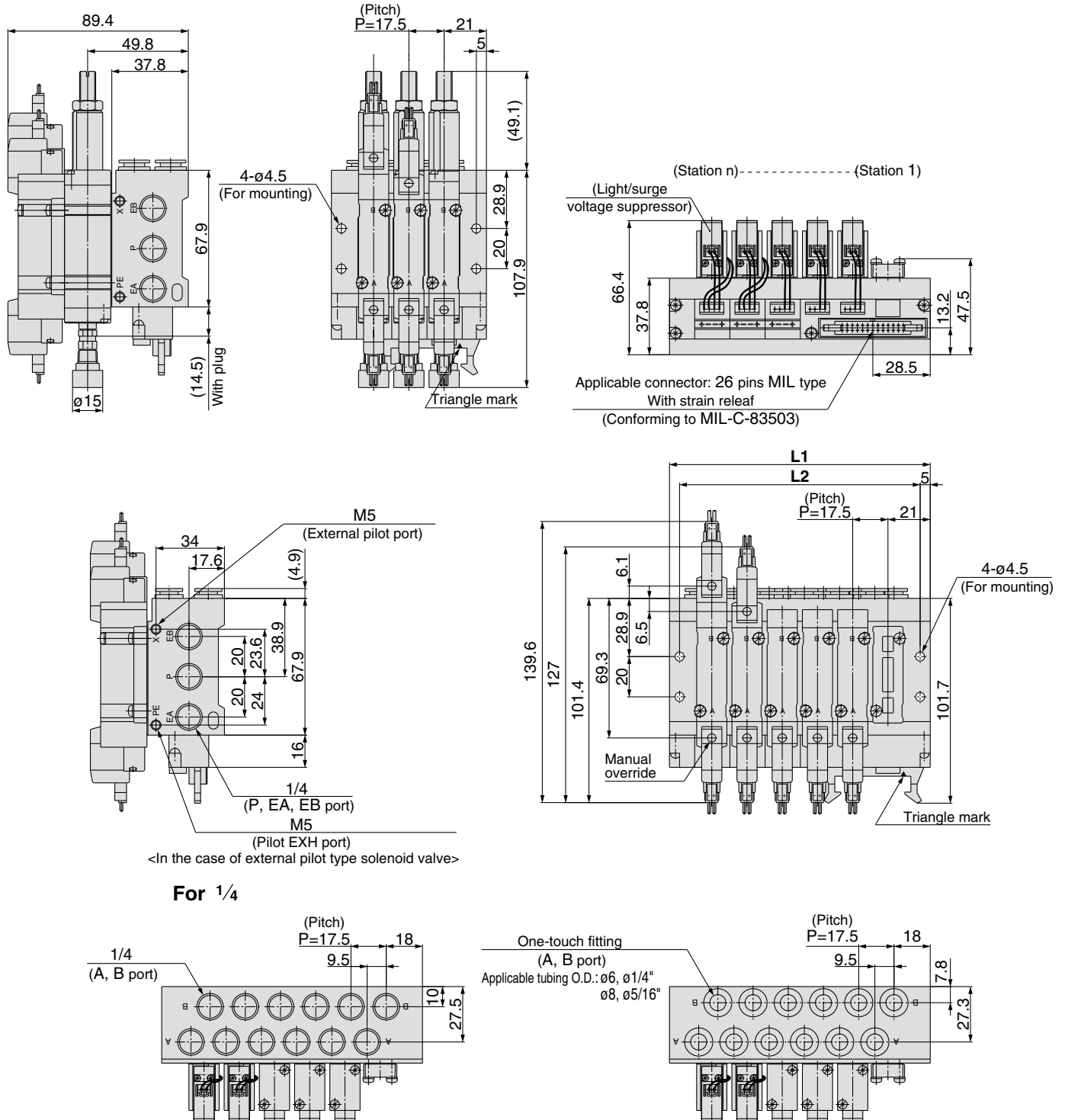


Stations n	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

SY5000: SS5Y5-42P- Stations -02, C6, N7, C8, N9 **-Q**

Grommet (G)

With interface regulator (with gauge)

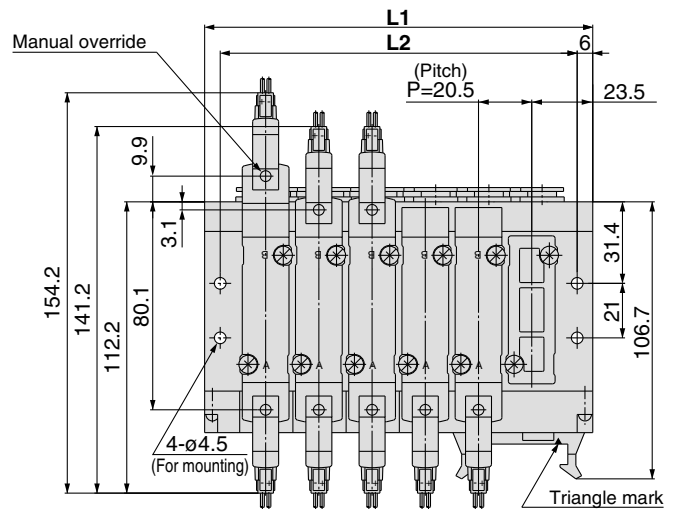
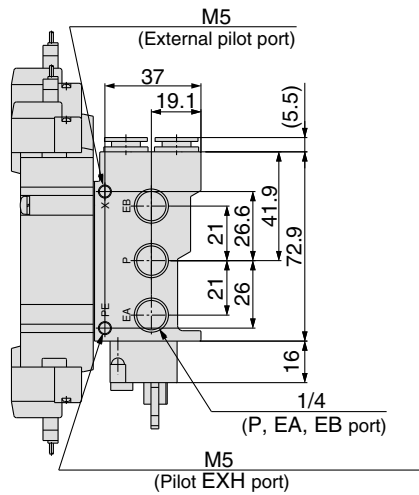
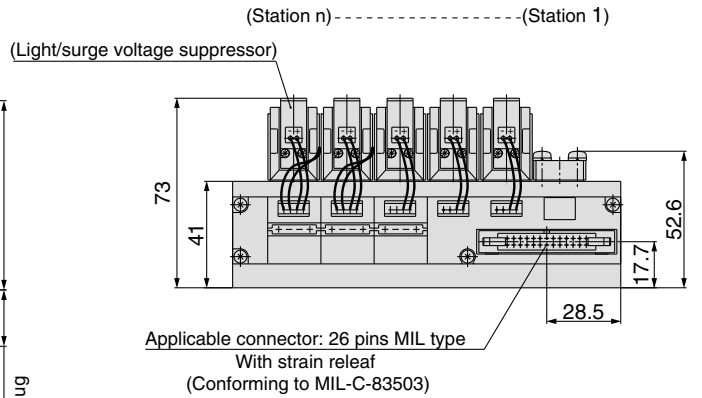
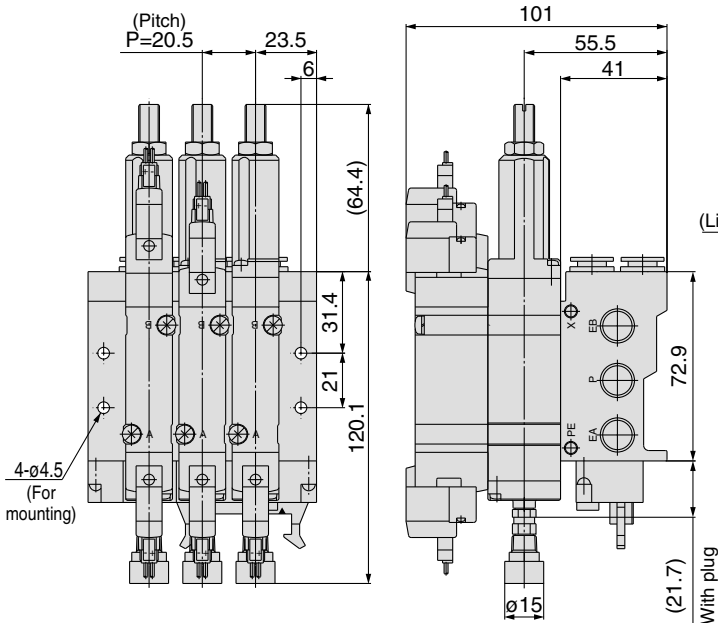


Stations n	3	4	5	6	7	8	9	10	11	12
L1	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
L2	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5

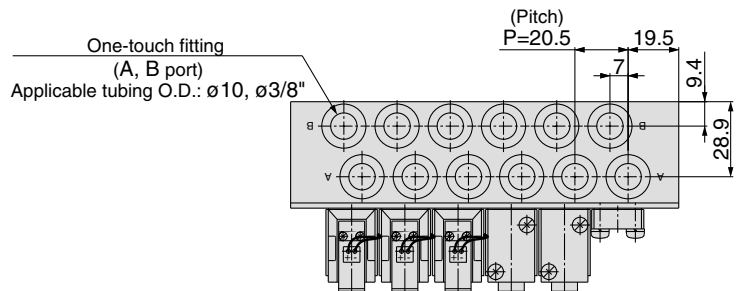
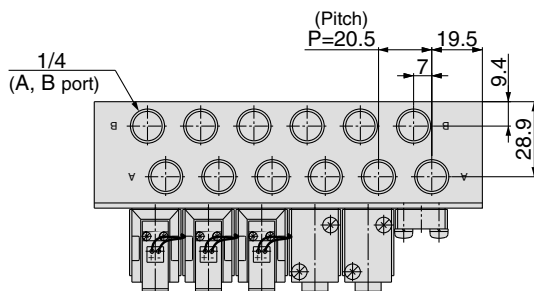
SY7000: SS5Y7-42P- Stations -02, C10, N11 -Q

Grommet (G)

With interface regulator (with gauge)



For 1/4



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

5 Port Solenoid Valve

Series SY9000

Base Mounted

Stacking Type/Flat Ribbon Cable

How to Order Manifold

SS5Y9 - 43P - 05 U - C8 - Q

Manifold series

9	SY9000
---	--------

Valve stations

Symbol	Stations
04	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	
B	Both sides	4 to 12 stations

SUP/EXH block assembly specifications

Symbol	Specifications
-	Standard/Internal pilot specification
R	External pilot specification
S	Internal pilot/Built-in silencer
RS	External pilot/Built-in silencer

Thread type

-	Rc
F	G
N	NPT
T	NPTF

Option

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

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

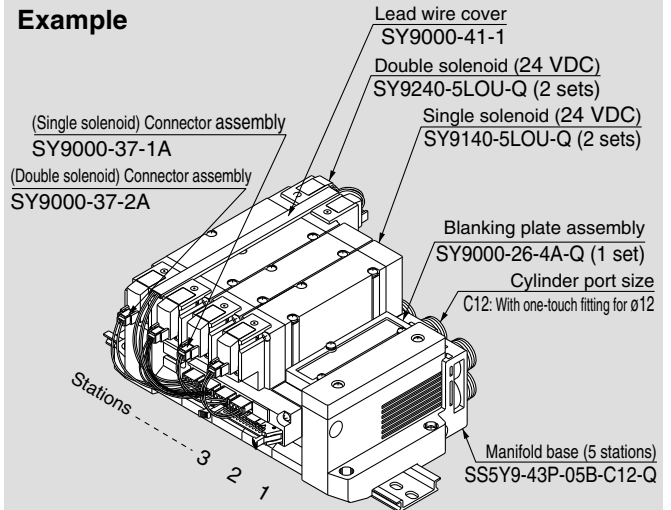
One-touch fitting (Inch size)

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 Valve Manifold Assembly (Example)

Example

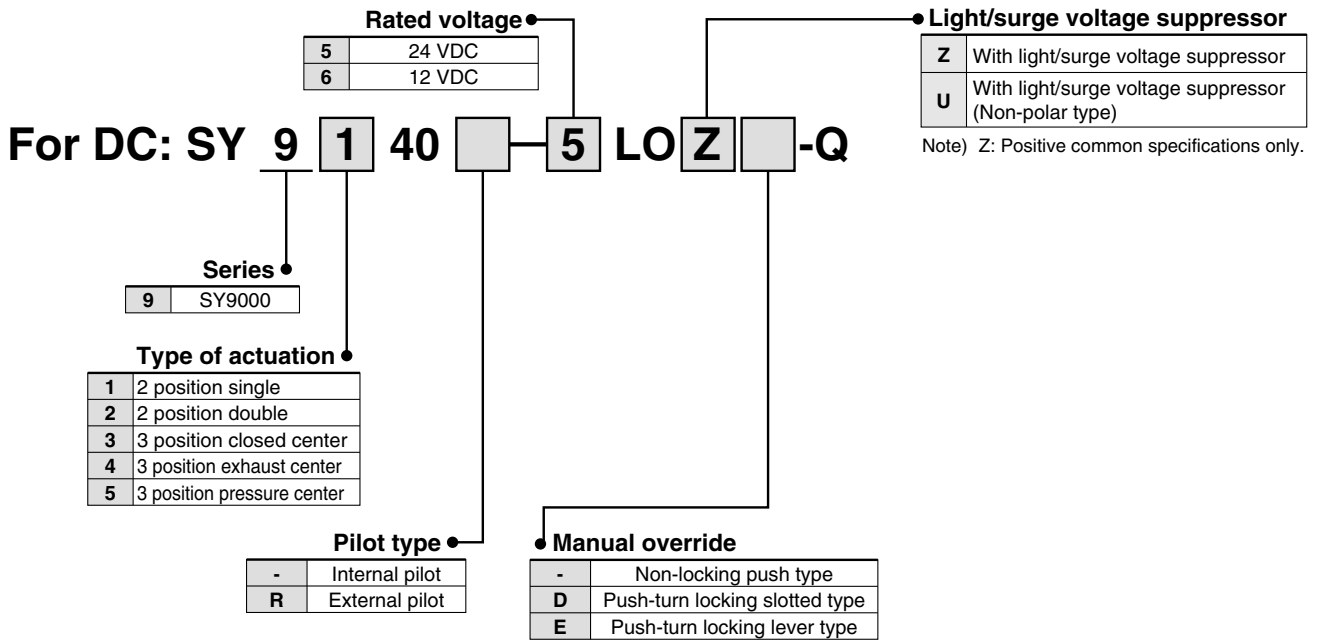


- | | |
|---------------------|---|
| SS5Y9-43P-05B-C12-Q | 1 set (Type 43, 5 station manifold base part no.) |
| * SY9000-26-4A-Q | 1 set (Blanking plate assembly part no.) |
| * SY9140-5LOU-Q | 2 sets (Single solenoid part no.) |
| * SY9240-5LOU-Q | 2 sets (Double solenoid part no.) |
| * SY9000-37-1A | 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 number under the manifold base part number. In the case of complex arrangement, specify them on the manifold specification sheet.

How to Order Valve



How to Order Connector Assembly

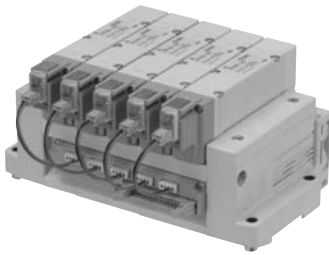
For 12, 24 VDC

For DC	For SY9000
For single solenoid	SY9000-37-1A
Double solenoid, 3 position type	SY9000-37-2A
Single with spacer assembly	SY9000-37-3A
Double, 3 position with spacer assembly	SY9000-37-4A

• **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	SS5Y9-43P	
Applicable valve	SY9□40	
Manifold type	Stacking type	
P (SUP)/R (EXH)	Common SUP, Common EXH	
Valve stations	4 to 12 stations ^{Note 1)}	
A, B port Porting specifications	Location	Base
	Direction	Side
Port size	P, EA, EB port	C12 (One-touch fitting for $\phi 12$)
	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 = 114n + 343	
Applicable flat ribbon cable connector	Flat ribbon cable connection, Socket: 26 pins MIL 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	



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 109.

Flow Characteristics

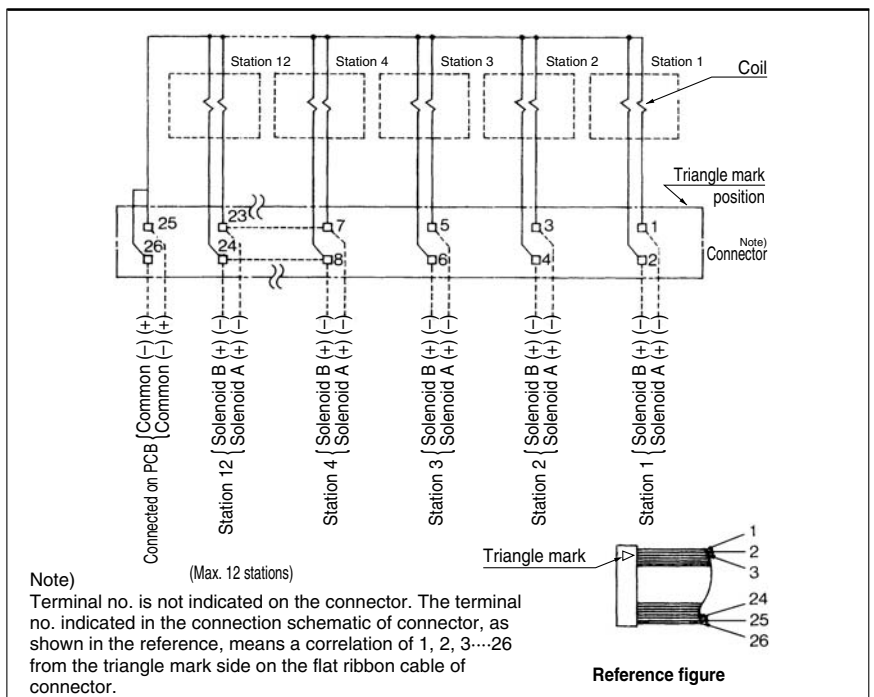
Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)				
			C (dm ³ /(s·bar))	b	Cv	Q _z /min(ANR)*	C (dm ³ /(s·bar))	b	Cv	Q _z /min(ANR)*
SS5Y9-43P	C12	C12	6.4	0.29	1.6	1617	7.3	0.29	1.8	1845



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

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Internal Wiring of Manifold (Non-polar type)

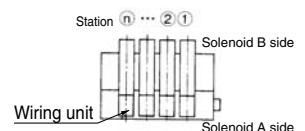


⚠ Caution

- 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.



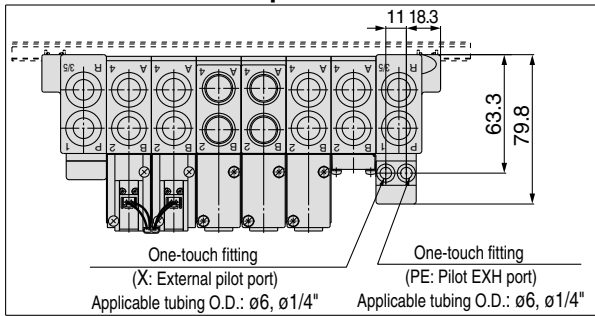
- For more than 10 stations, both poles of the common should be wired.
- For single solenoid, connect to the solenoid A side.
- The maximum number of stations that can be accommodated is 12. For more stations, please contact SMC.



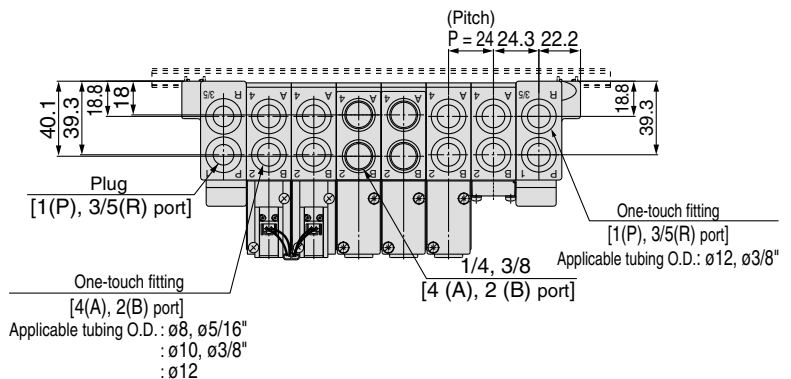
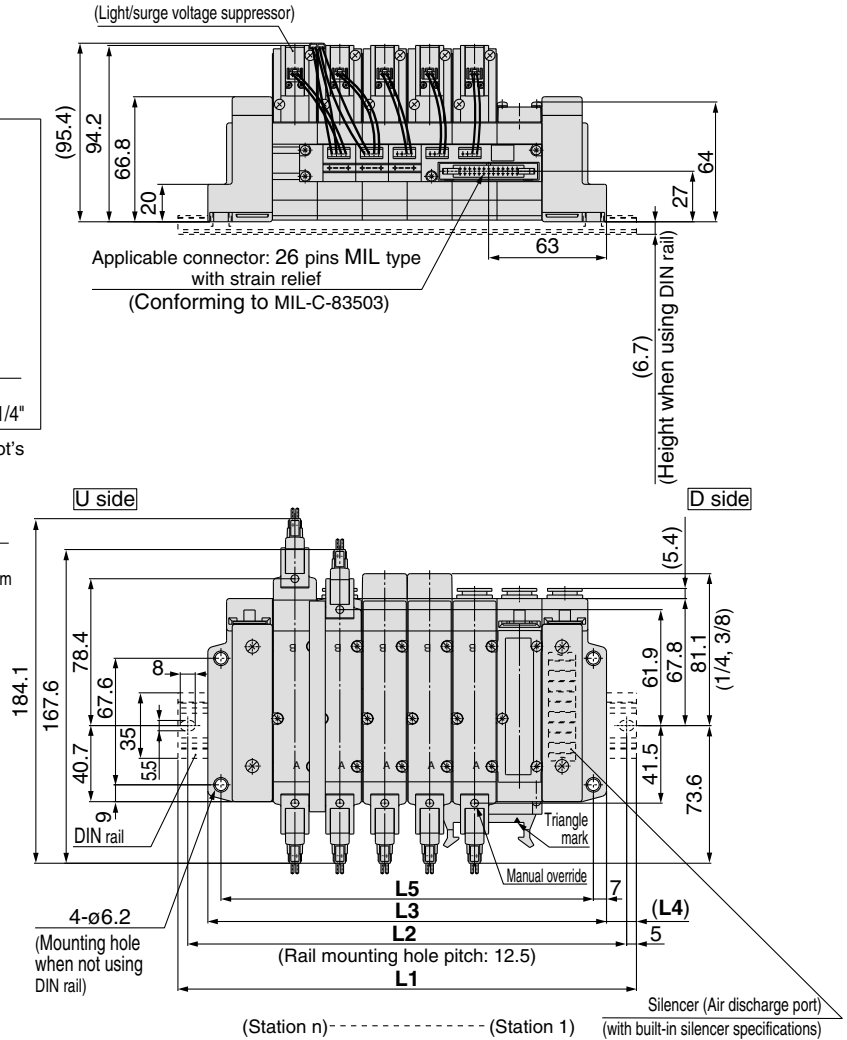
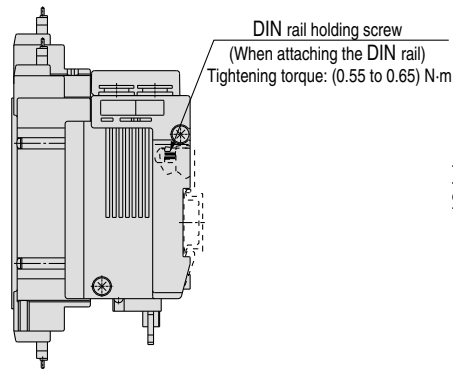
SY9000: SS5Y9-43P- Stations **D** 02 ^{C8, N9} -03 ^{C10, N11} C12 **(-D)-Q**

* 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



* Air discharge port on the built-in silencer type and the external pilot's extracting position are in the D side.

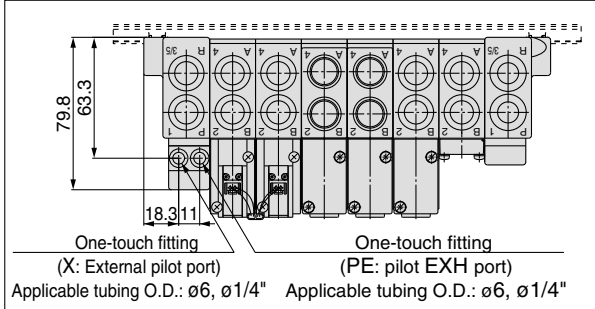


Stations n	4 stations	5	6	7	8	9	10 stations
L1	198	223	248	260.5	285.5	310.5	335.5
L2	187.5	212.5	237.5	250	275	300	325
L3	165	189	213	237	261	285	309
L4	16.5	17	17.5	12	12.5	13	13.5
L5	151	175	199	223	247	271	295

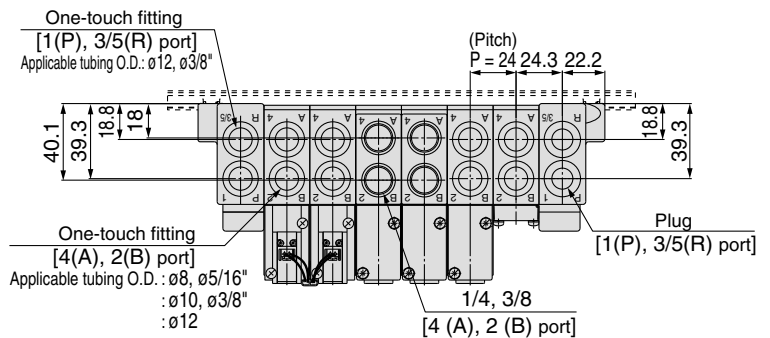
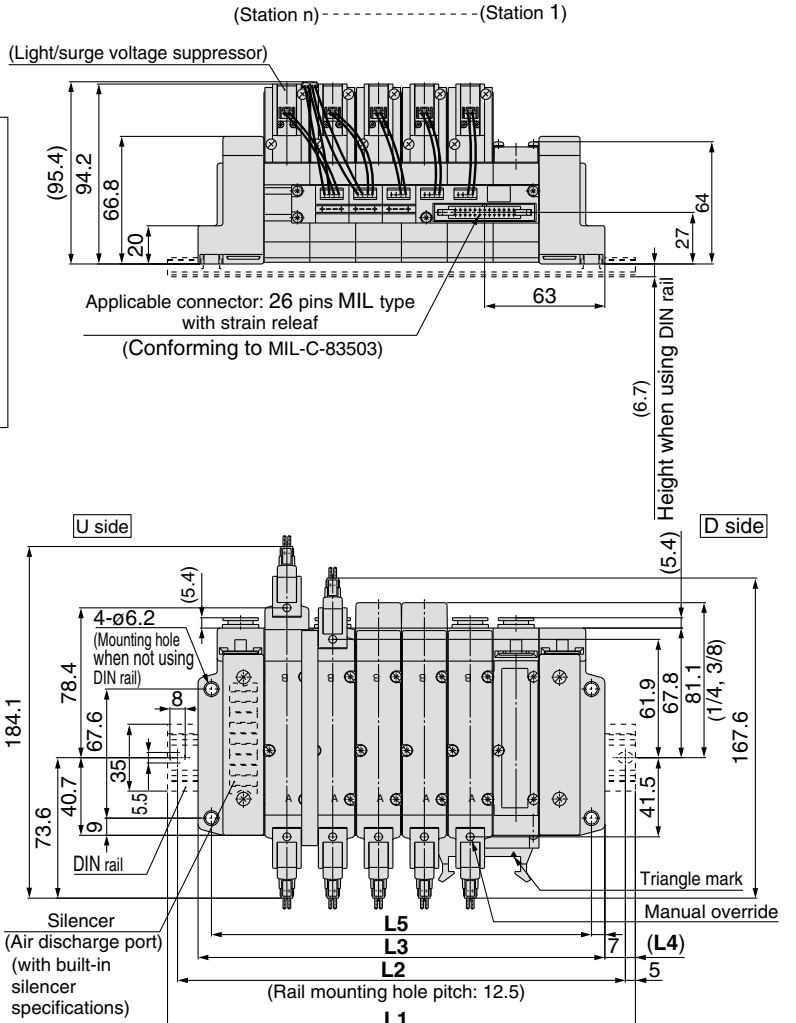
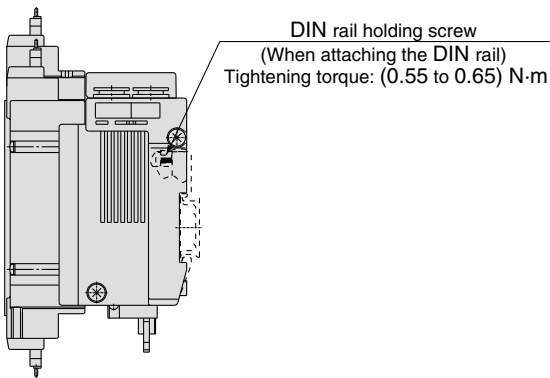
SY9000: SS5Y9-43P- Stations U ⁰² ₋₀₃ ^{C8, N9} _{C10, N11} (-D)-Q _{C12}

* 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




* Air discharge port on the built-in silencer type and the external pilot's extracting position are in the U side.

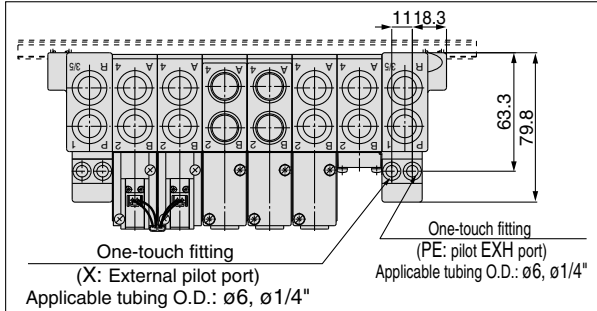


Stations n	4 stations	5	6	7	8	9	10 stations
L1	198	223	248	260.5	285.5	310.5	335.5
L2	187.5	212.5	237.5	250	275	300	325
L3	165	189	213	237	261	285	309
L4	16.5	17	17.5	12	12.5	13	13.5
L5	151	175	199	223	247	271	295

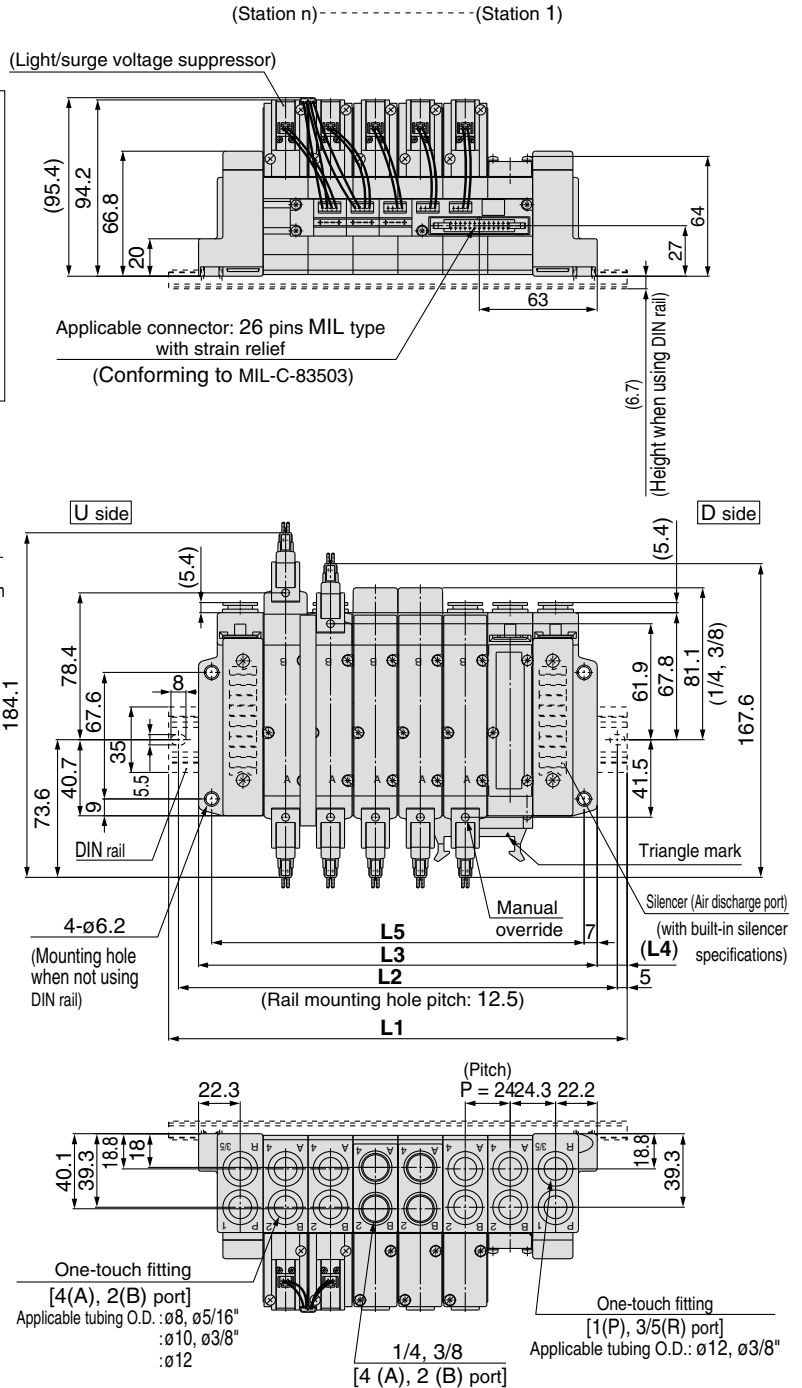
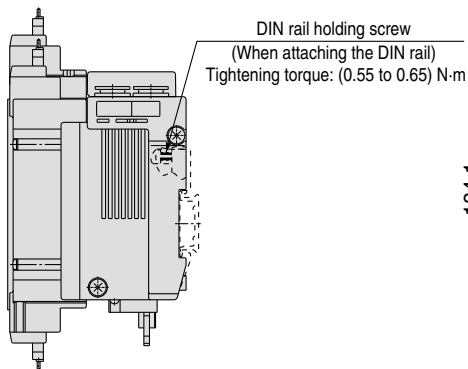
SY9000: SS5Y9-43P- Stations B ⁰² ₀₃ C8, N9 C10, N11 (-D)-Q C12

 * 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



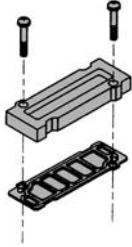
* Air discharge port on the built-in silencer type and the external pilot's extracting position are in the B side (both sides).



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

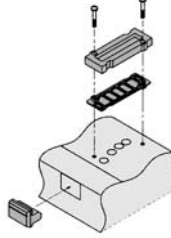
Manifold Option

■ Type 41, 42, 43
Blanking plate assembly



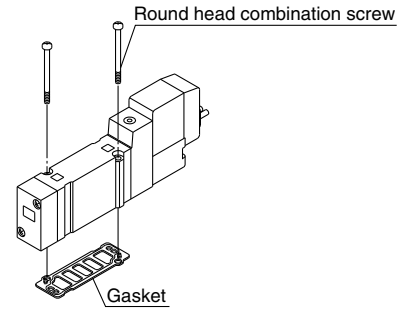
Series	Assembly part no.
SY3000	SY3000-26-9A-Q
SY5000	SY5000-26-20A-Q
SY7000	SY7000-26-22A-Q
SY9000	SY9000-26-2A-Q

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



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

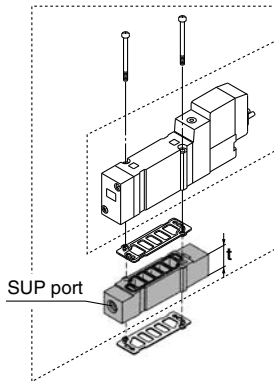
■ Gasket assembly part no.



Series	Assembly part no.
SY3000	SY3000-GS-2
SY5000	SY5000-GS-2-Q
SY7000	SY7000-GS-2-Q
SY9000	SY9000-GS-2

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

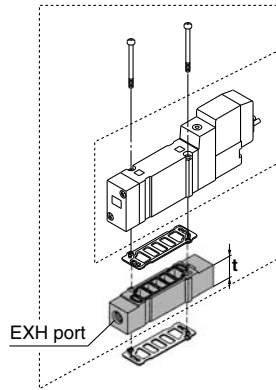
■ Individual SUP spacer assembly



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

Note) • The SUP port of SY3000, 5000 and 7000 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.)
• The end plate side is only available to SY9000.

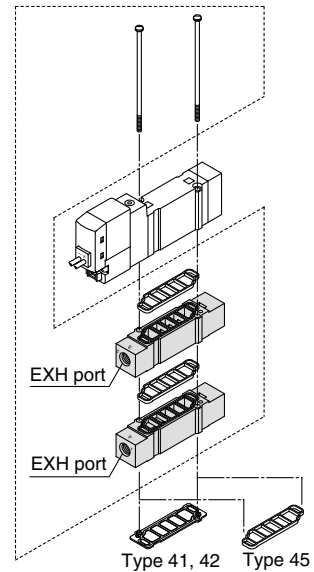
■ Individual EXH spacer assembly



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

Note) In case of 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 (Double spacer)



●: Available X: Not available —: Nonapplicable manifold]

Series	Individual SUP + Individual EXP Assemble part no.	Port size	Applicable manifold types						
			41	41P	42	42P	45	45-A 45-NA	45□
SY3000	SY3000-120-2A-Q	M5	●	X	●	X	●	X	X
SY5000	SY5000-75-1*A-Q	1/8	●	X	●	X	●	X	X
SY7000	SY7000-73-1*A-Q	1/4	●	X	●	X	—	—	—

Note) The port on a spacer can be directed to the pilot valve side or end plate side. For mounting the port to the pilot valve side, please make sure to connect the ports to protect the pilot valve wiring section from drainage. The individual SUP spacer and EXH spacer can be mounted either on the upper side or lower side. (The above illustration shows the condition when the product is shipped out from a factory already assembled.)

⚠ Caution

Mounting screw tightening torques

M2: 0.16 N·m
M3: 0.8 N·m
M4: 1.4 N·m

* Thread type

-	Rc
F	G
N	NPT
T	NPTF

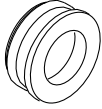
⚠ Warning

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.

Manifold Option

■ SUP blocking disk (For SY9000)

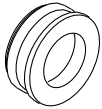
By installing a SUP blocking disk in the pressure supply passage of a manifold valve, it is possible to supply two or more different high and low pressures to one manifold.



Series	No.
SY9000	SY9000-57-1A

■ EXH blocking disk (For SY9000)

By installing an EXH blocking 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 blocking disks are needed to divide both exhausts.)



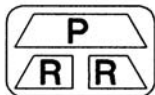
Series	No.
SY9000	SY9000-57-1A

■ Label for block disk (For SY9000)

The labels shown below are used on manifold stations containing SUP/EXH block disk(s) to show their location. (3 pcs. each)

VZ3000-123-1A

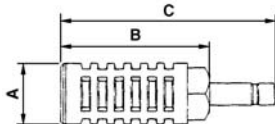
Label for SUP block disk Label for EXH block disk Label for SUP/EXH block disk



Note) When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

■ Silencer with One-touch fitting (For SY9000)

The silencer plugs directly into the One-touch fittings of the manifold R (exhaust) port.



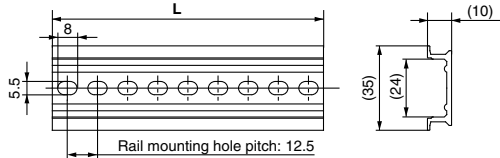
For Series	Model	Effective area	A	B	C
SY9000 (ø12)	AN300-KM12	41 mm ²	ø25	70	98

■ DIN Rail Dimensions/Weight for SY9000

VZ1000-11-4-□

Refer to L dimensions

* Fill in □ with an appropriate no. listed on the table of DIN rail dimensions shown below.

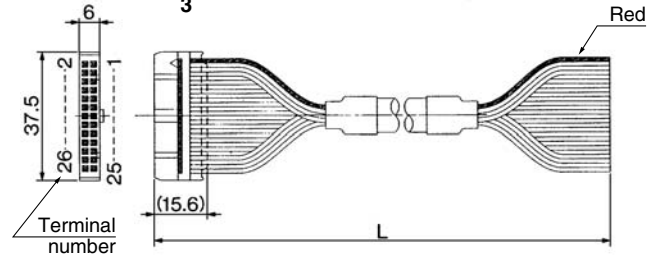


No.	0	1	2	3	4	5	6	7	8	9
L Dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3
No.	10	11	12	13	14	15	16	17	18	19
L Dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9
No.	20	21	22	23	24	25	26	27	28	29
L Dimension	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	88	91.2	94.4	97.5	100.7	103.9	107	110.2	113.3	116.5

Note) • For DIN rail, refer to back page 10.
• Refer to L1 dimension on pages starting with pages 106 through 108 for lengths that correspond to the number of manifold stations.

■ Cable assembly

AXT100-FC26- $\frac{1}{3}$



Connector Assembly for Flat Ribbon Cables

Cable length (L)	Ass'y part no.	Note
1.5m	AXT100-FC26-1	Cable 26 core x 28 AWG
3m	AXT100-FC26-2	
5m	AXT100-FC26-3	

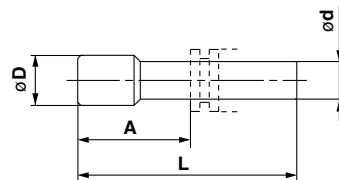
* For other commercial connectors, use a 20 pins with strain relief conforming to MIL-C-83503.

Connector manufacturers' example

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

■ Plug (white)

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



Dimensions

Applicable fittings size ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
12	KQ2P-12	24	44.5	14
1/8"	KQ2P-01	16	31.5	5
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KQ2P-09	20.5	39	10
3/8"	KQ2P-11	22	43	11.5

Manifold Option

How to Order Interface Regulator

Series SY3000

ARBY3000-05-P-2

Pressure gauge connection port

05	Pressure gauge (G15-10-01)
M1	Plug (M-5P)



Note In the case of mounting an ARBY3000 with a pressure gauge onto a manifold, use caution that the part numbers are different between the odd no. stations and the even no. stations to avoid the gauges from interfering with each other.

Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

Series SY5000

ARBY5000-00-P-2

Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

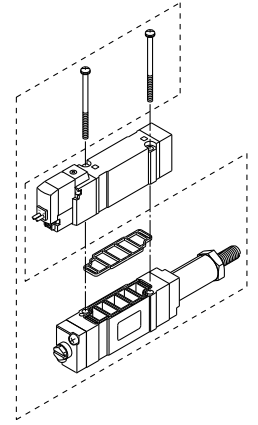
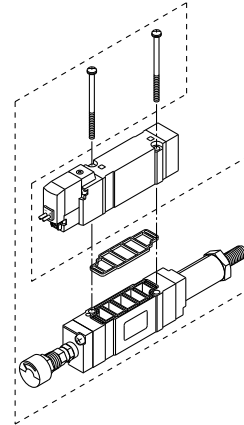
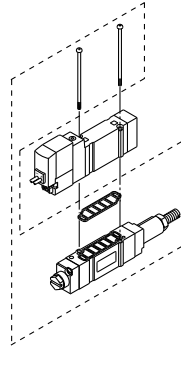
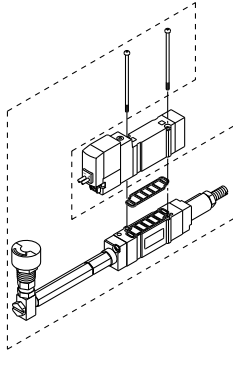
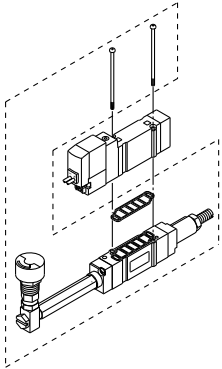
ARBY3000-05-□-2
(For odd number stations)

ARBY3000-06-□-2
(For even number stations)

ARBY3000-M1-□-2

ARBY5000-00-□-2

ARBY5000-M1-□-2



Series SY7000

ARBY7000-00-P-2

Pressure gauge connection port

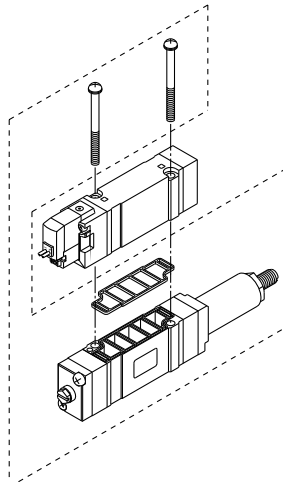
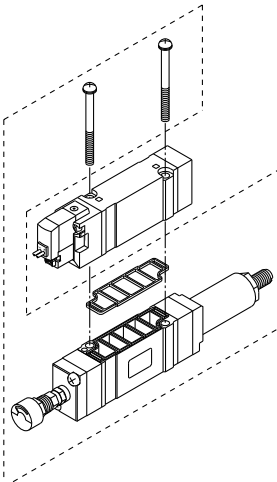
00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

ARBY7000-00-□-2

ARBY7000-M1-□-2



Accessory

Series	Round head combination screw	Gasket
ARBY3000	SY3000-23-10 (M2336)	SX3000-57-4
ARBY5000	M3 x 48.5, Matt nickel plated	SX5000-57-6
ARBY7000	M4 x 57, Matt nickel plated	SX7000-57-4

⚠ Caution

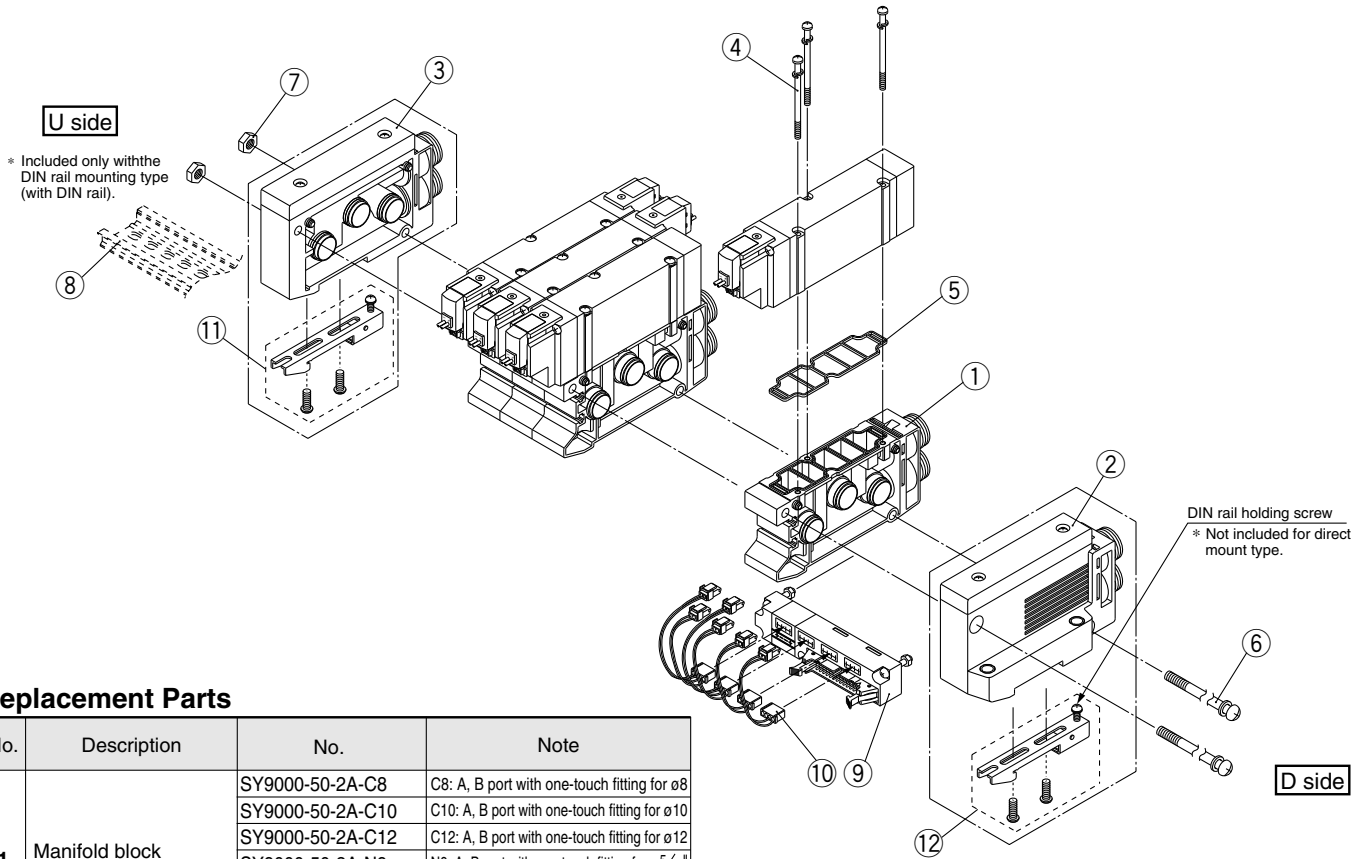
Mounting screw tightening torques

M2: 0.16 N·m

M3: 0.8 N·m

M4: 1.4 N·m

Base Mounted Manifold Exploded View

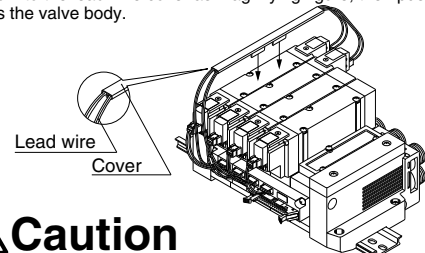


Replacement Parts

No.	Description	No.	Note
1	Manifold block assembly	SY9000-50-2A-C8	C8: A, B port with one-touch fitting for $\phi 8$
		SY9000-50-2A-C10	C10: A, B port with one-touch fitting for $\phi 10$
		SY9000-50-2A-C12	C12: A, B port with one-touch fitting for $\phi 12$
		SY9000-50-2A-N9	N9: A, B port with one-touch fitting for $\phi 5/16$ "
		SY9000-50-2A-N11	N11: A, B port with one-touch fitting for $\phi 3/8$ "
		SY9000-50-2A-O2*	O2: A, B port $1/4$ " (* thread type)
		SY9000-50-2A-O3*	O3: A, B port $3/8$ " (* thread type)
4	Round head combination screw	SY9000-18-2	M3 x 42, Matt nickel plated
5	Gasket	SY9000-11-2	
6	Tension bolt	SY9000-23-□	□ at the end of part number corresponds with the number of manifold station. Specify the same number as the number of stations.
7	Hexagon nut	SY9000-25-1	
8	DIN rail	VZ1000-11-4-□	Refer to page 110.
9	Wiring unit assembly	SY9000-36-□A	□ at the end of part number corresponds with the number of manifold station. Specify the same number as the number of stations (4 to 12 stations)
10	Connector assembly	SY9000-37-□□	Refer to page 104.
11	Lead wire cover	SY9000-41-1	
12	Clamp sub assembly	SY9000-30-1A	Included only with the DIN rail mounting type.

⑪ How to assemble lead wire cover

Lead wire cover is only usable for double solenoid valves. Lead wire is inserted into the lead wire cover as magnifying figure, then push it until it touches the valve body.



⚠ Caution

For type 43P (Flat cable manifold) of Series SY9000, the lead wire cover is attached for bundling the lead wires for each solenoid. In case such as adding double solenoid valve, etc., order separately lead wire cover as well.

② SUP/EXH block assembly no. (D side mounting)

- Direct mount type: **SY9000-70-** □ **A-** □
- DIN rail mount type: **SY9000-72-** □ **A-** □

• P, R port

C12	One-touch fitting for $\phi 12$
N11	One-touch fitting for $\phi 3/8$ "
00	Plug

• Specifications

1	Internal pilot type
3	External pilot type
4	Internal pilot / Built-in silencer type
5	External pilot / Built-in silencer type

③ SUP/EXH block assembly no. (U side mounting)

- Direct mount type: **SY9000-71-** □ **A-** □
- DIN rail mount type: **SY9000-73-** □ **A-** □

• P, R port

C12	One-touch fitting for $\phi 12$
N11	One-touch fitting for $\phi 3/8$ "
00	Plug

• Specifications

1	Internal pilot type
3	External pilot type
4	Internal pilot / Built-in silencer type
5	External pilot / Built-in silencer type

How to Increase Manifold Bases (Series SY9000 only) Manifold case can be added at any location.

When a type 43 manifold base is added, tension bolts as well as manifold block assembly will be required. Order the tension bolt suitable for the stations after a station was increased (decreased), since the length of a tension bolt differs by the number of stations. (For changing the number of stations for a type 43P manifold, wiring unit for the stations and lead assembly will be required.)

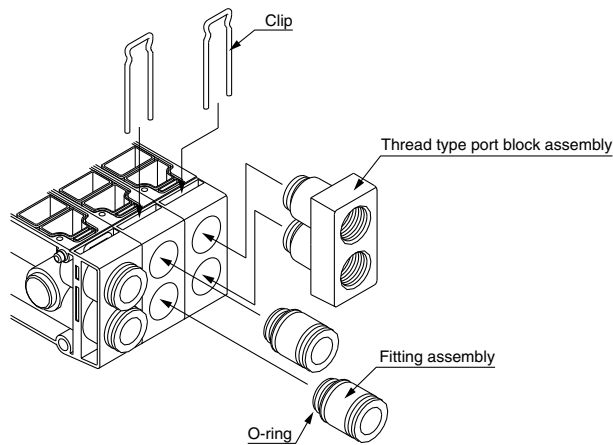
- 1 Loosen the tension bolts connecting the manifold base, and pull out both of 2 tension bolts.
(When equipped with a DIN rail, loosen one DIN rail holding screw on either U side or D side.)
- 2 Separate the blocks at the location where station expansion is desired.
- 3 Mount additional manifold block assembly.
- 4 Press block-to-block so that there's no gap. After connection, insert a tension bolt for desired stations and then tighten it.
⚠ Caution (Tightening torque: 2.9 N·m)
 (When equipped with a DIN rail, be sure to tighten the DIN rail holding screws after tightening the tension bolts. Tightening torque: 1.4 N·m)

⚠ Caution

1. Be sure to shut off the power and air supplies before disassembly. Furthermore, since air may remain inside the actuator, piping and manifold, confirm that the air is completely exhausted before performing any work.
2. When disassembly and assembly are performed, air leakage may result if connections between blocks and tightening of the end block's holding screw, is inadequate.
3. By adding wiring unit assembly to type 43 manifold, it can be changed to type 43P manifold, too.

How to Replace A, B Port Fitting Assembly

By replacing manifold block fitting assemblies or the threaded port block assembly of a type 43(P) manifold, the port size of the A and B ports can be changed. To replace these parts, remove the clip with a flat head screwdriver after the valve has been removed. Insert the fitting assemblies or threaded port block assembly, and then reinsert the clip so that it does not protrude from the manifold block.



Fitting Assembly Part No.

Port size	No.	Note
One-touch fitting assembly for $\phi 8$	VVQ4000-50B-C8	
One-touch fitting assembly for $\phi 10$	VVQ4000-50B-C10	
One-touch fitting assembly for $\phi 12$	VVQ4000-50B-C12	
One-touch fitting for $\phi 5/16$ "	VVQ4000-50B-N9	
One-touch fitting for $\phi 3/8$ "	VVQ4000-50B-N11	
1/4 threaded type port block assembly	SY9000-58A-02*	-* at the end of part number denotes the thread type.
3/8 threaded type port block assembly	SY9000-58A-03*	-* at the end of part number denotes the thread type.
Plug assembly	SY9000-62-1A	

Note 1) Be careful to avoid damage or contamination of O-rings, as this can cause air leakage.
 Note 2) Although replacing the One-touch fittings of P, R port is possible, use caution in the case where solenoid valves are used at the same time when using the smaller sized fittings than the standard size ($\phi 12$). Because they may not be able to supply or exhaust air sufficiently in comparison to the valve performance. Also, although the fittings used for A, B port are the same as for P, R port, it is not possible to use the threaded type port block assembly.

5 Port Solenoid Valve Series SY3000/5000 Base Mounted Stacking Type/DIN Rail Mounted Individual Wiring

How to Order Manifold

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

Series	Valve stations
3 SY3000	02 2 stations
5 SY5000	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 by the manifold specification sheet.

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for $\phi 4$	SY3000
C6	One-touch fitting for $\phi 6$	
M	Mixed	SY5000
C4	One-touch fitting for $\phi 4$	
C6	One-touch fitting for $\phi 6$	
C8	One-touch fitting for $\phi 8$	
M	Mixed	

One-touch fitting (Inch size)

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

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

Option

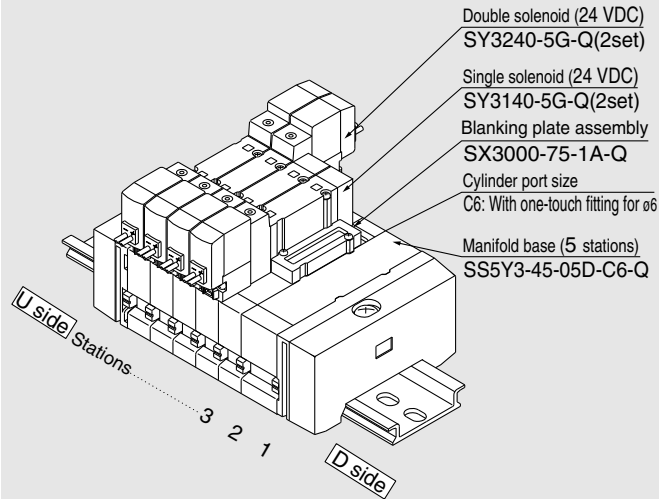
When a longer DIN rail is desired than the specified stations, specify the station number to be required. (20 stations at maximum)



For external pilot specifications and built-in silencer, refer to page 205.

How to Order Valve Manifold Assembly (Example)

Example



- SS5Y3-45-05D-C6-Q** 1 set (Type 45, 5 station manifold base part no.)
- * **SX3000-75-1A-Q** 1 set (Blanking plate assembly part no.)
- * **SY3140-5G-Q** 2 sets (Single solenoid part no.)
- * **SY3240-5G-Q** 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 us.

How to Order Valve

SY **5** **2** 40 **5** **L** **-Q**

Series

3	SY3000
5	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

-	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

AC (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.

* AC specification is only available with D and DO type.

* D and DO only available for SY5000.

Manual override

-	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

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



* Power saving circuit is only available in the "Z" type.

Electrical entry for D (SY5000 only)

-	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			24, 12 VDC/ 100, 110, 200, 220 VAC	24, 12, 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal	M8 connector *
G: Lead wire length 300 mm 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	(SY5000 only) D: With connector DO: Without connector	WO: Without connector cable W□: With connector cable ^{Note 1)}



* LN, MN type: with 2 sockets.

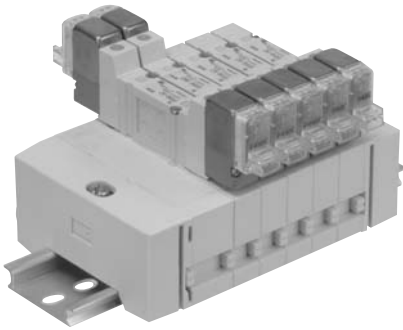
* D and DO only available for SY5000.

* DIN terminal type "Y" which conforms to EN-175301-803C (former DIN43650C) is also available. For details, refer to page 210.

* For connector cable of M8 connector, refer to back page 12.


* Connector M8 type "WA" conforming to IEC 60947-5-2 standard, is also available. For details, see page 211.

Note 1) Enter the cable length symbols in □. Please be sure to fill in the blank referring to back page 13.




Manifold Specifications

Model		SS5Y3-45	SS5Y5-45
Applicable valve		SY3□40	SY5□40
Manifold type		Stacking type/DIN rail mounted	
P (SUP)/R (EXH)		Common SUP, Common EXH	
Valve stations		2 to 20 stations ^{Note 1)}	
A, B port Porting 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		2 to 10 stations: W = 22n + 118	2 to 10 stations: W = 47n + 156
W (g), 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

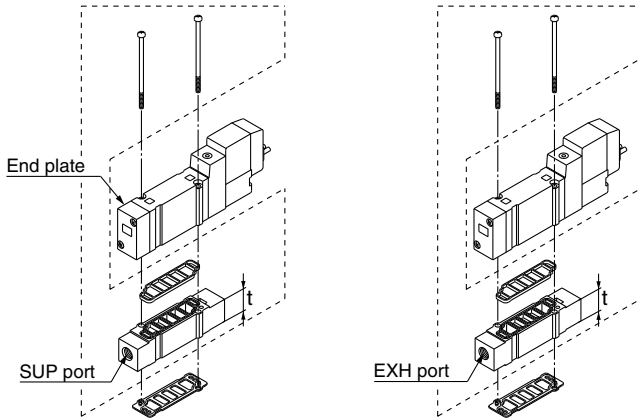
Model	Port size		Flow characteristics							
	1,5,3 (P,EA,EB)	4,2 (A,B)	1 → 4/2 (P → A/B)				4/2 → 5/3 (A/B → EA/EB)			
			C (dm ³ /(s·bar))	b	Cv	Q[l/min(ANR)]*	C (dm ³ /(s·bar))	b	Cv	Q[l/min(ANR)]*
SS5Y3-45	C8	C6	0.88	0.21	0.22	212	0.95	0.18	0.22	225
SS5Y5-45	C10	C8	2.2	0.24	0.53	539	2.5	0.18	0.58	592

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

* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Manifold Option

Individual SUP spacer assembly ■ Individual EXH spacer assembly



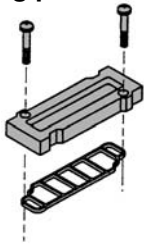
Series	Assembly part no.	Port size	t
SY3000	SY3000-38-2A-Q	M5	11
SY5000	SY5000-38-16-A-Q	1/8	15

Note) The SUP port may be either on the lead wire side or on the end plate side.

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

Note) The EXH port may be either on the lead wire side or on the end plate side.

Blanking plate assembly



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

* Thread type

-	Rc
F	G
N	NPT
T	NPTF

Caution

Mounting screw tightening torques

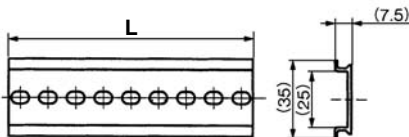
M2: 0.16 N·m
M3: 0.8 N·m
M4: 1.4 N·m

Dimensions/DIN rail

VZ1000-11-1-□

Refer to L dimensions

* Fill in □ with an appropriate no. listed on the table of DIN rail dimensions shown below.



No.	0	1	2	3	4	5	6	7	8	9	10
L Dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223
No.	11	12	13	14	15	16	17	18	19	20	21
L Dimension	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5
No.	22	23	24	25	26	27	28	29	30	31	32
L Dimension	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498
No.	33	34	35	36	37	38	39	40	41	42	43
L Dimension	510.5	523	535.5	548	560.5	573	585.5	598	610.5	623	635.5
No.	44	45	46	47	48	49	50	51	52	53	54
L Dimension	648	660.5	673	685.5	698	710.5	723	735.5	748	760.5	773
No.	55	56	57	58	59	60	61	62	63	64	65
L Dimension	785.5	798	810.5	823	835.5	848	860.5	873	885.5	898	910.5
No.	66	67	68	69	70	71					
L Dimension	923	935.5	948	960.5	973	985.5					

* Refer to L1 dimension on pages starting with page 121 for lengths that correspond to the number of manifold stations.

■ SUP blocking disk

By installing a SUP blocking 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	No.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

■ EXH blocking disk

By installing an EXH blocking 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 blocking disks are needed to divide both exhausts.)



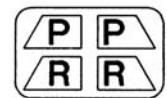
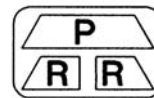
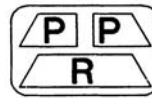
Series	No.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

■ Label for block disk

The labels shown below are used on manifold stations containing SUP/EXH blocking disk(s) to show their location. (3 pcs. each)

VZ3000-123-1A

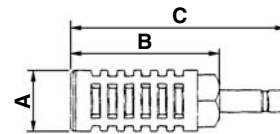
Label for SUP block disk Label for EXH block disk Label for SUP/EXH block disk



Note) When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

■ Silencer with One-touch fitting

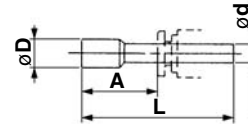
The silencer plugs directly into the One-touch fittings of the manifold.



Series	Model	Effective area	A	B	C
For SY3000 (ø8)	AN203-KM8	14 mm ²	ø16	26	51
For SY5000 (ø10)	AN200-KM10	26 mm ²	ø22	53.8	80.8
	AN300-KM10	30 mm ²	ø25	70	97

■ Plug (white)

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



Dimensions

Applicable fittings size øD	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
1/8"	KQ2P-01	16	31.5	5
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KQ2P-09	20.5	39	10

Manifold Option

▪ How to Order Interface Regulator (SY3000, 5000 only)

Series SY3000

ARBY3000-05-P-2

• **Regulating port**

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

• **Pressure gauge connection port**

05	Pressure gauge (G15-10-01) [for odd number station]
06	Pressure gauge (G15-10-01) [for even number station]
M1	Plug (M-5P)

* In the case of mounting an ARBY3000 with a pressure gauge onto a manifold, use caution that the part numbers are different between the odd no. stations and the even no. stations to avoid gauges interfering with each others.

Series SY5000

ARBY5000-00-P-2

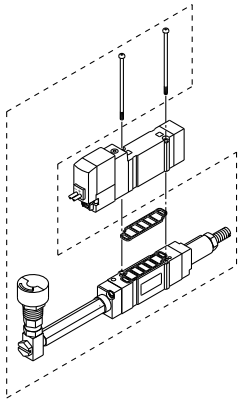
• **Regulating port**

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

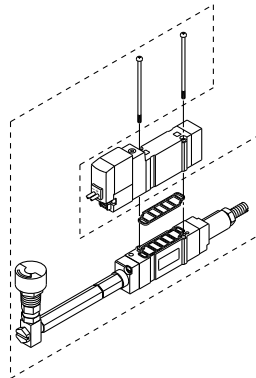
• **Pressure gauge connection port**

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

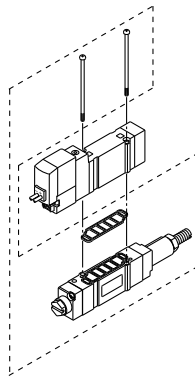
ARBY3000-05-□-2
(For mounting odd number stations)



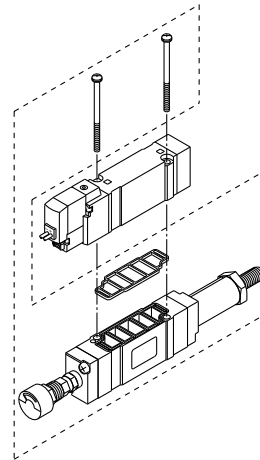
ARBY3000-06-□-2
(For mounting even number stations)



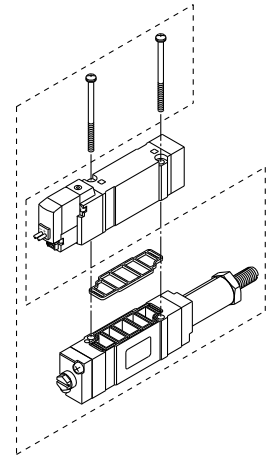
ARBY3000-M1-□-2



ARBY5000-00-□-2



ARBY5000-M1-□-2



Accessory

Series	Round head combination screw	Gasket
ARBY3000	SY3000-23-10 (M2 x 36)	SX3000-57-4
ARBY5000	M3 x 48.5, Matt nickel plated	SX5000-57-6

Caution

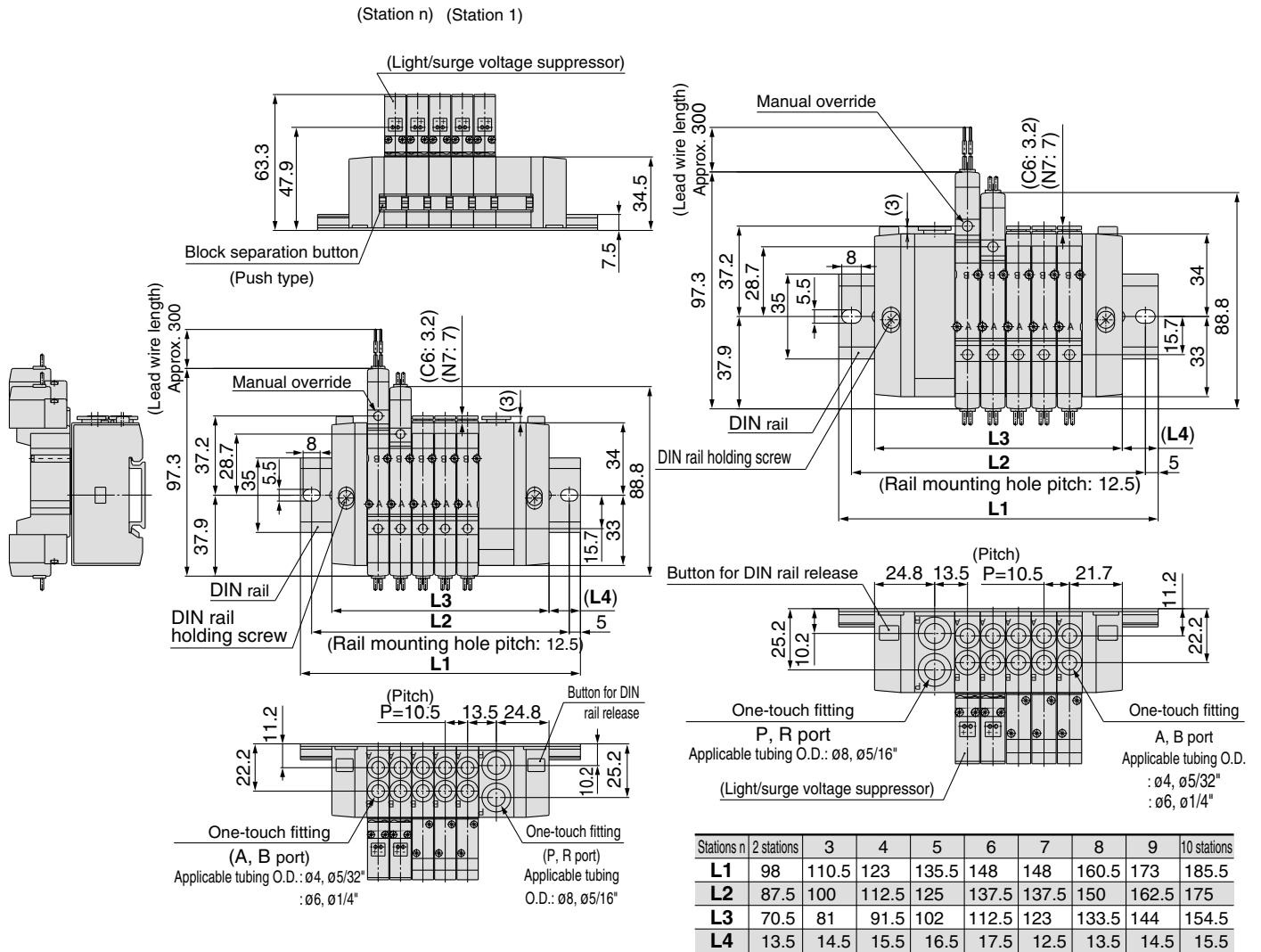
Mounting screw tightening torques

M2: 0.17 N·m
M3: 0.8 N·m

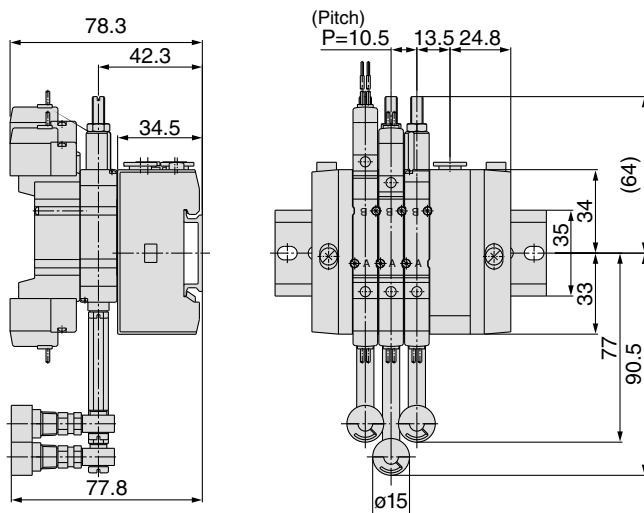
Dimensions: Series SY3000

SS5Y3-45- Stations D-C4, N3-C6, N7-Q

SS5Y3-45- Stations U-C4, N3-C6, N7-Q



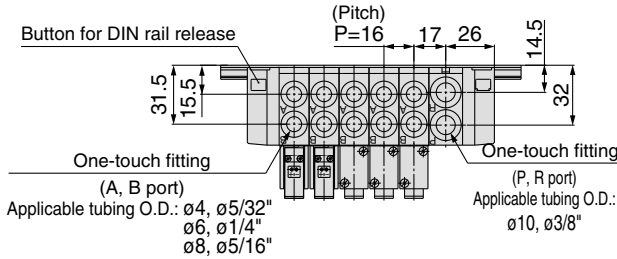
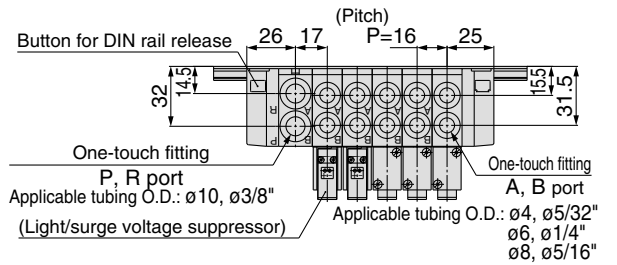
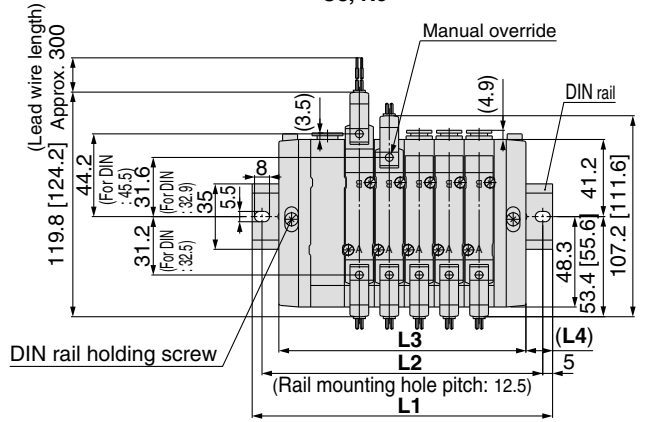
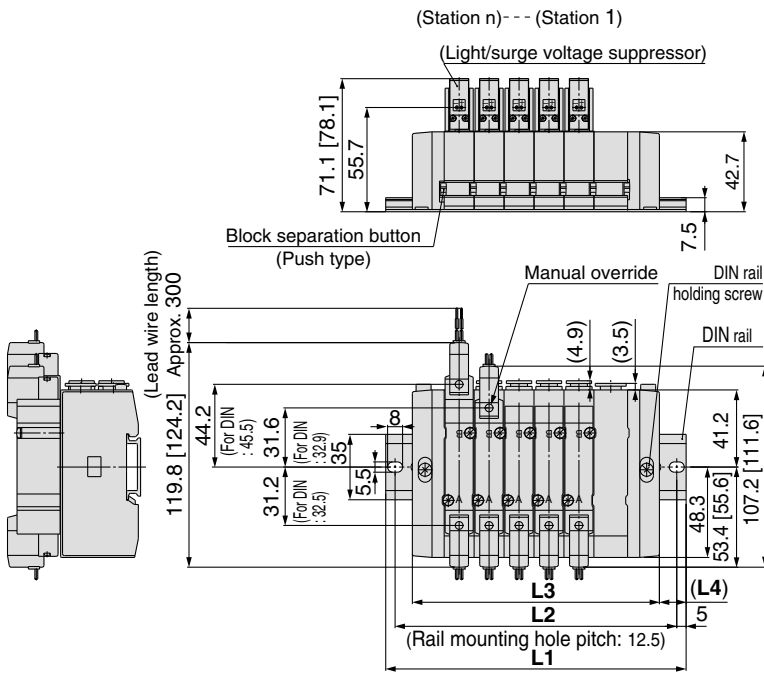
With interface regulator (with gauge)



Dimensions: Series SY5000

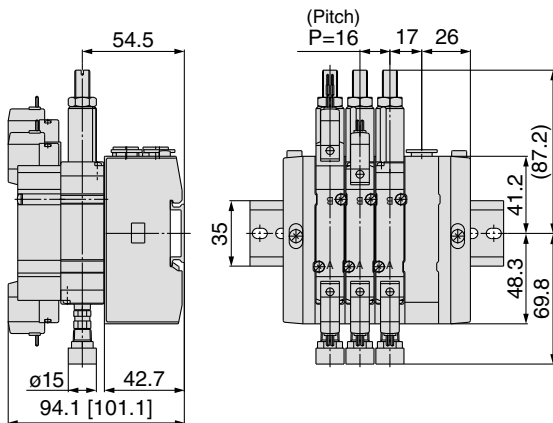
SS5Y5-45- Stations D- C4, N3
C6, N7-Q
C8, N9

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



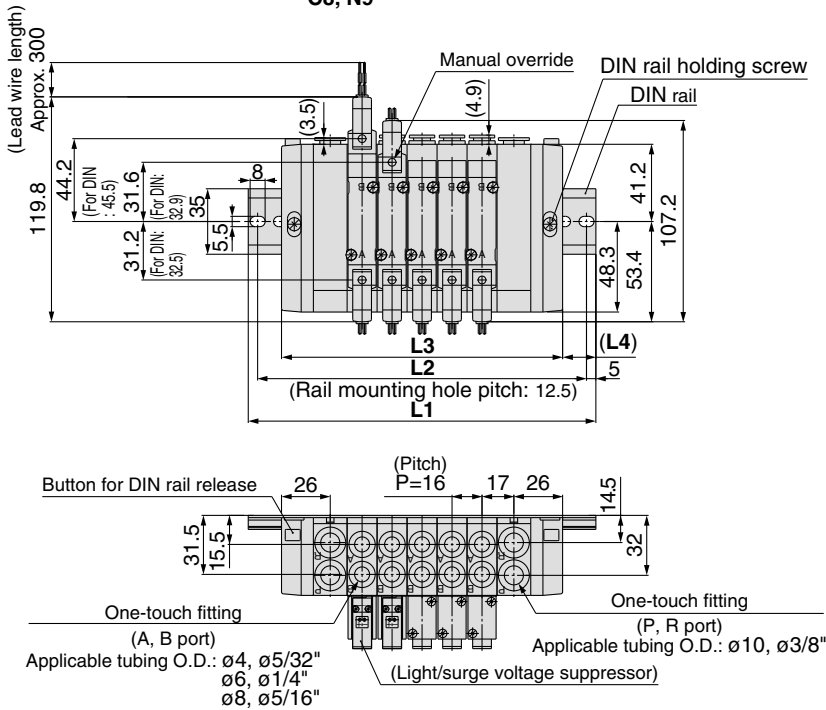
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	110.5	135.5	148	160.5	173	198	210.5	223	235.5
L2	100	125	137.5	150	162.5	187.5	200	212.5	225
L3	84	100	116	132	148	164	180	196	212
L4	13	17.5	16	14	12.5	17	15	13.5	11.5

With interface regulator (with gauge)

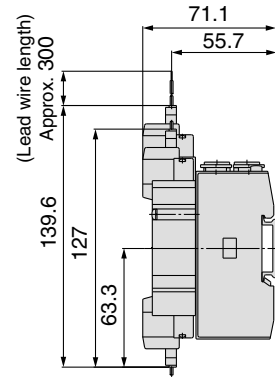


Dimensions: Series SY5000

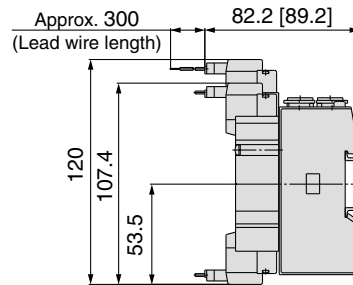
SS5Y3-45- Stations B-C4, N3
C5, N7-Q
C8, N9



L plug connector



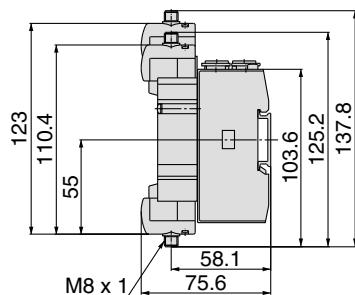
M plug connector



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

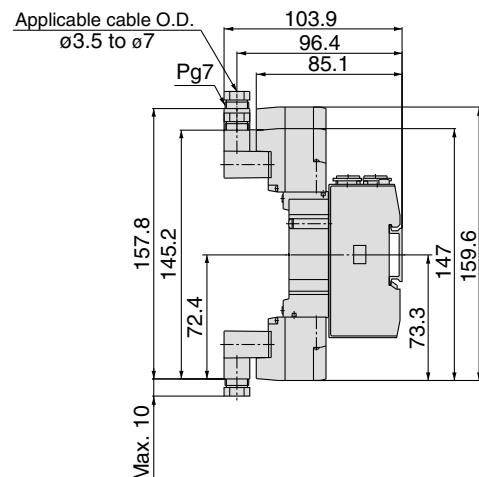
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423
L2	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5
L3	246	262	278	294	310	326	342	358	374	390
L4	13.5	11.5	16	14.5	12.5	17	15.5	13.5	12	16.5

M8 connector (WO)



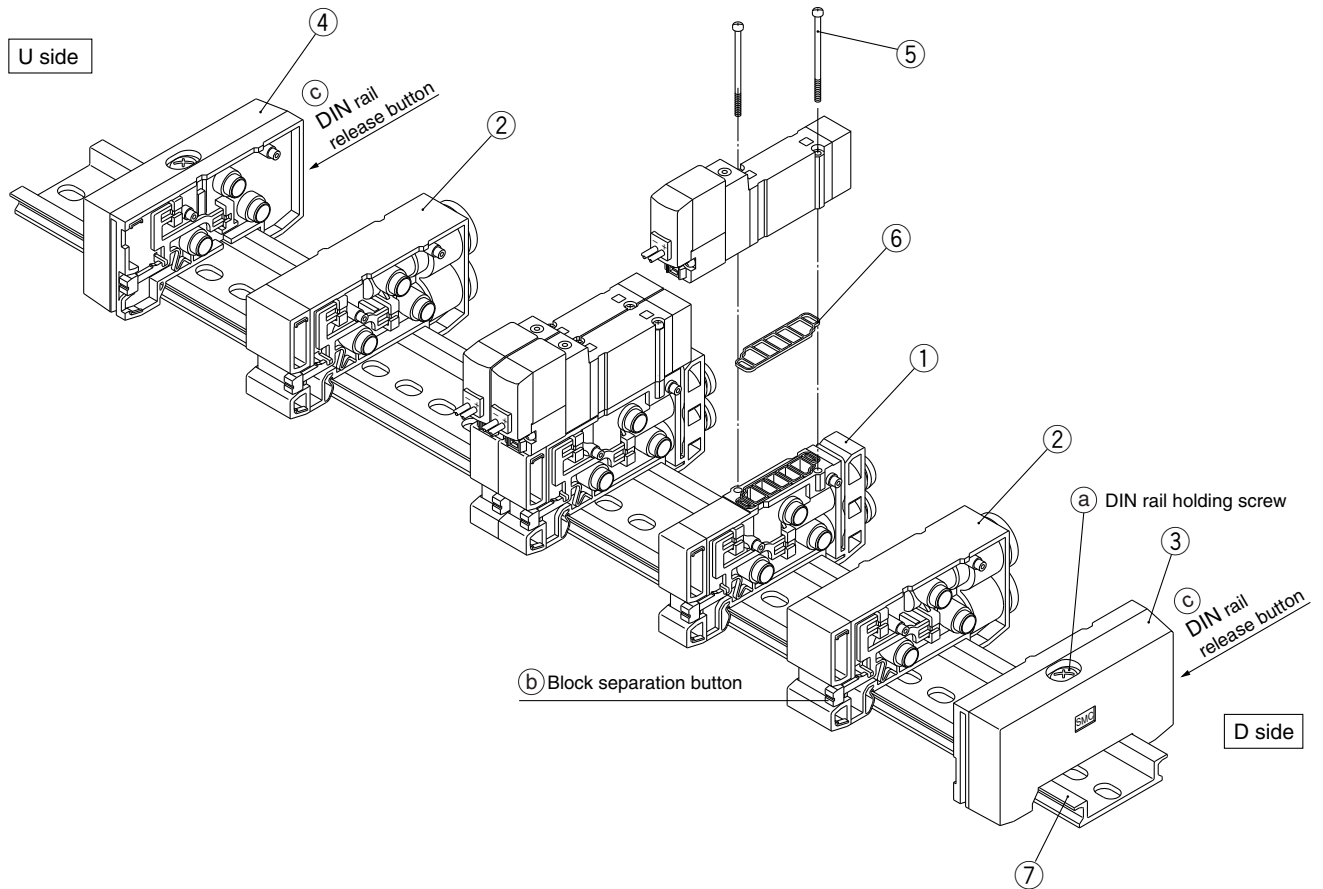
Note) Refer to back page 12 for dimensions of connector types.

DIN terminal (D)



DIN Rail Manifold Exploded View

Type 45



Replacement Parts

No.	Description	No.		Note
		SY3000	SY5000	
1	Manifold block assembly	SX3000-50-1A-□□-Q	SX5000-50-1A-□□-Q	□□: SY3000 (Metric size) C4: With one-touch fitting for $\phi 4$ (Inch size) N3: With one-touch fitting for $\phi 5/32$ " SY5000 (Metric size) C6: With one-touch fitting for $\phi 6$ (Inch size) N7: With one-touch fitting for $\phi 1/4$ " C4: With one-touch fitting for $\phi 4$ (Inch size) N3: With one-touch fitting for $\phi 5/32$ " C6: With one-touch fitting for $\phi 6$ (Metric size) N7: With one-touch fitting for $\phi 1/4$ " C8: With one-touch fitting for $\phi 8$ (Inch size) N9: With one-touch fitting for $\phi 5/16$ " (Gasket 6 is supplied as an accessory.)
2	SUP/EXH block assembly	(Metric size) SX3000-51-1A (Inch size) SX3000-51-15A	(Metric size) SX5000-51-1A (Inch size) SX5000-51-15A	P, R port SY3000 (Metric size) With one-touch fitting for $\phi 8$ (Inch size) With one-touch fitting for $\phi 5/16$ " P, R port SY5000 (Metric size) With one-touch fitting for $\phi 10$ (Inch size) With one-touch fitting for $\phi 3/8$ "
3	End block assembly R	SX3000-52-1A-Q	SX5000-52-1A-Q	For D side
4	End block assembly R	SX3000-53-1A-Q	SX5000-53-1A-Q	For U side
5	Round head combination screw	SY3000-23-4	M3 x 26 (Matt nickel plated)	
6	Gasket	SX3000-57-4	SX5000-57-6	
7	DIN rail	VZ1000-11-1-□		Refer to page 118.

DIN Rail Manifold Exploded View

How to Increase Manifold Bases Station expansion is possible at any position.

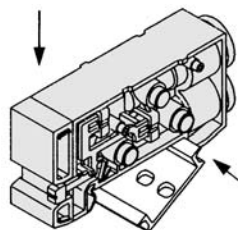
- 1 Loosen DIN rail holding screw (a) fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons (c), at two locations, separate the manifold base from the DIN rail.)
- 2 Press manifold block assembly dividing button (b), that are at the location where manifold bases are to be added, until button (b) locks, and then separate the block assemblies.
- 3 Mount additional manifold block assembly on the DIN rail as shown in the figure 1.
- 4 Press the block assemblies until a click sound is produced, and tighten the DIN rail holding screw (a) to fix them to the DIN rail.
⚠ Caution (Tightening torque: 1.4 N·m)
 (While lightly holding the blocks after fixing an end block on one side, tighten the other end block for for better sealing.)

⚠ Caution

Note 1) When there are 10 or fewer manifold block assemblies, and more are added to make a total of 11 or more, a supply/exhaust block assembly must also be added.

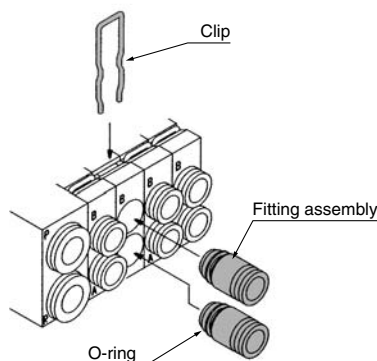
Note 2) When disassembly and assembly are performed, air leakage may result if connections between blocks and tightening of the end block's holding screw, is inadequate. Before supplying air, confirm that there are no gaps, etc. between blocks, and that manifold blocks are securely fastened to the DIN rail. Then supply air and confirm that there is no air leakage before operating.

Fig. (1) Block mounting procedure



Hook the DIN rail here and press down in the direction of the arrow until a click sound is heard.

How to Change Fitting Assembly



Type 45 manifold permits change in the A and B port sizes by changing the manifold block fitting assembly.
 After removing the valve, remove the clip with a screwdriver, etc. For mounting a new fitting assembly, insert it and then insert a clip until it will not come out of the manifold block.

Fitting Assembly Part No.

Metric size

SY3000	One-touch fitting for $\phi 4$	VVQ1000-50A-C4
	One-touch fitting for $\phi 6$	VVQ1000-50A-C6
SY5000	One-touch fitting for $\phi 4$	VVQ1000-51A-C4
	One-touch fitting for $\phi 6$	VVQ1000-51A-C6
	One-touch fitting for $\phi 8$	VVQ1000-51A-C8

Inch size

SY3000	One-touch fitting for $\phi 5/32''$	VVQ1000-50A-N3
	One-touch fitting for $\phi 1/4''$	VVQ1000-50A-N7
SY5000	One-touch fitting for $\phi 5/32''$	VVQ1000-51A-N3
	One-touch fitting for $\phi 1/4''$	VVQ1000-51A-N7
	One-touch fitting for $\phi 5/16''$	VVQ1000-51A-N9



Note 1) P and R ports cannot be changed.

Note 2) Use caution that O-rings must be free from scratches and dust. Otherwise, air leakage may result.

Type **45-A-NA**

5 Port Solenoid Valve

Series SY3000/5000

Base Mounted

Stacking Type/DIN Rail Mounted

Connector Box

How to Order Manifold

SS5Y 3 -45- A U -05 D -C6 - -Q

Series

3	SY3000
5	SY5000

Specifications

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

The style of attached lead wire assembly is different.

Connector box mounting position

Symbol	Mounting position
U	U side
D	D side

Valve stations

Symbol	Stations	Note
02	2 stations	Applicable 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 by the manifold specification sheet.

A/B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for $\phi 4$	SY3000
C6	One-touch fitting for $\phi 6$	
M	Mixed	
C4	One-touch fitting for $\phi 4$	SY5000
C6	One-touch fitting for $\phi 6$	
C8	One-touch fitting for $\phi 8$	
M	Mixed	

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for $\phi^{5/32}$ "	SY3000
N7	One-touch fitting for $\phi^{1/4}$ "	
M	Mixed	
N3	One-touch fitting for $\phi^{5/32}$ "	SY5000
N7	One-touch fitting for $\phi^{1/4}$ "	
N9	One-touch fitting for $\phi^{9/32}$ "	
M	Mixed	

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

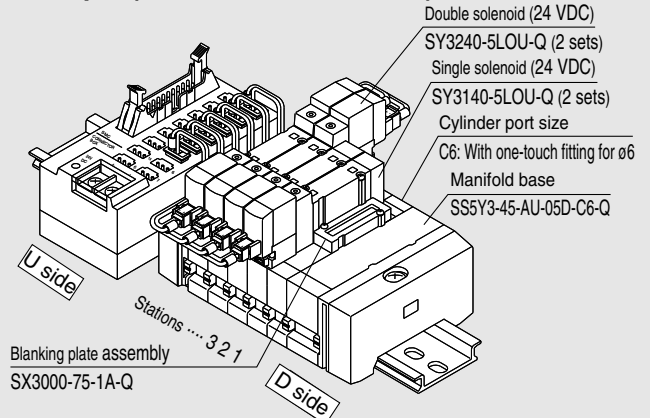
Option

When a longer DIN rail is desired than the specified stations, specify the station number to be required. (Max. 20 stations)

For external pilot specifications and built-in silencer, refer to page 205.

How to Order Valve Manifold Assembly (Example)

Example (SY3000, +COM, U side)



- SS5Y3-45-AU-05D-C6-Q 1 set (Type 45, 5 station manifold base part no.)
- * SX3000-75-1A-Q 1 set (Blanking plate assembly part no.)
- * SY3140-5LOU-Q 2 sets (Single solenoid part no.)
- * SY3240-5LOU-Q 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 connector box. 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 us.

SS5Y³-45-A^U-□□-□□ is assembled with solenoid valve and lead wire assembly when shipping. When ordering manifold only (without valves/wires/options), refer to how to order on page 115 and list the connector box (VZ3000-106-1A) and the rail stopper (TXE1-SMC) below the manifold to allow for the connector box mounting at U side. (Be sure to order DIN rail 3 station longer than number of the manifold stations.) In this case, please note that dimensions, L1 and L2 on pages 131 and 132 may vary slightly.) For other components, refer to page 133.

How to Order Valve

SY 5 2 40 - 5 LOU -Q

Series

3	SY3000
5	SY5000

Type of actuation

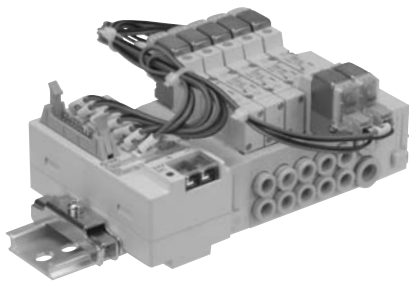
1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center

Manual override

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

Rated voltage

5	24 VDC
---	--------



Manifold Specifications

Model	SS5Y3-45-A-NA		SS5Y5-45-A-NA	
Applicable valve	SY3□40		SY5□40	
Manifold type	Stacking type/DIN rail mounted			
P (SUP)/R (EXH)	Common SUP, Common EXH			
Valve stations	2 to 16 stations <small>Note 1, 2)</small>			
A, B port	Base			
Porting specifications	Location	Side		
	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 type 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

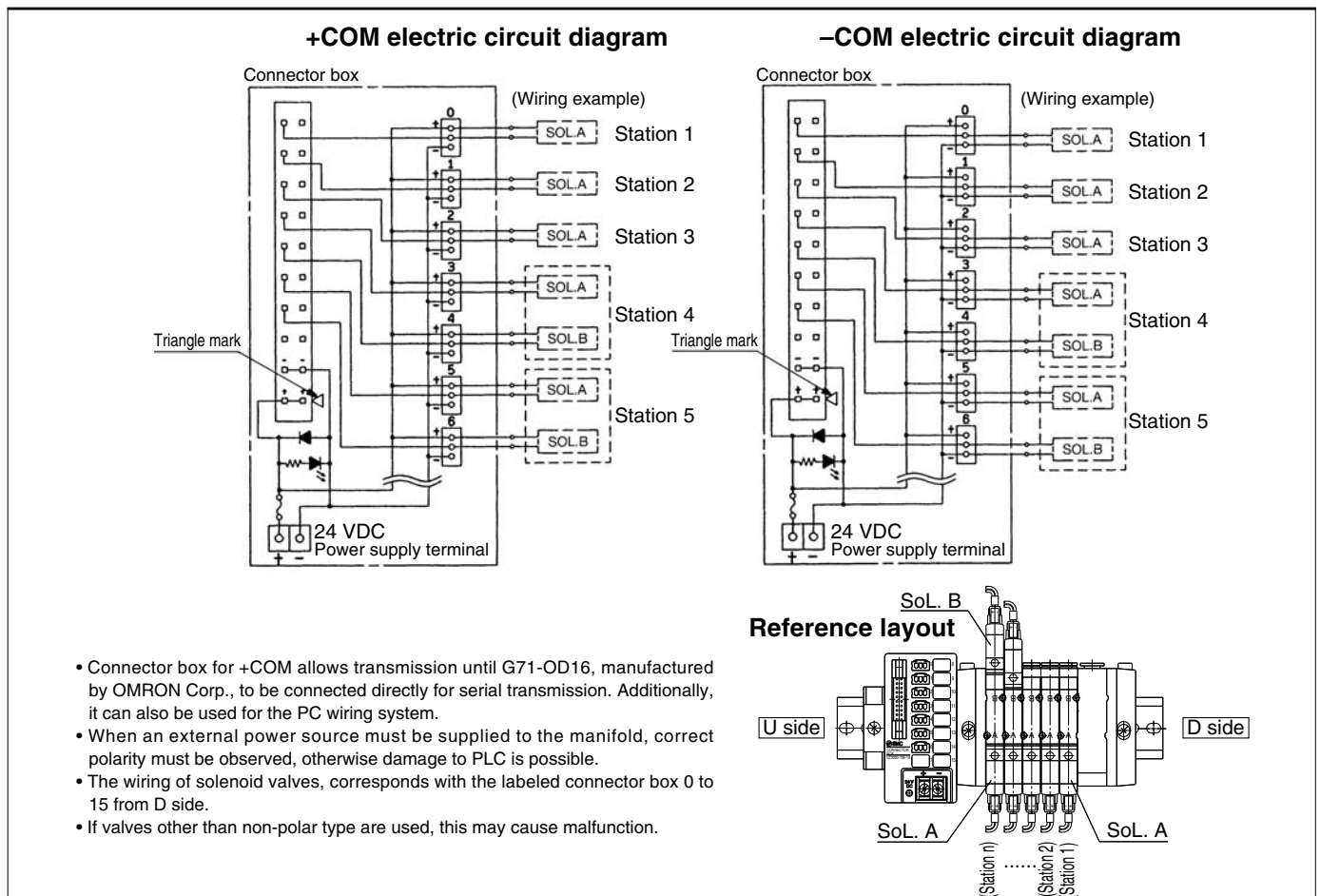
Model	Port size		Flow characteristics							
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)				4/2 → 5/3 (A/B → EA/EB)			
			C (dm ³ /(s·bar))	b	Cv	Q (l/min(ANR))*	C (dm ³ /(s·bar))	b	Cv	Q (l/min(ANR))*
SS5Y3-45-□	C8	C6	0.88	0.21	0.22	212	0.95	0.18	0.22	225
SS5Y5-45-□	C10	C8	2.2	0.24	0.53	539	2.5	0.18	0.58	592



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

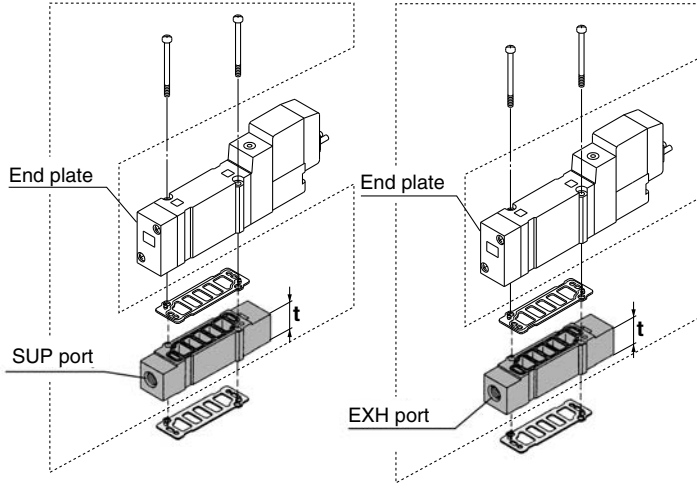
* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Manifold Wiring Diagram (Circuit diagram for the reference layout)



Manifold Option

▪ Individual SUP spacer assembly ▪ Individual EXH spacer assembly



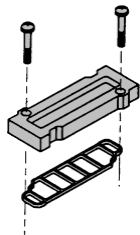
Series	Assembly part no.	Port size	t
SY3000	SY3000-38-2A-Q	M5	11
SY5000	SY5000-38-16-A-Q	1/8"	15

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
SY3000	SY3000-39-2A-Q	M5	11
SY5000	SY5000-39-16-A-Q	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.
SY3000	SX3000-75-1A-Q
SY5000	SX5000-76-5A-Q

* Thread type

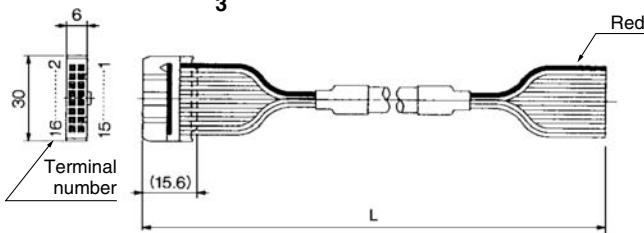
-	Rc
F	G
N	NPT
T	NPTF

Caution

Mounting screw tightening torques

M2: 0.16 N·m
M3: 0.8 N·m
M4: 1.4 N·m

▪ Cable assembly
AXT100-FC20-¹/₃



Connector Assembly for Flat Ribbon Cables

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

* For other commercial connectors, use a 20 pins with strain relief conforming to MIL-C-83503.

Connector manufacturers' example

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

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.

▪ SUP blocking disk

By installing a SUP blocking 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.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

▪ EXH blocking disk

By installing an EXH blocking 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 blocking disks are needed to divide both exhausts.)



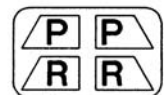
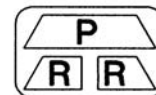
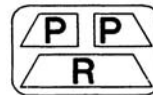
Series	Part no.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

▪ Label for block disk

The labels shown below are used on manifold stations containing SUP/EXH blocking disk(s) to show their location. (3 pcs. each)

VZ3000-123-1A

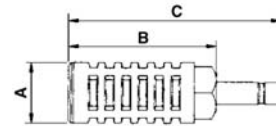
Label for SUP block disk Label for EXH block disk Label for SUP/EXH block disk



Note) When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

▪ Silencer with One-touch fitting

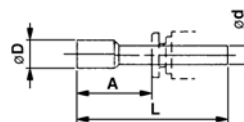
The silencer plugs directly into the One-touch fittings of the manifold.



Series	Model	Effective area	A	B	C
For SY3000 (ø8)	AN203-KM8	14 mm ²	ø16	26	51
For SY5000 (ø10)	AN200-KM10	26 mm ²	ø22	53.8	80.8
	AN300-KM10	30 mm ²	ø25	70	97

▪ Plug (white)

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



Dimensions

Applicable fittings size ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
1/8"	KQ2P-01	16	31.5	5
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KQ2P-09	20.5	39	10

Manifold Option

▪ How to Order Interface regulator (SY3000, 5000 only)

Series SY3000

ARBY3000-05-P-2

• **Regulating port**

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

• **Pressure gauge connection port**

05	Pressure gauge (G15-10-01) [for odd number station]
06	Pressure gauge (G15-10-01) [for even number station]
M1	Plug (M-5P)

* In the case of mounting an ARBY3000 with a pressure gauge onto a manifold, use caution that the part numbers are different between the odd no. stations and the even no. stations to avoid the gauges from interfering with each other.

Series SY5000

ARBY5000-00-P-2

• **Regulating port**

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

• **Pressure gauge connection port**

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

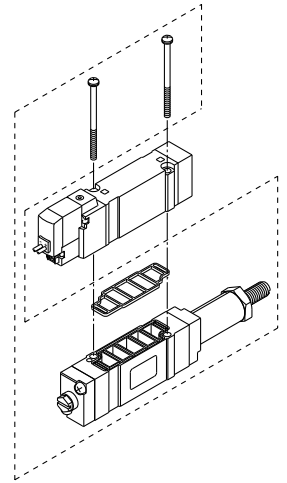
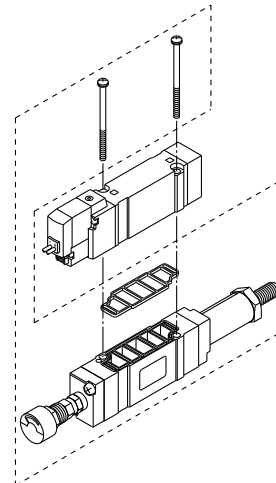
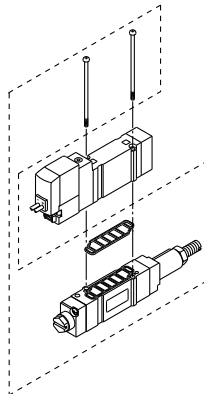
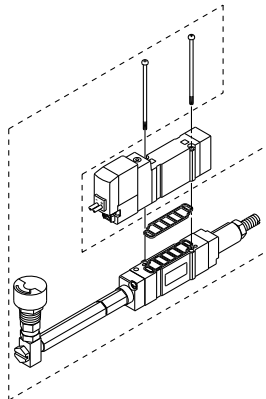
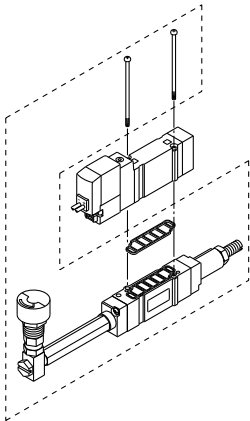
ARBY3000-05-□-2
(For odd number stations)

ARBY3000-06-□-2
(For even number stations)

ARBY3000-M1-□-2

ARBY5000-00-□-2

ARBY5000-M1-□-2



Accessory

Series	Round head combination screw	Gasket
ARBY3000	SY3000-23-10 (M2 x 36)	SX3000-57-4
ARBY5000	M3 x 48.5, Matt nickel plated	SX5000-57-6

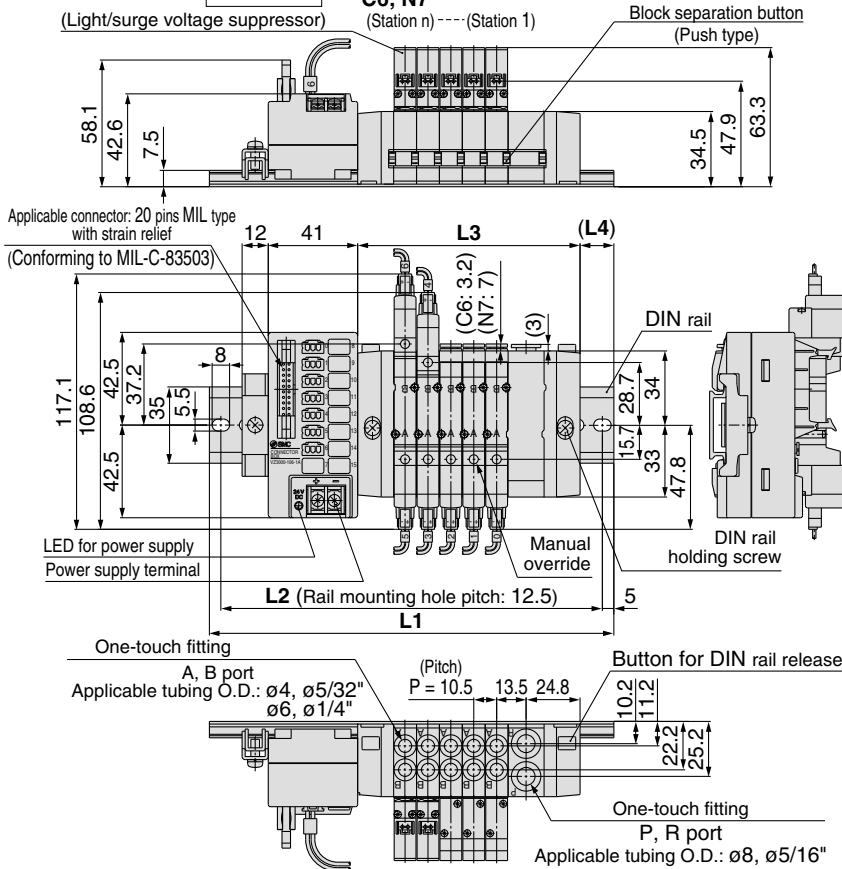
Caution

Mounting screw tightening torques

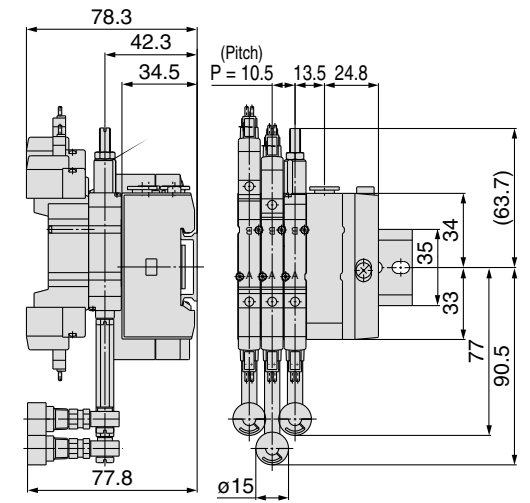
M2: 0.16 N·m
M3: 0.8 N·m

Dimensions: Series SY3000

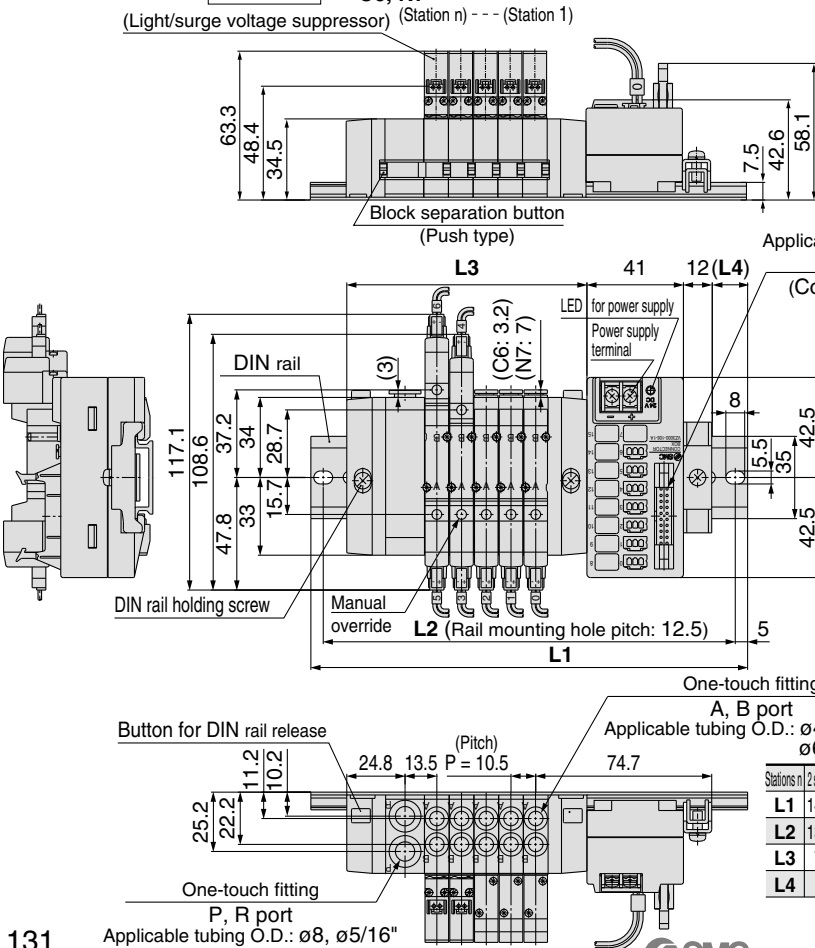
**SS5Y3-45-AU- Stations D- C4, N3
C6, N7 -Q**



With interface regulator (with gauge)



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



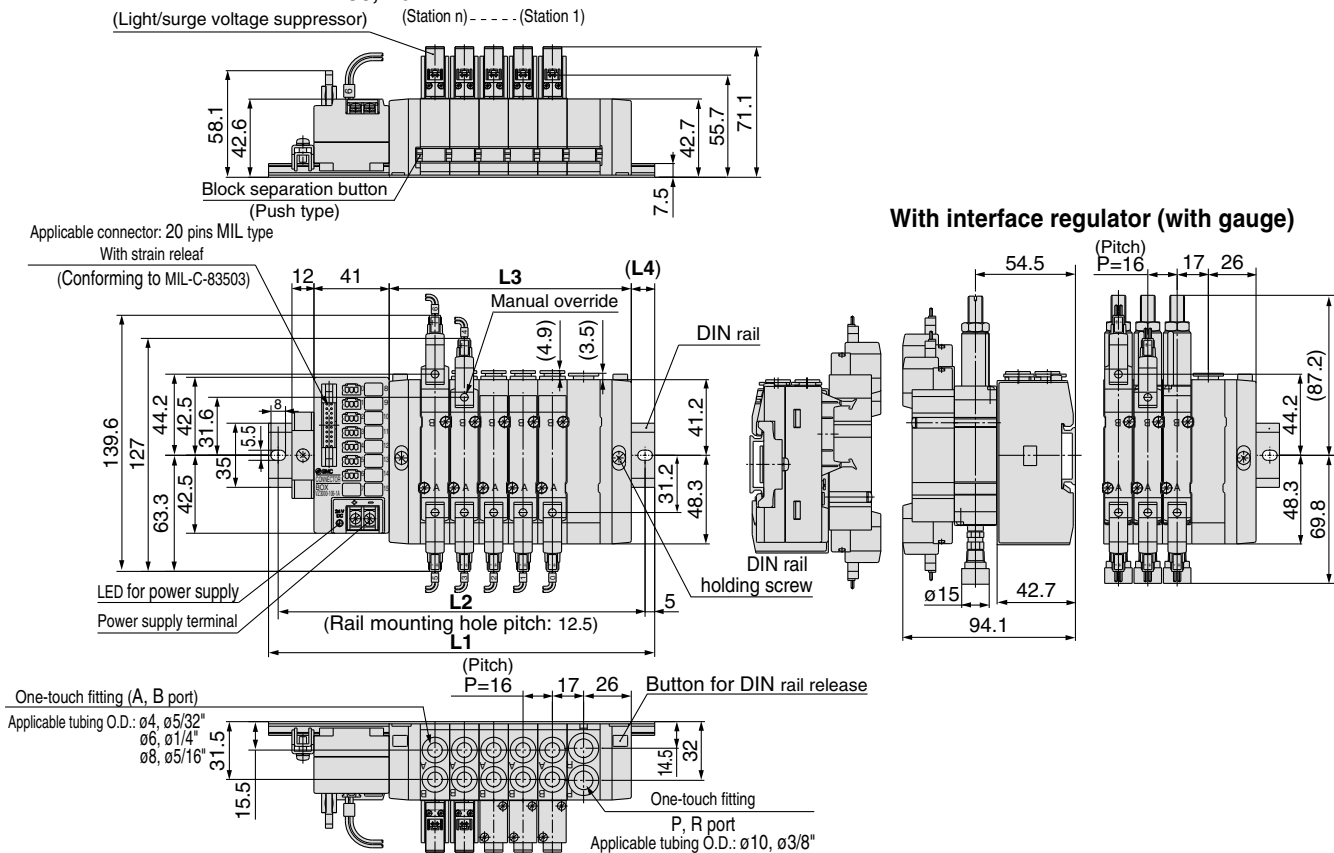
Applicable connector: 20 pins MIL type with strain relief (Conforming to MIL-C-83503)

Stations n	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

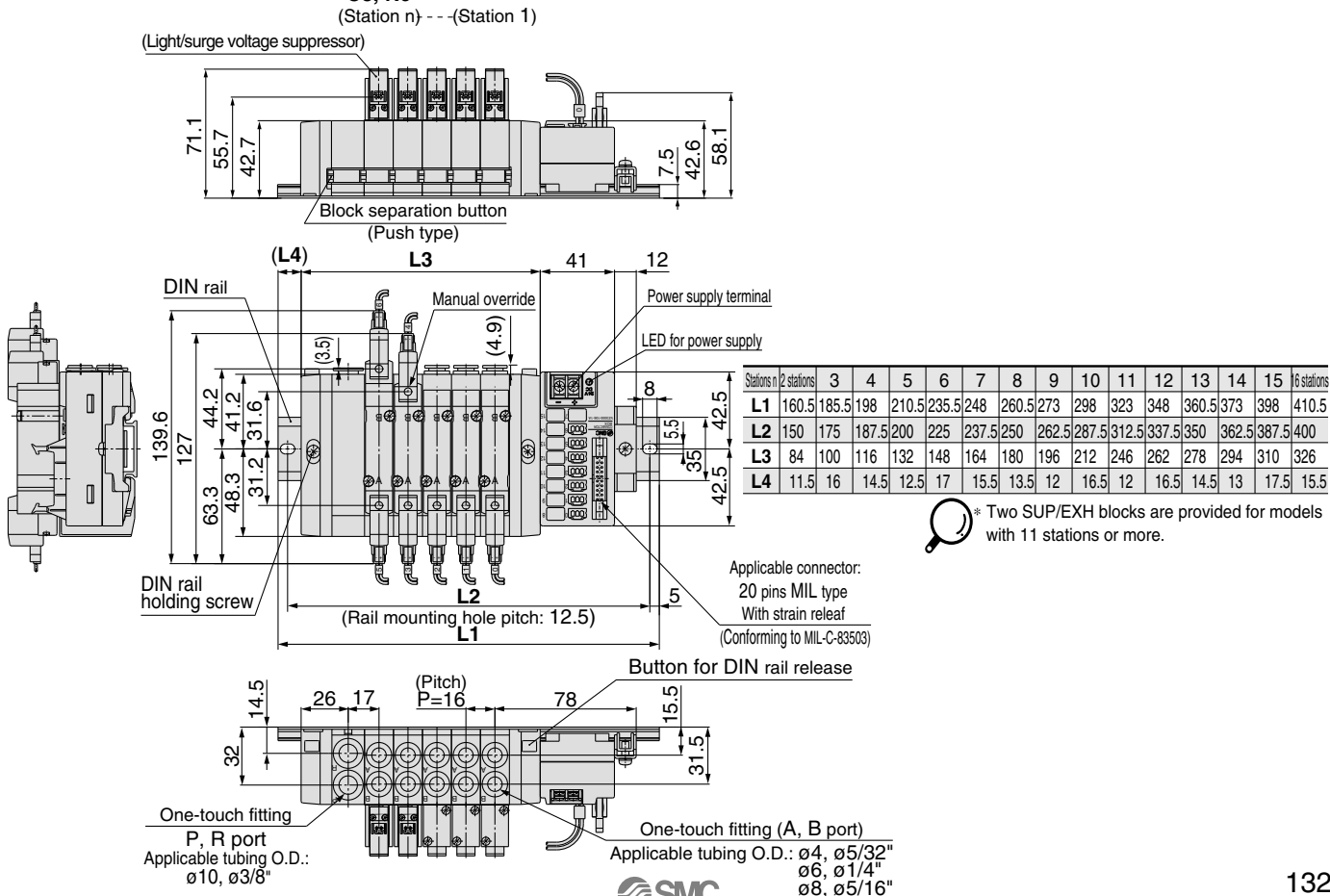
* Two SUP/EXH blocks are provided for models with 11 stations or more.

Dimensions: Series SY5000

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

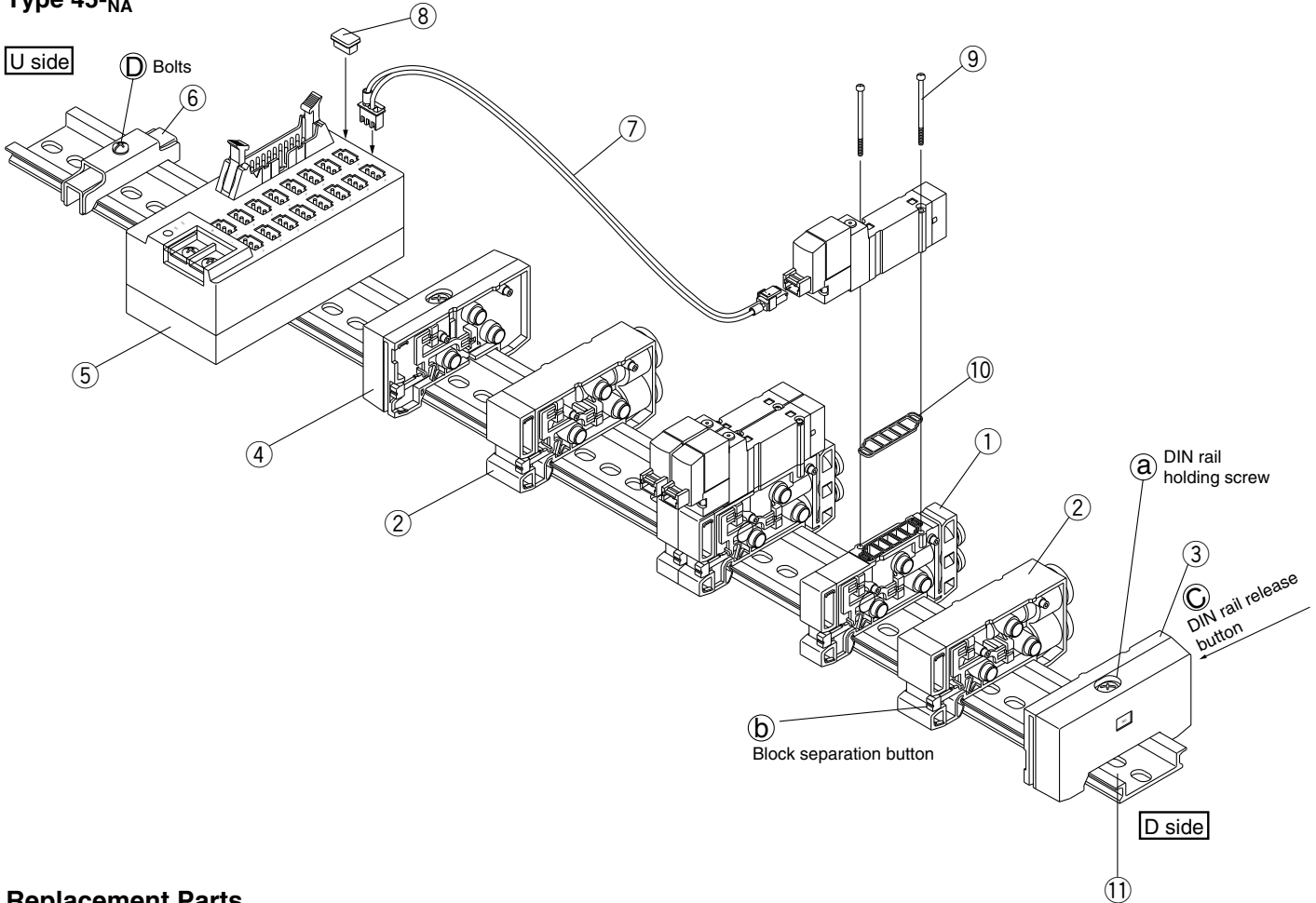


SS5Y5-45-AD- Stations U- C4, N3 C6, N7 C8, N9



DIN Rail Manifold Exploded View

Type 45-NA



Replacement Parts

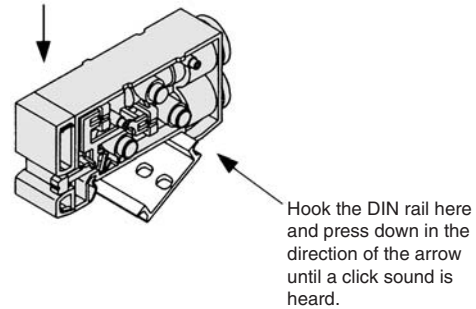
No.	Description	No.		Note
		SY3000	SY5000	
1	Manifold block assembly	SX3000-50-1A-□□-Q	SX5000-50-1A-□□-Q	•SY3000 (Metric size) (Inch size) C4: With one-touch fitting for ø4 N3: With one-touch fitting for ø5/32" C6: With one-touch fitting for ø6 N7: With one-touch fitting for ø1/4" For SY5000 (Metric size) (Inch size) C4: With one-touch fitting for ø4 N3: With one-touch fitting for ø5/32" C6: With one-touch fitting for ø6 N7: With one-touch fitting for ø1/4" C8: With one-touch fitting for ø8 N9: With one-touch fitting for ø5/16" (Gasket 10 is supplied as an accessory.)
2	SUP/EXH block assembly	(Metric size) SX3000-51-1A (Inch size) SX3000-51-15A	(Metric size) SX5000-51-1A (Inch size) SX5000-51-15A	P, R port SY3000 (Metric size) With one-touch fitting for ø8 (Inch size) With one-touch fitting for ø5/16" P, R port SY5000 (Metric size) With one-touch fitting for ø10 (Inch size) With one-touch fitting for ø3/8"
3	End block assembly R	SX3000-52-1A-Q	SX5000-52-1A-Q	For D side
4	End block assembly L	SX3000-53-1A-Q	SX5000-53-1A-Q	For U side
5	Connector box	VZ3000-106-1A		For 24 VDC only
6	Rail stopper	TXE1-SMC		Made by Kasuga Electric Works
7	Connecter assembly	SY3000-43-1A-□	SY3000-43-2A-□	+COM Type D, 2 to 8 stations Type U, 9 to 16 stations
		SY3000-43-2A-□	SY3000-43-3A-□	+COM Type D, 9 to 16 stations Type U, 2 to 8 stations
		SY3000-43-1NA-□	SY3000-43-2NA-□	-COM Type D, 2 to 8 stations Type U, 9 to 16 stations
		SY3000-43-2NA-□	SY3000-43-3NA-□	-COM Type D, 9 to 16 stations Type U, 2 to 8 stations
8	Dust cap	VZ3000-63-2		
9	Round head combination screw	SY3000-23-4	M3 x 26, Matt nickel plated	
10	Gasket	SX3000-57-4	SX5000-57-6	
11	DIN rail	VZ1000-11-1-□		Refer to page 118.

How to Increase Manifold Bases

Station expansion is possible at any position.

- 1 Loosen DIN rail holding screw (a) fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons (c), at two locations, separate the manifold base from the DIN rail.)
- 2 Press manifold block assembly dividing button (b), that are at the location where manifold bases are to be added, until button (b) locks, and then separate the block assemblies.
- 3 Mount additional manifold block assembly on the DIN rail as shown in the figure 1.
- 4 Press the block assemblies until a click sound is produced, and tighten the DIN rail holding screw (a) to fix them to the DIN rail.
⚠Caution (Tightening torque: 1.4 N·m)
 (While lightly holding the blocks after fixing an end block on one side, tighten the other end block for for better sealing.)
- 5 Untighten the rail stopper bolt (d) to demount the connector box from the DIN rail, and when remounting it, tighten the bolt while pressing it against the rail.

Fig. (1) Block mounting procedure



⚠Caution

- Note 1) When there are 10 or fewer manifold block assemblies, and more are added to make a total of 11 or more, a supply/exhaust block assembly must also be added.
- Note 2) When disassembly and assembly are performed, air leakage may result if connections between blocks and tightening of the end block's holding screw, is inadequate. Before supplying air, confirm that there are no gaps, etc. between blocks, and that manifold blocks are securely fastened to the DIN rail. Then supply air and confirm that there is no air leakage before operating.
- Note 3) One connector assembly is necessary for one solenoid.
 When a number is necessary for the connector assembly mark tube, suffix the number to the part no. (0 to 15 are provided as mark tube numbers.)
 Ex) +COM spec.: D type for 2 to 8 stations: No. 10
SY3000-43-1A-10

How to Change Fitting Assembly

Type 45 manifold permits change in the A and B port sizes by changing the manifold block fitting assembly.
 After removing the valve, remove the clip with a screwdriver, etc. For mounting a new fitting assembly, insert it and then insert a clip until it will not come out of the manifold block.

Fitting Assembly Part No.

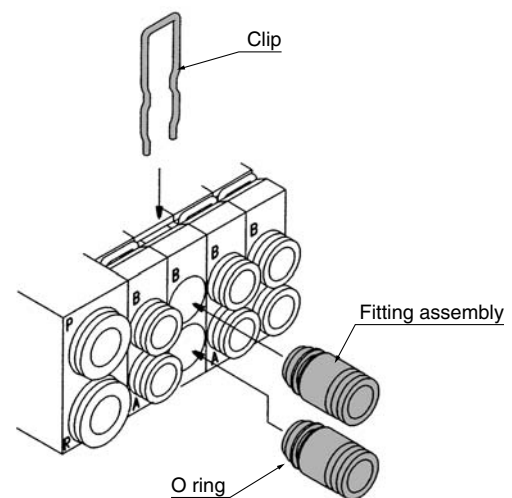
Metric size

SY3000	One-touch fitting for $\phi 4$	VVQ1000-50A-C4
	One-touch fitting for $\phi 6$	VVQ1000-50A-C6
SY5000	One-touch fitting for $\phi 4$	VVQ1000-51A-C4
	One-touch fitting for $\phi 6$	VVQ1000-51A-C6
	One-touch fitting for $\phi 8$	VVQ1000-51A-C8

Inch size

SY3000	One-touch fitting for $\phi 5/32$ "	VVQ1000-50A-N3
	One-touch fitting for $\phi 1/4$ "	VVQ1000-50A-N7
SY5000	One-touch fitting for $\phi 5/32$ "	VVQ1000-51A-N3
	One-touch fitting for $\phi 1/4$ "	VVQ1000-51A-N7
	One-touch fitting for $\phi 5/16$ "	VVQ1000-51A-N9

- Note 1) P and R ports cannot be changed.
 Note 2) Use caution that O-rings must be free from scratches and dust. Otherwise, air leakage may result.



5 Port Solenoid Valve

Series SY3000/5000

Base Mounted

Stacking Type/DIN Rail Mounted

Plug-in

How to Order Manifold

Type 45F (D-sub connector, 25 pins)

SS5Y 3-45 F D-05 U-C4 -Q

Series

3	SY3000
5	SY5000

Common specifications

-	Positive common
N	Negative common

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 20 solenoid valves.)
⋮	⋮	
20	20 stations	

- * This also includes the number of blanking plate assemblies.
- * Two stations are necessary for the double and 3 position solenoid valves (Dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	(Both sides)	2 to 20 stations
M	Special specifications	

- * For special specifications, indicate separately by the manifold specification

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	
M	Mixed	SY5000
C4	One-touch fitting for ø4	
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 $\frac{5}{32}$ "	SY3000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
M	Mixed	SY5000
N3	One-touch fitting for ø $\frac{5}{32}$ "	
N7	One-touch fitting for ø $\frac{1}{4}$ "	
N9	One-touch fitting for ø $\frac{5}{16}$ "	
M	Mixed	

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

Voltage

-	24 VDC
12V	12 VDC

Option

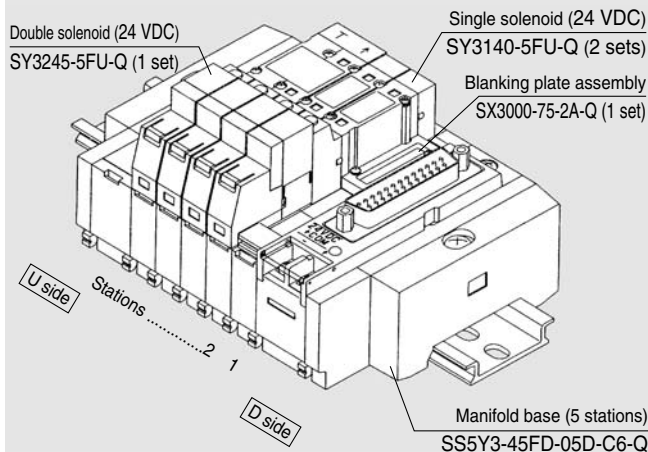
When a longer DIN rail is desired than the specified stations, specify the station number to be required. (20 stations at maximum)



For external pilot specifications and built-in silencer, refer to page 208.

How to Order Valve Manifold Assembly (Example)

Example (Type 45F/D-sub connector (25 pin))



- SS5Y3-45FD-05U-C6-Q 1 set (Type 45F, D-sub connector 5 port manifold base part no.)
- * SX3000-75-2A-Q 1 set (Blanking plate assembly part no.)
- * SY3140-5FU-Q 2 sets (Single solenoid part no.)
- * SY3245-5FU-Q 1 set (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.
- When ordering double solenoid valves/3 position (Dual body type), please keep in mind that they require two manifold stations.

How to Order Valve (Type 45F, 45P, 45T, 45T1)

2 position single SY 3 1 4 0 - 5 FU -Q

Double and 3 position SY 3 2 4 5 - 5 FU -Q

Series

3	SY3000
5	SY5000

Type of actuation

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

Dual body type (Double, 3 position)

Rated voltage

5	24 VDC
6	12 VDC

Manual override

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

How to Order Manifold

Type 45P (Flat ribbon cable)

SS5Y 3-45 P D-05 U-C4 -Q

Series

3	SY3000
5	SY5000

Common specifications

-	Positive common
N	Negative common

Connector poles

Symbol	Poles	Stations
-	26	2 to 20 stations
G	20	2 to 16 stations
H	10	2 to 8 stations

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	
M	Mixed	
C4	One-touch fitting for ø4	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 $\frac{5}{32}$ "	SY3000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
M	Mixed	
N3	One-touch fitting for ø $\frac{5}{32}$ "	SY5000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
N9	One-touch fitting for ø $\frac{5}{16}$ "	
M	Mixed	

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

Voltage

-	24 VDC
12V	12 VDC

SUP/EXH block assembly mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 20 stations
M	Special specifications	

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

Valve stations (Blanking plate assemblies are included.)

26 pins (P) connector

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 20 solenoid valves.)
:	:	
20	20 stations	

20 pins (PG) connector

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 16 solenoid valves.)
:	:	
16	16 stations	

10 pins (PH) connector

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 8 solenoid valves)
:	:	
08	8 stations	

Two stations are necessary for the double, 3 position (Dual body type).

Type 45T (9 pins terminal block)

SS5Y 3-45T D-05 U-C4 -Q

Series

3	SY3000
5	SY5000

Terminal block mounting position

Symbol	Mounting position
U	U side
D	D side

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 8 solenoid valves)
:	:	
08	8 stations	

* This also includes the number of blanking plate assemblies.
* Two stations are necessary for the double, 3 position (Dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Stations
U	U side	2 to 8 stations
D	D side	2 to 8 stations
B	Both sides	2 to 8 stations
M	Special specifications	

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	
M	Mixed	
C4	One-touch fitting for ø4	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 $\frac{5}{32}$ "	SY3000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
M	Mixed	
N3	One-touch fitting for ø $\frac{5}{32}$ "	SY5000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
N9	One-touch fitting for ø $\frac{5}{16}$ "	
M	Mixed	

Option
When a longer DIN rail is desired than the specified stations, specify the station number to be required.

Type 45T1 (18 pins terminal block)

SS5Y 3-45T1 D-15 B-C4 -Q

Series

3	SY3000
5	SY5000

Terminal block mounting position

Symbol	Mounting position
U	U side
D	D side

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 17 solenoid valves.)
:	:	
17	17 stations	

* This also includes the number of blanking plate assemblies.
* Two stations are necessary for the double, 3 position (Dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 17 stations
M	Special specifications	

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	
M	Mixed	
C4	One-touch fitting for ø4	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 $\frac{5}{32}$ "	SY3000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
M	Mixed	
N3	One-touch fitting for ø $\frac{5}{32}$ "	SY5000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
N9	One-touch fitting for ø $\frac{5}{16}$ "	
M	Mixed	

Option
When a longer DIN rail is desired than the specified stations, specify the station number to be required.

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

* In the case of mixed specifications (M), indicate separately on the manifold

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

* In the case of mixed specifications (M), indicate separately on the manifold

Note) The terminal block (45T) manifold has no common polarity. It can be used for both positive and negative common.

How to Order Manifold

Type 45G (Flat cable, PC Wiring System compatible)

SS5Y 3-45G D-05 U C4 -Q

Series

3	SY3000
5	SY5000

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 16 solenoid valves.)
⋮	⋮	
16	16 stations	

* Two stations are necessary for the double, 3 position (Dual body type).
* This also includes the number of blanking plate assemblies.

Option

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

A, B port size

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

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø $\frac{5}{32}$ "	SY3000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
M	Mixed	
N3	One-touch fitting for ø $\frac{5}{32}$ "	SY5000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
M	Mixed	

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

SUP/EXH block assembly specifications

Symbol	Specifications
-	Internal pilot specifications
R	External pilot specifications
S	Internal pilot / Built-in silencer
RS	External pilot / Built-in silencer

SUP/EXH block assembly mounting position

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

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

How to Order Valve

2 position single **SY 3 1 4 0** **5 FU -Q**

Double, 3 position **SY 3 2 4 5** **5 FU -Q**

Series

3	SY3000
5	SY5000

Type of actuation

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

Dual body type (Double, 3 position)

Pilot type

-	Internal pilot
R	External pilot

Rated voltage

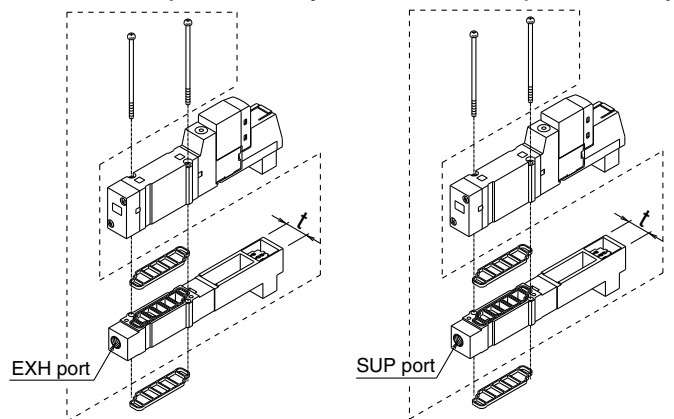
5	24 VDC
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Manual override

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

Manifold Option

Individual EXP spacer assembly Individual SUP spacer assembly



Series	Assembly part no.	Port no.	t
SY3000	SY3000-39-3A	M5	11
SY5000	SY5000-39-17*A-Q	1/8	15

Note) Please be careful because the dual body type (double solenoid, 3-position) requires two pieces. In this case, the exhaust is performed in the direction of the arrow mark indicated on the valve surface.

Series	Assembly part no.	Port no.	t
SY3000	SY3000-38-3A	M5	11
SY5000	SY5000-38-17*A-Q	1/8	15

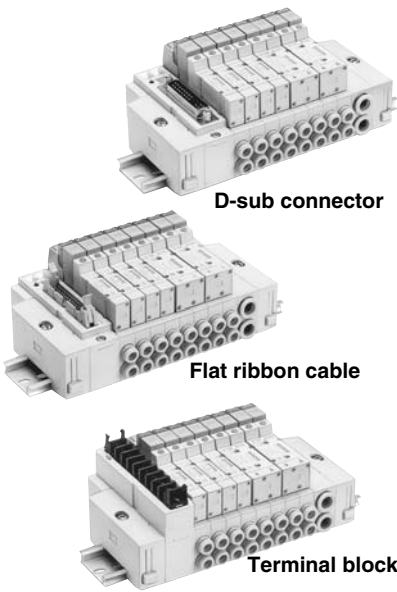
Note) Please be careful because the dual body type (double solenoid, 3-position) requires two pieces. In this case, both supply ports require the piping.

* Thread type

-	Rc
F	G
N	NPT
T	NPTF

Manifold Specifications

Model	D-sub connector Type 45F	Flat ribbon cable Type 45P□			Terminal block		Flat ribbon cable PC wiring system compatible	
		Type 45P	Type 45PG	Type 45PH	Type 45T	Type 45T1	Type 45G	
Manifold	Plug-in							
P (SUP)/R (EXH)	Common SUP, Common EXH							
Valve stations <small>Note 1, 2)</small>	2 to 20 stations	2 to 16 stations	2 to 8 stations		2 to 17 stations	2 to 16 stations		
A, B port Porting specifications	Location	Base						
	Direction	Side						
Port size	P, R port	SY3000	C8 (One-touch fitting for ø8)					
		SY5000	C10 (One-touch fitting for ø10)					
	A, B port	SY3000	C4 (One-touch fitting for ø4)/C6 (One-touch fitting for ø6)					
		SY5000	C4 (One-touch fitting for ø4)/C6 (One-touch fitting for ø6)/C8 (One-touch fitting for ø8)					
Applicable connector	D-sub connector	Complies with MIL-C-24308 JIS-X-5101	Flat ribbon cable connector Socket: 26 pins MIL type with strain relief Conforming to MIL-C-83503	Flat ribbon cable connector Socket: 20 pins MIL type with strain relief Conforming to MIL-C-83503	Flat ribbon cable connector Socket: 10 pins MIL type with strain relief Conforming to MIL-C-83503	Terminal block (M3) 9 pins	Terminal block (M3) 18 pins	Flat ribbon cable connector Socket: 20 pins MIL type with strain relief Conforming to MIL-C-83503
	Internal wiring	+COM (Type 45□), -COM (Type 45N□)			In common between +COM and -COM.		+ COM	
Manifold base weight w (g) n: Stations (D-sub connector)	SY3000	2 to 10 stations: W = 26n + 172 11 to 20 stations: W = 26n + 199						
	SY5000	2 to 10 stations: W = 54n + 227 11 to 20 stations: W = 52n + 264						



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".

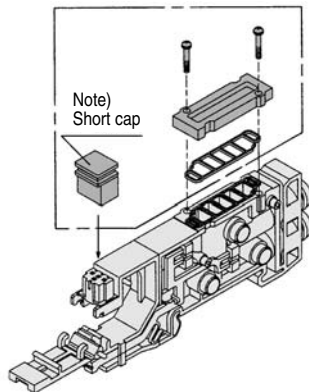
Flow Characteristics

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 (dm ³ /(s·bar))	b	Cv	Q [l/min(ANR)]*	C (dm ³ /(s·bar))	b	Cv	Q [l/min(ANR)]*
SS5Y3-45□	C8	C6	0.88	0.21	0.22	212	0.95	0.18	0.22	225
SS5Y5-45□	C10	C8	2.2	0.24	0.53	539	2.5	0.18	0.58	592

Note) The value is for manifold base with 5 stations and individually operated 2 position type.
* These values have been calculated according to ISO6358 and represent the flow rate measured in standard conditions at an upstream pressure of 0.6 MPa (relative pressure) and a differential pressure of 0.1MPa.

Manifold Option

Blanking plate assembly



Series	Assembly part no.
SY3000	SX3000-75-2A-Q
SY5000	SX5000-76-2A-Q

Note) When mounting blanking plate, be sure to mount a short cap.
• Two stations are necessary for the double, 3 position (Dual body type).

SUP blocking disk

By installing a SUP blocking 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	No.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

EXH blocking disk

By installing an EXH blocking 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 blocking disks are needed to divide both exhausts.)

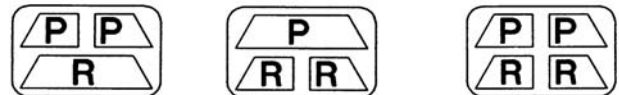


Series	No.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

Label for block disk

The labels shown below are used on manifold stations containing SUP/EXH block disk(s) to show their location. (3 pcs. each)
VZ3000-123-1A (In common with SY3000, 5000)

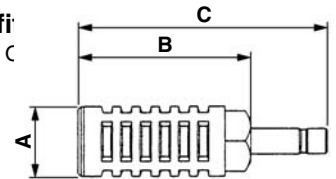
Label for SUP block disk Label for EXH block disk Label for SUP/EXH block disk



Note) When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

Silencer with One-touch fi

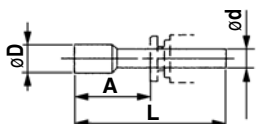
The silencer plugs directly into the C touch fittings of the manifold.



Series	Model	Effective area	A	B	C
For SY3000 (ø8)	AN203-KM8	14 mm ²	ø16	26	51
	AN200-KM10	26 mm ²	ø22	53.8	80.8
For SY5000 (ø10)	AN300-KM10	30 mm ²	ø25	70	97

Plug (white)

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



Dimensions

Applicable fittings size ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
1/8"	KQ2P-01	16	31.5	5
5/32"	KQ2P-03	16	32	6
1/4"	KQ2P-07	18	35	8.5
5/16"	KQ2P-09	20.5	39	10

Caution

Mounting screw tightening torques

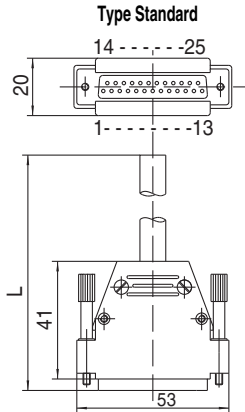
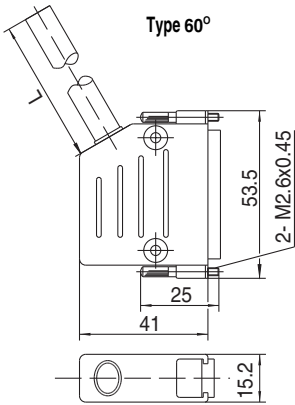
M2: 0.17 N·m
M3: 0.8 N·m
M4: 1.4 N·m

Manifold Option

■ D-sub connector (25 pins)/Cable assembly

GVVZS3000-21A-¹/₂-²/₃-³/₄-⁴/₅-S-60

(The D-sub connector cable ass'y can be ordered individually or included in a specific manifold model no. Refer to "How to Order Manifold".)



D-sub connector cable ass'y

Cable length (L)	Ass'y No.
1m*	GVVZS3000-21A-1-□
3m	GVVZS3000-21A-2-□
5m	GVVZS3000-21A-3-□
8m	GVVZS3000-21A-4-□
20m	GVVZS3000-21A-5S

Model	Shielded cable	60° connector	Standard
S	S	60	-

Electric characteristics

Item	Characteristics
Conductor resistance Ω/km, 20°C	57 or less
Voltage limit V, 5min, AC	1500
Insulation resistance MΩ/km	20

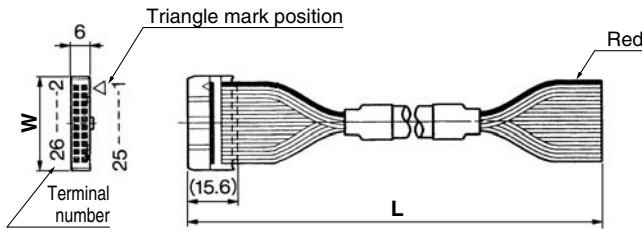
Wire color table by terminal number of D-sub connector cable assembly

Terminal No.	Lead wire colour	Dot marking
1	White	-
2	Brown	-
3	Green	-
4	Yellow	-
5	Grey	-
6	Pink	-
7	Blue	-
8	Red	-
9	Black	-
10	Violet	-
11	Grey	Pink
12	Red	Blue
13	White	Green
14	Brown	Green
15	White	Yellow
16	Yellow	Brown
17	White	Grey
18	Grey	Brown
19	White	Pink
20	Pink	Brown
21	White	Blue
22	Brown	Blue
23	White	Red
24	Brown	Red
25	White	Black

* Connector made in conformity with DIN47100.

■ Flat Ribbon Cable Connector/Cable assembly

AXT100-FC-¹/₃



Flat Ribbon Cable Assembly

Cable length (L)	10 pins	20 pins	26 pins
1.5 m	AXT100-FC10-1	AXT100-FC20-1	AXT100-FC26-1
3 m	AXT100-FC10-2	AXT100-FC20-2	AXT100-FC26-2
5 m	AXT100-FC10-3	AXT100-FC20-3	AXT100-FC26-3
Connector width (W)	17.2	30	37.5

* For other commercial connectors, use a type with strain relief that conform to MIL-C-83503.

Connector manufacturers' example

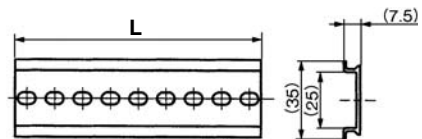
- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.

■ Dimensions/DIN rail

VZ1000-11-1-□

Refer to L dimensions

* Fill in □ with an appropriate no. listed on the table of DIN rail dimensions shown below.



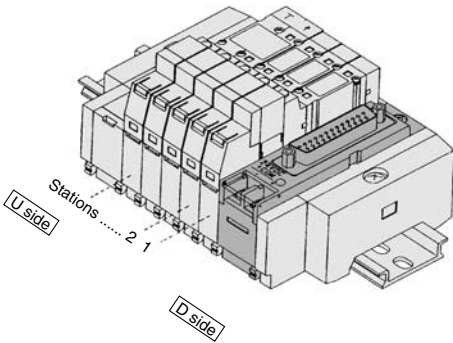
No.	0	1	2	3	4	5	6	7	8	9	10
L Dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223
No.	11	12	13	14	15	16	17	18	19	20	21
L Dimension	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5
No.	22	23	24	25	26	27	28	29	30	31	32
L Dimension	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498
No.	33	34	35	36	37	38	39	40	41	42	43
L Dimension	510.5	523	535.5	548	560.5	573	585.5	598	610.5	623	635.5
No.	44	45	46	47	48	49	50	51	52	53	54
L Dimension	648	660.5	673	685.5	698	710.5	723	735.5	748	760.5	773
No.	55	56	57	58	59	60	61	62	63	64	65
L Dimension	785.5	798	810.5	823	835.5	848	860.5	873	885.5	898	910.5
No.	66	67	68	69	70	71					
L Dimension	923	935.5	948	960.5	973	985.5					

* Refer to L1 dimension on pages starting with page 145 for lengths that correspond to the number of manifold stations.

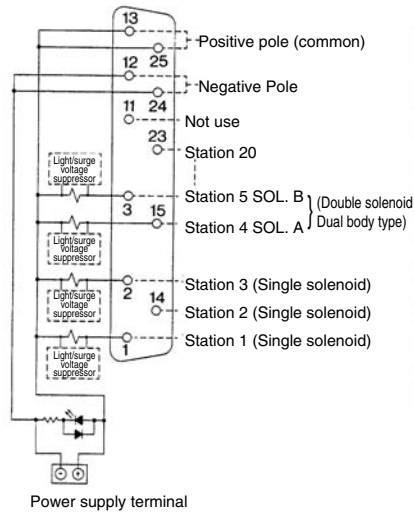
Manifold Internal Wiring

45(N)F/D-sub Connector

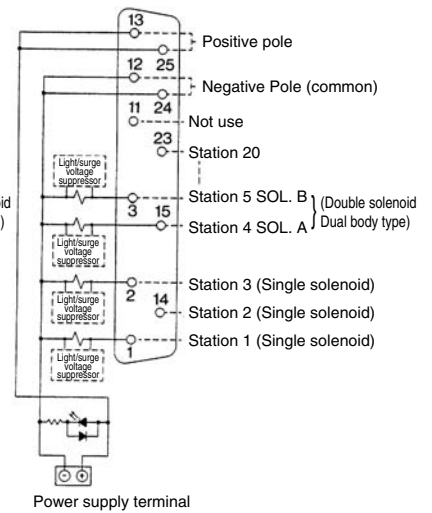
A D-sub connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.



<For positive common (45F)>



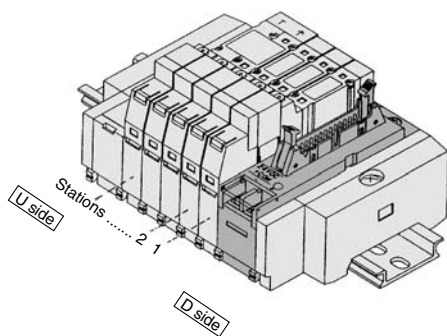
<For negative common (45NF)>



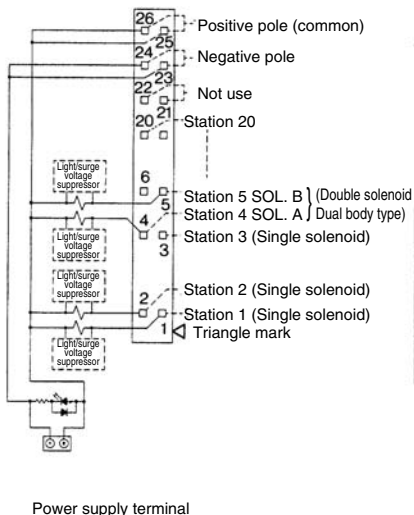
- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 20 manifold stations, with up to 20 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

Type 45(N)P/Flat Ribbon Cable (26 pins)

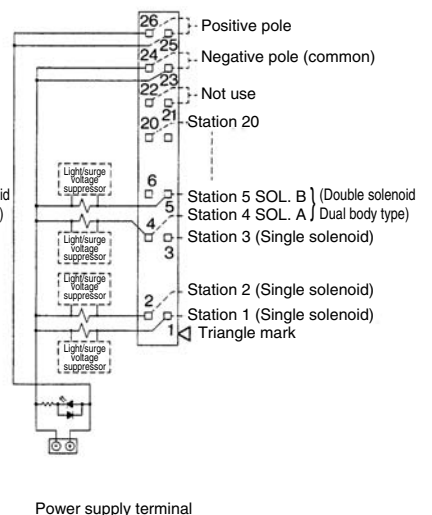
A flat cable connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.



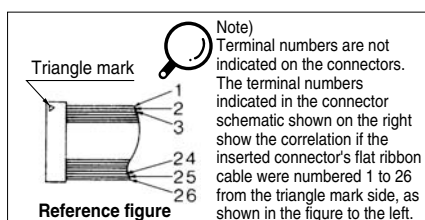
<For positive common (45P)>



<For negative common (45NP)>



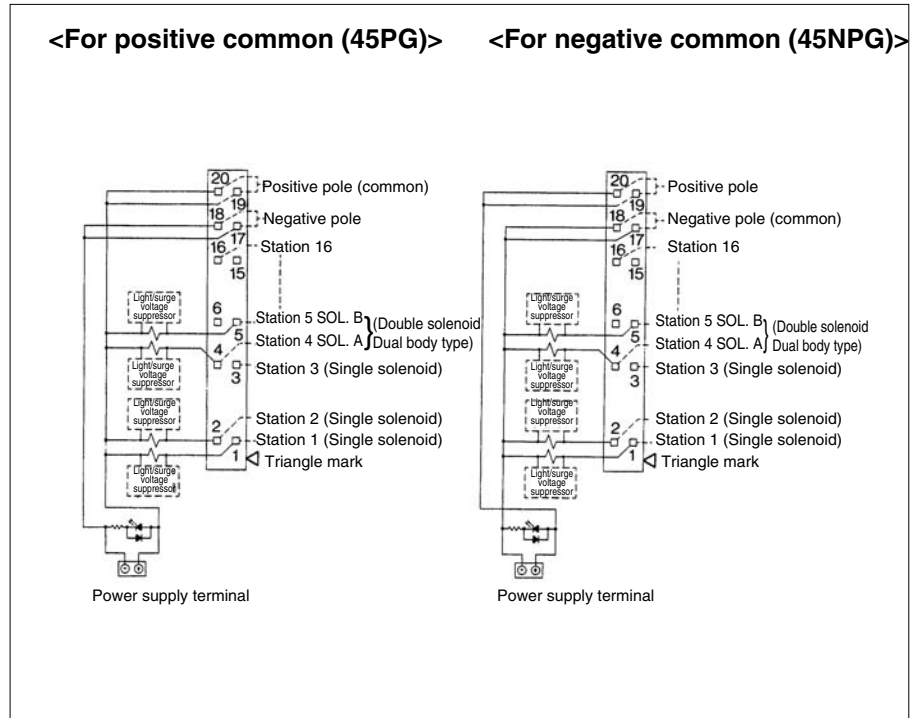
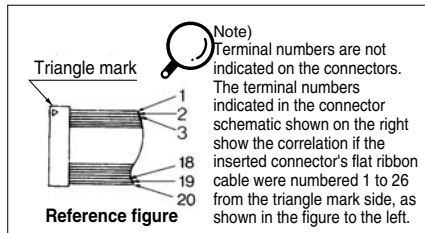
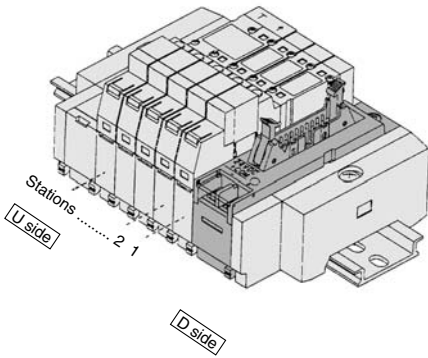
- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 20 manifold stations, with up to 20 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.



Manifold Internal Wiring

Type 45(N)PG/Flat Ribbon Cable (20 pins)

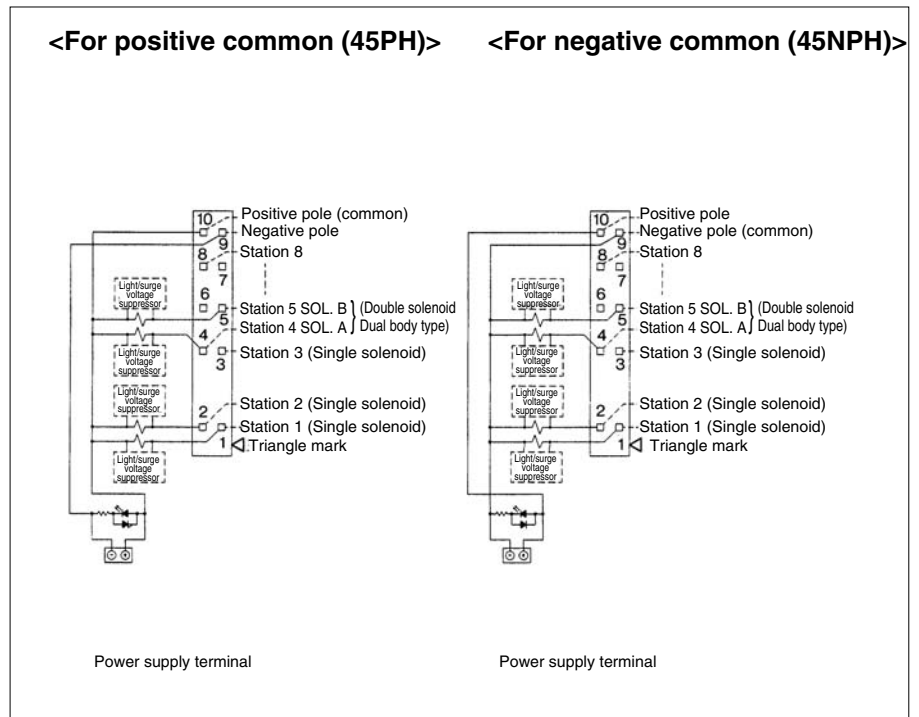
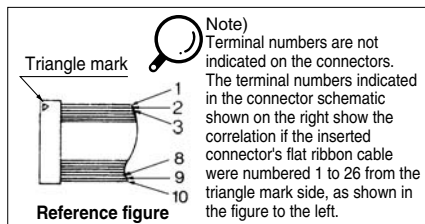
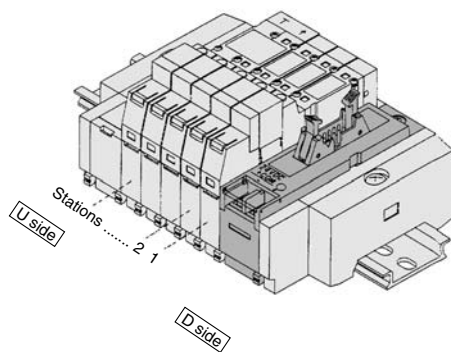
A flat cable connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.



- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 16 manifold stations, with up to 16 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

Type 45(N)PH/Flat Ribbon Cable (10 pins)

A flat cable connector used for electric wiring reduces labor during wiring operation. Connectors conforming to MIL are used for interchangeability.

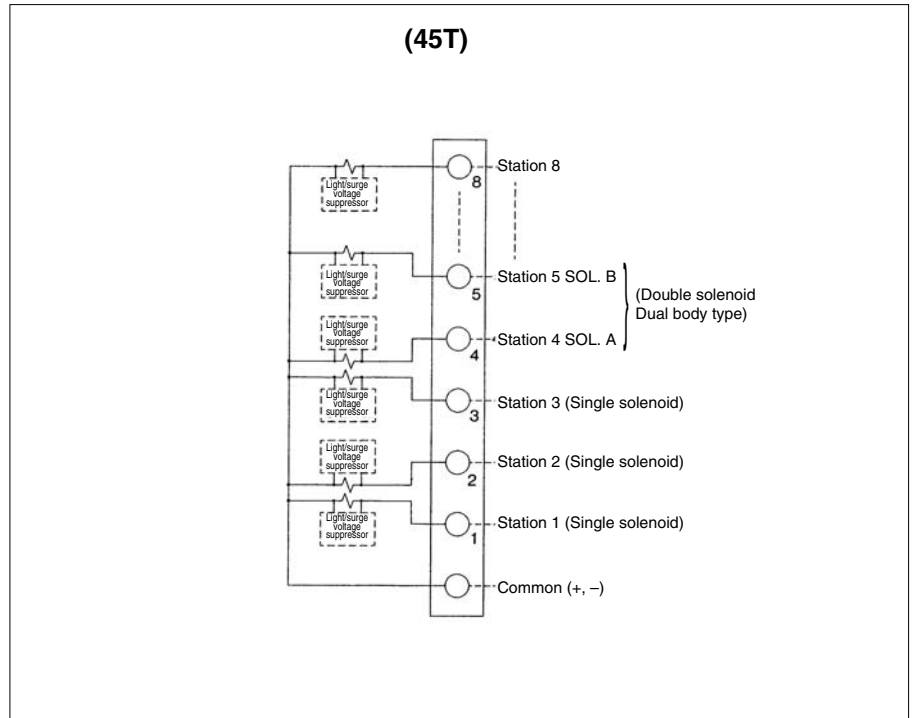
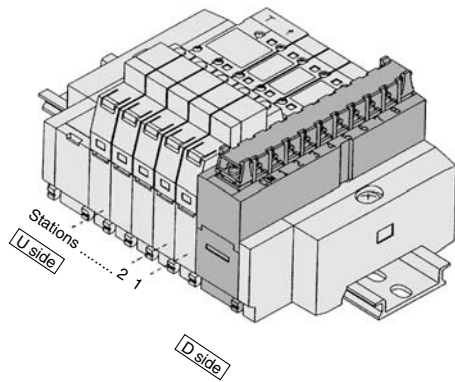


- The power source terminal is used for connecting to an external power source.
- The maximum number of stations that can be accommodated is 8 manifold stations, with up to 8 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

Manifold Internal Wiring

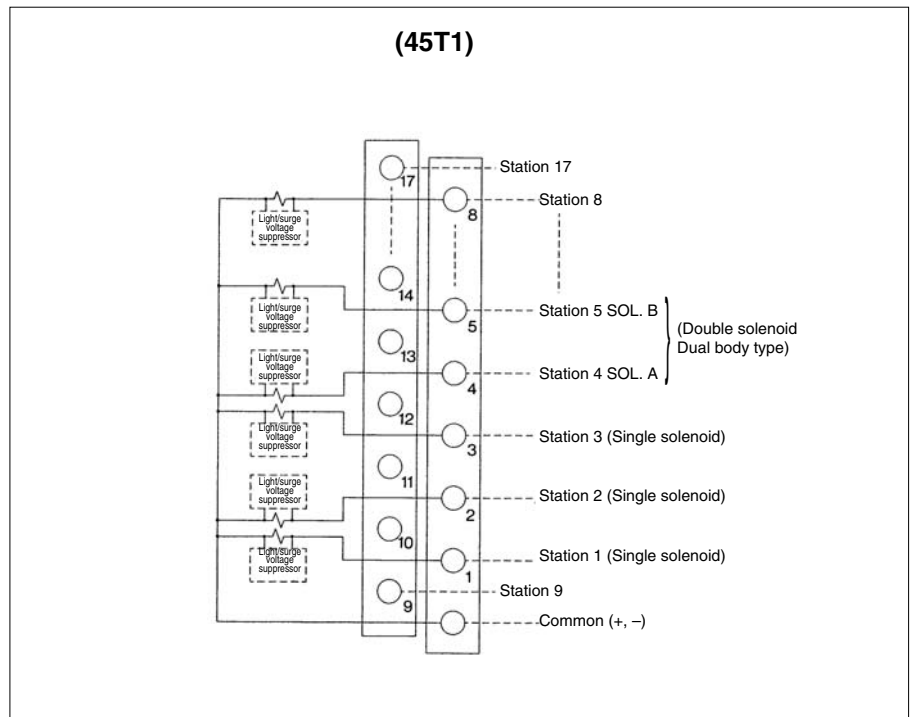
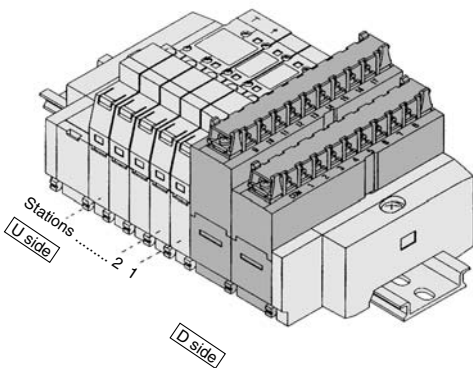
Type 45T/Terminal Block

A terminal block style permits direct cable connection without treatment of lead wires.



- The maximum number of stations that can be accommodated is 8 manifold stations, with up to 8 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.
- There is no polarity in the COM wiring. Supply positive power for +COM spec. and negative power for -COM spec.

Type 45T1/Terminal Block

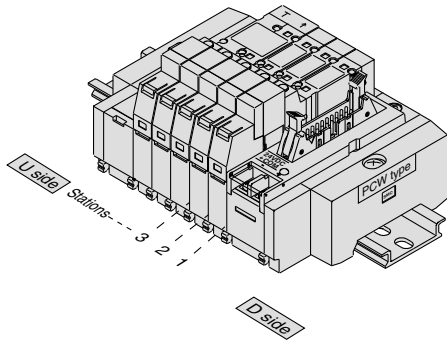


- The maximum number of stations that can be accommodated is 17 manifold stations, with up to 17 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.
- There is no polarity in the COM wiring. Supply positive power for +COM spec. and negative power for -COM spec.

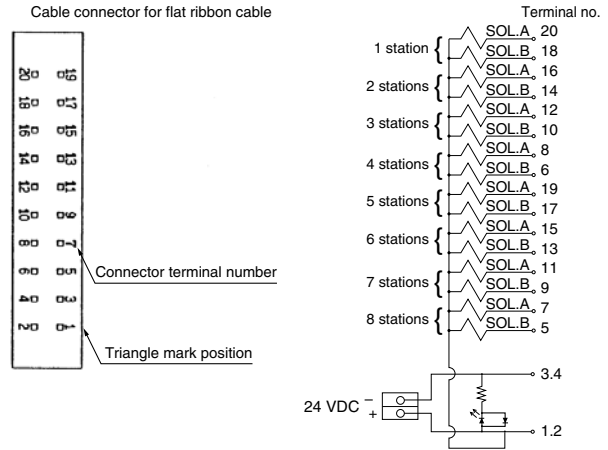
Manifold Internal Wiring

Type 45G Flat Ribbon Cable (PC Wiring System compatible)

It's the manifold for 20 pins flat ribbon cable connector which is compliant for PC wiring system.



Electric circuit diagram
(Below wiring is the case of all double solenoid connections.)



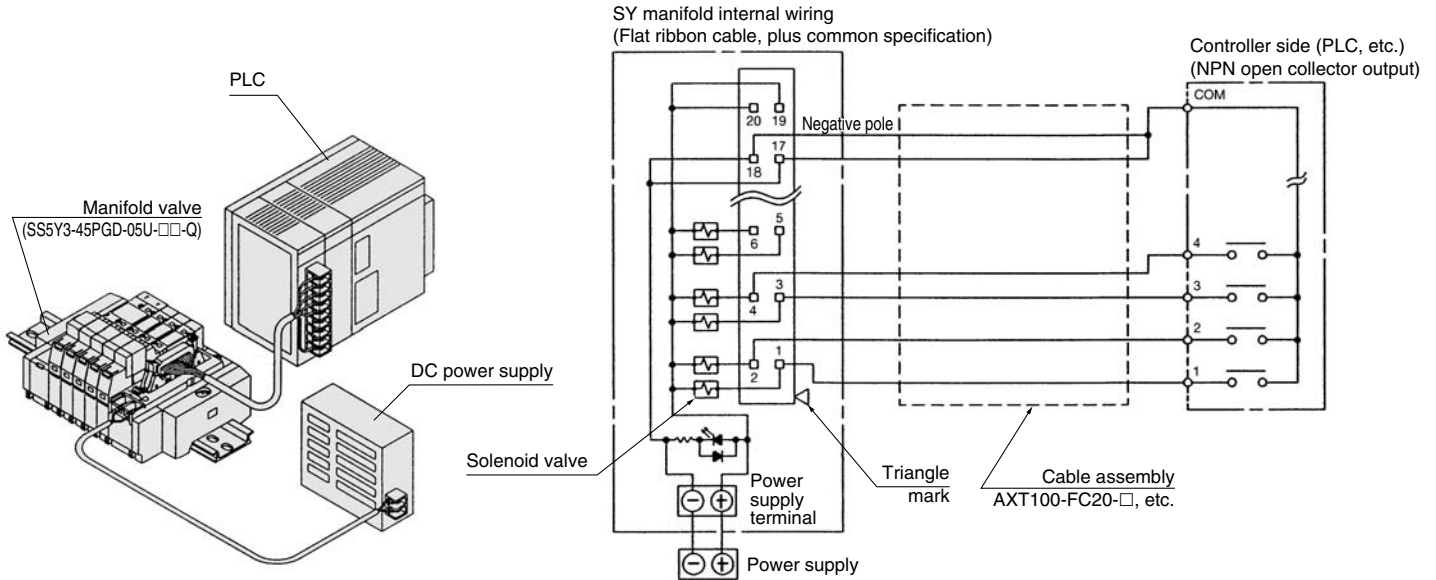
- The maximum number of stations that can be accommodated is 16 manifold stations, with up to 16 solenoids. (For more stations, please contact SMC.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

(For details about the PC wiring system, refer to)
catalogue CAT.ES02-20 separately.

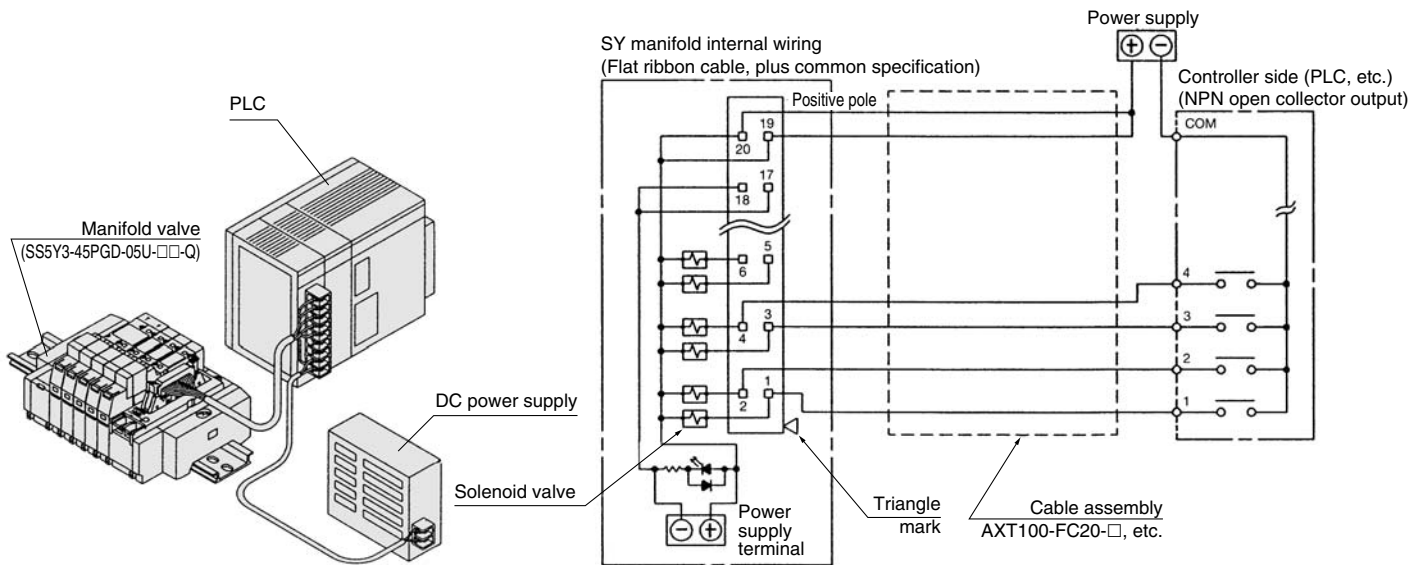
How to Connect SS5Y□-45□ (Plug-in)

Power terminal is equipped with plug-in manifold of Series SY as standard.
Power terminal enables the power supply to valve from either of manifold or controller side.

1. Wiring example when using manifold power supply terminals



2. Wiring example when not using manifold power supply terminals (Power is supplied to the controller side or along the wiring, etc.)



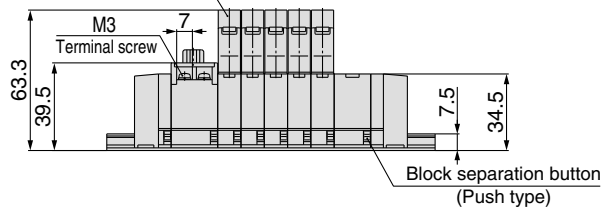
⚠ Caution

- Single wire, COM position, etc. of PLC are different from each manufacturer. When connecting with PLC, read the specifications carefully and understand the electrical circuit. Poor wiring could cause damage to PLC, power source, etc. as well as manifold and valve.

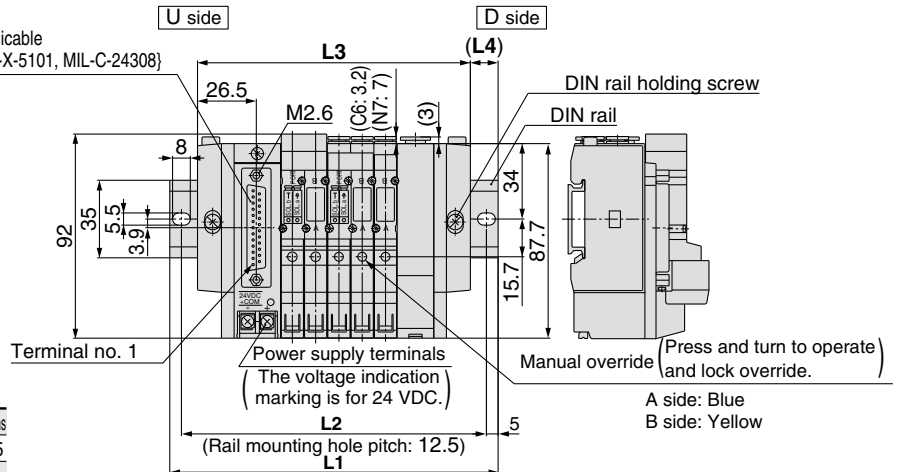
SY3000: D-sub Connector/Plug-in

SS5Y3-45FU- Stations D-C₄, N₃-Q
C₆, N₇

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

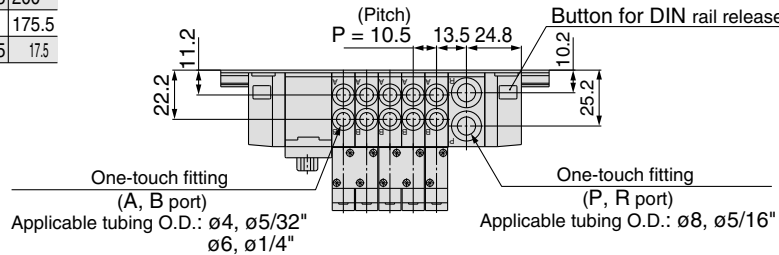


Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)



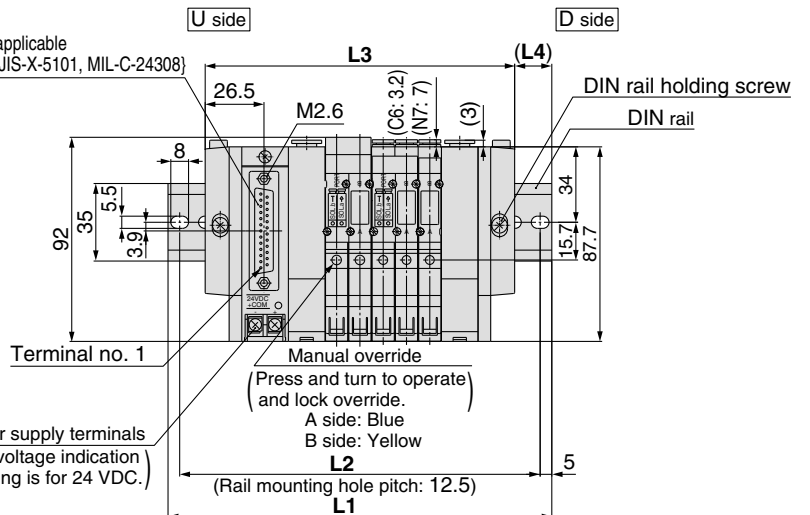
Note) The L1 to L4 dimensions of **SS5Y3-45FU- Stations U-C₄, N₃-Q** are identical to those of **SS5Y3-45FU- Stations D-C₄, N₃-Q**.

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5



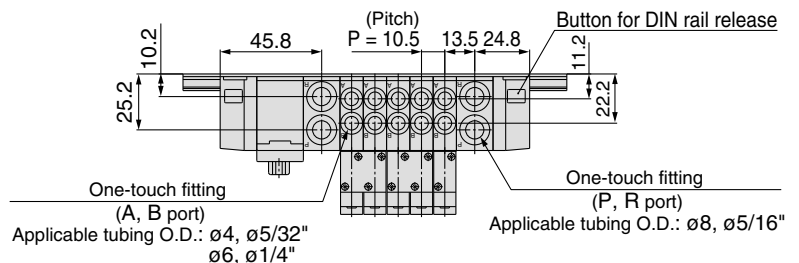
SS5Y3-45FU- Stations B-C₄, N₃-Q
C₆, N₇

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13



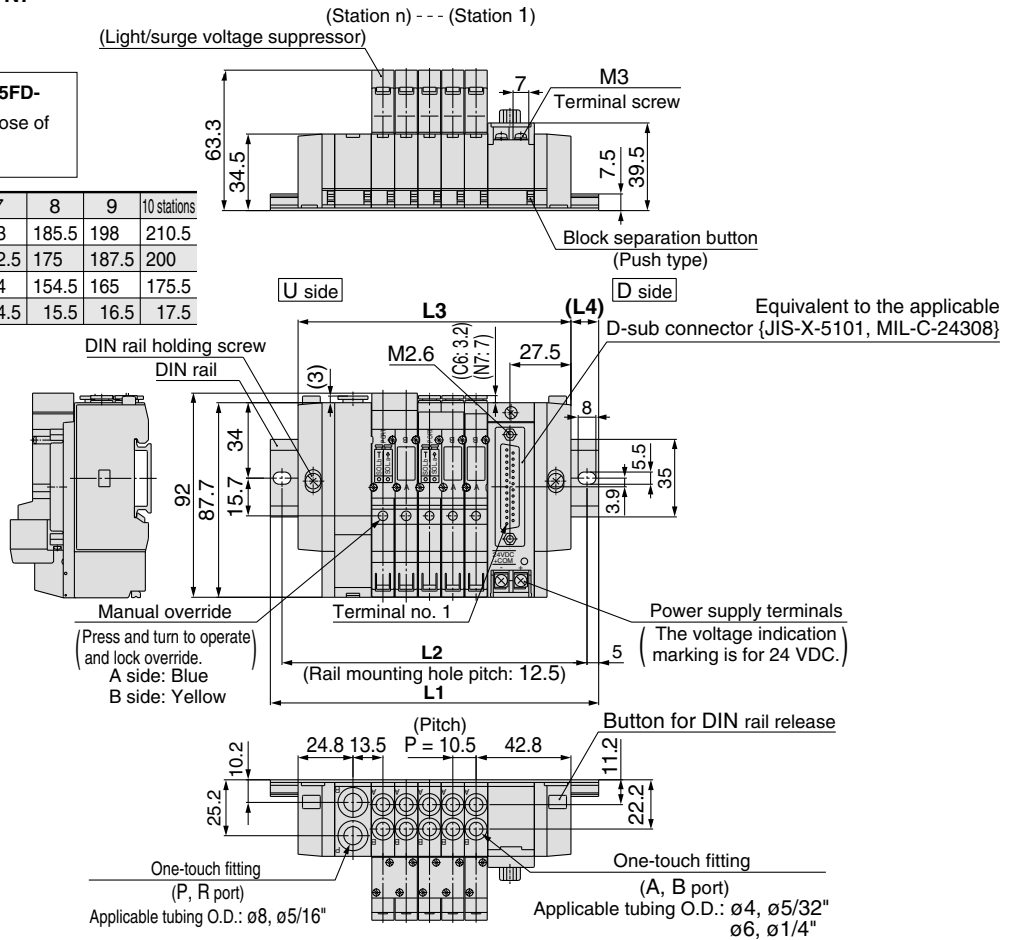
SY3000: D-sub Connector/Plug-in

SS5Y3-45FD- Stations U-C₄, N₃ C₆, N₇ -Q

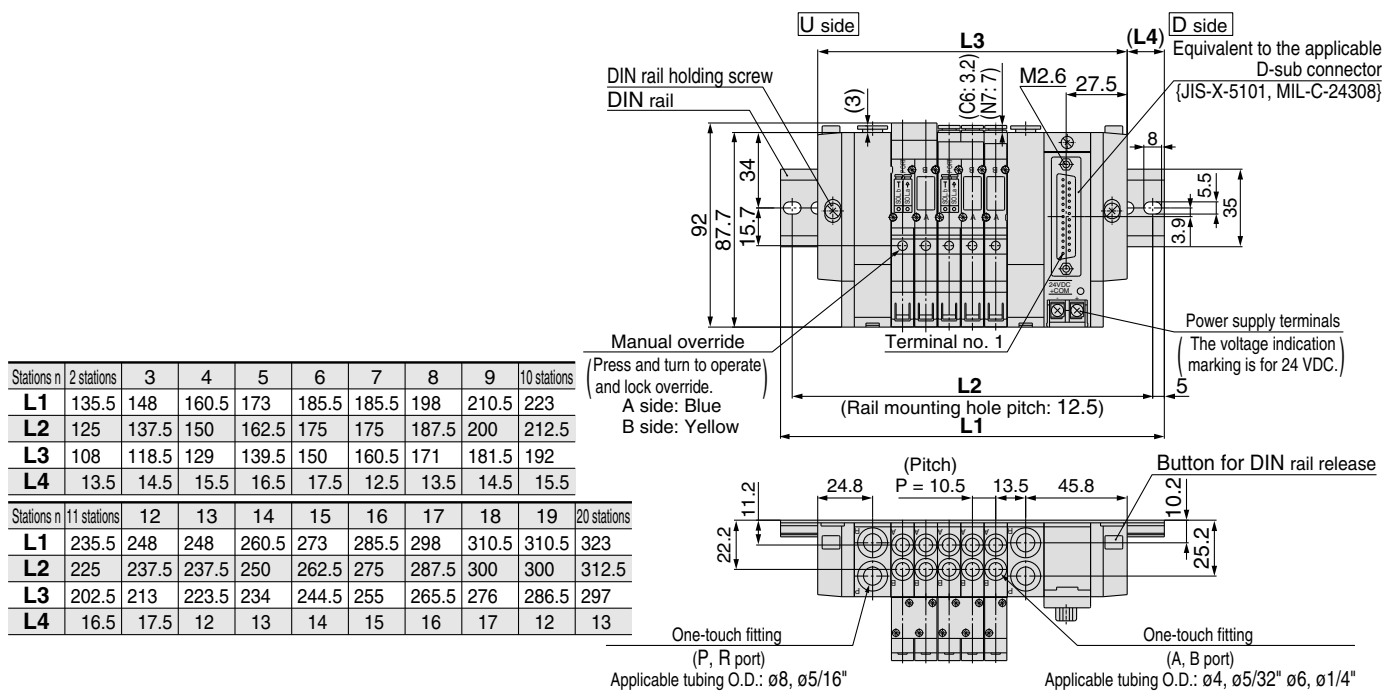


Note) The L1 to L4 dimensions of **SS5Y3-45FD- Stations D-C₄, N₃ C₆, N₇ -Q** are identical to those of **SS5Y3-45FD- Stations U-C₄, N₃ C₆, N₇ -Q**.

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5



SS5Y3-45FD- Stations B-C₄, N₃ C₆, N₇ -Q

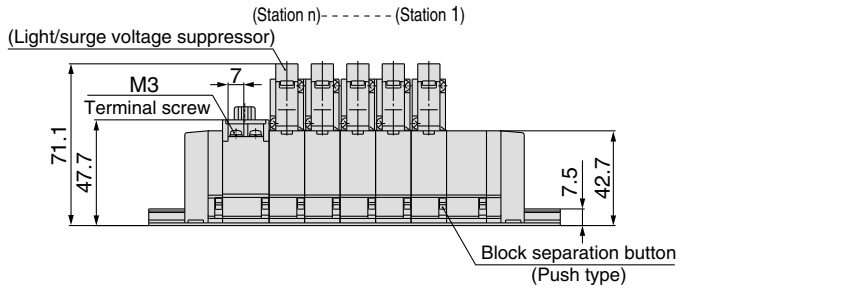


Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

SY5000: D-sub Connector/Plug-in

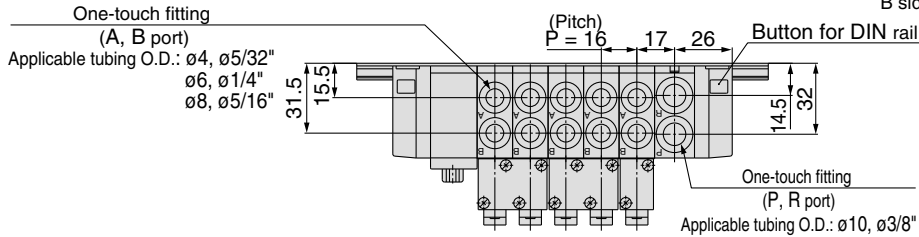
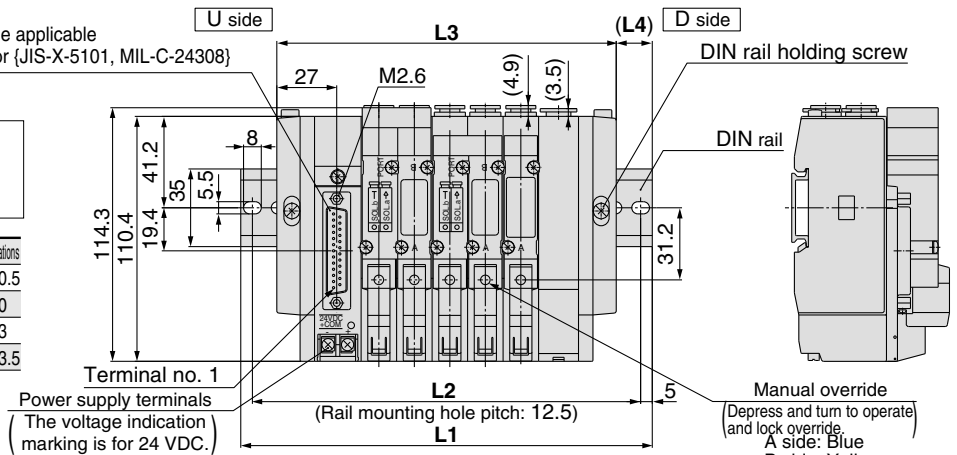
**SS5Y5-45FU- Stations D-^{C4, N3}_{C6, N7 - Q}
C8, N9**



Note) The L1 to L4 dimensions of **SS5Y5-45FU- Stations U-^{C4, N3}_{C6, N7 - Q}** are identical to those of **SS5Y5-45FU- Stations D-^{C4, N3}_{C6, N7 - Q}**.

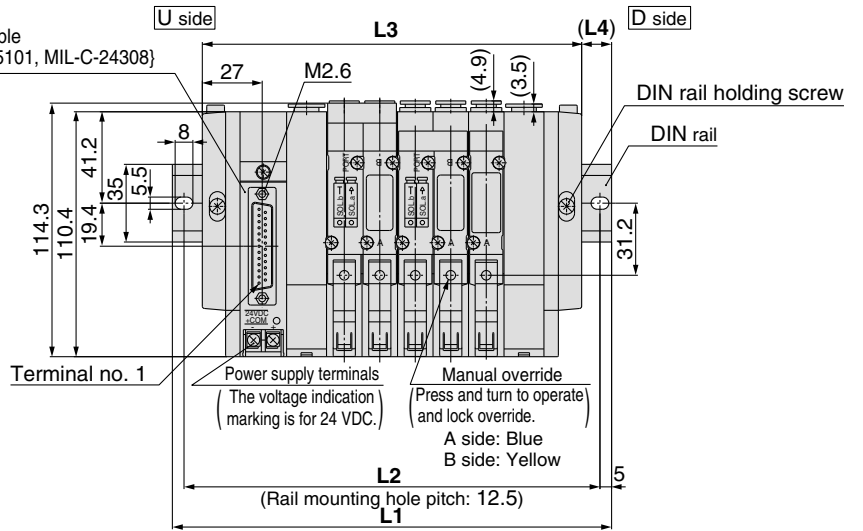
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)



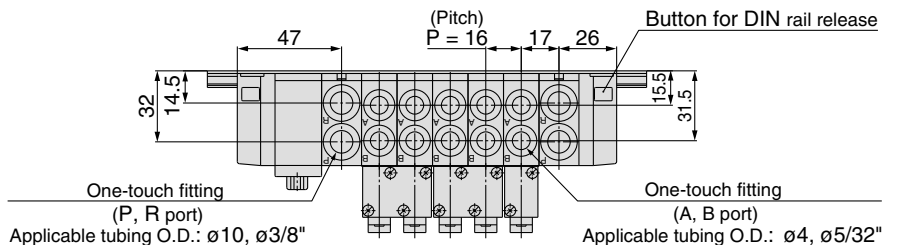
**SS5Y5-45FU- Stations B-^{C4, N3}_{C6, N7 - Q}
C8, N9**

Equivalent to the applicable D-sub connector (JIS-X-5101, MIL-C-24308)



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	283	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12



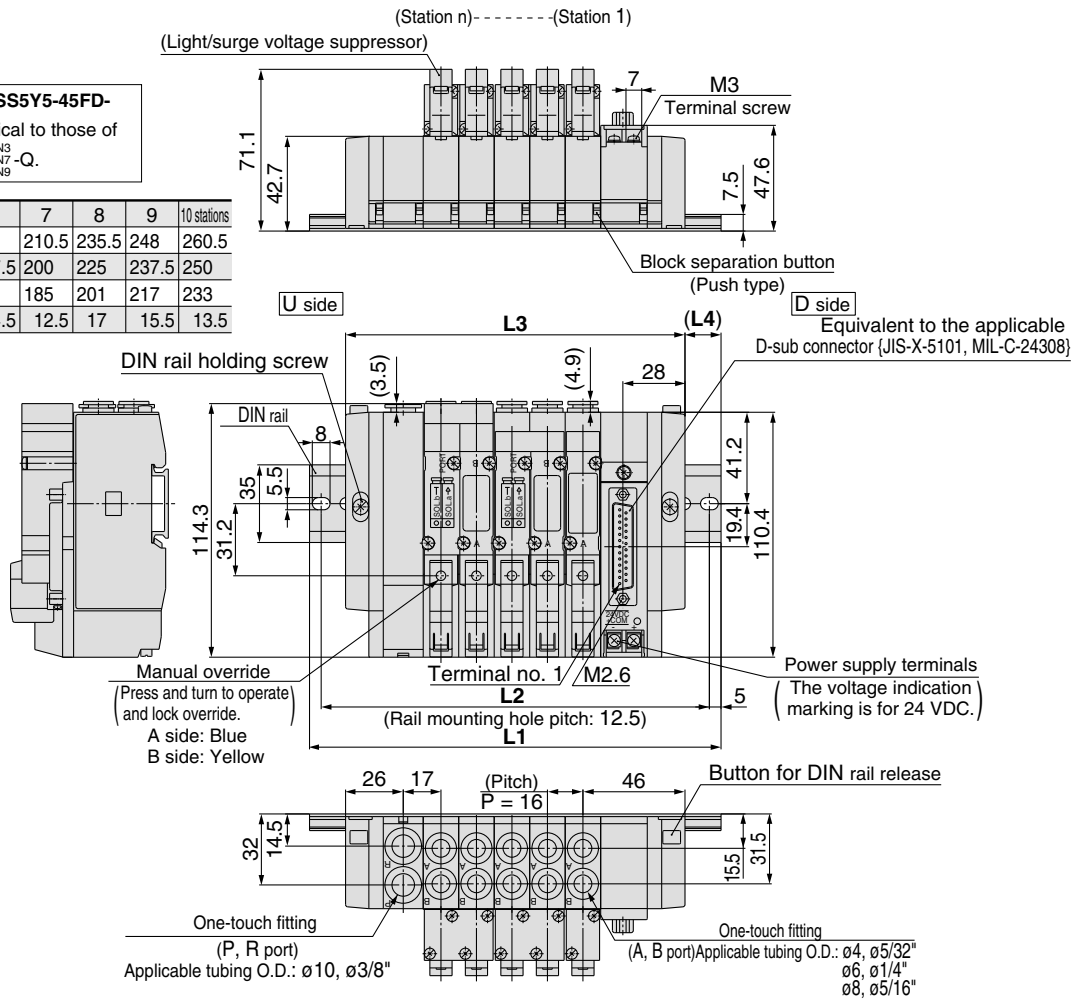
SY5000: D-sub Connector/Plug-in

SS5Y5-45FD- Stations U- C4, N3
C6, N7 -Q
C8, N9



Note) The L1 to L4 dimensions of SS5Y5-45FD- Stations D- C4, N3
C6, N7 -Q are identical to those of
SS5Y5-45FD- Stations U- C4, N3
C6, N7 -Q.
C8, N9

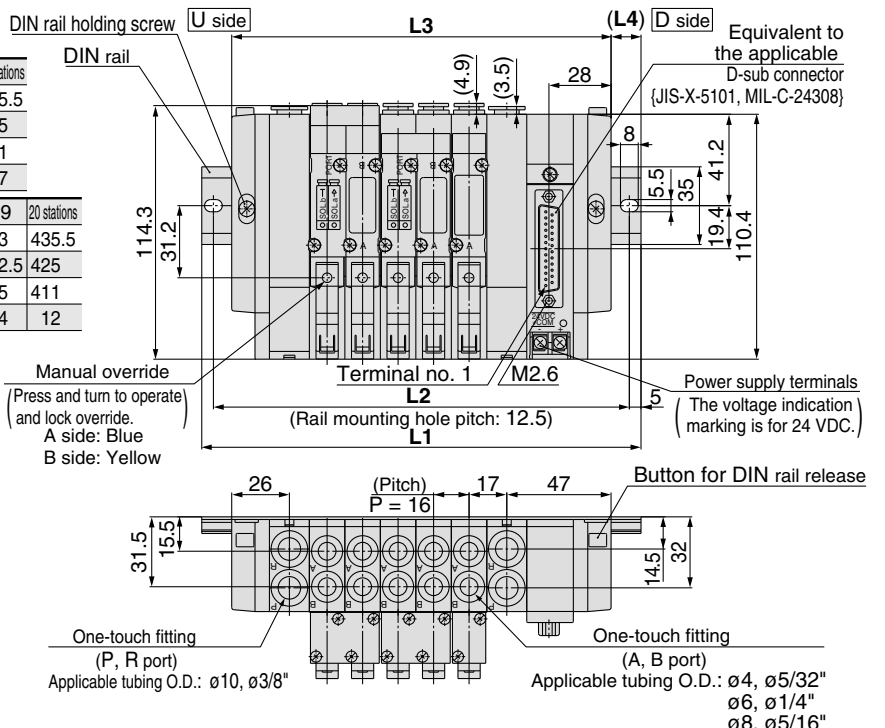
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5



SS5Y5-45FD- Stations B- C4, N3
C6, N7 -Q
C8, N9

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	283	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12

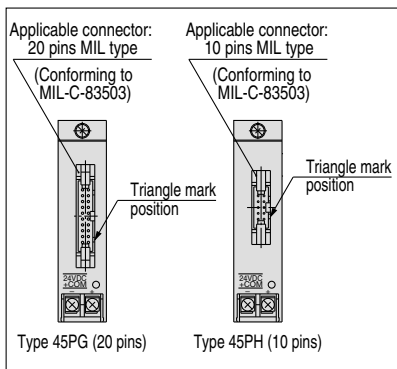


SY3000: Flat Ribbon Cable/Plug-in

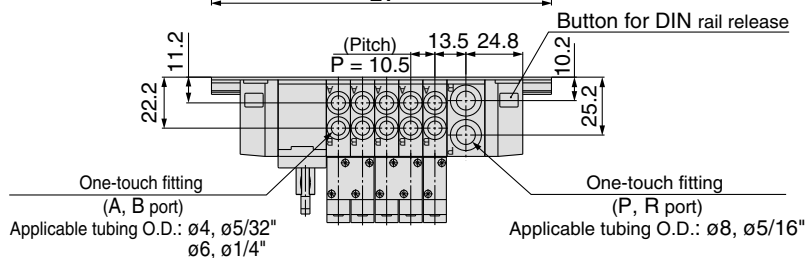
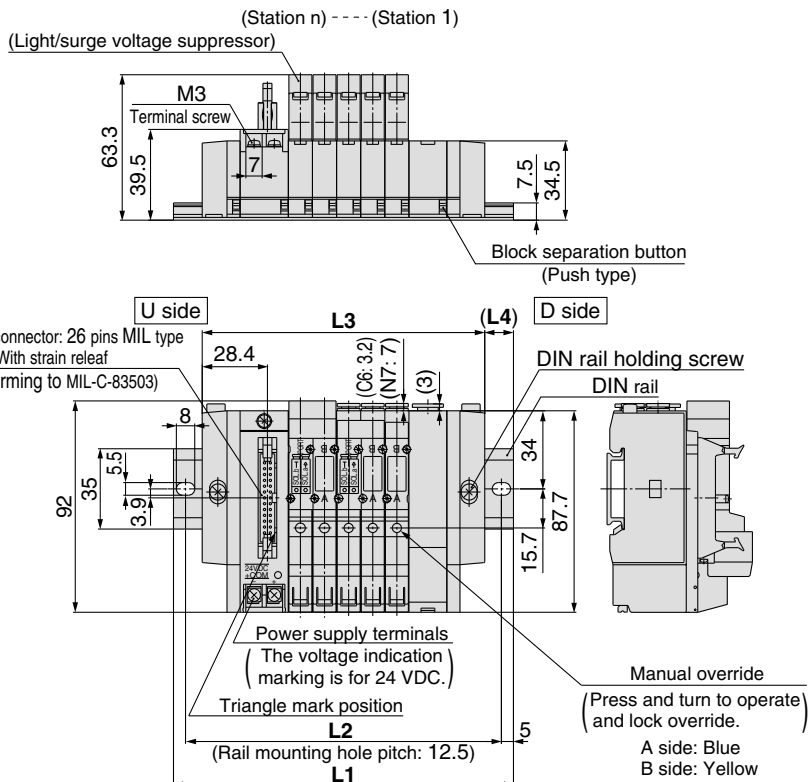
SS5Y3-45PU- Stations D-^{C4, N3}_{C6, N7} -Q (26 pins)



Note) The L1 to L4 dimensions of **SS5Y3-45P□U- Stations U-^{C4, N3}_{C6, N7} -Q** are identical to those of **SS5Y3-45PIU- Stations D-^{C4, N3}_{C6, N7} -Q**.



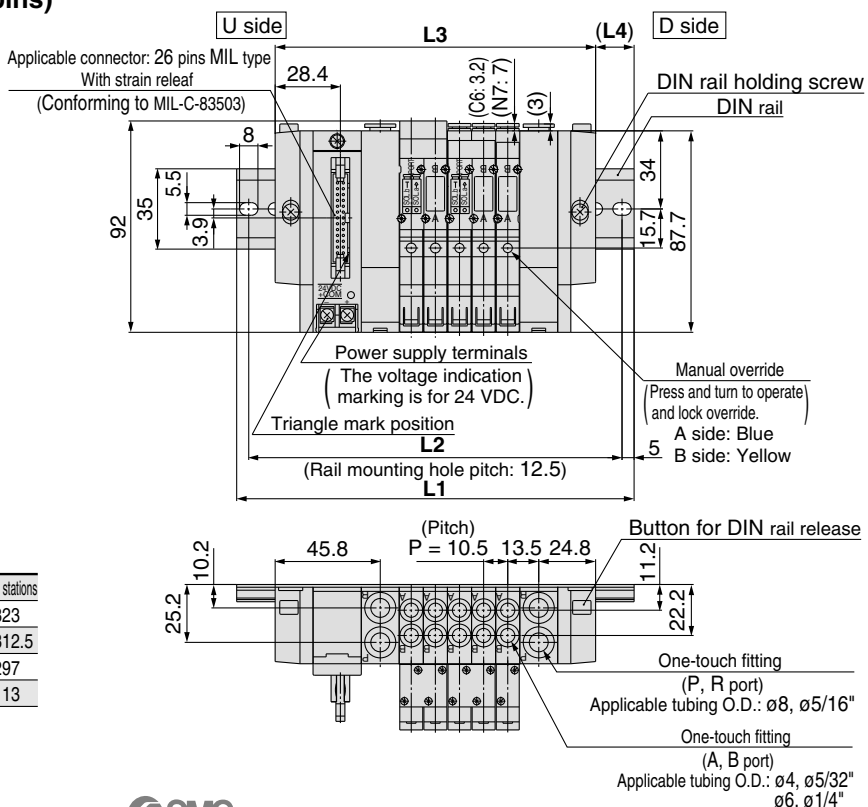
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5



SS5Y3-45PU- Stations B-^{C4, N3}_{C6, N7} -Q (26 pins)

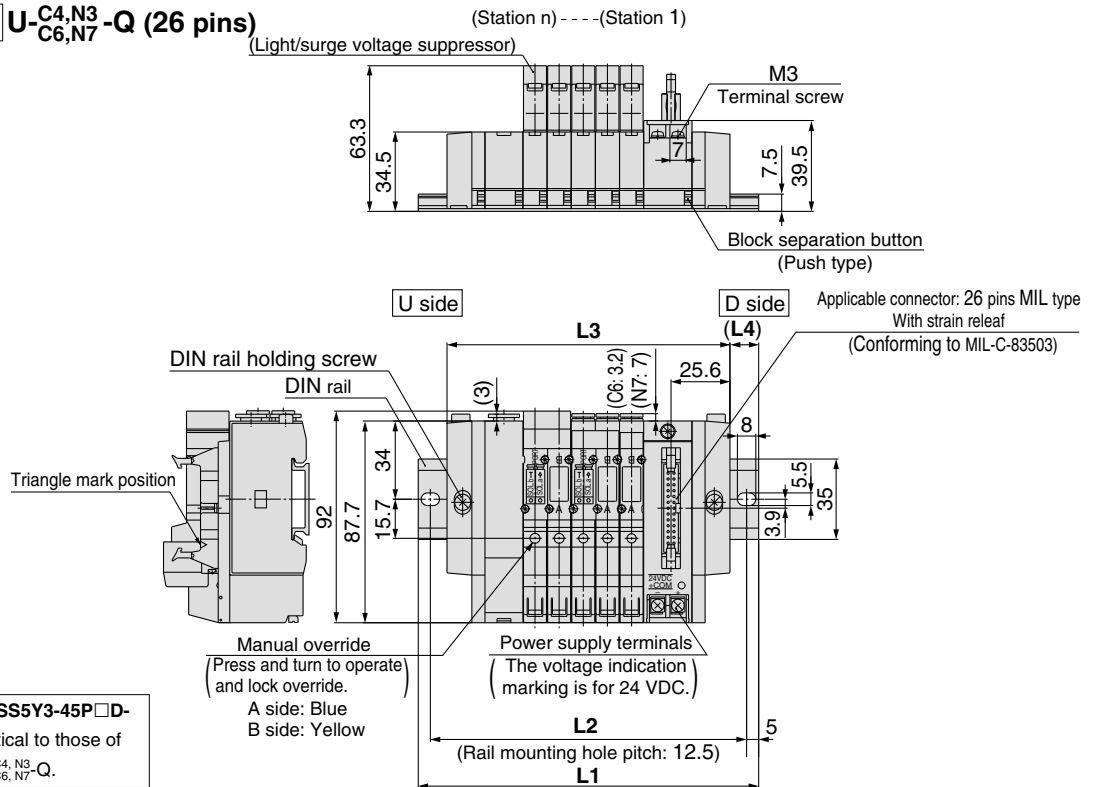
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13



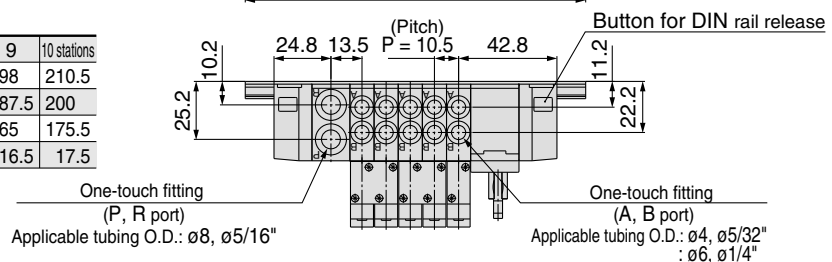
SY3000: Flat Ribbon Cable/Plug-in

SS5Y3-45PD- Stations U-C₄,N₃-Q (26 pins) C₆,N₇-Q

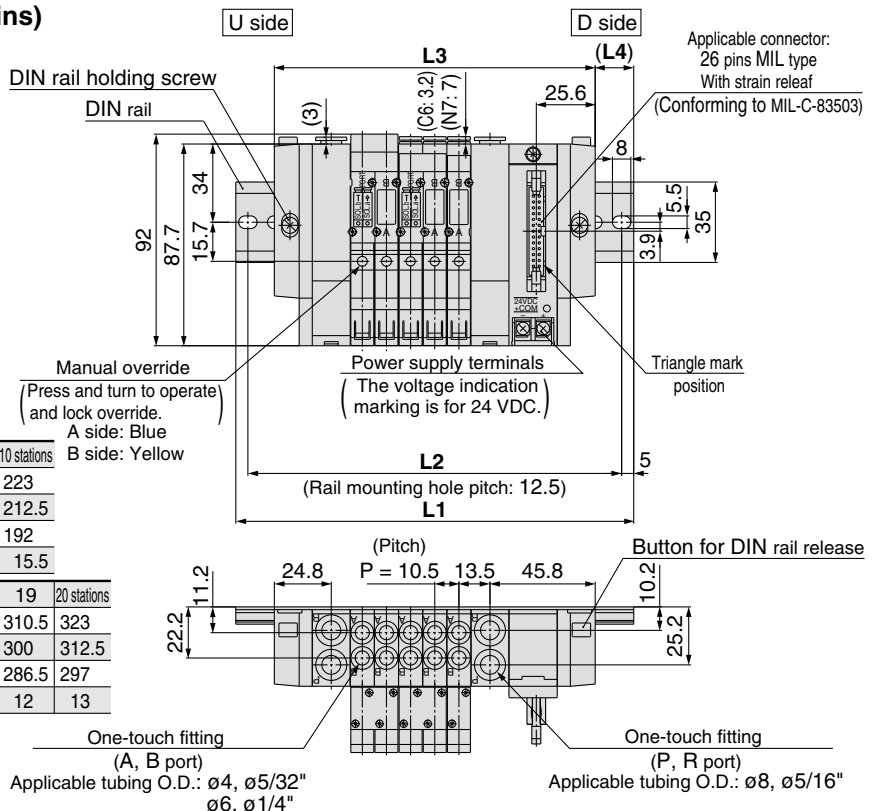


Note) The L1 to L4 dimensions of **SS5Y3-45P□D-**
Stations D-C₄,N₃-Q are identical to those of
SS5Y3-45P□D- Stations U-C₄,N₃-Q.

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5



SS5Y3-45PD- Stations B-C₄,N₃-Q (26 pins) C₆,N₇-Q



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

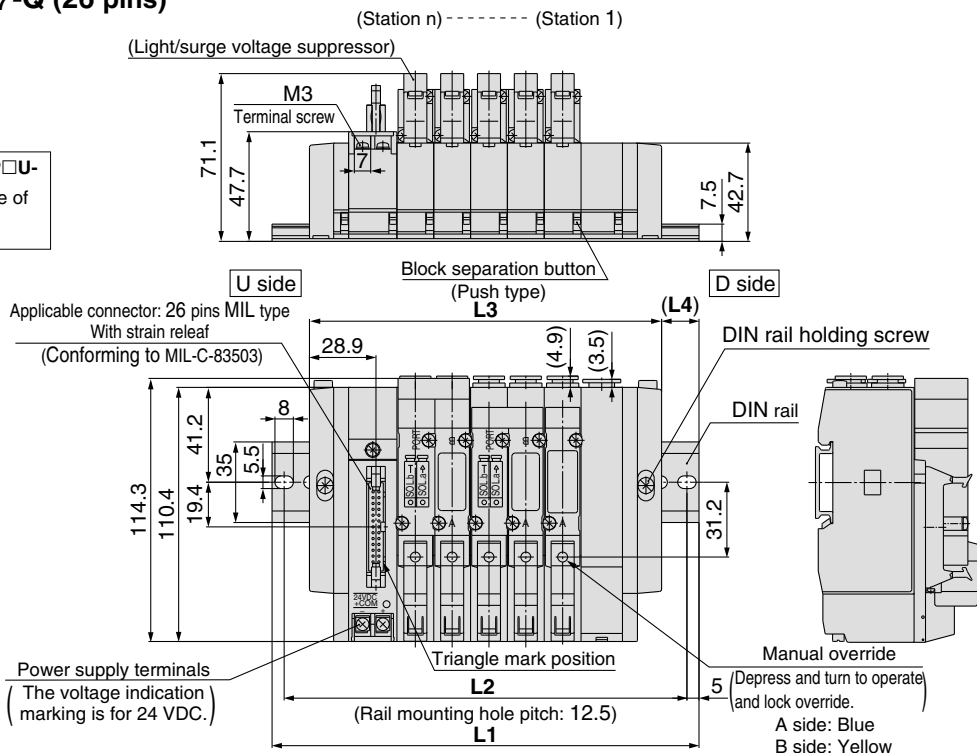
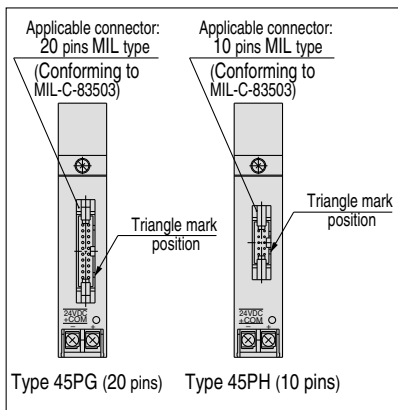
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

SY5000: Flat Ribbon Cable/Plug-in

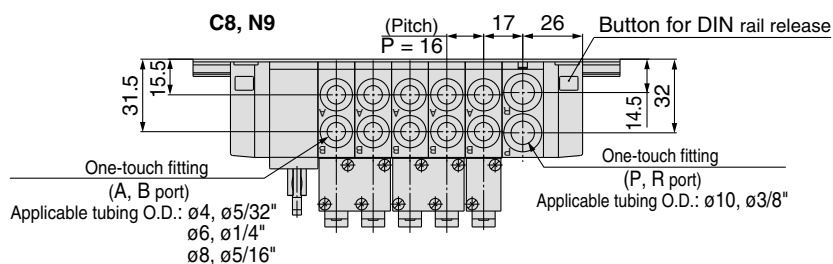
SS5Y5-45PU- Stations D-^{C4, N3}C6, N7-Q (26 pins)



Note) The L1 to L4 dimensions of SS5Y5-45P□U-^{C4, N3}Stations U-C6, N7-Q are identical to those of SS5Y5-45P□U-^{C4, N3}Stations D-C6, N7-Q.



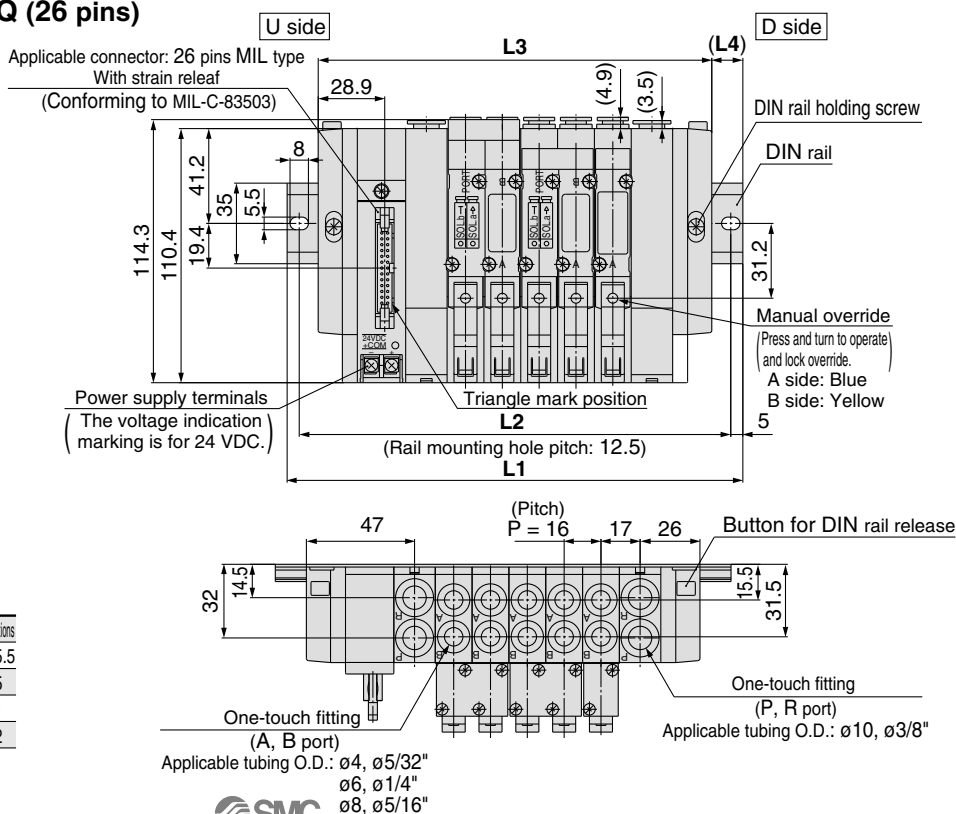
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5



SS5Y5-45PU- Stations B-^{C4, N3}C6, N7-Q (26 pins)

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	283	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12

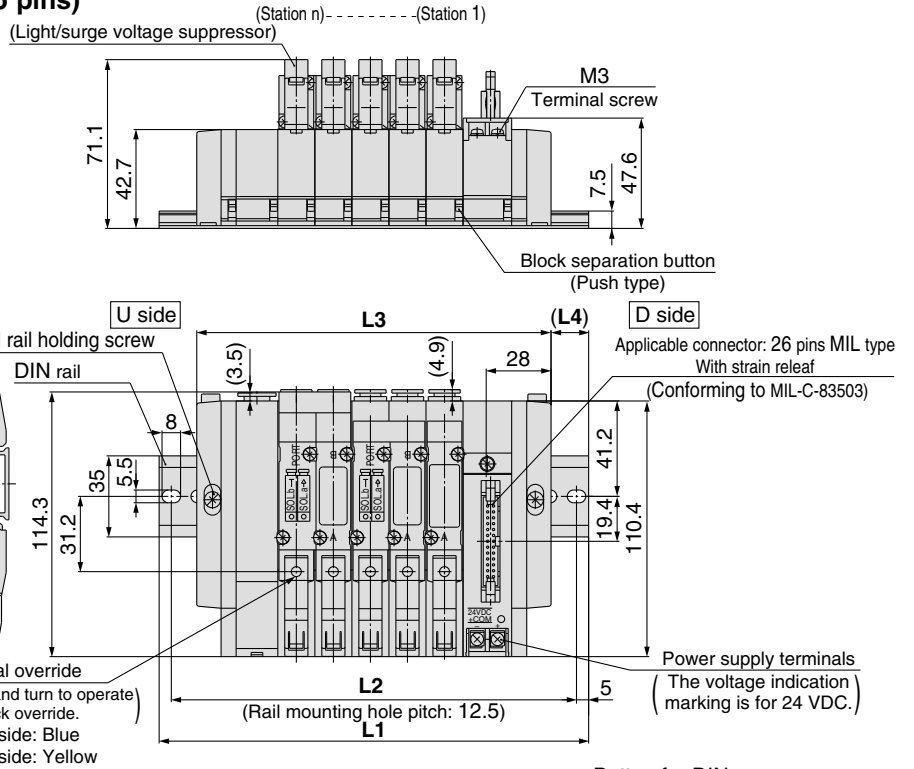


SY5000: Flat Ribbon Cable/Plug-in

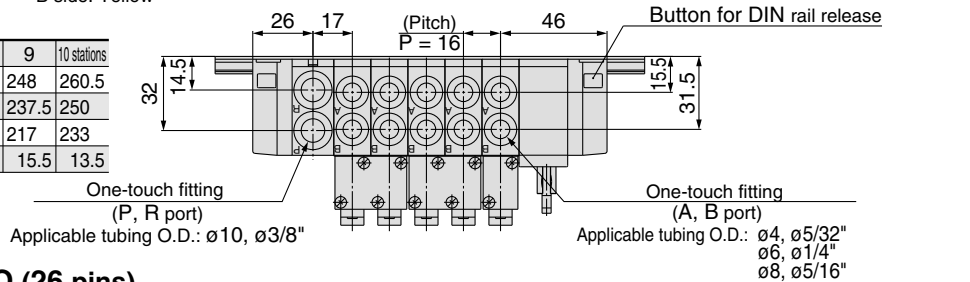
SS5Y5-45PD- Stations U-^{C4, N3}_{C6, N8} -Q (26 pins)



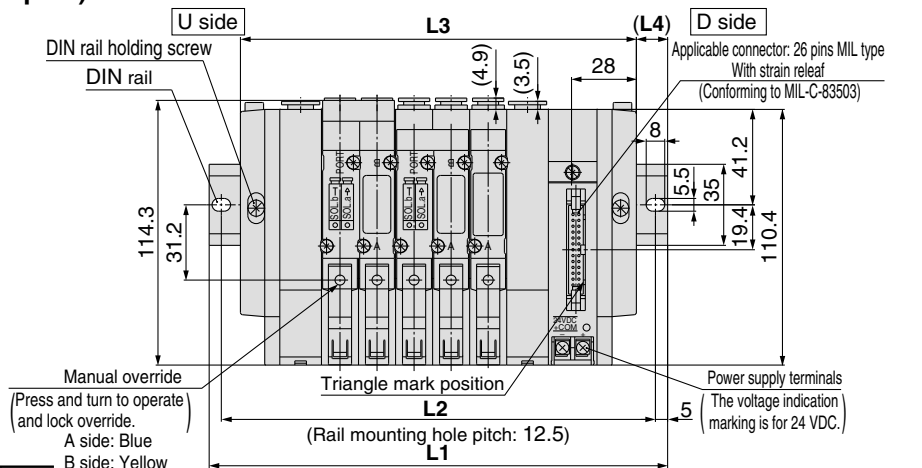
Note) The L1 to L4 dimensions of SS5Y5-45PD- Stations D-^{C4, N3}_{C6, N8} -Q are identical to those of SS5Y3-45PD- Stations U-^{C4, N3}_{C6, N8} -Q.



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

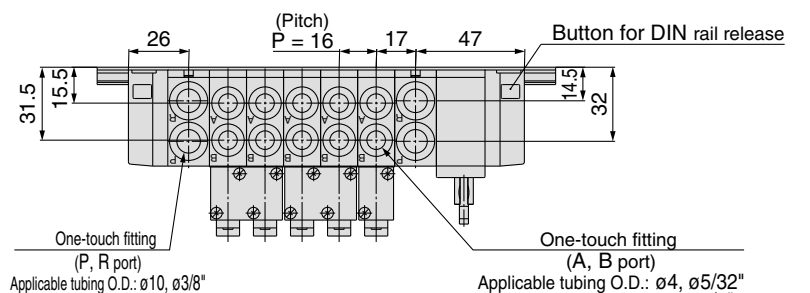


SS5Y5-45PD- Stations B-^{C4, N3}_{C6, N8} -Q (26 pins)



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

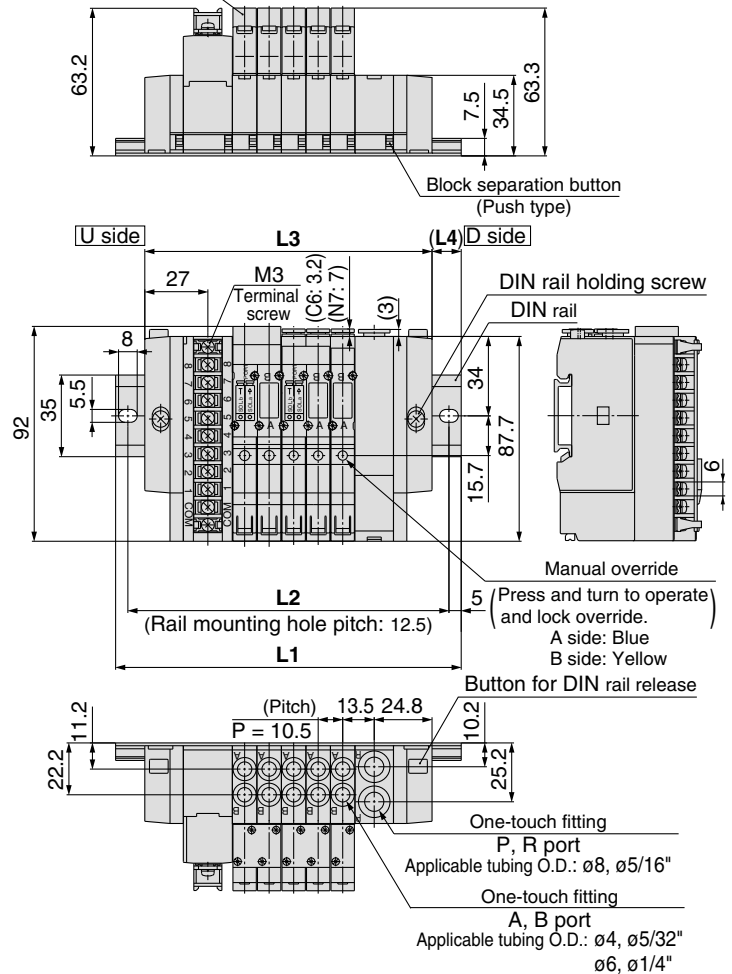
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	283	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12



SY3000: 9 Pins Terminal Block/Plug-in

SS5Y3-45TU- Stations D-C₄, N₃-Q (9 pins)

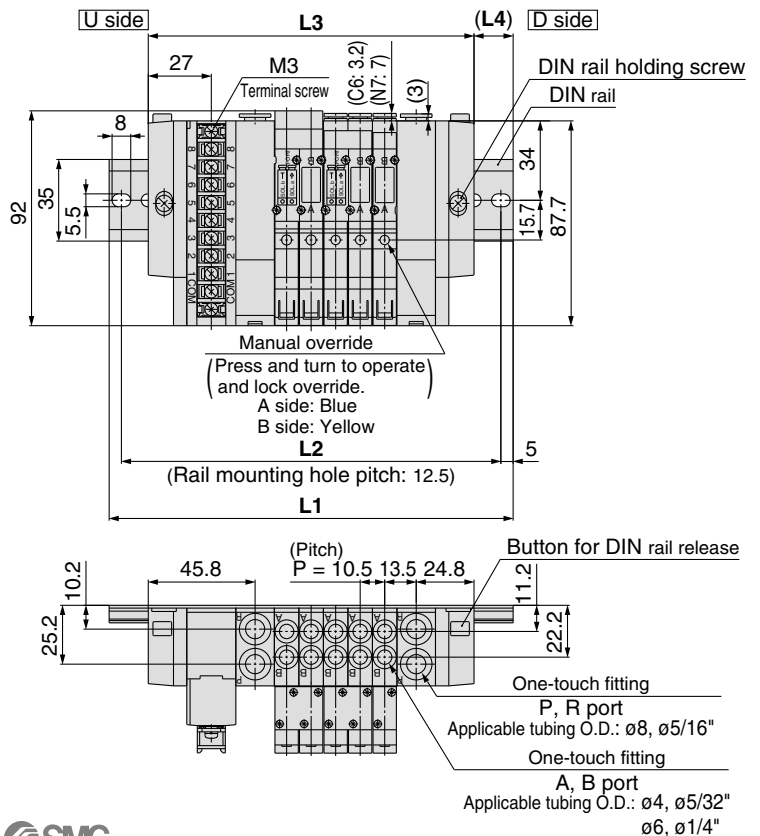
(Light/surge voltage suppressor) (Station n) - - - (Station 1)



Note) The L1 to L4 dimensions of **SS5Y3-45TU- Stations U-C₄, N₃-Q, SS5Y3-45TD- Stations U-C₄, N₃-Q, SS5Y3-45TD- Stations D-C₄, N₃-Q** are identical those of **SS5Y3-45TU- Stations D-C₄, N₃-Q**.

Stations n	2 stations	3	4	5	6	7	8 stations
L1	123	135.5	148	148	160.5	173	185.5
L2	112.5	125	137.5	137.5	150	162.5	175
L3	91.5	102	112.5	123	133.5	144	154.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5

SS5Y3-45TU- Stations B-C₄, N₃-Q (9 pins)

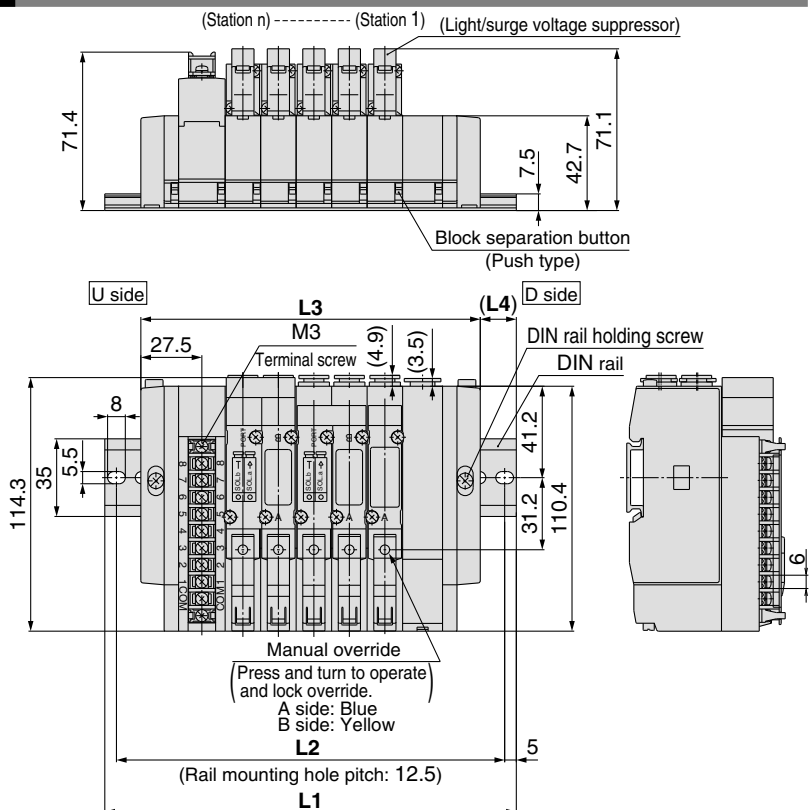


Note) The L1 to L4 dimensions of **SS5Y3-45TD- Stations B-C₄, N₃-Q** are identical to those of **SS5Y3-45TU- Stations B-C₄, N₃-Q**.

Stations n	2 stations	3	4	5	6	7	8 stations
L1	135.5	148	160.5	173	185.5	185.5	198
L2	125	137.5	150	162.5	175	175	187.5
L3	108	118.5	129	139.5	150	160.5	171
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5

SY5000: 9 Pins Terminal Block/Plug-in

SS5Y5-45TU- Stations D- ^{C4, N3}_{C6, N7-Q} (9 pins)



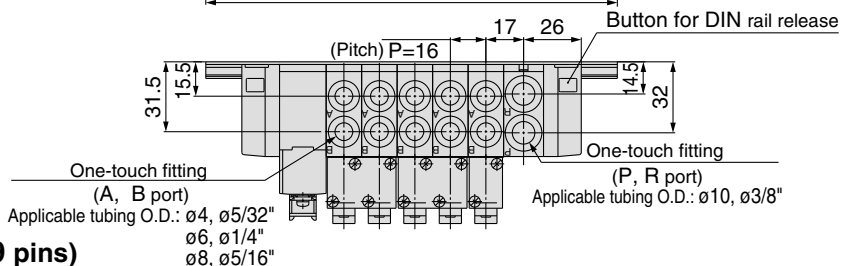
Note) The L1 to L4 dimensions of SS5Y5-45TU-

^{C4, N3}_{C6, N7-Q} SS5Y5-45TD- Stations U- ^{C4, N3}_{C6, N7-Q}

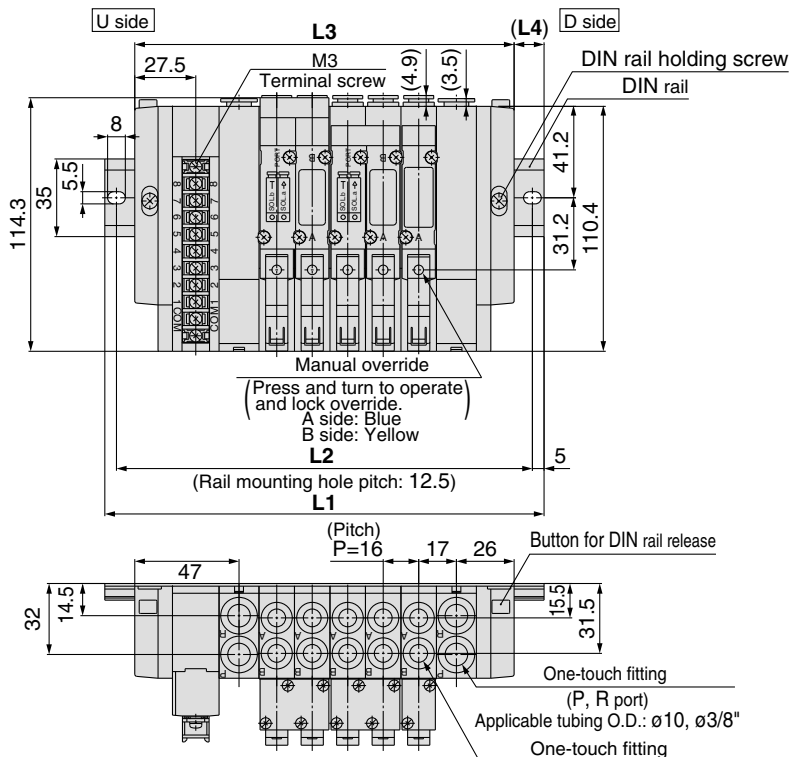
SS5Y5-45TD- Stations D- ^{C4, N3}_{C6, N7-Q} are identical

those of SS5Y5-45TU- Stations D- ^{C4, N3}_{C6, N7-Q}.

Stations n	2 stations	3	4	5	6	7	8 stations
L1	135.5	148	160.5	185.5	198	210.5	235.5
L2	125	137.5	150	175	187.5	200	225
L3	105	121	137	153	169	185	201
L4	15	13.5	11.5	16	14.5	12.5	17



SS5Y5-45TU- Stations B- ^{C4, N3}_{C6, N7-Q} (9 pins)



Note) The L1 to L4 dimensions of SS5Y5-45TD-

^{C4, N3}_{C6, N7-Q} Stations B- ^{C4, N3}_{C6, N7-Q} are identical to those

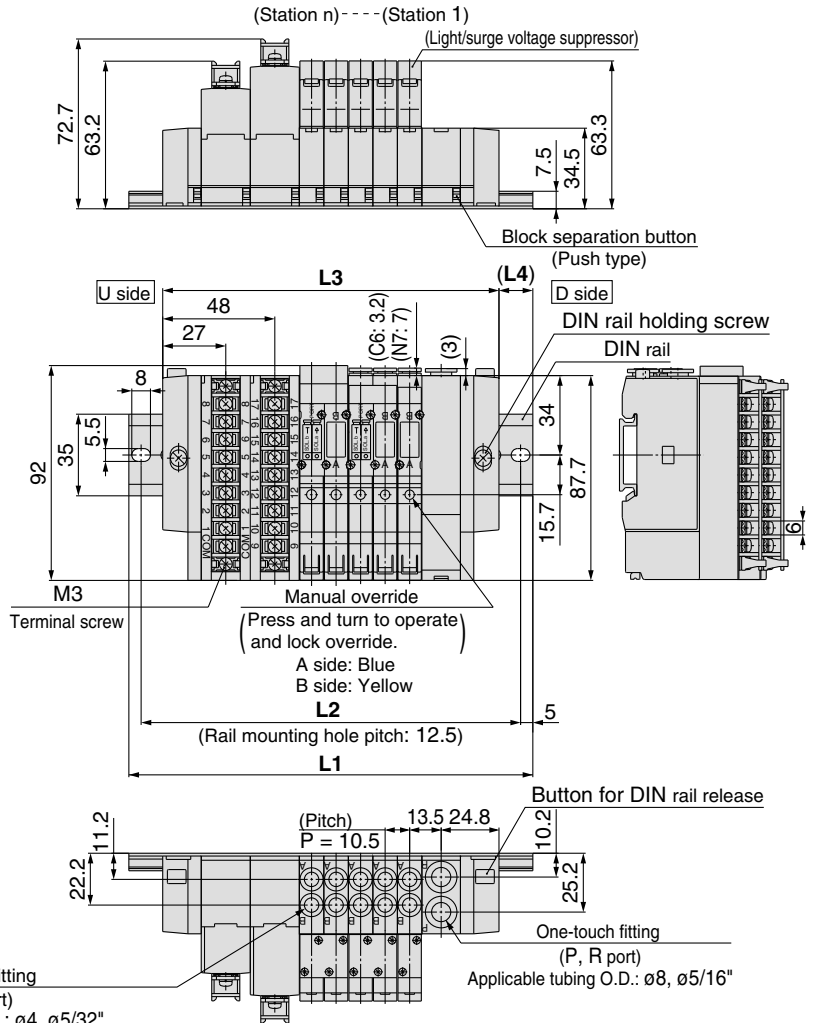
of SS5Y5-45TU- Stations B- ^{C4, N3}_{C6, N7-Q}.

Stations n	2 stations	3	4	5	6	7	8 stations
L1	148	173	185.5	198	210.5	235.5	248
L2	137.5	162.5	175	187.5	200	225	237.5
L3	123	139	155	171	187	203	219
L4	12.5	17	15	13.5	11.5	16	14.5

Applicable tubing O.D.: ø4, ø5/32" ø6, ø1/4" ø8, ø5/16"

SY3000: 18 Pins Terminal Block/Plug-in

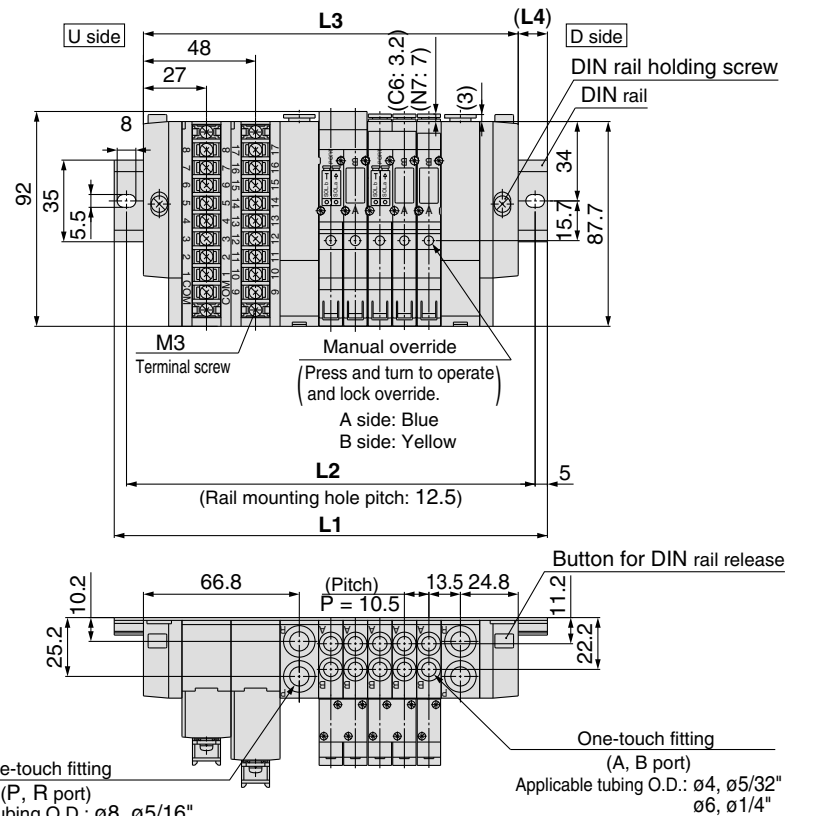
SS5Y3-45T1U- Stations D-^{C4, N3}_{C6, N7} -Q (18 pins)



Note) The L1 to L4 dimensions of **SS5Y3-45T1U- Stations U-^{C4, N3}_{C6, N7} -Q** are identical to those of **SS5Y3-45T1U- Stations D-^{C4, N3}_{C6, N7} -Q**.

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	148	160.5	173	185.5	198	210.5	210.5	223
L2	137.5	137.5	150	162.5	175	187.5	200	200	212.5
L3	112.5	123	133.5	144	154.5	165	175.5	186	196.5
L4	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13

SS5Y3-45T1U- Stations B-^{C4, N3}_{C6, N7} -Q (18 pins)

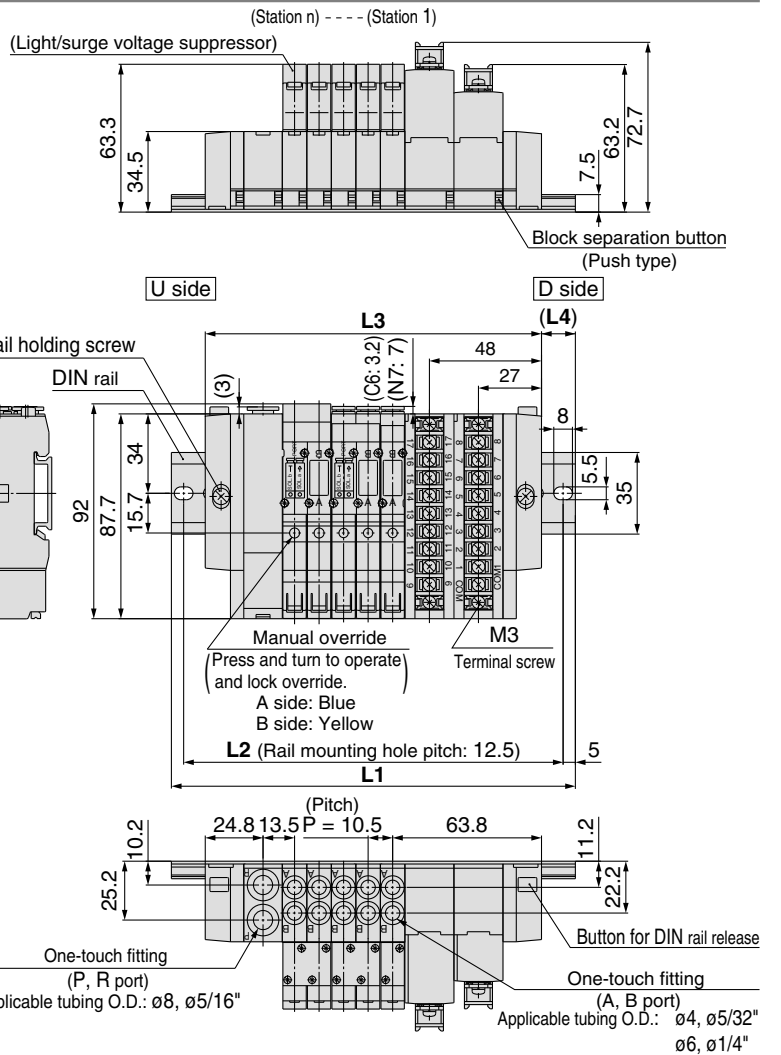


Stations n	2 stations	3	4	5	6	7	8	9 stations
L1	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	150	162.5	175	175	187.5	200	212.5	225
L3	129	139.5	150	160.5	171	181.5	192	202.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5

Stations n	10 stations	11	12	13	14	15	16	17 stations
L1	248	248	260.5	273	285.5	298	310.5	310.5
L2	237.5	237.5	250	262.5	275	287.5	300	300
L3	213	223.5	234	244.5	255	265.5	276	286.5
L4	17.5	12	13	14	15	16	17	12

SY3000: 9 Pins Terminal Block/Plug-in

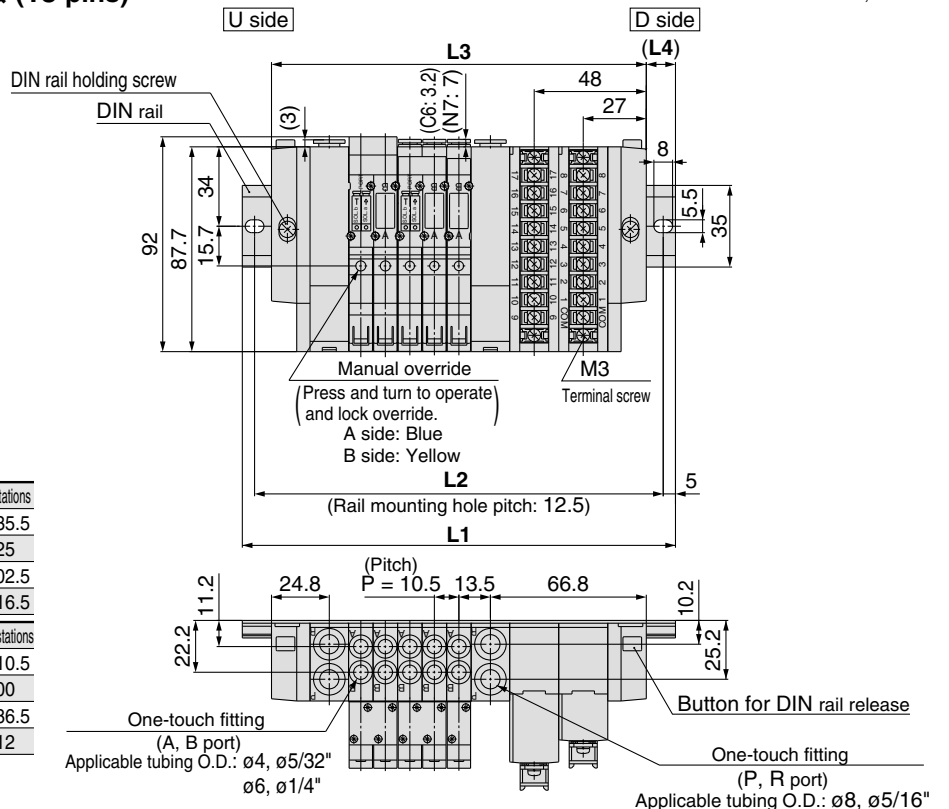
SS5Y3-45T1D-Stations U-^{C4, N3}_{C6, N7}-Q (18 pins)



Note) The L1 to L4 dimensions of **SS5Y3-45T1D-Stations D-^{C4, N3}_{C6, N7}-Q** are identical to those of **SS5Y3-45T1D-Stations U-^{C4, N3}_{C6, N7}-Q**.

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	148	160.5	173	185.5	198	210.5	210.5	223
L2	137.5	137.5	150	162.5	175	187.5	200	200	212.5
L3	112.5	123	133.5	144	154.5	165	175.5	186	196.5
L4	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13

SS5Y3-45T1D-Stations B-^{C4, N3}_{C6, N7}-Q (18 pins)



Stations n	2 stations	3	4	5	6	7	8	9 stations
L1	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	150	162.5	175	175	187.5	200	212.5	225
L3	129	139.5	150	160.5	171	181.5	192	202.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5

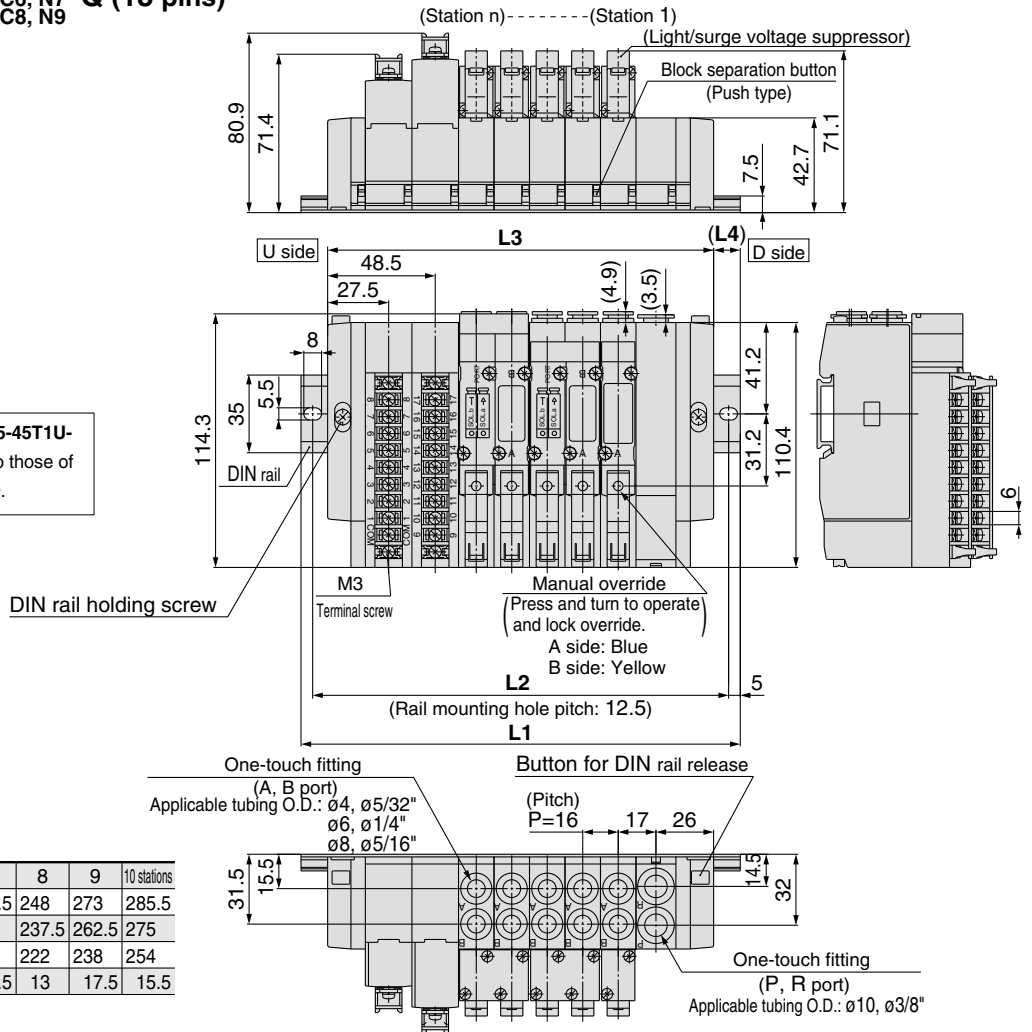
Stations n	10 stations	11	12	13	14	15	16	17 stations
L1	248	248	260.5	273	285.5	298	310.5	310.5
L2	237.5	237.5	250	262.5	275	287.5	300	300
L3	213	223.5	234	244.5	255	265.5	276	286.5
L4	17.5	12	13	14	15	16	17	12

SY5000: 18 Pins Terminal Block/Plug-in

SS5Y5-45T1U- Stations D-^{C4, N3}_{C6, N7}-Q (18 pins)

^{C4, N3}
_{C6, N7}

^{C4, N3}
_{C8, N9}

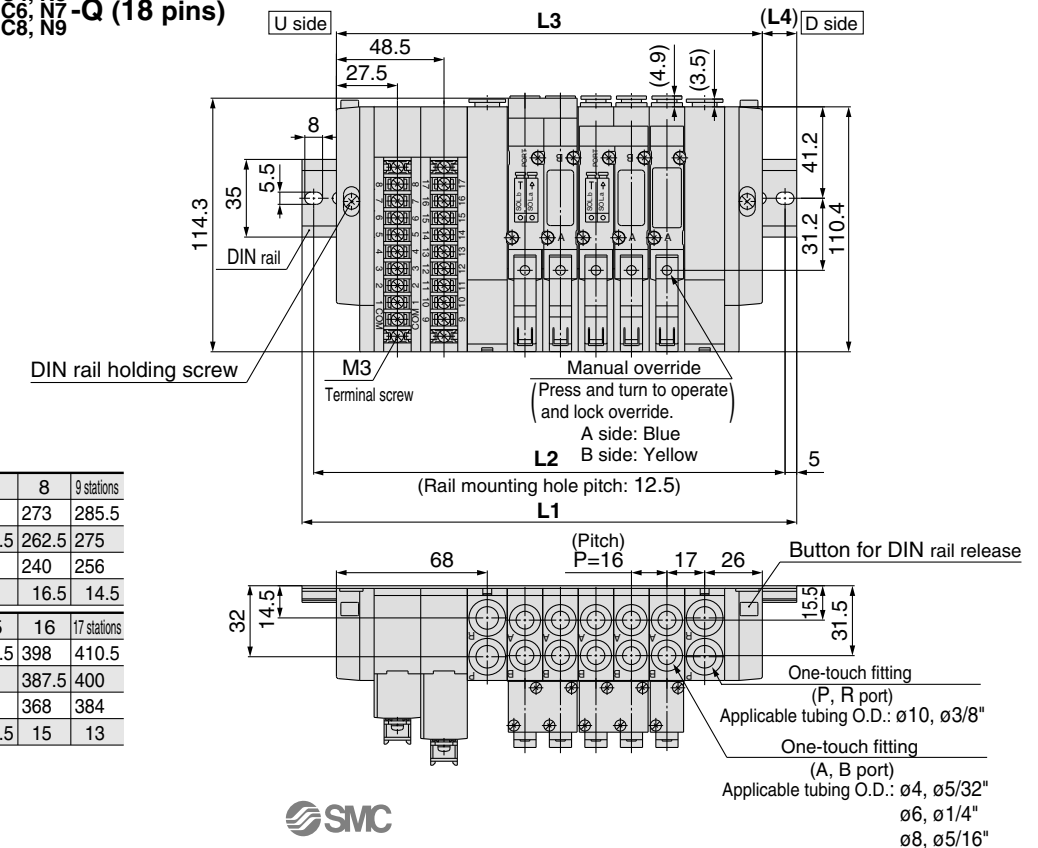


Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	160.5	173	185.5	198	223	235.5	248	273	285.5
L2	150	162.5	175	187.5	212.5	225	237.5	262.5	275
L3	126	142	158	174	190	206	222	238	254
L4	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5

SS5Y5-45T1U- Stations B-^{C4, N3}_{C8, N9}-Q (18 pins)

^{C4, N3}
_{C8, N9}

^{C4, N3}
_{C6, N7}

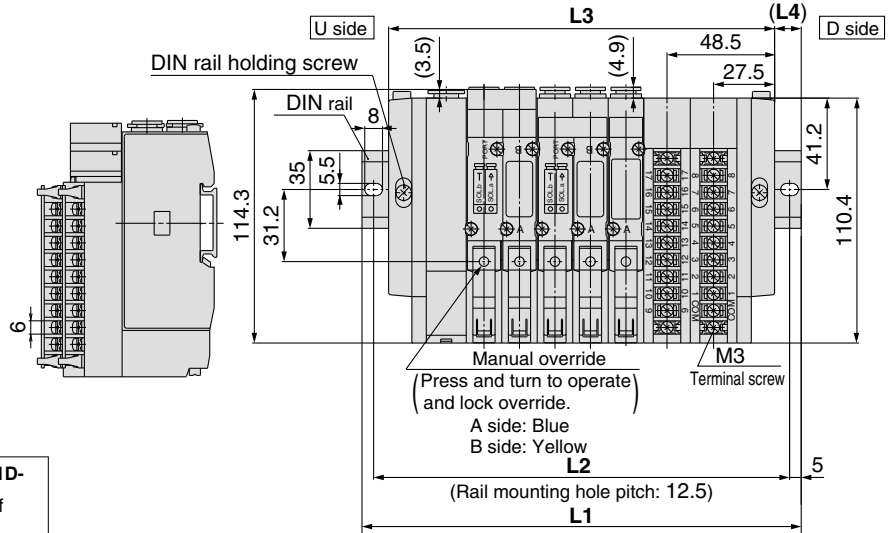
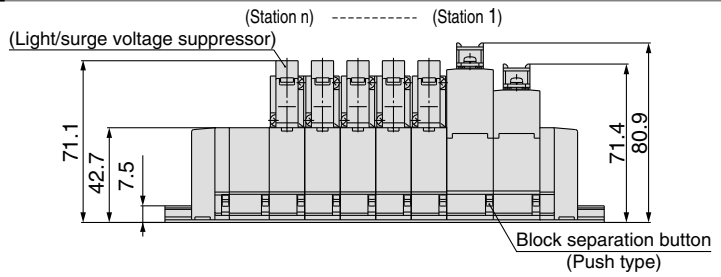


Stations n	2 stations	3	4	5	6	7	8	9 stations
L1	173	185.5	210.5	223	235.5	248	273	285.5
L2	162.5	175	200	212.5	225	237.5	262.5	275
L3	144	160	176	192	208	224	240	256
L4	14.5	12.5	17	15.5	13.5	12	16.5	14.5

Stations n	10 stations	11	12	13	14	15	16	17 stations
L1	298	323	335.5	348	360.5	385.5	398	410.5
L2	287.5	312.5	325	337.5	350	375	387.5	400
L3	272	288	304	320	336	352	368	384
L4	13	17.5	15.5	14	12	16.5	15	13

SY5000: 18 Pins Terminal Block/Plug-in

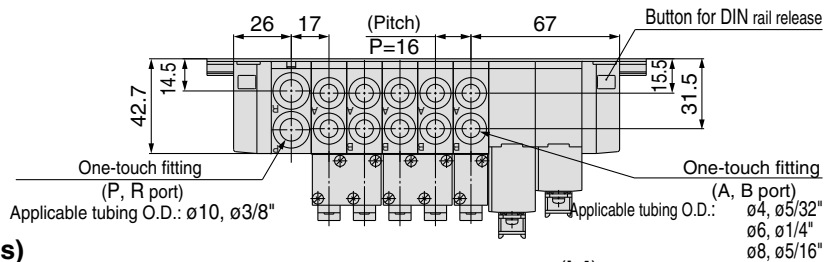
SS5Y5-45T1D- Stations U-C_{4, N3}, C_{6, N7}, C_{8, N9}-Q (18 pins)



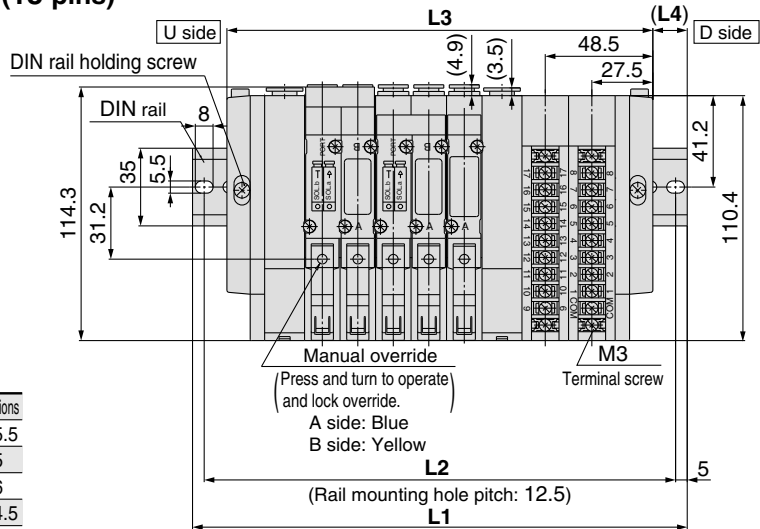
Note) The L1 to L4 dimensions of SS5Y5-45T1D-

Stations D-C_{4, N3}, C_{6, N7}, C_{8, N9} are identical to those of SS5Y5-45T1D- Stations U-C_{4, N3}, C_{6, N7}, C_{8, N9}

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	160.5	173	185.5	198	223	235.5	248	273	285.5
L2	150	162.5	175	187.5	212.5	225	237.5	262.5	275
L3	126	142	158	174	190	206	222	238	254
L4	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5

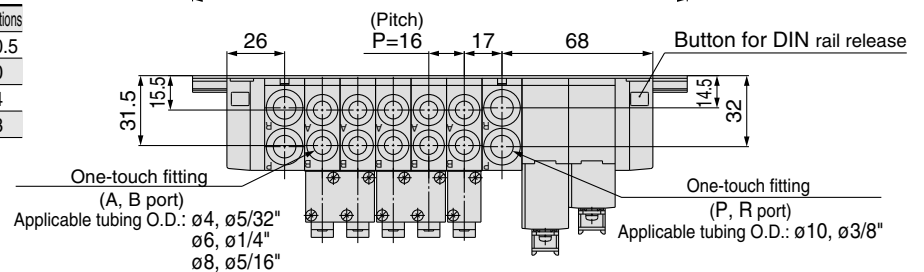


SS5Y5-45T1D- Stations B-C_{4, N3}, C_{6, N7}, C_{8, N9}-Q (18 pins)



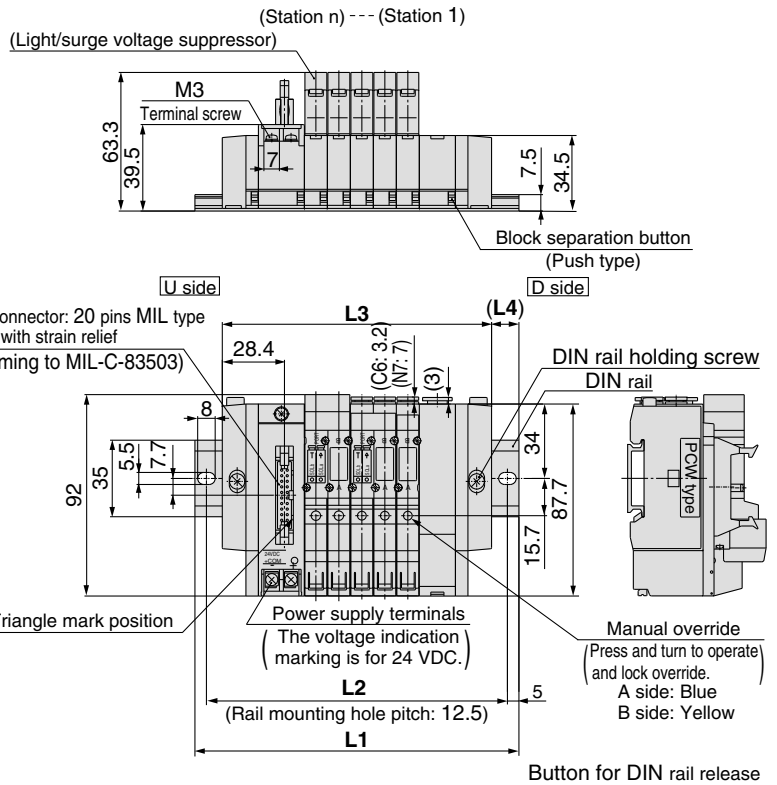
Stations n	2 stations	3	4	5	6	7	8	9 stations
L1	173	185.5	210.5	223	235.5	248	273	285.5
L2	162.5	175	200	212.5	225	237.5	262.5	275
L3	144	160	176	192	208	224	240	256
L4	14.5	12.5	17	15.5	13.5	12	16.5	14.5

Stations n	10 stations	11	12	13	14	15	16	17 stations
L1	298	323	335.5	348	360.5	385.5	398	410.5
L2	287.5	312.5	325	337.5	350	375	387.5	400
L3	272	288	304	320	336	352	368	384
L4	13	17.5	15.5	14	12	16.5	15	13



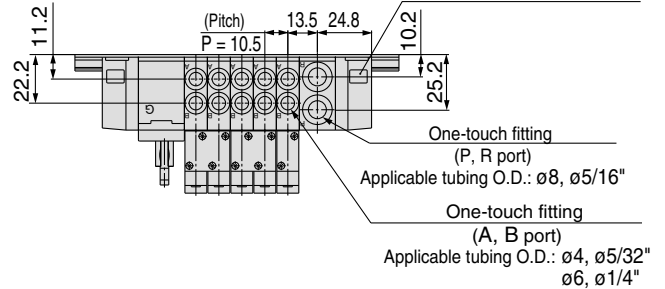
SY3000: PC Wiring System Compatible (Flat ribbon cable/Plug-in)

SS5Y3-45GU- Stations D-^{C4, N3}_{C6, N7}-Q

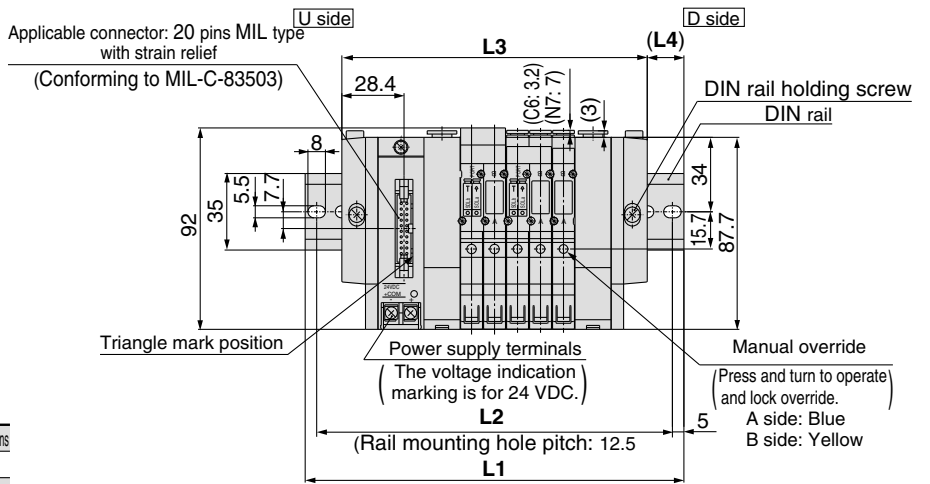


Note) The L1 to L4 dimensions of **SS5Y3-45GU- Stations U-^{C4, N3}_{C6, N7}-Q** are identical to those of **SS5Y3-45GU- Stations D-^{C4, N3}_{C6, N7}-Q**.

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

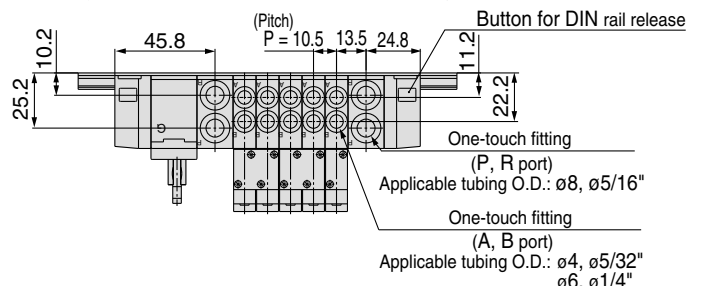


SS5Y3-45GU- Stations B-^{C4, N3}_{C6, N7}-Q



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11 stations	12	13	14	15	16 stations
L1	235.5	248	248	260.5	273	285.5
L2	225	237.5	237.5	250	262.5	275
L3	202.5	213	223.5	234	244.5	255
L4	16.5	17.5	12	13	14	15

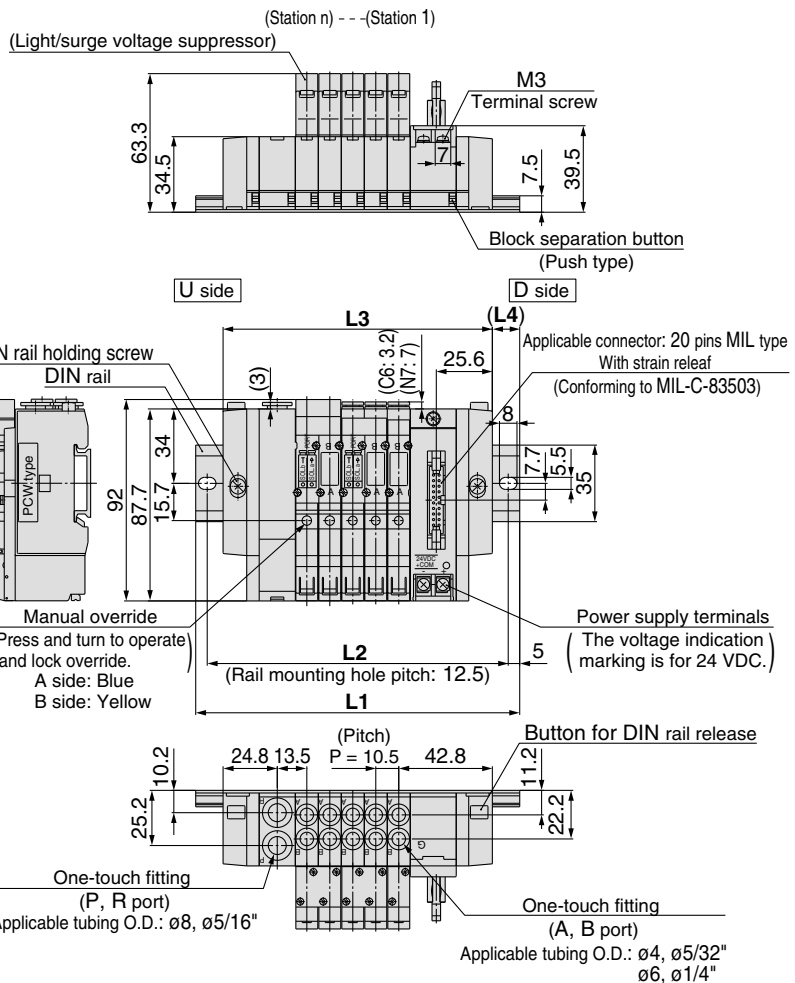


SY3000: PC Wiring System Compatible (Flat ribbon cable/Plug-in)

SS5Y3-45GD- Stations U-^{C4, N3}_{C6, N7}-Q

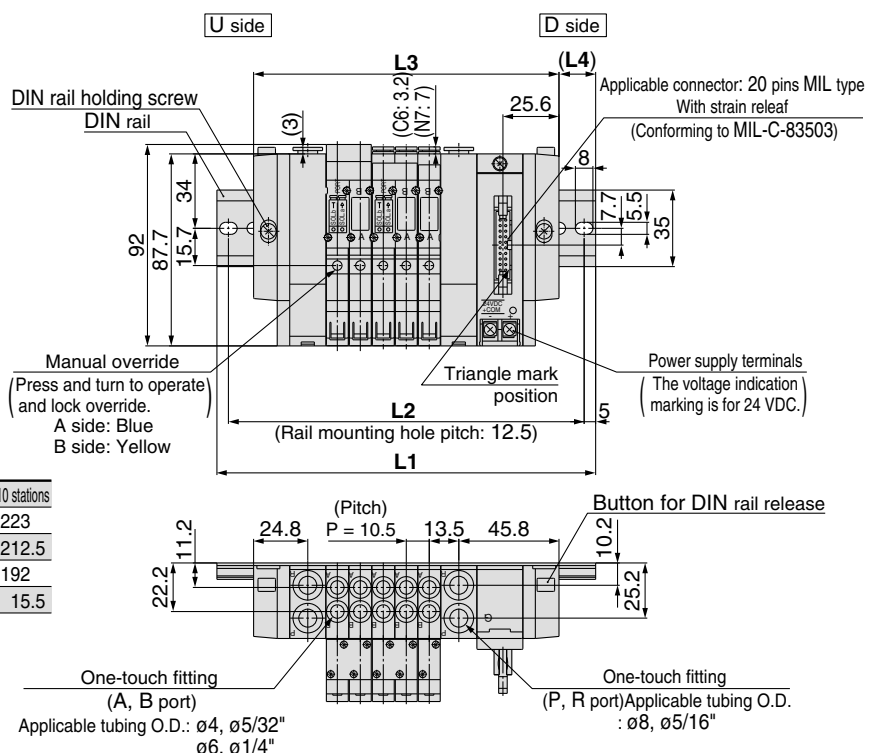


Note) The L1 to L4 dimensions of **SS5Y3-45GD- Stations D-^{C4, N3}_{C6, N7}-Q** are identical to those of **SS5Y3-45GD- Stations U-^{C4, N3}_{C6, N7}-Q**.



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45GD- Stations B-^{C4, N3}_{C6, N7}-Q



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11 stations	12	13	14	15	16 stations
L1	235.5	248	248	260.5	273	285.5
L2	225	237.5	237.5	250	262.5	275
L3	202.5	213	223.5	234	244.5	255
L4	16.5	17.5	12	13	14	15

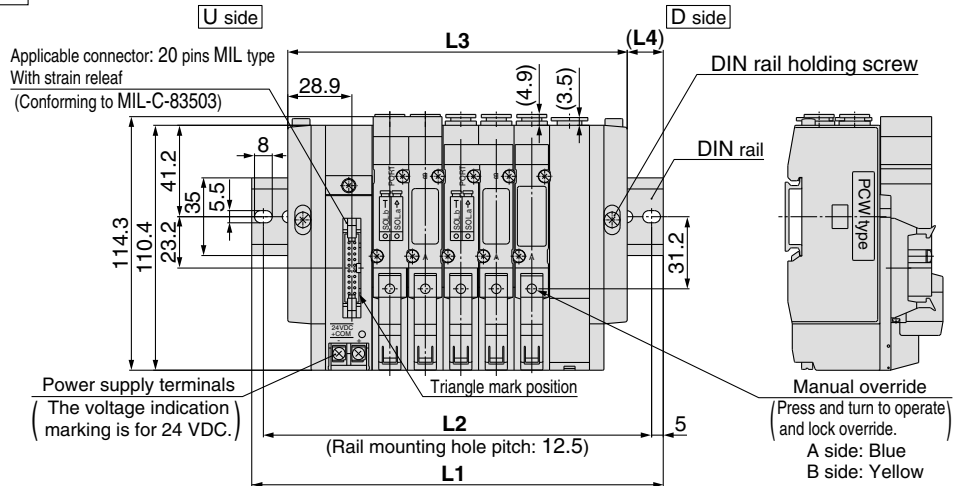
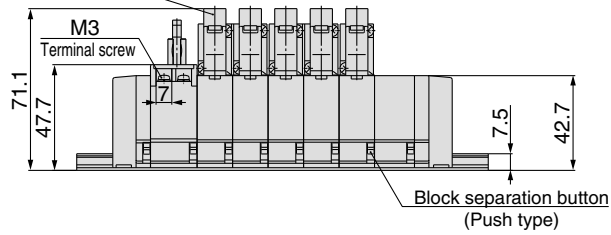
SY5000: PC Wiring System Compatible (Flat ribbon cable/Plug-in)

SS5Y5-45GU- Stations D- ^{C4, N3} **C6, N7-Q** ^{C8, N9}

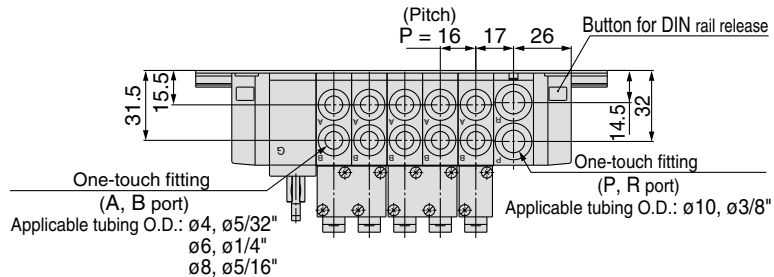
(Light/surge voltage suppressor) (Station n)----- (Station 1)



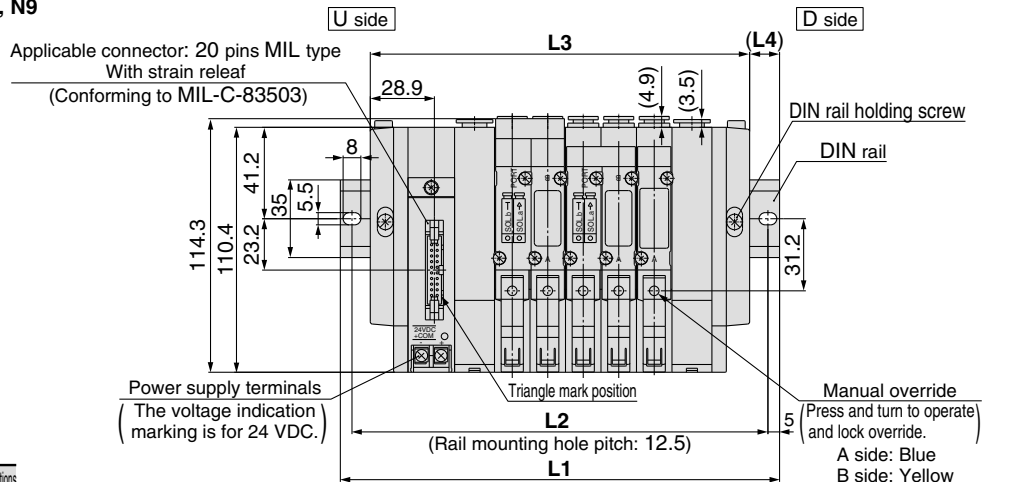
Note) The L1 to L4 dimensions of **SS5Y5-45GU- Stations U-** ^{C4, N3} **C6, N7-Q** are identical to those of **SS5Y5-45GU- Stations D-** ^{C4, N3} **C6, N7-Q**.



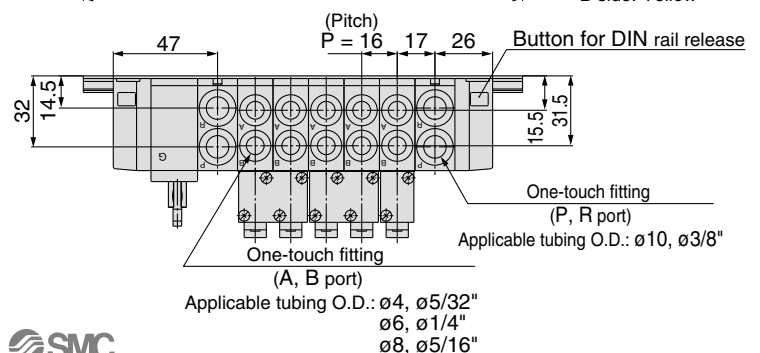
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5



SS5Y5-45GU- Stations B- ^{C4, N3} **C6, N7-Q** ^{C8, N9}



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17



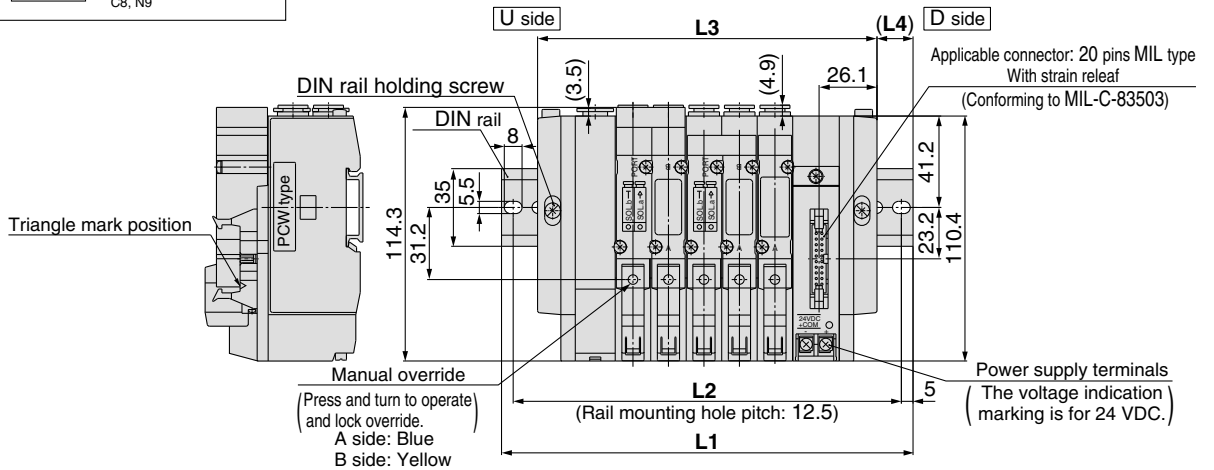
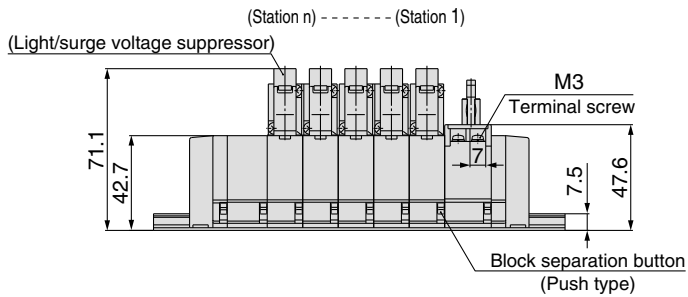
Stations n	11 stations	12	13	14	15	16 stations
L1	298	310.5	323	348	360.5	373
L2	287.5	300	312.5	337.5	350	362.5
L3	267	283	299	315	331	347
L4	15.5	13.5	12	16.5	14.5	13

SY5000: PC Wiring System Compatible (Flat ribbon cable/Plug-in)

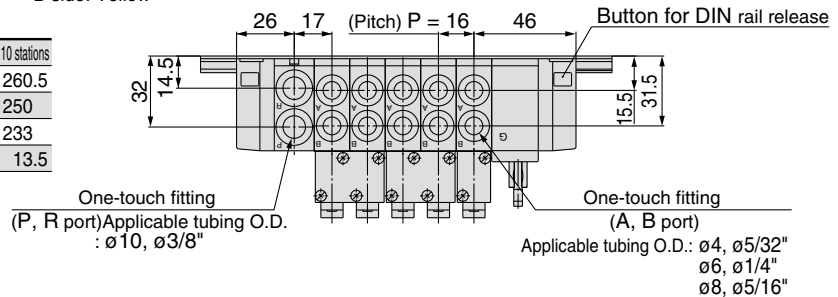
SS5Y5-45GD- Stations U- ^{C4, N3}
^{C6, N7-Q}
^{C8, N9}



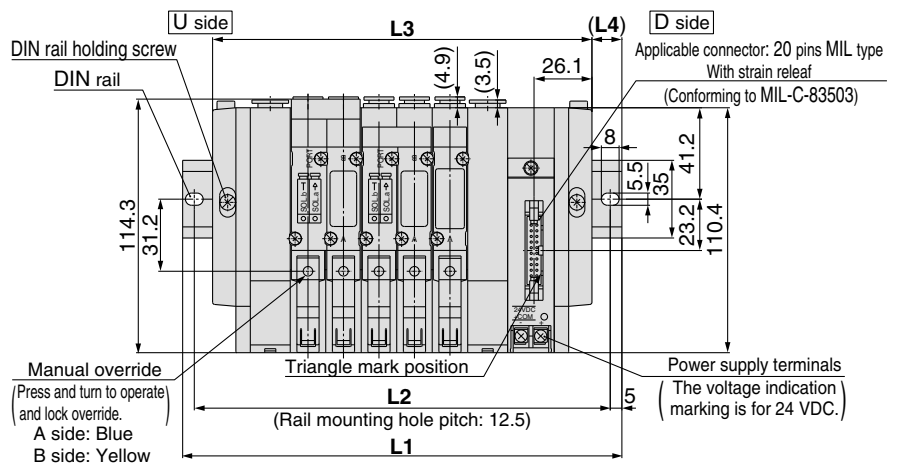
Note) The L1 to L4 dimensions of **SS5Y5-45GD-**
Stations D- ^{C4, N3}
^{C6, N7-Q} are identical to those of
SS5Y5-45GD- Stations U- ^{C4, N3}
^{C6, N7-Q}.



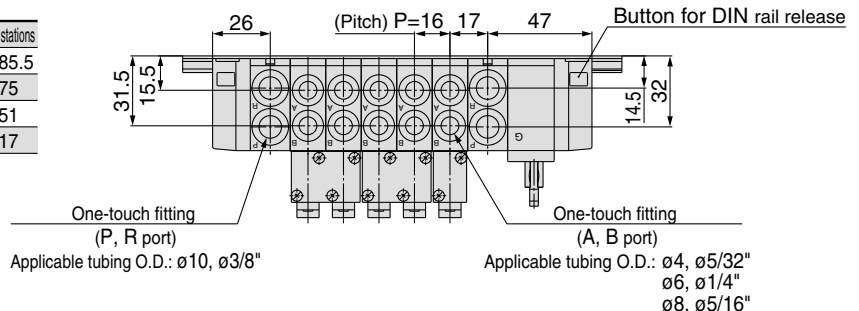
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5



SS5Y5-45GD- Stations B- ^{C4, N3}
^{C6, N7-Q}
^{C8, N9}



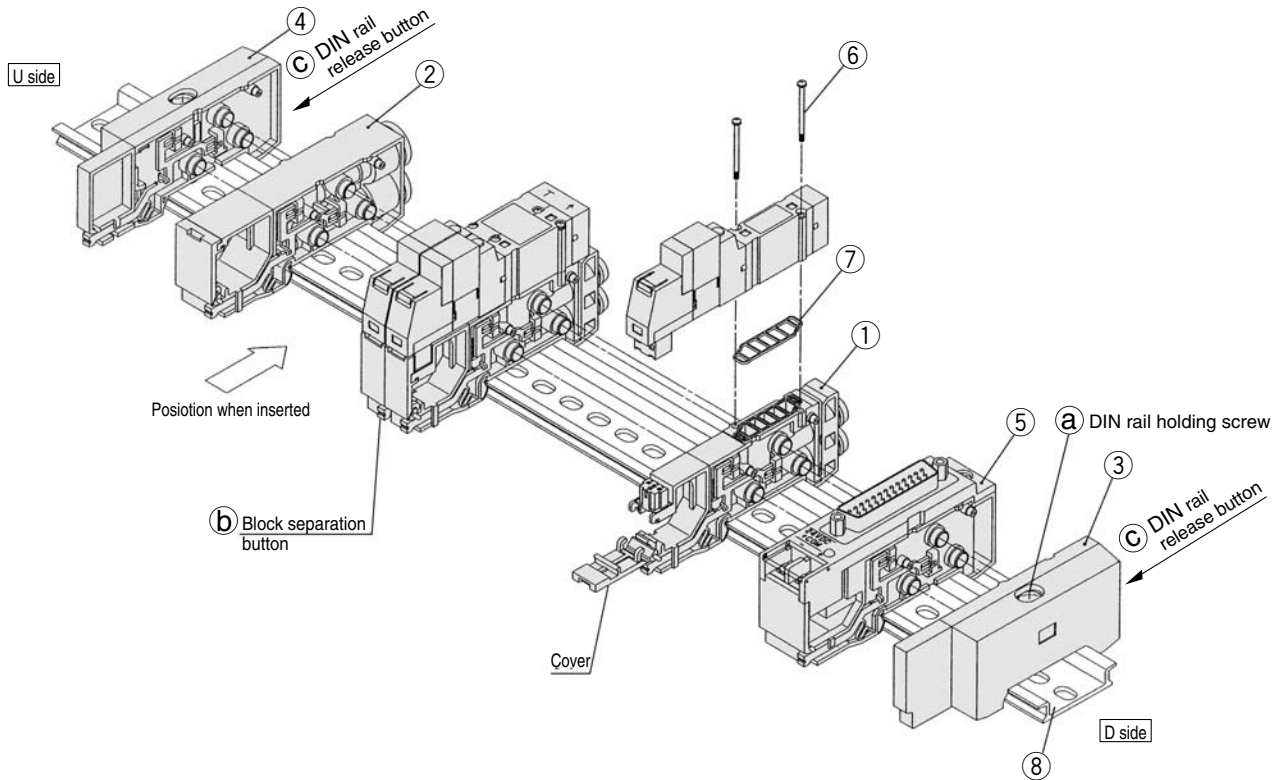
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17



Stations n	11 stations	12	13	14	15	16 stations
L1	298	310.5	323	348	360.5	373
L2	287.5	300	312.5	337.5	350	362.5
L3	267	283	299	315	331	347
L4	15.5	13.5	12	16.5	14.5	13

DIN Rail Manifold Exploded View

Type 45F (D-sub Connector) Manifold



No.	Description	No.		Note
		SY3000	SY5000	
1	Manifold block assembly	Manifold block assembly part number differs according to an attached lead wire assembly based on the connector spec. Select an appropriate part number from the table of manifold block assembly part number shown below. (Gasket 7 is supplied as an accessory.)		
2	SUP/EXH block assembly	(Metric size) SX3000-51-2A (Inch size) SX3000-51-16A	(Metric size) SX5000-51-2A (Inch size) SX5000-51-16A	Metric size SY3000: P, R port with one-touch fitting for $\phi 8$ SY5000: P, R port with one-touch fitting for $\phi 10$ Inch size With one-touch fitting for $\phi 5/16''$ With one-touch fitting for $\phi 3/8''$
3	End block assembly	SX3000-52-2A-Q	SX5000-52-2A-Q	For D side
4	End block assembly	SX3000-53-2A-Q	SX5000-53-2A-Q	For U side
5-1	Connector block assembly (for D-sub connector)	SX3000-64- ^{1A} _{1NA}	SX5000-64- ^{1A} _{1NA}	-1A: +COM -1NA: -COM
5-2	Connector block assembly (for 26 pins flat cable)	SX3000-64- ^{2A} _{2NA} -26	SX5000-64- ^{2A} _{2NA} -26	Note) For 24 VDC
5-3	Connector block assembly (for 20 pins flat cable)	SX3000-64- ^{2A} _{2NA} -20	SX5000-64- ^{2A} _{2NA} -20	
5-4	Connector block assembly (for 10 pins flat cable)	SX3000-64- ^{2A} _{2NA} -10	SX5000-64- ^{2A} _{2NA} -10	
5-5	Connector block assembly (for 2 to 8 stations (T, T1) terminal block)	SX3000-64-3A	SX5000-64-3A	In common between +COM and -COM.
5-6	Connector block assembly (for 9 to 17 stations (T1) terminal block)	SX3000-64-8A	SX5000-64-8A	
6	Round head combination screw	SY3000-23-4	M3 x 26, Matt nickel plated	
7	Gasket	SX3000-57-4	SX5000-57-6	
8	DIN rail	VZ1000-11-1-I□		Refer to page 118.

Note 1) The numbers 5-1 to 4 are for 24 VDC. For 12 VDC, suffix "-12V" to the end of parts number. (Example) SX3000-64-1A-12 V
 Note 2) Two manifold block assemblies are necessary for the double, 3 position (Dual body type).

Style of manifold	Manifold block assembly part no.	Note
For 45(N)F (D-sub connector)	SX ₅ ³ 000-50-3A-□□-Q	□□: AB port SY3000 (metric size) (inch size) C4: With one-touch fitting for $\phi 4$ C6: With one-touch fitting for $\phi 6$ N3: With one-touch fitting for $\phi 5/32''$ N7: With one-touch fitting for $\phi 1/4''$
For 45(N) _{PH} (Flat ribbon cable)	SX ₅ ³ 000-50-5A-□□-Q	A, B port SY5000 (metric size) (inch size) C4: With one-touch fitting for $\phi 4$ C6: With one-touch fitting for $\phi 6$ C8: With one-touch fitting for $\phi 8$ N3: With one-touch fitting for $\phi 5/32''$ N7: With one-touch fitting for $\phi 1/4''$ N9: With one-touch fitting for $\phi 9/16''$
For 45G PC Wiring System compatible		
For 45 ^T _{T1} (Terminal block)	SX ₅ ³ 000-50-7A-□□-Q	

How to Increase Manifold Bases

- 1** Loosen DIN rail holding screw (a) fixing the manifold base until it begins to turn idly. (While pressing DIN rail releasing buttons (c), at two locations, separate the manifold base from the DIN rail.)
- 2** Additional bases are to be added to the U side. Press splitting button (b) of the manifold block assembly on the U side until button (b) locks, and then separate the block assemblies.
- 3** Separate the connector block assembly in the same manner as **2**, and remove the connector mounting screw shown in Fig. 1.
- 4** Loosen the valve mounting screw on the U side, remove the valve, and take out the receptacle housing. (Refer to Fig. 2.)
- 5** Insert the common wire (red) of the manifold block assembly to be added into the pin insertion section (N mark) of the receptacle housing that was taken out in **4**, mount it on the manifold block, and mount the removed valve.
- 6** As shown in Fig. 3, mount the additional manifold block assembly on the DIN rail on the U side. Refer to the circuit diagram, and insert the lead wire (black) as shown in Fig. 4.
- 7** Press the blocks against each other until a click sound is produced, place the lead wire in the manifold block, and close the lid without pinching the lead wire.
- 8** While lightly holding the blocks together so that there are no gaps between them, secure them to the DIN rail by tightening the DIN rail holding screws (a). Δ (Tightening torque: 1.4 N·m)

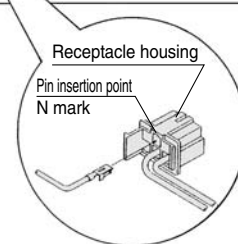
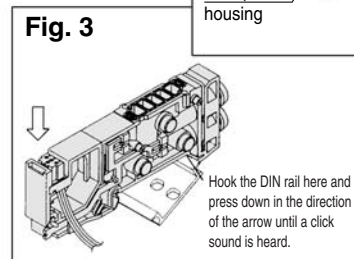
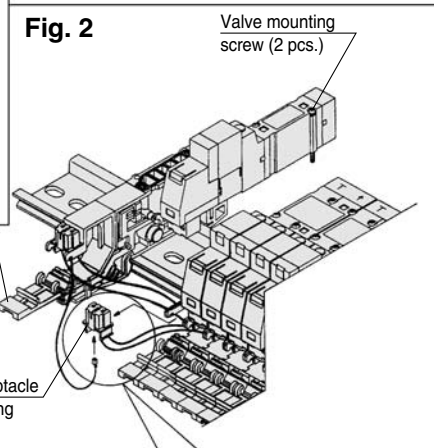
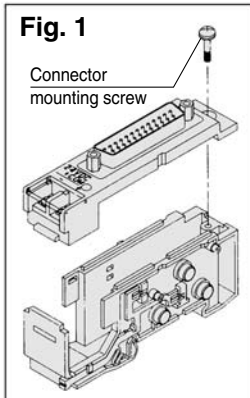
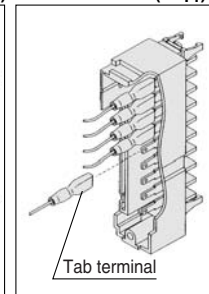
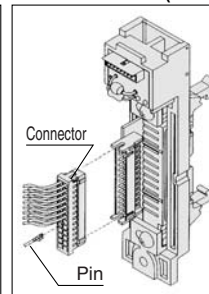
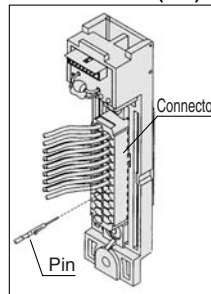


Fig. 4
D-sub connector (45F) Flat ribbon cable (45P) Terminal block (45T₁)



Note) After inserting pins, lightly pull lead wire to check that pins are locked.

Note) Insert pins after removing the connector from the main unit. After inserting pins, lightly pull lead wires to check that the pins are locked.

Note) Insert tab terminals completely.

- ⚠ Caution**
1. Depending on the connector, there is a limit to the number of solenoids that can be used. Manifold bases that can be added cannot exceed the number of usable solenoids.
 2. The manifold block assembly mounting position for additional manifold bases is always on the U side, because wires are connected to respective connectors sequentially from the D side.
 3. When DIN rail holding screw (a) for the end block is not sufficiently tightened during reassembly, air leakage may result. Before supplying air, check that there is no gap between blocks and that the manifold block is firmly fixed to the DIN rail in order to ensure air supply without leakage.

Fitting Assembly

Type 45 manifold permits change in the A and B port sizes by changing the manifold block fitting assembly. After removing the valve, remove the clip with a screwdriver, etc. For mounting a new fitting assembly, insert it and then insert a clip until it will not come out of the manifold block.

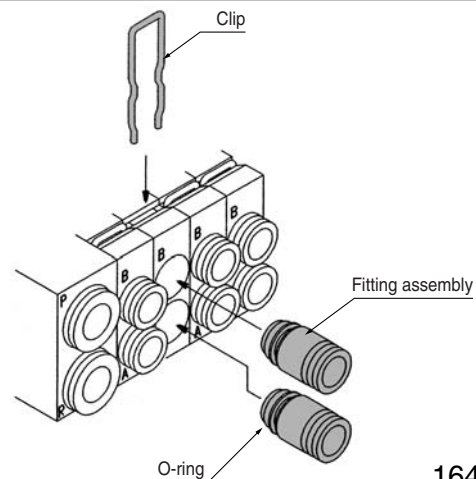
Fitting Assembly Part No.

Metric size

SY3000	One-touch fitting for $\phi 4$	VVQ1000-50A-C4
	One-touch fitting for $\phi 6$	VVQ1000-50A-C6
SY5000	One-touch fitting for $\phi 4$	VVQ1000-51A-C4
	One-touch fitting for $\phi 6$	VVQ1000-51A-C6
	One-touch fitting for $\phi 8$	VVQ1000-51A-C8

Inch size

SY3000	One-touch fitting for $\phi 5/32$ "	VVQ1000-50A-N3
	One-touch fitting for $\phi 1/4$ "	VVQ1000-50A-N7
SY5000	One-touch fitting for $\phi 5/32$ "	VVQ1000-51A-N3
	One-touch fitting for $\phi 1/4$ "	VVQ1000-51A-N7
	One-touch fitting for $\phi 5/16$ "	VVQ1000-51A-N9



- Note 1) P and R ports cannot be changed.
Note 2) Use caution that O-rings must be free from scratches and dust. Otherwise, air leakage may result.

Type **45S**

5 Port Solenoid Valve Series SY3000/5000 Base Mounted Stacking Type/DIN Rail Mounted

How to Order Manifold

SS5Y **3** - 45S **C** - 05 **U** - C6 - **□** - Q

Series

3	SY3000
5	SY5000

Model

Symbol	Specifications
O	Without SI unit
C	SYSBUS wire system (OMRON Corp.)
Q	DeviceNet and CompoBus/D (OMRON Corp.)
R1	CompoBus/S (16 outputs) compatible (OMRON Corp.)
R2	CompoBus/S (8 outputs) compatible (OMRON Corp.)
T2	SI unit for ASi (8 outputs) Yellow + Black wires
T4	SI unit for ASi (4 outputs) Yellow + Black wires
T5	SI unit for ASi (4 outputs) Yellow wire
V	CC-link System (Mitsubishi Electric Corp.)

* Even when the manifold is not equipped with a SI unit, the DIN rail is long enough for future expectancy of mounting a SI unit.

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 16 solenoid valves.)
⋮	⋮	
16	16 stations	

* This also includes the number of blanking plate assemblies.
* Two stations are necessary for the double and 3 position solenoid valves (Dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	(Both sides)	2 to 16 stations
M	Special specifications	

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

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	
M	Mixed	
C4	One-touch fitting for ø4	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 $\frac{5}{32}$ "	SY3000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
M	Mixed	
N3	One-touch fitting for ø $\frac{5}{32}$ "	SY5000
N7	One-touch fitting for ø $\frac{1}{4}$ "	
N9	One-touch fitting for ø $\frac{5}{16}$ "	
M	Mixed	

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

Option

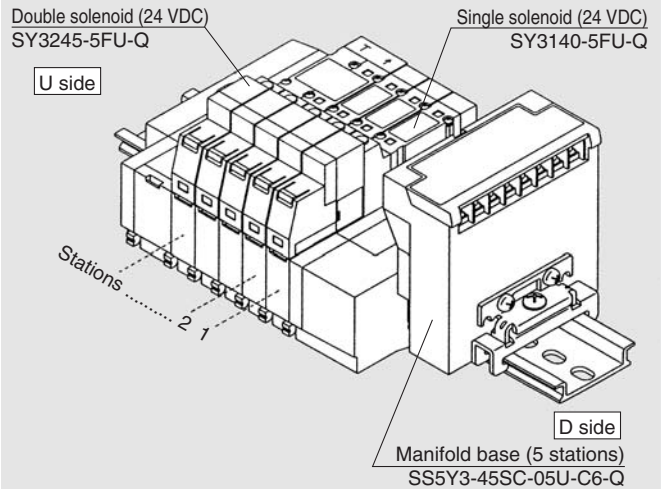
When a longer DIN rail is desired than the specified stations, specify the station number to be required.
(Max. 20 stations)

SI Unit Part No.

Symbol	Specifications	For SS5Y□-45S	Symbol	Specifications	For SS5Y□-45S
C	SYSBUS wire system (OMRON Corp.)	EX122-STA1	R2	CompoBus/S (8 outputs) compatible (OMRON Corp.)	EX122-SCS2
Q	DeviceNet and CompoBus/D (OMRON Corp.)	EX122-SDN1	T2	SI unit for ASi (8 outputs) Yellow + Black wires	EX122-SAS2
R1	CompoBus/S (16 outputs) compatible (OMRON Corp.)	EX122-SCS1	T4	SI unit for ASi (4 outputs) Yellow + Black wires	EX122-SAS4
			T5	SI unit for ASi (4 outputs) Yellow wire	EX122-SAS5
			V	CC-Link System (Mitsubishi Electric Corp.)	EX122-SMJ1

How to Order Valve Manifold Assembly (Example)

Example



SS5Y3-45SC-05U-C6-Q 1 set (45S with serial unit 5 Stations
Manifold base part number)
* SY3140-5FU-Q 3 sets (Single solenoid part no.)
* SY3245-5FU-Q 1 set (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.
* When ordering double solenoid valves/3 position (Dual body type), please keep in mind that they require two manifold stations.
* Serial unit is available only for the D-side mounting type.

How to Order Valve

2 position single SY **3** 1 4 0 - 5 FU **□** - Q

Double and 3 position SY **3** 2 4 5 - 5 FU **□** - Q

Series

3	SY3000
5	SY5000

Type of actuation

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

Dual body type (Double and 3 position)

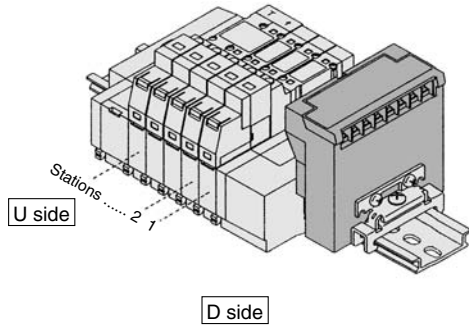
Rated voltage

5	24 VDC
---	--------

Manual override

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

- The serial transmission system reduces wiring work, while minimising wiring and saving space.
- 16 stations max. (Specify a model with more than 9 stations by using a manifold specification sheet.)



- The total number of stations is tabulated starting from station one on the D side.
- Maximum station: Up to 16 solenoids (16 single solenoids).

Item	Specifications	
External power supply	24 VDC +10%/−5%	
Current consumption (Internal unit)	0.1A	SD, SR1, SR2, SV
	0.3A	SC, SQ

Type C
OMRON Corporation
SYSBUS Wiring System

Name of terminal block, LED

LED description	Detail
RUN	Lights up when transmission is normal and PLC is in operation mode.
T/R ERR	Flashes when transmission is normal; lights up when it is abnormal.

Note

- SYSBUS Wire System
- Master unit: Type C500-RM201
Type C200H-RM201
- No. of output point: 16 points

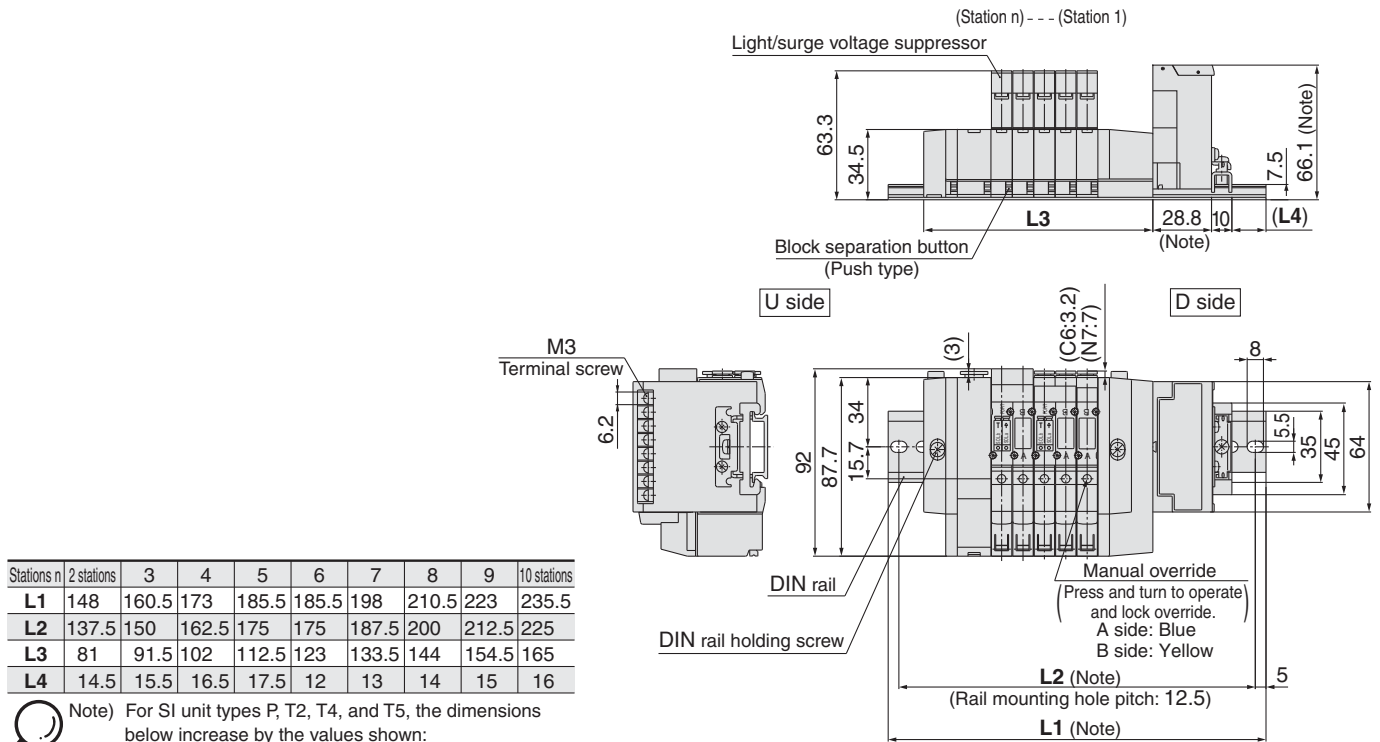
Cable wiring

	Type Q DeviceNet	Type R1, R2 OMRON Corporation CompoBus/S compliant	Type V Mitsubishi Electric Corporation CC-LINK compliant																										
Name of terminal block, LED	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>LED description</th> <th>Detail</th> </tr> </thead> <tbody> <tr> <td>POWER</td> <td>Green light is ON when the circuit is powered. Goes out when SI unit is not online or the circuit is not powered.</td> </tr> <tr> <td>MOD/NET</td> <td>Green light is continuously ON when SI unit is on-line and in operation. Red light flashes for connection time-out (minor communication error). Red light is continuously ON for connection time-out (major communication error) or online impossibility.</td> </tr> </tbody> </table>	LED description	Detail	POWER	Green light is ON when the circuit is powered. Goes out when SI unit is not online or the circuit is not powered.	MOD/NET	Green light is continuously ON when SI unit is on-line and in operation. Red light flashes for connection time-out (minor communication error). Red light is continuously ON for connection time-out (major communication error) or online impossibility.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>LED description</th> <th>Detail</th> </tr> </thead> <tbody> <tr> <td>POWER</td> <td>Lights up when transmission is ON; goes out when not powered.</td> </tr> <tr> <td>COMM</td> <td>Lights up for normal communication; goes out for abnormal communication or waiting.</td> </tr> <tr> <td>ERR</td> <td>Lights up for abnormal communication; goes out for normal communication or waiting.</td> </tr> </tbody> </table>	LED description	Detail	POWER	Lights up when transmission is ON; goes out when not powered.	COMM	Lights up for normal communication; goes out for abnormal communication or waiting.	ERR	Lights up for abnormal communication; goes out for normal communication or waiting.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>LED description</th> <th>Detail</th> </tr> </thead> <tbody> <tr> <td>PWR</td> <td>Lights up when transmission power, goes out when not powered.</td> </tr> <tr> <td>L RUN</td> <td>Lights up when receiving normal data.</td> </tr> <tr> <td>SD</td> <td>Lights up when sending data.</td> </tr> <tr> <td>RD</td> <td>Lights up when receiving data.</td> </tr> <tr> <td>L ERR.</td> <td>Lights up for transmission error and setting error; flashes when station or transmission speed settings are changed during operation.</td> </tr> </tbody> </table>	LED description	Detail	PWR	Lights up when transmission power, goes out when not powered.	L RUN	Lights up when receiving normal data.	SD	Lights up when sending data.	RD	Lights up when receiving data.	L ERR.	Lights up for transmission error and setting error; flashes when station or transmission speed settings are changed during operation.
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Note	<ul style="list-style-type: none"> • DeviceNet • OMRON Corporation: CompoBus/D System <li style="padding-left: 20px;">Master station unit: C200HW-DSM21 • No. of output point: 16 points 	<ul style="list-style-type: none"> • CompoBus/S System <li style="padding-left: 20px;">Master unit: C200HW-SRM21 <li style="padding-left: 20px;">Master unit: COM1-SRM21 • No. of output point: 16 points (Type SR1) <li style="padding-left: 20px;">No. of output point: 8 points (Type SR2) 	<ul style="list-style-type: none"> • CC-Link System <li style="padding-left: 20px;">Master unit: AJ61BT11 <li style="padding-left: 20px;">Master unit: A1SJ61BT11 <li style="padding-left: 20px;">Master unit: AJ61QBT11 <li style="padding-left: 20px;">Master unit: A1SJ61QBT11 • No. of output point: 16 points 																										
Cable wiring																													

	Type T2	Type T4	Type T5																								
AS-i																											
Name of terminal block, LED																											
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Pos.</th> <th>Component:</th> <th>Description:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>green PWR LED</td> <td>green LED for AS Interface's power supply (yellow cable)</td> </tr> <tr> <td style="text-align: center;">2</td> <td>red ERR LED</td> <td>red LED for communication error (Watch-Dog)</td> </tr> <tr> <td style="text-align: center;">3</td> <td>green EXT LED (only EX120-SAS2/4)</td> <td>green LED for valve power supply (24VDC PELV)</td> </tr> <tr> <td style="text-align: center;">4</td> <td>ADDR socket (ADDR2 only in T2)</td> <td>Socket for AS-i handheld programming device for address setting ADDR1: for As-i slave 1 / solenoid outputs 0, 1, 2 and 3 ADDR2: for AS-i slave 2 / solenoid outputs 4, 5, 6 and 7</td> </tr> <tr> <td style="text-align: center;">5</td> <td>CLEAR/HOLD-Switch</td> <td>CLEAR: all valves are switched OFF in case of communication error. HOLD: all the valves remain in their current ON/OFF position in case of communication error.</td> </tr> <tr> <td style="text-align: center;">6</td> <td>AS-interface-Connection for the yellow cable (left)</td> <td>Connector for communication AS-i yellow ribbon cable.</td> </tr> <tr> <td style="text-align: center;">7</td> <td>Connection for the black cable (right) (only EX120-SAS2/4)</td> <td>Connector for external +24VDC power supply cable for the valves.</td> </tr> </tbody> </table>	Pos.	Component:	Description:	1	green PWR LED	green LED for AS Interface's power supply (yellow cable)	2	red ERR LED	red LED for communication error (Watch-Dog)	3	green EXT LED (only EX120-SAS2/4)	green LED for valve power supply (24VDC PELV)	4	ADDR socket (ADDR2 only in T2)	Socket for AS-i handheld programming device for address setting ADDR1: for As-i slave 1 / solenoid outputs 0, 1, 2 and 3 ADDR2: for AS-i slave 2 / solenoid outputs 4, 5, 6 and 7	5	CLEAR/HOLD-Switch	CLEAR: all valves are switched OFF in case of communication error. HOLD: all the valves remain in their current ON/OFF position in case of communication error.	6	AS-interface-Connection for the yellow cable (left)	Connector for communication AS-i yellow ribbon cable.	7	Connection for the black cable (right) (only EX120-SAS2/4)	Connector for external +24VDC power supply cable for the valves.		
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Note	<ul style="list-style-type: none"> free structure: line, tree or star. no termination resistors needed. no baud rate settings. max. bus cable length: 100m (300m wit repeaters). 																										
	<ul style="list-style-type: none"> 8 outputs with additional valve power supply 	<ul style="list-style-type: none"> 4 outputs with additional valve power supply 	<ul style="list-style-type: none"> 4 outputs without additional valve power supply 																								
Cable wiring	<p>Communication connector External +24VDC valve power supply</p>	<p>Communication connector External +24VDC valve power supply</p>	<p>Communication connector</p>																								

Series SY3000: Serial Transmission Unit/Plug-in

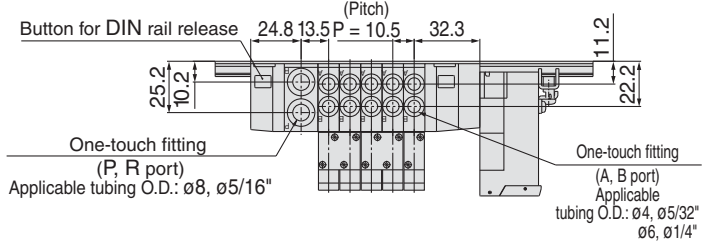
SS5Y3-45S □ - Stations **U**-^{C4, N3}/_{C6, N7} -**Q** (for SI unit types C, Q, R1, R2 and V)



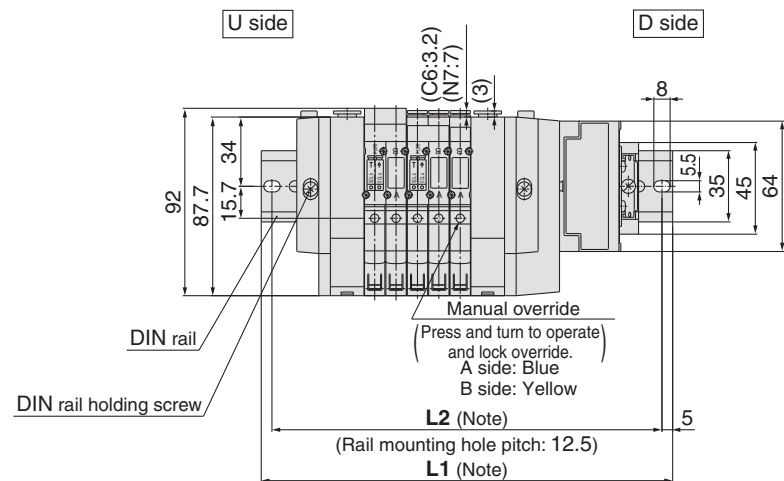
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	137.5	150	162.5	175	175	187.5	200	212.5	225
L3	81	91.5	102	112.5	123	133.5	144	154.5	165
L4	14.5	15.5	16.5	17.5	12	13	14	15	16

Note) For SI unit types P, T2, T4, and T5, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



SS5Y3-45S □ - Stations **B**-^{C4, N3}/_{C6, N7} -**Q** (for SI unit types C, Q, R1, R2 and V)

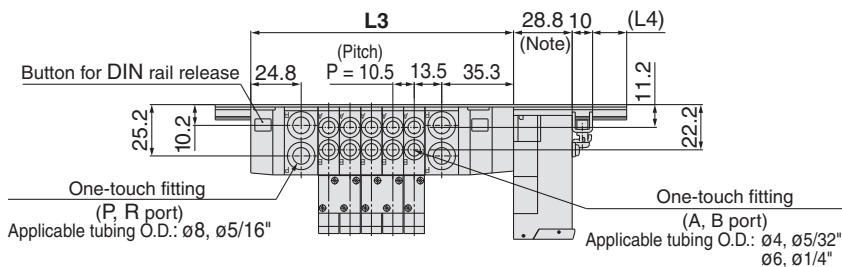


Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	160.5	173	185.5	198	210.5	223	223	235.5	248
L2	150	162.5	175	187.5	200	212.5	212.5	225	237.5
L3	97.5	108	118.5	129	139.5	150	160.5	171	181.5
L4	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14

Stations n	11 stations	12	13	14	15	16 stations
L1	260.5	273	285.5	285.5	298	310.5
L2	250	262.5	275	275	287.5	300
L3	192	202.5	213	223.5	234	244.5
L4	15	16	17	12	13	14

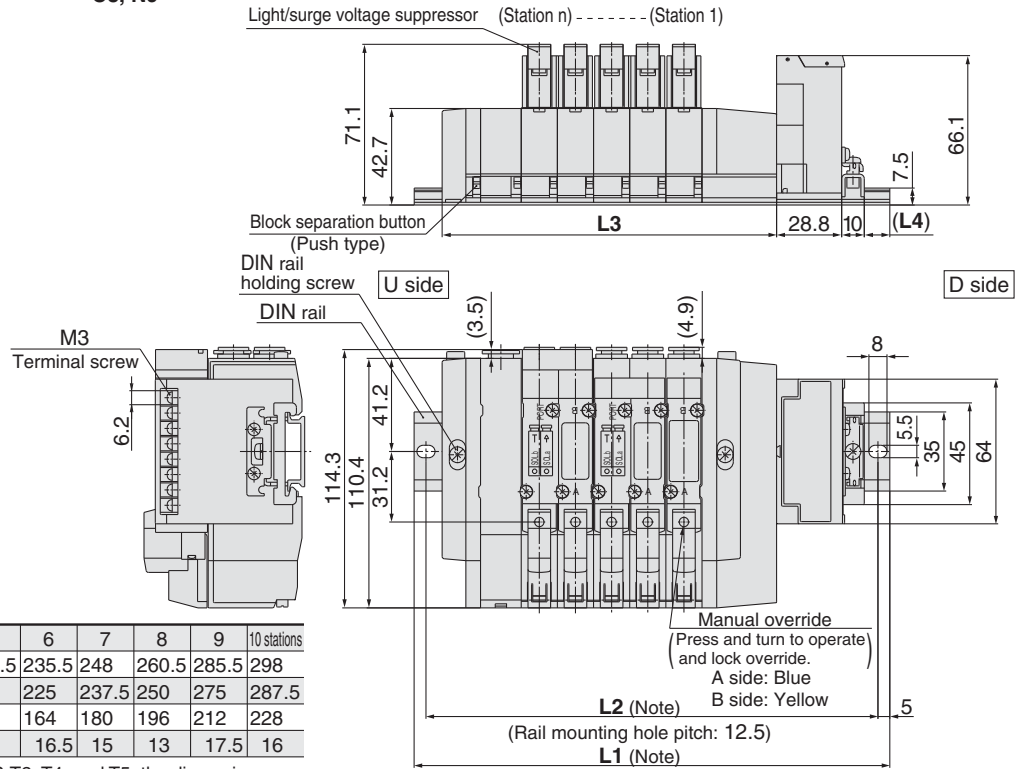
Note) For SI unit types P, T2, T4, and T5, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



Series SY5000: Serial Transmission Unit/Plug-in

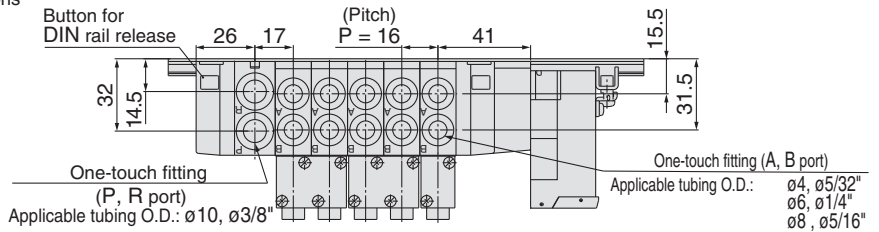
SS5Y5-45S□ - Stations U-^{C4, N3}_{C6, N7}-Q (for SI unit types C, Q, R1, R2 and V)



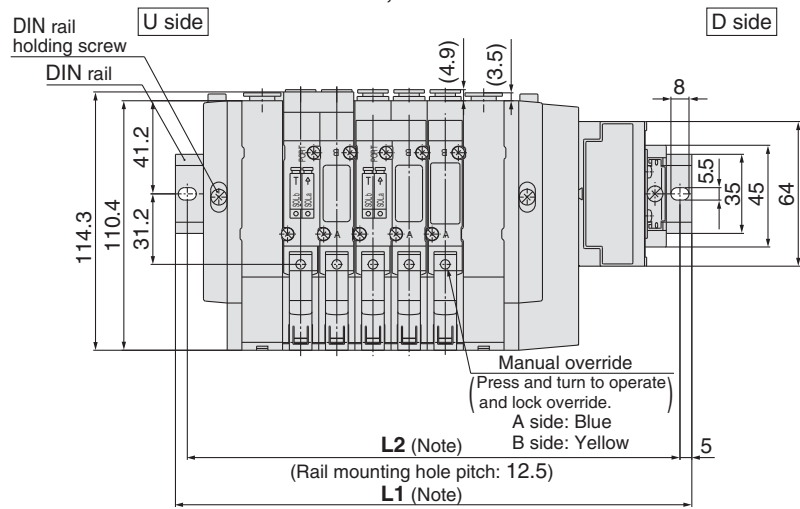
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	173	185.5	198	210.5	235.5	248	260.5	285.5	298
L2	162.5	175	187.5	200	225	237.5	250	275	287.5
L3	100	116	132	148	164	180	196	212	228
L4	17.5	15.5	14	12	16.5	15	13	17.5	16

Note) For SI unit types P, T2, T4, and T5, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



SS5Y5-45S□ - Stations B-^{C4, N3}_{C8, N9}-Q (for SI unit types C, Q, R1, R2 and V)

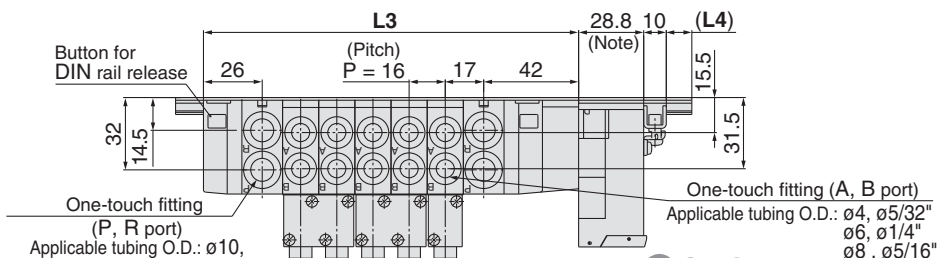


Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	185.5	198	223	235.5	248	260.5	285.5	298	310.5
L2	175	187.5	212.5	225	237.5	250	275	287.5	300
L3	118	134	150	166	182	198	214	230	246
L4	14.5	13	17.5	15.5	14	12	16.5	15	13

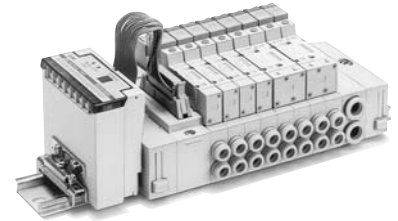
Stations n	2 stations	12	13	14	15	16 stations
L1	335.5	348	360.5	373	398	410.5
L2	325	337.5	350	362.5	387.5	400
L3	262	278	294	310	326	342
L4	17.5	16	14	12.5	17	15

Note) For SI unit types P, T2, T4, and T5, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



5 Port Solenoid Valve Series SY3000/5000 Base Mounted Stacking Type/DIN Rail Mounted Serial Transmission Unit (Separate type)



Type **45S1**

How to Order Manifold

SS5Y **3** - 45S1 **C D** - **05 U** - **C4** - **-Q**

Series

3	SY3000
5	SY5000

Model

Symbol	Specifications
O	Without SI unit
C	SYSBUS wire system (OMRON Corp.)
Q	DeviceNet and CompoBus/D (OMRON Corp.)
R1	CompoBus/S (16 outputs) compatible (OMRON Corp.)
R2	CompoBus/S (8 outputs) compatible (OMRON Corp.)
T2	SI unit for ASi (8 outputs) Yellow + Black wires
T4	SI unit for ASi (4 outputs) Yellow + Black wires
T5	SI unit for ASi (4 outputs) Yellow wire
V	CC-Link System (Mitsubishi Electric Corp.)



- Even when the manifold is not equipped with a SI unit, the DIN rail length is long enough for future expectancy of mounting a SI unit. When a shorter rail is required (same as type 45□), suffix "0" in the optional blank at the end of part number.
- For SI unit specifications, Refer to pages 166 through to 168.

SI unit mounting position

Symbol	Mounting position
U	U side
D	D side

Option

When a longer DIN rail is desired than the specified stations, specify the station number to be required. (Max. 20 stations)

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	
M	Mixed	
C4	One-touch fitting for ø4	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"	SY3000
N7	One-touch fitting for ø 1/4"	
M	Mixed	
N3	One-touch fitting for ø 5/32"	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.

SUP/EXH block assembly mounting position

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

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

Valve stations

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 16 solenoid valves.)
:	:	
16	16 stations	



- This also includes the number of blanking plate assemblies.
- Two stations are necessary for the double, and 3 position solenoid valves (Dual body type).

SI Unit Part No.

Symbol	Specifications	For SS5Y□-45S1	Symbol	Specifications:	For SS5Y□-45S1
C	SYSBUS wire system (OMRON Corp.)	EX121-STA1	R2	CompoBus/S (8 outputs) compatible (OMRON Corp.)	EX121-SCS2
Q	DeviceNet and CompoBus/D (OMRON Corp.)	EX121-SDN1	T2	SI unit for ASi (8 outputs) Yellow + Black wires	EX121-SAS2
R1	CompoBus/S (16 outputs) compatible (OMRON Corp.)	EX121-SCS1	T4	SI unit for ASi (4 outputs) Yellow + Black wires	EX121-SAS4
			T5	SI unit for ASi (4 outputs) Yellow wire	EX121-SAS5
			V	CC-Link System (Mitsubishi Electric Corp.)	EX121-SMJ1



* For terminal LED descriptions and cable wiring, etc. for each SI unit, refer to pages 166 through 168.



For external pilot specifications and built-in silencer, refer to page 207.

How to Order Valve Manifold Assembly (Example)

Example

U side

Double solenoid (24 VDC)
SY3245-5FU-Q

Single solenoid (24 VDC)
SY3140-5FU-Q

Stations 2 1

D side

Manifold base (5 stations)
SS5Y3-45S1BD-05U-C6-Q

SS5Y3-45S1CD-05U-C6-Q	1 set	(Type 45S1 with serial unit 5 station manifold base part no.)
* SY3140-5FU-Q	3 sets	(Single solenoid part no.)
* SY3245-5FU-Q	1 set	(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 SI unit.
- When ordering double solenoid valves/3 position (Dual body type), please keep in mind that they require two manifold stations.

How to Order Valve

2 position single **SY** 3 1 4 0 — 5 FU -Q

Double and 3 position **SY** 3 2 4 5 — 5 FU -Q

Series

3	SY3000
5	SY5000

Type of actuation

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

Dual body type (Double and 3 position)

5	24 VDC
---	--------

Rated voltage

Manual override

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

SY3000: Serial Transmission Unit/Plug-in

SS5Y3-45S1□U- Stations D-^{C4, N3}_{C6, N7} -Q (for SI unit types C, Q, R1, R2 and V)



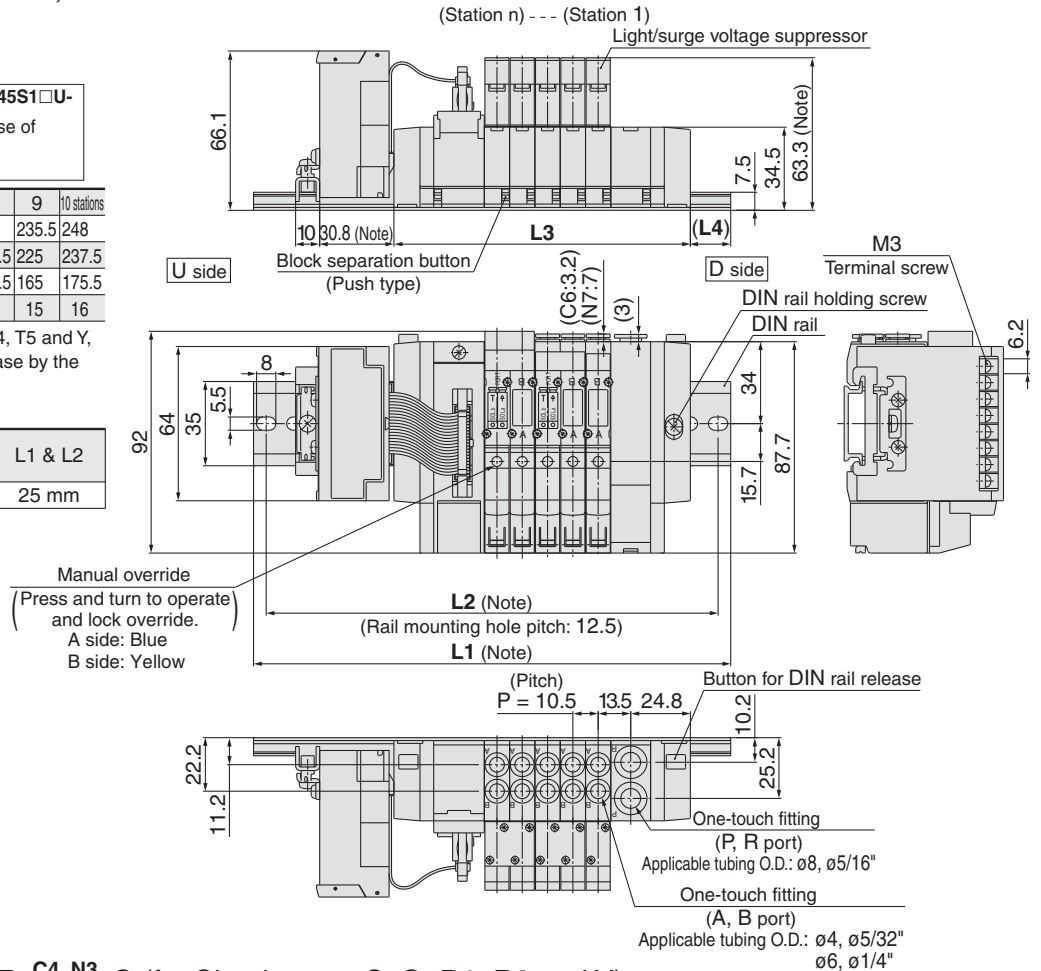
Note) The L1 to L4 dimensions of **SS5Y3-45S1□U- Stations U-^{C4, N3}_{C6, N7}** are identical to those of **SS5Y3-45S1□U- Stations D-^{C4, N3}_{C6, N7}**.

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	160.5	173	185.5	198	198	210.5	223	235.5	248
L2	150	162.5	175	187.5	187.5	200	212.5	225	237.5
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	14	15	16	17	12	13	14	15	16



Note) For SI unit types N, P, T2, T4, T5 and Y, the dimensions below increase by the values shown

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



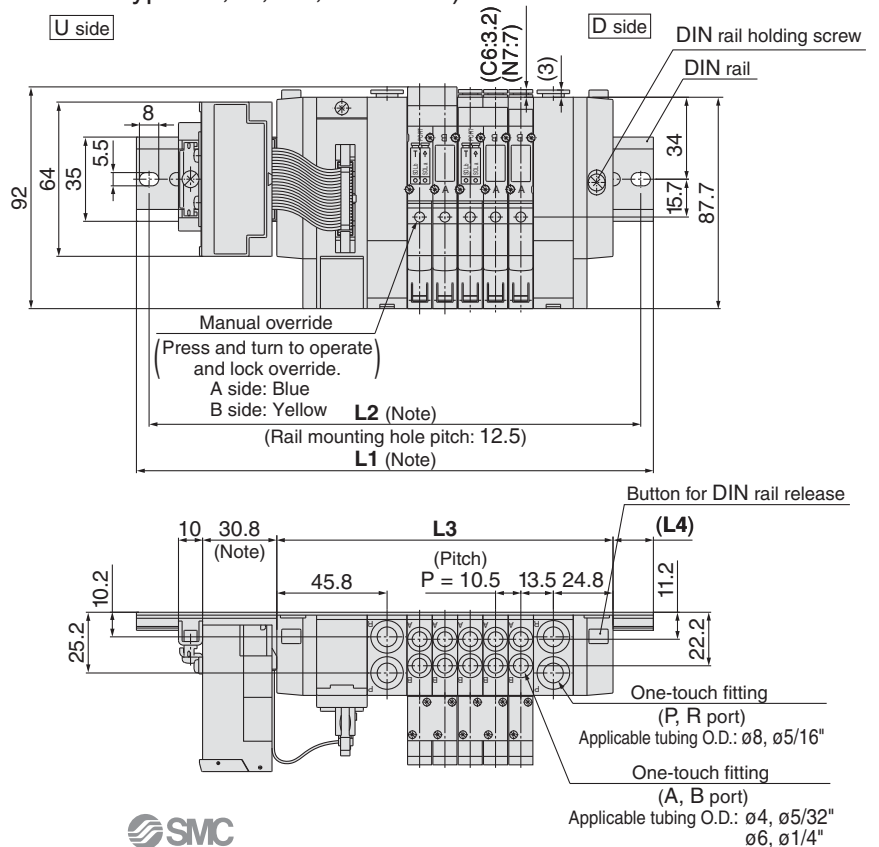
SS5Y3-45S1□U- Stations B-^{C4, N3}_{C6, N7} -Q (for SI unit types C, Q, R1, R2 and V)

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	173	185.5	198	210.5	223	235.5	235.5	248	260.5
L2	162.5	175	187.5	200	212.5	225	225	237.5	250
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	12	13	14	15	16	17	12	13	14

Stations n	11 stations	12	13	14	15	16 stations
L1	273	285.5	298	298	310.5	323
L2	262.5	275	287.5	287.5	300	312.5
L3	202.5	213	223.5	234	244.5	255
L4	15	16	17	11.5	12.5	13.5



Note) Width of SI unit applicable to "E": Matsushita Electric Works, Ltd. and "G": Rockwell Automation, Inc. (Allen-Bradley) widens to [24.3 mm]. For further information, please consult with SMC.



SY3000: Serial Transmission Unit/Plug-in

SS5Y3-45S1□D- Stations U-^{C4, N3} -Q (for SI unit types C, Q, R1, R2 and V)

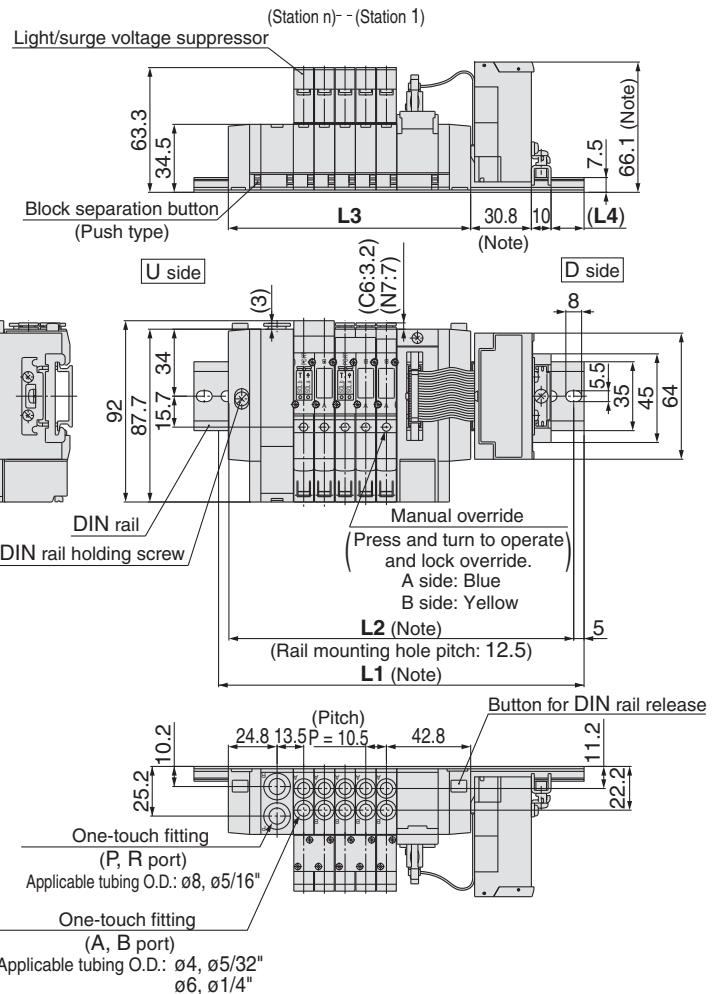


Note) The L1 to L4 dimensions of **SS5Y3-45S1□D-**
Stations D-^{C4, N3} are identical to those of
SS5Y3-45S1□D- Stations U-^{C4, N3}

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	160.5	173	185.5	198	198	210.5	223	235.5	248
L2	150	162.5	175	187.5	187.5	200	212.5	225	237.5
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	14	15	16	17	12	13	14	15	16

Note) For SI unit types P, T2, T4, and T5, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



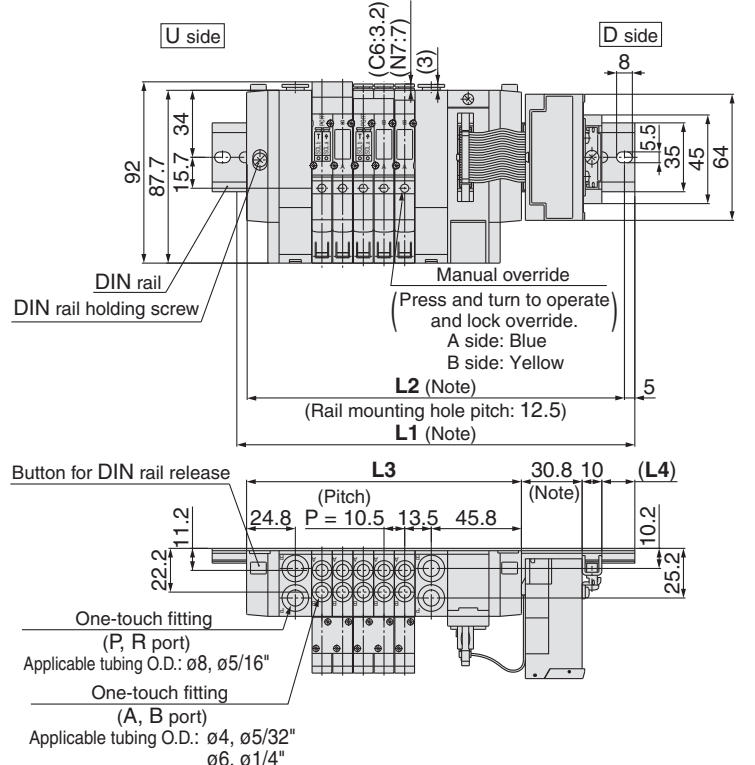
SS5Y3-45S1□D- Stations B-^{C4, N3} -Q (for SI unit types C, Q, R1, R2 and V)

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	173	185.5	198	210.5	223	235.5	235.5	248	260.5
L2	162.5	175	187.5	200	212.5	225	225	237.5	250
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	12	13	14	15	16	17	12	13	14

Stations n	11 stations	12	13	14	15	16 stations
L1	273	285.5	298	298	310.5	323
L2	262.5	275	287.5	287.5	300	312.5
L3	202.5	213	223.5	234	244.5	255
L4	15	16	17	11.5	12.5	13.5

Note) For SI types P, T2, T4, and T5, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



SY5000: Serial Transmission Unit/Plug-in

SS5Y5-45S1□U- Stations D- ^{C4, N3} _{C6, N7-}Q (for SI unit types C, Q, R1, R2 and V) _{C8, N9}



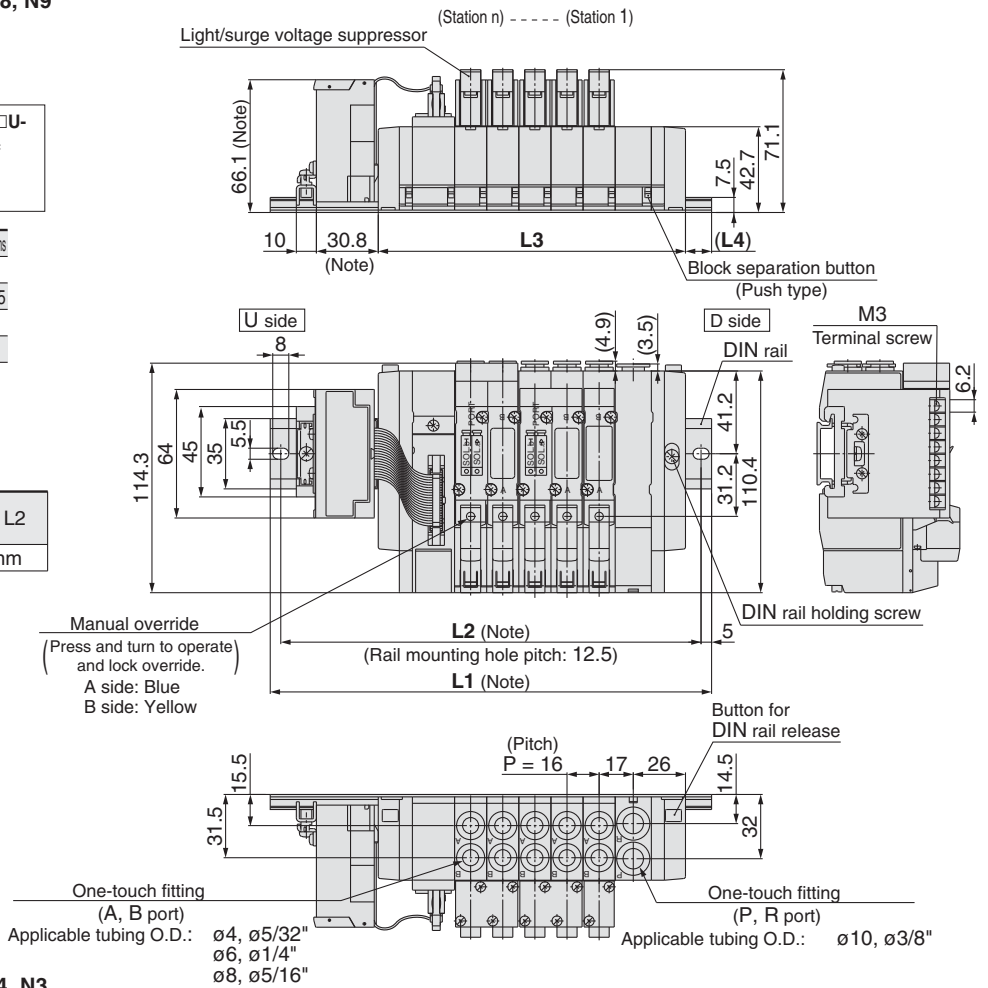
Note) The L1 to L4 dimensions of SS5Y5-45S1□U- Stations U- ^{C4, N3} _{C6, N7-}Q are identical to those of SS5Y5-45S1□U- Stations D- ^{C4, N3} _{C6, N7-}Q.

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	173	185.5	210.5	223	235.5	260.5	273	285.5	298
L2	162.5	175	200	212.5	225	250	262.5	275	287.5
L3	105	121	137	153	169	185	201	217	233
L4	13.5	12	16.5	14.5	13	17.5	15.5	14	12



Note) For SI unit types N, P, T2, T4, T5 and Y, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



SS5Y5-45S1□U- Stations B- ^{C4, N3} _{C6, N7-}Q (for SI unit types C, Q, R1, R2 and V) _{C8, N9}

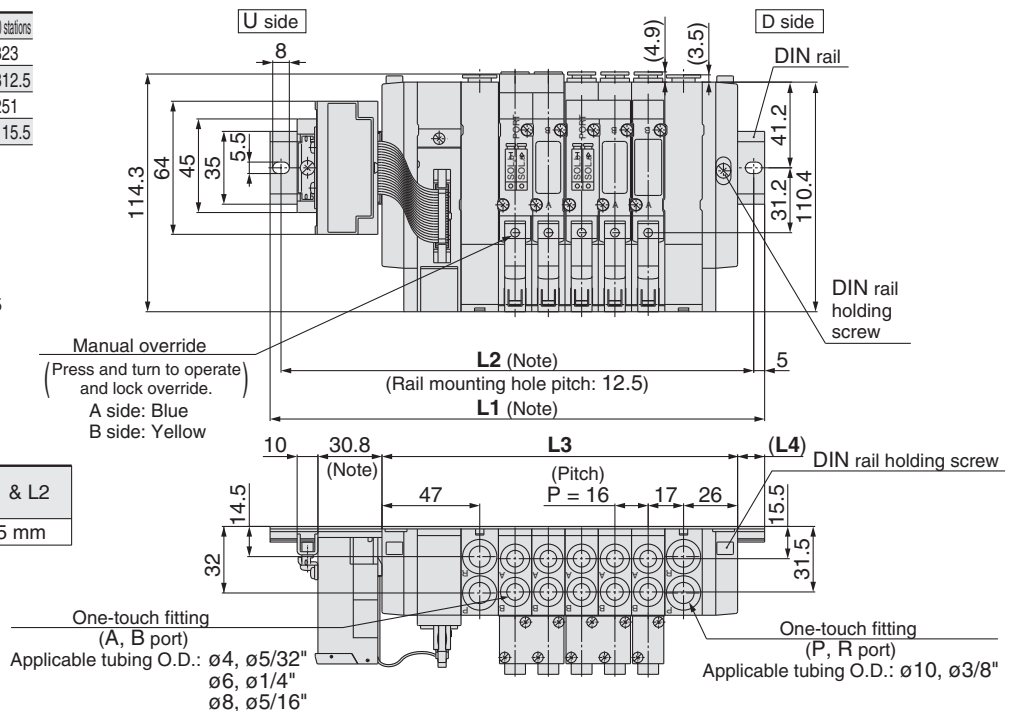
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	198	210.5	223	235.5	260.5	273	285.5	310.5	323
L2	187.5	200	212.5	225	250	262.5	275	300	312.5
L3	123	139	155	171	187	203	219	235	251
L4	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5

Stations n	11 stations	12	13	14	15	16 stations
L1	335.5	348	373	385.5	398	410.5
L2	325	337.5	362.5	375	387.5	400
L3	267	283	299	315	331	347
L4	14	12	16.5	15	13	11.5



Note) For SI unit types N, P, T2, T4, T5 and Y, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



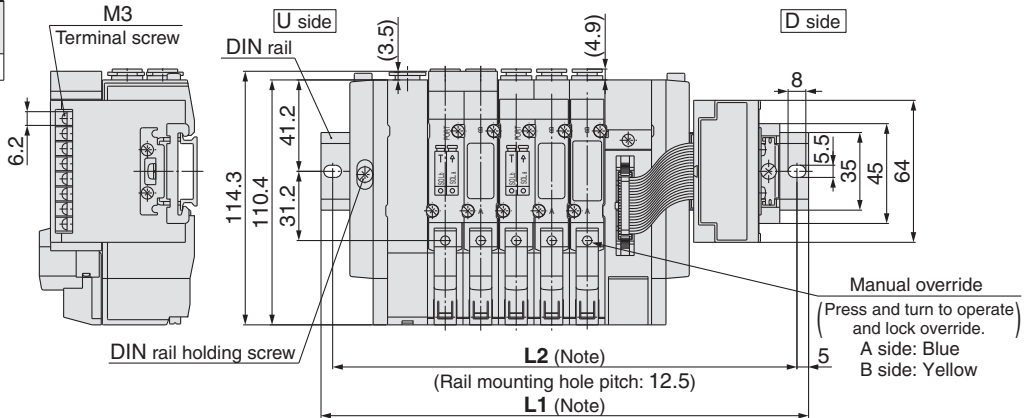
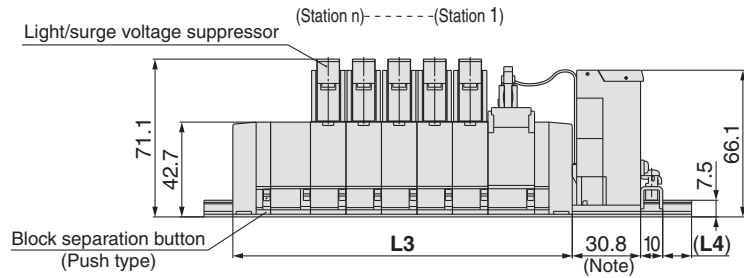
SY5000: Serial Transmission Unit/Plug-in

SS5Y5-45S1 □ D - Stations ^{C4, N3} U-C6, N7 -Q (for SI unit types C, Q, R1, R2 and V)

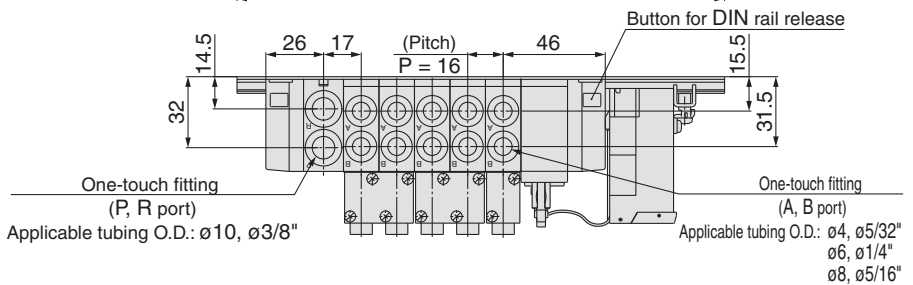
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	173	185.5	210.5	223	235.5	260.5	273	285.5	298
L2	162.5	175	200	212.5	225	250	262.5	275	287.5
L3	105	121	137	153	169	185	201	217	233
L4	13.5	12	16.5	14.5	13	17.5	15.5	14	12

Note) For SI unit types N, P, T2, T4, T5 and Y, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm



Note) The L1 to L4 dimensions of SS5Y5-45S1 □ D - Stations ^{C4, N3} D-C6, N7 are identical to those of SS5Y5-45S1 □ D - Stations ^{C4, N3} U-C6, N7 -Q.



SS5Y5-45S1 □ D - Stations ^{C4, N3} B-C6, N7 -Q (for SI unit types C, Q, R1, R2 and V)

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	198	210.5	223	235.5	260.5	273	285.5	310.5	323
L2	187.5	200	212.5	225	250	262.5	275	300	312.5
L3	123	139	155	171	187	203	219	235	251
L4	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5

Stations n	11 stations	12	13	14	15	16 stations
L1	335.5	348	373	385.5	398	410.5
L2	325	337.5	362.5	375	387.5	400
L3	267	283	299	315	331	347
L4	14	12	16.5	15	13	11.5

Note) For SI unit types N, P, T2, T4, T5 and Y, the dimensions below increase by the values shown:

SI Unit type	SI Unit height	SI Unit length	L1 & L2
T2, T4, T5	22.5 mm	24.3 mm	25 mm

